

Study on Financial Analysis and Optimization Measures of Midea Group

Jun Zhang*

School of Economics and Management, Southwest Petroleum University, Chengdu 610500, China

* Corresponding author

Abstract: The development of home appliance industry is related to the quality of life of residents, so the healthy and stable development of home appliance enterprises is of great significance. As the leader of China's home appliance industry, the development of Midea Group plays a pivotal role in the overall development level of the home appliance industry. In the context of global epidemic spread and industrial transformation and upgrading, Midea Group is facing threats as well as opportunities. This paper analyzes Midea Group's three major statements and four major capabilities based on relevant financial data from 2016-2020, and the results show that the company's solvency and profitability are high, but its operating and development capabilities are weak. Based on this study, we propose optimization suggestions for its operating and development capabilities to provide reference for corporate development.

Keywords: Midea Group, Financial analysis, Response measures.

1. Introduction

The epidemic in early 2020 led to the introduction of control measures in many places and temporary production cuts and shutdowns in some areas, which affected the normal production and operation of upstream and downstream related enterprises. The production and sales of many home appliance and supply chain companies were affected, especially the demand for large home appliances suffered a large negative impact. The relevant state departments have issued a number of policy measures to stimulate residential home appliance consumption, such as the "old home appliance exchange" initiative, "on boosting bulk consumption focus on consumption to promote the release of rural consumption potential of a number of measures notice". With the support of various policies and the continuous adjustment of business strategies by home appliance companies themselves, the home appliance industry rebounded in 2021. According to statistics, the cumulative sales of all categories in the national household appliance industry for the year were 760.3 billion yuan, up 3.48% year-on-year, but the scale was lower than before the epidemic. With the emergence of the Internet of Things, big data, artificial intelligence and other emerging information technology, the transformation and upgrading of the home appliance industry relying on the above-mentioned technologies has begun, and smart home and smart appliances began to rapidly seize the market share of traditional home appliances. Midea Group has also made timely strategic layout adjustments and opened up the development and use of intelligent technologies. Financial issues have a profound impact on the company's transformation and upgrading, and are related to the success of the company's strategic adjustment, so it is significant to find and solve these problems for the company's development.

The analysis and optimization of corporate financial problems have always been a hot topic of academic research. By combing the research of domestic and foreign scholars, we found that the current research in this field can be divided into

the analysis and optimization of financial problems in a certain industry according to the scope, such as the analysis and optimization of financial problems in the construction industry, the analysis of the financial situation in the automotive aftermarket industry and the study of countermeasures and suggestions, the study of financial problems and countermeasures in real estate enterprises, etc.; and the analysis and optimization of financial problems for a certain enterprise, such as the analysis of financial problems in the construction industry, the analysis of financial problems in the automotive aftermarket industry and the study of countermeasures and suggestions, the study of financial problems and countermeasures in real estate enterprises, etc. financial problems analysis and optimization, such as thinking about the financial control problems of Fujian Tobacco, analysis and optimization of financial management problems of local urban investment companies, and research on optimization of capital structure problems of Suning Yunshang. The research results of domestic and foreign scholars have some significance, but there are few studies on the analysis and countermeasures for a specific enterprise financial problem in the home appliance industry, which cannot play a reference role for enterprises in the home appliance industry to find their own financial problems and formulate countermeasures and development strategies, while the home appliance industry is under the influence of the dual factors of environmental changes in the ministry and its own transformation and upgrading, and there is an urgent need for relevant research to support enterprises to optimize This paper analyzes the financial problems of Midea Group. This paper analyzes the financial problems of Midea Group and proposes corresponding countermeasures and development strategies based on the analysis results, in order to provide reference for the development of enterprises and the industry.

