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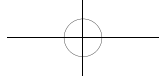
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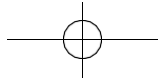
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Table of Contents

1	Construction and Optimization of a Financial Early Warning System Based on Big Data and Deep Learning Technology <i>Jing Yang</i>
7	Employment Difficulties and Countermeasures for Art Students in Colleges and Universities <i>Kuang Zhu</i>
14	Economic Influencing Factors of Trade Volume Between China and RCEP Member States <i>Jiao Zhang</i>
20	Research on the Continuous Participation of Virtual Brand Community in Decision-Making Based on Social Influence Theory <i>Tongfei Lin, Qiansha Zhang</i>
31	An Analysis of Amazon's High Turnover Rate <i>Tian Chen</i>



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Proceedings of Business and Economic Studies

Construction and Optimization of a Financial Early Warning System Based on Big Data and Deep Learning Technology

Jing Yang*

School of Accounting, Zibo Vocational Institute, Zibo 255300, Shandong Province, China

*Corresponding author: Jing Yang, Jingyang1980@163.com

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Abstract: New technologies such as big data, artificial intelligence, mobile internet, cloud computing, Internet of Things, and blockchain have brought about significant changes and development in the financial industry. Predicting the financial situation of enterprises, reducing the probability of uncertainty risks, and reducing the likelihood of financial crises have become important issues in enterprise financial crisis warning. In view of the issues in enterprise financial early warning systems such as lag, low accuracy, and high warning costs in data analysis, a financial early warning system based on big data and deep learning technology has been established, taking into account the different situations of listed and non-listed companies. This carries significance in improving the accuracy of enterprise financial early warning and promoting timely and effective decision-making.

Keywords: Financial crisis; Big data; Deep learning; Financial early warning system

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1. Introduction

The 14th Five Year Plan for National Economic and Social Development of the People's Republic of China and the Outline of Vision and Objectives for 2035 (draft) put forward a proposal to accelerate the construction of a digital economy, a digital society, and a digital government, as well as to expedite the overall transformation of the production mode, lifestyle, and governance mode with digital transformation. As a result of the pandemic, enterprises are facing increasing uncertainties; the lag of internal financial data in a company leads to the inability to control its financial situation in advance. Predicting the financial situation of companies, reducing the probability of uncertainty risks, and reducing the likelihood of financial crises have become important issues in enterprise financial crisis warning. The overall crisis triggered by enterprise financial crisis is mainly manifested in three aspects.

1.1. Enterprise financial crises hinder normal production

Insufficient idle funds and poor cash flow turnover increase the financial burden of enterprises, resulting in the depletion of funds and difficulty in maintaining normal production and operation. Once a company encounters difficulties in normal production and operation, its production and operation will fall into a vicious cycle, making it even more difficult to achieve sustained and stable development.

1.2. Enterprise financial crises suppress competitiveness and growth potential

When an enterprise is faced with financial crisis, the accuracy of managers in predicting the economic benefits of the enterprise is affected. This causes the enterprise to lose its market competitiveness and makes it difficult to predict the future losses and profits of the enterprise, leading to issues in forming capital accumulation, which is another factor that gives rise to enterprise financial crisis.

1.3. Enterprise financial crises lead to a setback in production driven by employee enthusiasm

Without ensuring normal production and operation, heavily indebted enterprises find it difficult to protect the interests of their employees. This greatly dampens the enthusiasm of employees to participate in enterprise production and even leads to a significant loss of talent, which would further exacerbate the financial crisis.

The emergence of big data has made it possible to obtain multi-dimensional non-financial data, providing new opportunities for studying financial warning from the perspective of non-financial indicators. Supported by big data, we view netizens as sensors for enterprises, establish the connection between online signal fluctuations and financial risks in the business process, mine massive information related to enterprises, and use big data indicators and deep learning technology to create an effective enterprise financial crisis warning model.

The financial early warning system falls under the category of microeconomics early warning and has gained significant economic research value. Wu *et al.* ^[1] were the first to introduce the financial early warning model in China through which they analyzed foreign models that use financial indicators for financial early warning. Chen ^[2] used 27 non-special treatment (ST) and ST companies in the Shanghai and Shenzhen stock markets as comparative samples to test the applicability of foreign univariate early warning models to domestic listed companies. Zhang ^[3] used the financial data of 60 companies to study the second-class linear discriminant model and found that the model has strong forecasting ability. Wu *et al.* ^[4] selected 21 financial ratios from 70 non-ST and ST companies to conduct research on enterprise financial risk warning models. Fu *et al.* ^[5] predicted the financial deterioration of listed companies in China and found that using artificial neural network analysis models in financial early warning research has higher accuracy and applicability. Wang *et al.* ^[6] used non-financial indicators (such as corporate governance and external guarantees) to construct an early warning model, which expanded the selection of variables in the model and also led the research on financial systems to a more comprehensive and deeper level.

At present, financial early-warning services provided by financial companies are based on financial indicators for analysis and prediction. Since financial indicators are lagging, incomplete, and subjective, some enterprise financial early warning models are not complete enough to effectively and timely warn business indicators. The financial early warning system based on big data and deep learning can, on the one hand, utilize big data to improve the shortcomings of previous financial early warning models for enterprises and, on the other hand, relate the characteristics of big data to the actual development situation of enterprises to grasp the overall direction of economic development, thus promoting financial risk warning and further improving its effectiveness. Song ^[7] found through a comprehensive analysis of 60 enterprises that the introduction of big data indicators in the financial warning model can significantly improve the prediction effect in the long run.

In China, the research on financial early warning started relatively late, and the capital market environment is still immature and incomplete. The methods and models used in research were mostly based on foreign literature research, lacking creativity and practical guidance for companies as well as a financial early warning model that combines the capital market environment, company characteristics, and big data analysis in China.

2. Problems in establishing a financial early warning system

2.1. Lagging analysis of financial early warning system data

According to the evaluation of the financial situation of enterprises based on completed data, some crises are inevitable. The existing financial warning analysis of enterprises is aimed at understanding and adapting to the market, mainly using quantitative analysis and often only considering financial factors. However, financial indicators are often just a form of financial crisis, and they are characterized by delayed responsiveness, incompleteness, and subjectivity. Basically, all enterprises have subjectivity when formulating financial risk warning models. Most enterprises have incomplete financial risk warning models and incomplete financial indicators, which do not cover all aspects or fully express their current situation. Moreover, financial indicators themselves have lag reactivity, which contradicts the original intention of enterprises to use and analyze financial indicators for early warning. The financial warning model established based on financial indicators as the main prediction basis has significant drawbacks, as it cannot truly predict the financial risks of enterprises in practical applications.

2.2. Low accuracy of financial early warning system

Early models were based on a limited number of enterprises for empirical research, and the data lacked support and had low accuracy. Financial warning can be divided into two types based on the selected indicators: financial indicators and non-financial indicators. The effectiveness of financial warning based on financial indicators has always been limited by the distortion and lag of accounting information. On the other hand, the financial warning model based on non-financial indicators has been criticized for its subjectivity in obtaining indicators. The survival and development of enterprises largely depend on the personal qualities and abilities of their owners. Due to the lack of awareness and professional training in management, small and medium-sized enterprise owners often tend to prioritize production and operation, while neglecting sales and financial management. This leads to these enterprises being at a disadvantage in early warning and response to financial crises ^[8].

2.3. Non-listed companies have high financial warning costs and incomplete or absent financial warning systems, leading to greater financial risks

The market demand for non-listed companies is high, but the financial crisis warning system has not segmented the industry. Due to limited financial resources and a lack of specialized financial management personnel, the financial decision-making work has been halted due to high fee thresholds. Due to the unclear source of financial data, there are limited research and practice on its financial early warning system externally. If the financial information of a company is neglected over a period of time or there is no timely warning system for financial crisis, it may be easily affected by macroeconomic factors, low capital and technology composition, and other factors, leading to varying degrees of financial crisis for most non-listed companies.

3. Implementation path of building a financial early warning system based on big data and deep learning technology

There are two main contents in the financial early warning system based on big data and deep learning technology. The first is building a financial early warning model used by enterprises. The model can be divided into two major modules: listed companies and non-listed companies. In order to build a financial early warning model by industry, each module is classified based on different industries. The early stage of the former module is based on the financial warning model developed by listed companies in the manufacturing industry. The market positioning is for large-scale manufacturing listed companies with more financial information and complex financial systems. Non-listed companies are defined as

manufacturing non-listed companies that have recently been established or have relatively small financing methods that mainly rely on debt. The second is the financial early warning learning platform derived from the financial early warning model, which is suitable for the learning and practice of finance and economics courses, such as Financial and Commercial Data Visualization Analysis, and to be used by finance and economics majors and social learners in colleges and universities or higher vocational colleges.

3.1. Main content of the financial early warning system based on big data and deep learning technology

The financial warning system is mainly divided into a financial warning prediction section and a financial warning learning platform. The prediction section is mainly aimed at enterprise development, using preliminary data to establish the financial warning system. Enterprises can regularly input relevant financial data to obtain future financial forecasts. If there is a warning system, they can analyze the relevant data of the system and adjust the company's operations in a timely manner to prevent financial risks. On the other hand, the learning platform is mainly developed for social finance personnel and school students. Employed finance personnel can learn about financial warning through this platform, improve their professional level, enhance employment competitiveness, and better assist their company management personnel in analyzing financial risks. The learning platform can be adopted as a practical training course for students majoring in finance and economics. Schools can purchase platform accounts in bulk, while students can use the professional course knowledge learned to relate various financial factors with financial risks based on early warning models. This understanding and prevention of financial risks would improve the professional level and comprehensive ability of college students.

3.1.1. A financial warning model for enterprise use

The financial warning model includes two major modules: the financial warning model for listed companies in different industries and the financial warning model for non-listed companies in different industries. The former is based on a non-linear logistic indicator system model for different industries, including financial indicators based on big data analysis, non-financial indicators, and network data indicators, whereas the latter is based on a multivariate logistic indicator system model for non-listed companies, including financial indicators and non-financial indicators.

The models for manufacturing listed companies and non-listed manufacturing companies are described below.

3.1.2. A financial warning platform for learners to use

Based on the enterprise financial early warning system, the financial early warning platform for learners is derived. This platform includes financial report data and network data of listed and non-listed companies. According to the given data, students can build financial early warning models for the learning and practice of the Financial and Commercial Data Visualization Analysis course. Social learners can complete the learning of relevant courses of financial data visualization analysis through models and data, as well as improve their financial forecasting, analysis, and management capabilities.

3.2. Implementation path of the financial early warning system based on big data and deep learning technology

3.2.1. Financial warning for listed companies

Financial data and non-financial data of listed companies are derived from Guotai'an platform. Web crawlers are used to obtain massive non-financial data, including online public opinion and other data, on the web^[9]. First, industry classification of listed companies is carried out, and a financial early warning

model is then constructed based on the financial and non-financial indicators. Excel, SPSS, web crawler, and Python are used.

