Research on strategic motivation and performance of acquisitions in medical and health field —— A case study of Abiomed and Johnson & Johnson

Xuan Xuan*

Department of School of Business, Macao University of Science and Technology, Macao, China

*Corresponding author: 1230006137@student.must.edu.mo

Abstract. The medical and healthcare industries are extremely competitive. By mergers and acquisitions, many businesses grow and accept more market share. Businesses can achieve additional development and increase their profit margins through successful mergers and acquisitions. One well-known company in the medical and health sector is Johnson & Johnson. To examine mergers and acquisitions of businesses in the medical and health sector, this article selects the Johnson & Johnson merger and purchase of Abiomed as a case study. It then analyzes the merger and acquisition through performance research and strategic reasoning. The medical and healthcare industries are extremely competitive. By mergers and acquisitions, many businesses grow and take up more market share. Businesses can achieve additional development and increase their profit margins through successful mergers and acquisitions. One well-known company in the medical and health sector is Johnson & Johnson. To examine acquisitions of businesses in the medical and health sector, this article selects the Johnson & Johnson merger and purchase of Abiomed as a case study. It then analyzes the acquisition through performance research and strategic reasoning.

Keywords: Acquisition; performance research; strategic reasoning.

1. Introduction

Since the 21st century, the field of healthcare has received widespread attention. In 2016, in the United States, after the age of 40, with the increase of age, the proportion of cardiovascular disease (CVD) in all Disability Adjusted of Life Years (DALYs) rapidly increases, accounting for 20% of the DALY burden by the age of 65 [1]. In recent years, the cardiovascular market has continued to expand. At the beginning of the 20th century, cardiovascular disease accounted for less than 10% of global deaths, and by 2001, this number had reached 30% [2] Johnson & Johnson is a globally recognized healthcare corporation that consistently enhances standing and optimizes business processes its market via mergers and acquisitions. Johnson & Johnson announced the completion of the acquisition of Abiomed on December 22, 2022, aim at expanding its business scope in the cardiovascular field and enhance its strength in the medical technology field. In this article, Johnson & Johnson was chosen as the main research object and analyze the impact of Johnson & Johnson's acquisition of Abiomed in the healthcare field on the company's development and its role in the industry's development through studying the case of Johnson & Johnson's acquisition of Abiomed. The Porter Five Forces model was used by the paper's author to analyze acquisition reasons.

2. Case Analysis

One of the biggest manufacturers of medical supplies worldwide, Johnson & Johnson is mainly concerned with innovative medicine and medical technology. By developing novel medications and offering a range of medical supplies to address patients' diverse treatment requirements. Innovative medicine encompasses oncology, immunology, neuroscience, cardiovascular, pulmonary hypertension, and retina as therapeutic domains. The key areas of medical technology (MedTech) include plastic surgery, surgery, and healthcare vision [3]. After the outbreak of COVID-19, Johnson

& Johnson has jointly developed vaccines with several other companies, which has played a certain role in preventing infections and diseases [4].

The acquired party Abiomed is a company that develops artificial heart assist technology. Its core Impella Heart Pumps series products are the only percutaneous heart pump technology approved by the US Food and Drug Administration [5] and has been widely used in clinical practice. They are suitable for patients with severe coronary artery disease who requires high-risk PCI or treatment of AMI cardiogenic shock and strive for more treatment time for patients [6]. The BVS5000 developed by it is also approved by the US Food and Drug Administration for use in cardiac surgery. 500 patients have proved its safety, simplicity and effectiveness, and it causes fewer complications [7]. Before the merger of the two firms, Abiomed was the original developer of the artificial heart and had a great deal of success, with the company being named the fourth best stock of the 2010s by Barron's, leading the way in the field of the heart [8].

The largest and most diverse healthcare product firm in the world, Johnson & Johnson, stated on December 22, 2022, that it had successfully completed the acquisition of Abiomed. From now on, it will operate as an independent business of Johnson & Johnson's medical technology department. The acquisition price is approximately $16.6 billion, and all issued shares of Abiomed will be acquired in full cash, with a prepayment of $380 per share in cash. In addition, if certain commercial and clinical milestones are reached, Abiomed shareholders will also receive cash equity of up to $35 per share. It is one of the largest acquisition projects in the history of Johnson & Johnson. The completion of this acquisition can further expand Johnson & Johnson's market share in the cardiovascular market, contributing to its globally leading Biosense Webster electrophysiology business enhance cardiac recovery solutions, strengthen its clinical capabilities, and improve its competitiveness in the global healthcare market [9].

