Study on the Financial Distress Facing the Development of Hikvision under Digital Transformation

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Abstract. For enterprises, digital transformation is not something that can be achieved overnight, but a long-term and continuous process. In recent years, Hikvision has made significant breakthroughs in various business scenarios within the company and with its partners, using a variety of digital technologies to continuously improve the way the company operates or its business processes. However, with the gradual saturation of the traditional security business and competition from other competitors, Hikvision's development still faces some financial difficulties. Based on this, the paper launched a special study to analyse the specific financial problems constraining its development, and from three aspects of the targeted response strategy to help the company's future development.

Keywords: Hikvision; digital transformation; financial distress.

1. Introduction

Digital transformation is a powerful driving force to promote the rapid development of high-tech enterprises, and it is also an inevitable choice for high-tech enterprises to maintain market competitiveness. Hikvision, as a leading enterprise in the domestic security industry, has already had a certain customer base and technical accumulation in the field of intelligent Internet of Things after years of operation and precipitation. However, with the changes in the business environment, Hikvision's development still has some financial problems, and only by optimising and adjusting them in time can we improve the company's operating ability and efficiency and achieve long-term development of the enterprise.

2. Hikvision's Digital Transformation Journey

Hikvision was founded in 2001 and listed on the Shenzhen Stock Exchange in 2010. In the early days, it mainly produced cameras for video surveillance. After more than 20 years of development, Hikvision has transformed from an initial security company to a smart IoT solution provider and big data service provider by empowering it with computers, big data, artificial intelligence and cloud computing.

Relying on the "Intelligent Internet of Things" technology, combined with years of in-depth exploration of the needs of industry users in the field of public services, Hikvision continues to plough into the five types of industry business, namely, big security, big traffic, big ecology, big governance and big service; and horizontally, it has pulled through the capacity of its products and technologies to serve the digital and intellectual governance business of the governments of municipalities, counties, townships and villages at all levels. Governance business. Focusing on the "AI domain empowerment and data value deepening", the company will continue to expand the product width of "hardware, platform, algorithm, model and service", deeply integrate the product and system capabilities, and focus on the value of the solutions to the ground.

3. Hikvision's Major Operations

The content of Hikvision's main business can be summarised as three core technologies, two types of major products and five business segments. The three core technologies refer to IOT perception, artificial intelligence and big data technology. The two types of major products refer to hardware products and software products, and the five business segments refer to the five segments of public

management and city services, large enterprise services, fragmented market business, innovation business and overseas business. Table 1 reflects the specific distribution of Hikvision's domestic and overseas operating revenues from 2019-2023. In particular, Hikvision derives its main revenue from domestic sources, accounting for approximately 70% of its total annual revenue.

Table 1. Hikvision Domestic and Overseas Operating Income Composition, 2019-2023

Unit: billions of CNY

Year	Domestic operating income	Overseas operating income
2019	414.20	162.39
2020	458.07	176.97
2021	594.35	219.85
2022	568.91	262.75
2023	603.72	289.68

3.1. Domestic operations

In order to better adapt to customer needs and improve operational efficiency, Hikvision changed and reorganised its own business structure in 2018, dividing its domestic business into three business groups, PBG, EBG and SMBG: (1) Public Service Business Group (PBG), which focuses on urban governance and urban services, and whose business covers the fields of government, public security, traffic, justice, etc. The demand of this part is usually linked to local This part of the demand is usually linked to local government expenditure and closely related to urban planning; (2) Enterprise Business Group (EBG), mainly in traditional large-scale enterprise market services, its business covers finance, energy, buildings, education and health and other fields; (3) Small and Medium Business Group (SMBG), mainly in small and medium-sized enterprise market services, positioning the middle and long-tail customers, to build a pan-security industry Internet.