3.2.2. Financial warning for non-listed companies

A financial indicator warning model is established based on the financial data of Shanghai, Shenzhen, Shandong SME Growth Enterprise Market and the intelligent financial sharing platform data. Based on the financial warning model of small and medium-sized enterprises, enterprises can import existing data into the model and provide timely feedback on financial warning indicators. Enterprises can adjust their operational management strategic planning based on the feedback.

3.2.3. Financial early warning learning platform

According to the financial early warning system model, the financial early warning learning platform is derived. This learning platform is suitable for the learning and practice of Financial and Commercial Data Visualization Analysis and other courses in colleges, higher vocational colleges, and universities.

4. Research prospects

At present, most financial early warning systems are targeted at listed companies. With the deepening of China's market economy reform and the rapid development of its capital market, there is little research on non-listed companies, compared to listed companies, owing to the significant gap between their scale, strength, financial management personnel, and systems as well as the difficulty in collecting financial data due to unclear sources. Small and medium-sized enterprises are small in scale, have flexible operations, and have few industry restrictions. However, these traits contribute to their vulnerability to macroeconomic impacts, poor asset and technological structure, and low survival ability. Due to the fierce market competition, these enterprises would be confronted with even more daunting challenges. Therefore, regular and necessary financial warning analysis will inevitably become a development trend for these enterprises in the future.

Disclosure statement

The author declares no conflict of interest.

Author contributions

The author confirms sole responsibility for the study conception and design as well as manuscript preparation.

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Employment Difficulties and Countermeasures for Art Students in Colleges and Universities

Kuang Zhu*

Beijing University Students Employment and Entrepreneurship Guidance Center, Beijing 100081, China

*Corresponding author: Kuang Zhu, 527707824@qq.com

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Abstract: Employment is the principal source of income. The employment of graduates is associated with the satisfaction and sense of gain experienced by thousands of families. In recent years, the number of art students in colleges and universities has grown steadily. However, influenced by various factors, the employment situation of art graduates has become increasingly severe. In this paper, the employment situation and difficulties faced by art graduates are analyzed, and countermeasures for high-quality and full employment are put forward in view of the situation and employment problem faced by art graduates.

Keywords: Colleges and universities; Art graduates; Employment

Online publication: June 26, 2023

1. Introduction

The report of the 20th National Congress of the Communist Party of China clearly states that it is necessary to strengthen the policy of employment priority, improve the mechanism of promoting employment, promote high-quality and full employment, as well as make strategic arrangements for the path toward promoting high-quality and full employment. This report provides a fundamental basis for China to consolidate the foundation of Chinese-style modernization by promoting the realization of high-quality and full employment as well as continuously enrich the connotation of the Chinese-style modernization era, so as to guarantee the current and future employment of college and university graduates. The number of college and university graduates nationwide is expected to reach 11.58 million in 2023, and the number of art graduates is also increasing. Their job-seeking efforts and employment status have garnered widespread attention. Giving full play to the characteristics and strengths of art students in colleges and universities, establishing roots in the cultural fertile soil of newcomers of the era, integrating education with social practice, and combining artistic pursuits with the development requirements of the times are inevitable requirements to promote high-quality and full employment of art graduates.

2. Main factors affecting the employment of art graduates

2.1. Development level and development trend of the art industry

The development of the art industry is closely related to the state of economic development, the level of technological development, the management and operation model, and the soundness of the market mechanism. With the advancement of technology and the strengthening of the digital trend, the domestic art industry is developing rapidly in a more digital and global direction, and its demand and market value are increasing on a global scale. The development level of the art industry defines its capacity to absorb

college and university graduates through employment, more concisely, the higher the demand for human resource in the industry, the higher the employment opportunities and the greater the options are for art graduates.

According to international practice, for a country's gross national product (GDP) to be around 12,000 USD, it would have already met the conditions for development. Only when the GDP reaches more than 8,000 USD, the public will become more interested in art collections, and the development of the art market will have certain prerequisites. If China's GDP can exceed 10,000 USD, China's cultural industry will no doubt embark on a road to rapid development ^[1]. In 2022, China's per capita GDP reached 12,741 USD and remained above 12,000 USD for two consecutive years. Although the art industry is facing some risks and challenges as a result of the pandemic and the unstable global economic situation, it still has a strong momentum for development. Take the recovery of the performance market in the spring of 2023 as an example. According to the data of the ticketing platform Damai, the platform sold 47,000 performances in February and March this year, three times that of the same period in 2019, with a year-on-year growth of 127% and 87%, respectively. The prosperity of the art market will inevitably drive the development of the art industry and the demand for talents in this industry.

2.2. Employment market in the art industry and the supply-demand relationship

The gradual maturity of the art industry as a result of industrialization would heighten its own potential social value, create more job opportunities, and cultivate artistic talents. The maturity of the art industry not only reflects the degree of its industrialization, but also promotes the development of industrialization and the talent connection between art students in colleges and universities. At the same time, we also see that, on the one hand, with the transformation of colleges and universities from elite education to mass education, the number of people enrolled in colleges and universities has increased exponentially, thus producing more art talents for the society. On the other hand, as the uncertainty of economic development has taken precedence in recent years, both risks and challenges exist in the art industry. Many companies have made efforts to reduce personnel costs and recruitment scales; in addition, the job market is relatively saturated, with short-term demand surges being unlikely.

At the same time, the geographical and industry biases of art graduate employment are evident. Economically developed coastal economic belts and large and medium-sized cities are prosperous and have strong accumulation of art markets, large development space for students, and many opportunities for learning and improvement; there are few large and medium-sized cultural and art companies in economically underdeveloped areas. Due to the characteristics of art disciplines, the employment adaptability is average, and the employment path is relatively one-way, which affects the supply and demand of graduates to a certain extent. The oversupply in areas where artistic talents are concentrated and the undersupply in those where art talents are scarce may appear to varying degrees. This structural imbalance in the job market caused by gaps in regional development will persist for a long time. This phenomenon, especially in recent years, has become more prominent. According to incomplete statistics, more than 70% of art graduates prefer to be employed in more economically developed areas, thus saturating the job market and increasing the competition in these areas.

2.3. Employment concept and skills of art students

Art students in colleges and universities have relatively distinct personalities. They are open-minded, advocating freedom, and full of innovative spirit. However, in the job-hunting and employment process, issues such as backward employment concept, idle employment mentality, and immature employment psychology have become the key factors affecting their employment. In addition, some are confident but lack basic career planning and job market awareness of the art industry. The problems and blows

encountered at the beginning of job hunting are likely to cause psychological pressure, resulting in idle or negative job-hunting mentality. “Popular” majors are no longer popular, and the direction of talent training is relatively one-way. When graduates apply for jobs, the employment environment may be different from what is expected, which creates negative employment mentality, as evidenced by being slow and lazy.

In addition to education, teaching, and personnel training, practical education and professional skills have always been the focus in art education. Art students generally have good artistic expression and hands-on skills, but they are lacking in aspects of humanities and general knowledge. Compared with traditional liberal arts and science graduates, art graduates are at a disadvantage in terms of general skills and literacy for employment. There is a need to improve their overall quality in order to narrow the gap between them and the requirements set by employers.

3. Problems existing in the employment of art graduates

3.1. Mediocre campus recruitment activities by art industry employers

In recent years, due to the impact of the pandemic, the downward pressure on the economy has intensified, leaving a huge impact on various consumer service industries, including the art industry. The demand side has been suppressed, while the supply side has been sluggish. Most enterprises have made efforts to reduce their operational risks by reducing their investment scale, dismantling uneconomical business modules, and reducing personnel expenditures. Compared with other industries, the art industry has been severely affected due to its unique characteristics, with a dramatic decrease in the overall recruitment of art talents.

The employment of art talents has traditionally been reliant on employment experience and graduation design exhibition. During the pandemic, it was difficult for enterprises to gain access to schools; thus, the docking of recruitment information posed a challenge. In addition, design exhibitions, as an important link for employment, could not be carried out, and the recruitment information docking lacked intuitive experience. The narrow scope of market job supply also renders the employment situation of art graduates more critical.

3.2. Prominent structural contradiction between the supply and demand of art talents

In terms of the number of students, art majors in art colleges as well as general colleges and universities account for a relatively small proportion; in terms of job-seeking expectations, these graduates have strong demand for counterpart employment and higher salary; in terms of job-seeking channels and direction, the professional talent market is clearly reflected. The above situation has made it challenging to address and satisfy the job demands of art graduates. The job market has limited information, a high level of personalization, a low level of social awareness, and poor transmission of supply and demand information.

At the same time, the uneven regional distribution of the art industry (concentrated in large and medium-sized cities such as Beijing, Shanghai, and Guangzhou), the difference in the dissemination and consumption of art products between urban and rural areas, and the unbalanced development of the internal sectors of the art industry (film, television, painting, *etc.*, have developed rapidly, but folk art is still at a disadvantage) reflect the structural imbalance of China’s art industry. In economically developed areas, the art market is more active, and thus more jobs are available. Moreover, most art graduates, out of consideration for personal development and salary, prefer to work in big cities, resulting in a large influx of talents into economically developed areas, while talent shortage is becoming more evident in economically backward areas, thus aggravating the disparity in employment ^[2].

3.3. Relatively high proportion of flexible employment and poor job stability

Job flexibility and unwillingness to be constrained by systems and rules and regulations are common perceptions among art graduates when seeking for employment opportunities. As a special group in the job

market, they often overlook the idea of job stability when choosing a job and rarely pay attention to legal compliance procedures, such as when signing labor contracts. Instead, they are more interested in the consistency of work and their majors as well as the rate of return on human capital formed by investing in their own learning and development over the years. At the same time, due to their lack of willingness to learn and poor general knowledge, they do not have much advantage for further education and policy-based employment in relatively stable channels, such as postgraduate entrance examination, public examination, compilation examination, and teaching qualification examination. These have led to a high rate of flexible employment and poor job stability among art graduates.

3.4. Insufficient publicity and guidance for art students to assume grassroots employment positions

In recent years, the state has been advocating college and university graduates to “go to the west,” “go to the grassroots,” and “go to the countryside” for employment, so as to contribute to areas and industries that need economic and social development the most. There are some jobs and development opportunities that are suitable for art graduates. A small number of art graduates have achieved exceptional growth after joining the grassroots. However, the publicity and educational guidance to encourage art students to venture into grassroots employment are still far from enough, especially the lack of breadth and depth of education on career planning and the failure of students to combine personal development with career development. It would be difficult to appreciate the advantages and characteristics of different employment paths from a higher level if the current development and future trends are not considered together. In fact, with the rapid development of science and technology and the information industry, the art industry has been able to overcome the limitations of geographical space, implement differential development for different cultural and economic regions, address the uneven cultural development, and make better use of internet media, television, film media, *etc.*, to realize the sharing of cultural and artistic resources as well as the mutual learning of artistic behaviors. Colleges and universities should strengthen their publicity and guidance, so that more art students can appreciate the new pattern and outlook of the development of the art industry.

