

# **QUALITY MANAGEMENT & CONTROL**

**FINAL REPORT (1<sup>st</sup> -8<sup>th</sup> Financial Year)**

**LMECA2711**

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## **ABSTRACT**

CESIM Global challenge is a simulation which is closely related to the worldly management of companies. This simulation was performed for an automobile company as teams and other teams competing with us for the same automobile sector.

This company had its markets in USA, China, and Europe with manufacturing only in USA and China. This simulation runs through financial years as a financial year and restructure your plans if the results don't go towards the company.

Each financial year includes market outlook, Demand, Production, Human Resources, Research & Development, Marketing, Logistics, Taxation and Finance. In each financial year a strategy is made based on the information provide in market outlook and based on teams knowledge of technical management to perform great business strategies.

This all strategies are justified to the stakeholders for them being to get to know the working of the company and the results over the financial years for bringing a faith to be invested in our company for the future.

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# LETTER TO ALL SHAREHOLDER'S

Greetings to all the shareholders and stakeholders in our firm who are here for the annual general meeting. First and foremost, Team 'DC Motors' would like to express its sincere gratitude to all its dependable owners and investors who have continuously backed it since it was assigned to handle this distinguished firm eight years ago. As a company, we sincerely value your trust in us and want to earn it in the years to come. You may get a thorough overview of the business's recent eight years' worth of activity in the pages that follow. We have had some highs and lows, but we have come out of both with useful lessons to apply to our company's mission. Every accomplishment—success or failure—teaches us a lesson, and what may appear to be a setback is a chance for us to learn from it and get better the next time. We have undergone some structural reorganization in our management department for the upcoming years and anticipate success moving forward. We'll review the reports from the last eight years first before showing you what the future holds for our company's growth.

## 1. STRATEGY

We used a strategic method to operate the vehicle industry that involves forming small teams and providing them with specialized equipment. A CEO and a Co-CEO were chosen each week, with the CEO having final say in all decisions. Different tasks, including taxation, production management, marketing, and resource allocation, were delegated to the teams. We were able to successfully alter work assignments thanks to our teamwork, which finally produced fruitful outcomes. For our US and Chinese production divisions, we initially concentrated on maintaining high production rates. This required a huge financial commitment to open 8 factories in the US and 6 factories in China, incurring high expenditures. Our strategy emphasized capturing market share in both combustion and hybrid vehicles, utilizing available resources and meeting market demand. We also prioritized reducing debt and enhancing production capabilities, particularly in the combustion sector, while gradually expanding into the hybrid sector.

The strategies used by us had a great impact in the Europe market where we could get very high profits and high sales from annually, but we couldn't manage the sales in China and USA. We could decrease the tax rate to very large extent and the debts. We could hire a lot of people via our good training experiences and cost incurred for the HR purposes which is necessary for

research and development. Through R&D we were able to manage very high number of features in our vehicles especially in combustion and hybrid vehicles. We also entered the market of hydrogen and electrical automobiles at the very late stages of the financial years due to which we could not capture it fully.

We had a very good impact on people as we could provide very good and safe environment with reduction in water usage, polluted environment and good labour laws for people working with us and thinking about the workers. This makes us a very good company as we could sustain them due to our policies and other services to the people as well as for the environment equally important for us as a company.

## **2. DECISION-MAKING**

To inform our strategic decisions, the decision-making process entailed assessing a variety of elements. We studied the market, observed rival activity, analysed internal capabilities, and evaluated financial performance. We improved our competitive position by using the simulation data and tools to make wise judgments.

Notably, to forge a strong presence in the US and Chinese markets, we made large investments in production facilities. We incurred significant costs because of our decision to devote a significant number of resources to these areas, but we were well-positioned for market expansion. In addition, we strategically concentrated on gaining market share in combustion and hybrid automobiles, considering the current demand and expansion prospects.

The company had different CEOs for each financial year due to which the CEO could not decide which direction the market to be made. And each one was given different jobs each time to decide on. The company needs to get specialised on one department and CEO should be the person to manage all the departments equally well. This led to downfall of management in DC motors.

To make better decisions and be more profitable to give our stakeholders a better return on their investment. We are optimistic that we will produce better results in the future by applying what we have learned from our simulation experience and changing our strategy.