2. Company Overview

Midea is an international technology group covering Smart Home Business Group, Mechanical and Electrical Business Group, HVAC and Building Division, Robotics and

Automation Division, and Digital Creative Division, providing diversified product categories and services to customers. Among them, Smart Home, as the operating body of smart home appliances, smart home and surrounding related industries and ecological chain, undertakes intelligent scene building, user operation and data value mining for end consumers, and is committed to providing end consumers with the best experience of whole-house smart home and services; the company integrates R&D, production and sales of high-end products such as compressors, motors, chips, industrial control and heat dissipation components, and owns Meizhi The products have been widely used in home appliances, 3C, new energy vehicles, industrial automation and other industries; the HVAC and Construction Division focuses on providing energy, HVAC, elevator, control systems and other products and supporting products and services, and continues to develop new business models and

types, and strives to build an industry leader with core technology and manufacturing strength industry leader with core technology and manufacturing strength; the Robotics and Automation Division, which is dedicated to areas related to the factory of the future, including industrial robots, logistics automation systems and transportation systems, as well as solutions for medical, entertainment and consumer fields; Midea Group provides software services, unmanned retail and production services through the incubation of new businesses such as intelligent supply chain and industrial internet.

Midea Group has a leading industry position, and in 2020, the market shares of Midea Group's core products all increased compared to the same period last year. The offline and online market shares and rankings of Midea Group's major home appliances are shown in Tables 1 and 2.

Table 1. Company's offline market share and ranking of major home appliances in 2020

Category	Offline Share	Ranking
Household AC	33.8%	2
Washing machine	26.4%	2
Refrigerator	12.5%	2
Rice cooker	44.7%	1
Electric pressure cooker	45.1%	1
Induction cooker	48.8%	1
Electric heater	47.7%	1
Water dispenser	40.9%	1
Blender	35.6%	2
Microwave oven	44.4%	2
Electric oven	37.4%	2
Electric fan	37.9%	1
Electric kettle	39.6%	1
Electric water heater	18%	3
Dishwasher	10.2%	3
Range hood	8.8%	3

Table 2. Market share and ranking of the company's major home appliance product lines in 2020

Category	Online Share	Ranking
Air Conditioner	35.9%	1
Washing Machine	33.6%	2
Refrigerator	17.2%	2
Rice Cooker	30.6%	1
Pressure Cooker	42.4%	1
Induction Cooker	51.5%	1
Electric Heater	21.8%	1
Water Dispenser	22.4%	1
Water Purifier	14%	1
Microwave Oven	49%	1
Electric Oven	24.1%	1
Air Conditioner	35.9%	1
Electric fan	22.1%	1
Electric kettle	30.6%	1
Electric water heater	31.9%	1
Gas water heater	18.3%	2
Dishwasher	26.7%	2
Gas stove	13.2%	2
Range hood	17%	3
Food processor	11.9%	3

3. Financial Analysis

In order to analyze the financial problems of Midea Group in depth, this paper selects the financial data of the group from 2016-2020 and analyzes the balance sheet, income statement, cash flow statement and the four major capabilities of Midea Group, which are all obtained from the financial reports publicly disclosed by Midea Group on the official website of Shenzhen Stock Exchange.

(1) Analysis of financial statements

① Balance sheet

The balance sheet is the main accounting statement that represents the financial position (i.e. the status of assets, liabilities and owners' equity) of an enterprise at the end of each accounting period. The analysis of Midea Group's balance sheet in the past five years is helpful to judge the situation of its assets, liabilities and equity at the end of each period, as well as to understand the trend of changes in the main items of its balance sheet. The overall trend of the main items of the balance sheet of Midea Group from 2016 to 2020 is up, and the specific trend is shown in Figure 1.

The total assets and liabilities of Midea Group from 2016-2020 show an upward trend, indicating that the expansion of some of the Group's assets needs to be supported by debt, and to further understand the composition of the Group's debt, this paper analyzes its debt structure from 2016-2020 (see Table 3) and finds that short-term debt accounts for the major part of the Group's debt, with the proportion of short-term debt to total debt in each year reaching more than 70%. Thus, short-term debt dominates the expansion of the Group's total asset size supported by debt. Further analysis of its balance sheet

reveals that the reason for the dominance of short-term debt of Midea Group is that the company has withheld a large amount of "sales rebates" in order to promote product sales.

