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Management from the Nova School of Business and Economics.

**BUSINESS IN PRACTICE: EVALUATION OF ECO MOTION'S PERFORMANCE AND
PERSONAL REFLECTION**

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Abstract

This paper focuses on the Business in Practice (BiP) simulation, analyzing the performance and strategic decisions of the car manufacturing company Eco Motion (EM). During the simulation, the company transitioned from combustion and hybrid vehicles to a fully electric portfolio, executing a strategy focused on cost leadership and sustainability. To evaluate the company's results, the three business functions strategy, operations, and finance are analyzed. Furthermore, the paper includes a personal reflection, highlighting two critical incidents which provide valuable insights about teamwork, leadership, self-awareness, and personal growth throughout the simulation.

Keywords

Apply theory in practice, Business in Practice, Develop a business strategy, Business simulation, Operations, Finance, Strategy, Sustainability and ESG, Automotive industry, Self-reflection, Reflective practice, Team dynamics, Working in teams, Cross-functional

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1. Company analysis

1.1. Introduction to Eco Motion and structure of this section

Business in project (BiP) was an intense three-week business simulation focused on the car manufacturing company Eco Motion (EM). The simulation covered a six-year period of EM's operations. Initially, EM was producing and selling six distinct car models across the three markets Europe, Asia, and America, thereby heavily relying on combustion and hybrid vehicles, which accounted for 53.6% of revenues at the beginning of year 1. However, as the automotive sector has been gradually shifting towards e-mobility in recent years, EM recognized the need to adapt. In 2023, global sales of electric cars reached 14 million units, a 35% increase from the previous year. This growth is expected to continue, driven by government initiatives, and increasing consumer preferences for sustainable and eco-friendly vehicles. (International Energy Agency 2024) To capitalize on this trend, EM restructured its portfolio to offer the most sustainable cars at affordable prices.

The following sections critically analyze EM's key decisions, evaluate their outcomes, and identify missteps. Thereby, focus is placed on the business functions of strategy, operations, and finance, which have proven to be particularly critical. In doing so, comparisons to real-life car companies are drawn and an integrated perspective highlights interdependencies between business functions.

1.2. Analysis of business functions

1.2.1. Strategy

The following section provides a detailed explanation of EM's strategy. It covers the strategy creation process, an in-depth look at the initial strategy, its implications and the necessary adaptations that have been made to ensure continued effectiveness.

Strategy creation process: Before formulating its strategy, EM conducted comprehensive analyses, including Porter's (1979) Five Forces framework for the automotive industry, a PESTEL analysis (Johnson, Scholes, and Whittington 2008, 55-57) for the external environment, and a SWOT analysis specifically for EM.

The *Porter's Five Forces analysis* revealed a highly competitive market with all major players transitioning towards EVs, necessitating competition based on price and features (see Figures 1 and 2). The *PESTEL analysis* identified political and regulatory risks, particularly concerning stricter emissions laws and penalties, which pose challenges to combustion vehicle producers. It also revealed a consumer shift towards sustainability and urbanization trends driving demand for compact, city-friendly cars (see Figure 3).

The *SWOT analysis* identified EM's core strengths, such as a strong market presence with a market share of 30%, high profitability with an EBIT margin of 18.5%, and substantial production capacities, supported by eight operating factories. These strengths aligned with promising growth opportunities in the EV market, where all three markets were unsaturated. However, the analysis also revealed weaknesses, such as EM's heavy reliance on combustion and hybrid vehicles, poor inventory management evidenced by stockouts of three models, and a low ESG performance, with a sustainability score of only 13.4%. The biggest threats identified were potential CO₂ penalties, high industry rivalry, and the substantial investments needed to enhance technology and sustainability (see Figure 4).

Initial Strategy: Those initial analyses laid the foundation for EM's strategy definition. In the highly competitive automotive market, it was essential for EM to formulate a strategy that would secure a competitive advantage. This strategy was built on the two primary cornerstones cost leadership and sustainability, which are also reflected in EM's value proposition of "Producing and selling the most sustainable cars at affordable prices."

According to Porter (1985), companies can adapt three generic strategies to achieve a competitive advantage. Among these, cost leadership was identified as the first cornerstone of EM's strategy (see Figure 5). By leveraging its strengths, particularly high production capacity, and strong market presence, EM aimed to produce and sell high volumes of a few small to medium-sized car models. With two new factories nearing completion, EM was positioned for high-volume production. This focus was intended to leverage economies of scale, minimize per-unit costs, and enable competitive pricing. Additionally, this aligned with urbanization trends, driving demand for compact cars.

Sustainability was defined as the second cornerstone of EM's strategy, driven by growing eco-consciousness of customers, the projected EV market growth, and the threat of higher CO2 penalties. At the time, EM lagged in sustainability, necessitating substantial investments to become a more sustainable company. To drive this transformation, the initial strategy targeted a transition to a full EV portfolio within the first two years.