### 3. RESULTS & PERFORMANCE

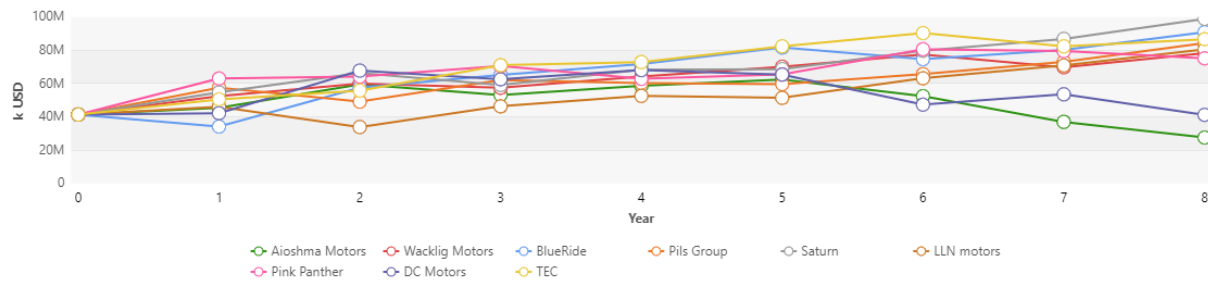
Performance of DC motors has been decreased by 9% Year-On-Year, but the profits have been the same as the previous year around 4 million. The table below includes all costs incurred, sales, profits, and many other parameters.

**Table 1: Performance results**

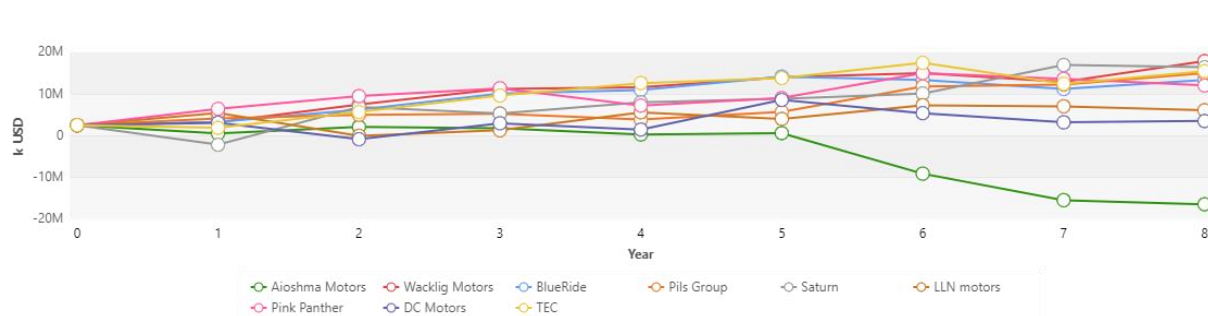
<b>Performance of 8<sup>th</sup> Financial Year</b>	
Sales Revenue	40 million
Costs & Expenses Total	37 million
EBITA	3 million
EBITA ratio	10.5%
Profits before taxes	4 million
Taxes	0.5 million
Total Profit	3 million
Total Assets	51 million
Total Equity	50 million
Liabilities	1 million
<b>Market Share</b>	
Combustion	6.78%
Hybrid	1.41%
Electric	9.87%
Hydrogen	10.25%

### 4. COMPARISON WITH COMPETITORS

Comparing the competitors, the first few financial year was very close in competition. The company has managed to provide best quality and sustainable automobiles to the people. The sales have a very good number over the years and profits have been kept constant and gone below the margin. The comparison is clearly visible from the Fig. 1 and Fig. 2.



**Fig. 1: Comparison of sales revenue over the years**



**Fig. 2: Comparison of competitors profits over the years**

## 5. MANAGEMENT SUCCESS & LEARNINGS

During this simulation, we first learned how important teamwork is. In addition, we learned how important and complex it is for a company to be managed with what quality and with what strategies against expectations. We have experienced that every detail, from the expectations of the customers to the economic conditions of the continents and even the awareness that the activist groups will create in the society, is important in the company management strategy. As a result, we saw that there is no perfect solution, that we must compromise on some points and be more successful in other points. However, we have always seen that strategies that can be improved even more are formed with experience.

In this simulation, as a group, we planned in such a way that two people would make decisions about the company every week, by majority decision. We have learned by experience that this is one of our biggest mistakes. Since we did not make any decision for the trial round, we could not get this experience and we made very novice and imaginative decisions in the 1st round. Also, we have not yet mastered all the functions of the simulation. Therefore, the results we got at the end of the first round were not good. A lot of investment was made, cash was spent, and because of not being able to sell the cars at the amount and price we dreamed of, we had

