

# Enterprise Value Valuation of Cloud Service Companies based on the Modified DEVA Model: A Case Study of Kingsoft Office

Ying Chen, Xuefei Guo

School of Management, Sichuan University of Science and Engineering, Yibin, Sichuan, China

## Abstract

As cloud service enterprises, the quintessential products of the internet era, their deep integration with the real economy assumes pivotal significance for China's modernization drive. Characterized by a prominent proportion of intangible assets, these enterprises are susceptible to valuation distortions when appraised through conventional methodologies. Taking Kingsoft Office as a case study, this paper endeavors to enhance the traditional DEVA model by amending the user count, incorporating market share metrics, and introducing the payment penetration rate, with a view to further analyzing the accuracy of the model's valuation framework. The findings reveal that the revised DEVA model demonstrates a closer alignment with market capitalization and more effectively captures the underlying causes of value fluctuations, thereby offering a more nuanced understanding of the valuation dynamics in this context.

## Keywords

Cloud Service Enterprises; Modified DEVA Model; Value Assessment.

## 1. Introduction

With the continuous development of internet technology, both the level of productivity and people's lifestyles are constantly evolving, and the internet has gradually become a pillar industry in China. As a fundamental component of the new-type network, cloud service enterprises have been expanding their market space and enhancing independent innovation capabilities, gradually forming a complete industrial chain. Driven by the continuous promotion of cloud-network integration and cloud-edge collaboration, cloud services have been deepening in both the depth and breadth of market penetration, exerting a profound impact on China's overall economic development. The Chinese government attaches great importance to the development of the software industry and has introduced multiple policies to support its growth. According to the 14th Five-Year Development Plan for Software and Information Technology Service Industry, tasks such as promoting the upgrading of software industrial chains, enhancing the security level of industrial foundations, strengthening industrial innovation capabilities, stimulating new demands for digital development, and improving collaborative and shared industrial ecosystems were put forward. In the post-pandemic era, cloud office and collaborative office have become the new normal of digital work, driving the transformation of office software enterprises toward digitization and intelligence. With the continuous popularization of government cloud, financial cloud and transportation cloud, governments and enterprises have become the main consumers in the cloud service market, with the frequency of cloud adoption and the breadth of applications increasing significantly.

Cloud service enterprises exhibit distinct characteristics in their operations, primarily a high proportion of intangible assets coupled with high risk and strong growth potential. As such, traditional enterprise valuation methods are inapplicable to cloud service enterprises, and the evaluation results remain controversial[1]. In the current field of valuation practice in China,

limited research has been conducted on the valuation of cloud service enterprises, which fails to analyze their industry characteristics and business models. Thus, there is a pressing necessity to explore enterprise valuation methods tailored to the unique attributes of cloud service enterprises.

## 2. Overview and Applicability Analysis of Traditional DEVA Model

### (i) Traditional DEVA model

Regarding the proposal of the DEVA model, Robert Metcalfe (1993) first proposed Metcalfe's Law. Subsequently, Mary Meeker (1995) introduced the DEVA valuation model, arguing that the fundamental factor influencing the value of internet enterprises is users with significant potential value. She contemplated whether the value of internet enterprises could be modeled by centering on user value to calculate the value of corporate data assets[1]. Thus, when applying this model, both the value per user and the number of users should be considered. The model is as follows:

$$E = M * C^2 \quad (1)$$

In the formula: E represents the enterprise value, M denotes the initial investment cost of the product, and C signifies the value per user per cycle.[2]

In the above formula, it can be observed that the traditional DEVA model primarily considers user value and initial investment cost. On the one hand, enterprise value is not confined to the value brought by individual users, as it incorporates the impact of interactions among users. The more connections exist among users, the greater the impact, and correspondingly, user value increases, truly enabling the quantification of user value. On the other hand, the introduction of non-financial factors breaks free from the limitations of financial factors, establishing a link between enterprises and users to facilitate accurate valuation for user-centric enterprises[3].

### (ii) Scope of application of DEVA model

The application of the DEVA model in valuing cloud service enterprises is primarily based on the following two considerations:

1) Enterprise valuation in this model centers on users. The model only considers a company's invested capital and user base. Specifically, if a company cannot generate profits from its user base but relies on factors other than users, an increase in user numbers will not enhance enterprise value—even though enterprise value is theoretically expected to grow with user base expansion. Thus, the DEVA model is applicable to platform-based companies that take user scale and engagement as their core.

