

Eco-Oriented Next-gen (EON) Motor Corporation

Organisations are amassing enormous quantities of data from their day-to-day operations. This wealth of information has become a precious asset, presenting both exciting possibilities and formidable challenges for senior management. To make more informed business decisions and identify potential risks, the leadership team must develop a deep understanding of how to extract value from and effectively utilise this vast data resource. This necessitates cultivating the capability to apply sophisticated analytics to the data at hand.

This case study centres on Eco-Oriented Next-Gen (EON) Motor Corporation, an electric vehicle manufacturer with a wealth of transaction data at its disposal. By thoroughly analysing and visualising this data, EON can gain valuable insights and foresight into its operations, positioning itself as a more forward-thinking organisation. Through this case study and the accompanying dataset, we will explore how data analytics and visualisation can be leveraged to extract value from the data. This exercise will allow you to apply your critical thinking skills and conceptual knowledge, as well as your practical Analytics & Visualisation (A&V) expertise to produce insights and foresight of significant value to EON's senior management.

The Case of EON

EON is a relatively new entrant in the global automobile manufacturing industry, specialising in the production and sale of electric vehicles. The company operates in a fiercely competitive market, with an ever-increasing number of manufacturers vying for dominance in the electric automobile sector. As a smaller player in this dynamic industry, EON must develop a comprehensive understanding of its markets, customer base, and cost structures to maintain positive profit margins and ensure long-term sustainability.

Despite its size, EON boasts a range of popular brands and enjoys a high level of customer satisfaction, which are critical assets for its continued success. The

company's ability to innovate and adapt to changing market conditions will be crucial in maintaining its competitive edge and expanding its market share in the coming years.

Jasmine Sutherland, the strategic project director at EON, was hired three years ago when the company first began operations after spinning off from a larger automotive manufacturing conglomerate. Recognising the potential of data-driven decision-making, Jasmine proposed the implementation of a comprehensive data collection strategy at EON, capturing numerous product-specific details relevant to production, sales, and marketing. This initiative has provided the company with a wealth of information to inform its strategic decisions.

However, EON's rapid growth has presented significant challenges for Jasmine in keeping pace with the massive amounts of data that continue to accumulate. The company now requires more detailed reporting and extensive analysis of its product lines, given the availability of additional data. Jasmine firmly believes that this data can help EON's senior management team make better-informed decisions, but she lacks the time and specialised expertise to organise and utilise the data effectively.

Jasmine communicates with the executive team on a weekly basis, providing vital information regarding marketing strategies, sales targets, and production needs. However, she has noticed that her information is often misinterpreted, as the executive team struggles to comprehend the complex numerical data presented to them. To address this issue, Jasmine believes that data visualisation could be a crucial tool in enabling her to communicate more effectively with the executive team, translating raw data into easily digestible visual formats.

EON' Operations

EON has established a significant presence in three key regions: North America, Asia, and Europe. The company currently sells its products in 13 countries across these regions, demonstrating its commitment to global expansion and market diversification. To support its international operations, EON maintains two state-of-the-art manufacturing sites, one located in the United States and the other in Thailand. These strategically positioned facilities allow the company to optimise its production and distribution processes, catering to the specific needs of different markets.

Despite the automotive industry's widespread global reach, it's worth noting that only a relatively small number of countries possess the manufacturing capabilities

necessary to produce automobiles at scale. This fact underscores the competitiveness and complexity of the business, highlighting the significant barriers to entry that EON has successfully overcome.

As a relatively new and small player in the automotive manufacturing market, EON faces considerable challenges in establishing itself as a prominent force in the industry. However, the company has developed a unique value proposition that sets it apart from its competitors. EON offers customers an unparalleled level of customisation, allowing them to design their vehicle to perfectly match their lifestyle and preferences. From premium interior trims and cutting-edge technology packages to exterior colour options and wheel designs, EON empowers customers to create a truly personalised driving experience. This level of personalization caters to the discerning tastes of today's consumers and differentiates EON in a highly competitive market.

Although EON is a newcomer to the electric vehicle market, it has quickly developed a reasonably comprehensive range of offerings, including various models, transmissions, and body styles. This diverse product portfolio demonstrates the company's commitment to innovation and its ability to adapt to changing consumer demands.

In addition to its product offerings, EON has forged strategic partnerships with local leasing and finance companies to provide flexible purchasing options to its customers. These collaborations enable EON to offer competitive financing solutions, making its vehicles more accessible to a broader range of consumers and potentially driving sales growth.

Tasks, Requirements & Deliverables

1. In-depth review of Financial metrics and Cost/Profit

The Financial Director seeks a comprehensive financial and cost analysis to enhance financial visibility, profitability, and overall business value. The analysis should provide actionable insights into the company's financial performance, identify trends, and forecast future performance. By employing a more advance analytical techniques such as what-if scenarios and/or predictive modeling, the analysis should enable effective cost optimisation, and strategic decision-making.

2. Deep dive on Sales & Marketing

Senior management is keen to understand the underlying factors driving sales performance across different car models. A deep dive into sales and marketing data is required to identify emerging trends, uncover hidden patterns, and assess the effectiveness of current marketing strategies. Advanced analytical techniques should be employed to uncover actionable insights that will inform strategic decision-making and optimize resource allocation.

3. Deep dive on Inventory Management

Conduct a comprehensive analysis of inventory management practices using advanced analytical techniques. Leverage the provided dataset, including 'Days on Lot' and 'Mfg Origin' (amongst others), to identify trends, patterns, and anomalies in inventory levels, turnover rates, and sales performance. The analysis may uncover opportunities to optimise inventory levels, reduce carrying costs, and improve overall supply chain efficiency

4. Product Performance Analysis

EON's Product Design Manager and the Manufacturing Director are very keen on finding out key features of the car that potentially drive sales, impacting profitability, and influence customer preferences. Utilize advanced analytical techniques to uncover hidden patterns, correlations, and trends within the product data. Assess the impact of product features, model variations, market segments, and/or sales channels on overall product performance.