Midea's inventory holdings from 2016 to 2020 are relatively stable and do not vary significantly from year to year. Further analysis of its inventory structure (see Table 4) reveals that the Group's inventory capital is mainly occupied by inventory goods and raw materials, with inventory goods accounting for more than 60% of the inventory in each year, which is a typical feature of home appliance companies.

For home appliance manufacturing and sales enterprises, the good or bad of each receivable item formed due to sales determines the quality of its sales, so this paper analyzes the structure of notes receivable and accounts receivable of Midea Group from 2016 to 2020 (see Table 5), and finds that the proportion of notes receivable to items receivable of Midea Group from 2016 to 2018 is more than 30%, and notes receivable has stronger realization than accounts receivable ability, indicating that the quality of Midea Group's receivables in this time period is high; 2019-2020 Midea Group's notes receivable accounted for a larger decline, accounting for only about 18%, mainly because of the intense competition in the home appliance industry, enterprises actively expand sales thereby relaxing the credit policy, and the impact of the epidemic in 2020, home appliance consumer market demand further setback, resulting in a further reduction in the proportion of notes receivable. The ageing analysis of the accounts receivable of Midea Group for each year reveals that the Group's accounts receivable are of high quality, with accounts receivable aged below one year accounting for over 95% of the total for each year.

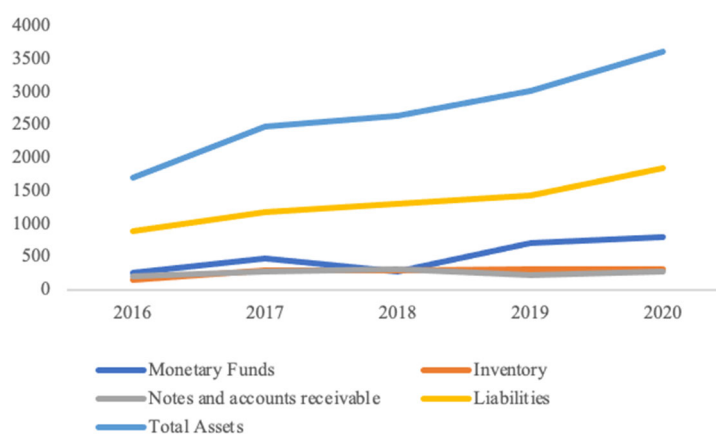


Figure 1. Trend of major items in the balance sheet of Midea Group, 2016-2020

Table 3. Debt structure of Midea Group 2016-2020

	2016	2017	2018	2019	2020
Current liabilities	87.76%	72.10%	76.04%	74.21%	77.98%
Non-current liabilities	12.24%	27.90%	23.96%	25.79%	22.02%

Table 4. Inventory structure of Midea Group, 2016-2020

	2016	2017	2018	2019	2020
Inventory goods	75.21%	68.70%	71.07%	76.26%	68.91%
Raw Materials	18.18%	22.16%	19.91%	17.33%	23.48%
Work-in-progress	5.07%	8.03%	7.93%	5.52%	5.95%
Contracted materials	1.51%	0.87%	0.93%	0.76%	1.66%