2) For internet start-ups and unlisted companies, especially those in high-tech sectors like cloud computing, big data, and artificial intelligence, forecasting future cash flows is extremely difficult in the early stages. The DEVA model effectively evaluates enterprise value by measuring the cost per user and their potential contribution to future profits, skillfully bypassing the valuation dilemma caused by the unpredictability of future earnings and negative cash flows in internet enterprises. When internet enterprises enter the mature stage, the DEVA model may need to be adjusted and supplemented by integrating other financial indicators to more accurately reflect enterprise value.

### (iii) Defects of DEVA model

1) Ambiguity of User Attributes. Driven by the rapid iteration of internet technologies and continuous updates of applications, users exhibit a diversified trend in product and service selection. This shift has caused a significant deviation between the scale of registered users and

the actual value - creating user base. Low - activity users or those who uninstall applications after registration hardly generate economic benefits[4], thus failing to bring substantive revenue to enterprises. For cloud service enterprises, core value creation relies on user contribution, with active users serving as a critical source of such value. These users generate sustainable cash flows through paid membership subscriptions or purchases of premium resources. Thus, to achieve precise enterprise valuation, constructing a scientific user attribute classification system and defining the value contribution characteristics of different user types have become crucial steps in the valuation process.

2) The relationship between user value and enterprise value has transcended its traditional unidimensional nature. In the nascent stages of industry development, new users engage in reciprocal information exchanges with existing users, fostering a positive feedback loop that propels enterprise value and user value to exhibit exponential growth. This phenomenon is underpinned by the network effects generated through intra-user interactions. As internet technologies undergo continuous innovation and business models evolve iteratively, the rapid expansion of user bases and the emergence of diverse interaction paradigms have precipitated a transformation in value creation mechanisms. When an enterprise's products and services achieve high market penetration, its value creation ecosystem manifests complex, composite characteristics. It encompasses both the foundational value derived from direct user engagement and the incremental value generated through user-to-user interactions.

The traditional DEVA model, however, remains confined to a univariate analytical framework. It fails to adequately capture the synergistic effects stemming from user group interactions and the resultant non-linear value accretion patterns. Consequently, this model exhibits pronounced limitations in elucidating the intricate value generation mechanisms of the digital age, rendering it ill-suited to meet the contemporary demands of enterprise valuation.

### 3. Amendments to the DEVA Model of Cloud Service-oriented Enterprises

#### (i) Correction of the number of users

According to the level of user participation, the user group can be divided into two categories: active users and inactive users. Further, based on the amount of rights and benefits they enjoy, users can also be differentiated into member and non-member users. For organizations, the key driver of value growth is the active users with memberships. In this study, we explicitly define the users in the model as active users, and exclude the influence of inactive users on the value assessment of Internet enterprises, in order to minimize the overestimation of enterprise value due to the inflated number of users. In order to make the statistics of the number of users more stable, this paper chooses the number of monthly active users (MAU) as a measurement index to reduce the interference of external factors [5] on the data, such as holidays and marketing activities.

#### (ii) Define the value of unit users

It is not only necessary to identify the user groups that create value for the enterprise, but also to calculate the contribution value of each user. And the contribution value per user (ARPU) is precisely the index that measures the economic benefits that each user brings to the enterprise in a specific time period. To value the enterprise, it is necessary to calculate the user contribution value only for member users, and still retain the basic functions to attract users to develop potential members. Revenue sources include, but are not limited to, member top-ups, advertising revenue, etc., in addition to customers in the use of the intangible Matthew effect, the creation of goodwill, word of mouth and other potential value. Its calculation formula is as follows:

$$ARPPU = \frac{\text{Application Revenue}}{\text{Paid Application Memberships}} \quad (2)$$

