Analysis of the Motivation and Performance of Midea Group's Merge and Acquisition of German KUKA

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Abstract. With the transformation of global manufacturing industry to intelligence and the strategy of "Made in China 2025", cross-border merge and acquisition (M&A) has become an important way for Chinese enterprises to acquire core technologies and realize industrial upgrading. This paper takes Midea Group's M&A of KUKA, Germany as the research object, focusing on the motivation and performance of M&A. It is found that the core motivation of Midea's acquisition of KUKA is to acquire the core technology of industrial robots and realize the strategic transformation of "intelligent manufacturing", and the complementarity between the two sides in technology, market and supply chain lays the foundation for synergy. After the merger, Midea achieved significant scale expansion, with revenue and net profit increasing by 102.7% and 80.8% respectively, and the compound annual growth rate of R&D investment reached 14.5%, and the financial risk management and control achieved remarkable results. Compared with Haier Smart Home Co., Ltd (Haier). and Gree Electric Appliances (Gree), Midea's profitability and anti-risk ability are stronger after the merger. This study provides a practical reference for cross-border M&A of traditional manufacturing enterprises in China.

Keywords: Merge and Acquisition, Midea, KUKA.

1 Introduction

Under the tide of global manufacturing industry's accelerated transformation to automation, digitalization and intelligence, enterprise M&A is the key for enterprises to upgrade their technology, expand their enterprises and enhance their competitiveness. Among them, the characteristics of innovation ability are important pre-screening factors for enterprises to participate in M&A, and the innovation ability of acquirers and targets is complementary, which provides a basis for integration and coordination. Bena and Li constructed a unique research data set, put forward a hierarchical research hypothesis and combined with a multi-stage empirical test, which proved that the synergy obtained by integrating innovation ability is an important incentive to promote enterprise M&A [1]. Cross-border M&A is an important strategy for enterprises to expand overseas markets and acquire core technologies, but its performance is affected by multiple factors [2]. The research shows that the organizational cultural intelligence of the acquirer has a positive impact on the

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innovative performance of transnational technology M&A, and cultural distance will strengthen this role [3]. At the level of ownership structure, the degree of controlling rights of major shareholders is negatively correlated with the performance of cross-border M&A of Chinese enterprises, and the M&A performance of state-owned and private enterprises is different, and the long-term performance of state-owned enterprises is on the rise [4]. Driven by national strategies such as "Industry 4.0" and "Made in China 2025", China's manufacturing enterprises actively acquire advanced global technical resources and keep up with the wave of global enterprise integration. Under the multiple challenges of cultural differences, technical integration and financial risks, how to achieve synergy and risk management and control has become a core issue for enterprises.

Midea Group Co., Ltd., referred to as "Midea" for short, is a manufacturing company specializing in household appliances, and also dabbles in innovative fields such as building technology, industrial technology, robots and automation, and is at the head of the industry in the field of household appliances in China. In 2015, Midea is facing a critical period of transition from traditional home appliance manufacturing to intelligent manufacturing and realizes that the competition in the home appliance industry is fierce and the growth is slowing down. It is difficult to achieve technological and efficient progress on its own, and it is necessary to seek other breakthroughs. KUKA is one of the "four big families" of industrial robots in the world (alongside ABB, Fanuc and Yaskawa). Founded in 1898, it is headquartered in Germany and has core advantages in the field of industrial robot technology, with powerful automatic production line design and world-leading automation technology. In 2015, Midea's subsidiary acquired KUKA shares in a low-key manner, and gradually consolidated its shareholding position, paving the way for subsequent acquisitions. In 2016, it officially launched a comprehensive tender offer procedure, and after multiple obstacles and complex challenges, it completed the final acquisition in 2017. KUKA officially became a holding subsidiary of Midea. Midea Group's cross-border acquisition of German KUKA, as a symbolic case of China's traditional manufacturing enterprises acquiring the world's leading high-end industrial robots, took seven years to complete the whole process from partial shareholding to 100% privatization, successfully acquired the core technology of robots and entered the new track of intelligent manufacturing. The core motivation of Midea Group M&A is highly consistent with China's "going out" and "Made in China 2025" strategies, aiming at acquiring core technologies, expanding the international market and realizing industrial upgrading [5]. The study of management strategy shows that market strategy, product strategy and brand strategy all have a significant positive impact on the management strategy of Midea Group after M&A [6].

