Advances in Economics, Business and Management Research, volume 203
Proceedings of the 2021 3rd International Conference on Economic Management and Cultural Industry (ICEMCI 2021)

DuPont Analysis on the Financial Capacity of Midea and Gree Company

Xuliang Li[1,*]

[1] Beijing Institute of Technology Bryant Program, China, Zhuhai, 510075
*Corresponding author. Email: 13533305063@163.com

ABSTRACT
On 4 July 2015, GMCC Meizhi, the world's largest air conditioning compressor company, and Welling Motors were integrated into Midea. It ranked as the 481st place on the Fortune Global 500 list for the first time and 307th place in 2020. After 33 years of development, GREE Group was established in March 1985 and has become one of the largest and strongest enterprise groups in Zhuhai, it forms a comprehensive development pattern in these three main aspects: industry, real estate and petrochemical. This paper analyzes the financial capacity of company Midea and Gree based on the DuPont analysis. The result shows that both companies have roughly the same profitability and underlying growth in value. Through analysis based on the DuPont analysis, we can understand the competitiveness of the two companies in the market from three dimensions (NPM, AU, EM), so as to judge the market strategy and intrinsic value of the two companies more comprehensively.

Keywords: *Financial capacity, Midea, Gree, DuPont analysis*

1. INTRODUCTION

In recent years, more and more people try to learn the course "Financial statement Analysis", which hope to find the intrinsic value and profit in a company through the financial statement analysis, so as to find value stocks in the equity market, and then create wealth. The course contains more knowledge about the financial ratio analysis, and financial ratio analysis of the systematic comes from the DuPont analysis system. DuPont analysis system effectively shows investors the company's competitiveness in the market from three dimensions and screens out companies with intrinsic value. Based on DuPont analysis, this paper will compare and analyze the competitiveness and intrinsic value of Midea and Gree in the market.

1.1. Midea

Founded in 1968 in Shunde, China, Midea company now is headquartered in Beijiao New Town, Shunde, Guangdong. Midea is a technology group with around 200 subsidiaries, more than 60 overseas branches and 10 strategic business units in the world, as well as being the most significant shareholder of the KUKA Group in Germany [1]. The Group's businesses include consumer appliances, mainly refrigerators, kitchen appliances, washing machines and various small home appliances.

Midea Group was listed on the Shenzhen Stock Exchange On September 18, 2013. In 2019, it ranked the first in China's home appliance industry with about 278.2 billion yuan earnings [2]. Because Midea's slogan is "Perfect Technology, Perfect Life", it avows that Midea has put a lot of effort and development research to ensure that it can produce devices with innovative technology to make consumers' life more comfortable [3]. On September 29, 2018, Midea Real Estate aimed to raise as much as HK$3.87 million, or about $496 million for IPO. Xiangjian and his family would still hold over 80% of the company stocks after the listing [4]. On December 11, 2020, Midea Real Estate officially entered into the lift business after acquiring Linwang Elevator. On December 24, it acquired the Thailand company Hitachi compressor plant, which lays out the global industry. In 2020, Midea's share price hit a record high price, with a total market value of $107.02 billion [5].

1.2. Gree

Founded in 1991, Gree Electric Appliances was listed in Shenzhen Stock Exchange on November 1996. At the start of its establishment, the company depended on the assembly and production of household air conditioners.

But today, it has developed the large international cooperation. The company has more than 90,000 employees in 14 production bases domestic and abroad, these bases are located in Shijiazhuang, Zhuhai, Hefei, Zhengzhou, Hangzhou, Wuhan, Wuhu, Changsha, Chongqing, Chengdu as well as Pakistan and Brazil [7].

With a rapidly increasing population and accelerating urbanization, Gree group expects the global demand for room air conditioners to increase from 1.2 billion units in 2016 to 4.5 billion units by 2050. When the government and people effectively promote and apply climate-friendly cooling solutions, 100 billion tons of CO_2 equivalent emissions will be avoided, which helps the world mitigate global warming of more than 0.5℃ by 2100, while improving the quality of life for people living in hot and humid climates [6].