(iii) Revise the relationship between enterprise value and the number of users

The significant improvement in enterprise revenue directly reflects the growth of user value. Against the backdrop of the continuous expansion of the internet market, the contribution of user base to enterprise value has started to wane, no longer demonstrating exponential growth trends. Therefore, this study introduces Zipf's Law to refine the interaction between enterprise value and user value, employing logarithmic functions to more accurately characterize the interrelationship between enterprise value and the scale of active users. Assuming that there are  $N$  users active on a video platform, the value contribution of each user to the platform can be expressed as the sequence  $1+1+2+1+3+\dots$  which sums up to the platform's enterprise value. As the number of users  $N$  grows, so does the enterprise value. The enterprise value in the digital content reading domain increases with the accumulation of user contributions, but this growth rate is decreasing because there is an upper threshold for enterprise value growth.

$$E = M \times (AAU \times ARPPU) \times \ln(AAU \times ARPPU) \quad (3)$$

(iv) Determination of initial invested capital  $M$  per unit user

As an "approximate valuation" method, the DEVA model encounters difficulties in estimating the initial investment cost of individual projects, making it more suitable for evaluating start-ups. The  $M$  value, defined as the ratio of initial investment cost to the number of registered users, tends to decline gradually as enterprises grow and their user bases expand. Moreover, enterprises often undergo multiple rounds of financing or borrowing during their growth, leading to significant variations in initial investment costs across different development stages. Therefore, such costs cannot be treated as a uniform value driver. In this study, considering the unicorn status of China Reading Group, we excluded the indicator of initial investment cost and instead focused on multiple factors related to customer acquisition costs (CAC) in the enterprise development process. Since Kingsoft Office primarily engages in software information services, it generates economic benefits through the use of devices such as computers, mobile phones, or tablets. For corporate users, we measure the number of devices using the enterprise's products rather than the total number of users, introducing the concept of Monthly Active Devices (MAD).

$$M = \frac{\text{Total Financing Costs}}{\text{Active Devices}} \quad (4)$$

(v) Introduction of customer acquisition cost  $m$

The characteristics of cloud service enterprises are remarkable: function is the cornerstone, platform is the medium, and marketing determines the possibility of product operation. In response to this characteristic, the customer acquisition cost is divided into three parts: selling expenses, operating costs, and R&D expenses.

$$E = M \times (AAU \times (ARPPU - m)) \times \ln(AAU \times (ARPPU - m)) \quad (5)$$

(vi) Determination of market penetration rate

From the point of view of the revenue composition of cloud service-oriented enterprises, super members are undoubtedly an important component of revenue and a major channel of realization. So taking the number of members to evaluate the enterprise is more responsive to the value of the enterprise land. The active user group covers paying users, and the proportion of this directly reflects the users' willingness to purchase the enterprise's products and services, which in turn positively affects the enterprise's revenue. Therefore, the introduction of market penetration rate  $K$ [6], this indicator can not only measure the profitability of the enterprise, but also reveal the intrinsic value of the enterprise. By enriching software functions and improving user experience, it can effectively promote the expansion of the paid user group.

$$E = M \times K \times (AAU \times (ARPPU - m)) \times \ln(AAU \times (ARPPU - m)) \quad (6)$$

#### 4. Case Study

Kingsoft Office, a leading enterprise in China's office software sector, has traversed multiple developmental stages from its inception to maturity since Kingsoft Software was founded in 1988. In 1989, WPS 1.0, China's first Chinese word processing software, made its debut, not only filling the domestic market gap but also rapidly dominating the industry with a market share exceeding 90%. The launch of WPS Office Mobile in 2011 marked a key turning point, propelling Kingsoft to achieve leapfrog growth in the mobile segment. In 2019, Kingsoft Office successfully listed on the Sci-Tech Innovation Board, inaugurating a new chapter in its corporate development. By 2023, the company had continued to upgrade its strategic layout in artificial intelligence, unveiling China's first ChatGPT-like application in collaborative office software. Empowered by large language model capabilities for generative AI, it once again demonstrated the vision of an industry leader.

(i) Basic development of Kingsoft Office

1) Kingsoft Office main business income.

The core composition of the enterprise revenue is mainly composed of three major business segments: office service subscription business for individuals and domestic institutions, the authorization business system for domestic institutions, and Internet advertising and promotion[7]. During the company's continuous transition of its products from traditional tool software to cloud-based application services, financial statistics indicate that both individual and domestic institutional subscription services and licensing businesses have shown significant growth. Meanwhile, to enhance user experience and pursue a more sustainable development model, the company has opted to reduce advertising placement and push frequency, leading to a decline in the proportion of revenue from online advertising promotion services and other related businesses.