A useful **real-life example** for this is Tesla, whose full EV portfolio has been central to its strong environmental performance, particularly in reducing greenhouse gas emissions. In addition, Tesla's investments in battery technology and renewable energy solutions, such as solar panels and energy storage systems, have further enhanced its environmental impact. (Subramanian 2023) This is reflected in Tesla's ranking among the top three most sustainable car companies on the Global 100 list in 2024 (McCarthy 2024).

Strategy implications: Building on EM's focus on cost leadership and sustainability, it is crucial to consider the strategy's implications on all organizational levels. As Hrebiniak (2006) highlights, many strategies fail not due to poor formulation, but because they are inadequately implemented. He emphasizes the need for a holistic approach for strategy implementation, ensuring all parts of the organization are aligned with the strategic goals.

Therefore, the Business Model Canvas, a framework developed by Osterwalder and Pigneur (2010), played a crucial role in embedding EM's strategy across the nine key building blocks of its business model. This framework helped align critical elements, such as EM's value proposition, key activities, and target customer segments, with the company's overarching strategy (see Figure 6). Furthermore, EM's strategy served as a blueprint for decision-making and planning within each business function to ensure coherence with the company's overall objectives. This strategic alignment impacted every business function of EM, including the number of factories for operations, car pricing in marketing, portfolio management in innovation, and employee training areas in human resources, among other areas across the organization, which are displayed in Figure 7.

In the first two years, EM's strategy was implemented successfully, as evidenced by a 27% growth in revenues and an increase in the sustainability rating. However, value added decreased by 30% due to high initial investments and lower than expected EV demand.

Strategy adaptations: During the simulation, the EM team utilized the Scrum methodology of Schwaber and Sutherland (2020) by incorporating sprints and regular sprint reviews. This approach allowed EM to constantly refine its strategy, particularly when a decline in the value added was detected, and it became evident that demand for EVs was lower than anticipated. As a result, three key adjustments were made, which included the timing of the transition to a fully electric portfolio, the variety of models in the portfolio, and the emphasis on sustainability.

Firstly, due to lower-than-anticipated EV sales in the first quarters, the transition to a full EV portfolio was postponed until mid-year 3, extending the initial timeline by 1.5 years. Discontinuing the production of combustion and hybrid vehicles at that time would have resulted in underutilized factories. Consequently, the decision was made to continue

producing and selling these vehicles, as they remained profitable despite the high CO2 penalties (see Table 1).

Secondly, the initial strategy of reducing the number of models to focus on offering a few high-volume models proved ineffective due to insufficient demand. In response, a strategic shift was made in Q11, where EM started to develop “Next generation” models with more advanced technological features alongside the existing basic versions. The portfolio was further diversified with the introduction of the E-Pick-Up model in Q16. (see Graph 1) These strategic moves enabled the opening of additional factories to increase production capacity and maximize economies of scale.

Thirdly, in Q20, EM decided to scale back its goal of becoming the most sustainable car manufacturing company, while still maintaining sustainability as a key aspect of its strategy. At this point, significant investments of EM had already raised the sustainability rating from 13.4% to 76.8%, which was considered sufficient to meet customer expectations. Further investments in the supply chain, which would have significantly increased costs, were not pursued as they conflicted with EM’s cost leadership strategy.

These three adjustments, along with EM’s reduced investments compared to the initial years, led to increased revenues and profitability. This resulted in a substantial improvement in EM’s value added, putting EM ahead of its competitors (see Graph 2).

1.2.2. Operations

EM's overarching strategy significantly impacted all business functions, particularly operations. This section explores EM’s operational strategy, the necessary investments to support this strategy, and the operational outcomes achieved. Additionally, it offers an integrated view on the operations business function.

Operational strategy: EM initially utilized the 4V framework, comprising volume, variety, variation, and visibility, to structure its operations (N. Slack, Brandon-Jones, and Johnston 2016, 19-23). Recognizing that achieving cost leadership, as outlined by Porter (1985, 12-14), requires economies of scale and efficient operations, EM aimed to produce high *volumes* of cars to reduce per-unit costs. The initial plan focused on producing a limited number of models, keeping the *variety* of cars low. Additionally, EM anticipated low *variation* in demand and low *visibility* of the production process to customers. However, this initial plan proved inaccurate. Due to lower-than-expected demand for EVs, EM increased model *variety* to ensure efficient factory utilization. Furthermore, demand *variation* exceeded expectations, driven by unpredictable EV market trends, changes in environmental regulations, and an economic recession in Q24 (see Figure 8).

