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Financial Analysis and Strategic Forecast of Volkswagen

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Abstract: As one of the important components of world economic development, the automobile industry has broad prospects. The automobile industry is the future direction of development, with the improvement of living standards, the demand for buying cars is also increasing. Therefore, the market demand for automobiles remains high, which also drives the development of the later service market. Moreover, even though the automobile industry is a highly competitive industry, it is also an industry with rapid development. As one of the leaders in the automotive industry, Volkswagen has attracted the attention of many investors. This paper mainly analyzes the 2022 fiscal year of Volkswagen, including whether the accounting policy conforms to the operational background, compares the profitability, solvency, and operational ability of Porsche, Honda, BMW, and Mercedes-Benz, and pays attention to the future development prospects of Volkswagen, and draws the conclusion that Volkswagen is a company worth investing in for the investors.

Keywords: accounting analysis, performance evaluation, strategic forecast

1. Introduction

Volkswagen (VW), founded in 1938 in Wolfsburg, Germany, has grown to become Europe's largest automobile industry and the world's most powerful multinational enterprise. VW currently has over 500 suppliers, agents, and after-sales service networks in over 80 countries and regions, with the goal of supplying excellent automotive products and services to customers all over the world. VW is Germany's largest automaker, with 33.29 million vehicles sold in 2012. Volkswagen ranked first among passenger car businesses worldwide in 2012. VW is the world's largest carmaker and the world's second largest. The company's primary business scope consists of three aspects: (1) buses and light vehicles; (2) commercial vehicles; and (3) mechanical engineering, which refers to the technical services in the construction and maintenance of aviation and ships, and the sales of automobiles and engines. In 2004, VW sold 5 million cars to consumers throughout the world. There are 68 completely owned or holding companies for the Volkswagen Group globally. Its range of commercial activities includes R&D, manufacturing, sales, logistics, services, leasing, finance, vehicle insurance, banking, and information technology.

With the increase in vehicle ownership, how to manage and maintain vehicles efficiently, environmentally friendly, and at low cost has become an important issue for the global automotive industry [1]. Meanwhile, with the rapid development of new energy vehicles, the transformation and upgrading of traditional vehicles to new energy vehicles has become the direction of the joint efforts

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of the global automobile industry [2]. On March 17, 2020, at the successful end of the 2019 financial year, Volkswagen held an online earnings conference to announce the performance of its brands in the 2019 financial year. Mr. Diess, Chairman of Volkswagen AG, said: "2019 was a great success for Volkswagen AG and it provided us with a great change. 2020 will be a difficult year, with COVID-19 posing unforeseen challenges to our business and finances, as well as continuing shocks to the economy" [3].

Volkswagen Group's sales revenue will have increased by 11.6% to 279.2 billion euros in 2022. Operating profit before special items increased by 2.5 billion euros from 2021 to 22.5 billion euros, while operating return on sales before special items rose from 8.0% to 8.1%. In 2023, the Volkswagen Group expects to deliver 9.5 million vehicles, with sales revenue rising by 10 to 15% annually. Additionally, the Volkswagen Group predicts that in 2023, the business' operating return on sales would be between 7.5 and 8.5 percent [4]. Under the effect of excessive inflation, supply chain insecurity, and other issues, the global car business has traveled through a bleak 2022. Despite the fact that the transformation of automobile firms is near, the chain reaction of economic insecurity has allowed some enterprises to have no breathing room and thus expedite their elimination in the reshuffle. Volkswagen Group is one of the rare companies that has deviated from the norm. Despite unprecedented problems in the global automotive market, the Volkswagen Group achieved respectable results in 2022, with outstanding performance in new car deliveries and operating profit. The Volkswagen Group's solid strategic framework and consistent strategy execution provide the foundation for favorable performance. The strong financial performance has also laid a solid foundation for the group's development in 2023, particularly in the areas of electrification and digitalization, with more sufficient development confidence.

