Vol.5 Iss.2 2024
https://doi.org/10.37420/j.emr.2024.030

Research on the cultivation mode and implementation way of digital trade talents

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Abstract
This paper mainly discusses the current situation, challenges and coping strategies of digital trade talent training. Firstly, the article points out that the contradiction between the supply and demand of digital trade talents is prominent, and there is a serious lack of composite talents. Subsequently, it analyzes that the traditional talent training mode cannot meet the needs of the rapid development of digital trade, as well as the phenomenon of disconnection between the education system and industrial demand. In order to address these issues, the article proposes the development of a new model that is guided by the idea of OBE education, emphasizing the key measures such as precise positioning of cultivation objectives, systematic curriculum design, diversified competence assessment, and deepening school-enterprise cooperation. In addition, it emphasizes the importance of school-enterprise cooperation in the cultivation of human resources, as well as the policy support and guiding role of government promotion in the cultivation of human resources. The results of the study are of great significance for optimizing the strategy of digital trade talent cultivation and promoting the healthy development of China's digital trade.

Keywords
Digital Trade; Digital Trade Talents; Training Mode; Training Ways

1 Background

In light of the rapid advancement of information technology and the robust expansion of the global digital economy, digital trade, as a novel facet of international trade, has emerged as a pivotal driver of China's trade influence. The Digital Trade Development and Cooperation Report 2023 indicates that the total import and export value of China's digital services reached $371.08 billion in 2022, representing a year-on-year increase of 3.2%. This figure accounts for 41.7% of the proportion of service imports and exports, thereby demonstrating that the scale of development and growth rate of China's digital trade rank among the world's top. Concurrently, the accelerated advancement of digital technology and industrial change has led to the general trend of digital transformation in various industries, which has resulted in the emergence of novel requirements for talent demand. The White Paper on China's Digital Economy Development and Employment (2019), released by the China Academy of Information and Communications Technology (CICT), reveals this trend. At least 30 of the 56 new occupations announced are closely related to digital technology. The emergence of these new occupations is indicative of the profound changes in talent demand caused by digital technologies.

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Table 1 Digital trade-related areas

Content Classification	Industry Category	Industry Sectors
Digital Product	Music, radio, television, movies and video, Games, electronic publications, application software, etc.	Media entertainment: digital media, online entertainment, video games, etc.
Digital Services	Social networking sites, search engines, Software testing and development, information technology services, Internet-based communication services	Education and training: online education, distance training, digital education resources, etc. Healthcare: telemedicine services, health management, drug delivery
Digital Platform	Cloud computing platform, e-commerce platform	E-commerce: online retail, cross-border e-commerce, e-payment, etc. Financial services: digital banking, insurance, investment, payment services, etc.
Data services and trade	Data storage and processing services, Information integration system services, Internet of Things technology services, Other data services	Supply chain management: logistics tracking, inventory management, distribution network digitization, etc. Agriculture: smart agriculture, agricultural products e-commerce, agricultural informatization services Energy: smart grid, digital energy trading platform, etc. Transportation: intelligent transportation system, vehicle networking services, etc.

In the field of digital trade, a number of aspects have demonstrated remarkable growth, including digital products, digital services, digital platforms, and data services. Table 1 illustrates that digital trade encompasses a multitude of industry sectors, each of which is urgently needed of digital trade talents. Among these, cross-border e-commerce has received unprecedented attention due to the novel coronavirus (COVID-19) pandemic, and its development has further boosted the demand for digital trade talents. According to the Annual China E-Commerce Talent Development Report 2023, the number of e-commerce employees in China exceeds 70 million, yet there remains a significant gap of 15 million. In the field of digital trade, a number of aspects, including digital products, digital services, digital platforms, and data services, have demonstrated rapid development. Table 1 illustrates that digital trade encompasses a multitude of industry sectors, each of which is in urgent need of digital trade talents. Among these, cross-border e-commerce has received unprecedented attention due to the novel coronavirus (COVID-19) pandemic, and its development has further boosted the demand for digital trade talents. According to the 2023 Annual China E-Commerce Talent Development Report, the number of e-commerce employees in China has exceeded 70 million, yet there remains a talent gap of 15 million. The demand for talent in related fields is expected to continue to grow in the future, and this shortage of talent represents a constraint on the further development of China's digital trade.

In the training of digital trade talents, the challenges faced by China mainly include the following: firstly, digital trade involves a wide range of technical fields, including big data, cloud computing, artificial intelli-

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gence, blockchain, and so forth. This requires talents to have interdisciplinary knowledge and skills. However, at present, the scope of enterprise training is limited, the quality of the courses offered by social training institutions is uneven, and the teaching system of the relevant specialties in colleges and universities fails to keep up with the requirements of the times, which makes it difficult to effectively improve the quality of the cultivation of composite talents. Secondly, the rapid development of digital trade, market demand is changing rapidly, which puts forward the requirements of continuous learning and adaptation to changes in talents. Moreover, the existing talent training mode places undue emphasis on knowledge transfer, with a consequent neglect of the training of innovation and practical ability. This has resulted in a situation in which talents are unable to adapt to the rapidly changing market demand. Thirdly, a mature training mode has not yet been formed, and the existing education system has obvious deficiencies in the cultivation of composite digital trade talents. Consequently, enterprises, institutions and universities must improve their curriculum, teaching methods and faculty to better meet the requirements of the times.

In order to address these challenges, this chapter examines the mode and way of digital trade talent cultivation with the objective of providing a robust talent foundation for the advancement of China's digital trade. It is hoped that this study will offer novel insights and methodologies for the cultivation of digital trade talents in China and facilitate the healthy growth of China's digital trade.

2 Literature Review and Perspectives

2.1.Context of digital trade

The digital revolution has brought about a triple revolution in capacity provision, capacity output, and market organization, which is fundamentally different from the traditional industrial revolution. The characteristics of the digital revolution are being utilized in various industries in order to facilitate the deeper promotion of societal development through the benefits of the digital revolution. Currently, the dynamic development of digital trade has not yet resulted in a consensus regarding the definition of digital trade at the global level. Table 2 presents the understanding of the term "digital trade" held by domestic and foreign scholars.