Gree group insist on improving the quality of the products first, it abides by the aim of integrity management, insist on customer-oriented, strictly focuses on the quality source control and system construction. According to the statistics released by the *Academy of Winning The Bid*, Gree's customer satisfaction and loyalty have been No.1 in the industry for nine consecutive years since 2011. In 2018, the company won the third "China Quality Award". In 2019, the *Quality Management Innovation Cycle Guide* based on customer demand, which Gree participated in drafting, was approved as a national standard [7].

Adhere to the tenet of quality first, integrity management and customer-centered, and strictly grasp the quality source control and system construction. In Accordance with the statistics released by the Academy of Winning The Bid, since 2011, Gree's customer satisfaction and loyalty have ranked first in the industry for 9 consecutive years. It won the third "China Quality Award" in 2018. The guideline for *Quality Management Innovation Cycle* based on customer needs drafted by Gree was approved as a state standard In 2019 [7].

2. DUPONT ANALYSIS

With the return on net assets as the core financial indicator, DuPont analysis provides a systematic and comprehensive analysis of a company's profitability through the internal linkage of financial indexes, with a very distinctive hierarchical structure, DuPont analysis is a typical method of using the relationship between financial indexes to conduct a comprehensive analysis of a company's finances.

2.1. Net profit margin (NPM)

NPM is the relationship between the net profit achieved by a company and its sales revenue, and is used to measure the ability of a company to obtain sales revenue in a given period. This index reflects how much operating profit can be realized. NPM reflects the amount of net profit generated per dollar of sales revenue and indicates the level of sales revenue.

2.2. Asset turnover ratio (AU)

AU is referred to as the ratio of total turnover to total assets, it is a quite important index to examine the operational efficiency of a company's assets, which reflects the flow speed of all assets from input to output during the company's operation, and the quality of management and efficiency of the use of all assets of the company.

2.3. Equity multiplier (EM)

The EM is defined as the total assets equal to the multiple of shareholders' equity. A larger equity multiplier shows that the owner's capital invested in the company is a smaller percentage of total assets and the company is more indebted; in contrast, a smaller ratio indicates that the owner's capital invested in the company is a larger percentage of total assets and the company is less indebted and the creditor's equity is more protected.

2.4. Return on net assets (ROE)

The ROE is defined as the percentage of net profit to average shareholders' equity. This index shows the return rate of shareholders' equity and measures the efficiency of a company's use of its capital. The higher value shows a higher return on investment. The index reflects the ability to earn a net profit with the capital.

3. DUPONT FORMULA

Return on net assets (ROE)= Net asset margin (net profit / total assets) * equity multiplier (total assets / total equity capital)

Net asset margin (net profit/total assets) = net sales margin (net profit/total operating income) * asset turnover ratio (total operating income/total assets)

Return on net assets (ROE) = Net sales margin (NPM) * Asset turnover ratio (AU) * Equity multiplier (EM)

Table 1. Midea Group business data in June 30, 2020

Midea Group business data in June 30, 2020	
Return on equity	13.17%
Weighted return on equity	13.03%
Asset-liability ratio	66.43%
Equity Multiplier	2.98
Return on total assets	4.42%
Total liabilities	222.301billion
Total assets	334.663billion
Total owner's equity	112.362billion
Net profit margin on sale	10.12%
Total assets turnover	0.44

Table 2. Midea Group business data in September 30, 2020

Midea Group business data in September 30, 2020	
Return on equity	19.86%
Weighted return on equity	20.35%
Asset-liability ratio	68.72%
Equity Multiplier	2.92
Return on total assets	6.80%
Total liabilities	230.314billion
Total assets	350.443billion
Total owner's equity	120.129billion
Net profit margin on sale	10.24%
Total assets turnover	0.66

Table 1 shows the ROE in Midea from the third quarter in the financial report. Table 2 shows that ROE in Midea from the fourth quarter in the financial report. It can be seen that ROE is increasing, it's not hard to tell us the return on shareholder's equity is increasing, it can give shareholders more money than before and a company's use of its capital becomes more efficient. Because ROE is composed of three parts.