**Table 1.** Revenue Structure and Proportion Analysis of Kingsoft Office by Business Segments (2019–2023)

		2019	2020	2021	2022	2023
Domestic Individual and Institutional Office Service Subscription Services	Amount (RMB billion)	6.80	11.09	14.65	27.42	36.1
	Proportion (%)	43.04	49.05	44.66	70.58	79.23
Domestic Institutional Authorization Business	Amount (RMB billion)	4.96	8.03	9.6	8.36	6.55
	Proportion (%)	31.39	35.52	29.27	21.52	14.38
Internet Advertising Promotion Services and Other Businesses	Amount (RMB billion)	4.04	3.49	4.06	3.07	2.88
	Proportion (%)	25.57	15.44	12.38	7.9	6.32

As shown in Table 1, during 2019-2023, domestic personal and institutional office service subscriptions remained the core business segment, maintaining a robust growth trend. Notably, unlike previous years, domestic institutional licensing business has trended downward since peaking in 2020, while the proportion of online advertising promotion revenue has also shown a year-on-year decline. According to the company's strategic realignment, this shift aims to optimize user experience and pursue higher-quality growth. Significantly, domestic personal and institutional office service subscriptions grew from ¥1.465 billion to ¥2.742 billion in 2022, indicating significant progress in institutional subscription services. This growth is likely attributed to the service value provided and customer satisfaction, as evidenced by the company's service enhancement strategies.

## 2) Profitability analysis

**Table 2.** Selected Financial Data of Kingsoft Office (2019–2023)

Fiscal Year	2019	2020	2021	2022	2023
ROE(%)	22.60	13.64	14.34	13.64	14.18
Net Profit Margin (%)	25.43	41.37	34.19	30.80	30.74
ROTA(%)	9.46	11.44	11	9.94	10.12
Cost-Expense Profit Margin(%)	56.81	91.96	74.59	63.56	66.16

Data source: annual report of Kingsoft Office

As shown in Table 2, it can be observed that except for 2019, Kingsoft Office's Return on Equity (ROE) has generally hovered around 14%, which is closely linked to the enterprise's strategy. In 2018, Kingsoft initiated a major digital transformation, attracting widespread attention in the capital market. The company successfully raised substantial funds, thereby causing its net asset size to remarkably expand and show a continuous upward trend. This not only reflects the improvement in the company's profitability efficiency but also signifies the ability to bring more returns to shareholders. As cloud office becomes a new trend in modern workplaces, Kingsoft Office, leveraging its deep accumulation in office software and services, continues to innovate. Products such as WPS Office and Kingsoft Docs operate across multiple operating systems, meeting users' needs for cloud-based work. The company's net profit margin has exhibited an overall upward trend, with remarkable growth in 2020 and 2021, which can be attributed to the broader environment—specifically, the sharp increase in remote work during the pandemic. Drawing on its experience, dividends, and achievements from digital transformation, Kingsoft Office swiftly responded to the pandemic, emerging as a standout performer when the industry was impacted. As shown in Table 2, the profit margin on cost expenses was unstable from 2019 to 2023, peaking at 91.96% in 2020. An in-depth analysis reveals that the global pandemic outbreak in 2020 presented Kingsoft Office with significant growth opportunities. During this period, its flagship product, the WPS Office suite, experienced a surge in user acquisition and market penetration, particularly evident in the exponential growth of personal and institutional subscription services. Achieving a remarkable milestone of 238 million monthly active users, the company strategically focused on educating and promoting its WPS Super Membership program. Through diversified strategies aimed at enhancing membership penetration and user stickiness, Kingsoft capitalized on the unprecedented demand spike. This surge in revenue, outpacing the growth in costs, directly contributed to the elevated profit margins observed in 2020. In subsequent years, to sustain its customer base and drive continuous product innovation, the company increased investments in customer retention, with significant allocations to research and development (R&D) and sales expenses. These strategic expenditures stabilized the profit margin on cost expenses from 2022 to 2023. As the digital era progresses and the demand for online collaborative work intensifies, Kingsoft Office has further augmented its R&D efforts in artificial intelligence (AI),