3. Analysis of M&A Motivation

3.1. The Suppliers' Bargaining Power

The bargaining power of a supplier depends on the uniqueness of the product. The bargaining power of suppliers defines the risk of suppliers threatening the company by raising the price of goods or services [10]. A balancing of bargaining power relative to both inside and outside suppliers determine the optimal organization mode for the firm [11]. When an integrated party negotiates with each of the other parties following a merger, it accepts the result of the negotiations with those parties as provided. As a result, the integrated party has a stronger backup plan because it is only partially jeopardizing its economic opportunity during each discussion. Insofar as this encourages the integrated party to bargain more daringly. It increases the share it can capture. We call this the fallback wealth effect [12]. Economies of scale can also be applied after mergers and acquisitions to boost profit margins.

The financial statements for the first three quarters of 2023 show that while overall performance increased, costs decreased, and sales performance increased steadily from the first to the third quarter. Sales cost percentage decreased over time, accounting for 33.9% of total sales in the first quarter and 31% in the third. Correspondingly, gross profit increased from 66.1% to 69% (It can be seen in the table1) [13]. In general, the trajectory of development is positive.

Table 1. Sales – cost – gross profit

	Q1 2023	% sales	Q2 2023	% sales	Q3 2023	% sales
sales to customers ($)	24746	100%	50276	100%	63764	100%
cost of products sold ($)	8395	33.9	16607	33	19755	31
gross profit	16351	66.1	33669	67	44009	69

We believe the related authors have granted us permission to use the paper for the relevant book or journal at the time of receipt. We believe the related authors have granted us permission to utilize the paper copyright when we received it.

3.2. The Bargaining Power of Buyers

The bargaining power of the buyer depends on the degree of differentiation and supply-demand relationship of the product. Buyers in the high-end medical device field have strong bargaining power. According to the Global Burden of Cardiovascular Disease and Risk Factors 1990-2019, the global mortality rate from cardiovascular disease has continued to rise since 1990, with the number of deaths increasing from 12.1 million in 1990 to 18.6 million in 2019 [14]. Asymmetric dependence between organizations is considered a source of power for trading partners [15], Abiomed's Impella Heart Pump technology is the only transdermal heart pump technology approved by the US Food and Drug Administration and has a leading position in the industry. The acquisition of Abiomed has improved Johnson & Johnson's product line, increased product uniqueness, and reduces the bargaining power of buyers.

3.3. The Threats of New Entrants

The threat of new entrants depends on the level of industry barriers. Significant barriers to entry exist in the healthcare business due to high costs associated with research and development (R&D) and strict government restrictions. Johnson & Johnson, the biggest healthcare product manufacturer in the world, it is at the forefront of the industry with strong brand awareness and loyalty. In March 2021, it developed a single dose COVID-19 vaccine, and it has been proved that the vaccine efficiency is 85% among people over 18 years old [16]. The successful development of vaccines further consolidates its industry position, and its market share has reached 11.3% by 2022, Abiomed’s Impella heart pump technology is also the only transcutaneous heart pump technology approved by the U.S. Food and Drug Administration. So, the threat of new entrants to Johnson & Johnson is small.

3.4. The Threats of Substitutes

The threat of substitutes comes from products with similar functions. Naturally, there is very little possibility that a replacement will emerge and jeopardize the original patent if the medication is still covered by its patent. After this time, though, rival companies in the sector are free to develop their own replacements and provide the market fresh choices. Differences in universal alternative regulations between states should also be considered. Regardless of the status, if the prescribing party clarifies “brand only” on the prescription, the substitution threat will be automatically eliminated [17]. Innovation is the result of a constructive process of redefining the internal and external boundaries of a firm through acquisitions, internal development, and business unit restructuring. Constant innovation can lessen the threat of substitutes. Analysts and managers have long recognized that innovation - which refers to the development of new goods and services for a company - can be achieved by leveraging existing resources within the company's business departments and acquiring new ones [18]. And leading technology and innovation is one of Abiomed's four principles, so it can provide great assistance to Johnson & Johnson in technology research and development, reducing the threat from substitutes.