Firstly, the Midea enterprise's monetary capital increases substantially, nevertheless its long-term loan is higher, needs to focus on. The equity multiplier is going up, which means the debt is increasing in Midea, it brings more risk than before. A larger equity multiplier shows that Midea's capital invested in the company is just a smaller percentage of its total assets and a bigger proportion of debts. Midea Group should decrease the debts by reducing the financial leverage and decrease the long-term loan higher to protect the shareholder's legal rights.

Secondly, net sales margin in Midea is decreasing from the third quarter to the fourth quarter, because NPM is correlated with the net profit and its sales revenue. The Midea enterprise has a decreasing ability to obtain their sales revenue in a given period time, and it measures the net profits generated per dollar of sales is decreasing because Midea enterprise has a significant increase in selling expenses, finance expenses, administrative expenses, maybe the sales revenue is obtained but the net profit still decreases, so Midea company can be encouraged to focus on improving management and profitability while expanding sales.

The asset turnover ratio is decreasing during the given period of time. The enterprise may have a slower speed of the all assets flow from input to output in the operation of the company. The management and efficiency of the use of all assets of the enterprise may not work at all. Therefore, the current turnover speed of the total assets of Midea Group is slow. The sales capacity is weak and the utilization efficiency of assets is slow. From the above analysis, it is not difficult to know that the operational capacity of Midea Group remains stable and its operating efficiency improves. Growth ability to maintain stability, operating performance under significant pressure. The ability to pay debts remains stable, and short-term debt risks exist but can be controlled. The operating capacity remains stable, and the efficiency of capital utilization declines. The ability to maintain cash flow is stable and the ability to sustainably operate has deteriorated.

Table 3. Gree Group business data in June 30, 2020

Gree Group business data in June 30, 2020	
Return on equity	5.56%
Weighted return on equity	5.57%
Asset-liability ratio	59.27%
Equity Multiplier	2.45
Return on total assets	2.27%
Total liabilities	167.543billion
Total assets	282.702billion
Total owner's equity	115.159billion
Net profit margin on sale	9.24%
Total assets turnover	0.25

Table 4. Gree Group business data in September 30, 2020

Gree Group business data in September 30, 2020	
Return on equity	11.68%
Weighted return on equity	11.74%
Asset-liability ratio	57.57%
Equity Multiplier	2.36
Return on total assets	4.95%
Total liabilities	157.882billion
Total assets	274.222billion
Total owner's equity	116.340billion
Net profit margin on sale	10.96%
Total assets turnover	0.45

Table 3&4 shows that the Gree enterprise's profitability. ROE shows a significant decreasing from the third quarter to the fourth quarter. The return on shareholder's equity Gree enterprise gives is decreasing, and the company's use of its capital becomes less efficient. We can have the same method to analyze the ROE from three aspects.

In terms of the equity multiplier of this company. It is increasing during the given period of time, which means the Gree enterprise has more debt than before. The larger equity multiplier means that the Gree is a smaller proportion of total assets and a bigger proportion of debts. So Gree should reduce the risk of high debt by paying dividends to shareholders and reducing corporate leverage.

The net sales margin has a slight drop, the Gree enterprise meets some troubles to obtain their sales revenue. It measures the net profits generated per dollar of sales is decreasing. The Gree may improve their management and sales revenue efficiently so that it can obtain their sales revenue, they can reduce irrelevant fees to increase their net profit.

In a given period of time, the asset turnover rate is declining because it reflects the cycle speed of all assets from input to output in the process of enterprise operation. It reflects the management quality and use efficiency of all assets of the enterprise. Gree Group's total asset turnover ratio is low and has been at a low level for a long time. So it should take steps to improve the use efficiency of various assets, dispose of redundant and idle assets, increase sales revenue and improve the turnover ratio of total assets.

From the above analysis, the Gree group have some drawbacks at that time such as operating ability weakened. Total assets profitability and growth ability have fallen dramatically. The company size from expansion into contraction, debt paying ability to maintain stability, timely repayment of current liabilities can guarantee that the operation ability keeps stable and capital takes up. Companies are less efficient in using capital.