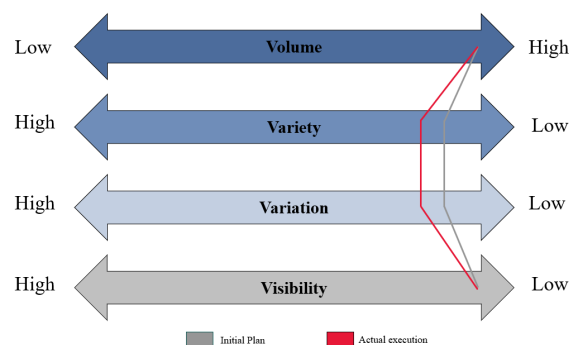


Figure 8: EM's operational characteristics according to the 4V framework (N. Slack, Brandon-Jones, and Johnston 2016, 19-23) (own illustration)

Meeting these evolving characteristics to achieve low operational costs required maximizing efficiency and factory utilization while maintaining low inventory levels. Achieving this requires a proactive, long-term approach to manufacturing and capacity planning, instead of relying on short-term, reactive fixes (Olhager, Rudberg, and Wikner 2001). Consequently, EM used an Excel Tool that incorporated sales forecasts, inventory levels, and predicted utilization (see Figure 9) to plan its production, enabling EM to anticipate the implications of future manufacturing decisions six quarters in advance. A key element of this planning was minimizing production location changes to maintain high

utilization rates. Additionally, EM's operations emphasized producing in regions with the highest demand to reduce shipping costs and leverage the “domestic country bias”, which refers to consumers preferring locally produced products (Balabanis and Diamantopoulos 2004). For example, with strong demand for small models like the “Microcar” and “City-E” in China, EM consistently produced these models within the country.

Operational Investments: To execute this strategy, EM undertook substantial investments in sustainability initiatives and the construction of new production facilities.

As Porter and Kramer (2006) emphasize, closely aligning sustainable initiatives with a company's core business strategy can lead to cost savings and create a competitive advantage by generating shared value for both the company and society. Initially lagging in sustainability, EM recognized the strategic importance of these investments and their alignment with its broader strategy. Moreover, EM acknowledged the value of pursuing these investments early to rapidly capitalize on the associated benefits. By developing a roadmap outlining the implementation time and requirements for each investment (see Figure 10), EM ensured that all investments were made promptly. Especially the investments in production (Scope 1 emissions) and energy (Scope 2 emissions) improved EM's Corporate Social Responsibility (CSR) and aligned seamlessly with its cost leadership strategy, as they supported higher-scale production by increasing demand and reducing material costs. However, potential investments to reduce Scope 3 emissions posed a trade-off: While they could have further enhanced CSR and demand, they also involved high investment costs and increased material expenses (see Table 2). At this point, EM opted to prioritize cost control over further sustainability gains in this area.

To further execute its cost leadership strategy, EM required new factories to meet the rising demand for EVs. As each factory took four quarters to build, long-term planning to

align production capacity with market demand was necessary. Leveraging the Excel tool, EM was able to identify future capacity bottlenecks early on and invested in four new factories: two in China, one in Europe, and one in the U.S. (see Graph 3). However, the decision to build two factories in China was a misstep as high tariffs on exports from China to the U.S. persisted longer than expected. A more thorough numerical analysis could have determined the most financially viable factory location. Additionally, some factory investments were made too early, as actual EV demand growth was slower than expected.

Performance Review: According to Slack, Brandon-Jones, and Johnston (2016, 39-54) the six key operations performance objectives are quality, speed, dependability, flexibility, cost, and sustainability. Trade-offs among these exist, requiring sacrifices in some areas to excel in others (Skinner 1969). Aligning with its strategy, EM prioritized sustainability and cost, which necessitated a sacrifice in flexibility (see Figure 11). The following analysis examines EM's performance in these two areas, with a focus on operational cost efficiency and its drivers factory utilization, inventory levels, and per-unit costs.

High factory utilization is crucial for cost leadership as it enhances operational efficiency and spreads fixed costs over a larger production volume, lowering fixed costs per unit (Heizer, Render, and Munson 2017, 314-320). EM achieved an impressive 94% average factory utilization, surpassing the industry average of 73,62% (Federal Reserve Bank of St. Louis, 2024). However, a dip to 67% utilization occurred in Q14 due to lower-than-expected demand, resulting in one factory being unused. This could have been avoided by delaying the factory investment by one quarter.

Inventory management also impacts operational costs through holding and stockout costs. Holding costs include the expenses associated with storing inventory and the opportunity cost of capital tied up in unsold inventory. Stockout costs on the other hand occur when

inventory levels are insufficient to meet demand, leading to lost sales. (William 2020) Consequently, operations must constantly monitor inventory levels to maintain an optimal balance between excess and insufficient inventory. Over six years, only seven stockouts occurred for EM, leading to €1.709M in missed revenues, roughly 1,1% of total revenues (see Table 3). This indicates that EM effectively minimized stockouts. However, premature investments in additional factories led to excessive production and thus higher inventory levels, tying up substantial capital in Q19 and Q20 (see Graph 4).

