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How to transform and upgrade domestic software agent company: Research report on Hangzhou CP Information Technology Co., Ltd.

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Master in Applied Management

Supervisor:

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ISCTE-IUL

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BUSINESS
SCHOOL

Department of Marketing, Operations and General Management

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Abstract

China's economy has boomed since it joined the WTO. In particular, the development speed of the Internet industry in the past decade is particularly astonishing.

Cloud computing, subscription rental models, new retail, Internet platforms, etc., the development of Internet technology and markets has brought great changes to traditional industries. The business of China's local software agency companies, which are mainly based on agent software business, has also been greatly impacted. The reason is that the original customer's demand for traditional software purchases and services has changed. More and more customers have created a demand for Internet applications, which has always replaced the demand for software applications.

This thesis takes Hangzhou CP Information Technology Co., Ltd. as the representative to seek a transformation solution that can better meet the current market development trend and customer demand development trend.

Through external market research and internal communication of the company, combined with POST and SWOT analysis methods, the transformation plan suitable for CP company was obtained. That is, to give up the product line with no development prospects, introduce more competitive products, create their own Internet service brands, transfer core competitiveness, change the internal organizational structure, and strengthen internal training and capacity training to improve the company's overall service capabilities.

After exploration, such transformation plan can indeed help CP company improve its competitiveness in the market, better meet the needs of current customers, and obtain greater sales and profits. At the same time, it has more development prospects than before, which is in line with the trend of market development.

This transformation can not only help CP company, I believe it can also help more traditional software agency companies.

Keywords: cloud computing, transformation solution, own Internet service brand, core competitiveness,

JEL Classification: M19; Y40

Resumo

Desde que aderiu à omc, a economia chinesa floresceu. A indústria da internet, em particular, tem vindo a desenvolver-se a um ritmo particularmente alarmante nos últimos dez anos.

Computação em nuvem, modelos de aluguel de assinatura, novo varejo, plataformas de internet, etc. A evolução da tecnologia e do mercado da internet trouxe grandes mudanças para as indústrias tradicionais. Os negócios das agências de software locais da china, que se concentram principalmente no negócio de software de proxy, também sofreram um grande impacto. A razão para isso é uma mudança na demanda dos clientes originais para compras de software e serviços tradicionais. Cada vez mais clientes criam a necessidade de aplicações de internet, que têm vindo a substituir a necessidade de aplicações de software.

Este artigo é representado por hangzhou zhengda co., LTD., buscando uma solução de transformação mais consistente com a atual tendência de desenvolvimento do mercado e a tendência de desenvolvimento das necessidades dos clientes.

A partir de estudos de mercado externos e da comunicação interna da empresa, juntamente com os métodos POST e SWOT, foi possível chegar a um cenário de transformação adequado para a empresa CP. Ou seja, abandonar a linha de produtos sem perspectivas de desenvolvimento, introduzir produtos mais competitivos, criar sua própria marca de serviço de internet, transferir a competitividade do núcleo, mudar a estrutura organizacional interna, fortalecer o treinamento interno e treinamento de capacidade, melhorar a capacidade de serviço geral da empresa.

Após exploração, esta proposta de renovação pode realmente ajudar a empresa CP a melhorar a competitividade do mercado, atender melhor as necessidades dos clientes atuais e obter maiores vendas e lucros. Ao mesmo tempo, tem mais perspectivas de desenvolvimento do que antes, o que está de acordo com a tendência de desenvolvimento do mercado. Esta transformação pode ajudar não só as empresas CP, acredita-se que também pode ajudar as agências de software mais tradicionais.

Palavras-chave: cloud computing, soluções transformacionais, marcas próprias de serviços de internet, competências essenciais

JEL Classification: M19; Y40

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1. INTRODUCTION

This study aims to explore the cloud business transformation strategy of Hangzhou CP Information Technology Co., Ltd. With the rise of the Internet, the market for traditional software agency business has gradually shrunk, and CP companies have to consider transformation. By analyzing the situation of Zhejiang cloud market, this thesis proposes a transformation method suitable for CP, adjusts the internal architecture, and launches a new business led by cloud products. It is hoped that the conclusion of this study can help CP company's business development.

1.1 Research background and significance

1.1.1 Research background

Hangzhou CP Information Technology Co., Ltd. is a Chinese local enterprise which mainly deals with foreign software products. Established more than ten years, the main customers are enterprise customers in Zhejiang Province. With the vigorous development of China's economy in recent years, CP Company has maintained a good momentum of development since its establishment. Especially with the gradual improvement of customers' awareness of legitimate software, the demand for enterprises to buy legitimate software is also increasing year by year. This gave CP the indispensable soil it needed to grow.

However, with the rise of the Internet, the customer demand for cloud computing, subscription rental models, new retail, and Internet platforms has gradually increased. Especially in Zhejiang Province, as the leader of the Internet in China, the enterprises here have more or less a certain Internet gene. So the need for the Internet is slowly replacing part of the need for software. This makes the software business that CP company depends on face a huge challenge.

These challenges include that CP's software products have been unable to fully meet the most important needs of enterprise customers in Zhejiang Province. At the same time, CP company has not been involved in the Internet products and services generated by customers before. Lack of corresponding experience, and the company's personnel do not have the corresponding service ability. At this rate, CP Company will be eliminated by the market.

Therefore, this project aims to analyse the cloud market situation in Zhejiang, find a method suitable for CP, make internal adjustments, and launch new businesses led by agent sales, after-sales services, and technical support of cloud products to adapt to market changes. Specifically, the research focuses on how CP Information Technology Co., Ltd. can develop the cloud business while retaining the original traditional software business. The research will analyse the current situation and trends of the cloud market in Zhejiang, as well as the needs

of competitors and consumers in the market, so as to find the transformation strategy and plan suitable for CP Information Technology Co., Ltd., and provide support and guidance for the development of the enterprise.

1.1.2 Research significance

With the rapid development of the Internet and the deepening of enterprise informatization, the new generation of information technologies such as cloud computing, big data and artificial intelligence are gradually popularized, and the IT application mode of enterprises is also constantly changing. Previously, companies used software tools to improve efficiency in design, production and management. Therefore, enterprise software has become an essential element in the development and growth process of enterprises. However, the breakthrough and progress of Internet technology in recent years have replaced the functions of traditional software in some fields.

In particular, the emergence of public cloud has made many software applications transplanted to the Internet. Cloud-based applications launched by major public cloud vendors can already meet the needs of enterprises without the need to purchase additional software. At the same time, the emergence of these cloud-based applications has also solved the problem of pirated software used by some original Chinese enterprises.

The significance of this study is to help CP company to further cope with the changing needs of customers in the market. Only by undergoing a thorough transformation and transformation can we keep up with the ever-changing customer needs. And these transformation methods are the significance of our research. The specific significance has the following points.:

a) Explore the development status and trend of the cloud market, analyze the market competition environment, and provide a basis for CP to grasp market opportunities. At present, with the continuous improvement of enterprises' awareness and demand for new technologies such as cloud computing and big data, the cloud market has become a rapidly developing market. Therefore, through the analysis of the cloud market, CP can better understand the development trend of the market, grasp the market opportunities, and formulate a more effective development strategy.

b) Analyse the differences and connections between traditional software agency business and cloud business to help CP deeply understand the essence of cloud business. There are huge differences between traditional software agency business and cloud business in terms of business model, sales channel, service model and so on. Therefore, by comparing these two types of services, CP Shen [50] can help CP understand the essence of cloud business, grasp the characteristics and advantages of cloud business, and better formulate a cloud business development strategy suitable for himself.

c) Explore how CP can develop cloud business through transformation and improve enterprise competitiveness. The main problem faced by CP is that the staffing of the original company is to serve the traditional software agency business, while the cloud business pays special attention to technology and service capabilities in addition to the sales side. Therefore, this study will discuss the new architecture adjustment and training learning required by cloud business from sales personnel to technical engineers, to help CP find a transformation path suitable for itself and improve enterprise competitiveness. Provide reference for the transformation of other software agencies. Through the in-depth analysis of CP's cloud business transformation, this study can provide reference for other software agency companies facing the same problem.

1.2 Research problems and research methods

1.2.1 Research problems

To find the right transformation solution for CP company, we need to identify the problems we face. There are a lot of questions that we need to find answers to in our research. And whether these questions are appropriate, whether they are in line with the current situation, and whether they can more comprehensively reflect the current difficulties encountered by CP company is crucial.

First, does it have to be transformed? This problem is fundamental. So we have to understand whether the current needs of customers in different industries have changed? Is the degree of acceptance and demand for Internet applications gradually surpassing traditional software? We must back up our judgment with research.

Secondly, are we right about the trend of Internet development? What do we know about the Internet products and applications that local customers are interested in? Are these products and applications well supported by our current capabilities?

Then, since CP company needs to adjust and transform, how should the original business change? At the same time, as the business changes, does the organizational structure of the entire company have to change with it?

Finally, when we find a transformational solution, how can we ensure that it is implemented? Will the solution stay the same, or will it change in response to further changes in the market? What is the weathervane that we need to pay attention to most?

1.2.2 Research Methods

Research methods are an important part of this study, which will directly affect the quality of the study and the reliability of the conclusions. Therefore, in order to achieve the main goal of

the project, the following research methods will be adopted in this study:

a) Literature method: Through the collection of relevant literature at home and abroad, understand the development trend, market status and key technologies of cloud products such as cloud computing, SaaS, IaaS, etc., and provide basic data and theoretical basis for subsequent research.

b) Field research method: Through field research, we can deeply understand the current situation of the cloud computing market in Zhejiang Province, customer needs and competitive pattern, as well as the company's advantages and disadvantages in the market, and provide important references and bases for subsequent business expansion and adjustment.

c) Questionnaire survey method: through questionnaire survey, understand the demand, selection factors, purchase intentions and other information of enterprises in Zhejiang Province for cloud computing products, as well as their evaluation and demand for the company's products and services, and provide a basis for the company's product and service positioning.

d) SWOT analysis method: Through SWOT analysis, analyze the company's advantages, disadvantages, opportunities, and threats in the cloud computing market, and provide specific directions and strategies for the company's business transformation and expansion.

e) Comparative analysis method: Through comparative analysis, compare the advantages and disadvantages of traditional software agency business and cloud business, analyse the similarities and differences between the market prospects, customer needs, sales models, profit models, risk factors and other aspects of the two, and provide reference for the company's business adjustment and optimization.

Through the comprehensive application of the above research methods, this study will draw more objective and accurate conclusions, and provide specific directions and strategies for the company's business transformation and expansion.

1.3 Research content and possible innovations

1.3.1 Research content

This thesis mainly studies the transformation strategies of software agency companies, including the analysis of the external environment of the enterprise, the analysis of the internal environment of the enterprise, the selection of competitive strategies, and the safeguard measures of competitive strategies.

This thesis uses PEST analysis and SWOT matrix analysis to analyse the political, economic, social and technological environmental factors faced by enterprises, puts forward the implementation methods of market target positioning, product differentiation, service differentiation, organizational structure differentiation and publicity differentiation for different competitive strategies, and puts forward the importance of corporate culture construction and the

establishment of human resource security platform Strengthen technical support and intellectual property protection measures to ensure the implementation of competitive strategies.

Finally, this thesis summarizes the research conclusions, analyses the limitations and prospects of the research, and provides reference and suggestions for the transformation of software agency companies.

1.3.2 Possible innovations

The transformation solution we are looking for must be an innovation for CP Company.

It is innovative in that it is completely different from CP's original internal situation and business strategy. These innovations may be in the product layout, they may be in the sales strategy, they may be in the personnel structure.

Then, what specific innovation points will it be? We need to analyze the problems raised by this topic and use the above research methods to find out. It is predictable that these innovations will transform CP from a traditional software agent into a competitive company that meets the needs of today's market.

2. Literature Review

2.1. Characteristic impact of cloud computing

The elasticity and scalability features provided by cloud computing allow companies to flexibly adjust resources according to changes in market demand and achieve efficient resource utilization. Automatically scale cloud resources based on business needs, meet changing customer needs, scale quickly when needed, and improve business agility and responsiveness. Jung et al. (2022) conducted research on the elasticity and scalability characteristics of cloud computing, which has an important impact on the strategic innovation of software agencies. This feature helps software agencies adapt to changes in market demands, improve operational efficiency, and reduce costs.

The automation and centralized management characteristics of cloud computing are of great significance to the strategic innovation of software agencies. KEDGE Business School's (2019) study on the characteristics of automation and centralized management of cloud computing concluded that automation and centralized management can reduce manual operations and errors and improve efficiency and resource utilization. Software agencies can quickly deploy, monitor, and manage resources through automated tools and a centralized management platform. Through automation and centralized management, companies can achieve unified management of cloud resources, improve operational efficiency, and reduce management costs and risks.