4. Countermeasures for the problems existing in the employment of art graduates

4.1. Rectify concepts and establish a correct outlook on employment and career choice

Complying with the development needs of the new era, establishing a correct outlook on employment and career choice is a feasible way to solve the employment issue among art graduates. As socialism with Chinese characteristics has entered a new era, the main dilemma in our society has shifted to people’s ever-growing needs for a better life and the unbalanced and inadequate development^[3]. To some extent, the art industry plays a role in meeting people’s needs for a better life, improving people’s level of artistic aesthetics, enriching the connotation of cultural self-confidence, and building harmonious social relationships. It heightens people’s experience and satisfaction under the grand narrative background of the new era that reflects these two entities. The current society is undergoing unprecedented changes, and various industries are undergoing continuous changes, with new working methods emerging. Only by guiding students to change their employment concepts and expand their career choice can they better adapt to the development of the new era. Art students should have the courage to overcome the inherent employment barriers in the art industry, establish an open outlook on employment and career options, enhance career planning with innovative thinking and a broader vision, defying convention and disregarding the idea of what is superior and inferior, maintain a grounded mind, compare their personal needs with social needs objectively, and choose careers based on reality. As long as there is ambition, there will be career, and as long as there is ability, there will be opportunities. No profession will bury talents or stifle one’s creativity. The key lies in one’s attitude toward the profession^[2].

4.2. Develop market-oriented employment channels in the art industry and strengthen communication between universities and employers

In November 2022, the Ministry of Education issued the “Notice on Doing a Good Job in the Employment and Entrepreneurship of the 2023 National College Graduates” (hereinafter referred to as the “Notice”) and urged all colleges and universities to implement the spirit of the 20th National Congress of the Communist Party of China. The “2023 National College Graduate Employment and Entrepreneurship Promotion Action” focuses on promoting multi-channel employment and entrepreneurship for college and university graduates, and the “Notice” points out that more efforts should be made to develop market-oriented and socialized employment channels.

Art colleges and universities should effectively strengthen the development of the art industry and the employment market in relevant key areas, organize and carry out special campaigns to promote employment by “visiting enterprises and expanding jobs,” establish practice bases between schools and enterprises, bring in corporate human resource departments, and promote industry-university-research cooperation, joint training, and other employment education projects. School leaders should lead the team in charge, while functional departments, colleges, and universities should participate together. Using both online and offline methods, key recruiting units in various regions and industries of different natures that best fit the disciplines and majors of a particular school should be contacted. Art colleges and universities should also play a role in gathering art talents, take initiative to serve the local government, promote school-government cooperation, provide talent support for regional economic development, and set up practice bases for art students to enrich the market-oriented employment resources in different industries.

Art colleges and universities should also make full use of internet information means to build a multimedia information service platform for art talents and the form of media that is widely used by art students for interaction and information exchange. In particular, it is necessary to make good use of the convenience and flexibility of information transmission in this we-media era, master the language of we-media, consider the actual needs of art students in practice and employment, and help art students comprehend the development trends of different industries and the demand for art talents.

Schools should also make good use of new media technology and build information service platforms, such as employment service official websites, WeChat public accounts, Douyin accounts, *etc.*, to provide timely information on the arrangement of art talent recruitment activities, recruitment positions and requirements, employment and entrepreneurship guidance and policies, career planning guidance, *etc.*

4.3. Focus on innovation and entrepreneurship in art students and use entrepreneurship to drive employment

Art colleges and universities are working toward nurturing innovative and entrepreneurial talents that can adapt to this era wherein culture, art, and creative industries are vigorously developing. Art students are active thinkers, risk-takers, innovative, and have relatively more opportunities to engage in social practice. Art colleges and universities should integrate innovation and entrepreneurship education into employment and education practice. Moreover, establishing campus innovation and entrepreneurship incubation bases provide certain guarantees and services, such as registration, investment and financing, finance and taxation, law, manpower, and venues, creating “mass entrepreneurship” on campus. The soft environment of “Innovation by All” allows students with distinctive personalities and unique ideas to cultivate their own seeds of innovation and entrepreneurship in the soil of the Entrepreneurship Park and experience the hardships and gains of innovation and entrepreneurship.

At the same time, colleges and universities should encourage their students to participate in various innovation and entrepreneurship competitions organized by the country, provinces, cities, or schools, move toward double-creation education, and effectively improve students’ innovative spirit, entrepreneurial

awareness, and innovation and entrepreneurial skills ^[4]. Mentors with entrepreneurial experience and innovative skills can also be invited to guide students in their practice and thinking through simulated entrepreneurship competitions as well as help in establishing an innovation and entrepreneurship education and training system.

4.4. Strengthen career planning education and personnel training for art students

Career planning overlaps and integrates with pedagogy, human resource management, ideological and political education, psychology, sociology, and other disciplines. It is necessary to explore and direct the content and rules of individual career development activities to help art students establish professional values and a scientific outlook on life. Art colleges and universities should be aware of the high-employment ratio of art talents in the industry; objectively analyze the problems faced by art students, including cognition closure, conservative thinking, and unclear career planning; and continuously optimize employment guidance and services through various activities, such as career planning courses, personalized guidance and consulting services, internship projects, enterprise visits and exchanges, and sharing of workplace experiences, to improve the skills of art students in career planning.

The rapid development of economy and society has brought wider employment and development space for art graduates as well as put forward ever-changing requirements for the personnel training work in colleges and universities. According to statistics on Baidu Encyclopedia, 46% of graduates felt that what they learned in school could not be applied in their work, thus revealing a contradiction between personnel training and the needs of social and economic development. Therefore, colleges and universities must consider the needs of employers and the market and form suitable talent training models, professional settings, and teaching plans. They should also visit enterprises and work toward school-enterprise cooperations for in-depth exchanges and investigations, so as to truly grasp the actual needs of employers. The personnel training plan, curriculum setting, teaching practice, and other links should be integrated based on social needs ^[4].

4.5. Strengthen the cultivation of general education ability and enhance the employment adaptability of art graduates

An important part of the training goal of art talents is cultivating their general knowledge ability. This ability, as an important means to improving the employment competitiveness of art graduates, allows the effective integration of subject knowledge into overall education and teaching. As proposed in the “National Medium- and Long-Term Talent Development Plan (2010–2020),” we should cultivate and form a large-scale, high-quality talent team, with optimized structure and reasonable layout; create comparative advantage through national talent competitions; and enter the world’s talent power ranking ^[5]. For art colleges and universities that predominantly focus on the cultivation of professional skills in education and teaching, general education will enhance the breadth and depth of knowledge of art students, broaden their horizons, and increase their humanistic and scientific literacy. Art students in colleges and universities should develop good logical reasoning skills, thinking skills, interpersonal skills, communication skills, judgment skills, and other general skills, in addition to imagination and innovation skills, so as to ensure social adaptation and a sense of responsibility to the society in the future. By synchronizing professionalism with the development of general skills and literacy, these talents would be well-rounded and socially adept.

Moreover, general education is indispensable for students to improve their professional academic skills and become high-level compound talents in the future. With the rapid development of information technology and the wide application of the “Internet + Industry” model, the art industry requires cross-field and multi-disciplinary cooperations. A good general education can provide diverse perspectives and implementable space for art students.

5. Conclusion

In this age and time, art graduates are faced with employment difficulties and challenges. In order to address the employment problem, we must rectify the concepts of employment, give full play to the characteristics and strengths of art talents, broaden the market-oriented employment channels for art students, as well as develop more and better jobs in different industries and fields. At the same time, it is necessary to strengthen the cultivation of innovation awareness and skills among art students, promote the integration of general education with professional education, and advocate employment and entrepreneurship training to promote high-quality and full employment of art graduates.

Disclosure statement

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Economic Influencing Factors of Trade Volume Between China and RCEP Member States

Jiao Zhang*

Dalian Polytechnic University, Dalian 116034, Liaoning Province, China

*Corresponding author: Jiao Zhang, sophie2013526@163.com

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Abstract: This paper examines the impact of key economic factors on trade volumes between China and the Regional Comprehensive Economic Partnership (RCEP) member states. Studies have shown that gross domestic products (GDP), exchange rate, and inflation have an impact on China's import and export trade volume with RCEP member states. China's export trade volume to RCEP member states is deeply affected by China's GDP, but the import trade volume depends on China's domestic demand and market. The impact of exchange rates on import and export trade volumes varies from country to country. China's export volume to RCEP member states is generally more affected by the consumption level of its residents than the consumption level of Chinese residents.

Keywords: RCEP; Economic factors; Import and export trade volume; Bilateral relations

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1. Introduction

At the fourth leaders' meeting of the Regional Comprehensive Economic Partnership (RCEP) held in November 2020, the ten ASEAN countries, China, Japan, South Korea, New Zealand, and Australia formally signed the agreement ^[1]. In the case of the setback of globalization and the stagnation of the reform of the World Trade Organization (WTO), the realization of RCEP will have a profound impact on both the Chinese economy and the global economy ^[2].

The implementation of RCEP has promoted trade among RCEP member states and deepened the mutual economic influence. This trend provides a broader space and more opportunities for bilateral economic cooperation but also brings more uncertainties and challenges to the two economies. Therefore, it is of great significance to study the economic factors that affect the trade volume between China and major RCEP member states.

Since the signing of RCEP, scholars have explored the factors affecting trade between China and RCEP member states from both qualitative and quantitative perspectives. Qi Li believes that the RCEP negotiation is conducive to promoting cooperation between China and RCEP member states in various industries and speeding up the construction of the China-ASEAN Free Trade Area ^[3]. By comparing the RCEP agreement and the Trans-Pacific Partnership (TPP) agreement, Liu Wei and Chen Jiyong found that there are conflicts of interest and differences in goals between the participating countries of the two agreements ^[4]. Zou Guoyong and Wu Linling believed that the negotiation of the two major agreements may lead to intensified export competition between China and ASEAN countries, thus impacting and diluting the positive impact of the China-ASEAN Free Trade Area on bilateral trade exchanges ^[5]. In the post-pandemic era, Zhang Tianguai believes that the RCEP agreement will help China and RCEP member

states optimize regional trade rules and procedures, improve trade efficiency and convenience, and promote rapid economic recovery ^[6].

In addition, many scholars have paid attention to the application of quantitative methods in the study of trade potential between China and RCEP member states. Qian Jin and Wang Wenxi used the GTAP model to analyze the trade status and industry conditions of RCEP member states ^[7]. They found that the RCEP free trade zone network led by China and Japan is the best choice. By optimizing trade structure, increasing trade scale, and improving trade terms, RCEP member states can make full use of the trade creation effect. Wang Ling and Chen Shan used the data from 2005 to 2017 to measure trade efficiency through the stochastic frontier method, focusing on the degree of influence of trade openness ^[8].

2. Data analysis

2.1. Variable selection

The trade volume between the two countries is affected by many factors, among which economic factors are particularly important. The economic development level, market demand, and production cost of RCEP member states are different. Therefore, when carrying out economic and trade activities among RCEP member states, it is necessary to fully consider the impact of economic factors on trade volume in order to promote the smooth development of economic and trade activities. This paper focuses on the effects of gross domestic product (GDP), inflation, and exchange rates on trade volumes between two countries.

The growth of GDP is one of the important factors affecting the development of trade. When a country's GDP grows, its market demand also increases, which stimulates the country's manufacturers and exporters to increase trade activities. In addition, the growth of GDP can also improve the country's international status and influence, promote the country's infrastructure construction, improve the efficiency and convenience of trade transportation, and further promote the development of trade.