3.2. Overseas operations

Overseas business is another important segment of Hikvision's business revenue. The company began its formal foray into overseas markets in 2007, and was ranked No. 1 on the A&S Global Security List for the first time in 2016. As of 2022, the company has set up a total of 72 molecular companies and offices overseas, supplying products and services to more than 150 countries and regions around the world. 2019 Hikvision was included in the list of entities by the United States, including the impact of some European countries in recent years, there is a certain impact on the development of Hikvision's overseas business. However, Hikvision's overseas business is tailored to local conditions, and the type and volume of projects delivered between different countries show a dispersion effect, and progress in emerging countries such as Southeast Asia is smoother in city-level projects.

4. Hikvision's current financial distress

4.1. Sluggish performance as traditional business declines

In 2022, Hikvision had the first negative profit growth since the company was founded more than 20 years ago, net profit fell 23.59% year-on-year, appearing "increase revenue but not increase profit". 2023 has improved, Hikvision achieved net profit of 16.1 billion yuan, an increase of 11.76% over the previous year, but compared to 2021 still declined 13.14%. The main reason for the decline in net profit came from the decline in revenue from main business, which is closely related to the domestic main business.Table 2 Reflects the composition of Hikvision's domestic main business operating income in 2019-2023.

Table 2. Operating Income Composition of Hikvision's Domestic Main Business, 2019-2023

Unit: billions of CNY

Year	PBG operating income	EBG operating income	SMBG operating income
2019	155.86	124.49	93.46
2020	159.87	147.24	92.09
2021	191.61	166.29	134.90
2022	161.35	165.05	124.97
2023	153.54	178.45	126.79

The analysis in Table 2 reveals that, according to revenue, the Public Services Business Group (PBG) has been in the lead in 2019-2021 until 2022 when it starts to decline; the Enterprise Business Group (EBG) has maintained stable growth in recent years and has a slight decline in 2022; the Small and Medium Business Group (SMBG) has had unstable growth, but has now reached more than $12 billion of revenue scale. Overall, Hikvision's operating revenues in the past two years have declined to a certain extent in all three of its inbound main businesses. Among them, the Public Service Business Group (PBG) saw the largest drop, showing two consecutive years of decline, down 15.79% in 2022 and again down 4.84% in 2023. The PBG business continues to be under pressure due to the impact of local finances.

From the industry development point of view, Hikvision main security field has gradually saturated, become a red sea. Government order contraction is also a problem, because a lot of government projects have been closed, the industry reached the peak after the natural bottleneck. Data show that in the past two years, the government investment in the field of security is gradually reduced. In addition, Huawei, Ali and other companies represented by the Internet and technology giants have different ways to layout the security market, to join the war to divide the attractive cake of the security market, which has become an important factor restricting the growth of Hikvision's performance.

4.2. Higher expenditure on selling expenses and R&D expenses

In recent years, Hikvision has continued to invest more in its domestic and international marketing network and R&D expenditures. Table 3 reflects Hikvision's expenditures on R&D expenses and selling expenses from 2019-2023.

Table 3. Hikvision R&D Expenses, Selling Expenses Expenditure, 2019-2023

Unit: billions of CNY

Year	R&D expenses	Selling expenses
2019	54.84	72.57
2020	63.79	73.78
2021	82.52	85.86
2022	98.14	97.73
2023	113.93	108.43

The number of Hikvision employees has grown in recent years. As of year-end 2023, Hikvision's total number of employees was 58,000, an increase of 18,000 compared to year-end 2019. Among them, 28,000 were research and development technicians, an increase of 0.9 million compared to the year-end of 2018, which continued to be a leading position in the industry. From 2019 to 2023, Hikvision's R&D investment as a percentage of sales revenue grew from approximately 9.5% to 12.8%. in 2023, Hikvision's R&D investment totalled 11.393 billion yuan, accounting for 12.8% of the company's sales. In addition, calculations show that Hikvision's sales expense ratio is substantially higher than the industry average for security equipment.In 2023, for example, the company's sales expenses are mainly used to pay employee compensation and marketing fees, and R&D expenses are mainly used to pay employee compensation.