Makhlouf and Allal-Chérif (2019) propose that resource sharing and multi-tenancy models can reduce costs and improve resource utilization. Software agencies can achieve cost-effective resource utilization by sharing infrastructure and services. The multi-tenant model enables multiple customers to share the same cloud service instance, thereby reducing hardware and resource waste and improving overall resource utilization efficiency.

According to the study of Logesswari et al. (2020), rapid deployment and flexibility allow companies to quickly launch new products and services, increase the speed of innovation, and adapt to changes in market demand. Software agencies can achieve flexibility by quickly deploying the required infrastructure and services. This feature enables companies to respond more agilely to market demands, provide customized solutions, and maintain a competitive edge in a competitive market.

2.2. Application challenges of cloud computing

Cloud computing faces challenges in data security and privacy protection, and Esposito et al.

(2017) study and point out that software agencies need to ensure that customer data is adequately protected in the cloud environment against data leakage and unauthorized access. This is done by taking security measures such as data encryption, access control, and authentication to protect the confidentiality and integrity of customer data.

Cloud computing platforms typically consist of large-scale infrastructure and distributed systems, so they may face problems such as network failures, system failures, or performance bottlenecks. Software agencies need to ensure that the cloud services they provide are highly reliable and performant to meet the needs of their customers. Ahmad and Amir (2016) research suggests that to meet this challenge, companies need to adopt appropriate monitoring and management strategies, as well as backup and redundancy mechanisms to ensure service continuity and reliability.

Different regions and industries may have different regulations and regulations that require software agencies to ensure that their cloud services meet relevant compliance requirements. Vidović (2016) research states that cloud computing may involve the storage and processing of sensitive data, such as personally identifiable information and financial data, Compliance with relevant privacy and data protection regulations is therefore required. Software agencies need to ensure that their operations in the cloud comply with relevant regulations and standards, and that policies and processes are in place to ensure the legality and privacy of data.

Software agencies need to consider compatibility with existing IT infrastructure and develop appropriate migration plans, Moussa (2015) notes A software agency that migrates existing applications and data to a cloud platform and integrates with existing systems. To address challenges such as data migration, system compatibility, and application refactoring, companies need to conduct a thorough technical assessment and choose the right integration and migration strategy. Carefully plan and manage the migration process to ensure a smooth completion and ensure application uptime and seamless access to data in the migrated cloud environment.

2.3. The role and strategic innovation of software agencies

2.3.1 Software Agency Company

A software agency refers to an enterprise that plays an intermediary role in the software industry, and its main responsibility is to sell software products or services as an agent and provide software-related technical support and consulting. Software agencies can help software development companies bring products to market, expand customer channels, and provide professional technical support. Li et al. (2021) research points out that software agencies can enhance their competitive advantage by improving learning capabilities and knowledge

sharing within their organizations through effective knowledge management practices Wang et al. (2021) focused on the impact of differentiated marketing strategies on competitive advantage in software agencies. The study finds that differentiated marketing strategies can help software agencies establish a unique market positioning, enhance market competitiveness, and thus gain competitive advantage. The study by Li et al. (2021) explores the impact of customer satisfaction on the competitive advantage of software agencies and focuses on the mediating role of brand equity. The study found that customer satisfaction has a positive impact on the competitive advantage of software agencies through the mediating role of brand equity.

2.3.2 The impact of cloud computing transformation on software agency companies

Research by Shantanu et al. (2022) focuses on the impact of software companies' shift to cloud computing on shareholder wealth, exploring the importance of this transformation from a marketing perspective. The results show that the cloud computing transformation of software companies can significantly improve shareholder wealth and strengthen market competitiveness, and it is concluded that cloud computing transformation is of strategic significance to the development of software agency companies.

The study of Laatikainen and Luoma (2014) explores the impact of cloud computing technologies on the pricing models of software companies, providing empirical research from Finland. It is found that the introduction of cloud computing technology has changed the pricing strategy and model of software companies, which has had an impact on the pricing model of software agency companies, and software agency companies need to adjust their pricing strategies according to the characteristics of cloud computing technology.

The Knoa Software (2012) study named Knoa "one of the true innovators", highlighting the importance of UX management in software agencies when it comes to UX management. The cloud transformation presents an opportunity for software agencies to improve the user experience.

Mary Croarken's (2001) book review, *The Secret of Software Success: Management Insights from 100 Software Companies Around the World*, provides management experience from different software companies, revealing the success factors of software agency companies in the software industry. Through a case study of 100 software companies, cloud computing transformation is identified as one of the key factors.

Cloud computing transformation has changed the pricing model, business model, and user experience management of software agencies, providing more business opportunities and competitive advantages.

2.3.3 Cloud computing transformation company case

In China, many companies that have carried out cloud computing transformation and achieved certain results in it. Deng and Yi (2020) focused on small and medium-sized enterprises and discussed their experience and achievements in applying cloud computing technology to promote digital transformation. Pan and Lin (2023) The study takes Guangzhou Asia Info Technology Co., Ltd. as a case study, focusing on the company's role and contribution in the digital transformation of large enterprises, especially in the field of communication artificial intelligence.

The company's enabling role in the digital transformation of large enterprises was studied. Zheng (2020) Zhang Chaojin, deputy general manager of the software business department and general manager of the financial transaction cloud R&D center of Beijing Advanced Data Communication, was interviewed to introduce the company's experience and strategies in the transformation of the banking industry. By to Beijing Advanced Data Communications Company is the case. For example, the banking industry is discussed in the era of cloudification of the road to transformation. Li (2014) of the study to IBM Software is the research object, and the establishment of its strategy and insight analysis system in customer-oriented enterprise transformation is discussed. Revealed IBM The transformation of software strategy in China emphasizes the importance of establishing a customer-oriented insight and analysis system. Yang and Wei (2013) The study focuses on traditional software orientation Cloud era provides reflections on how software agencies can respond to this transformation, discussing traditional software orientation cloud computing the path and strategy of the era transformation.

The case study of a software agency for cloud computing transformation provides hands-on experience and guidance, showcasing the strategies, innovations, and successes of enterprises of different industries and sizes in cloud computing transformation. The in-depth analysis and summary of these case studies are of great value for understanding the practical applications, challenges, and potential opportunities of cloud computing transformation, and have enlightenment and reference for the strategic transformation and innovation of software agency companies.

2.4. The impact of cloud computing transformation on the competitive advantage of software agency companies

2.4.1 The role of knowledge management in the competitive advantage of the software agency industry

Li et al. (2021) explores the application of knowledge management-based competitive advantage strategies in the software agency industry [24]. The study found that through effective

knowledge management, software agencies can accumulate and apply key knowledge resources, improve the quality and innovation of products and services, and thus gain competitive advantage. The study provides strategic guidance for software agencies, emphasizing the importance of knowledge management in achieving competitive advantage.

2.4.2 The impact of market positioning, brand equity and service quality on customer satisfaction

The impact of market positioning, brand equity and service quality on customer satisfaction is also critical to the competitive advantage of software agencies. Software agencies are able to improve customer satisfaction by clearly positioning their role and target customer base in the market, and establishing a good brand reputation and service quality, thereby enhancing market competitiveness and customer loyalty.

The study of Li et al. (2021) explored the impact of customer satisfaction on the competitive advantage of software agencies and conducted a moderating analysis through the mediating role of brand equity [26]. The results show that improving customer satisfaction can indirectly increase the competitive advantage of software agencies by strengthening brand equity. This shows that software agencies should pay attention to the improvement of customer satisfaction and actively build their brand image to enhance their competitiveness.

Huang et al. (2020) explored how service quality affects customer satisfaction and loyalty in software agencies and conducted moderating analysis using perceived value as a mediating variable. The findings show that by providing high-quality services, software agencies are able to enhance the perceived value of customers, thereby increasing customer satisfaction and loyalty, and thus gaining a competitive advantage. Huang et al. (2019) concluded that increased customer engagement can indirectly affect customer satisfaction and loyalty by enhancing the perceived value of customers, thereby enhancing the competitive advantage of software agencies.

The study of Li et al. (2019) explored the impact of perceived value on customer satisfaction and loyalty of software agencies, and conducted moderating analysis based on the mediating role of service quality [34]. Research shows that increasing perceived value can indirectly improve customer satisfaction and loyalty by enhancing service quality.

2.4.3 The impact of innovation and entrepreneurship on the competitive advantage of software agencies

By fostering innovation and encouraging entrepreneurship, software agencies can drive innovation in products and services and increase competitive advantage in the market. Innovation

and entrepreneurship enable software agencies to quickly adapt to changing market demands and develop new business models and solutions to gain a competitive advantage. Wang et al. (2020) explored the impact of innovation ability on the competitive advantage of software agencies, and conducted a moderating analysis with the mediating role of entrepreneurship. The results show that the improvement of innovation ability can indirectly affect the competitive advantage of software agency companies by enhancing entrepreneurship, thereby improving market position and performance.

Zhou et al. (2019) explored the impact of dynamic capabilities on the competitive advantage of software agencies, and conducted moderating analysis based on the mediating role of innovation capabilities. The study found that the improvement of dynamic capabilities can indirectly affect the competitive advantage of software agencies by enhancing innovation capabilities, thereby improving market performance and business growth.

Zhang et al. (2019) study explores the impact of market positioning on the competitive advantage of software agencies, and conducts a moderating analysis based on the mediating role of innovation ability. Through accurate and effective market positioning, software agencies can enhance their ability to innovate, thereby increasing their competitive advantage and achieving better performance in the market.

2.5. The impact of cloud computing transformation on the business model and innovation of software agency companies

2.5.1 The impact of cloud computing transformation on the business model of software agency companies

The introduction of cloud computing technology has provided software agencies with a more flexible, scalable, and cost-effective service delivery model. It allows companies to expand their business based on an on-demand cloud service model and offers a variety of pricing model options. In addition, the cloud transformation is driving software agencies to move from traditional license models to subscription- and service-based models, offering more personalized and customized solutions to meet the changing needs of customers.

Laatikainen and Luoma (2014) explores the impact of cloud computing technologies on the pricing models of software companies. The results show that the adoption of cloud computing technology has led software agencies to shift to subscription- and service-based pricing models that are more flexible and cost-effective than traditional licensing models.

Chen et al. (2020) explores the impact of business model innovation on the competitive advantage of software agencies and analyse the moderating role of entrepreneurship in this. It is found that business model innovation has a positive impact on the competitive advantage

of software agencies, and entrepreneurship can enhance the impact of business model innovation on competitive advantage.

Sun et al. (2021) discussed the impact of business model innovation on the performance of Chinese software companies and analysed the moderating role of environmental turmoil in this the results show that business model innovation has a positive impact on the performance of software companies, and the degree of environmental turmoil will moderate the impact of business model innovation on performance.

2.5.2 How cloud computing transformation promotes innovation in software agencies.

The application of cloud computing technology enables software agencies to integrate and utilize resources more flexibly, enhance interaction with partners and customers, and promote knowledge and information sharing and innovation. This model of cooperation and innovation promotes the innovation of software agency companies in products and services and improves the company's competitiveness and market position. At the same time, the cloud transformation has also driven software agencies to strengthen their internal innovation capabilities, driving innovation by optimizing workflows, enhancing employee creativity, and improving organizational learning.

Zhang et al. (2020) conducted a study on the impact of service innovation on the competitive advantage of software agencies and found that service innovation can significantly improve the competitive advantage of software agencies, helping companies gain more market share and customer loyalty. Wang et al. (2019) analysed the moderating role of intellectual property in it and concluded that product innovation has a positive impact on the competitive advantage of software agencies. The conclusion that IP can enhance the impact of product innovation on competitive advantage. Xie et al. (2019) explores the impact of market orientation on SME innovation and analyse the moderating role of entrepreneurship in this. It is concluded that market orientation has a positive impact on the innovation of software agencies, and entrepreneurship can enhance the impact of market orientation on innovation. Li et al. (2020) analysed the role of employee creativity in software companies, job shaping, and psychological safety. The study found that job shaping, and psychological safety have a positive impact on employee creativity in software companies, which in turn drives the company's ability to innovate. Guo et al. (2019) analyse the role of knowledge acquisition and market turmoil, product innovation has a positive impact on the performance of software companies, and knowledge acquisition can enhance the impact of product innovation on performance, Fan et al. (2019) analysed the impact of entrepreneurship and networking capabilities on the innovation performance of software companies. Entrepreneurship and networking capabilities have a positive impact on the innovation performance of software companies, helping to increase

their competitive advantage.

3. Methodology

3.1 Introduction

This study used a sample by convenience. It aims to conduct an in-depth study on the challenges faced by Hangzhou CP Information Technology Co., Ltd. in its cloud computing transformation and strategic innovation. A series of methods and steps will be employed to comprehensively understand the company's current situation and challenges, and to propose corresponding strategies and recommendations.

Face-to-face interviews will be conducted with the company's management personnel and employees to engage in in-depth discussions. This will cover the existing problems, their duration, and potential causes. Market research and competitive analysis will be performed to understand the latest trends and developments in the field of cloud computing and strategic innovation. The study will examine market size, market share, competitors' strategies, and product characteristics to obtain an overview of the industry.