Table 5. Structure of receivable items of Midea Group 2016-2020

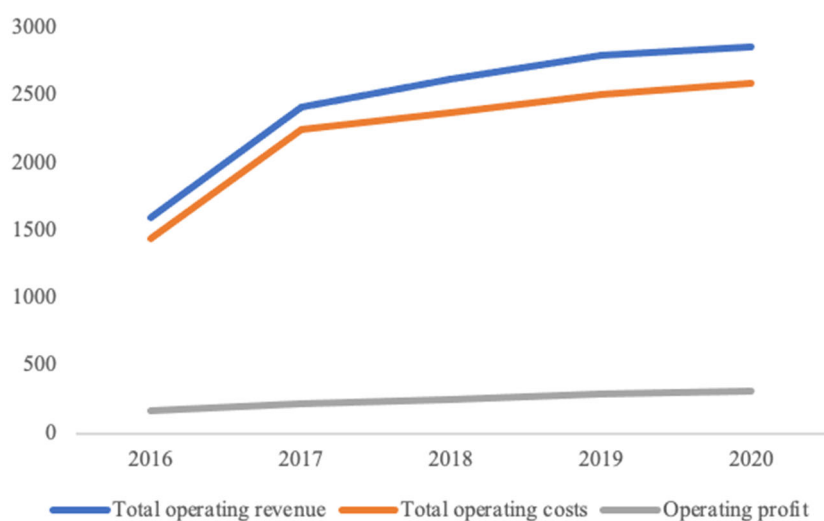
	2016	2017	2018	2019	2020
Notes receivable	34.35%	37.09%	38.13%	19.54%	18.19%
Accounts receivable	65.65%	62.91%	61.87%	80.46%	81.81%
Provision for bad debts	5.24%	4.79%	4.82%	4.93%	3.67%
Within one year	95.81%	97.41%	98.12%	97.64%	96.48%
One to two years	3.26%	1.45%	0.92%	1.54%	2.43%
Two to three years	0.47%	0.56%	0.43%	0.52%	0.67%
Three to five years	0.32%	0.36%	0.41%	0.21%	0.37%
More than five years	0.14%	0.23%	0.11%	0.09%	0.05%

② Income statement

The income statement is a financial statement that reflects the operating results of an enterprise for a certain accounting period. By analyzing the income statement of Midea Group from 2016 to 2020, we can grasp the trend of changes in the main items of the Group's income statement, the composition of operating income, etc., and form a preliminary understanding of the enterprise's operating profitability. The trend of changes in the main items of Midea Group's income statement from 2016 to 2020 is shown in Figure 2.

The total operating revenue and operating costs of Midea Group in the past five years have been on an upward trend,

but the rise in revenue exceeds the rise in costs, so the operating profit of the Group shows a steady rise. In order to understand the composition of Midea Group's operating income, this paper analyzes its income sources by industry, by product and by region (Table 6). By industry, over 90% of Midea's operating revenue in each year comes from manufacturing; by product, Midea's annual revenue mainly comes from ventilation, heating and air conditioning, consumer appliances, robots and automation equipment, while ventilation, heating and air conditioning and consumer appliances account for about 40% of revenue each year, while robots and automation equipment account for about 10% of revenue.

**Figure 2.** Trend of major items in the income statement of Midea Group, 2016-2020**Table 6.** Revenue Composition of Midea Group, 2016-2020

	2016	2017	2018	2019	2020
Total Operating Income		240,712,301	259,664,820	278,216,017	284,221,249
By Industry					
Manufacturing		91.87%	91.68%	91.40%	90.32%
By Product					
Heating and Air Conditioning		39.62%	42.13%	42.99%	42.65%
Consumer appliances		41.02%	39.66%	39.35%	40.07%
Robotics and Automation Systems		11.23%	9.89%	9.05%	7.60%
By Region					
Domestic		56.81%	57.48%	58.02%	57.40%
Overseas		43.19%	42.52%	41.98%	42.60%

③ Statement of Cash Flows

The cash flow statement mainly reflects the impact of each

item in the balance sheet on cash flow and is classified into three activity categories: operating, investing and financing according to their uses. Analysis of Midea Group's cash flow statement for 2016-2020 provides an understanding of the impact of the Group's activities on its cash flows. The main items of Midea Group's cash flow statement for 2016-2020 are shown in Table 7.