2. Accounting Analysis

2.1. Revenue Recognition

In 2022, the Volkswagen Group's sales reached 279.2 billion euros. However, its business is complicated because its revenue is derived from sales, financial services, interest, and commissions, as well as a wide range of products and services. Furthermore, the amount of sales in the profit and loss account is critical since it has a considerable impact on standard investor measurements such as operating profit (OP), pre-tax profit (PBT), and net profit (NI). Analysts will offer the Volkswagen Group enormous value if income is not properly recognized and measured, and poor investments will be made. As a result, significant judgment is required when measuring and recognizing income [5].

Sales revenue, interest and commission from financial services, and other operating income must all be recognised by the business when the client gains possession of the goods or services; however, when selling vehicles, performance must take place at the time of delivery, and trade receivables must be recognized during the time between delivery and payment [5]. While sales income from operating leases is recognized on a straight-line basis, sales revenue from financing and finance leasing arrangements is recorded using the actual equity method. Revenue must be recorded by the business as a percentage of the entire expected contract cost over the course of the contract and on a straight-line basis. Compared with peers, the revenue recognition of BMW and Mercedes-Benz is more detailed than that of Volkswagen, but the revenue sources are basically the same, while the revenue recognition of Porsche is roughly the same as that of Volkswagen [6, 7]. Therefore, the revenue recognition accounting policy of Volkswagen is reasonable and comparable to that of its peers.

2.2. Goodwill

For goodwill, brand, equity, etc. recognized in the financial report, it is possible that goodwill's carrying value exceeds its recoverable value, so it is necessary to recognize significant impairment

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losses. VW has to do tests at least once a year to assess its potential cash production, regardless of whether its reputation or the value of its trademark will suffer. VW also conducts regular tests on equity investments. In the future development process. As the corporation transforms its business practices, VW will take into account any potential effects that climate change may have on future cash flow. According to Volkswagen, a non-cash loss occurs when the asset's recoverable value is less than the value recorded on the company's books. For example, higher interest rates or a souring business outlook can lead to write-downs [5].

According to the consistent accounting principles followed by the Volkswagen Group, the assets, and liabilities of both German and international companies are recorded [5]. The same accounting principles are typically used for businesses that account for utilizing the equity method. In the case of limited subsidiary firms, the assets, and liabilities of the limited subsidiary companies are typically measured at the fair value on the purchase date. Every year, the carrying amount is put through an impairment test to see whether it can be recovered; if it can't, a loss due to impairment is recorded in the subsidiary book. The Mercedes-Benz Group also identifies goodwill as one of its key accounting policies, in the first step identifying the respective recoverable amounts as use-value and comparing them to their respective carrying values (including goodwill) [6]. Goodwill has an important impact on the financial reporting of the Volkswagen Group and requires more accurate estimation and management judgment.

2.3. Pension Arrangements

The Volkswagen Group offers its employees a modern and attractive retirement system. According to IAS 19, Volkswagen mainly provides pensions for German employees, which are classified as "fixed benefits". A large portion of this debt is totally financed under customary conditions. Most of these programmes are currently closed to new participants. Volkswagen has recently created a number of new fixed-income schemes, where the benefits are obtained from suitable external scheme assets, in order to decrease the risks associated with fixed-income schemes, including longevity, wage growth, and inflation [5].

Volkswagen Group of companies provides occupational pensions, making contributions to state or private pension schemes under defined contribution and defined benefit schemes, while also making pension costs to the state or private pension schemes to guarantee the fulfillment of future obligations. The Volkswagen Group has multi-employer pension plans in the UK, Switzerland, Sweden, and the Netherlands, a small portion of which is calculated as a defined contribution plan. The Volkswagen Group is not liable for the obligations of other employers related to these defined benefit plans, some of which are also calculated as defined contribution plans. The expected contribution of these programs will amount to $26 million. Volkswagen Group produced 2.846 billion cars in total during the fiscal year 2022 (a decrease from 2.66 billion the year before). Germany contributed $1,854 million (up from $1,825 million) of this total to the required state pension system [5].