Based on data collection, qualitative and quantitative analysis methods will be employed to organize, categorize, and summarize the collected data. Appropriate statistical methods and models will be used to conduct in-depth analysis and interpretation of the data to derive accurate and reliable conclusions. There may be limitations and biases in the research process, such as sample selection bias and limitations in data collection. Efforts will be made to minimize these biases, and appropriate weight and interpretation will be given during the analysis process.

3.2 Research Design

Multiple methods and data sources were utilized in this research to comprehensively understand the challenges faced by Hangzhou CP Information Technology Co., Ltd. in its cloud computing transformation and strategic innovation.

3.2.1 Determining the Research Questions

Before the research commenced, discussions were held with the company's management and key stakeholders to identify the focus areas and research objectives. We established the existing problems and challenges faced by the company and clarified the research questions.

a) What are the challenges faced by the company in its cloud computing transformation? These challenges may include but are not limited to technical aspects, organizational structure, resource allocation, etc.

b) What are the problems in strategic innovation faced by the company? These issues may encompass market positioning, product innovation, competitive strategies, etc.

c) How long have these problems persisted? Are they recent issues or the result of long-term accumulation?

d) What are the causes of these problems? Potential reasons could be internal factors such as poor management or resource inadequacy, as well as external factors such as market changes or intensified competition.

e) What impact do these problems have on the company? Have they already had negative effects on the company's business, profitability, or reputation? Are there potential crises?

f) Is the company receptive to change and has it identified mitigation or resolution strategies for these transformation challenges? What is the attitude of the company's management and employees towards change? Are there any factors that resist or hinder change?

g) If solutions are proposed, will they generate costs? Is the company willing to accept these solutions and apply them in its daily business operations?

Through discussions and analysis of these research questions, a comprehensive understanding of the challenges and opportunities faced by Hangzhou CP Information Technology Co., Ltd. in its cloud computing transformation and strategic innovation can be obtained. Relevant strategies and recommendations can be provided to the company based on the research findings.

3.2.2 Data Collection Methods

To obtain accurate information and data, interviews and market research will be conducted.

Face-to-face interviews will be conducted with the company's management, department heads, and employees to gain insights into their perspectives on the company's problems, the duration of the problems, and potential causes. Through interviews, we will gather viewpoints and opinions from different levels and perspectives.

Market research and competitive analysis will be conducted to study the latest trends and developments in the fields of cloud computing and strategic innovation. Relevant industry reports, market data, and information on competitors will be collected to support the analysis of the company's problems and the proposal of solutions.

3.2.3 Data Analysis Process

The collected data will be organized, categorized, and summarized, followed by data analysis and interpretation. Qualitative and quantitative analysis methods will be employed, utilizing appropriate statistical methods and models based on the different research questions.

Data from the interviews will undergo content analysis and thematic coding to identify the company's problems, causes, and impacts. Interview records will be consolidated and summarized to form key insights and conclusions. Data from market research and competitive analysis will be used to support the analysis of the company's problems and the proposal of strategies. Market data will be integrated and interpreted to identify industry trends, competitor strategies, and market opportunities.

3.2.4 Results and Discussion

Based on the data analysis, research findings and conclusions will be formulated, followed by relevant discussions. The research results will be shared with the company's management and key stakeholders, engaging in discussions on methods and strategies to address the identified problems.

Through the research design described above, an understanding of the challenges faced by Hangzhou CP Information Technology Co., Ltd. in its cloud computing transformation and strategic innovation will be obtained, and corresponding strategies and recommendations will be proposed. The goal is to make valuable contributions to the company's development and competitive advantage.

3.3 Sampling Techniques

A random sampling technique will be used to select a portion of employees from Hangzhou CP Information Technology Co., Ltd. to ensure equal opportunities for each employee to be chosen. This will represent the perspectives and opinions of internal employees regarding cloud computing transformation and strategic innovation. Different departments or business lines within Hangzhou CP Information Technology Co., Ltd. will be considered as sampling strata, and samples will be selected from each stratum, such as a sample from the Microsoft department, Adobe department, Oracle department, and Autodesk department, ensuring adequate representation from each department. Different teams or project groups within Hangzhou CP Information Technology Co., Ltd. will be considered as sampling clusters, and a suitable number of clusters will be selected as samples. For example, a sales team from the Microsoft department and a technical support team from the Adobe department will be selected as samples to obtain perspectives and experiences from different teams regarding cloud computing transformation and strategic innovation.

Trade-offs will be made based on the research objectives, availability of resources, and limitations in terms of time and budget for the research. During the sampling process, care will be taken to ensure the representativeness of the samples, aiming to obtain reliable and valid

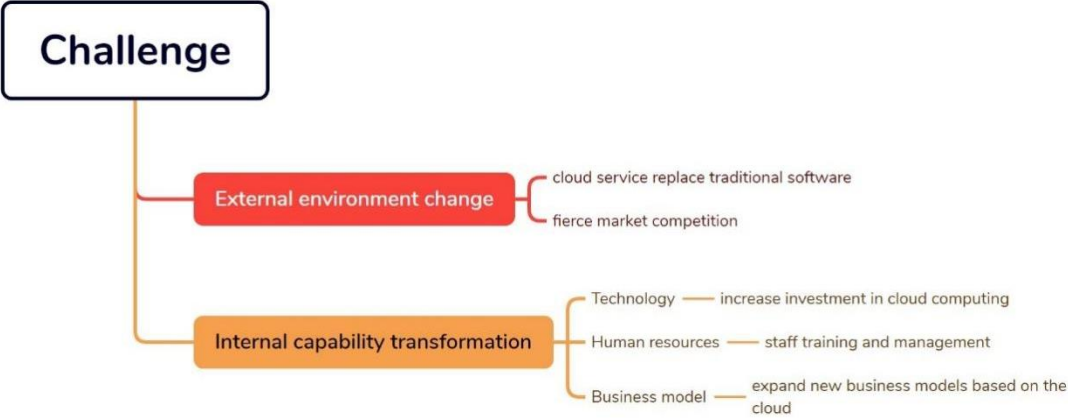
data for accurate analysis and conclusions in the research on cloud computing transformation and strategic innovation for the software agency company.

4. Description of the company

4.1 Status of Hangzhou CP Company

Hangzhou CP Information Technology Co., Ltd. is a company focusing on software agency business, mainly acting for various enterprise-level application software. In recent years, with the rapid development of cloud computing technology and changes in market demand, companies have begun to realize that business model transformation is critical.

Figure 4. 1: Challenges faced by CP Company in Hangzhou



Source: Author

In the current business environment, the challenges faced by Hangzhou CP mainly come from two aspects: one is the change of the external environment, and the other is the transformation of internal capabilities. In terms of external environment, the traditional software sales model is being replaced by cloud services, and users are increasingly inclined to choose cloud-based software services, which undoubtedly poses new challenges to the business model of Hangzhou CP Company. At the same time, this is accompanied by fierce market competition, especially pressure from large cloud service providers, which threatens the company's market share.

In terms of internal capabilities, the transformation of a company involves multiple levels of technology, people and business model. First of all, from a technical point of view, although the company has accumulated rich experience in the field of traditional software agents, in the field of cloud computing, the company needs to invest more resources in technical research and development and talent training. Second, from the perspective of human resources, companies need to conduct new training and management of employees to adapt to the development needs of cloud business. In addition, from the perspective of business model, companies need to actively explore new cloud-based business models, such as software subscriptions and sharing economy, while maintaining their existing business.

Hangzhou CP is facing the challenge of transforming from a traditional software agent to a

cloud service provider, and also sees the huge opportunities brought by the transformation. In the future, the company needs to conduct in-depth analysis of the current situation, formulate a scientific and reasonable transformation strategy, and achieve the sustainable development of the company through continuous innovation.

4.2 Data Collection

4.2.1 Company Sales Data

Collect sales data from Hangzhou CP Information Technology Co., Ltd., including sales revenue, profit margin, product line sales distribution, and other relevant information from the past few years. These data can help analyze the performance trends of the company and the performance of different product lines, providing insights for strategic innovation.

Table 4.1: Sales Data

Product Line	Microsoft		Oracle		Adobe		Autodesk	
	Revenue	Margin	Revenue	Margin	Revenue	Margin	Revenue	Margin
2012	¥1,483,878	¥330,273	¥0	¥0	¥0	¥0	¥0	¥0
2013	¥3,548,762	¥703,745	¥2,764,932	¥605,900	¥0	¥0	¥0	¥0
2014	¥4,783,290	¥992,837	¥5,092,274	¥1,277,624	¥0	¥0	¥0	¥0
2015	¥8,117,283	¥1,328,740	¥7,788,923	¥1,872,833	¥248,373	¥68,832	¥0	¥0
2016	¥11,732,263	¥1,937,622	¥10,092,734	¥2,187,423	¥2,385,039	¥793,722	¥0	¥0
2017	¥18,736,222	¥2,598,723	¥10,937,283	¥2,217,469	¥5,388,921	¥1,528,476	¥0	¥0
2018	¥24,387,647	¥3,602,740	¥9,277,364	¥2,108,723	¥8,000,762	¥2,177,463	¥0	¥0
2019	¥30,873,312	¥5,087,298	¥13,027,742	¥2,794,732	¥11,827,437	¥3,028,873	¥2,876,401	¥325,421
2020	¥28,363,523	¥3,987,421	¥8,276,273	¥1,601,782	¥12,983,728	¥3,198,726	¥3,100,253	¥339,726
2021	¥30,117,382	¥3,437,850	¥8,263,521	¥1,427,665	¥11,982,218	¥3,001,732	¥2,654,796	¥253,375
2022	¥27,394,877	¥3,022,984	¥5,278,901	¥802,934	¥8,276,121	¥2,153,298	¥2,537,762	¥217,764

Source: Author

Table 4.2: Annual Sales Data Trends

Year	Sales (in 10,000 RMB)	Profit Margin (%)	Product Line Sales (%)
2018	1500	15	40
2019	1800	12	45
2020	2100	10	50
2021	2400	8	55

Source: Author

4.2.2 Customer Survey Data

Conduct customer surveys specifically for Hangzhou CP Information Technology Co., Ltd. to understand customer satisfaction, changes in customer needs, and acceptance of cloud computing and SaaS solutions. Customer survey data will provide insights into market demands and trends, guiding the company's strategic innovation.

A. Customer Basic Information:

Company Name:

Industry:

Contact Person:

Contact Information:

B. Evaluation of Company Products:

a) Product Quality and Performance:

Please rate the quality and performance of the company's products on the following aspects (on a scale of 1-5, with 5 being the highest):

Reliability:

Stability:

Functionality:

User-friendliness:

b) After-sales Service:

Please rate the company's after-sales service on the following aspects (on a scale of 1-5, with 5 being the highest):

Response Speed:

Problem-solving Capability:

Service Attitude:

Training and Support:

C. Changes in Customer Needs:

Within the past year, have there been any changes in your business needs? If yes, please briefly describe the direction and nature of the changes.

D. Acceptance of Cloud Computing and SaaS Solutions:

a) Familiarity with Cloud Computing:

How familiar are you with cloud computing? (Choose: Very Familiar, Somewhat Familiar, Not Very Familiar, Unfamiliar)

b) Acceptance of SaaS Solutions:

How accepting are you of SaaS solutions? (Choose: Very Accepting, Accepting, Uncertain, Not Accepting)

c) Primary Reasons for Choosing Cloud Computing and SaaS:

What are the primary reasons for choosing cloud computing and SaaS solutions? (Choose: Cost Reduction, Flexibility and Scalability, Security, Convenience, Other, Please Specify)

E. Other Suggestions and Comments:

If you have any additional suggestions or comments regarding the company's products, services, or cloud computing and SaaS solutions, please provide them here.

4.2.3 Internal Employee Survey Data

Conduct an internal employee survey specific to Hangzhou CP Information Technology Co., Ltd. to understand employees' perspectives on the company's current issues and challenges, opinions and suggestions for strategic innovation, etc. Employee survey data will provide insights into the dynamics and needs of the internal teams, guiding the implementation of strategic innovation.

Regarding the company's current issues and challenges, employees' perspectives mainly include lack of clear development direction and strategic planning, increased market competition pressure leading to slower growth, inefficient internal communication and collaboration, and insufficient talent reserves in technology.

Employees believe that strategic innovations the company should undertake include: strengthening the promotion and sales of cloud computing and SaaS solutions, gaining deeper understanding of customer needs and developing customized solutions, and enhancing the quality of customer service and after-sales support.

Employees provide specific opinions and suggestions for the company's strategic innovation: strengthening market research to understand industry trends and competitors, establishing internal team collaboration mechanisms to facilitate cross-departmental cooperation, and enhancing employee training and development opportunities to cultivate technical and sales capabilities.