4. THE PROFITABILITY OF MIDEA AND GREE

The absolute gap between the two is obvious. In terms of ROE, in the fourth quarter financial report, the ROE of Midea reaches 19.86%, while that of Gree reaches 11.68%. Among them, in the net interest rate of product sales, Midea wins in asset turnover. Gree's net profit margin on sales is 10.96%, compared with 10.24% in the same category. However, Midea's asset turnover rate is 0.66, while Gree's is only 0.45. In terms of equity multiplier, the two are similar, Gree's is 2.36 and Midea's is 2.92. Behind the financial difference, the property of the business product target should be taken into consideration. As for the air conditioner, Gree's gross profit margin is naturally higher, but as for Midea's washing machines, electric cookers and other small home appliances, the speed of sales and turnover must be better.

Table 5. The comparison between Midea and Gree's profit

	Latest closing date	Total value (ten thousand yuan)	ROE (%)	Total income (ten thousand yuan)	Retained profits (ten thousand yuan)
Midea Group	2019/2/15	29767574.28	25.63	24050246.8	1728368.9
Gree	2019/2/15	25717249.5	37.51	14850651.62	2240157.62

Table 5 shows that, in terms of the profit scale of both, Gree Electric Appliances is slightly better for the time being. In terms of market value comparison, Midea Group is about 40 billion yuan higher than Gree Electric Appliances. In addition, it is worth noting that Gree Electric Appliances shares, seems to be a bit more active than the United States group. The beta was 1.34, slightly higher than Midea's 1.26. These ways can help Gree attract more shareholders to buy their equities.

5. CONCLUSION

Based on DuPont's analysis of the Q3 and Q4 earnings, it can be seen that the strengths and weaknesses of Midea and Gree. Gree won its net profit rate on sales, and its net profit has been growing because its air conditioning business is its main profitable business, accounting for more than 70%. Midea Group is mainly engaged in electrical machinery, logistics and other fields, which is divided into four business segments, namely household electricity, small household appliances, electrical machinery and logistics. With a wide range of business, the asset turnover rate is naturally high, and the net profit rate on sales is therefore low. Both companies have roughly the same profitability and underlying growth in value. Investors can choose between two companies to invest in.

AUTHORS' CONTRIBUTIONS

This paper is independently completed by Xuliang Li.

ACKNOWLEDGMENTS

From topic selection, materials selection to the layout of this paper, all my writing process is under the guidance of the professor. I have deep appreciation to all professors who give me help and guiding in writing this paper.

REFERENCES

[1] Anonymous. Midea [Online] Available from: https://cn.bing.com/search?q=Midea&qs=n&form=QBRE&msbsrank=6_6__0&sp=-1&pq=midea&sc=6-5&sk=&cvid=6E65D39927814D60A5490F9A6BDC0B5B, Access 30th, July, 2021.

[2] Chinadaily.com.cn (2020) Midea named most valuable appliance company worldwide [Online] Available from: http://global.chinadaily.com.cn/a/202010/14/WS5f8669bea31024ad0ba7e9c2.html, Access 30th, July, 2021.

[3] Anonymous. Products and Services of Midea [Online] Available from: https://us-reviews.com/online-shop/midea-reviews-experiences-opinions-complaints, Access 30th, July, 2021.

[4] forbes.com (2018) Midea Billionaire Family's Fortune May Climb On Real Estate IPO In HK [Online] Available from: https://www.forbes.com/sites/russellflannery/2018/09/29/midea-billionaire-familys-fortune-may-climb-on-real-estate-ipo-in-hk/?sh=72443f6cf590, Access 5th, August, 2021.9.6.

[5] Anonymous. Market cap history of Midea from 2013 to 2021 [Online] Available from: https://companiesmarketcap.com/midea/marketcap/, Access 30th, July, 2021.

[6] finance.yahoo.com. Leading AC Manufacturer Gree Named "2021 Global Cooling Prize" Grand Winner [Online] Available from: https://finance.yahoo.com/news/leading-ac-manufacturer-gree-named-162500966.html, Access 5th, August, 2021.

[7] Anonymous. About Gree [Online] Available from: https://global.gree.com/channels/101.html, Access 5th, August, 202.