3.5. Competition Rivalry

The threat of competition comes from existing competitors within the industry. The competition in the medical technology industry is fierce, as noted in our companion report, MedTech Trends to Watch in 2024. However, our analysts are optimistic that 2024 will bring a more favorable economic climate for MedTech competitors, noting that the macro trends remain positive [19]. Johnson & Johnson faces fierce competition in the industry, major expansions are underway at Pfizer research sites worldwide. A total of more than one million square feet of R & D laboratory space is being added to these global research sites. Under the current Chief Executive Officer, William Steere, R &

D annual investment has grown to over $2billion [20]. Currently, Johnson & Johnson ranks first among medical device companies with a market value of approximately $360 billion. However, in terms of revenue from its medical technology business, Medtronic, with a market value of approximately $100 billion, has surpassed Johnson & Johnson Medical Technology to become the world's largest medical device company. In 2023, Medtronic's revenue was $31.2 billion, while Johnson & Johnson Medical Technology's revenue was $30.4 billion, ranking second [21]. But after the merger and acquisition is completed, it can better leverage economies of scale, further enhance the strength of the enterprise, and improve competitiveness to cope with fierce competition in the market.

Johnson & Johnson may seek to increase its own market power through mergers and acquisitions by weakening the bargaining power of suppliers and customers, lessening the threat of new competitors and alternatives, strengthening its position in the cutthroat market, and stimulating the business's growth in the cardiovascular sector. At the same time, it gives Abiomed additional resources to assist it gain greater recognition, influence, and development chances. However, the company's performance fell short of expectations during the first phase of the merger and acquisition. While there was some improvement in overall performance, there was also some drop in the profit margin and some increase in product cost. Following a quarter of modification, both the product cost and performance started to decrease. Johnson & Johnson is currently benefiting from this acquisition, but there are some potential long-term threats as well. These include the management integration of the two companies, corporate culture conflicts, and the ability to adapt to changing market conditions and competition, all of which will require ongoing testing.

4. Financial Performance Research

In 2023, Johnson & Johnson annual sales of n reached 85.2 billion US dollars, a year-on-year increase of 6.5%, while in 2022, it only increased by 1.6%. Among them, the revenue of the medical equipment business (including the business after the acquisition of Abiomed) was 30.4 billion US dollars, a year-on-year increase of 10.8%. Abiomed contributed $1.306 billion in sales, accounting for 4.7% of the revenue from the medical equipment business [22]. This growth rate is significantly higher than the overall revenue growth rate of the company, indicating that the acquisition of Abiomed has a significant driving effect on the medical equipment business. The sales revenue of the innovative medicine department in 2023 was $54.8 billion (It can be seen in figure1), an increase of 4.2% compared to 2022, including 4.8% business growth, indicating Abiomed's contribution to Johnson & Johnson's performance growth in the cardiovascular field.