Regarding the current work environment and corporate culture, employee satisfaction is as follows:

Very satisfied: 20%

Somewhat satisfied: 50%

Average: 20%

Not very satisfied: 7%

Dissatisfied: 3%

Employees' confidence in the company's development prospects and competitive advantages is as follows:

Very confident: 10%

Confident: 40%

Uncertain: 30%

Lacking confidence: 15%

No confidence: 5%

Regarding the evaluation of the company's training and development of employees, employees' responses are as follows:

Excellent: 12%

Good: 45%

Average: 28%

Not good enough: 12%

Very poor: 3%

Employees believe that the most urgent issues the company needs to address include defining clear development strategies and objectives, enhancing product quality and technical support capabilities, and strengthening internal communication and collaboration mechanisms.

Employees believe that the company should focus on the following areas to strengthen in cloud computing transformation and strategic innovation: increasing the promotion and publicity of cloud computing and SaaS solutions, enhancing market research to understand customer needs and competitor situations, providing more training and development opportunities to enhance employee skills.

Employees express their desired support and resources for the company's strategic innovation, including: more training and learning resources, platforms for cross-departmental collaboration and communication, efficient workflows, and collaboration tools.

4.3 Data Analysis

4.3.1 Analysis of Company Sales Data

From 2018 to 2021, the company's sales revenue showed a steady growth trend, increasing from 15 million RMB in 2018 to 24 million RMB in 2021. The profit margin declined from 15% in 2018 to 8% in 2021, possibly due to increased costs or intensified market competition. The sales distribution of product lines increased from 40% in 2018 to 55% in 2021, indicating the expansion of the company's product lines and market share.

4.3.2 Analysis of Customer Survey Data

Overall, customers rated the product quality and performance highly, with high scores for reliability, stability, functionality, and user-friendliness. Customers were generally satisfied with the company's after-sales service, with high ratings for response speed, problem-solving capability, service attitude, and training support. Within the past year, most customers experienced changes in their business needs, requiring customized solutions to meet evolving demands. Most customers had a positive attitude towards cloud computing and SaaS solutions, demonstrating a high level of familiarity and willingness to adopt these solutions.

4.3.3 Analysis of Internal Employee Survey Data

Employees generally believed that the company lacked clear development direction and strategic planning, faced increased market competition pressure, needed improvement in internal communication and collaboration, and had insufficient talent reserves in technology. Most employees believed that the company should strengthen the promotion and sales of cloud computing and SaaS solutions, gain deeper understanding of customer needs, enhance the quality of customer service and after-sales support, and strengthen market research and employee training and development.

Based on the above data analysis, it can be observed that the company has achieved certain accomplishments in terms of sales revenue growth and product line expansion. Customers generally expressed satisfaction with product quality and after-sales service, while employees provided specific opinions and suggestions for strategic innovation. However, the company also faces challenges such as increased market competition pressure, inefficient internal communication and collaboration, and insufficient talent reserves in technology. To address these challenges, the company can implement strategic innovation measures such as strengthening market research, enhancing employee training and development, and promoting cloud computing and SaaS solutions to enhance its competitiveness.

4.4 Ethical Considerations

Ethical considerations play a vital role in the research of company strategic innovation. While pursuing commercial interests and innovation, it is crucial to uphold ethical principles and standards, ensuring the legality, integrity, and social responsibility of the research.

Ethical considerations involve the protection of participants' rights. The rights and privacy of customers, employees, and other stakeholders must be respected. In collecting data and conducting research, informed consent should be obtained, and their personal information and business confidentiality should be strictly protected. Data security and confidentiality should be ensured through appropriate technical and organizational measures to prevent data breaches and misuse.

The objectivity and integrity of the research are important aspects of ethical considerations. Scientific research principles should be followed, ensuring the accuracy and reliability of the data. Data should not be intentionally distorted or manipulated, and research should be conducted with an objective and neutral attitude. Research conclusions should be based on sufficient evidence and analysis, avoiding misleading and false claims.

Ethical considerations also include responsibilities towards society and the environment. Awareness of the impact of company strategic innovation should be maintained, and efforts should be made to ensure positive impacts on society and the environment. When formulating strategies and making decisions, the needs of stakeholders and social responsibilities should

be considered, avoiding negative impacts on the environment and emphasizing sustainable development and social welfare.

Ethical considerations are an integral part of research on company strategic innovation. Research should be conducted in a legal, honest, and responsible manner, protecting the rights of participants, ensuring the objectivity and integrity of the research, and assuming social and environmental responsibilities.

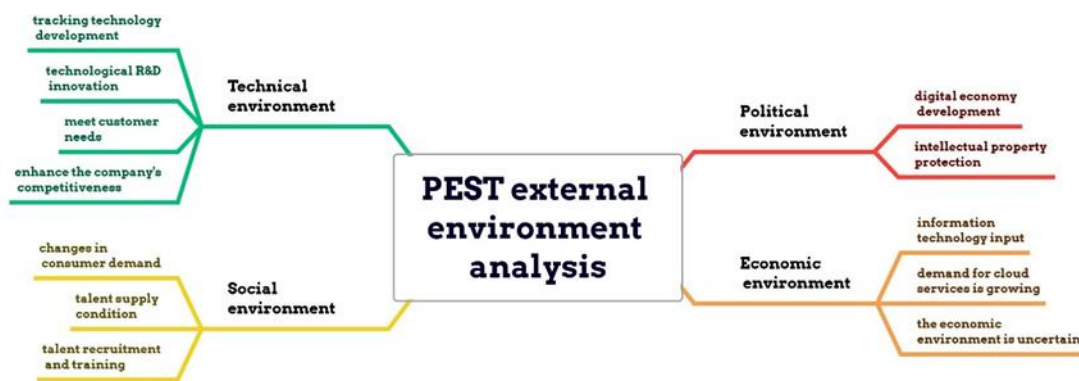
5. Information Analysis

5.1. External Analysis

5.1.1. PEST external environment analysis

PEST analysis is a macro-environmental analysis tool that mainly considers four factors: political, economic, social and technological. The following is a PEST analysis for Hangzhou CP companies:

Figure 5. 1: Analysis of external environment of Hangzhou CP Company



Source: Author

a) Political environment

The formulation and implementation of policies and regulations have a significant impact on the business activities of software agency companies [3]. In recent years, the Chinese government has vigorously promoted the development of the digital economy, especially the development of new generation information technologies such as cloud computing and big data. This provides policy support for Hangzhou CP to transform into a cloud service provider. At the same time, the government's protection of intellectual property rights is becoming more and more stringent, which is a double-edged sword for software agencies, which not only protects the interests of genuine software, but also intensifies the crackdown on pirated software.

b) Economic environment

The economic environment also has a significant impact on the business activities of enterprises. At present, with the steady development of China's economy, enterprises are investing more and more in information technology, especially the growing demand for cloud services. This provides a huge market space for Hangzhou CP to transform into a cloud service provider. However, due to the uncertainty of the domestic and foreign economic environment, such as exchange rate fluctuations, trade frictions, etc. [6], it may also bring challenges to the company's business operations.

c) Social environment

Changes in the social environment, such as changes in consumer demand and the supply

of talents, also have an important impact on the company's operations. Now, with the digital transformation of enterprises, the demand for cloud services is increasing. At the same time, due to the strong professionalism and technology of cloud service business, a large number of technical talents are required, which puts forward higher requirements for the company's talent recruitment and training.

d) Technical environment

The technical environment is a key consideration for software agencies. With the continuous development and application of new technologies such as cloud computing, artificial intelligence, and big data, the business model and service model of enterprises are also changing. For Hangzhou CP Company, it is necessary to continuously track the development of technology, and continuously carry out technological research and development and innovation to meet the needs of customers and enhance the competitiveness of the company.

In summary, PEST analysis shows that Hangzhou CP needs to pay attention to and respond to changes in various external environments in the process of cloud business transformation to successfully achieve the transformation goal.

5.1.2. External market changes and competitive pressures

First, with the rapid development of cloud computing technology, the market demand has undergone a huge shift. More and more enterprises are adopting cloud computing solutions for flexibility, scalability, and cost-effectiveness. However, Hangzhou CP Information Technology Co., Ltd. has a relatively small market share in the field of cloud computing, and the company's products and services may lack innovation and differentiation compared to competitors to meet the diversified needs of customers. This has led to a decline in market share, loss of customers, and fierce competition with competitors.

Secondly, the competitive pressure in the external market has also increased significantly. As competition in the cloud computing space intensifies, more and more companies are entering the market, offering similar products and services. This makes the market extremely competitive, customer choice increases, and the requirements for price and service quality increase. Hangzhou CP Information Technology Co., Ltd. may face price competition from various competitors, as well as the need to provide higher quality, more personalized services to retain existing customers and attract new ones.

In addition, technological innovation has also become an important factor in external market changes and competitive pressures. With the continuous advancement of science and technology, emerging technologies and solutions such as artificial intelligence, big data analysis and the Internet of Things are constantly emerging. The application of these technologies

has brought new opportunities and challenges to the market, and Hangzhou CP Information Technology Co., Ltd. must keep up with the pace of technological innovation, adapt to new technologies in time and apply them to its own products and services to maintain competitiveness.

Changes in the external market and competitive pressure have brought obvious performance to Hangzhou CP Information Technology Co., Ltd. Companies need to constantly pay attention to market trends and competitive dynamics, strengthen technological innovation and product differentiation, and improve customer satisfaction to meet the challenges of external markets and maintain competitive advantage.

5.2. Internal Analysis

5.2.1 Internal Environment Analysis

a) Product line Hangzhou CP Information Technology Co., Ltd. has represented several well-known software product lines, including Microsoft, Oracle, Adobe and Autodesk 。 These products not only enrich the company's product line, but also bring a stable source of income for the company. However, companies need to be aware that over-reliance on these large suppliers can pose certain risks. In order to reduce this risk, Hangzhou CP is working hard to develop its own cloud products to enhance its market competitiveness and grasp greater development initiative.

b) Financial Status From 2012 to 2022, Microsoft's revenue has been growing, from \$1,483,878 to \$27,394,877. Profit was also growing steadily, from \$330,273 to \$3,022,984. This shows that the company's operational efficiency in Microsoft's product line is also improving.

Oracle's revenue also increased during the period, from \$2,764,932 to \$5,278,901. However, Oracle's profit began to decline after 2018, from a high of \$2,187,423 to \$802,934, indicating that it was in Oracle Profitability of product lines declined.

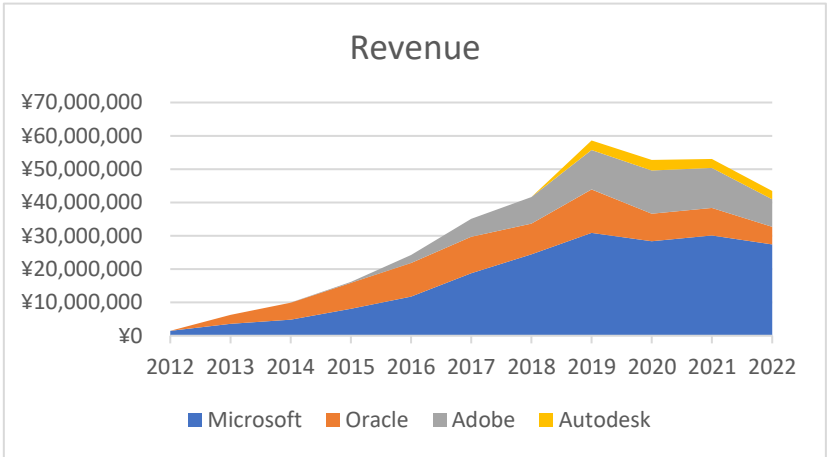
Adobe's revenue continued to grow from 2014 to 2018, but slowed after 2018, with revenue of \$8,276,121 in 2022. Adobe's profits also grew from 2014 to 2018 but began to decline after 2018 and will be in 2022 CNY 2,153,298.

Autodesk's revenue fluctuated between 2014 and 2016 and stabilized after 2016, with revenue of \$2,537,762 in 2022. Autodesk's profit also fluctuated between 2014 and 2016, showing a steady state after 2016 and 2022 The annual profit was \$217,764.

Hangzhou CP Information Technology Co., Ltd. has grown overall revenue and profit over the years, but the performance of each product line varies, with Microsoft being the most prominent. However, Oracle and Adobe's profits have declined in recent years, and Autodesk's

revenue and profits are relatively stable but small, and the company may need to look to growth on top of that.

Figure 5. 2: Annual revenue of Hangzhou CP Company



Source: Author

Revenue: In the decade from 2012 to 2022, the company's total revenue has increased significantly. Among them, Microsoft's revenue growth is the most obvious, starting from almost zero to reaching 50 million yuan in 2022, becoming the company's main source of revenue. Oracle also saw significant revenue growth, but at a slower pace. Adobe and Autodesk's revenues fluctuated significantly over the decade, but overall, their revenues were relatively small.