Table 2 Definition of digital trade by organizations

Organization (year)	Definition
The United States International Trade Commission(USITC)(2013)	The provision of products and services over fixed-line or unlimited digital networks. This definition includes U.S. domestic commercial activities as well as international trade. Products and services include, among others, digital content, social media, search engines, and other products and services.
OECD (2017、2020)	All transactions ordered digitally or/and delivered digitally, which can be delivered digitally or physically, involving consumers, businesses and governments.
Sheng Bin（2020）	Broad digital trade is categorized into digital ordering, third-party platforms, and digital delivery; and narrow digital trade: products and services delivered via the Internet and related devices such as smartphones and network-connected sensors.
Li & Li & Wang (2021)	Digital trade includes trade in digital services and data in the form of digital ordering as the main form of goods and services cross-border e-commerce in the form of digital delivery.

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The United States International Trade Commission (USITC) initially delineated the parameters of digital trade in July 2013, with subsequent refinements and expansions occurring in 2014 and 2017. The OECD published the first edition of the Digital Trade Measurement Handbook in 2020, in which the official definition of digital trade was provided. This was done in collaboration with the WTO (World Trade Organization) and the International Monetary Fund (IMF). Digital trade is divided into three dimensions: the mode of transaction, which can be categorized into digitally ordered, platform-enabled, and digitally delivered; and the object of transaction, which includes the four digitally ordered product goods and services, and digitally delivered services and information types. The actors engaged in transactions are divided into three categories: enterprises, consumers, and governments. The extensive application of digital technology has significantly lowered the threshold for trade, and C2C and B2C have emerged as pivotal business models in the context of digital trade.

Furthermore, the growth of the consumer base is a significant factor driving the expansion of digital trade, prompting domestic and international scholars to conduct in-depth research. Among the most prominent areas of focus are the reduction of trade costs and the improvement of trade efficiency (Meltzer, 2019) and the resolution of the issue of digital trade barriers (Janow & Mavroidis, 2019; Wolfe, 2019). These studies not only explain the intrinsic mechanism of digital trade but also provide a theoretical basis for digital trade policy. Moreover, scholars examine how major organizations engage in discourse competition by establishing digital trade rules through trade agreements. For instance, Jones & Tavengerwei (2019) conducted a comprehensive comparison of the digital trade in 12 trade agreements concluded between 2019 and 2023. Their findings revealed the competitive dynamics among countries in digital trade rulemaking.

It's great to see that current studies on the relationship between the development of the digital trade industry, the establishment of cross-border trade zones, the discourse on international trade rules, and the enhancement of national competitiveness have all mentioned the importance of talent training and human capital investment. Nevertheless, it would be beneficial to conduct further in-depth quantitative and measurement studies, particularly with regard to the quantitative relationship between the influence of talents on digital trade and the enhancement of national competitiveness. Secondly, it would be beneficial to gain a deeper understanding of the specific pathways and methodologies employed in the cultivation of digital trade talent. The majority of research conducted within the academic community has focused on the vocational education courses offered at colleges and universities. While this is a valuable area of study, there is also a need for more in-depth research on this topic.

It would be great to see more research on how to cultivate the internal talent of businesses and how to bring together the strengths of the government, businesses, and schools. In this study, we'll take a closer look at the specific strategies, ways, and methods of digital trade talent cultivation. We'll show you how to enhance national competitiveness through talent cultivation.

2.2.A Literature Study of Digital Trade Talent

The development needs of digital trade have put forward new requirements for digital trade talents. The Development and Impact of Digital Trade (2019) suggests that we should really focus on building up our digital talent team and encouraging the growth of integrated professionals in e-commerce and digital media.

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The White Paper on the Development of Digital Trade (2020) also points out that the transformation of digital service trade involves the need to cultivate talents in five major fields, including intelligent manufacturing, commerce, finance, life and entertainment, and traditional service fields. As there are so many different types of digital trade talent, it's important to understand what they all involve and for relevant organizations to set training objectives based on what they do. This will help us to create high-quality digital trade talent to promote the development of digital trade.

Referring to Dou Kai's (2022) new requirements for students' digital skills in the concept of industry-teaching integration, the understanding that "the talent training program focusing on digital skills and the innovative digital trade talent cultivation mode are aimed at cultivating digital trade talents with digital business concepts, high digital skill level and strong business data analysis ability" and combining with market requirements to summarize the connotation of digital trade talents as:

Those engaged in digital trade should possess digital skills that enable them to play a sustained role in the digital trade field. These skills should include information processing and digital applications. In addition, they should be proficient in the use of various digital trade tools and platforms to solve business problems, optimize operations, and enhance efficiency through data analysis and processing technologies.

In addition to the core professional skills, such as communication, collaboration, problem-solving, and the capacity to foster teamwork and international vision—essential to fostering connections with colleagues and customers across national and cultural boundaries—digital trade talents must possess the ability to continuously learn and innovate, adapting their skills and approaches to changing market and technological conditions.

2.3.Talent training model

The leaping development of digital trade and the rapid turnover of information technology have reshaped the ecological pattern of human society across a multitude of domains. The intense competition between digital industries has posed a significant challenge to the quality and efficacy of talent training, compelling it to undergo a digital transformation and transformation. Academics have also begun to prioritize the study of talent training methodologies, leading to the emergence of several prominent conceptual frameworks (Table 3).

Table 3 Representative Views on Talent Training Models

Authors	Opinions
Zhou Yuanqing(1998)	Talent cultivation model should include the cultivation objectives, cultivation specifications and basic cultivation methods of talents.
Wang Weilian(2009)	Talent cultivation model should include cultivation objectives, means to realize the objectives, methods to evaluate the objectives and corresponding management system.
Zhong Binglin(2013)	Talent cultivation model should cover the elements of cultivation objectives, cultivation contents, cultivation methods and cultivation conditions.