M&A brings opportunities as well as risks. The environment of M&A activities is increasingly complex, such as geopolitical tensions, trade policies and regulatory changes [7]. Scholars point out that political uncertainty is the common source, which intensifies information asymmetry and litigation risk, and information asymmetry will amplify performance and reputation risk. The M&A case of Meituan also caused Germany's concern about technology outflow, which prompted the local authorities to strengthen foreign investment review, reflecting the complexity of cultural and policy

risks in cross-border M&A [7]. The financial analysis shows that the profitability of Midea Group has steadily increased from 2021 to 2023, and the net profit rate has increased from 8.50% to 9.07%. However, after the merger, the asset operation efficiency fluctuated and the total asset turnover rate declined, reflecting the operational challenges faced in the integration process [8].

Based on this, this paper takes Midea's M&A of Kuka as the research object, and analyzes the financial changes, the realization path of synergy effect and the risk management and control strategy in the whole process of M&A from an economic perspective. This research can not only provide reference for Chinese enterprises to carry out cross-border M&A similar to "traditional manufacturing and high-end intelligence", but also provide a referential analytical paradigm for evaluating the long-term value creation of cross-border M&A, which is helpful to improve the scientific decision-making and the success rate of M&A integration.

2 The Synergy Effect of Midea's M&A of KUKA

2.1 Business Synergy

Business collaboration is the core value source of Midea's acquisition of KUKA, focusing on the deep integration of "industrial robot technology and home appliance manufacturing" to achieve operational optimization.

Midea Group has realized the complementarity of technology and scene. As the core enterprise of Industry 4.0, KUKA has the world's leading industrial robot patents and automated production line technology; Midea has a huge home appliance factory and market. By putting KUKA's robot technology into Midea's factory, it can not only reduce labor costs but also improve production level and efficiency. By integrating the supply chain resources of both parties, Midea's global parts procurement system effectively reduced the cost of purchasing core parts for KUKA [9]. At the same time, KUKA's European production base provides localization support for Midea to expand the European market, which helps to reduce logistics costs. Midea also has the advantage of covering the global sales network, helping KUKA industrial robots penetrate into small and medium-sized manufacturing enterprises. And KUKA's industrial customer resources built a bridge for Midea to enter the B-end intelligent manufacturing service field and realize the transformation of "intelligent manufacturing business". According to official website data, Midea introduced the KUKA robot into Hefei Washing Machine Factory, which improved the overall equipment efficiency (OEE) from 65% to 89% and reduced the labor cost by 30%. Midea helped KUKA to explore the Chinese market with the help of global sales network. KUKA China's revenue increased from 500 million euros in 2016 to 2.5 billion euros in 2022, with a compound annual growth rate of 30%.

2.2 Financial Coordination

Financial synergy focuses on capital optimization and cash flow complementarity in cross-border M&A to increase financial value for both parties. At the same time, the

financing cost is reduced: Midea, as the leader of China's household appliances industry, has a stable cash flow, a good credit rating and diversified financing channels. After the merger, it is convenient to provide financial support for KUKA, abandon the original high-interest financing channels and help KUKA reduce financing costs. In terms of cash flow, the stable cash flow of Midea's household appliances business is conducive to continuous investment in KUKA's R&D and market expansion. KUKA's industrial robot business has a long repayment period but high profit rate, which forms a complementary pattern with the household appliance industry in the United States and enhances the overall cash flow stability of the enterprise. Midea Group also makes use of the differences in tax policies between China and Germany, reasonable transaction pricing and R&D expenses allocation to optimize tax costs and save tax expenditures. Official website data show that Midea provided low-cost financing for KUKA with a good credit rating, which reduced the comprehensive financing cost of KUKA from 5.8% before the merger to 3.5%. The stable cash flow of Midea's household appliances business complements the high profit margin of KUKA’s robot business. After the merger, the overall cash flow volatility of Midea decreased from 15% to 8%, and financial stability was significantly improved.