Margin: In terms of profit, the company also experienced significant growth in the decade from 2012 to 2022. Microsoft's profit growth is the most obvious, starting from almost zero and reaching 12 million yuan by 2022. Oracle's profit growth is also more obvious, but at a slower pace. Adobe and Autodesk's profits also fluctuated over the decade, but overall, their profits were relatively small.

However, in recent years, the pace of revenue growth has slowed down, and profit margins have been shrinking year by year, which may indicate increased market competition and increased cost pressure.

c) Human resources

Hangzhou CP company has a professional staff team, they have rich experience and good technical ability in the industry. However, with the rapid development of cloud computing technology, companies need to further strengthen the skills training and knowledge update of employees to adapt to changing market needs.

d) Organizational structure and management efficiency

The organizational structure of Hangzhou CP is independent divisions based on product lines, mainly including Microsoft, Adobe, Oracle and Autodesk Division. Each department in-

cludes telesales, field sales, and business executives. However, this independent organizational structure also brings problems, such as uneven allocation of resources between departments, and there may be difficulties in communication and collaboration between departments.

e) Employee satisfaction and retention

There are problems with employee satisfaction and retention within the company. For example, Microsoft's telesales team has been unable to get greater opportunities for growth for a long time, resulting in some employees leaving. The field sales team paid too much attention to new customers and neglected the maintenance of old customers, resulting in the loss of some old customers. Department heads face tremendous performance pressure, resulting in a depressing working atmosphere throughout the department.

f) Market adaptability of products

There are differences in the ability of companies to adapt their products to the market. For example, due to industry limitations, Adobe's products have a large customer screening workload, and field sales are difficult to reach new customers. The Oracle division's products, while easy to win orders, have low margins due to the high cost of project implementation and maintenance.

g) Technical support and service capabilities

There is a problem with the company's technical support capabilities. Although a unified technical department has been established, engineers are not proficient in each field because they need to master many aspects of technology. This creates difficulties in solving problems in specific areas and providing high-quality customer service.

Hangzhou CP Information Technology Co., Ltd. has internal organizational structure problems, which are mainly manifested in the independence of departments, uneven allocation of resources, and lack of effective collaboration and communication mechanisms. This organizational structure problem brings a series of challenges to the company's operations and business development.

First, due to the independence of various departments and the lack of overall synergy, information exchange and resource sharing are not smooth. The lack of effective communication channels between different departments and the untimely transmission of information may lead to project delays and reduced customer satisfaction.

Secondly, the uneven allocation of resources is also a manifestation of internal organizational structure problems. The uneven distribution of human and material resources between different parts of the company may lead to excessive concentration of resources in some departments while others face the dilemma of lack of resources. This uneven allocation of resources may affect the efficiency of the department's work and business development.

In addition, the lack of effective collaboration mechanisms makes teamwork and project

coordination difficult. The lack of awareness and mechanism of collaboration between departments may lead to inefficient cooperation between teams and difficulty in project execution. This can affect the quality and delivery schedule of the project, which in turn affects customer satisfaction and the company's reputation.

These internal organizational structure issues have had a range of negative effects on the company. First of all, poor information transmission may lead to inaccurate or lagging decision-making, unable to respond to market changes and customer needs in a timely manner, affecting the company's competitiveness and market share. Second, unbalanced resource allocation may lead to the full utilization of the capabilities of some departments, or other departments cannot effectively carry out business due to lack of resources, affecting overall business growth. Finally, lack of collaboration and teamwork can lead to unsmooth project execution, delayed delivery time, and even project failure, affecting company reputation and customer relationships.

The key to solving these internal organizational structure problems is to optimize the company's organizational structure and collaboration mechanism. First, establish cross-departmental communication and collaboration channels to ensure smooth information flow and improve the efficiency of collaboration between teams. Second, rationally adjust the allocation of resources to ensure that all departments can receive appropriate support and development and improve the overall efficiency of resource utilization. In addition, cultivate a sense of teamwork, establish a project management system, promote close cooperation between different departments, and improve the efficiency and quality of project execution.

Solving the internal organizational structure problem is not a one-time process but requires the active guidance of the company's leadership and the joint efforts of all employees. By optimizing the organizational structure and strengthening internal collaboration, Hangzhou CP Information Technology Co., Ltd. can improve the overall operational efficiency, enhance competitiveness, and cope with fierce market competition and challenges.

5.2.2 Employee satisfaction and retention issues

In Hangzhou CP Information Technology Co., Ltd., there are problems with employee satisfaction and retention rate. According to the company's relevant data, it can be observed that the employee turnover rate is increasing year by year. This phenomenon is indicative of the challenges companies face in terms of employee satisfaction and retention.

Employee satisfaction refers to employee satisfaction with the work environment, compensation and benefits, career development opportunities, and management support. When employee satisfaction is low, they are more likely to choose to leave the company and seek other opportunities. This has caused the company to cause the problem of employee turnover, which

needs to be paid attention to.

The high turnover rate has brought a series of problems and challenges to the company. First, employee turnover increases the company's turnover costs. The time and resource costs of recruiting new employees, training, and adjusting to new roles will increase. This negatively affects the company's financial position and can lead to project delays or damaged customer relationships.

Second, employee turnover also brings with it the challenge of knowledge loss and teamwork. Departing employees take away expertise and experience in a particular area or project, which can lead to project delays, reduced quality, or reduced customer satisfaction. In addition, frequent employee turnover can also affect the stability and cooperation of the team.

In addition, employee turnover can lead to dissatisfaction and concern among other employees. When employees see frequent departures from colleagues, they may feel unstable and worried about their career development. This can reduce employee morale and motivation, affecting overall team performance and productivity.

Therefore, improving employee satisfaction and retention is crucial for Hangzhou CP Information Technology Co., Ltd. The company needs to pay attention to the working environment and cultural atmosphere of employees, provide competitive salary and benefits, provide career development opportunities and promotion paths, and strengthen communication and feedback mechanisms to enhance employees' job satisfaction, reduce employee turnover, and improve team stability and performance.

5.2.3 Insufficient technical support capabilities

First, the customer reported that the problem took too long to resolve. When customers encounter technical problems and seek technical support, the company's technical support team cannot respond and solve problems in a timely manner, resulting in customers waiting for a long time to be resolved. This long failure response time can cause inconvenience to customers and reduce customer satisfaction.

Second, the technical support team is inefficient in resolving issues. The technical support team lacks sufficient expertise and experience, and it takes a long time to investigate and analyse the problem to find a suitable solution. This leads to inefficient problem resolution, and customers can become impatient while waiting for the problem to be resolved.

In addition, the technical support team cannot provide a satisfactory solution. When faced with complex technical problems, the technical support team cannot find effective solutions, resulting in problems that cannot be completely solved, or resolution results are not satisfactory. Customers who have doubts about the company's technical capabilities and quality of service may turn to other providers for more reliable technical support.

In addition, the technical support team lacks targeted training and support. After a new technology or product is introduced, the technical support team does not have adequate training and support, resulting in the inability to meet customer demand for new technology. The lack of updated knowledge and skills makes it difficult to effectively respond to technical challenges, thus affecting customer satisfaction.

The lack of technical support capability in Hangzhou CP Information Technology Co., Ltd. is manifested as long fault response time, inefficiency in solving problems, inability to provide satisfactory solutions, lack of targeted training and support. These issues affect customer trust and satisfaction with the company, which in turn negatively impacts the company's retention and competitiveness. Therefore, Hangzhou CP Information Technology Co., Ltd. needs to strengthen the training and improvement of technical support team and establish a sound technical support system to provide efficient and satisfactory technical support services and enhance customer satisfaction and loyalty.

5.2.4 Cost and Profit Pressure

First, with the intensification of market competition and the continuous advancement of technological innovation, companies need to continuously invest funds and resources in research and development, training and technology updating. These investments often come with high costs, such as purchasing new software licenses, equipment upgrades, and personnel training. These increases in costs put significant financial pressure on the company, which can lead to lower profit margins and financial distress.

Secondly, as the external market changes and the needs of customers diversify, companies need to provide more personalized and customized solutions to meet the needs of customers. However, this personalized service often requires additional investment and resources, such as custom development, customer support, and after-sales service. These additional costs have a direct impact on the company's profit margins and can result in reduced or lost profits.

In addition, as market competition intensifies and customers' price sensitivity increases, companies face the challenge of pricing pressure and declining margins. Competitors may compete for customers by lowering prices, forcing companies to lower prices for their own products and services to maintain market share and customer retention. This will directly affect the company's profit margin and profitability and increase the cost pressure on the company in the process of operation.

Finally, it cannot be ignored that Hangzhou CP Information Technology Co., Ltd. is also facing the pressure of various other cost factors [30], such as human resource costs, office space rental costs, marketing and promotion expenses, etc. These cost increases may be

beyond the company's budget and control, negatively impacting the company's financial position and profitability.

To sum up, Hangzhou CP Information Technology Limited is facing multiple performance of cost and profit pressures in the current environment. These performances include high R&D and technology refresh costs, investment in personalized solutions, pricing pressure and price competition, and various other cost factors. Companies need to manage costs effectively, seek strategies to reduce costs and improve profits, and constantly look for innovative and differentiated ways to add value to maintain competitive advantage and profitability.

Table 5.2: Current Problems of Hangzhou CP Company

Category	Problem
Business Strategy	Lack of clear development direction and strategic planning
Market Competition	Increased market competition pressure, slowed performance growth
Internal Communication	Insufficiently efficient internal communication and collaboration
Talent Reserves	Insufficient reserves of technical talent

Source: Author

5.3 SWOT matrix analysis

a) Strengths

Stable product line: The company represents well-known software product lines such as Microsoft, Oracle, Adobe and Autodesk, so that it has a stable revenue stream. Microsoft's product line, in particular, continues to grow almost every year, which shows the company's excellent ability to sell and maintain these products.

Good financial position: Over the past few years, the company's overall revenue and profit have grown steadily. This shows that the company is in good operating condition and has a solid financial foundation for future development.

Professional staff: The company has a professional and experienced staff team who have rich knowledge and skills in software sales and maintenance, providing the company with strong human resources.

b) Weaknesses

Over-reliance on large vendors: Companies now rely heavily on products from large vendors like Microsoft, Oracle, Adobe, and Autodesk. This dependence may greatly affect companies in the face of these supplier policy changes. Oracle and Adobe's profits, for example, have declined in recent years.

Technical support issues: Because the company's technical engineers need to master a variety of different product technologies, they may not be proficient in a particular area which in turn affects the ability to provide high-quality service to customers.

Organizational structure issues: There is an imbalance in the distribution of resources between departments in a company, which can lead to a compromise on the operational efficiency of the company. At the same time, there are difficulties in communication and collaboration between departments, which can hinder the overall development of the company.

Employee satisfaction and retention: There are problems with employee satisfaction and retention in the company that need to be improved. For example, provide employees with more career development opportunities and improve the working environment to increase employees' job satisfaction.

c) Opportunities

Development of cloud computing market: With the rapid development of cloud computing technology, it provides new market opportunities for companies. Hangzhou CP has begun to explore cloud product development, which will help the company enhance market competitiveness and grasp more market share.

Digital transformation trends: With the deepening of digital transformation, the demand for software products will continue to grow. As a software agency, Hangzhou CP has a lot of market space to tap.

d) Threats

Intensified market competition: Due to the intensification of market competition, the company's revenue growth rate has slowed down, and profit margins are shrinking year by year. If the competition is not effectively responded, the company's development may be challenged.

Rapid development of technology: The rapid development of technology requires the company's employees to constantly upgrade their skills and knowledge, otherwise they may not be able to meet the needs of the market and lag behind competitors. This puts forward higher requirements for the company's human resource management.

Hangzhou CP Information Technology Co., Ltd. has its own unique advantages in business development, but also faces some challenges. Companies should make full use of their own advantages and make effective strategic adjustments to existing problems and threats to better cope with future market competition.

6. Recommendations

6.1. Optimize internal organizational structure and collaboration.

6.1.1 Optimize interdepartmental collaboration.

a) Establish a cross-departmental collaboration mechanism.

Set up regular cross-departmental meetings, workshops or team building activities to promote communication and collaboration between different departments. This enhances information sharing, improves collaboration between departments, and reduces the existence of information silos.

b) Promote knowledge sharing.

Establish a platform through a knowledge management system or internal social tools that enables employees to easily share and access knowledge and experience. This will help to enhance interdepartmental collaboration and learning, thereby improving overall performance.

c) Set up cross-departmental teams.

Form cross-departmental teams for specific projects or tasks, bringing together employees from different departments to solve problems together. This cross-functional collaboration integrates the expertise and resources of various departments to improve efficiency and quality.

6.1.2 Re-evaluate the management structure.

To address internal organizational structures, companies should review and re-evaluate their management structures to accommodate business needs and market changes.

a) Adjust the organizational structure.

Consider introducing horizontal functional or matrix management models to facilitate cross-departmental collaboration and information flow. This will break the traditional vertical management structure and improve the flexibility and synergy between departments.

b) Clarify roles and responsibilities.