Due to the confidentiality of the data and the special nature of the service object, generally speaking, Hikvision's R&D staff and sales staff need to travel to the other side of the unit, the first stage by the sales staff and the other side to communicate with the needs of the design of the programme, and at the same time, the customer's intention to inform the company's R&D staff, to do a good job of bridges and links, and the later stage of the R & D staff for the development of the project. Usually, the volume of each project is relatively large, the duration is also relatively long, so the need for a large number of R & D staff in each business centre to support, sales and technical staff to communicate and cooperate. At the end of the project, a small number of R&D and technical staff are also needed to maintain the platform locally and to address the future needs of the customer. During this period, employees need to stay in local hotels, which makes the company incur more accommodation costs and other related expenses, and even fraudulent behaviour such as false invoicing and false reimbursement may occur, thus eroding the company's interests.

4.3. High proportion of accounts receivable and some with credit losses

Accounts receivable is a "double-edged sword" for enterprises, enterprises hope on the one hand to use credit policy to expand their own sales scale, increase profits; on the other hand, if the resulting bad debts increase, and the long-term has not been improved, then it will seriously affect the enterprise's capital flow, and even endanger the development of enterprises. Influenced by the tighter financial situation of local governments in some regions, coupled with the new crown pneumonia epidemic, some customers' payment ability has declined to a certain extent, thus triggering capital risks, and the pressure on customers' capital may be transferred to Hikvision. As at the end of 2023, the balance of accounts receivable in Hikvision's consolidated financial statements was approximately RMB39,007 million, and the balance of the provision for credit losses on accounts receivable was approximately RMB3,191 million, with an aggregate accrual ratio of 8.18%. During the reporting period, Hikvision's accounts receivable turnover ratio was 2.72 times, a year-on-year decrease of 8.42%. The huge amount of accounts receivable corresponds to the decline in accounts receivable turnover ratio, and the company's potential capital bad debt loss may increase.

Hikvision's accounts receivable as a percentage of total assets and operating income is not low, indicating that the company's discourse on downstream customers is not strong, and can even be said to be on the weak side, with the vast majority of the company's operating business docking with the government, enterprises and public institutions, and so on. Overall, Hikvision's bargaining power in the face of public service business group (PBG) and enterprise business group (EBG) customers is weaker than that of small and medium-sized business group (SMBG) customers.

5. Hikvision's Coping Strategies for Financial Distress

5.1. Further development of innovative business

Affected by the epidemic and other factors, the customer spending of domestic public service business group (PBG) and enterprise business group (EBG) were under pressure at the same time, and the spending power of small and medium-sized business group (SMBG) customers was also affected, and the revenue of Hikvision's three major domestic business groups declined year-on-year. In the future, as the economy recovers and the financial pressure on the relevant entities is eased, Hikvision should try to seek greater development in the fields of energy and metallurgy, intelligent construction, industrial and commercial enterprises, education and teaching, and catering and culture and tourism, etc., maintain online and offline channels, continue to enrich the product categories, and continue to push forward the landing of businesses related to the digital transformation of all lines of business and industries.

Facing the downturn of traditional business, Hikvision should take innovative business as the focus of its efforts.2023, Hikvision's innovative business continued to maintain the momentum of rapid development, with a total revenue of 18.553 billion yuan, up 23.11% year-on-year, and the proportion of revenue was raised to 20.77%, which is 3 percentage points higher than that of the same period

last year. In the face of the huge pressure suffered by the main security business, as well as the current innovative business performance, Hikvision should fully explore the huge potential of innovative business, and further seek new breakthroughs. As the first subsidiary of Hikvision to be successfully spun off and listed, Fluorspar Networks has been listed on the Science and Technology Innovation Board of the Shanghai Stock Exchange in 2022; and the application for the spinoff of Hikvision Robotics has also been accepted by the Shenzhen Stock Exchange. In the future, Hikvision can try to further continue to steadily promote the "1+N" spin-off and listing plan, and spin off and list innovative businesses, so as to achieve the goal of expanding from the traditional security field to the more promising field of artificial intelligence and Internet of Things, and to promote the enterprise to achieve greater development.