particularly through collaborations with advanced language models. Such initiatives not only aim to enhance the intelligence and functionality of its products and services but also underscore the company's forward-thinking approach in adapting to evolving market dynamics. This strategic pivot towards AI-driven innovation positions Kingsoft Office to maintain its competitive edge and capture long-term value in the digital office ecosystem. These findings offer several implications for both industry practitioners and academic researchers. First, they highlight the importance of agility and strategic adaptability in capitalizing on external shocks, such as the pandemic, to drive growth. Second, the study underscores the significance of continuous investment in R&D and customer-centric strategies for long-term sustainability. Finally, the emphasis on AI integration signals a paradigm shift in the office software industry, suggesting that companies must prioritize technological innovation to meet the evolving needs of modern workplaces. By leveraging these insights, organizations can better navigate market uncertainties and formulate more effective growth strategies.

3) Operational Data Analysis

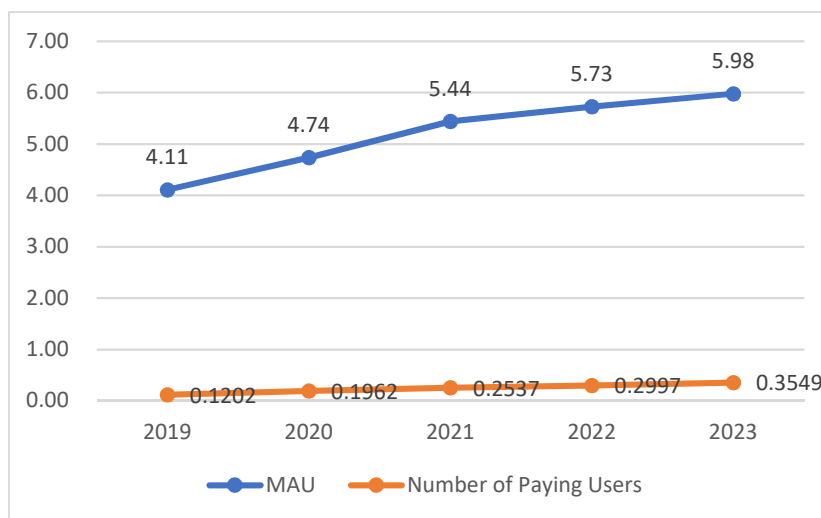


Figure 1. MAU and Number of Paying Users of Kingsoft Office from 2019 to 2023

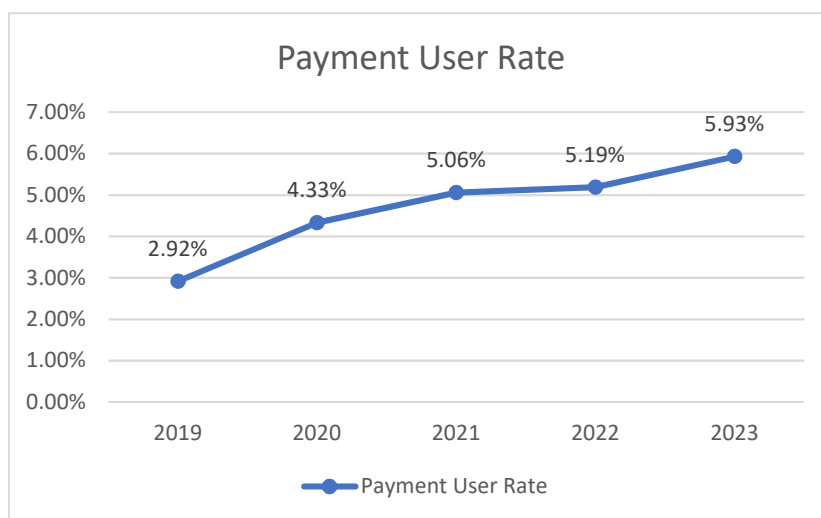


Figure 2. User Payment Ratio of Kingsoft Office from 2019 to 2023

As shown in Figure 1 and Figure 2, the user payment rate 2019-2023 continues to grow continuously, and the overall trend is favorable, increasing from 12.02 million in 2019 to 29.97

million in 2023, a year-on-year growth of 149.34%. However, in terms of the base of basic MAD, the number of paid subscribers has huge room for growth.