Clarify the roles and responsibilities of each department and position to reduce overlap and conflict. Through a clear division of roles, collaboration efficiency can be improved, and information lag and ambiguity can be avoided.

6.1.3 Strengthen communication and information sharing.

a) Establish effective communication channels.

Ensure a smooth flow of information between management and employees. Regular meetings, internal communications, e-mails, etc. can be used to maintain the communication and

transmission of information.

- b) Establish an information sharing platform.

Establish a knowledge management system or internal social tool for employees to share and access information. Such a platform facilitates knowledge sharing, problem solving, and collaboration, improving overall efficiency and quality.

6.1.4 Develop leadership and teamwork skills.

- a) Provide leadership training.

Provide leadership training to management and potential leaders to help them develop collaboration, decision-making, and communication skills. This will help build efficient teams and cross-departmental collaboration.

- b) Encourage teamwork and knowledge sharing.

Encourage collaboration and knowledge sharing among team members through team-building activities, knowledge-sharing sessions, etc. This will strengthen team cohesion and synergy and improve overall performance and satisfaction.

The above measures will help solve the internal organizational structure problems of Hangzhou CP Information Technology Co., Ltd., improve inter-departmental collaboration, strengthen communication and information sharing, and cultivate the collaboration ability of leaders and teams, thereby improving overall performance and employee satisfaction.

6.2. Improve employee satisfaction and retention.

6.2.1 Establish a positive work environment.

Companies should pay attention to the working environment of their employees and create a positive, supportive and rewarding atmosphere. This can be achieved by providing good office facilities, flexible work arrangements, reasonable workloads, and a fair compensation and benefits system. In addition, encouraging employee participation in the decision-making process, providing career development opportunities and training programs are also important aspects.

6.2.2 Strengthen communication and feedback mechanisms.

Establish effective communication channels that enable employees to express opinions, ask questions, and share ideas. At the same time, timely feedback and recognition of employees' work performance are provided to enhance employees' sense of participation and belonging. Conduct regular performance reviews and personal goal setting to help employees clarify the

direction of career development.

6.2.3 Provide development opportunities and training programs.

Companies should pay attention to the career development of employees, provide various training and learning opportunities, and help employees improve their skills and knowledge. This includes internal training, external training, participation in professional activities and projects, as well as providing promotion opportunities and career planning guidance.

6.2.4 Build teamwork and culture

Encourage teamwork and knowledge sharing to create a positive work culture. Companies can organize team-building activities, social gatherings, and team projects to enhance cooperation and interaction among employees. At the same time, establish good values and ethics, cultivate a positive work attitude and team spirit.

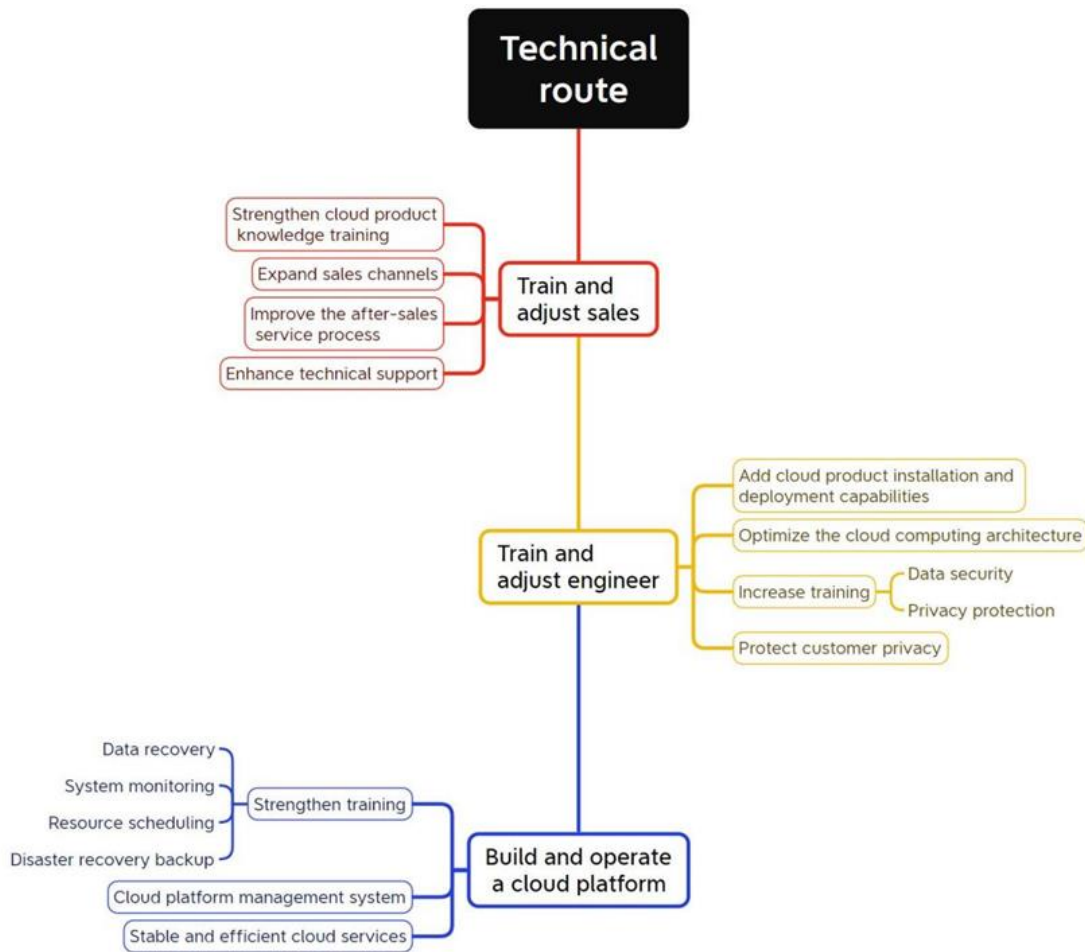
6.2.5 Pay attention to employee welfare and welfare benefits.

Provide competitive compensation and benefits packages, including base salary, bonuses, benefits, and welfare plans. In addition, we pay attention to the health and welfare of employees, provide appropriate work-life balance policies and employee support programs.

By establishing a positive work environment, enhancing communication and feedback, providing development opportunities and training, building teamwork and culture, and focusing on employee welfare and welfare packages, Hangzhou CP Information Technology Co., Ltd. can improve employee satisfaction and retention. These countermeasures will help to increase employee motivation and satisfaction, promote employees' career development and personal growth, and thus enhance the company's competitiveness and long-term stability.

6.3. Improve technical support capabilities.

Figure 6. 1: Technical route



Source: Author

6.3.1 Improve the professional competence of technical personnel.

Companies can enhance the professional competence of their technicians through training programs and continuous professional development activities. Training can include in-house training, external training, certification courses, etc. to help technicians stay up to date with the latest technical knowledge and solutions. In addition, the company can also encourage technicians to participate in industry seminars, technical forums and other activities to broaden their horizons and improve their professional standards.

6.3.2 Establish a knowledge-sharing platform and document library.

To better share and transfer technical knowledge, companies can establish a knowledge-sharing platform and document library. Technicians can share their experiences and solutions on this platform, as well as access the experiences and documents of other colleagues. This will help enhance collaboration and learning between technical teams and improve overall technical support capabilities.

6.3.3 Strengthen customer communication and feedback mechanisms.

Communication and feedback with customers is the key to improving technical support capabilities. The company can establish effective customer communication channels, including telephone, email, online chat, etc., to respond to customer questions and needs in a timely manner. At the same time, we regularly collect customer feedback and analyze and improve it to continuously optimize the technical support process and improve customer satisfaction.

6.3.4 Strengthen teamwork and collaboration.

Within the technical support team, it is critical to strengthen teamwork and collaboration. Companies can organize team meetings, workshops, and cross-departmental collaborative projects to encourage collaboration and knowledge sharing among technicians. In addition, establish effective collaboration tools and processes to facilitate information sharing and cooperation among team members to improve overall technical support capabilities.

6.3.5 Continuously improve technical support processes and tools.

Companies should continuously review and improve technical support processes and tools to improve efficiency and quality. This includes optimizing troubleshooting processes, building knowledge bases and self-service platforms, using remote support tools, and more. By introducing advanced technology and tools, companies can improve the response speed and problem-solving ability of technical support and provide customers with a better service experience.

In summary, in view of the insufficient technical support capability of Hangzhou CP Information Technology Co., Ltd., the company can improve technical support capabilities, improve customer satisfaction, and maintain competitiveness by improving the professional capabilities of technical personnel, establishing a knowledge sharing platform, strengthening customer communication and feedback mechanisms, strengthening teamwork and collaboration, and continuously improving technical support processes and tools.

6.4. Respond to external market changes and competitive pressures.

6.4.1 Customer Insights and Needs Analysis

Companies need to actively understand customer needs and market trends, conduct in-depth

customer insights and demand analysis [38]. Through communication and feedback with customers, understand customer challenges and needs, and timely adjust product and service strategies to meet the changing needs of customers. At the same time, we can also grasp market changes and formulate corresponding competitive strategies through market research and competitive analysis.

6.4.2 Product Innovation and Differentiation

In the face of competitive pressures, companies need to innovate and differentiate their products to deliver unique value and competitive advantage. We can meet the changing needs of our customers by continuously improving existing products and developing new products or services. At the same time, we pay attention to the improvement of technology research and development and innovation capabilities to maintain technological leadership and open up new market fields.

6.4.3 Expand the market and customer base.

Companies can diversify market risk and competitive pressures by expanding their markets and customer base. It can open up new geographical markets, enter international markets, or expand to customers in different industries. At the same time, we focus on customer relationship management and marketing strategies to establish solid customer relationships, enhance customer loyalty, and increase market share.

6.4.4 Strengthen cooperation and alliances.

In the face of fierce competition, companies can consider establishing strategic alliances with relevant partners [37], working together to share resources and advantages. It can establish cooperative relationships with software vendors, cloud service providers, solution providers, etc., jointly develop solutions, and provide comprehensive products and services. Through cooperation, we can expand our market share and improve our competitiveness.

6.4.5 Agile innovation and rapid response

The external market changes rapidly, and companies need to have the ability to innovate with agility and rapid response mechanisms. Establish agile R&D and project management processes to quickly introduce new products and solutions. At the same time, we will strengthen close cooperation with customers and partners to jointly respond to changes in the market and

demand.

By taking the above countermeasures, Hangzhou CP Information Technology Co., Ltd. can better cope with external market changes and competitive pressures, maintain competitive advantage, increase market share, and achieve sustainable development.

6.5. Responding to cost and profit pressures

6.5.1 Cost management and efficiency improvement

Companies need to manage their costs comprehensively, reviewing and optimizing costs, including human resources, equipment, operations and procurement. Reduce unnecessary expenses and improve operational efficiency through refined budget management and expense control. At the same time, lean production and process optimization are implemented to reduce resource waste and improve production efficiency and quality.

6.5.2 Value chain optimization and supply chain management

Companies can optimize value chains and supply chains to seek cost advantages and efficiency gains. Through close cooperation with suppliers, we establish stable supply relationships and strive for favourable procurement conditions and prices. At the same time, strengthen the visibility and coordination of the supply chain, reduce inventory costs and transportation costs, and optimize logistics management to improve delivery efficiency.

6.5.3 Product Pricing and Profit Optimization

Companies need to review product pricing strategies and optimize pricing based on market demand, competitive landscape and cost structure. Under the premise of ensuring product quality and customer value, reasonable pricing to maximize profits. At the same time, value-added services or customized solutions can be considered to increase the added value of products and improve profit margins.

6.5.4 Diversification of revenue streams and business development

To reduce dependence on a single product or market, companies can explore diversified revenue streams and business expansion opportunities. Consider developing new product lines or services and entering new market segments to expand revenue streams and market share. At the same time, it can provide value-added services, solution consulting and other high

value-added services to improve customer satisfaction and profit levels.

6.5.5 Continuous innovation and technological upgrading

The company should continue to innovate and upgrade technology to improve the competitiveness of products and services. By continuously improving existing products, developing new innovative technologies and solutions, we provide high-quality products and services that are in line with market needs. At the same time, strengthen knowledge management and staff training to improve the team's innovation ability and professional level.

By taking the above countermeasures, Hangzhou CP Information Technology Co., Ltd. can effectively cope with cost and profit pressure, reduce costs, improve efficiency, optimize profit structure, and achieve sustainable operation and development.

Table 6.1: Response Measures

Category	Problem	Solution Measures
Business Strategy	Lack of clear development direction and strategic planning	Enhance technical support capabilities
Market Competition	Increased market competition pressure, slowed performance growth	Respond to external market changes and competition pressure
Internal Communication	Insufficiently efficient internal communication and collaboration	Optimize internal organizational structure and collaboration
Talent Reserves	Insufficient reserves of technical talent	Improve employee satisfaction and loyalty

Source: Author

7. Conclusion

7.1. Context

With the development of the Internet in China, traditional software agency companies are faced with the market challenge caused by the change of customer demand. More and more enterprises are not satisfied with the traditional IT architecture but want IT systems that can better match their own business. Therefore, more flexible resource utilization and more flexible cost control have become different demand points for customers. So the Internet and its derivatives have become a hot commodity.