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Sui. et al. (2023)	Talent cultivation model is the design and application of integrating the elements of talent cultivation and its process under the premise of clear objectives of talent cultivation.
Yu & Tang(2024)	The in-depth transformation of talent cultivation model in the intelligent era is elaborated from five levels: guiding ideology, cultivation goal, curriculum system, evaluation mechanism and governance system.

Although these views are expressed differently, they are centered on the concept, objectives, means and methods of training, and provide theoretical support and reference for educational practice, promoting the continuous innovation of the education model. For example, Alibaba International Station has joined forces with Tsinghua University and other universities' professional expert groups as well as leading industry associations to design a cross-border e-commerce talent cultivation system and hierarchical standards and establish a "1+X training system" to help cross-border e-commerce enterprises solve the pain points of internationalized talents. Zhang Hua et al. (2022) combined with the "1+X" certificate system to build a "three-dimensional, three-level" cross-border e-commerce professional talent training model of "dual education, curriculum and certificate integration", which has become an innovation point for professional talent training in higher vocational colleges and universities. The French Ecole 42 digital talent training model not only has a clear training concept and targeted training objectives, but also emphasizes the practicality of curriculum teaching and the recognition of the social vocational evaluation system, which ensures a high degree of match between training talents and actual positions (Du Jiantao, 2024). The "Excellent Talent Plan", "Talent Cultivation Support Plan", "Digital Intelligence Talent Construction Program", etc. of major enterprises all emphasize that the knowledge requirements for digital trade talents are developing towards composite, and the ability requirements are developing towards innovative, and the quality requirements are developing towards innovative, and the quality requirements are developing towards innovative. Capacity requirements to innovative development, quality requirements to comprehensive development.

The current digital trade covers the whole process of industrial chain such as R&D, production and consumption, with the characteristics of globalization, digitization and personalization, etc., and the design of its talent cultivation program needs to follow the dynamics and frontiers of industrial development. In this paper, the talent training model will be summarized as: under the guidance of certain educational theories and ideas, setting goals according to the training needs of enterprises, designing corresponding talent training courses, establishing a quality assessment mechanism and talent management system to carry out the sum of the talent training process. The establishment of a scientific and complete talent training model will provide strong talent support for the digital development of Chinese enterprises.

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2.4.Talent training way

Talent training ways refers to a series of links, including determining cultivation objectives, designing cultivation programs to implementing the cultivation process and evaluating cultivation effects. Currently, domestic scholars have conducted research on the training way of digital trade talents (Table 4).

Table 4 Research on Talent Training ways by Domestic Scholars

Author	Research and conclusion
Zhong & Wang (2020)	It is emphasized that the practice ways should clarify the objectives and specifications of talent training, pay attention to talent development and faculty development, improve the quality of applied talents, and deal with interdisciplinary professional knowledge and vocational education, as well as the relationship between the government, colleges and universities, and the market. It serves the major strategic needs of the country, standardizes and innovates the talent recruitment model, explores the reform of the talent training model, strengthens the integration of science and education, implements tracking and evaluation, and promotes continuous improvement.
Zhang et al.(2022)	The proposed cross-border e-commerce talent training model implementation way is constructed from the optimization of talent training programs, curriculum system reconstruction, practice and training teaching system improvement, faculty construction, assessment and evaluation system and other aspects. The talent training mode not only promotes the significant improvement of students' cross-border e-commerce practical ability, greatly enhances the competitiveness of students' employment, but also makes the teachers' "dual-teacher" quality improve significantly.
Xie Yangyue (2023)	The study on the training ways of higher vocational digital trade talents under the concept of industry-teaching integration found that the school-enterprise collaboration improves the talent cultivation program focusing on "digital" skills, innovates the digital trade talent cultivation mode, builds the "line, school, government and enterprise" collaborative cultivation resource bank platform, and deepen the construction of the interest linkage mechanism of the main parties in the training of digital trade talents through the integration of industry and education, in order to cultivate digital trade talents with digital management concepts, high level of digital skills, and strong ability of business data analysis.

These researches mainly focus on the personal strengths, career anchoring and skill cultivation of talents, the development of systematic cultivation content, innovative talent cultivation methods and forward-looking talent development ways. In the field of digital trade, the talent training way should focus on the following aspects: Firstly, clarify the cultivation goal, i.e., cultivate talents with knowledge and skills related to digital trade and capable of adapting to the development trend of the digital economy. Secondly, design scientific and reasonable cultivation programs, including curriculum, practical teaching, and faculty construction. Thirdly, implement effective cultivation processes, focusing on the participation and experience of the students to cultivate students' Finally, establish a scientific assessment mechanism to objectively evaluate the cultivation effect and provide a basis for improving the cultivation program.

2.5.Comprehensive review

In the wave of digital transformation of the global economy, the rise of digital trade has brought new challenges to the traditional talent training model. In this context, how to build an efficient and market-driven

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talent cultivation system has become a key issue to be solved. By comprehensively analyzing the existing literature, the cultivation of digital trade talents is at a stage full of opportunities and challenges.

At present, the main dilemmas in the training of digital trade talents include: the traditional training system is unable to meet the needs of digital trade talents training, and the highly competitive digital trade market puts forward higher requirements for talents, resulting in a serious shortage of high-quality digital trade talents. Compared with traditional digital trade talents, now we need to have stronger communication ability and higher professional quality, and we also need to deal with more complex economic development and trade issues. In addition, the market also requires talent to possess multiple capabilities such as digital strategic thinking, digital execution and digital innovation.

In response to these challenges, scholars have proposed a series of research directions and implementation ways. First, the deep integration of curriculum and projects is emphasized to improve the practical ability of digital trade talents. Second, strengthen the construction of faculty to improve the professionalism and teaching ability of digital trade teachers. Next, build a digital skills application platform to provide digital trade talents with opportunities for practical exercises. At the same time, enhance the international truth of digital trade platform, deepen the digital trade cooperation network, and strengthen the understanding and research of digital trade development issues.