Overall, EM successfully executed its cost leadership strategy within the operations department. Economies of scale were particularly evident in long-standing models like the “Microcar” and the “Biz-E”, which saw reductions in per-unit costs of 22% and 18%, respectively, since production began (see Graph 5).

A **real-life example** for this is Toyota, which - like EM - successfully implemented a cost leadership strategy through efficient operations, notably by pioneering “lean production” methodologies in the mid-20th century. Therefore, Toyota’s operational philosophy centered on minimizing waste and optimizing processes. (Fujimoto 1999) Central to this approach was the Toyota Production System (TPS), which incorporated the principles of continuous improvement (Kaizen) and Just-in-Time (JIT) production (Ohno and Bodek 2019). By adhering to these principles, Toyota consistently maintained high efficiency and factory utilization while ensuring quality. This approach, combined with high production volumes, enabled Toyota to achieve significant economies of scale, continuously lowering per-unit costs (Holweg 2007, 5-8). Moreover, both Toyota and EM closely aligned their focus on operational efficiency and cost reduction with a commitment to sustainability.

For EM, the second focus objective of sustainability was achieved through investments that reduced Scope 1 and Scope 2 emissions by 63% and 81%, respectively (see Graph 6).

However, the decision to withhold from investing in the supply chain due to financial constraints led to a continuous increase in Scope 3 CO₂ emissions, driven by rising production volumes (see Graph 7). Despite this, EM's CSR and sustainability ratings increased significantly to 100% and 78%, respectively (see Graph 8).

Integrated View: These achievements were not solely the result of the operations department working in isolation. As highlighted by Hausman, Montgomery, and Roth (2002), closer interaction between marketing and manufacturing can lead to benefits, including improved operational efficiency and effectiveness. EM's operations capitalized on this by closely coordinating with the marketing department to receive information on car demand forecasts and changes in consumer preferences, which was essential for successful operations planning. Additionally, collaborating with Human Resources (HR) was necessary to ensure managers possessed the necessary sustainability skills for key investments and that workforce levels were adjusted based on production needs. However, these continuous workforce adjustments led to frequent dismissals and rehires. A more proactive approach involving HR in long-term operations planning could have improved employee management and reduced associated costs.

1.2.3. Finance

This section covers EM's key financial decisions and outcomes, focusing on investments and free cash flow, capital structure, payment terms, and the financial development of EM.

Investments and Free Cash Flow: To effectively execute its cost leadership strategy, EM required significant investments, most of which were made during the first four years. This approach aligns with Rumelt (2012), who emphasizes the importance of early, decisive actions to capitalize on market opportunities and stay ahead of competition. EM's

early investments focused on its portfolio, technology, factory construction, sustainability initiatives, and other investments like an EV power charging network. Financially, the largest portions of these investments during the first four years were directed toward factory investments (21%) and restructuring the portfolio (41%). (see Graph 9)

These investments had a profound impact on EM's Free Cash Flow (FCF), which represents a company's generated cash after covering operating expenses and capital expenditures. This metric is critical for assessing a company's financial health and efficiency. Typically, FCF is composed of the Operating-, Investing- and Financing Cash Flows. (Ross, Westerfield, and Jaffe 2022, 28-34) Aligning with the timing of EM's investments, its FCF development can be divided into two phases. The first phase spans from year 1 until year 4, during which EM's FCF was mostly negative due to significant investment outflows that were only partially offset by positive operating cash flows. From early year 5 until the end of the simulation, the FCF reached an all-time high and consistently remained on high levels. This was driven by high operational cash flows due to increased sales and profitability, along reduced investment activities (see Graph 10).

Capital Structure: To analyze how EM financed these substantial investments, it is crucial to consider the company's capital structure, which refers to how a firm finances its operations and growth through different sources (Ross, Westerfield, and Jaffe 2022, 490). This structure is typically measured by the debt-to-equity (D/E) ratio. An ideal capital structure minimizes the weighted average cost of capital (WACC), which is the weighted average rate of return a company expects to pay its debt and equity investors (Ross, Westerfield, and Jaffe 2022). Until a certain point, an increase in the D/E ratio leads to a lower WACC due to tax shields benefits associated with interest payments and debt being cheaper than equity due to its lower risk for lenders (Modigliano and Miller 1963).