5.2. Strict control of expenses

Technological innovation for any company is an important driving force for its own development, Hikvision should increase R & D investment, expand the R & D team at the same time, as far as possible, to promote the effective transformation of R & D results, so as to enhance its competitiveness in the industry. At present, Hikvision's R&D investment is mainly reflected in the labour cost of R&D personnel. In the next step, the company should continue to promote the work of cost reduction and cost control, and conduct reasonable assessment and inspection and strict control of the personnel scale of each business, and combine the operation and development of each business with the company's current situation in terms of the establishment of the company, and tilt it moderately to the innovative business, so as to further optimise the company's internal management.

For R&D, technical and sales staff travelling on business, the company can co-ordinate the planning and rent rooms in a unified manner to save money. In addition, Hikvision should encourage and support all employees, customers, suppliers and other stakeholders to report any suspected violations of laws and regulations, ethical codes and company rules and regulations within the enterprise or potential compliance risks. At the same time, several special reporting channels are set up to ensure the smooth flow of information and efficient handling of reports, so as to minimise the risk of fraud.

5.3. Focus on payback efficiency and optimise own products

By analysing Hikvision's financial report, it can be found that the company's accounts receivable have been at a high level in recent years, and the absolute value is continuing to rise. This is mainly from the impact of the epidemic and other objective factors, and the customers are mainly government units, so there are specific requirements for the release of money. With the increase in the amount of accounts receivable, Hikvision's payback ratio has declined and the difficulty of payback is increasing. 54.45% of the company's accounts receivable are concentrated in less than 1 year and 38.82% of the accounts receivable are in 1-2 years, its accounts receivable overdue risk is high. The company needs to pay attention to its payback efforts, further reduce the time its funds are occupied by outside entities, increase the speed of realisation and enhance management efficiency.

In addition, Hikvision needs to continue to work on customer relationship maintenance to further strengthen the advantages of long-term cooperation. In addition to providing standardised products, it also needs to explain the product line, the follow-up service of the products, and the supporting functions to the customers. In addition, in the era of customisation, customers are often not clear about what equipment and systems they need, and no longer just buy hardware products, but come to buy solutions. Therefore, Hikvision needs to make use of its countless project experiences accumulated in different industries and fields in the past to help customers design customised and personalised solutions to meet their needs and solve their differentiated demands, so as to further solidify and improve its market position in the industry and form its own special competitive advantages. At the same time, according to the market needs for customers and partners, to provide hardware equipment, hardware equipment and software, the overall solution and services of the multi-level cooperation model, stable and expanding sources of income.

6. Summary

Digital transformation is a must for high-tech enterprises, in the face of the current trend of globalisation, the development of Hikvision is facing many opportunities and challenges, and there are also some financial problems that restrict its rapid development, including: (1) traditional business decline, sluggish performance; (2) sales costs, R & D expenses are more; (3) accounts receivable accounts for a relatively high proportion of accounts receivable, and some of them have credit losses. Therefore, this paper puts forward the following suggestions: (1) further develop the company's innovative business; (2) strictly control the company's expenses; (3) pay attention to the efficiency of the payment back, and enhance the differentiation of its products.

References

[1] Zhu Y, Sun Z, Zhang S, et al. Economic policy uncertainty, environmental regulation, and green innovation—an empirical study based on Chinese high-tech enterprises[J]. International Journal of Environmental Research and Public Health, 2021, 18(18): 9503.

[2] Song Y, Yu C, Hao L, et al. Path for China's high-tech industry to participate in the reconstruction of global value chains[J]. Technology in Society, 2021, 65: 101486.

[3] Sumets A, Kniaz S, Heorhiadi N, et al. Methodological toolkit for assessing the level of stability of agricultural enterprises[J]. Agricultural and Resource Economics: International Scientific E-Journal, 2022, 8(1): 235-255.

[4] Pronchakov Y, Prokhorov O, Fedorovich O. Concept of High-Tech Enterprise Development Management in the Context of Digital Transformation[J]. Computation, 2022, 10(7): 118.

[5] Liu M, Li C, Wang S, et al. Digital transformation, risk-taking, and innovation: Evidence from data on listed enterprises in China[J]. Journal of Innovation & Knowledge, 2023, 8(1): 100332.