Among these research results and practical experiences, OBE (Outcome-Based Education) provides new ideas and methods for cultivating digital trade talents. The concept emphasizes outcome-oriented, and builds an efficient talent cultivation system by clarifying cultivation goals and learning outcomes, designing cultivation programs, implementing effective teaching process, and establishing scientific evaluation mechanism. In the field of digital commerce, the introduction of OBE concept helps to cultivate digital commerce talents with composite knowledge, innovative ability and comprehensive quality. Based on the OBE, this study will explore the digital talent cultivation mode and implementation way.

3 Analysis of the current situation of the digital trade talent training model

The rapid development of digital trade, the rise of new nationalism, global health emergencies and security threats have greatly increased the transaction risks of enterprises and individuals doing international business, requiring the creation and implementation of appropriate talent training models for the development of international business and the characteristics of talent of enterprises themselves. (Horak,Farndale,Brannen & Collings,2019;Cooke,2020)

Therefore, the focus of scholars' research has gradually shifted to digital trade talent cultivation. Jin & Jiang (2021) sorted out the general development history of enterprise internationalization talent cultivation and analyzed in detail the characteristics and changes of the cultivation mode in each period. It is argued that the traditional talent cultivation mode focuses on language ability and training in international trade affairs, which does not meet the new needs of the digital trade era, which requires talents to have data thinking ability, data analysis ability and digital application ability. It is proposed to improve the enterprise internationalization talent training system by combining the characteristics of the era. Lv Tianhang et al. (2022) stressed that en-

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terprises should keep pace with the times and select international talents through multiple ways, establish a perfect and mature talent training system and support and guarantee mechanism, and at the same time build a talent management information system to provide talent guarantee for the long-term development of enterprise internationalization business. Wang Fawen (2023) believes that the establishment of a scientific and reasonable independent talent cultivation system can enhance the human resource value stock of the enterprise team, continuously improve the structure and quality of the talent ladder, and ensure that the company has a talent team that is high quality and has the ability to adapt to the development of internal culture.

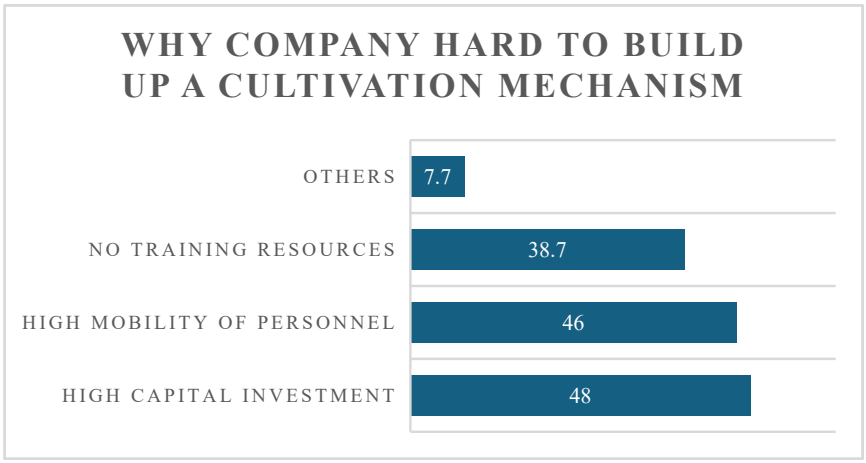
3.1.Shortage of talent

Although the current training of digital trade talents has achieved certain results based on the requirements of various parties, compared with the traditional talent training model, there are still many challenges in the face of the needs of rapid knowledge updating and technological innovation in the field of digital trade. In its recently released research report on the employment impact of the digital economy (2022), the China Academy of Information and Communications Technology (CAICT) has thoroughly analyzed China's current talent supply and demand in the digital economy. The report points out that China is facing a serious shortage of composite digital technology talents, with an overall shortage of about 25 to 30 million, a gap that shows a trend of continuous expansion. In particular, high-quality talents who can integrate knowledge and practical experience in various fields are scarce resources.

3.2.Lack of mature talent development system

The current talent cultivation system has obvious deficiencies in quickly responding to market demand and filling the huge gap of digital trade talents, leading to an increasingly prominent imbalance between supply and demand. The results of the questionnaire survey (2023) in RenRui Talent and Deller illustrate the reasons why current enterprises fail to form a digital trade talent cultivation mechanism:

Figure 1 Reasons why enterprises have not formed a digital talent cultivation mechanism



From: People Rui Talent and Deloitte's "Industry Digital Talent Research Survey 2023"

First, digital trading technology is knowledge-intensive and rapid updating, enterprises need to invest a lot of time and labor costs to keep up with the times, but the enterprise human resources investment is small, the

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lack of systematic training instructors, teaching materials and other training resources within the enterprise, as well as personnel mobility, resulting in the enterprise in the training of personnel has not been able to form an effective personnel training system.

Secondly, the digital trade talent training mode is imperfect. The talent training model is single and rigid. Subject to the constraints of enterprise scale, experience, cost, and other factors. In addition, most enterprises in the training of talents are often limited to entry-level basic knowledge training. This overly theoretical cultivation mode leads to a serious lack of interdisciplinary talents. This training mode is deficient in interdisciplinary teaching and practice, which impedes learners' ability to master comprehensive digital trade knowledge and skills. Consequently, they are unable to perform effectively in the complex international market.

Thirdly, the cultivation and investment of digital trade talents within the enterprise is insufficient, and there is a lack of systematic talent training programs. This lack of a planned training mode makes it difficult for employees to effectively combine the theoretical literacy they have learned with actual operational practices, resulting in a slow improvement of their digital skills and innovation capabilities, which cannot meet the urgent needs of the enterprise's digital transformation.

Fourth, there is a significant discrepancy between the quantity and quality of training teachers and the market demand. Currently, the number of teachers engaged in the training of digital trade talents is relatively small, and the majority of them lack both systematic professional knowledge and sufficient real-world experience and practical operation ability. This results in a significant discrepancy between the knowledge reserve and skill level of the trained students and the market demand, making it challenging for many enterprises to achieve satisfactory performance in the digital trade market.