The net cash flow from operating activities of Midea Group in each year is relatively close to its total operating income in

the income statement, which indicates that the Group has a strong ability to collect cash from sales. The large amount of net cash flow from investing activities of the Group in the past five years is mainly due to the Group's purchase of fixed assets and foreign investment in each year, indicating that the Group has high-quality investment projects. 2018-2020 net cash flow from financing activities of the Group is negative because it has reduced the amount of borrowings and has distributed dividends and repaid borrowings in each year.

Table 7. Main items of the cash flow statement of Midea Group for 2016-2020

	2016	2017	2018	2019	2020
Cash Flow	267	244.4	278.6	385.9	295.6
Operating Cash Flow	-197.8	-347.4	-186.4	-231.1	-353.1
Investing Cash Flow	1.599	196.5	-133.9	-32.74	-7.563
Financing Cash Flow	2.526	-0.367	2.89	2.804	-3.834
Effect of Exchange Rate Changes on Cash and Cash Equivalents	73.26	93.18	-38.79	124.9	-68.93

(2) Analysis of four major capabilities

By analyzing the three major statements of Midea Group, we did not find any obvious financial problems, so this paper further analyzes its four major capabilities to further explore whether there are any problems in the solvency, profitability,

operational capability and development capability of the group.

The indicators used in this paper to measure the four major capabilities of Midea Group and their calculation formulas are shown in Table 8.

Table 8. Four major capacity measurement indicators and calculation formula

	Indicator	Calculation
Solvency	Current ratio	Net profit / Operating revenue
	Quick ratio	EBIT / Average total assets
	Asset-liability ratio	Net profit / Average shareholder's equity
Profitability	Operating net profit margin	Current assets / Current liabilities
	Total asset turnover rate	Quick assets / Current liabilities
	Return on equity	Total liabilities / Total assets
Operating Capacity	Accounts receivable turnover ratio	Operating revenue / Average accounts receivable balance
	Inventory turnover ratio	Operating costs / Average inventory balance
	Total asset turnover ratio	Operating revenue / Average total assets
Development Capacity	Operating revenue growth rate	Current period operating revenue growth / Previous period operating revenue
	Operating profit growth rate	Current period operating profit growth / Previous period operating profit
	Total asset growth rate	Current year total asset growth / Beginning of year total assets

① Solvency

Solvency refers to a company's ability to pay off its short-term and long-term liabilities with its own assets. The article selected the current ratio and quick ratio as the indicators of short-term debt capacity of Midea Group, and the gearing ratio indicator of Midea Group was selected. The trend of solvency of Midea from 2016 to 2020 is shown in Figure 3.

In the past five years, Midea Group's current ratio and quick ratio have shown a fluctuating downward trend, but they still remain at a normal level compared with other enterprises in the same industry, indicating that Midea Group has the ability to guarantee the repayment of short-term debts. Although Midea Group has a high gearing ratio, its short-term

debts account for the majority of its liabilities, and short-term debts are mainly composed of "withholding sales rebates", which are used in the home appliance industry to promote product sales. In order to promote product sales, the home appliance industry will reward dealers with high sales performance in the form of in-kind rebates. In essence, Midea Group converts the pressure of repaying debts with monetary funds into the pressure of repaying debts with inventories, which is conducive to reducing the pressure of corporate cash flow.

In summary, Midea Group has a strong debt-servicing ability.