The effects of inflation on trade are complex. Inflation causes the price of goods to rise, reduces the purchasing power of consumers, increases the cost of imported goods, and reduces the demand for imported goods. Besides, inflation may also lead to currency depreciation, reducing the purchasing power of consumers and leading to a decline in the international competitiveness of exporters and export volume. Moreover, inflation may also lead to an increase in domestic demand, which stimulates demand for imports and leads to a trade deficit. Inflation is generally measured by the Consumer Price Index (CPI).

The exchange rate is also a factor that cannot be neglected when analyzing the drivers of trade volumes. The cost of imported goods will depend on the exchange rate of the imported goods and the country's import duties. The rise in the exchange rate will bring about an increase in the cost of imported goods, which in turn will lead to a decline in the international competitiveness of imported goods. Furthermore, changes in the exchange rate may also have an impact on the demand for imported goods. An increase in the exchange rate will lead to an increase in the price of imported goods, thereby reducing the ability of consumers to purchase imported goods. Export trade and trade deficits will also be affected by the exchange rate. When a country's exchange rate is high, the prices of exported goods will fall, while the prices of imported goods will rise, resulting in a trade deficit.

This paper selects the gross domestic product (GDP), consumer price index (CPI), and exchange rate (EX) of RCEP member states as explanatory variables, and the import and export trade volume between China and major RCEP member states as the response variable. In addition, the British Brent crude oil contract-for-difference (CFD) is selected as a control variable to measure the global economic situation. The time interval of the sample is set from the first quarter of 2000 to the fourth quarter of 2021, and all quarterly data come from the CEIC database. **Table 1** is the ranking of China's import and export trade volume with RCEP member states in the fourth quarter of 2021, and the top 10 countries in import and export are selected for data analysis.

Table 1. Ranking of China's import and export trade volume with RCEP member states in the fourth quarter of 2021

Nation	Import volume	Import ranking	Export amount	Export ranking	Nation	Import volume	Import ranking	Export amount	Export ranking
Australia	36,993	3	19,782	5	Indonesia	20,867	6	18,152	7
New Zealand	3,657	10	2,485	12	Laos	521	14	405	13
Japan	52,749	2	44,209	1	Malaysia	27,592	4	26,061	4
South Korea	58,629	1	42,997	2	Philippines	6,619	9	16,127	8
Brunei	593	12	169	14	Singapore	9,732	8	15,814	9
Myanmar	2,669	11	3,052	11	Thailand	14,561	7	19,203	6
Cambodia	554	13	3,291	10	Vietnam	26,274	5	35,920	3

2.2. Model description

Generalized Additive Models (GAMs) extend Generalized Linear Models (GLMs) by replacing linear predictors with smoothing functions. In GAM, the smooth function can be used to describe the functional form of the response variable, and the corresponding relationship between the expected value of the response variable and the explanatory variable can be described in a non-parametric form [9]. Unlike GLM, GAM is more flexible, does not require a pre-set parameter model, and can better handle missing data. The basic expression form of GAM is shown in the following formula:

$$g(Y_b) = \beta_0 + \sum f_m(x_m) + l(s) + \varepsilon$$

Among them, Y_b is the expected value of the response variable; $g(E)$ is the link function; x_m is the first m explanatory variable; s is the control variable; f_m is the smooth function of the explanatory variable l ; x_m is the smooth ε function of the control variable β_0 . In this paper, Y_1 is China's export trade with the member state, Y_2 is China's import trade with the member state; x_1 is China's GDP, x_2 is the GDP of the corresponding member state, x_3 is the EX of China, x_4 is the EX of the corresponding member state, x_5 is the CPI of China, while x_6 is the CPI of the corresponding member state; s is the CFD.

2.3. Empirical analysis

A generalized additive model regression on the economic factors that affect China's import and export volumes to RCEP member states is conducted. The regression results are shown in **Tables 2** and **3**. The F statistical value of each explanatory variable determines the importance of each influencing factor on the response variable. The larger the value, the more important the factor is.

Table 2. Regression results of economic factors affecting China's export volume to RCEP member states

RCEP member states	x_1	x_2	x_3	x_4	x_5	x_6	s
Australia	32.79***	1.93	1.69	0.51	1.43	3.48***	1.51
Japan	34.56***	1.26	1.50	2.35**	3.07**	0.15	8.51***
South Korea	6.54***	6.65***	2.29**	4.88**	3.48***	7.84***	0.08
Cambodia	10.20***	0.60	0.63	1.32	1.25	1.38	2.97*
Indonesia	49.32***	3.62***	1.75	2.73**	1.57	4.86***	9.90***
Malaysia	10.70***	6.17***	2.01	0.94	6.57***	6.61***	3.37***

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RCEP member states	x_1	x_2	x_3	x_4	x_5	x_6	s
Philippines	12.77***	2.28	3.44***	7.42***	1.41***	6.72**	3.82*
Singapore	76.58***	6.36***	0.99	0.85	0.06	3.04**	4.83**
Thailand	13.07***	5.60***	0.24	1.08	4.72***	5.86***	0.18
Vietnam	37.91***	10.21***	2.80**	3.56*	4.03**	14.50***	0.97

Note: *** represents a significance of < 0.01 , ** represents a significance of < 0.05 , and * represents a significance of < 0.1

Table 3. Regression results of economic factors affecting China's import trade volume with RCEP member states

RCEP member states	x_1	x_2	x_3	x_4	x_5	x_6	s
Australia	1.18	0.80	1.34	3.20***	6.18***	0.08	11.47***
New Zealand	2.87**	1.15	0.58	2.32**	3.66***	1.93	1.47
Japan	22.42***	10.07***	0.80	4.343**	2.20*	1.98*	8.48***
South Korea	8.70***	26.24***	7.67***	2.29	25.96***	7.69***	7.99***
Indonesia	11.00***	2.48	1.89*	0.43	0.65	2.21**	13.41***
Malaysia	6.11***	14.81***	0.04	3.95**	5.73***	3.69***	3.21**
Philippines	20.84***	2.30	2.54**	4.38***	25.73***	0.47	6.15***
Singapore	19.01***	1.92*	1.34	0.09	5.50**	4.28**	8.88***
Thailand	70.44***	7.31***	2.11	0.56	4.56***	3.61***	11.63***
Vietnam	18.63***	6.30***	0.86	0.10	8.99***	5.79***	6.49***

Note: *** represents a significance of < 0.01 , ** represents a significance of < 0.05 , and * represents a significance of < 0.1

As shown in **Tables 2** and **3**, China's GDP has a significant impact on China's export trade volume to RCEP member states at the 1% level, and the F statistical value is the highest, indicating that China's export trade volume to RCEP member states is most affected by China's GDP. As one of the largest manufacturing countries in the world, China's GDP growth directly affects the production and export of China's manufacturing industry. Most RCEP member states' GDP has a significant impact on export trade volume, except for Australia, New Zealand, Indonesia, and the Philippines. Unlike the impact of GDP on export trade volume, the impact of China's GDP on import trade volume is greater than that of some RCEP member states on import trade volume. The volume of China's import trade mainly depends on China's domestic demand and market. As China's GDP grows, so does China's domestic demand, which leads to a corresponding increase in China's demand for imported goods. As a result, China will increase its import trade volume to various countries, especially those countries that match China's economic strength. Export trade is mainly affected by the demand and competitiveness of the international market. If the exporting country's economy grows, its competitiveness will also increase, which may lead to an increase in the export of Chinese goods, thereby promoting an increase in China's import trade volume to the exporting country.

The impact of the exchange rate on the volume of imports and exports varies from country to country. For South Korea, the Philippines, and Vietnam, both the exchange rate of the domestic currency and the exchange rate of the Chinese currency has a greater impact on the volume of export trade. The impact of the exchange rate on the import trade volume is related to the ranking of China's import trade volume to each RCEP member state. China's exchange rate has the greatest impact on China's import trade volume to South Korea. It is not difficult to explain that China's import volume to South Korea ranks first among RCEP member states. China's imports to South Korea include high-tech products such as semiconductors,

mobile phones, automobiles, and cosmetics, as well as consumer goods. When the exchange rate of China's currency falls, the cost of importing Korean goods will decrease, thereby stimulating China's import demand. On the other hand, Australia, Japan, and Malaysia, which rank 2nd to 4th in China's import trade volume, are significantly affected by their exchange rates.

The influence of inflation on China's export volume to RCEP member states is generally greater than that of Chinese residents' consumption level. On the contrary, the impact of inflation on China's import trade volume to RCEP member states is generally more affected by the consumption level of Chinese residents than by the consumption level of domestic residents. The consumer consumption index reflects changes in the prices of residents' daily necessities, thus affecting the price competitiveness of export products. When the consumer consumption index rises, it means that the price of daily necessities rises, which will reduce the price competitiveness of export products, thereby reducing the export trade volume.

Crude oil CFD is an important part of the global commodity market, and its price fluctuations have had a profound impact on the global economy. The quality of the global economic situation directly affects the volume of import and export trade, hence the volume of import and export trade between China and RCEP member states is deeply affected by the crude oil CFD index. Rising crude oil CFD will lead to an increase in global trade costs, thereby inhibiting the development of economic and trade activities. Furthermore, crude oil CFD is an important component of energy costs, and the rise in crude oil CFD has increased the overall production costs and exerted pressure on the economy and trade.

3. Conclusion

This paper takes RCEP member states as the research object, builds a generalized additive model based on the economic and trade data of RCEP member states between 2000–2021, and examines the impact of economic factors on the import and export trade volume between China and RCEP member states. The study found that with the growth of China's GDP is proportional to China's export trade volume to RCEP member states, while the import trade volume depends on China's domestic demand and market. Therefore, China needs to continuously promote economic growth in order to improve its international competitiveness and export capacity to RCEP member states. Meantime, China also needs to strengthen the supervision of imported goods from RCEP member states and optimize the supply chain of imported goods.

The impact of exchange rate on import and export trade volume varies from country to country, and the impact of exchange rate on import trade volume is related to the ranking of China's import trade volume to various RCEP member states. The impact of inflation on China's export trade volume to RCEP member states is generally greater than that of Chinese residents' consumption level, while the opposite conclusion is drawn on inflation's impact on China's import trade volume to RCEP member states. RCEP member states should adopt a "two-step strategy" in terms of exchange rate management and inflation control, where internally strengthen exchange rate and inflation supervision and coordination according to the economic situation and market demand, and externally strengthen communication and cooperation among RCEP member states to jointly maintain the stability and order of the exchange rate market and the price market.