2.3 Management Collaboration

Midea Group focuses on "global governance and strategic coordination" in management to realize the optimal allocation of management resources and the unification of development direction. Midea introduces its mature digital management system and operation mode into KUKA to optimize its organizational structure and operation process. At the same time, maintaining the core R&D team and team independence of KUKA is conducive to reducing cross-cultural management conflicts and balancing efficiency and technological autonomy. According to official website data, Midea introduced a digital management system to optimize the operation process of KUKA, while maintaining the independence of its core R&D team. The proportion of research and development investment in KUKA increased from 8.5% in 2017 to 10.2% in 2022, and the core technology R&D capability was not affected, effectively balancing management efficiency and technical autonomy.

3 Accounting Evaluation of M&A Motivation and M&A Performance

3.1 M&A Motivation

In 2015, the growth of Midea's traditional home appliance business peaked, the industry competition became fierce, and its own intelligent manufacturing technology was short of board. It was difficult to make a rapid breakthrough through endogenous research and development, and it was urgent to acquire core technologies through M&A to realize the strategic transformation from "home appliance manufacturing" to "intelligent manufacturing". With the strategic docking demand of "Made in China 2025" and "Industry 4.0" in Germany, the global manufacturing industry is

transforming to intelligence and automation, and the industrial robot market has broad prospects, which provides policy and industrial environment support for the cross-border acquisition of KUKA by the United States. KUKA's industrial robot technology is highly compatible with Midea's home appliance manufacturing scene. Midea has a global sales network and home appliance manufacturing scene, and KUKA has core technologies and international high-end customer resources. The two sides form strong complementarities in technology, market and supply chain, and have the basis for achieving synergy.

3.2 Accounting Evaluation of M&A Performance

As shown in Table 1, from the perspective of economic efficiency, M&A has achieved significant scale expansion and return on investment. The revenue scale doubled: the average before the merger was 148.743 billion yuan, and the average after the merger was 301.451 billion yuan, an increase of 102.7%, with obvious economies of scale. Net profit increased by 80.8%: before the merger, it averaged 14.744 billion yuan, after the merger, it averaged 26.653 billion yuan, and the net profit increased by 80.8%. The accumulated new net profit in five years was about 59.5 billion yuan, and the payback period was about five years, so the rate of return was reasonable. In terms of technology investment, Midea's financial support greatly increased its R&D expenditure from an average of 6.595 billion yuan before M&A to an average of 10.8402 billion yuan after M&A, which directly echoed the core technology acquisition motivation of M&A. In the year of M&A (2017), the asset-liability ratio rose from 59.56% to 66.58%, which was a normal financial change due to the increase in liabilities caused by M&A financing. After 2018, it gradually fell back to around 64%, and the financial risk management and control effect was remarkable. The investment in R&D increased from 5.263 billion yuan in 2015 to 12.62 billion yuan in 2022, with a compound annual growth rate of 14.5%, and the investment in technology continued to increase. The turnover rate of total assets fluctuated slightly, reflecting the operational adjustment during the integration period, and did not have a significant impact on corporate profits.

Table 1. Midea's core financial indicators from 2015 to 2022.

Index	2015	2016	2017(M&A in this year)	2018	2019	2020	2021	2022
Operating income (100 million yuan)	1384.41	1590.44	2,407.12	2,596.65	2782.2	2,842.2	3412.3	3439.2
Net profit (100 millio	136.25	158.62	186.1	216.5	252.8	275.1	290.15	298.1

Index	2015	2016	2017(M&A in this year)	2018	2019	2020	2021	2022
n yuan)								
Gross profit rate	25.84%	27.30%	25.04%	27.53 %	28.8 6%	25.11 %	22.4 8%	24.24 %
Asset-liability ratio	56.52%	59.56%	66.58%	64.94 %	64.4 0%	65.53 %	65.2 5%	64.05 %
R&D invest ment	52.63	60.46	84.78	98.11	96.4	101.2	120. 1	126.2

Data source: Midea 's 2015-2022 annual report and Wind database.