3.3.Summary

The discrepancy observed in the demand for digital trade talents is expanding. Consequently, to address this imbalance, it is essential to accelerate the reform and innovation of talent training methodologies. This should be accompanied by strengthened collaboration between industry, academia and research institutes, as well as the implementation of enhanced specifications for the training of digital trade talents.

In addition, it is vital to reinforce international collaboration and exchanges, introduce international cutting-edge digital trade talent training concepts and methodologies, and facilitate the training and advancement of digital trade professionals. This will help to enhance national competitiveness. Digital trade products and services are characterized by their high-level of knowledge, technology, interaction and innovation. Consequently, the future reform of talent training modes should prioritize integrating the enhancement of digital products and services, digital knowledge, and the characteristics of the era of information technology innovation. This integration should encompass the incorporation of new disciplines and new knowledge, such as modern management, computer science, digital finance, digital marketing, and data visualization, into the conceptual framework and curriculum of the training of new digital trade talents. In addition, it is crucial to the importance of fostering students' international vision and cross-cultural communication skills, in order to equip them with the necessary abilities to navigate the increasingly globalized digital trade and market landscape.

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4 Innovative talent development models for digital trade

In this paper, talent cultivation mode will be summarized as a talent cultivation method and strategy under the guidance of certain educational theories and ideas, with the goal of improving the ability of employees and enhancing the competitiveness of the enterprise, including the design of the corresponding talent cultivation courses, the establishment of the quality assessment mechanism and the talent management system and other links.

4.1.Typical talent models

The content of the training can be divided into three categories: skills training, management training, and team building training. The mode of delivery can be divided into four categories: face-to-face training, online training, practical training, and so on. The development of a scientific and reasonable enterprise talent training model can assist in enhancing employee competence and satisfaction, thereby facilitating the retention of employees and the enhancement of enterprise competitiveness. This, in turn, enables the enterprise to maintain the stability of its organizational structure and operational efficiency, thus facilitating continued innovation and sustainable development. The enterprise talent training model typically encompasses the following types:

4.1.1.Traditional talent training model

Including new employee training, on-the-job employee training and management training, etc., focusing more on the cultivation of professional knowledge and skills. For example, Alibaba's 3+1 line talent development model, the main line is divided into three lines of employee culture line, professional skills line, management and leadership line and auxiliary a global development line, to provide employees with a full range of knowledge and skills-based training courses and practical exercises, in order to quickly adapt to the development of globalization.

4.1.2.Business scenario-based job analysis and competency structure camps

Through in-depth analysis of the actual business scenarios of an enterprise, the camps help employees improve their work efficiency and problem-solving ability. This mode is very common in the talent training system of enterprises, such as Starbucks' "Coffee Master" training program, which focuses on improving the professional skills of employees.

4.1.3.Modern apprenticeship

Nowadays, it is commonly used in vocational education in the way of industry-teaching integration, in which schools hire enterprise tutors to give lectures in schools, and enterprises provide schools with practical training places, facilities and equipment, so that enterprises can participate in the cultivation of talents in the way of "hand-in-hand teaching" with masters and apprentices, and cultivate innovative and practical talents with high professional level and strong comprehensive qualities (Fan Zhizhong, 2021). combines the functions of traditional apprenticeship and modern schooling, emphasizing practical experience and on-the-job learning.

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4.1.4.Order-based talent training model

A vocational education talent training model that has strengthened the integration of industry and education in recent years, not only providing "tailor-made" talents for enterprises, but also establishing a "guarantee network" for student employment (Yu Hui et al., 2024). It refers to a talent cultivation mode in which schools, under the guidance and cooperation of enterprises, cultivate talents according to the "order content" of enterprises' talent cultivation needs and specifications, and the cultivated talents are employed by enterprises after being accepted and qualified by enterprises. For example, Liaoning Institute of Information Engineering cooperates with Haier Zhijia, Chuxin Network and Beijing Digital China Cloud to realize close cooperation between school and enterprises.

4.1.5.Multi-linked talent training model

A comprehensive and synergistic talent training model formed by the combined efforts of the government, enterprises, social industries and schools to promote the integration of industry and education, disciplines, science and technology, and science and education. For example, Shi Lin and Jiang Meiling (2023) proposed a "government-enterprise-school" multi-linked cross-border e-commerce talent training program for the ASEAN region. They innovate the talent training model from the perspectives of training program, curriculum, resource construction, industry-teaching integration, and faculty construction.

The above-mentioned talent cultivation mode is common in enterprises and school-enterprise cooperation. However, the talents cultivated by the traditional talent cultivation mode cannot meet the market demand. Therefore, this paper proposes the introduction of OBE training concept to strengthen the output of talent training and better meet the market demand.

4.2.Outcome Based Education (OBE)

It is known as Goal-Based Education and Needs-Based Education. It is a learner-centered and learning structure-oriented concept of advanced education, which emphasizes that the goal of educational design and implementation is the final learning outcomes that students achieve through the educational process. It was proposed by Spady et al. in 1981, and the concept, connotation and operating system of OBE were clarified in 1994 in his book Outcome-Based Education: Important Controversies and Answers according to the practice of OBE, which, according to Spady, refers to an educational model that clearly focuses and organizes the arrangement of teaching and learning activities around the key outcomes that can be achieved by all students at the end of a particular stage of learning. . This means that educational activities begin with a clear vision of the learning outcomes that students will achieve, and the curriculum, teaching and learning, and assessment are designed backwards to ensure that the outcomes are achieved.

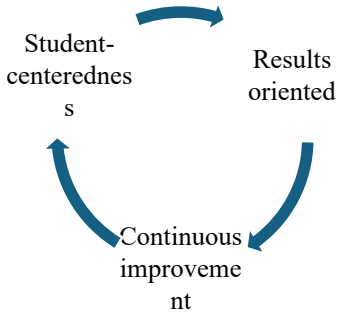
Scholars have also tried to integrate the OBE concept, a result-oriented education concept, into the field of information technology engineering and other fields with good results. For example, Wang Baohui et al. (2023) believe that there are problems in the goal orientation and curriculum of robotics engineering majors and consider that adopting the OBE concept to construct the talent demand model of "job-task-knowledge" provides a reference for designing professional talent training programs in colleges and universities. He Yongqiang (2024) combines the four stages of learning output of the OBE concept and builds a four-stage cultivation

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model of craftsmanship through campus practice, which provides a reference for the cultivation of craftsmanship in higher vocational majors. Wan Bangrui et al. (2024) proposed an innovative teaching method for practical courses by integrating OBE educational concepts to solve the problems of low student participation, low depth, and weak skill survival in current software project practical courses.