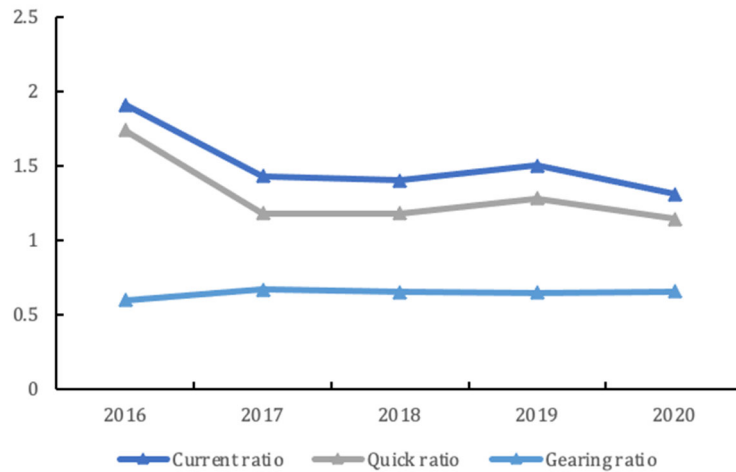


Figure 3. Trend of solvency indicators of Midea Group

② Profitability

Profitability refers to an enterprise's ability to obtain profits, which is expressed as the level of enterprise earnings in a certain period. In this paper, net operating margin, return on total assets and return on net assets are selected to measure the profitability of Midea Group (Figure 4).

The net operating margin reflects the ability of the enterprise's operating income to create net profit, and this indicator can also indirectly reflect the enterprise's cost control ability. As can be seen from Figure 4, the net operating margin of Midea Group has been showing an upward trend since 2017, indicating that Midea Group still has good cost control ability under the influence of rising raw material prices and epidemic. The return on total assets reflects the ability of the total assets of the enterprise to create profits, and in recent years, the return on total assets of Midea Group has

been on a downward trend, mainly because of the increase in raw material prices, which has led to the increase in the value of inventory, in addition, because the scale of the Group's assets has been expanding in recent years, which has also led to a decrease in the return on total assets to a certain extent. The return on net assets of Midea Group also showed a downward trend, mainly because the growth of the Group's shareholders' equity exceeded the growth of net profit, indicating that investors have a positive attitude towards the Group's future development prospects.

In summary, although Midea Group's return on total assets and return on net assets showed a decreasing trend, they still remained at a high level. Due to its strong cost control ability, the net operating margin showed an increasing trend, therefore, Midea Group has a strong profitability.

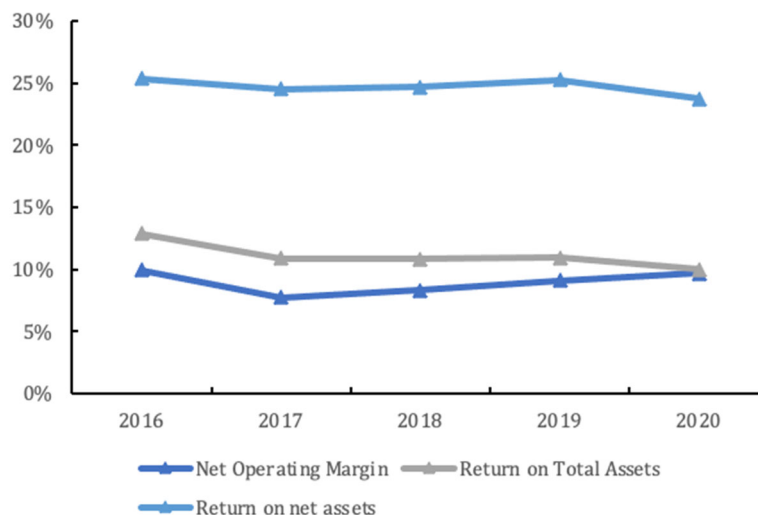


Figure 4. Trend of profitability of Midea Group

③ Operating Capacity

In general, the stronger the operating capacity of an enterprise, the faster its capital turnover, the more liquid its assets are, and the stronger its ability to rely on these assets for income. In this paper, we choose the accounts receivable turnover ratio, inventory turnover ratio and total asset

turnover ratio to measure the operating capacity of Midea Group (Figure 5).