Building on this concept, EM strategically leveraged debt to finance its operations as well as investments and undertook two significant share buybacks, to reduce its equity base. Combined this increased EM's D/E ratio from 0,8 to a peak of 1,21 during year 4. This strategic increase in the D/E ratio was one of the factors that enabled EM to successfully lower its WACC from 6,1% to 5,6% during this period. From that point forward, EM's D/E ratio began to decrease as the company achieved increasing revenues and profitability, leading to a rise in equity. Despite the reduction in the D/E ratio, EM's WACC remained stable for several quarters before even declining further during year 6. (see Graph 11)

One reason for this decline has been the strategic usage of Green Bonds, which are financial instruments specifically designed to fund projects with positive environmental and climate benefits. These bonds typically offer lower interest rates compared to traditional loans. (Gianfrate and Peri 2019) As EM undertook various green investments, such as the development of new EVs and sustainability initiatives, the company was able to increasingly leverage Green Bonds over the years, achieving a Green Capital Ratio of 100% by year 6. (see Graph 12)

Payment terms: Payment terms are a critical factor in financial management, as adjustments can significantly impact cash flow, demand, and material costs, ultimately affecting revenue and profitability (Ross, Westerfield, and Jaffe 2022, 853-857). EM strategically adjusted its payment terms to enhance operational cash flows during periods of high investment, particularly in year 2 and 5, by reducing the customer credit term to 15 days and extending the supplier payment term to 40 days. In year 6, with no further investment needs, EM extended customer- and shortened supplier payment terms, thus increasing revenues and reducing material costs. In retrospect, this adjustment should have been implemented earlier, as it aligns seamlessly with EM's cost leadership strategy by

positively influencing demand and material cost. Although this earlier move would have resulted in more required cash, it could have been effectively supported through additional loans, particularly green bonds, given EM's substantial investments in sustainability initiatives and green technologies.

Integrated View: The finance department was closely linked to all other functions, as it relied on timely and accurate information, particularly regarding planned investments, to avoid liquidity issues. At times, finance had to prioritize investments based on input from other departments. Furthermore, collaboration with marketing and innovation was close, as finance also played a key role in monitoring the sales and profitability of each model.

Financial Development: To assess EM's financial development, both revenue and profitability trends are analyzed in this section.

Over the six-year period, EM nearly doubled its revenues, achieving a 14,2% year-on-year (YoY) growth rate. While total revenues consistently increased each year, the composition shifted significantly. In year 1, sales of combustion and hybrid vehicles accounted for nearly half of EM's total revenue. However, as these vehicles were phased out, the revenue loss was more than offset by sales of EV basic models and the launch of next-gen EVs in year 3. In year 6, next-gen models accounted for 64% of total revenues, highlighting the success of this strategic shift. (see Graph 13)

EM's profitability development was also strong in both absolute and relative terms. Despite a dip in year 3, due to costs related with phasing out combustion and hybrid vehicles, Net Income constantly increased over the six-year period, with a YoY growth rate of 25%. Notably, profitability outpaced revenue growth, as evidenced by the Return on Sales rising from 18,8% in year 1 to 27,6% in year 6. Two main factors contributed to

this development: First, EM's cost leadership strategy and its high-volume production resulted in economies of scale and increased efficiency, reducing the Cost of Goods Sold as a percentage of revenue from 64,2% to 56,4%. Second, higher-than-expected demand in year 6 allowed EM to raise car prices, thus improving profitability.

1.3. Conclusion and Main Learnings:

In conclusion, EM has undergone an intense transformation over the past six years, shifting from reliance on combustion and hybrid vehicles to a fully EV portfolio. This change was driven by a clear strategy focused on cost leadership and sustainability.

Overall, this strategy was executed with considerable success. During the six years, EM significantly improved its Sustainability and CSR score and decreased per-unit production costs for several models. This resulted in strong revenue and profitability growth, leading to EM's value added increasing. However, the analysis also revealed improvement potential regarding factory locations, payment terms, and the personnel planning.

Furthermore, key learnings emerged: First, EM's example demonstrated the importance of aligning all business functions with the overarching strategy, as coherent strategy execution across all functions was essential for the company's success. Second, collaboration across business functions proved essential, as decisions in one business function often impacted others. Consequently, true business success requires a holistic approach with all departments working together and aligning efforts. Third, the dynamic business environment underscored the need for ongoing adaptation. Unpredictable events, such as the economic crisis and fluctuations in EV demand, highlighted the importance of continuously refining the strategy to ensure ongoing success.

2. Personal Reflection

2.1. Introduction to self-reflective essay

Throughout BiP, I gained comprehensive insights into various business functions, their interrelationships, and how they collectively contribute to business success. However, even more valuable was the experience of working within a diverse team composed of members from different nationalities, genders, and educational backgrounds, each contributing uniquely through their distinct roles. Over three weeks, our team faced challenging situations and made critical decisions under time pressure. This intense collaboration, along with the interpersonal dynamics involved, provided me with profound insights about myself, team dynamics, and leadership.

In the following, I will highlight two critical incidents that were particularly significant in that regard. For each incident, I will first describe the situation and my response to it, then analyze the key aspects, and finally reflect on my learnings. In doing so, I will focus on why these incidents were crucial for my personal development and how they will inform and shape my future career.