The OBE concept also plays an important role in the cultivation of digital commerce talents. Ji Hua (2023) believes that the majority of financial colleges and universities should vigorously reform the teaching mode of innovation and entrepreneurship based on the OBE concept, clarify the teaching and training objectives, improve the curriculum design, increase the investment of teaching resources, and strengthen the evaluation of results, so as to improve the quality of talent cultivation in colleges and universities. The core of the OBE concept consists of three principles: result-oriented, student-centered, and continuous improvement. These three principles together form the basic framework of the digital trade talent cultivation model, which is centered on the OBE concept in this paper (Figure 2).

Fig. 2 OBE education concept



First of all, the OBE emphasizes "student-centeredness," which indicates the direction of talent cultivation, that is, the core of education is to meet the needs and develop talents. In designing talent training programs, more attention is paid to the differences and uniqueness of individuals, so as to improve the relevance and effectiveness of cultivation.

Second, "result-oriented" is the central connotation of the OBE concept. This principle requires that training be conducted on the basis of trainees' learning outcomes, training objectives are clear and specific, and the actual needs and development direction of enterprises and talents are combined, a shift that makes the process of talent cultivation more goal-oriented.

Finally, "continuous improvement" is the purpose of training evaluation and an integral part of the OBE concept. This principle requires that talents and training programs are continuously reflected, summarized and improved during the training process to ensure that the implementation of the program is always in sync with the evolution of the times and the needs of individuals. This spirit of continuous improvement not only improves the quality of the talents trained, but also provides a constant impetus for innovation and development of the training model.

Under the OBE concept, the design and implementation of the educational process of digital trade personnel training will be oriented to the final learning outcomes, and the subjective position of employees in the

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training process will be emphasized. At the same time, instructors are encouraged to provide targeted instruction according to employees' needs and characteristics, and to focus on continuous improvement of training programs. This clear "student-centered" training direction, learning outcome-oriented teaching process and spirit of continuous improvement will not only promote the quality of training talents and the innovation and development of talent training, but also provide strong talent support for the development of digital trade industry.

5 Implementation Way of Digital Trade Talent Training Model

5.1.Reshaping the cultivation concept

OBE as the lead, shaping digital trade talents. The management should follow the OBE education concept, that is, oriented to the expected learning outcomes, and form a consistent goal on the enterprise development strategy and talent cultivation strategy. Ensure that the training process serves the development of learners' competencies. Clarify the core competencies and outcomes required for digital trade talent, as well as the close integration of the training concept with industry needs.

5.2.Precise positioning of cultivation objectives

Considering the characteristics of the field of digital trade, clear and specific cultivation goals are set, covering key skills such as digital leadership, innovation and cross-cultural communication skills. Focus on cultivating students' critical thinking, team spirit and international outlook. Construct a training system based on the portrait of digital trade talents, and establish a personalized, precise, agile and dynamic talent training system that meets the company's development and business needs according to the company's strategic development requirements.

5.3.Building a systematic training curriculum

Build a course system covering the whole field of digital commerce, including e-commerce, cross-border e-commerce operation, supply chain management, digital marketing strategy, digital trend analysis and so on. Introduce cutting-edge technology in the industry and teaching methods such as case analysis and real-life simulation to ensure that the course content is closely related to the actual needs, so that the students can learn and master the knowledge in practice, and effectively improve the practical ability and innovative thinking of the trainees.

5.4.Diversify assessment and evaluation

Effectively monitor the progress and quality of training. Project reports, practical exercises and internship evaluations are used to objectively and fairly measure, analyze and evaluate the value created by talents. Comprehensively measure trainees' theoretical knowledge and practical skills, and comprehensively monitor and evaluate the training process and results. Continuously and timely adjust the training content and strategy according to the assessment results to ensure the continuous improvement of training quality.

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5.5.Deeply integrate school-enterprise cooperation

Build digital trade training bases or industrial colleges, strengthen school-enterprise cooperation, co-design curriculum, and provide internship and practical training opportunities to ensure that students are exposed to the real business environment. Introducing business mentors to provide students with industry experience and career guidance. At the same time, it strengthens the internal management of enterprises, improves the digital leadership and organizational skills of managers, and strongly supports the cultivation of digital trade talents. The industry chain supports the education chain, and enterprise demand supports the cultivation and training demand, thus realizing the integration of industry and education, learning and practicing in a real business environment, and improving the practical ability and innovative thinking of employees.

5.6.Strong support from government initiatives

In view of the future development direction of digital trade talent cultivation, create a more perfect legalized, internationalized and facilitated digital trade development environment for enterprises, and promote and support talent cultivation. Introduce relevant policies, including tax incentives, financial support, the establishment of digital trade talent cultivation bases, and the provision of high-quality educational resources and facilities; promote inter-regional cooperation and exchange of enterprise talents, collaborative innovation, and healthy cooperation and competition among enterprises; improve the international mutual recognition mechanism of professional qualifications, cross-border educational qualifications, and digital certificates and electronic signatures related to the digital industry; And support localities to continue to carry out cutting-edge research on digital trade, and strengthen research efforts on digital trade business models, laws, regulations and policies, intellectual property protection, statistics, dispute settlement mechanism, digital trade regulations, digital service tax and other areas, so as to provide intellectual support for the innovative development of digital trade, internationalization and talent cultivation.