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Research on the Continuous Participation of Virtual Brand Community in Decision-Making Based on Social Influence Theory

Tongfei Lin¹, Qiansha Zhang^{2*}

¹Business School, City University of Macau, Macao Special Administrative Region 999078, China

²School of Business Administration, Guangxi University of Finance and Economics, Nanning 530003, Guangxi Zhuang Autonomous Region, China

*Corresponding author: Qiansha Zhang, 66059029@qq.com

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Abstract: Based on the social influence theory, the influence of virtual brand community members' perceived value on social influencing factors is discussed, and the influence of social influencing factors on virtual brand community members' continuous participation in decision-making is analyzed. Through an empirical analysis of the survey data of Xiaomi users in the Xiaomi Community, the results showed that the perceived value of virtual brand community members significantly and positively affects social influencing factors, which also significantly and positively affect the members' continuous participation in virtual brand communities. Therefore, only by sharing valuable information resources and improving the efficiency of information flow, thereby enhancing the perceived value of the community and increasing the stickiness of members to the virtual community, will we have an opportunity to enhance the interaction among members and effectively promote continuous participation in community activities through the strong bonds formed among members.

Keywords: Social influencing factors; Perceived value; Continuous participation; Xiaomi Community; Virtual brand community

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1. Research background

The concept of community has existed since ancient times. From the hunting era, when human beings were connected by family blood for survival, to the transformation of modern society into an interpersonal network that is closely linked by common values and hobbies, the concept of community has undergone tremendous changes. With the advent of the digital economy, the form and connotation of community have also changed. People's lives are intertwined with two social networks: one is the social network in real life, while the other is the virtual community on the internet.

Virtual communities enable people to exchange, communicate, and interact conveniently on the internet anytime and anywhere. Virtual brand community refers to the relationship network formed among consumers gathered in cyberspace based on common interests or hobbies for a certain product or brand. In recent years, with the rapid development of social network services, virtual brand communities have attracted the attention of business circles and academic circles with their commercial value, such as information dissemination, two-way interaction, consumer experience, and mutual assistance among consumers. At the same time, consumers' purchasing decisions have also shifted from individual levels to

those that rely on virtual communities. Considering the importance and value of virtual brand communities, academic circles have extensively studied the formation mechanism, participation motivation, social satisfaction, and community loyalty.

Consumers gather in the virtual community to communicate and interact with relevant information, such as a brand, product preferences, purchase channels, prices, experiences, *etc.* This process acquires information value and social value as well as enhances the perceived community value of group members. Only the continuous participation of members and the high degree of involvement of the community can ensure the vitality of the community and the efficient flow of information. Existing research mainly focuses on the pre-factors and community value perception of consumers participating in the community. From extensive reading of existing literature, it can be seen that the pre-motives of consumers to participate in communities include information needs, social needs, entertainment and leisure needs, *etc.*, while community perception is mainly based on community satisfaction and community belonging. The research theories involved in this field are mainly social interaction theory, social influence theory, hierarchical demand theory, and so on. For example, Yan *et al.* ^[1] believe that the pre-motives of consumers to participate in online communities include obtaining functional information, expressing themselves, interacting with others, and getting approval from others. This series of processes enables consumers to perceive community value and increase brand favorability, thereby generating brand stickiness and even brand loyalty ^[1]. According to He *et al.* ^[2], the continuous participation of individuals in the community is driven by the real environment they live in, coupled with the gradual satisfaction of individual-level needs. Initially, they are motivated by obvious external motivations, such as information exchange, which later develop into groups and key events triggering internalized motivation regulation ^[2]. Wang *et al.* ^[3] established a five-factor model of consumers' motivation to participate in brand communities, which includes social motivation, leisure and entertainment motivation, information motivation, ability achievement motivation, and economic interest motivation ^[3]. Rational behavior theory, technology acceptance model, and planned behavior theory are often applied in user acceptance research. For example, Wang *et al.* ^[4] believe that the functional value perception and social value perception of the community have a positive and significant impact on the continuous participation of community members in community decision-making.

Individual goals are influenced and constrained by the common goals and norms of surrounding organizations. This is the core of social influence theory. These common goals and constraints come from the subjective norm, social acknowledgement, team norm, and other levels of social groups, large and small, and they gradually form important elements of the community value structure in the virtual community. Subjective norm, social acknowledgement, and team norm are typical social factors, and they are also the basis for the interaction of virtual community members. Group members are influenced by subjective norm, combined with internet innovation and tolerance, to build a new type of interpersonal relationship in the virtual community, escape the constraints of real life, and form their own desires and intentions by evaluating the opinions and suggestions from community members. This is the characteristic of the interaction of community members under the influence of social factors ^[5,6]. We were inspired to conduct a study from the perspective of social factors and explore the motivation of community members to continue participating in the community through the interaction of community members. This paper establishes a research framework from the perspectives of demand hierarchy theory, consumer psychology, and value perception, explains the formation mechanism of consumers' motivation to participate in virtual communities, and provides brand marketing decision makers with methods and strategies for establishing consumer brand co-creation value.

2. Literature review and hypotheses

Dholakia *et al.* ^[7] proposed a virtual community engagement framework to explore the impact of social factors and individual motivations on community members' participation in decision-making. This framework emphasizes the importance of social influence and individual motivation in virtual communities. Social factors have an influence on the participatory decision-making of community members. Social factors may include opinions of other members, social norm, and social acknowledgement. However, social influence is in turn influenced by an individual's perceived value of a particular behavior. This means that individual motivation plays a key role in determining participation behavior. Okazaki ^[8] extended the research on the perceived value of participation, proposing three aspects of perceived value. The first is purpose value, which refers to the perceived value of participating in a virtual community to achieve a set goal. Community members believe that certain goals can be achieved through participation, so participation has purpose value. The second is social promotion, which refers to improving one's status in the community and gaining acceptance and recognition from other members by participating in the virtual community and making contributions to the community. Social promotion is important for individuals because it helps build social relationships and gain social approval. Lastly, there is entertainment value, *i.e.*, the sense of fun or relaxation that can be gained from participating in virtual communities and playing or interacting with others. Entertainment value is an important factor for psychological satisfaction and enjoyment. Taken together, we highlight the importance of social factors, personal motivations, and perceived value in understanding and explaining consumer engagement in virtual communities. Social factors and individual motivations jointly shape community members' participation decisions, while perceived value affects individuals' motivation and satisfaction with participation.

Virtual communities have grown in popularity in recent years, providing individuals with a platform to connect with like-minded people and share interests. However, participation in these communities is not solely based on personal preferences or interests. Social factors, such as team norm, social acknowledgement, and subjective norm, play an important role in influencing an individual's decision to participate in a virtual community. Subjective norm refers to an individual's perception of the impact of other people's opinions on his/her participation. This means that an individual's decision to participate in a virtual community may be influenced by the opinions of others within the community. For example, if a person believes that their participation in a virtual community is highly valued by other members, he/she may be more likely to participate. Social acknowledgement includes cognitive identity, affective identity, and evaluative identity. It involves self-knowledge in relation to community. Cognitive identity involves an individual's awareness of one's similarities and differences to community members and non-community members, respectively. Emotional identity reflects an individual's emotional attachment or sense of belonging to a community. Assessing identity involves the individual's perception of his/her worth and importance within a community. These factors influence an individual's decision to participate in a virtual community, as the individual may feel a stronger sense of connection and belonging to the community. Team norm represents the shared goals and expectations agreed upon by group members. These norms influence an individual's decision to participate in a virtual community, as he/she may feel pressured to conform to group expectations. For example, if a virtual community has a strong focus on environmentalism, individuals may be more willing to participate if they share similar values. The perceived value of virtual community participation positively affects social factors. This means that individuals may be more likely to participate if they believe that participating in a virtual community will provide them with benefits, such as social connections, knowledge, or entertainment. The concept of perceived value explains the factors that influence members' decisions to participate in virtual brand communities. A virtual brand community is an online community centered on a specific brand or product. Individuals may be more likely to participate if they believe that participating in a virtual brand community will provide them with exclusive

information or discounts. Dholakia *et al.* ^[7] and Okazaki ^[8] pointed out that the perceived value of virtual community participation has a positive impact on social factors. Therefore, this concept may be used to explain the factors that influence members' decisions to participate in virtual brand communities. Hence, we put forward the following assumptions:

- H1a: The purpose value of virtual brand community positively affects team norm.
- H1b: The purpose value of virtual brand community positively affects social acknowledgement.
- H1c: The purpose value of virtual brand community positively affects subjective norm.
- H2a: The social promotion of virtual brand community positively affects team norm.
- H2b: The social promotion of virtual brand community positively affects social acknowledgement.
- H2c: The social promotion of virtual brand community positively affects subjective norm.
- H3a: The entertainment value of virtual brand community positively affects team norm.
- H3b: The entertainment value of virtual brand community positively affects social acknowledgement.
- H3c: The entertainment value of virtual brand community positively affects subjective norm.

Dholakia *et al.* ^[7] explained that the participation motivation and needs of community members are closely related to the value provided by the community. The motivation of consumers to enter the community deeply reflects Maslow's hierarchy of needs theory, and the functional value and emotional value provided by the community must not only satisfy the hierarchy of needs theory, but also be reflected in a certain social norm framework. In this way, the higher the community norms, the stronger the participation intention. Related studies have shown that the participation intention of virtual community members is positively affected by team norm ^[9-11]. Accordingly, we propose the following hypotheses:

- H4a: The team norm of virtual brand community positively affects the participation desire of virtual community members.
- H4b: The team norm of virtual brand community positively affects the participation intention of virtual community members.

According to Hogg *et al.* ^[12], social acknowledgement allows individuals to maintain a self-defining relationship in their interaction with community members. Ellemers *et al.* ^[13] pointed out that individuals' preferences in groups are affected by social acknowledgement. Studies have also found that social acknowledgement has a positive impact on the participation desire and intention of virtual community members ^[14]. Accordingly, we put forward the following hypotheses:

- H5a: The social acknowledgement of virtual brand community significantly and positively affects the continuous participation desire of the virtual community members.
- H5b: The social acknowledgement of virtual brand community significantly and positively affects the continuous participation intention of the virtual community members.

According to the rational behavior theory and planned behavior theory, individual behavioral intentions are positively influenced by subjective norm. Li *et al.* ^[15] proposed that subjective norm has a positive impact on trust intentions in innovative technologies. Studies have shown that subjective norm positively affects community members' desire to participate in virtual communities ^[16]. Accordingly, we put forward the following hypotheses:

- H6a: The subjective norm of virtual brand community significantly and positively affects the continuous participation desire of the virtual community members.

H6b: The subjective norm of virtual brand community significantly and positively affects the continuous participation intention of the virtual community members.

According to Dvairs, decision-makers must understand and accept the degree of desire of users for their products or services, because desire is the cause of behavior and a key factor in decision-making. According to Bratman's BDI (belief-desire-intention) model, Shen *et al.* ^[17] pointed out that desire plays an important role in the formation of behavioral intentions. In addition, studies on virtual communities have shown that community members' desire to participate in virtual communities has a positive impact on their participation intentions ^[18]. Therefore, we put forward the following assumption (**Figure 1**):

H7: The community members' desire to continue to participate in virtual brand community has a significant positive impact on their continued participation intention.