2.2. Incident 1: Approaching teamwork in a new way

Description and Response: In the first week of BiP, the two integrated team dynamic sessions during Mr. Miguel Pinto Fernande's "Leading Yourself Workshop" proved to be critical for my team and me. During these sessions, where we met exclusively within our group, we were tasked with presenting and discussing two self-assessments that each member had completed individually. This approach to starting teamwork was quite different from my previous experiences, where I usually pushed the team to dive straight

into the work, often seeing such meetings as not necessarily productive. As a result, I was initially skeptical about dedicating two 30-minute sessions to team dynamics.

However, as the sessions progressed, the other team members began sharing their results, openly discussing their strengths, weaknesses, and personal traits, and even offering tips on how to work with them effectively. For instance, one team member shared that he has ADHD and suggested that we should snap him out of his thoughts by calling his name if he became distracted. This openness encouraged me to also share the results of my self-assessment (see Figure 12). Coupled with the results of the Insight Discovery test, this led to an open discussion about how we could best approach teamwork by anticipating potential challenges and agreeing in advance on how to address them. Although I remained skeptical during the discussion, I was genuinely impressed by everyone's willingness to share such personal and sensitive information with the team.

As the group work intensified in the following weeks, I increasingly recognized the importance of these two initial sessions. Several times, we faced critical situations such as differing opinions, time pressure, or team members arriving late to meetings, which could easily have escalated in a typical team setting. But as we had already openly discussed how to handle these situations beforehand, we managed them successfully. Ultimately, these two initial sessions established a foundation of trust, collaboration, and open communication, which proved essential for navigating the simulation's challenges.

Analysis: In the following, I will analyze this incident further, focusing on my initial aversion and why these two sessions had such a positive impact on our teamwork.

In retrospect, I realized that my initial reluctance to attend and actively participate in the sessions was due to a fear of sharing personal information and thus revealing

vulnerabilities, especially since the other team members were still largely unfamiliar to me at that point. This is consistent with Edmondson's (1999) research, which shows that individuals often resist sharing personal information, especially weaknesses, due to fear of being perceived as incompetent. However, he argues that creating psychological safety can help overcome this barrier, leading to improved collaboration and performance within the team. To create such a setting, leaders should embrace vulnerability by acknowledging their imperfections and fears, as this not only builds an environment where employees feel safe but also leads to greater authenticity (Walter 2016). This was precisely my experience: As my team members led the discussion by talking about their weaknesses and negative traits, the psychological safety within the team increased and I felt more secure in sharing my characteristics and vulnerabilities. However, psychological safety was only one key factor from this approach that improved the outcome and effectiveness of our teamwork. Another critical factor for this success is analyzed in the following.

According to Hackman (2002), another key concept for effective teamwork is the importance of getting the initial conditions right, including setting up the team structure and fostering open communication from the outset. He highlights, that by engaging in pre-task discussions about individual strengths and weaknesses, teams can better anticipate and manage future challenges. In retrospect, this is exactly what we accomplished during our two initial team dynamics meetings. In this regard discussing the results of the Insights Discovery test was particularly helpful. The Insights Discovery test is based on Jung's (1971) psychological types and assesses personality preferences, strengths, and weaknesses using a color-coded system (see Figure 13). When we shared our personality types and mapped them in a matrix, we noticed that most of our team, including myself,

fell under “Cool Blue”, representing analytical, precise, and structured personalities (see Figure 14).

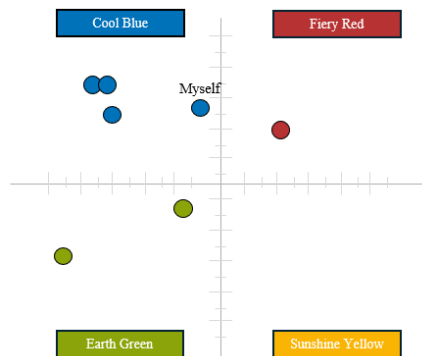


Figure 14: Personality Type matrix of the EM team (own illustration)

We immediately recognized that one possible challenge could be managing our time effectively and finishing the simulation on schedule, as our team might tend to become overly focused on details. Another exemplary challenge we discovered through this discussion was the risk of lacking personal interactions and empathy within the team since we did not have a single “Sunshine Yellow” personality, which is typically associated with being caring, patient, and supportive. Based on these discussions we created a list of possible conflicts and defined clear responsibilities to encounter them. For instance, to address the “Cool Blue” tendency, I took over the role of the “timekeeper” to ensure we did not run out of time during the simulation rounds. By following this approach, we were able to address team conflicts before they emerged by gaining a deeper understanding of team dynamics and individual differences. Our methodology before the simulation went beyond only acknowledging these differences, as we also engaged in the three key conversations of “Act”, “Speak”, and “Feel” from Toegel and Barsoux (2016). Thereby “Act” involved understanding each other's behavioral patterns, “Speak” focused on identifying communication preferences, and “Feel” addressed sharing emotional triggers and responses with the team. Furthermore, we initiated two reflective sessions to revisit and adjust our initial agreements, enhancing the effectiveness of our collaboration.