5.7.Continuous optimization and iteration

Adhere to the results-oriented and problem-oriented approaches to talent cultivation, highlighting the cultivation process and focusing on training effects. Establish a flexible human resources combination platform based on task-based, work-based and competency-based approaches, and cultivate and develop digital trade awareness and competency in a plug-and-play work mode. Based on the industry development trend and trainees' feedback, continuously optimize the training program and update the course content to ensure the cutting-edge and practicality of the training content. Establish a feedback mechanism to collect opinions from trainees, enterprises and teachers to continuously improve the quality of training. Help enterprises better attract, cultivate and retain talents in the era of digital trade, so as to support their digital transformation and long-term development.

6 Conclusions and research perspectives

6.1.Conclusions

This paper discusses in depth the urgency and complexity of the digital trade talent cultivation mode and

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path, and reveals the four core problems facing the current digital trade talent cultivation: First, the imbalance between the supply and demand of digital trade talents and the serious shortage of composite digital technology talents; Second, the lagging talent cultivation mode, which cannot keep up with the rapid changes in technological innovation and market demand; Third, the disconnection between the education system and industrial demand, resulting in a mismatch between the skills of talents and the actual job demand; Fourth, the lack of an effective school-enterprise cooperation mechanism limits the practicality and relevance of talent cultivation.

To address these challenges, this study proposes a digital trade talent cultivation model with the OBE education concept as the core, emphasizing learning outcome-oriented, talent-centered, and continuous improvement of the teaching process. Specific ways include: accurately positioning training goals, systematically constructing training courses, implementing diversified assessment and evaluation, deepening school-enterprise cooperation, and receiving strong support from the government. These measures are of great significance in cultivating digital trade talents with interdisciplinary knowledge, innovation ability, international vision and practical skills.

In the discussion of this paper, it can be found that with the continuous progress of digital technology and the profound change of the global economic and trade rule system, the cultivation of digital trade talents has become the key to promoting the construction of China's trade power. This paper hopes that through the innovation of talent training mode and practice path, it is expected to fill the digital trade talent gap, and then enhance the country's position in the global digital economy competition. Talent is an important productive force, and only through continuous innovation and optimization of talent training can we ensure China's long-term development in the field of digital trade.

6.2.Research Innovations

Firstly, this paper analyzes the background and trend of digital trade development, and clarifies the important role of digital trade talents in promoting the construction of China's trade power. It also reveals the digital trade talent gap, as well as the breadth and urgency of market demand by listing the many fields and industries involved in digital trade.

Second, the article analyzes the status quo and challenges of digital trade talent training, including the higher level of skill requirements for talents in the field of digital trade technology, the rapidly changing market demand for talents to have the ability of adaptability and continuous self-improvement, the immature cultivation mode, which makes it difficult to cultivate talents to meet the market, and so on. The analysis of these challenges provides a solid theoretical basis for the optimization path of talent training mode.

Again, the article puts forward a new perspective, taking the OBE education concept as the guiding ideology of talent cultivation, and elaborates on the optimization of the talent cultivation path by accurately positioning the cultivation objectives, systematically constructing the curricular system, implementing diversified assessment and evaluation as well as deepening the cooperation between schools and enterprises.

In addition, the article also emphasizes the important role of the government in the talent cultivation process, and puts forward suggestions for building a good policy environment and support system. These inno-

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vative points are of great theoretical significance and practical value in guiding the practice and research of future digital trade talent cultivation.

6.3.Future Research Directions

Although this paper has achieved certain results, it also reveals the limitations of the study. First of all, given the extremely broad scope of digital commerce, we have failed to realize a comprehensive and in-depth study with a small coverage when exploring the impact of specific technological fields on the cultivation of talents and the required skills. In addition, this study emphasizes analysis from a macro perspective and does not take into account the differences between individuals or the uniqueness of different industries and regions. Second, in proposing recommendations to improve the talent cultivation model, it mainly focuses on the macro-level discussion, and the details of the specific implementation strategies and methods are not sufficiently explored. The proposed recommendations still need to be verified by subsequent empirical research to verify their effectiveness and impact. Again, in terms of research methodology, the study relies on theoretical analysis of literature review and fails to collect actual case studies or empirical data, which prevents us from fully understanding the real situation of various types of enterprises in digital transformation, and thus weakens the persuasiveness of the study.

For the future research direction, it can be expanded from the following aspects: First, research on specific technical fields in digital trade should be strengthened to explore in detail the specific needs of these technical fields for talent cultivation; second, in-depth empirical research should be conducted in combination with specific enterprise cases to dig out the successful practical experience of talent cultivation of enterprises in different fields in the face of globalization and technological innovation, so as to provide more concrete and practical guidance for SMEs; Third, conduct interdisciplinary research, integrate the theories and methods of different disciplines, and build a more comprehensive and systematic theoretical framework for the cultivation of digital trade talents; In addition, conduct empirical research to evaluate the actual impact of different talent cultivation modes on enterprise development through quantitative analysis, as well as the customized talent cultivation strategies for different industries and geographical characteristics; Finally, explore the career development and continuous learning path of digital trade talents, and form a lifelong learning mechanism that can quickly adapt to the development of the environment.

With the continuous emergence of new technologies and the continuous upgrading of industrial structures, the cultivation of digital trade talents will face more challenges and new opportunities. Therefore, we must continuously innovate the mode and path of talent cultivation to adapt to the rapid development and changes of digital trade, and strongly support China to win an advantageous position in the competition of the global digital economy.

Reference

[1]Bi Xueping(2023).Research on process evaluation of OBE case teaching[J]. Management Case Study and Review. Vol. 16(1):107-114.

[2]Dou Kai(2022). Research on cross-border e-commerce talent training path in the era of digital trade[J]. Heilongjiang Education (Higher Education Research and Evaluation), (8):72-74.