7.2. Problems

In the face of such changes in customers and markets, Chinese traditional software agents with foreign system and tool software as the main agent products have to transform. And the challenge of this transformation also causes them to have various problems.

For example, whether there is still a market for the agent's software now, and whether there is a need to retain it. Which Internet products are suitable for the current market needs? Does the company have the license and capability of agency or self-research? Does the company have the appropriate engineer technical support team for the product before and after sale? If the product changes, will the company's divisions and business adjust as well?

7.3. Objectives of the project

This thesis has the objective to help Hangzhou CP Information Technology Co., Ltd. to its transformation to solve the problems they face and address the challenges posed by the market. It was developed a comprehensive analysis of the sector, the competitors, the company and the customers, in order to understand to support the development of the necessary transformation.

7.4. Methodology

For the data collection of the samples, we adopted the methods of face-to-face question-and-answer and telephone communication to obtain very useful internal and external data. At the same time, in order to reduce the deviation of the results derived from the data, we still use

qualitative and quantitative methods to organize, classify and summarize the data.

7.5. Proposals

We conducted an in-depth study of CP Company. Through the investigation of internal employees and external customers, it analyzes its internal and external advantages and disadvantages, and obtains some research results.

First, the product line should be adjusted. Eliminate product lines that do not have growth potential, such as Oracle and Autodesk products. Continue to invest in potential product lines. Add new Internet products at the same time.

Second, make adjustments to the department structure of the entire business. Merge departments with similar functions for unified management. The division of functions between departments should be re-divided and the collaboration between them should be strengthened. Clarify assessment and incentive mechanisms to encourage innovation.

Finally, the ability requirements of each position are redefined, and skills are upgraded in line with the development of the product line. Especially for the newly introduced Internet and derivative products, every employee should have the means and willingness to learn and improve.

7.6. Limitations

Of course, there are some limitations to our study. For example, the sample size is not large enough to be completely representative. In addition, in face-to-face interviews with employees, it is inevitable that employees' answers are perfunctory or not comprehensive enough. When obtaining external data, there will be certain deviations in the data due to the understanding and cognition of the other party. These limitations are also inevitable in this study.

7.7. Suggestions for further research

We also give some suggestions on the results of this study and the direction of our future exploration.

First, this study is aimed at companies that are still in the traditional software business model, so it is particularly important to plan for transformation from the internal and external. We've looked at some of the ways and ideas that companies like this can begin to transform

to their future goals. In the actual transformation process, there will be many uncertain problems and disturbances. Therefore, we should pay close attention to the execution of the transformation plan and the new problems arising from it. Only in the general direction of the correct, the actual implementation of the continuous correction of errors, in order to achieve the desired effect.

Second, the transformation is taking place at a time when the market environment and customer needs are also changing. As a strategic officer or executive officer of the company, he must always understand the changes of the external environment and adjust the company's transformation and development strategy in time.

Finally. This is the most important point. Every manager and every employee within the company must realize from the consciousness that the transformation is of positive significance for the company and its own career development.

BILIOGRAPHICAL REFERENCES

- Assem (2015). Challenge in cloud computing quest to enable the future of IOT or cost effectiveness in cloud computing quest to enable the future of IOT. *International Journal of Innovative Research and Development*, 4(10). [https://kns.cnki.net/kcms2/ar International Journal of Innovative Research and Development, 4\(10\).](https://kns.cnki.net/kcms2/ar International Journal of Innovative Research and Development, 4(10).)
- Ahmad, & Amir (2016). The Role of Virtualization Techniques to Overcome the Challenges in Cloud Computing. *International Journal of Computer Applications*(9). https://kns.cnki.net/kcms2/article/abstract?v=rNedlcCUbLGoB-WSOISh9teMQ6gHzASEQ1EFig65nvaa-iG4_weWEnrXBqBfPI3wd1pSHZPalKL4E4qMV3U1ftXodiPiZ6nbN6SDPk8m3Gfc3jJ-w0nzxVbj7OzMuy11MB0q5IZ6xEATfAxU1nEWwZ-EXnZbMvJ5&uniplatform=NZKPT&flag=copy
- Makhlouf, & Allal-Chérif (2019). Strategic Values of Cloud Computing Transformation: A Multi-Case Study of 173 Adopters. *Journal of Global Information Management (JGIM)* (1). https://kns.cnki.net/kcms2/article/abstract?v=rNedlc-CUblAVbv9Pm4FZYBD3PsSUpfkQyQo_UYNA78tbxExJDG_67rK5Xy55NCIrDORttHESzR6OvzUcxA0wVhSGRbUEXflyvivB_hZujFIL-IELczhoes2HQEinpJBx025hGxdcZo4R1dqdp6EFXUZX4_J0m3oN9&uniplatform=NZKPT&flag=copy
- Chen, Zhang, & Wang, (2020). The effect of market orientation on the competitive advantage of software agents: The mediating role of organizational learning. *Journal of Business Research*, 109, (451-459). https://www.sciencedirect.com/science/article/pii/S01v=rNedlc-CUblAVbv9Pm4FZYBD3PsSUpfkQyQo_UYNA78tbxExJDG_67rK5Xy55NCIrDORttHES482NJHSnikcajosmdqGRE1930775X
- Chen, & Xu, (2020). Business model innovation and competitive advantage in the software agent industry: The moderating effect of entrepreneurial orientation. *Journal of Business Research*, 117, (788-797). <https://www.sciencedirect.com/science/article/pii/S0148296319304973>
- hristian, Aniello, Florin, & Choo (2017). Chal lenges of Connecting Edge and Cloud Computing: A Security and Forensic Perspective. *IEEE Cloud Computing* (2). https://kns.cnki.net/kcms2/article/abstract?v=rNedlc-CUblDaaierw51pd1FpjI34ZJ9D_zdnaoWN0QVh5L7Kq36fEpIKIEI9MRUThvv7a81KipSBm2X7n1bd38WkcdWazLwzy6pRno1IqLURCLB1-F55ivkc-

[XF4kSQNI85h9V4dt7pIs1Ei6nibxT6pLnxadLj&uniplatform=NZKPT&flag=copy](#)

- Croarken, (2001). Secrets of software success: Management insights from 100 software firms around the world [Book Review]. IEEE Annals of the History of Computing, 23(1). <https://ieeexplore.ieee.org/document/906704>
- Dallas, & Max, (2022). The impact of the shift to cloud computing on digital recordkeeping practices at the University of Michigan Bentley historical library. Archival science (1). https://kns.cnki.net/kcms2/article/abstract?v=rNedlcCUbLAmNrdksg2ulOyM-RngCDR2fLPkORUQQknMCFwGFFsIQ-cY_sZiPErYjJiW_Vj1WRrErl-BvdQ5UVTr6oJtjZcskVV43QOFLuV-0W697vrwJ6QtJPrHEP9JCnikBHP12Y79qxdqLzrN7xH9U8gxzH55pa&uniplatform=NZKPT&flag=copy
- Deng, & Yi, (2020). Research on the application of cloud computing technology to promote the development of digital transformation by small and medium-sized enterprises. Journal of Finance and Economics, 2020(8), (101-110). <https://dx.doi.org/10.3969/J.ISSN.1671-0258.2020.08.015>
- Fan, Wang, & Hu, (2019). Entrepreneurial orientation, network capability, and innovation performance in software firms. Journal of Business Research, 96, (183-193). <https://www.sciencedirect.com/science/article/abs/pii/S014829631830599X>
- Guo, Chen, & Liu, (2019). Exploring the impact of product innovation on firm performance: The role of knowledge acquisition and market turbulence. Technology Analysis & Strategic Management, 31(3), (295-309). <https://www.tandfonline.com/doi/abs/10.1080/09537325.2018.1498790>
- Huang, Xue, Zhang, & Liu, (2019). How customer involvement affects customer satisfaction and loyalty in the software agent industry: The mediating role of perceived value. Journal of Retailing and Consumer Services, 50, (329-337). <https://www.sciencedirect.com/science/article/pii/S09696989329-337>.
- Huang, Zhang, Xue, & Liu, (2020). How service quality affects customer satisfaction and loyalty in the software agent industry: The mediating role of perceived value. Journal of Retailing and Consumer Services, (55). <https://www.sciencedirect.com/science/article/pii/S0969698920302564>
- Jung, & Shin, (2022). Cloud computing transformation considering operational efficiency. International Journal of Software Innovation (IJSI), 10(2). [https://kns.cnki.net/Impact of cloud computing technologies on pricing models of software firms - Insights from Finland](https://kns.cnki.net/Impact%20of%20cloud%20computing%20technologies%20on%20pricing%20models%20of%20software%20firms%20-%20Insights%20from%20Finland)
- Mehdi, Tuli, & Shantanu (2022). Shareholder wealth implications of software firms' transition to cloud computing: a marketing perspective. Journal of the Academy of Marketing Science (3). <https://kns.cnki.net/kcms2/article/abstract?v=rNedlcCUbLCmKVIEGxGs8RQQoP->

[kesU1NRsVmnBxpHZSLwHajelmj8nPfg4eBB7y61bWY8NYzMtwam-fxSyIB8B4vBaRayaGzTi41p1emlQrgoTijZQP9vXpvKV9 ttODGPDV3veZb-mgnYIIJ768aEqwzxyyroN8eM&uniplatform=NZKPT&flag=copy](https://doi.org/10.1145/3481234)

Laatikainen, & Luoma, (2014). Impact of cloud computing technologies on pricing models of software firms - Insights from Finland.

Li (2014). Customer-oriented enterprise transformation: Establish "insight analysis system" - IBM Software's latest strategy in China announced. *China Digital Medicine*, 2014(5), (84). <https://dx.doi.org/10.13928/J.CNKI.CDMI.2014.05.049>

Li, Li, Wu, & Li, (2021). The effect of customer satisfaction on the competitive advantage of software agents: Based on the mediating role of brand equity. *IEEE Access*, 9, (20909-20921). <https://ieeexplore.ieee.org/document/9338265>

Li, Li, Wu, & Li, (2019). The impact of perceived value on customer satisfaction and loyalty in the software agent industry: The mediating role of service quality. *Journal of Retailing and Consumer Services*, 49, (83-91). <https://www.sciencedirect.com/science/article/pii/S0969698918301585>

Logesswari, Jayanthi, KalaiSelvi, Muthusundari, & Aswin, (2020). A study on cloud computing challenges and its mitigations. *Materials Today: Proceedings*(republish). https://kns.cnki.net/kcms2/article/abstract?v=rNedlcCUbLC_f6L0JpKQOHgnxrv-aX-uDZ9kxSlcr5E5fO38Eb8H5ywPYaC0934CR1vTSlqBKJsVOKfOFYQ93cG9NKn8b28--1aC3SfILx5HUVB6MgVmlJxey_wlGuCGR1Z9PpVbYlyZuYveBU_Zey4M7Wo7Da_ni&uniplatform=NZKPT&flag=copy

Vidović (2016). EU Data Protection Reform: Challenges for Cloud Computing. *Croatian Yearbook of European law* amp. https://kns.cnki.net/kcms2/article/abstract?v=rNedlcCUbLA-IDIOV7PHTWhbkqdyb9AhUOR9g7xZsXEJXvhTERKFDAg-egy-2JRc2riQvnJZn3opnHI33Jlck-hhE2IJKefg4EwLLM0BvVODN9KsWFcXDLXdPIW9_5mTAFDr34jAE5aQKlq-sAHSbvm4vfyb8cEWHS&uniplatform=NZKPT&flag=copy

Micro Focus Software Inc. (2017). System and method for providing key-encrypted storage in a cloud computing environment (U.S. Patent No. 9658891). *Computer Weekly News*. <https://www.computerweekly.com/news/450418755/Patent-issued-for-system-and-method-for-providing-key-encrypted-storage-in-a-cloud-computing-environment-USPTO-9658891>

Lidia, Leu, & Ugo (2021). Transformative computing in security, big data analysis, and cloud computing applications. *Concurrency and Computation: Practice and Experience* (23). <https://kns.cnki.net/kcms2/article/abstract?v=rNedlcCUbLD-suJploohPrL5cHFyULOZW54G-VCMbMSspKDK7NZHrdx4irJ->

[cxx2UzB09QuU81vdzNRBB5Pcy1r0774f51vij_Vgi3T7rE-ZuRPI_E3n6w9jBmSbr_msx050d5TMMwEoHuoc6P85oGTb6cSPM8Mf8&uniplat-form=NZKPT&flag=copy](https://d.wanfangdata.com.cn/periodical/gdstxb202302009)