Personal reflection: In the following, I will outline why this incident was so valuable for me and what conclusions and learnings I have drawn for my future career. As mentioned previously I had never approached group work in such a structured way before. In retrospect, I realized that I had not emphasized the importance of team dynamics at all when working in group settings. Driven by my desire for efficiency, I usually dove into tasks as quickly as possible. However, engaging in this process made me realize that taking time to understand team members and their characteristics before starting work is a strategic investment that enhances team efficiency and creates a more enjoyable working environment. During BiP, I worked within an exceptional healthy group environment of collaboration and support. I firmly believe that this was a direct result of addressing team dynamics and getting to know the individual members before diving into the simulation.

Reflecting further, I realized that I should not fear sharing personal information. On the contrary, as demonstrated by my teammates who shared their assessment results, such openness makes one more approachable and likeable, fostering interpersonal trust (Aron et al. 1997, 364-365). Initially, my skepticism made me reserved and passive in the team dynamics meetings, allowing others to lead. However, after experiencing the positive effects of this approach, I am committed to changing this behavior in the future by actively sharing personal information to initiate the creation of psychological safety and trust.

To conclude, this critical incident has taught me to approach teamwork in a new way, by focusing on getting to know the individual members and their characteristics, and proactively discussing potential challenges that might arise. I acknowledge that in practice, it may not always be possible to follow this process as detailed as we did during BiP. However, especially when working within a team for longer periods, I intend to apply the approach learned during BiP to create a more effective and supportive team environment.

2.3. Incident 2: Discovering lacking leadership skills through peer feedback

Description and Response: The second critical incident was triggered by peer feedback, which made me reflect on the leadership skills I still need to develop.

The starting point for this was the “Leading Yourself” workshop, where I was introduced to the ten key characteristics and qualities of leadership (see Figure 15). This was enlightening for me, as I had never encountered such a comprehensive overview of leadership traits yet. The associated self-assessment forced me to reflect deeply on my past leadership experiences. Interestingly, I consistently rated myself high across most key qualities, with one exception being my ability to delegate, as in the past I often struggled to delegate tasks to team members (see Figure 16).

I had almost forgotten about this self-assessment until the second week of BiP, when two peers offered me feedback regarding my leadership performance following the simulation of the first year. I eagerly accepted as I am always striving to improve myself, and feedback is a valuable tool for personal development (Hattie and Timperley 2007). Their feedback not only confirmed what I was already aware of – my lack of delegation skills – but also highlighted another area for improvement. They pointed out, that my communication skills required development, as I often failed to keep them informed about the details of my analyses and their implications. This came as a surprise, as I had never received negative feedback about this area before. However, as they included in their feedback how my behavior affected them using the “I-Statement”-method, there was no doubt that their observations were accurate.

In response, I thanked them for their valuable insights, and together we brainstormed ideas for improvement. These jointly collected suggestions led to a rapid improvement in my

behavior, as evidenced by the peer feedback submitted later during BiP, where I received an average score of 4.5 in the category “Keeping the team on track”, surpassing my self-assessment score of 3 points (see Figure 17).

Analysis: In the following, I will first analyze the reason for my missing leadership skills in delegation and communication, highlighting their importance. I will then discuss how I was able to change my behavior so quickly.

In retrospect, I realized that the main reason for my lack of delegation skills was the absence of trust in my teammates, which Lencioni (2002) identifies as one of the five dysfunctions of a team and a possible root cause of various other dysfunctions (see Figure 18). My lack of trust was driven by two main factors - previous negative experiences and my perfectionism.

According to Kramer (1999), negative experiences in the past can significantly affect trust, particularly in organizational settings. I have previously encountered situations where team members failed to complete their tasks on time, leading to poor outcomes for the entire group. Reflecting on these experiences, I realized that they significantly contributed to my lack of trust and shaped my behavior within the group during BiP. My perfectionism also played a crucial role for my behavior. As I always strive for the best possible outcomes, I am highly committed to my work and expect the same level of commitment from my teammates. Due to this high standard and the associated fear that others might not meet it, I tend to micromanage and prefer to handle tasks myself to ensure quality – a behavior that, according to Hewitt and Flett (1991), is a typical characteristic of perfectionists working in teams.

In addition to my lack of delegation skills, peer feedback helped me recognize my failure to keep team members informed. This was critical, as a lack of communication can lead to misunderstandings, conflicts and compromised decision-making quality, resulting in decreased productivity (Yang et al. 2021). Furthermore, this can also easily lead to frustration and demotivation among team members, a point emphasized by my peers during feedback. In retrospect, I realized that my failure to keep the team updated was due to perceived time pressure and my lack of social sensibility.