many cars left in our inventory. Subsequently, to correct this situation, we focused on finishing our inventory in the 2nd round and not costing us. We started to avoid fictitious investments. We aimed to reduce the amount of production and find the cheapest car-features balance in the market and become the best seller. In fact, at this point, we have also reached our goal of achieving highest sales revenue. However, we saw that the new production should be included in the existing inventory and we should calculate it ourselves and adjust the production amount accordingly. Because we still had a lot of inventory left, as we were still producing, albeit by a reduced percentage, in the 2nd round. We slowly resolved this by talking in groups in the next rounds. We also noticed that in the 2nd round that selling the most cars was not a completely beneficial solution for the company. Because our income was very low, and this was the most important point for the company. To achieve this, we focused on making more profit with less cars in the 5th round. For this, we presented the cars with the highest features according to the economic situation of the market. In the 1st round, we saw the advantage of the licenses that I invested and bought very early on. Because we were the only company on the market that could offer the car with the highest features. Turning this into an advantage, we analysed the sales quantities and prices of the companies that previously sold the highest features in the market and determined a strategy to offer the best price-performance price. We achieved the success we expected, the round in which we achieved the highest profit on behalf of our company. In this round, we saw that we are the leader in the cars with the highest features in the market. However, there were still companies that made more profits than us and we needed to increase this in the next rounds. However, due to the decision of two different team members in each round and the inability to hold a regular group meeting, this knowledge and experience could not be transferred, and a certain fixed strategy could not be followed.

In general, before deciding in the rounds, an approximate fit was estimated by examining the overview of market growth, civil society movements, taxation changes, natural disasters, etc. All of them have been studied in detail. Afterwards, a new method was created for the next round by analysing the sales and strategies of other companies in the previous round, depending on what type of car demand the market has in the next round. Decisions were made by analysing the production planning according to the amount of inventory remaining and in which region the production would be suitable for the market and cheaper for the company. Of course, not all predictions were completely correct, but when we did not move away from reality, we made very successful predictions.



## **6. STRENGTHS & WEAKNESS**

### **6.1 STRENGTHS**

- The company has excellent internal manufacturing facilities that allow it to maintain quality and control over the production process.
- The corporation has a sizable market share in China, one of the world's largest markets for automobiles.
- The business provides its employees with good perks, pay, and training, which can aid in keeping talent.
- The business has strict labour laws, which may increase worker satisfaction and output.
- The business can sell a range of goods, including combustion, hybrid, electric, and hydrogen automobiles.
- The business uses an environmentally friendly production technique, which can help with brand development and draw in clients that care about the environment.
- The company has no long-term debts, which can provide financial stability and flexibility.

### **6.2 WEAKNESS**

- Our biggest weakness as a company was that we did not have a clear strategy.
- We ran into inventory management issues on many tours, and this pushed us into a low profit situation with cars being sold cheaper.
- Investing in new production lines as a company was another mistake. Because we never needed 100% production.
- Although hiring R&D personnel and developing licenses is less costly than purchasing licenses, we have generated extra costs by purchasing these licenses from time to time.
- Despite their dim future outlooks, the corporation invests excessive amounts in combustion and hybrid vehicles, which can result in resource waste.

- The business cannot match market sales, which could result in a decline in sales and market share.
- The company has a high PE ratio, which can negatively impact investor confidence.

## 7. FUTURE

We have realized our missteps and miscalculated decisions. To prevent this from happening again and a further decline, we advise the future board to consider all the available production capabilities and the current market demand. We suggest utilising the developed electric and hydrogen technologies. We have recently begun the sales of these vehicles in select markets. We look to decrease our inventory by reducing the profit margin on combustion and hydrogen vehicles. One change we made was to halt the production of hybrid vehicles as we have a huge backlog but our global market share in the hydrogen technology is very small. We recommend increasing hydrogen vehicle production as there are few competitors. We can immediately increase sales as we already have the necessary licenses required and can increase production. Looking at this as an opportunity to improve, we have already proposed an organizational restructuring, wherein a responsible CEO keeps the decision-making power for at least more than 5 years. It is highly suggested to create an environment where the team strategy is considered the most important and the CEO makes decisions based on this and everyone's opinions. These structural changes to the leadership, equally important as the above outlined path for the future strategies, will promise a rise in the name and growth of the company. Another change we are looking to implement is the adoption of an efficient Quality Management System (QMS) tool such as Total Quality Management. For a fast-paced, dynamic industry such as ours, we believe that a stringent quality management policy will help us be more in control of the organization and the processes involved. The most valuable lesson we learnt is that of the power of the demand and the amount of competition that exists in the current market. Adaptation to the market is a key for success. We can compare our case up to some extent to that of Kodak, a very good example of a company rendered obsolete because it failed to adapt to the market. We believe we have realized the shortcomings at an early stage and our decline may not be as serious as Kodak yet, but with the hope that our shortcomings will pave the way to bigger successes in the future, we will work harder and bounce back stronger than ever! We once again thank you for your continuous support and trust amidst these trying times for the company!