From 2016 to 2020, Midea Group's accounts receivable fluctuates considerably, especially in 2018 when there is a relatively large decline, and rises in 2019 and 2020, but still does not recover to the 2017 level. In addition, the accounts

receivable turnover ratio of Midea Group is low compared with that of Gree Electric, another leading domestic home appliance company, indicating that the accounts receivable management ability of Midea Group still needs to be enhanced. 2016-2018, the inventory turnover ratio of the Group showed a decreasing trend, and after 2018, the inventory turnover ratio increased, indicating that the inventory management ability of Midea Group has been enhanced, but still has not recovered to the 2016 level. Midea

Group's total assets weekly turnover ratio in the past five years showed a decreasing trend, mainly because the Group's asset scale expanded faster than its revenue growth, but it also signaled that the Group needed to strengthen its overall operational capacity while undertaking scale expansion.

In summary, Midea's operating capacity is strong, but shows a downward trend and is overall lower than that of its competitor Gree Electric.

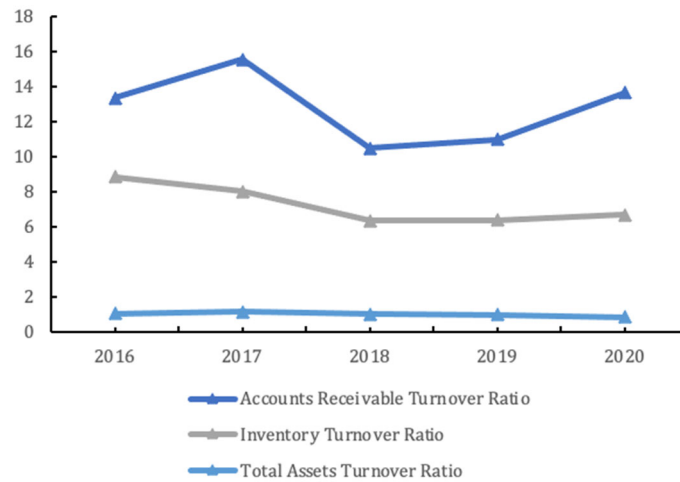


Figure 5. Trend of Midea Group's operating capacity

④ Development capacity

Development capacity, also known as growth capacity, refers to the potential ability of an enterprise to expand its scale and grow its strength. This paper selects the growth rate of operating revenue, operating profit and total assets to measure the development ability of Midea Group (Figure 6).

Overall, the development capacity of Midea Group fluctuates widely in each indicator. After 2017, the operating income growth rate of Midea Group shows a significant downward trend, especially in 2018 compared with 2017, down 51.27, and the operating income growth rate of the group in 2020 is only 2.16%. The reason for the significant decline in operating income is mainly due to the fact that market conditions in the home appliance industry have not been good in recent years, and the epidemic at the end of 2019

further impacted market demand and normal production and operation of enterprises. Midea Group's operating profit growth rate also showed a downward trend, but thanks to its strong cost control ability, the decline in operating profit growth rate was lower than the operating revenue growth rate. After a significant decline in 2018, Midea's total asset growth rate will show a strong growth trend again in 2019-2020, indicating that Midea is continuously expanding its scale and achieving the goal of intelligent transformation of the enterprise by increasing its assets.

In summary, the situation of Midea Group's development capacity in recent years is not optimistic, with a number of indicators showing a significant downward trend and difficulty in recovering the level before the decline.