3. Performance Evaluation

3.1. Liquidity

According to Table 1, it can be seen that the realization ability of the assets of Volkswagen Group is strong. That means short-term solvency is strong. Compared with the other four enterprises, the current ratio of Volkswagen Group ranks higher, indicating that Volkswagen Group has good operating conditions, effective use of cash, no overstock, good financial management, and high efficiency in the use of funds. The current ratio of Volkswagen is 1.24, which is relatively high compared with its peers, indicating that the current assets of Volkswagen can be repaid in the short-

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term debt period, and there is no need to worry about the capital turnover of Volkswagen in the short term. Although it can be found in the financial statements that Volkswagen's inventory accounts for a relatively high proportion of current assets, it can be seen from the calculation and comparison of the quick ratio that Volkswagen's quick ratio is also ranked in the top. Therefore, in addition to the possibility of slow realization caused by unsalable inventory, Volkswagen has a strong ability to realize current assets and repay current liabilities.

Table 1: Liquidity ratios of VW and its competitors [5-9].

Name	Current ratio	Quick ratio	Cash ratio
Volkswagen Group	1.24	0.94	0.16
BMW	1.09	0.86	0.20
Honda	1.47	1.15	0.61
Mercedes-Benz	1.16	0.87	0.20
Porsche AG	1.22	0.88	0.22

3.2. Leverage

Among non-current and current financial liabilities, Volkswagen Group bonds amounted to EUR 93.119 billion, commercial papers and notes amounted to EUR 35.273 billion, and liabilities to banks amounted to EUR 42.105 billion. These liabilities are disproportionately high, resulting in a high debt ratio of the Volkswagen Group compared to its peers (see Table 2). It shows that in this financial year, Volkswagen Group may have some problems in the way of debt management. It may also be that Volkswagen Group is accelerating the transformation and continuously increasing the investment in various platforms such as software and battery business, in order to make sufficient preparations for the launch and release of important products in the future, which leads to the high amount and expenditure of research and development [10]. In light of such information, Volkswagen Group should create a reliable risk management system, decide how much debt is necessary, keep a manageable debt ratio, and create debt financial strategies. Study the supply and demand of the capital market carefully in light of the financing risks brought on by interest rate changes, understand the development trend based on the interest rate trend, and make appropriate financing arrangements in accordance with the actual condition of the enterprise.

Table 2: Leverage ratios of VW and its competitors [5-9].

Name	Long-term debt ratio	Total debt ratio	Equity to debt ratio
Volkswagen Group	0.53	0.68	2.17
BMW	0.44	0.63	1.70
Honda	0.40	0.55	1.23
Mercedes-Benz	0.50	0.67	2.00
Porsche AG	0.45	0.64	1.80

3.3. Profitability

In terms of profitability ratios in Table 3, Volkswagen's figures are generally good, but compared with Porsche's figures, Volkswagen's figures still have a little gap. According to the comparison of leverage, Volkswagen's debt ratio is too high. To narrow the gap between Volkswagen and Porsche, it can reduce operational risks and increase opportunities for innovation and investment. Secondly, the proportion of Volkswagen Group's net profit is too low, so it can reduce costs by optimizing the company's products and services to reduce production costs and operating costs.

Table 3: Profitability ratios of VW and its competitors [5-9].

Name	Gross profit margin	Net profit margin on sales	Return on equity
Volkswagen Group	18.7%	5.7%	9.8%
BMW	17.2%	13%	22.3%
Honda	20.5%	4.3%	7.6%
Mercedes-Benz	22.7%	9.9%	5.7%
Porsche AG	28%	13.2%	24.8%

3.4. Efficiency

According to Table 4, the ROA of Volkswagen Group is only 2.9%, which is abnormal. It shows that the resource utilization of Volkswagen Group is too low. It may be that Volkswagen and other automakers have faced a lot of difficulties in the past year that have put them in a difficult position. The outbreak of war in Ukraine and the severity of the coronavirus outbreak in China have disrupted supply chains, leaving manufacturers struggling to maintain steady production levels and even facing mountains of unsold manufactured goods and materials. VW had 150,000 uncompleted cars in its inventory in October, the company's chief financial officer said [11]. Furthermore, Volkswagen's second round of transformation in China is under great pressure from extreme market changes, and the results are not as quick as the previous round, but the overall adjustment direction and layout arrangement have not been miscalculated, and the future prospects are still promising [12]. The difficulties have sent VW's sales to their lowest level in 11 years. These difficulties may lead to a decline in Volkswagen's revenue capacity and low utilization of resources. Volkswagen can lessen idle assets, artificial equipment loss, and asset loss to increase the utilization rate of resources. Furthermore, it can increase the asset turnover rate, lengthen the useful life of assets, and lower the use of cash. As a result, it may accurately reflect the worth of assets as well as the status of an enterprise's production and operation.