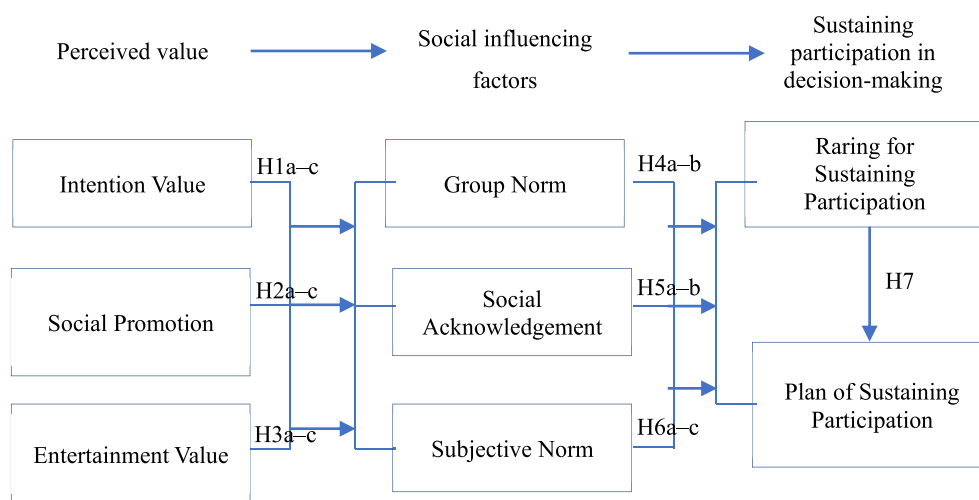


Figure 1. Research framework of this paper

3. Study design

The Xiaomi Community, which is a relatively mature virtual brand community, is taken as the research subject. Xiaomi Corporation launched Mi Community in August 2011, aiming to help Xiaomi users discover valuable resources, products, services, and even contacts. The Xiaomi Community includes Xiaomi Forum, Coldplay Gang, Suishoupai, Xiaomi Academy and City Club, *etc.*, providing various services for Xiaomi users.

3.1. Questionnaire design

3.1.1. Definition of variables and sources of scales

Based on relevant literature and the actual situation of Xiaomi Community, we designed specific questionnaire questions for Xiaomi users. The following is the definition of each latent variable: purpose value refers to the perceived value of an individual obtaining a given purpose by participating in a virtual brand community; social promotion refers to the perceived value of improving social status and gaining acceptance and recognition by others by participating in and contributing to the virtual brand community; entertainment value refers to the perceived value of gaining pleasure or relaxation by participating in games or interactions with others in the virtual brand community; team norm refers to the shared goals and expectations of the community members (**Table 1**).

Table 1. Sources of variables and scales

Latent variable	Code	Observed variable	Source
Intention Value (IV)	IV1	Joining the Xiaomi Community helps me get information.	[7,8]
	IV2	Joining the Xiaomi Community helps me provide information to others.	
	IV3	Joining the Xiaomi Community helps me solve product problems.	
Social Promotion (SP)	SP1	Joining the Xiaomi Community helps me make a good impression on others.	
	SP2	Joining the Xiaomi Community lets people know my importance.	
	SP3	Joining the Xiaomi Community helps me gain the respect of others.	
Entertainment value (EV)	EV1	It is a pleasure to join the Xiaomi Community.	
	EV2	Joining the Xiaomi Community helps me relax.	
	EV3	Joining the Xiaomi Community is a way to pass time.	
Team Norm (TN)	TN1	I follow the social norm with other members of the community.	[11,17]
	TN2	I have a high degree of alignment of goals and vision with other group members.	
Social Acknowledgement (SA)	SA1	My personal image is similar to that of members in the Xiaomi Community.	
	SA2	I have a strong sense of belonging to the Xiaomi Community.	
	SA3	I have demonstrated my self-worth in the Xiaomi Community.	
Subjective Norm (SN)	SN1	Xiaomi consumers around me join the Xiaomi Community and thus I should too.	
	SN2	Some people who are important to me think I should join the Xiaomi Community.	
	SN3	Some influential people think that I should join the Xiaomi Community.	
Raring for Sustaining Participation (RSP)	RSP1	I look forward to socializing with Xiaomi Community members in the next two weeks.	[7,11]
	RSP2	I have a strong desire to interact and socialize with Xiaomi Community members.	
	RSP3	I hope to continue socializing with Xiaomi Community members in the next two weeks.	
Plan of Sustaining Participation (PSP)	PSP1	I will continue to browse Xiaomi Community information in the next two weeks.	
	PSP2	I continued to interact with members of the Xiaomi Community over the next two weeks.	
	PSP3	I will continue to participate in activities initiated by the Xiaomi Community in the next two weeks.	

3.1.2. Questionnaire structure

The questionnaire consists of two parts. The first part of the questionnaire is mainly about whether the interviewee is a Xiaomi user or a member of the Xiaomi Community. If the respondent answered “Yes” and filled in the e-mail address, the respondent would have to complete the second part of the questionnaire, which includes the demographic profile of the respondent and the measurement items of the observed variables. The 7-point Likert scale was used for scoring, and choices were made from “strongly disagree” to “strongly agree” for the proposed items, “1” being strongly disagree and “7” strongly agree.

3.2. Research samples and their characteristics

Among the Xiaomi mobile phone user base, there are many college students who participate in the online community every day. These students are suitable as research subjects of the virtual brand community. We conducted the survey on college students, as college students generally use smartphones. Since the consumption expenditure of students mainly comes from their parents, many of them have mid-priced Xiaomi phones. First, we investigated whether the college students are Xiaomi users and have joined the Xiaomi Community; then, the respondents who joined the Xiaomi Community were requested to fill in the

observation items. After preliminary investigation, 506 valid samples were obtained, in which all of them are members of the Xiaomi Community. Questionnaires were distributed to these 506 Xiaomi Community members via email, and 487 questionnaires were recovered. After excluding the questionnaires with incorrect information or obvious contradictions, 464 valid questionnaires were finally obtained. The characteristic information of the respondents is presented in **Table 2**.

Table 2. Characteristic information of the respondents in the valid questionnaire

Statistics		Number of samples	%
Gender	Male	270	58.19
	Female	194	41.81
Participation time	1 year	165	35.56
	1–3 years	220	47.42
	Over 3 years	79	17.02

3.3. Data analysis and hypothesis testing

3.3.1. Reliability and validity test

Reliability refers to the internal consistency and stability of the questionnaire. The higher the reliability, the more believable the findings. Cronbach's α coefficient is a commonly used indicator for evaluating reliability in social science research. It is generally believed that a coefficient greater than 0.7 indicates that the internal consistency of the scale is better. **Table 3** lists the Cronbach's α coefficient of each variable scale. It can be seen from **Table 3** that the Cronbach's α coefficient of each variable scale is greater than 0.7, indicating that each variable scale is highly reliable.

Table 3. Cronbach's α coefficient of each variable scale

Latent variable	Number of items	Cronbach's α coefficient
IV	3	0.823
SP	3	0.792
EV	3	0.722
TN	2	0.942
SA	3	0.815
SN	2	0.767
RSP	3	0.836
PSP	2	0.740

Validity refers to the validity of the scale, including content validity, criterion validity, and construct validity. The first two kinds of validity usually require expert qualitative research or accepted criterion measurement, so it is difficult to achieve; meanwhile, construct validity can be measured using a variety of methods. After establishing the theoretical model, the construct validity of the scale is usually assessed according to the model fit of confirmatory factor analysis. We also used this method in our study. The model fitting results of confirmatory factor analysis are shown in **Table 4**. It can be seen from **Table 4** that the fitting index value of each latent variable has reached the ideal standard. The results showed that the entire scale has good validity.

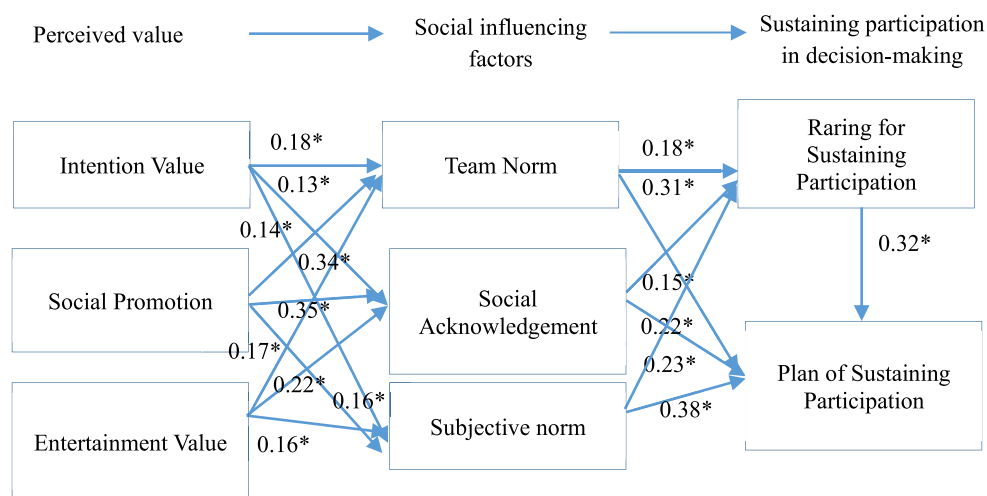
Table 4. Model fitting results of confirmatory factor analysis

Fitted index	Ideal index value	Latent variable							
		IV	SP	EV	TN	SA	SN	RSP	PSP
χ^2 (df)	N/A	5.36 (3)	6.08 (3)	5.08 (3)	5.33 (2)	5.89 (3)	6.36 (2)	4.27 (3)	5.38 (2)
χ^2/df	≤ 2.00	1.731	1.590	1.875	1.213	1.531	1.765	1.236	1.405
GFI	≥ 0.90	0.947	0.962	0.965	0.937	0.953	0.977	0.934	0.913
AGFI	≥ 0.80	0.932	0.921	0.925	0.862	0.933	0.901	0.942	0.856
RMR	≤ 0.05	0.022	0.022	0.009	0.031	0.011	0.041	0.013	0.022
RMSEA	≤ 0.05	0.016	0.016	0.024	0.016	0.017	0.013	0.048	0.039
CFI	≥ 0.90	0.948	0.948	0.922	0.918	0.946	0.927	0.972	0.952

Abbreviations: AGFI, adjusted goodness of fit index; CFI, comparative fit index; df, degree of freedom; EV, Entertainment Value; GFI, goodness of fit index; IV, Intention Value; PSP, Plan of Sustaining Participation; RMR, root mean square residual; RMSEA, root mean square error of approximation; RSP, Raring for Sustaining Participation; SA, Social Acknowledgement; SN, Subjective Norm; SP, Social Promotion; TN, Team Norm.

3.3.2. Hypothesis testing

AMOS 18.0 was used for structural equation modeling (SEM) analysis to study complex multivariate data and simultaneously assess the causal relationship between multiple latent variables. Through SEM analysis, the model significance of the influencing factors of continuous participation in decision-making in the virtual brand community was tested. **Figure 2** shows the detection results of the structural equation model. The path analysis results showed that purpose value has a significant positive effect on team norm, social acknowledgement, and subjective norm, supporting H1a, H1b, and H1c; social promotion has a significant positive effect on team norm, social acknowledgement, and subjective norm, supporting H2a, H2b, and H2c; entertainment value has a significant positive effect on team norm, social acknowledgement, and subjective norm, supporting H3a, H3b, and H3c; team norm has a significant positive effect on continuous participation desire and continuous participation intention, supporting H4a and H4b; social acknowledgement has a significant positive impact on the desire and intention to continue to participate, supporting H5a and H5b; subjective norm has a significant positive impact on the desire and intention to continue to participate, supporting H6a and H6b; continuous participation desire has a significant positive impact on continuous participation intention, supporting H7.