- Hui, & Shijue, (2023). Guangzhou AsialInfo: To be an enabler of the digital transformation of large enterprises—Interview with Ye Xiaozhou, chief scientist of Communication Artificial Intelligence Laboratory of Guangzhou AsialInfo Technology Co., Ltd. *Guangdong Science and Technology*, 32(2), (52-55). <https://d.wanfangdata.com.cn/periodical/gdstxb202302009>
- Stratoscale (2016). Stratoscale secures \$27 million series C funding as it transforms cloud computing in the data center. *Computer Weekly News*. <https://www.computer-weekly.com/news/4500256240/Stratoscale-secures-27-million-series-C-funding-as-it-transforms-cloud-computing-in-the-data-center>
- Sun, Wang, & Wu, (2021). Business model innovation and firm performance in Chinese software companies: The moderating role of environmental turbulence. *Journal of Business Research*, 133, (1-12). <https://www.sciencedirect.com/science/article/abs/pii/S014829632100237X?via%3Dihubhttps://doi.org/10.1016/j.jbusres.2021.04.001>
- Wang, Ma, & Yang, (2019). Product innovation and competitive advantage in the software agent industry: The moderating role of intellectual property rights. *Journal of Business Research*, 103, (374-383). <https://doi.org/10.1016/j.jbusres.2019.01.070>
- Wang, Zhang, & Gu, (2020). The impact of innovation capability on competitive advantage in the software agent industry: The mediating role of entrepreneurial orientation. *Journal of Business Research*, 114, (296-305). <https://www.sciencedirect.com/science/article/pii/S0148296320301625>
- Wu, Wang, Cui, & Wang, (2021). The impact of differentiated marketing strategy on the competitive advantage of software agents: An empirical study. *IEEE Access*, 9, (13541-13553). <https://ieeexplore.ieee.org/document/9326244>
- Yang, & Wei, (2013). Traditional software is moving towards the "cloud era". *Mobile Communications*, 2013(3), (43-46). https://www.researchgate.net/publication/259515229_On_the_optimal_control_of_manufacturing_and_remanufacturing_activities_with_a_single_shared_server
- Zheng, (2020). The cloudification era of the transformation of the banking industry—Interview with Zhang Chaojin, deputy general manager of the software business department and general manager of the financial transaction cloud R&D center of Beijing Advanced Data Communication Company. *Chinese Financial Computer*, 2020(10), (83-85). <https://dx.doi.org/10.3762/J.ISSN.1005-0801.2020.10.009>

- Zhou, Guo, & Wang, (2019). The impact of dynamic capabilities on competitive advantage in the software agent industry: The mediating role of innovation capability. *Journal of Business Research*, 99, (365-373). <https://www.sciencedirect.com/science/article/abs/pii/S0148296318306064>
- Chen, Zhang, & Wang, (2020). The effect of market orientation on the competitive advantage of software agents: The mediating role of organizational learning. *Journal of Business Research*, 109, (451-459). <https://www.sciencedirect.com/science/article/pii/S014829631930775X>
- Chen, Yu, & Xu, (2020). Business model innovation and competitive advantage in the software agent industry: The moderating effect of entrepreneurial orientation. *Journal of Business Research*, 117, (788-797). <https://www.sciencedirect.com/science/article/pii/S0148296319304973>
- Deng, & Yi, (2020). Research on the application of cloud computing technology to promote the development of digital transformation by small and medium-sized enterprises. *Journal of Finance and Economics*, 2020(8), (101-110). [10.3969/J.ISSN.1671-0258.2020.08.015](https://doi.org/10.3969/J.ISSN.1671-0258.2020.08.015)
- Christian, Aniello, Florin, & Choo (2017). Challenges of Connecting Edge and Cloud Computing: A Security and Forensic Perspective. *IEEE Cloud Computing* (2). https://kns.cnki.net/kcms2/article/abstract?v=rNedlcCUbLDfLb1wkJGWzRi-joF0tHmv94wTdQYGT963h9wZ4iHVuWy1HW5goXMMXoQHaaxMTm2_q8U5RiS5ZeawSTDOy4leYDnKQsI1_WNmjvkLi8IS9VXJBhXbNTKWnK5gNQ6UZ_k67MEqOI6LXDSCj6FzkK0EF&uniplatform=NZKPT&flag=copy
- Huang, Zhang, Xue, & Liu, (2019). How customer involvement affects customer satisfaction and loyalty in the software agent industry: The mediating role of perceived value. *Journal of Retailing and Consumer Services*, 50, (329-337). <https://www.sciencedirect.com/science/article/pii/S0969698918305986>
- Huang, Zhang, Xue, & Liu, (2020). How service quality affects customer satisfaction and loyalty in the software agent industry: The mediating role of perceived value. *Journal of Retailing and Consumer Services*, 55, 102094. <https://www.sciencedirect.com/science/article/pii/S0969698920302564DOI:10.1109/TDLA47668.2020.9326221>
- Hu, Wang, Li, & Li, (2021). A strategy research of competitive advantage based on knowledge management in the software agent industry. *IEEE Access*, 9, (14456-14465). <https://ieeexplore.ieee.org/document/9326221>
- ProQuest (2019). Information Technology - Cloud Computing; New Cloud Computing Data Have Been Reported by Researchers at KEDGE Business School (Strategic Values of Cloud Computing Transformation: a Multi-case Study of 173 Adopters). *Computer Technology Journal*. <https://kns.cnki.net/kcms2/article/abstract?v=rNedlcCUbLCX5MAD->

[Wc7C4xRbgTbjyrgHpOaCmCAqWQ_IzuyLVXAPDaljhr954LB-FPrpnxD--
isRJ2hypAdx716us8GtaagnRrpejOMhBDjv2w3BgiRbY85rN2-gHVm4clCEns-
4FBrHtxJsZKe_tlf9CPrkms7&uniplatform=NZKPT&flag=copy](https://kns.cnki.net/kcms2/article/abstract?v=rNedlcCUbLCueLFRrZRt_8fUERs76GcFioBoTHhIRWHsMCZKOU-pLeg5glnBX9ss-L7Xt0ZFpN0taK-VLUR9JB7e8ze6K3GfhgQgVm51h62weyF_6uVeP2vqiuYgCtQy-PmoTUpH2iFPwmYYMTdzBclON_vfARfro&uniplatform=NZKPT&flag=copy)

Jung, Shin, & Shin, (2022). Cloud Computing Transformation Considering Operational Efficiency. International Journal of Software Innovation (IJSI)(2). https://kns.cnki.net/kcms2/article/abstract?v=rNedlcCUbLCueLFRrZRt_8fUERs76GcFioBoTHhIRWHsMCZKOU-pLeg5glnBX9ss-L7Xt0ZFpN0taK-VLUR9JB7e8ze6K3GfhgQgVm51h62weyF_6uVeP2vqiuYgCtQy-PmoTUpH2iFPwmYYMTdzBclON_vfARfro&uniplatform=NZKPT&flag=copy

ProQuest (2012). Knoa Software; Enterprise Management Associates Names Knoa as One of the True Innovators in User Experience Management. Journal of Engineering. https://kns.cnki.net/kcms2/article/abstract?v=rNedlcCUbLCem9C-Q5lofu_bo-0MhOnhss-nDJ-jAEUKqaSelCRbmY1VF861v3H0cgPRn0i_GhB7R65wmymOIUzSglLqAS9ah0B4fESqwU55WPCwwHsf9IbBmEDT9kNQvk_7-K4H8MD51A2Anja3icg7ChnxY9KCHH&uniplatform=NZKPT&flag=copy

Makhlouf, & Allal-Chérif (2019). Strategic Values of Cloud Computing Transformation: A Multi-Case Study of 173 Adopters. Journal of Global Information Management (JGIM) (1). https://kns.cnki.net/kcms2/article/abstract?v=rNedlcCUbL-DrOAnwJeDWj_GD9OTqtrMCmjnyNEaJkGn9UwwKWdZX2D7vZ0fI9_IHG-XwS3gYbbbd8RRxdOlisYlKBSLgJAtw63jQbIU2janKbZfry8A6vbl6pVfkM7FSs-fvoE2CFNuZK43NLbOOxyb7I3luE2SIW&uniplatform=NZKPT&flag=copy

Manufacturing Sector Transformed by Cloud Computing According to Manufacturing Journalist TR Cutler. (2017). M2 Press wire. <https://www.proquest.com/docview/1931136920DOI:10.1109/CLEO.2000.906704>

Croarken (2001). Secrets of software success: Management insights from 100 software firms around the world [Book Review]. IEEE Annals of the History of Computing, 23(1). <https://iee-explore.ieee.org/document/906704>

Micro Focus Software Inc. (2017). Patent issued for system and method for providing key-encrypted storage in a cloud computing environment (USPTO 9658891). Computer Weekly News. <https://www.computerweekly.com/news/450418755/Patent-issued-for-system-and-method-for-providng-key-encrypted-storage-in-a-cloud-computing-environment-USPTO-9658891>

Lidia, Leu, & Ugo (2021). Transformative computing in security, big data analysis, and cloud computing applications. Concurrency and Computation: Practice and Experience (23).

https://kns.cnki.net/kcms2/article/abstract?v=rNedlcCUbLACSeB-ScSmfbA3zVne5Ebb859rZNXfvJpx4QFgoFyuBlq-QqmJDcPy2GAYjhFwe2PkVvV5m0SMmXqpKXr0I4n5QLReeT7XnhT-MOKC7DUCnww2T2SjqXIZfg4PUWGWdN_MXkwCMLLM0PH5SF-E6axmTj&uniplatform=NZKPT&flag=copy

Hui, & Shijue, (2023). Guangzhou AsialInfo: To be an enabler of the digital transformation of large enterprises—Interview with Ye Xiaozhou, chief scientist of Communication Artificial Intelligence Laboratory of Guangzhou AsialInfo Technology Co., Ltd. *Guangdong Science and Technology*, 32(2), (52-55). <https://d.wanfangdata.com.cn/periodical/gdstxb202302009>

Dallas, & Max (2022). The impact of the shift to cloud computing on digital recordkeeping practices at the University of Michigan Bentley historical library. *Archival science* (1). <https://kns.cnki.net/kcms2/article/abstract?v=rNedlc-CUblCkn2SriiHNf514DxqFzh5WAqViNkjLmWZAmVaNz7z5pHPn2HmXpe71tOkauZEX-uGMQYLEf9YquvaB9iU0UNPhrbC0xvKX0vFeNh0ipEBIIRZRsEVSmzOjGTRAyxknOg-ScUXDlrQeB-yggOy0OU2deS&uniplatform=NZKPT&flag=copy>

Stratoscale. (2016). Stratoscale secures \$27 million series C funding as it transforms cloud computing in the data center. *Computer Weekly News*. <https://www.computer-weekly.com/news/4500256240/Stratoscale-secures-27-million-series-C-fundin-as-it-transforms-cloud-computing-in-the-data-center>

Mehdi, Tuli Kapil, & Shantanu (2022). Shareholder wealth implications of software firms' transition to cloud computing: a marketing perspective. *Journal of the Academy of Marketing Science* (3). https://kns.cnki.net/kcms2/article/abstract?v=rNedlc-CUblC2ogj07ST7PlxvShW2o0s82OHGIWIDiFQIUdGtBDOZiTaw1wLoW6z_mh-Q7Yhhlp1YdZAPf0yKMa-F_Zvz5C8OFHRfmMAN1iG0e_pj2ezsQaJJGVqbP-h8btssRHPwRQEclmYEbbhCFIIFjz0YhnJ&uniplatform=NZKPT&flag=copy

Wang, Ma, & Yang, (2019). Product innovation and competitive advantage in the software agent industry: The moderating role of intellectual property rights. *Journal of Business Research*, 103, (374-383). <https://doi.org/10.1016/j.jbusres.2018.11.033> [Get rights and content](#)

Wu, Wang, Cui, & Wang, (2021). The impact of differentiated marketing strategy on the competitive advantage of software agents: An empirical study. *IEEE Access*, 9, (13541-13553). <https://ieeexplore.ieee.org/document/9326244>

Yang, & Wei, (2013). Traditional software is moving towards the "cloud era". *Mobile Communications*, 2013(3), (43-46). [DOI:10.1016/j.ejor.2013.10.049](https://doi.org/10.1016/j.ejor.2013.10.049)

Zheng (2020). The cloudification era of the transformation of the banking industry--Interview with Zhang Chaojin, deputy general manager of the software business department and gen-

eral manager of the financial transaction cloud R&D center of Beijing Advanced Data Communication Company. Chinese Financial Computer, 2020(10), (83-85).
<https://dx.doi.org/10.3762/J.ISSN.1005-0801.2020.10.009>

Zhou, Guo, & Wang, (2019). The impact of dynamic capabilities on competitive advantage in the software agent industry: The mediating role of innovation capability. Journal of Business Research, 99, (365-373). <https://www.sciencedirect.com/science/article/pii/S0148296319302202>