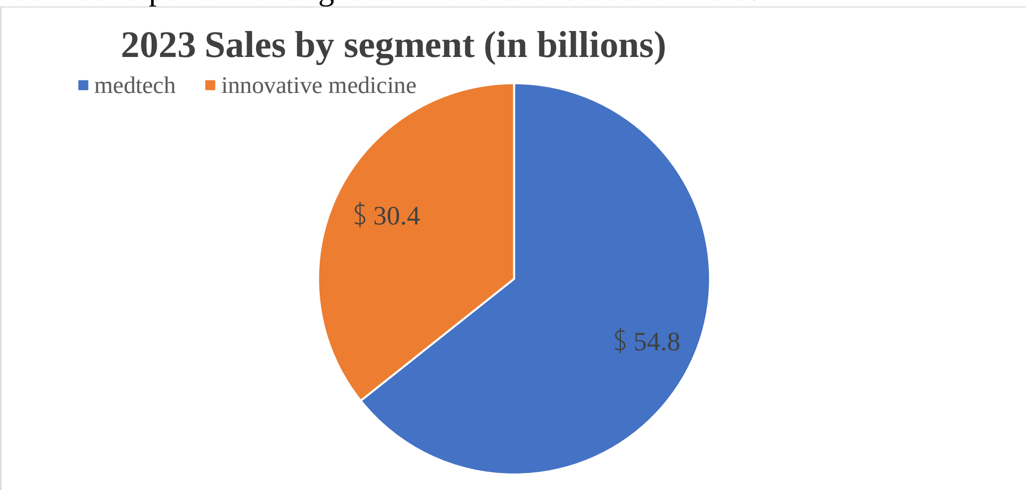

Fig. 1 2023 Sales by segment

Table 2. Sales results

dollars in billions regional sales results	Q1 2022	Q4 2022	Q12023
The US	11.4	12.5	12.5
International	12	11.2	12.2
Worldwide	23.4	23.7	24.7

As shown in the figure, after the completion of the merger, Johnson & Johnson's regional performance has shown varying degrees of growth. In the United States, the performance for the first quarter of 2023 was $12.5 billion, which was the same as the fourth quarter of 2022 but $1.1 billion higher than the $11.4 billion in the first quarter of 2022. Compared to the performance in the United States, the growth in international performance is not very significant, but international performance showed a decreasing trend in the four quarters of 2022: it was $12 billion in the first quarter of 2022, decreased to $11.2 billion in the fourth quarter of 2022, and rebounded to $12.2 billion in the first quarter of 2023(It can be seen in table2). The sales revenue of American companies in 2023 is about $46.4 billion, and in 2022 it is about $42 billion, indicating a growth of about 10.6% in 2023, which is a more significant increase compared to the 3.3% growth in 2022, International performance decreased by 0.2% in 2022 and increased by 1.9% in 2023. In 2023, global sales reached 85.2 billion US dollars, an increase of 6.5% [3].

After the completion of the merger, Johnson & Johnson's regional performance has increased to varying degrees and achieved global performance growth. With no great changes, but in the whole year of 2022 before this, Johnson & Johnson's quarterly performance growth was slow and even some areas had a downward trend, but after the completion of the merger in the fourth quarter, the performance began to pick up in 2023 and maintain an upward trend. Additionally, the deal is expected to increase Johnson & Johnson and Medtech's corporate earnings. However, Earning Per Share (EPS) will be diluted to neutral in the first year due to the impact of financing and other challenges. It is anticipated that EPS will grow to around $0.05 in 2024 and then continue to climb after that. The Abiomed acquisition not only injected new vitality into Johnson & Johnson's cardiovascular segment, but also improved its overall profitability and kept it on a healthy trajectory.

5. Summary

The market concentration in the healthcare sector is constantly increasing and developing in the same direction as other industries. The construction of the management superstructure is progressing smoothly, and competition is intensifying. But competition also has a significant impact on innovation, encouraging the development of new goods and more effective manufacturing techniques. This acquisition is a strong alliance between Johnson & Johnson and Abiomed. Through the acquisition of Abiomed, Johnson & Johnson has acquired advanced medical technology and equipment in the field of cardiovascular medicine, expanded its business scope, enriched its product line, enhanced its influence, and helped the enterprise achieve long-term sustainable development in the increasingly fierce market competition. It also provides valuable practical experience for mergers and acquisitions in the healthcare industry.

Numerous studies have also demonstrated the link between a nation's economic growth and health; higher public health promotes healthier life expectancies, which in turn boost labor productivity and quality. As a result, the growth of the healthcare sector helps to advance socioeconomic development.

On the other hand, from the market perspective. If two highly similar firms merge, the inevitable outcome is that some employees will lose their jobs since the wage cost is higher, this leads to problems with unemployment. This situation usually occurs in duplication. Culture clashes could also be a fundamental problem. A company usually has a unique culture developing since its incipiency. Employees and managers from both firms and their activities may not integrate as well as expectancy. Employees might not like this action either, which may breed hostility and anxiety [8]. However, the transaction was finalized more than a year ago, and Johnson & Johnson's performance has also been rising consistently, which may suggest that the merger was effective. However, to achieve long-term sustainable development of companies, we also need to be completely prepared to cope with hazards. However, the transaction was finalized more than a year ago, and Johnson & Johnson's performance has also been rising consistently, which may suggest that the merger was effective. However, to achieve long-term sustainable development of companies, we also need to be completely prepared to cope with hazards.