**Table 3.** Profit Model and Implementation Strategies of Kingsoft Office

Profit Model	Specific program
Office Service Subscription Model	For individual users, WPS provides two kinds of membership services, namely WPS Member and Inashell Member. The WPS member service mainly provides functional services related to document processing, and the rice husk member is to enjoy resource-based services; Organizational-level customer service subscription model for organizational-level customers, enabling the company to continuously and purposefully customize its services to meet customer needs and provide office solutions for customers.
Software product use authorization model	For small and medium-sized institutional customers with a small number of software subscriptions, the quantity authorization mode will be used for authorization, i.e., a certain version of software will be granted to the customer's customers. That is to grant customers the right to use a certain version of the software, and charge according to the number of licenses; For customers with a large number of software requirements, they will be licensed by way of origin license, whereby a license fee will be charged for the entire site for an agreed period (usually 1 to 5 years), with no limit on the number of installed machines to use a certain version of the software.
Internet advertising and promotion model	The advertisement promotion mode for free users adopts the profit-making method of "free+ advertisement", and the company has become an important platform for marketers to promote their products by virtue of its large number of users and good brand value; Internet advertising promotion refers to the provision of advertising space on online platforms and websites by companies for customers who need it. Settlement methods and revenues are determined on the basis of segmentation factors and customer needs.

Since its establishment, Kingsoft Office has seen its registered user base grow at a rapid pace, with monthly active users (MAU) increasing from 411 million in 2019 to 598 million in 2023. This massive user base has ensured a stable revenue stream by virtue of its scale effect. The company's strategic approach-targeted penetration for key corporate clients, prioritized service delivery, and a freemium model for individual users-has driven concurrent growth in both MAU and paid subscribers, yielding tangible results in user conversion and paid service adoption. Notably, Kingsoft's blockbuster product, Kingsoft Docs, and its suite of collaborative tools have successfully carved out a niche in the Chinese market despite intense competition from established Microsoft Office products. By tailoring solutions to meet the differentiated needs of local users, these products exemplify the company's capability to innovate within the constraints of a mature market. The strategy of balancing free-tier accessibility with premium service monetization has been critical in sustaining user engagement while driving revenue diversification. This user growth trajectory underscores two key insights for industry valuation: first, the network effects generated by exponential MAU expansion enhance the platform's stickiness and pricing power; second, the freemium model demonstrates an effective pathway for converting user scale into sustainable profitability. As evidenced by its product portfolio,

Kingsoft Office has strategically positioned itself to leverage both network externalities and localized innovation, making it a paradigmatic case study in user-driven valuation within the digital office ecosystem.

As shown in Table 3, Kingsoft Office's core profit architecture is composed of three major business segments: office service subscription, software licensing, and online advertising promotion. The company's cloud-based service products, such as WPS 365, directly rival industry benchmarks like Microsoft Office 365 and Google Workspace (formerly G Suite). By offering full-scenario cloud services-including online editing, cloud storage, and collaborative office functionalities-it precisely addresses the core needs of modern workplace scenarios. For the Chinese market, Kingsoft has launched WPS+ Cloud Office, breaking away from the single licensing revenue model. This initiative explores personal office service subscriptions and advertising businesses, evolving the traditional sales model from standalone software licensing to an integrated framework of "software licensing + office service subscriptions". This strategic pivot not only diversifies revenue streams but also exemplifies the company's adaptive approach to market dynamics, leveraging network effects to convert user scale into sustainable profitability.

#### (ii) Revised DEVA model for Kingsoft Office

In this paper, the valuation base date is set at December 31, 2023.

##### 1) Kingsoft Office main business income.

This study first revises the user attributes in the model, starting by redefining "users" as active users. WPS Office, which is divided into desktop and mobile versions, remains the core business of Kingsoft Office, with peripheral products like Kingsoft PowerWord serving as important ancillary offerings. Thus, this paper focuses on the number of active users of Kingsoft Office, sourced from two channels: its own WPS desktop and mobile applications. According to data provided by QuestMobile, the Annual Active Users (AAU) of Kingsoft Office from January to December 2023 are presented in Table 4.