4 Industry Comparison

In order to reduce the impact of industry cycle and macroeconomic fluctuation on financial performance, and more accurately identify the synergistic effect brought by the M&A event itself, this study introduces industry comparative analysis. Haier and Gree were selected as benchmarking companies. Haier is one of the "three giants" in the home appliance industry, with a high degree of internationalization, focusing on global operation and high-end brand building, and is committed to building an integrated ecosystem of home appliances [10]. Gree is also a leader in the home appliance industry, focusing on diversified smart home appliances, and paying more attention to independent technology research and development and endogenous development of smart equipment [11]. Neither of them has carried out transnational technology M&A of the same scale as KUKA. Return on net assets (ROE) is not a separate ratio, it contains many aspects of enterprise management, such as net profit rate of sales, total assets turnover rate and equity multiplier.

Table 2. Comparison of ROE between Midea Group and Benchmark company (2015-2022) Unit%.

Year	Midea	Haier	Gree
2015	29.06	16.22	27.31
2017	25.88	23.59	37.44
2019	26.43	19.12	25.72
2022	22.21	16.81	24.19

Data source: Haier's 2015-2022 annual report and Gree's 2015-2022 annual report.

As shown in Table 2, from the perspective of return on net assets (ROE), Midea Group showed the following characteristics after the acquisition of KUKA: First, the ROE decreased from 29.06% to 25.88% in the year of acquisition, mainly due to the expansion of the net asset base due to the issuance of shares and consolidation, which

was a normal dilution effect; Second, during the integration period (2019), ROE rebounded to 26.43%, which was higher than the level in the year of M&A, indicating that the synergy effect began to be released; Third, industry comparison shows that Midea's ROE is higher than Haier in all years, and the fluctuation range is smaller than that of Gree, which shows stronger profitability and risk resistance; Fourth, in 2022, it was affected by the downturn of the industry cycle. For example, on the one hand, the home appliance industry was affected by multiple factors such as the sluggish domestic real estate market, weak consumer demand and the slowdown in export growth. On the other hand, the growth rate of the global robot market slowed down, so all three ROEs declined, but the gross profit margin of Midea remained in the range of 22%-28% from 2015 to 2022, which was higher than that of Haier (20%-25%) overall.

5 Conclusion

In this paper, Midea Group's cross-border M&A of KUKA, a symbolic case of China's traditional manufacturing enterprises acquiring global high-end industrial robot enterprises, is taken as the research object, and combined with relevant literature in the field of M&A, a comprehensive analysis is made from the dimensions of motivation, synergy and financial performance, and finally the following core conclusions are drawn:

Midea Group's acquisition of KUKA is an inevitable choice for enterprises to break through their own technical barriers and realize the strategic transformation from traditional home appliance manufacturing to intelligent manufacturing. The complementarity of technology, capital and market demand between the two sides also laid a solid foundation for integration and coordination after the merger.

Judging from the performance of M&A, this transaction has brought significant economies of scale and reasonable return on investment to Midea Group. After the merger, the company's revenue and net profit have increased substantially, and the investment payback period is also in a reasonable range. Although M&A was affected by the large base of net assets in that year, the return on net assets of enterprises temporarily declined, but it gradually picked up later. The horizontal comparison with Haier and Gree further shows that Midea Group has shown stronger profitability and anti-risk ability after the merger, which fully confirms the help of this merger to the long-term profitability of enterprises.

Under the background of global manufacturing competition, cross-border M&A of China manufacturing enterprises will still be an important way to realize technological transformation and enhance competitiveness. Of course, cross-border M&A always faces multiple risks such as cultural differences, geopolitics and technology integration. Midea maintains the independence of KUKA's core R&D team in the process of M&A, which provides an effective reference for resolving cross-cultural management conflicts. At this point, China enterprises should continuously acquire advanced global technical resources, constantly promote the high-intelligence upgrading of industries, and achieve high-quality development in the global competition.

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