References

[1] Roth, G. A., Johnson, C. O., Abate, K. H., Abd-Allah, F., Ahmed, M., Alam, K., ... & Global Burden of Cardiovascular Diseases Collaboration. (2018). The burden of cardiovascular diseases among US states, 1990-2016. JAMA cardiology, 3(5), 375-389.

[2] Gaziano, T., Reddy, K. S., Paccaud, F., Horton, S., & Chaturvedi, V. Cardiovascular disease. Disease Control Priorities in Develo** Countries. 2nd edition. 2006

[3] https://www.jnj.com/

[4] Patel, R., Kaki, M., Potluri, V. S., Kahar, P., & Khanna, D. (2022). A comprehensive review of SARS-CoV-2 vaccines: Pfizer, Moderna & Johnson & Johnson. Human vaccines & immunotherapeutics, 18(1), 2002083.

[5] https://www.abiomed.com/en-us

[6] Weber, D. M., Raess, D. H., Henriques, J., & Siess, T. H. O. R. S. T. E. N. Principles of Impella cardiac support. Cardiac Interventions Today, 3-16. 2009

[7] Jett, G. K. ABIOMED BVS 5000: experience and potential advantages. The Annals of thoracic surgery, 61(1), 301-304. 1996

[8] Yao, Y. Analysis of Mergers and Acquisitions (M&A) in medical industry. Finance & Economics, 1(5). 2024

[9] Jake Sargent, Rachel Hooper, Jessica Moore, Sarah Wood, Johnson & Johnson Completes Acquisition of Abiomed, dec-22-22.pdf (q4cdn.com)

[10] Dälken, F. Are porters five competitive forces still applicable? a critical examination concerning the relevance for today’s business (Bachelor's thesis, University of Twente). 2014

[11] Stenbacka, R., & Tombak, M. Make and buy: Balancing bargaining power. Journal of Economic Behavior & Organization, 81(2), 2014, 391-402.

[12] Chae, S., & Heidhues, P. (2004). Buyers' alliances for bargaining power. Journal of economics & management strategy, 13(4), 731-754.

[13] Tesia Williams, Jessica Moore, Johnson & Johnson Reports Q1 2023 Results, 1Q23-Press-Release_Final_with-guidance_with-attachments.pdf (q4cdn.com)

[14] Roth, G. A., Mensah, G. A., Johnson, C. O., Addolorato, G., Ammirati, E., Baddour, L. M., ... & GBD-NHLBI-JACC Global Burden of Cardiovascular Diseases Writing Group. Global burden of cardiovascular diseases and risk factors, 1990–2019: update from the GBD 2019 study. Journal of the American college of cardiology, 2020, 76(25), 2982-3021.

[15] Cho, W., Ke, J. Y. F., & Han, C. An empirical examination of the use of bargaining power and its impacts on supply chain financial performance. Journal of Purchasing and Supply Management, 2019, 25(4), 100550.

[16] Long, H. Accounting Analysis. 2023

[17] Headley, H., Peterkin, L., Nyffeler, R., Wiemers, J., & Birkholtz, B. Johnson & Johnson Strategic Audit. 2023

[18] Alston, K., & Roberts, J. P. Partners in new product development: SC Johnson and the alliance for environmental innovation. Corporate Environmental Strategy, 1999, 6(2), 110-128.

[19] Ross, V., Christian, P., & Menon, A. S. Neurostimulation devices. Medical Technologies to Watch in 2024: Five transformative areas of innovation, 2024, 21.

[20] Lombardino, J. G. A brief history of Pfizer Central Research. Bull. Hist. Chem, 2000, 25(10).

[21] Qian Tongxin. Johnson & Johnson medical strategy adjustment cardiovascular intervention field set off a wave. China Business News, A10.doi : 10.28207/n.cnki.ndycj.2024.001632.3

[22] 2023 Annual Report, jnj4244661-ars.pdf (q4cdn.com)