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[3]Du Jantao. (2024). The French Ecole42 digital talent training model. Open Education Research, Vol. 30, (2), 23-30.
[4]Fan, Z. Z. (2021). Exploration of Talent Training Mode of Modern Apprenticeship System of Industry-Education Integration[J]. China Higher Education,(Z1):61-62.
[5]Fang Lee Cooke, Geoffrey Wood, Meng Wang, Alex Veen. (2019,). How far has international HRM travelled? A systematic review of literature on multinational corporations (2000–2014). Human Resource Management Review, 29(1), 59-75.
[6]He Yongqiang. (2024).Exploration of craftsmanship cultivation mode for manufacturing higher vocational students under OBE concept. Research on higher engineering education(01),170-175.
[7]Horak, S., Farndale, E., Brannen, M. Y., & Collings, D. G. (2019). International Human Resource Management in an Era of Political Nationalism. Thunderbird International Business Review, 61(3), 471-480.
[8]Janow, M. E., and Mavroidis, P. C. (2019). Digital trade, e-commerce, the WTO and regional frameworks. World Trade Rev. 18, 1–7.
[9]Ji H. (2023). Change of innovation and entrepreneurship teaching mode in finance and economics colleges based on OBE concept[J]. Jiangsu Higher Education(12),91-93+130.
[10]Li Jun,LI Xilin,WANG Tuo(2021). Conceptual Connotation of Digital Trade, Development Trend and Suggestions for Response[J]. International Trade,(05):12-21.
[11]Li Yangzi,YANG Xiuyun,GAO Shuanping(2022). New Trends, Dilemmas and China's Countermeasures for the Development of Digital Trade in the Post-Epidemic Era[J]. International Trade,(11):57-63.
[12]Liu B, Gu C (2022). The impact of cross-border e-commerce on corporate value chain participation - an empirical analysis based on micro data[J]. Statistical Research,39(8):72-87
[13]Meltzer, J. P. (2019). Governing digital trade. World Trade Rev. 18, 1–26.
[14]OECD (2017). Measuring Digital Trade: Towards a Conceptual Framework. Paris: OECD Publication, 5–10.
[15]Sheng Bin,GAO Jiang(2020). Beyond traditional trade: The connotation, characteristics and impact of digital trade[J]. Foreign Social Science,(04):18-32.
[16]Shengquan Yu, Xiaolu Tang. (2024). Reform and Innovation of Talent Training Models in the Age of Intelligence[J]. Open Education Research(03),45-52.
[17]Shi Lin,JIANG Meiling(2023). Research on the Innovation of Talent Cultivation Mode of "Chinese Language + Cross-border E-commerce" to ASEAN under the Background of "Belt and Road"[J]. Guangxi social science,(08):68-76.
[18]Sui Yifan, Wang Gaige(2023). Comprehensively improving the quality of independent training:The logic of university talent cultivation mode innovation[J]. Jiangsu Higher Education,(9):21-28.
[19]Sun Haimin,Cai YH,Li Xiuyun&Xuan Youzhen. (2022). Instructional design of outcome-oriented learning activities. Higher Education Development and Assessment (06), 99-111+123-124.
[20]The United States International Trade Commission (USITC) (2013). Digital Trade in the U.S. and Global Economies, Part 1. Washington, DC: USITC Publication, 5–20.
[21]Wan, B. R., Li, S. L. & Qian, E.. (2024).OBE concept guides the teaching method of software project practice course. Research on Higher Engineering Education (03), 92-97.
[22]Wang Zhuli, WU Yanru, WANG Yun(2024) Parenting concepts and talent cultivation models in the age of digital intelligence[J]. Research on Electrochemical Education,45(2):13-19.

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[23]Wang, Bao-Hui, Liu, Xuan-Zhan, Wang, Qi-Hao & Chen, Yuan-Yi. (2023).Research and analysis of robotics industry talent demand under OBE concept. Research on Higher Engineering Education(04),65-72.
[24]Wang, W. L. (2009). The key to improve the quality of education: deepening the reform of talent training mode[J]. Education Research,30(12):30-34.
[25]Wolfe, R. (2019). Learning about digital trade: privacy and E-Commerce in CETA and TPP. World Trade Rev. 18, S63–S84.
[26]Wu Aiqi,LIU Yihui,SONG Di(2021). Cross-border digital platform participation, international value-added behavior and firms' international competitive advantage[J]. Management World,37(9):214-233.
[27]Xu Jinhai,LI Luanghao(2022). Global digital trade development trend and China's response strategy[J]. Learning and Exploration,(10):149-156.
[28]Yan, Yunyang, Qiao, Bin, Sun, Guohong, Wu, Mingzhong & Lu, Xia. (2022). Exploration and Practice of Constructing Talent Cultivation Programs in Applied Undergraduate Colleges and Universities. China Higher Education (22), 56-58.
[29]Yu, F. & Yan, C. Lingyun. (2024). Disordered interest game and its deep-rooted motivation under hybrid order-based talent cultivation model - A multi-case study based on N technical colleges and universities. Journal of South China Normal University (Social Science Edition)(02),69-84+206.
[30]Zhang Guoping,Wang Kaitian,SHI Yang. (2022) Exploration of the new business composite talent cultivation model of "four-in-one, four-dimensional integration"[J]. China Higher Education,(11):50-52.
[31]Zhang Zhengrong,YANG Jindong,GU Gu Guoda(2021). Conceptual dimensions, international rules and business models of digital trade[J]. Economist,(04):61-69.
[32]Zhang, H., Ke, L. F., & Chen, H. J.. (2022).Construction and Practice of Talent Cultivation Mode of Cross-border E-commerce Professionals in Higher Vocational Colleges under 1+X Certificate System[J]. Vocational and Technical Education,Vol.43,(11),17-21.
[33]Zhong Binglin,Wang Xinfeng. (2023). Local experience and theoretical construction of China's top innovative talents training system[J]. China Distance Education(12),1-9.
[34]Zhong Binglin. (2013). Talent cultivation mode reform is the core of connotation construction of higher education institutions[J]. Higher Education Research 34(11):71-76.
[35]Zhong Binglin. (2023). Strengthening education evaluation reform and quality assurance system construction[J]. Chinese Journal of Education (02),1.
[36]Zhou, Yuanqing (1998). Increasing efforts to speed up the pace and making breakthroughs in the main aspects of teaching reform[J]. Research on Higher Engineering Education,(2):1-16.

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