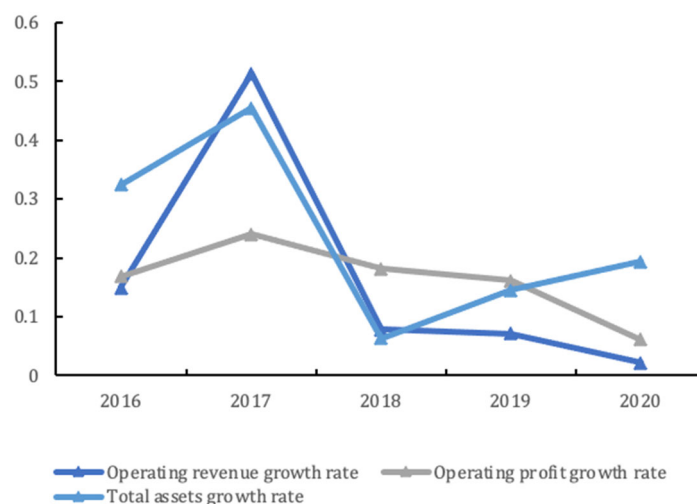


Figure 6. Trend of development capacity of Midea Group

4. Conclusions and Recommendations

Based on the financial data of Midea Group from 2016 to 2020, this paper analyzes its balance sheet, income statement, cash flow statement and four major capacities, and the conclusions and recommendations obtained are as follows.

(1) Midea Group has a strong solvency, but is affected by the fact that due to the Group's efforts to promote sales, it has increased the amount of withholding sales rebates, resulting in a declining trend of short-term solvency indicators. The Midea Group should pay attention to the impact of the policy on short-term solvency while implementing the sales rebate policy, although the rebate in the form of inventory, but may cause inventory pressure, affecting normal sales.

(2) Midea Group has strong profitability and cost control ability. Under the dual impact of the epidemic and the deterioration of the industry environment, the profitability of Midea Group indicators have declined, but the decline is not large, but still maintained at a high level, which relies on the company's good cost control ability. In addition, the company started earlier because of intelligent transformation, its anti-risk ability has been enhanced, in the same environment, its profitability is better than competitors in the same industry.

(3) The operating capacity of Midea Group is weak, and the indicators are on a downward trend, lower than its main competitor Gree Group. Midea Group is in the leading position in the home appliance industry, and should further improve its asset management ability, accelerate the flow of capital and stabilize its position in the industry.

(4) The growth capacity of Midea Group fluctuates greatly and needs to adjust its development strategy in time to stabilize its growth rate. In recent years, the growth capacity of Midea Group has dropped significantly in all indicators, and although the growth rate of total assets has shown a strong growth trend, it is still difficult to recover to the level before the decline. The Group should optimize its management style

in time to stabilize its growth capacity and achieve healthy and stable growth.

References

- [1] Gundes, Selin I ;Atakul, Nur I ;Buyukyoran, Faruk I .Financial issues in construction companies: bibliometric analysis and trends.[J].Canadian Journal of Civil Engineering, 2019,Vol.46(4): 329-337
- [2] Zhang Yanli. Research on financial analysis of construction industry enterprises [J]. Wealth Life,2020(24):54-55.
- [3] Sun Li. Problems and countermeasures of financial analysis of construction enterprises [J]. China township enterprise accounting, 2020(02):66-67.
- [4] Uwaoma Ironkwe; Ordu Promise A. An Analysis of International Financial Reporting Standards (IFRS) Issues Concerning Some Elements of Accounting in Oil and Gas Industries in Nigeria [J]. International Journal of Management Science and Business Administration,2015,Vol.1(9): 14-32.
- [5] Ruijun Feng. Financial accounting problems and countermeasures of real estate enterprises [J]. Taxation, 2021, 15(33): 111-112.
- [6] Zhu Jing. Problems and countermeasures of financial cost management of real estate enterprises[J]. China Small and Medium Enterprises,2022(01):84-85.
- [7] Fu Jun. Research on financial management problems and countermeasures of real estate enterprises [J]. Popular investment guide, 2022 (02):110-112.
- [8] Chen Liping. Reflections on the financial control of Fujian tobacco [J]. Business Watch, 2021(18):73-75.
- [9] Lei Sheng. Analysis of financial management problems and optimization strategies of local urban investment companies [J]. Enterprise Reform and Management,2021(10):193-194.
- [10] Su Jian,Jiang Shan. Capital structure problems and optimization measures of Suning Yunshang Group[J]. Mall Modernization, 2021(09):186-188.