Note: ** indicates $P < 0.01$; * indicates $P < 0.015$

Figure 2. Structural equation modeling analysis

4. Conclusions and countermeasures

4.1. Conclusions

In order to gain a deeper understanding of the reasons community members participate in virtual brand communities, we built a theoretical model of virtual brand community continuous participation in decision-making based on perceived value and social influence theories, taking the Xiaomi Community as the empirical research subject. The results showed that the perceived value (including purpose value, social promotion, and entertainment value) of community members to virtual brand community has a significant positive impact on social influencing factors (including team norm, social acknowledgement, and subjective norm). Therefore, it has a significant positive impact on community members' continuous participation in decision-making (including continuous participation desire and continuous participation intention) in virtual brand communities.

Understanding the perceived value of an individual's participation in a community helps us to understand an individual's motivation to continue to participate in a virtual brand community. From the results, it can be inferred that community members hope to obtain useful information by participating in a virtual brand community to achieve specific goals (such as obtaining information or methods to solve problems, *i.e.*, purpose value), improve one's status in the community by contributing to the community (*e.g.*, becoming a premium member, *i.e.*, social promotion), or have fun interacting with others (*e.g.*, playing online games to relax, *i.e.*, entertainment value).

Individuals' continuous participation motivation is the reason for them to accept the social influence of the community. During this process, community members begin to pay attention to whether the values of other members are consistent (for example, they hope to internalize community goals into their own personal beliefs, *i.e.*, team norm), hope to gain the approval of other members (for example, establishing their own influence and value in the community through frequent interactions, *i.e.*, social acknowledgement), or start working hard to meet the expectations of other members (such as maintaining smooth communication and immediate response and avoiding unanswered messages, *i.e.*, subjective norm). In short, an individual's motivation (perceived value) to generate desire and intention to sustain participation in a virtual brand community relies on social influence processes.

4.2. Countermeasures and suggestions

Since the introduction of the concept of virtual communities, many companies have begun to adopt this concept in their business operations. In recent years, enterprises have paid more attention to organizing and operating virtual communities in the online world. Through the operation of virtual communities, product (or brand) operators can not only influence consumers' decisions and quickly transmit new product knowledge and concepts to consumers, but also actively interact and communicate with consumers to establish good customer relations.

The perceived value acts as the motivation for the virtual brand community to continuously participate in decision-making. Therefore, product (or brand) operators or virtual brand community operators should (i) ensure the information quality of the community, so that community members (or consumers) will be more willing to search and accept information and opinions in the community, thereby increasing the purpose value, (ii) design an effective incentive and evaluation mechanism, so that community members (or consumers) are more willing to participate and share information, thereby achieving social promotion, (iii) increase interactive games, audio-visual pictures, applications, and other elements to enhance the entertainment value gained by community members.

In view of the influence of social influencing factors on community members' continuous participation in virtual brand communities, product (or brand) operators or virtual community operators should strengthen several aspects to enhance the role of social influencing factors.

First of all, they should clarify and strengthen the theme, purpose, and value vision of the virtual community, so as to encourage community members to internalize it as their own beliefs (*i.e.*, team norm). Secondly, a real-time recommendation and feedback mechanism should be designed, and relevant incentives (such as product discounts or point rewards, *etc.*) should be given to recommenders to increase their enthusiasm for participation. This mechanism also improves the social identification of the referee. Lastly, the roles of community managers, moderators, and opinion leaders should be established in the community, as they not only contribute to the establishment of common norms in the community, but also affect the enthusiasm of community members (consumers) to participate in the community and indirectly promote products and brands (*i.e.*, subjective norm).

Disclosure statement

The authors declare no conflict of interest.

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An Analysis of Amazon's High Turnover Rate

Tian Chen*

School of Business, The University of Queensland-St Lucia Campus, Brisbane QLD 4072, Australia

*Corresponding author: Tian Chen, tianchen9930@163.com

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Abstract: Amazon's internal and external environments were analyzed using PEST and SWOT models. Taking into account of relevant literature on strategic human resource management (SHRM) and models like the Harvard model and the human resource management/industrial relation (HRM/IR) model, the reasons for Amazon's employee high turnover rate were analyzed. In this paper, several solutions to this issue are indicated, including improving incentive policies and organizing training. At the end of this paper, my personal experiences and the lessons learned throughout the course are summarized.

Keywords: High turnover rate; Incentive; Emotional identity

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1. Introduction

Amazon, the largest internet cooperation worldwide, is a global online retailer with the widest variety of goods. It was founded in 1995. As of December 31, 2021, Amazon has 1.6 million employees worldwide [1]. The New York Times has reported that the turnover rate of Amazon's hourly workers is about 3% per week in 2021. Although Amazon hires many employees every year, most employees leave after a few weeks or even a few days [2]. Amazon had 50 vice presidents who chose to resign in 2021, and Amazon's internal turnover rate has now reached crisis levels [3]. Therefore, the main problem Amazon faces in strategic human resource management is the high turnover rate.

In the past few decades, the labor force has been highly mobile [4], and there has been a constant increase in the turnover rate [5]. In a sense, the employee turnover indicates that the addition of new employees can inject fresh blood and vitality into enterprises [6]. However, the rapid flow of employees reduces the morale of the team, which is not conducive to team building and increases the cost of personnel training for enterprises [7]. On the other hand, the high dismissal rate threatens social stability and brings a heavy burden to society [8]. It is clear that both enterprises and society stand to gain significantly from finding a solution to the high turnover rate issue.

2. Analysis of internal and external environments

Amazon's high turnover rate is analyzed from two aspects (external environment and internal environment) by using PEST and SWOT models.

2.1. External environment

2.1.1. P (Policy)

The minimum wage standard, which effectively guarantees the fundamental salary rights of the labor force, is set by the labor law of various countries and the federal labor law. Amazon sets a minimum wage standard

of \$15 for its employees ^[9]. The United States and the United Kingdom encourage people, especially young people, to start their businesses in various industries and provide them with some subsidies ^[10]. The promulgation of the policies gives particular support to those workers who pursue occupational flexibility.

2.1.2. E (Economy)

The combination of the real economy with the acceleration of economic globalization and the continuous popularization of the internet promotes the development of the new economy. The rise of new industries has provided more jobs for workers, and the scope of employment options for employees has expanded, dramatically affecting their employment choices. When Amazon employees are dissatisfied with their jobs, they may contemplate leaving and moving on to other industries.

2.1.3. S (Society)

People are happier when there is higher work flexibility ^[11]. More and more people are choosing to start their own businesses, rather than work for enterprises like Amazon. Besides, the society encourages job diversification and hopes that young people can breakthrough traditional career concepts. Affected by COVID-19, cross-border e-commerce has been greatly affected, which has also affected employee mobility.

2.1.4. T (Technology)

With the improvement of scientific and technological level and the expansion of internet coverage, the types of services provided by Amazon tend to be diversified, and the service groups keep increasing. This also signifies an increase in workload and work intensity for Amazon employees, putting a strain on their personal and professional lives. As a result, the employee turnover rate is affected.

2.2. Internal environment

2.2.1. Strength

As the world's largest cross-border e-commerce enterprise, Amazon has certain experience in strategic human resources management (SHRM), and its muscular economic strength and reputation can attract job seekers.

2.2.2. Weakness

The expansion of Amazon's scope of trade and the continuous increase in the number of people it serves have placed a lot of pressure on its employees. The workload and ability of employees are beyond comparison. At the same time, Amazon lacks all aspects of employee protection measures and systems. As a result, many problems may arise in the personnel management process, which would lead to the decline of job satisfaction and work enthusiasm among employees.

2.2.3. Opportunity

Economic globalization and the scientific level have promoted the development of e-commerce, and cooperation between enterprises would help Amazon extend the industrial chain and expand its scale.

2.2.4. Threat

Cross-border e-commerce platform transactions involve many processes, such as logistics, payment, *etc.* In each process, there are information security risks, personnel allocation issues, and some uncontrollable factors, such as the impact of the pandemic.

3. A literature review on turnover

Turnover is often seen as a symptom of organizational dysfunction ^[12]. An organization engages in economic activities to improve labor productivity and maximize economic benefits ^[13]. According to the theory of human capital, employees who have received training and work experience can be regarded as the human capital of an enterprise and an impetus for organizational performance, improving the competitiveness of enterprises ^[14]. Crook *et al.* ^[15] proved through a meta-analysis that human capital is positively correlated with corporate performance. Many investigations and studies have shown that when the turnover rate is at a high level, the organization's labor productivity is low ^[16]; for instance, Shaw *et al.* ^[17] and Pu ^[18] argued that if the employee turnover frequency is too fast, it will increase the cost of recruitment and training; Shen ^[19] stated that a company's development strategy, salary, and other aspects would affect the satisfaction of employees with the company and that job satisfaction is the direct cause of employee dismissal; Erkan and Ergun ^[20] showed that implementing an excellent human resource management model within an enterprise can help employees form a positive view of the organization, improve job satisfaction, and effectively reduce the turnover rate to a certain extent.