**Table 4.** AAU of Kingsoft Office from 2019 to 2023 Unit: RMB billion person - times

	2019	2020	2021	2022	2023
MAUs of WPS for PC	1.54	1.85	2.19	2.42	2.65
MAUs of WPS Mobile - end	2.48	2.82	3.21	3.28	3.30
Total MAUs	4.11	4.74	5.44	5.73	5.98

##### 2) Determination of ARPPU

**Table 5.** ARPPU of Kingsoft Office from 2019 to 2023 (Unit:RMB billion)

	2019	2020	2021	2022	2023
Individual and Institutional Subscription Service Revenue	6.80	11.09	19.11	27.42	36.1
Domestic Institutional Authorization Business Revenue	4.96	8.03	9.62	8.36	9.57
Internet Advertising Promotion Service Revenue	4.04	3.49	4.07	3.06	2.88
Total Revenue	15.79	22.61	32.80	38.84	45.54
ARPPU	7.68	9.54	12.06	13.5641	15.23

Source: Kingsoft Office Annual Report

As shown in Table 5, ARPPU is calculated by dividing the annual operating revenue by the average monthly paying users and then by the number of months in the period. According to Kingsoft Office's 2023 annual report, the annual monthly paying users amounted to 35.49 million, with revenue sourced from two channels: personal and institutional subscription services (RMB 3.61 billion) and domestic institutional licensing (RMB 957 million), totaling RMB 4.567 billion. It should be noted that due to the common phenomenon of users simultaneously logging in from both desktop and mobile devices, the number of active users is calculated as the average of desktop and mobile users.

### 3) Market share K

In recent years, the domestic desktop office software market has developed rapidly. According to the research report of the World Wide Web, Microsoft's Microsoft Office series products rely on the pre-installed advantages of its Windows operating system, and continue to maintain a leading position in the PC market. Domestic manufacturers Kingsoft should not be underestimated, through the strategy of targeted blasts for large customers, key services, and free use for individual customers, Kingsoft Office is also riding high in China's market share, and the size of China's cloud office market in 2023 is expected to reach 33.01 billion yuan, and Kingsoft Office's operating income is 4.556 billion yuan. According to the market penetration rate published by Avery Consulting, the market penetration rate of WPS office in 2023 will be 68%.

### 4) Customer acquisition cost m

As shown in Table 6, due to the industry characteristics of Kingsoft Office, the overall "asset-light" form, but the performance of the total asset turnover ratio is not satisfactory, 0.35 times, far lower than the industry average value of 0.59 times announced in September 2022. On the one hand, R&D expenditures are costly, and when expanding the scale of users, sales expenses and operating expenses rise linearly; on the other hand, due to the digital transformation of Kingsoft Office, change the original capital-raising strategy, raise a large amount of funds after listing, the total assets have increased significantly, but the growth of operating income can not be consistent with the growth of total assets.

**Table 6.** Customer Acquisition Cost Calculation of Kingsoft Office (Unit:RMB million )

Marketing Cost	16.37
R&D Expenses	14.72
Number of Active Users in 2023 (RMB billion persons)	2.99
Total Customer Acquisition Cost m (Yuan/Person)	8.16

Source: Kingsoft Office Annual Report

Customer acquisition cost  $m = (14.72 + 16.37) / 2.99 = 10.40$  (yuan/person)

### 5) Initial investment cost M

After checking, in November 2019 Kingsoft Office was publicly listed for the first time in Kechuan Edition and raised a total of 463,186.00 million yuan, and after deducting the issuance costs, the net proceeds were 445,940.27 million yuan, and after the listing, the company did not publicly raise funds again, so this paper determines the total amount of financing to be 445,940.27 million yuan. 2023 December Monthly active device The number of active devices in December 2023 is 598 million, so the calculation of the initial investment cost of the enterprise's single unit equipment  $M = 445,940.27 / 59800 = 7.46$  (yuan/unit)