Table 4: Efficiency ratios of VW and its competitors [5-9].

Name	Operating profit margin	Return on capital	Return on assets
Volkswagen Group	8.1%	39.3%	2.9%
BMW	13%	22.3%	7.8%
Honda	6%	7.6%	3.3%
Mercedes-Benz	13.6%	17.1%	5.7%
Porsche AG	18%	24.8%	10%

4. Strategic Forecast

In May 2021, the Group's Management Board adopted the Group strategy "New Vehicles - Mobility Generation" with a focus on the mobile world in 2030, which focuses on electric vehicles and digital transformation, as well as the development of autonomous vehicles [13]. It is an intelligent comprehensive transportation solution as well as an important link in the development of intelligent transportation. Intelligent linked vehicles may deliver not only technology advancement and industrial upgrading, but also a new industrial chain and rearrange the value chain of the automobile industry [14]. Moreover, with the continuous development and improvement of the automobile manufacturing industry, the automobile quality management system has become one of the important goals of the enterprise's internal management decision-making level and production development [15]. To achieve this, the Group has established 12 Group plans, based on which attainable strategic targets and key results have been established, to build the competencies needed to implement the strategy.

To ensure the transparency of the strategy, the Group adopts the OKR approach to construct and regularly measure strategic objectives and milestones. The strategy addresses the group's ongoing projects, including internal management systems, key performance indicators, organizational structure, business operations, and continuous value addition [5]. The Volkswagen Group develops the Scalable System Platform (SSP), the next generation of all-electric, all-digital, and highly scalable economic platforms, with the goal of quickly and effectively offering customers cutting-edge features and technologies across all brands while also lowering investment costs to ensure the necessary product differentiation across brands in the Group's portfolio [5].

By 2025, Volkswagen aims to create a global open fast-charging network as well as about 45,000 high-power charging stations in Europe, China, and the US. It will provide private customers and companies with a full range of charging solutions, develop evs as mobile power banks, and help evs act as storage units for decarbonized mobility [5]. The Volkswagen Group wants to integrate mobility services across all of its brands, develop future-proof mobility solutions, and increase market share in order to maintain long-term competitiveness and attractive earnings [5]. The Group will prioritize cost and efficiency by consistently enhancing its fixed cost structure, plant productivity, procurement costs, distribution costs, and working capital management in order to satisfy the financial requirements for transformation led by digitization and electrification [5].

5. Conclusion

From the above analysis, Volkswagen's overall situation is still relatively optimistic. The accounting policies of Volkswagen are also in line with the operational background, and the analysis of accounting policies such as revenue recognition, goodwill, and pension are reasonable compared with those of peers. Although Volkswagen's debt ratio and ROA have been affected by the COVID-19 pandemic and transformation, which makes the data look less optimistic when compared with peers, it does not mean that Volkswagen is not suitable for investment because Volkswagen's capital flow rate and profitability are still very considerable. In other words, Volkswagen's sales will decline in 2022, but its operating income and profit margin will grow. Moreover, at present, the popularization and development of new energy vehicles are the general trends, and global automobile manufacturers are committed to promoting the electrification strategy. Volkswagen has also seized this opportunity to move forward. In terms of electrification, it has a systematic solution from battery cells, and power modules to post-factory charging problems. In terms of battery cells, it is planned that 80% of Volkswagen's vehicles will adopt unified batteries by 2030, which has greatly reduced the cost and achieved de-complexity in battery supply. Therefore, after waiting and seeing Volkswagen's profitability, solvency, operation ability, and future development strategy, Volkswagen is a company worth investing in.

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