4. Reasons for turnover

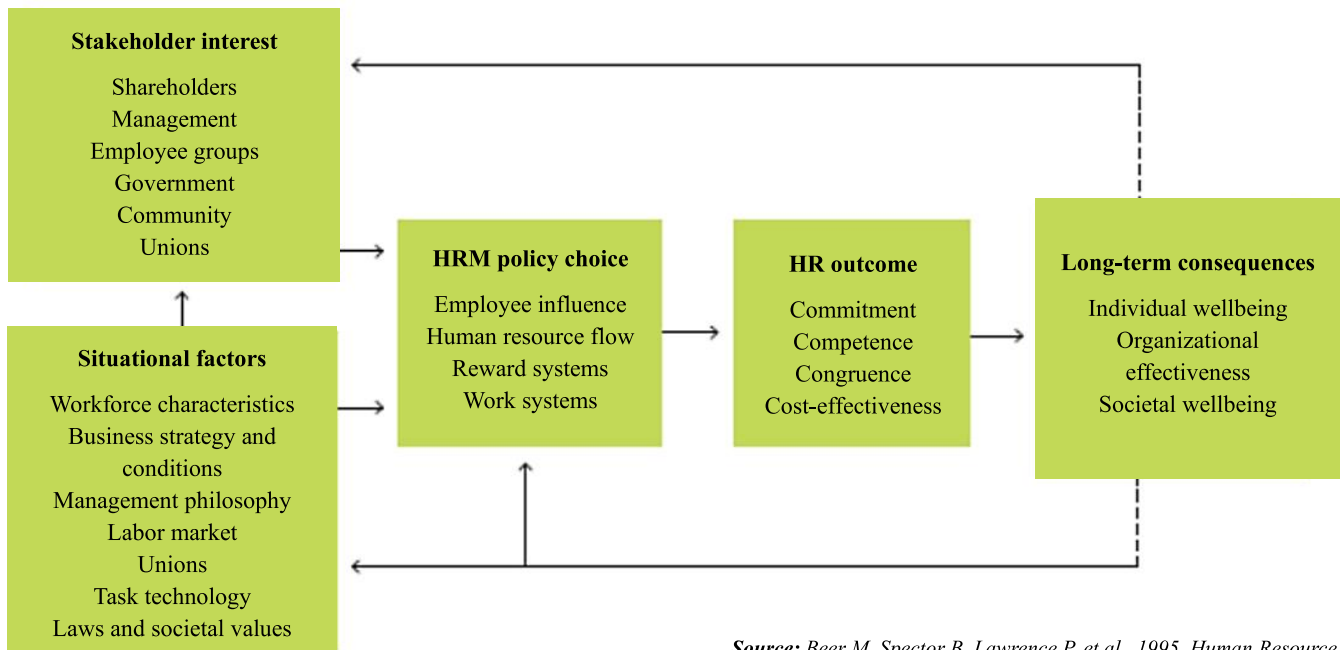
4.1. Lack of incentives

Amazon's lack of incentives for employees renders it a challenge to retain core talents. According to Herzberg's two-factor theory, hygiene and motivation factors affect people's behavior ^[21]. Salary is a hygiene factor, which can only prevent or eliminate employees' dissatisfaction, but not motivate them. Only motivation factors can contribute to employee satisfaction, with a substantial and lasting motivational effect ^[22]. Motivation factors refer to factors related to the work itself or the work content that are necessary for employees to achieve a reasonable level of satisfaction. To retain talent, Amazon raised the maximum base salary for corporate and technical employees to \$350,000 from \$160,000 ^[23]. Although salary is one of the primary criteria for deciding on a career, employees at Amazon expressed that they were not satisfied with their jobs and thus chose to quit. Since Amazon does not have a transparent incentive system, employees are often required to complete high-load work without receiving additional rewards, which seriously dampens their enthusiasm. According to Maslow's demand theory, when high-achiever talents are valued by enterprises and affirm their self-worth through career promotion, they enter a stage of self-actualization ^[24]. They tend to be more motivated by achievements than by money and material rewards. However, Amazon does not provide employees with an incentive mechanism, thereby increasing the employee turnover rate.

4.2. Lack of emotional identity

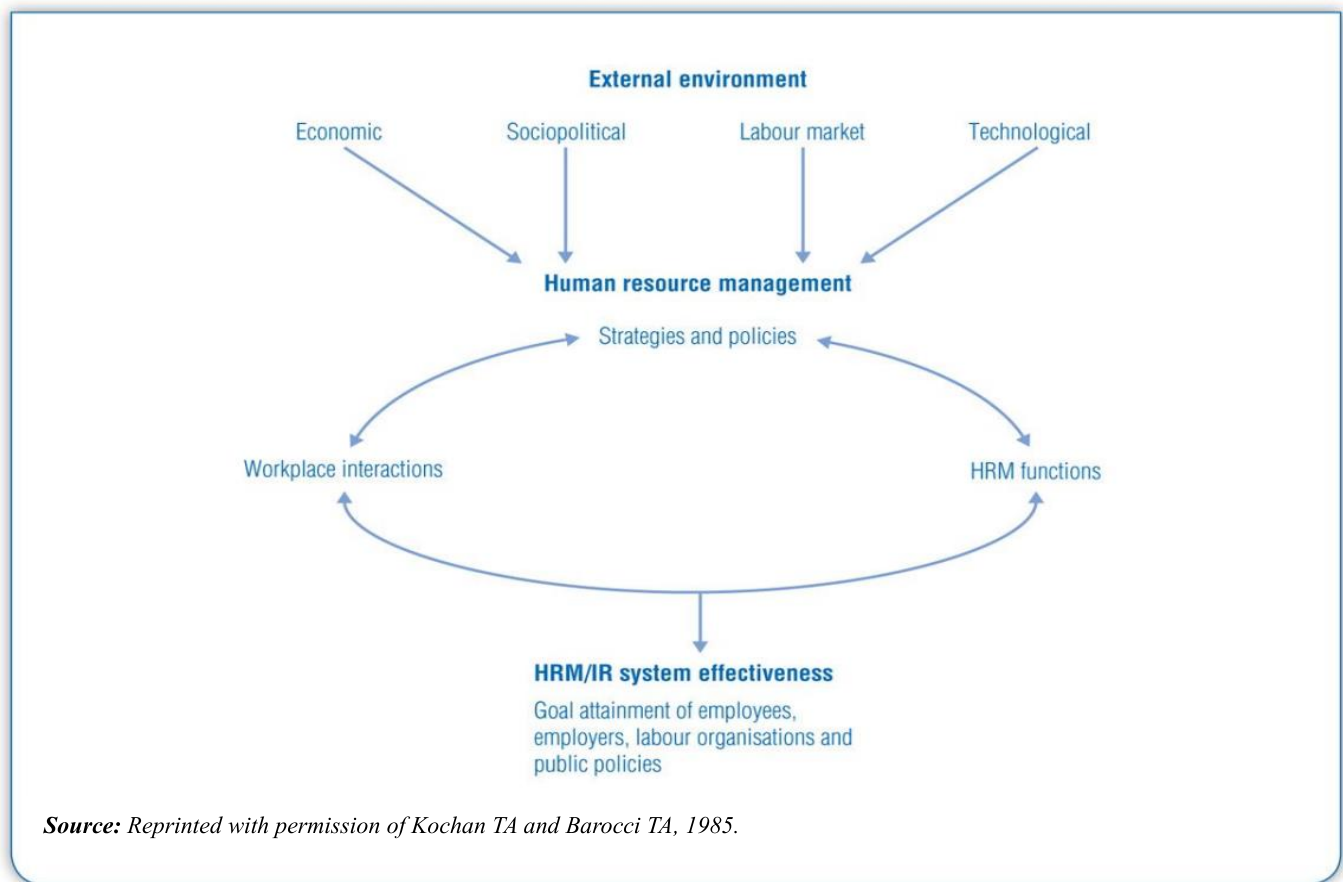
Amazon employees have claimed that the high-intensity work affects their physical and mental health ^[25]. Amazon's lack of social benefits and employee safety insurance has caused a severe brain drain on Amazon. Emotional commitment to employees should be emphasized in the Harvard model (**Figure 1**).

When employees work in an organization, they will have a sense of identity with the organization, *i.e.*, emotional identity. The level of emotional identification is closely related to employee loyalty. Furthermore, according to the HRM/IR model (**Figure 2**), Beer ^[26] pointed out that the environment has an impact on human resource management. When employees form a high degree of identification with the organizational culture development strategy, their loyalty to the company will be reinforced, which is reflected in the turnover rate ^[27]. Amazon puts corporate interests in the most crucial position, racking its brains to reduce labor costs and improve production efficiency but neglecting the primary interests of employees. The emotional identification of employees with the enterprise is low. Without the sense of identity and belonging to the enterprise, job satisfaction will decline, leading to the phenomenon of high turnover rate.



Source: Beer M, Spector B, Lawrence P, et al., 1995, Human Resource Management: A General Manager's Perspective, Free Press, New York.

Figure 1. Harvard model



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Figure 2. HRM/IR model

5. Solutions and recommendations

5.1. Solutions

Amazon needs to come up with a human resource strategic planning that is both far-sighted and reality-based to reduce the turnover rate. This article offers three solutions that the CEO of Amazon and the human resources department should consider while addressing the problem of employee attrition.

5.1.1. Implement various incentive measures to retain existing talents and attract external talents

On the one hand, Amazon should implement classified management in salary management. An effective salary incentive system should be established according to employees' needs in order to fully mobilize their enthusiasm. On the other hand, Amazon needs to pay attention to spiritual motivation. For example, assigning challenging jobs to high-achieving employees will provide them the freedom and opportunity to create and develop, so as to achieve corporate and personal success. According to the Harvard model, businesses should be concerned with social welfare. Hence, Amazon managers must improve the welfare system and address concerns pertaining housing, medical care, pensions, *etc.*

5.1.2. Provide good working environment and facilities for employees

On the premise of protecting the basic rights of employees, it is necessary to provide a good working environment and decent facilities for employees. Amazon should implement a rotation system and arrange employees' working hours reasonably. When working in a good environment, labor productivity increases. Team-building activities can also be organized to increase employees' sense of identity and belonging to the company.

5.1.3. Emphasize on personnel training

The Harvard model points out that human resource management factors include recruitment training. Training is considered a long-term driving force for enterprise development ^[28]. Therefore, Amazon managers need to outline the professional knowledge and skills that employees should have according to their responsibilities and formulate detailed job training plans for employees.

5.2. Recommendations

Detailed implementation recommendations for these three solutions are provided.

First of all, Amazon's human resources department should arrange for each department to implement the rotation system and introduce attendance scores to measure employee performance. The score can be used as a reference for year-end rewards.

At the same time, in addition to basic salary, step-by-step performance rewards can be adopted. For high-quality talents who have made significant contributions to the company, the company should provide additional rewards or promotion opportunities. The human resources department should also consider providing pension and security insurance for all employees.

Lastly, Amazon should consider organizing a 4–5-day team building activity every six months. One week of pre-job training should be given to new employees before entry, while skills training should be carried out once a year for old employees.

6. Reflection

Throughout this semester, I came to understand various SHRM theories and models as well as the advantages and disadvantages of each model through cases. This understanding would help me in future applications. At the same time, I realized that each model has its appropriate stage and environment and that enterprises need to adjust their human resource management strategies in time.

In addition, I also came to realize that any enterprise development strategy should be people-oriented. Employees should be regarded as an intangible asset of enterprises, and enterprises must develop a SHRM plan that matches it.

7. Conclusion

PEST and SWOT models were used to analyze Amazon's internal and external environments. It is evident, through this analysis, that Amazon has an issue with the high turnover rate in SHRM. Taking into account of human resources literature, the Harvard and HRM/IR models were applied, revealing that Amazon's high turnover rate is caused by Amazon's flawed incentive policies and lack of emotional identity. Hence, solutions are proposed to address the problem through welfare distribution, training, and so on. In future work, the learned theory shall be put into practice.

Disclosure statement

The author declares no conflict of interest.

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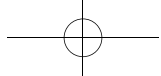
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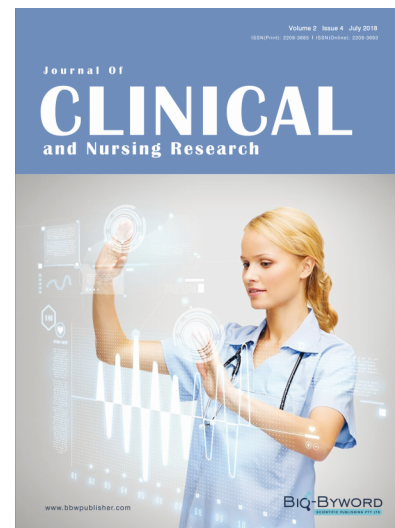
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