### 6) Evaluation results

Bringing the parameters obtained above into the modified DEVA model yields:

$$\begin{aligned}
 V &= M \times K \times (AAU \times (ARPPU - m)) \times \ln(AAU \times (ARPPU - m)) \\
 &= 7.46 \times 68\% \times (299000000 \times (15.23 \\
 &\quad - 10.4)) \times \ln(299000000 \times (15.23 - 10.4)) \\
 &= 1,545,109,000,974
 \end{aligned}$$

According to the Sina Finance data, the closing price per share of Kingsoft Office on December 30, 2023 was RMB 316.20, with a total share capital of 461,723,327 shares, the market capitalization of Kingsoft Office as at December 30, 2023 was RMB 145,996,915,997.4, with a margin of error of only 5.83%, which is within a reasonable range, indicating the applicability of the modified model.

Calculations are performed for the uncorrected DEVA model:

$$E = 463186 \times 29900 \times 29900 = 4140929186 \text{ (billions of RMB)}$$

The error rate is as high as 2824.64%, so there is a need to make modifications.

## 5. Conclusion

This paper draws the following conclusions from the case study of WPS office given by Kingsoft Office:

1) The modified DEVA model is more applicable to the cloud office industry

This paper uses the modified DEVA model to make a complete value assessment of Kingsoft Office in 2023, and the valuation error rate is only 5.83%. The modified DEVA model better fits the characteristics of cloud office companies, introduces market share, fully considers the number of active users, and clarifies the value of a single user, making the final valuation result more objective and reference value.

2) The modified DEVA model pays more attention to the impact of user resources on enterprise value

While the DEVA model has incorporated the influence of active users, the actual creators of enterprise value are the paying user base. In the current office landscape, cloud office services have become a core component. The user base, as the foundation for enterprise value creation, should be treated as a firm's core asset to unleash scale effects-critical for enhancing market competitive advantage. In this context, the precise assessment of operational efficiency emerges as a pivotal link.

Kingsoft Office needs to expand its membership base, strengthen user brand loyalty and dependency, and implement strategies to attract and retain active users. Moreover, maintaining product differentiation is key to adapting to evolving user needs. This dual focus on user expansion and product innovation aligns with the dynamic requirements of the digital office ecosystem, where sustained value creation hinges on balancing user scale with service uniqueness.

To conclude, the revised DEVA model better addresses the current valuation needs of cloud office enterprises. By introducing market penetration rate and fully considering device counts and per-user value, the model aligns more closely with industry characteristics, yielding more objective and actionable valuation results. This revision emphasizes the impact of user resources on enterprise value, treating active devices as core assets to leverage scale effects and enhance operational capabilities. The enhanced DEVA model provides cloud office firms with more precise value assessment and developmental guidance, enabling them to achieve sustainable growth. This approach not only rectifies the limitations of the original model but also reflects the dynamic nature of the digital office ecosystem, where device-level user engagement and network externalities have become pivotal valuation drivers.

## References

- [1] Zhang Yameng,Zhang Bo. A case study of company value assessment based on modified DEVA model[J]. Business Accounting,2023,(01):29-33.
- [2] Wang Xichen, Bo Jiankui. Evaluation of User Value in Internet Live Streaming Enterprises Based on Revised DEVA Model[J]. Commercial Accounting, 2024, (09): 106-109.
- [3] Zhang Xuemei, Ma Xinyi. Application of DEVA model in the valuation of Internet enterprises[J]. Accounting Newsletter 2021,(04):129-132.
- [4] SUI Min,JIANG Haoran,MAO Siyuan. Data Asset Valuation: Theory, Practice and Challenges[J]. Friends of Accounting,2024,(11):141-147.
- [5] Liu Jiang, Liu Peiqi. Research on Valuation of Data Assets of E-commerce Enterprises: A Case Study of Focus Technology[J]. Finance and Accounting Monthly, 2024, 45(18): 105-110.
- [6] Feng Ru. Research on Internet enterprise value assessment based on DEVA model[D]. Central South Forestry University of Science and Technology,2021.
- [7] Xu Lingjia. Research on the value assessment of digital reading enterprise based on DEVA modified model[D]. Chongqing University of Technology, 2023.
- [8] JIN Annie. Research on the Value Creation Path and Effect of Jinshan Software Spin-off and Listing.2023.Lanzhou Jiaotong University,2023.001840.