The intensity of the simulation and the time-consuming nature of the analysis led me to prioritize analytical tasks over updating my team members. This phenomenon, known as “time famine”, refers to the perceived scarcity of time that drives a focus on individual productivity at the expense of team collaboration, often resulting in a lack of communication and coordination among team members (Perlow 1999). Additionally, I realized that I lacked social sensibility towards my peers as I previously had not considered how my behavior impacted them. In this context, social sensibility refers to the ability to recognize and understand the emotions, thoughts, and intentions of others. This skill is crucial for the collective intelligence of the group, as it fosters better communication and collaboration among team members. (Woolley et al. 2010)

Lastly, I am analyzing how I was able to address my colleagues’ concerns by quickly improving my leadership behavior. Therefore, a critical step was proactively seeking my teammates' opinions on how I could improve personally and how we could enhance our team’s performance. This was essential as they had the best insights into what they were missing in our team dynamic. Their suggestions, such as meeting one hour before the simulation to align on the previous day’s analyses, proved highly effective. Another key aspect was making a conscious effort to emphasize with my peers in the following days

and weeks. I often intentionally paused my analytical work to consider how my actions were affecting others. This approach proved effective and aligns with the fact that empathic leaders are more likely to keep team members informed, which minimizes misunderstandings (Gentry, Weber, and Sadri 2007, 6-7).

Personal Reflection: First and foremost, this critical incident made me aware of the leadership skills I am currently lacking. This realization has been incredibly valuable, as it has heightened my self-awareness regarding the strengths I possess and the areas I still need to grow. This is especially crucial as according to Scouller's (2011) "Three Levels of Leadership Model", the Personal Level, including self-awareness and -management, is the foundation and serves as the first necessary dimensions for becoming a better leader.

The fact that I was surprised by the feedback, particularly regarding my lack of communication skills, highlighted the essential role of receiving feedback to achieve greater self-awareness. In the future, I aim to proactively seek feedback from my teammates instead of waiting for them to raise issues. I realized that actively asking for feedback is a tremendous learning opportunity that I do not want to miss.

Moreover, experiencing in a real team setting how my behavior negatively impacted my teammates was eye-opening. As I strongly desire to avoid being the cause of frustration or disengagement, this experience has become a powerful motivator for me to adjust my leadership style in the future.

Another key realization was the importance of giving team members an advance of trust from the start. During BiP, I only did this after receiving the peer feedback, and it worked out well: EM's performance even improved once I stopped micromanaging. In future team settings, I plan to offer team members this advance of trust already from the start.

2.4. Summary of incidents and implications for future teamwork

Through these two incidents, I realized which kind of leader I aspire to be, the key traits required and how they translate into my personal key actions within future team settings.

Based on my experiences during BiP, I realized that I do not want to be someone who lacks trust in his teammates. Instead, I aspire to be an authentic and emphatic leader who cares for and empowers others. Goleman's (1995) Emotional Intelligence (EI) model highlights self-awareness, self-regulation, motivation, empathy, and social skills as key traits for EI and consequently, for such leadership. While I feel confident in my self-regulation abilities and motivation, I recognize that I need to improve in the other areas. To become the aspired leader type, it will be important to understand, trust and regularly updated my teammates and improve my social skills, especially by communicating more proactively. Additionally, continuously enhancing my self-awareness will be essential.

Building on these key traits and the teamwork approach learnt during BiP, I have identified eight key actions, I plan to apply in future team settings. These include actions that were effective for myself like seeking feedback and delegating tasks, as well as team-focused practices such as getting to know each other, creating personality maps, anticipating potential challenges, and holding reflective team sessions. (see Figure 19)

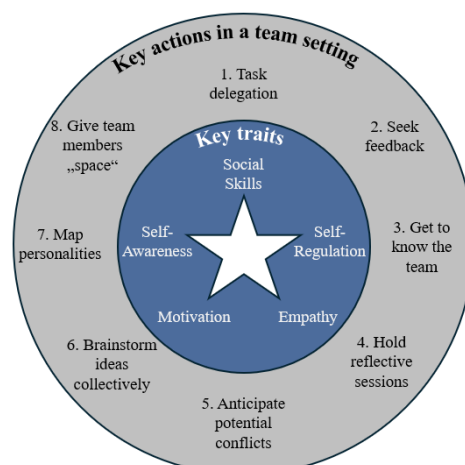


Figure 19: Key traits and actions to become a better leader (Goleman 1995) (own illustration)

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A. Abbreviations

BiP	Business in Practice
D/E	Debt-to-Equity
EI	Emotional Intelligence
EM	Eco Motion
EV	Electric Vehicle
CSR	Corporate Social Responsibility
FCF	Free Cash Flow
HR	Human Resources
WACC	Weighted Average Cost of Capital
YoY	Year-on-Year

B. Figures

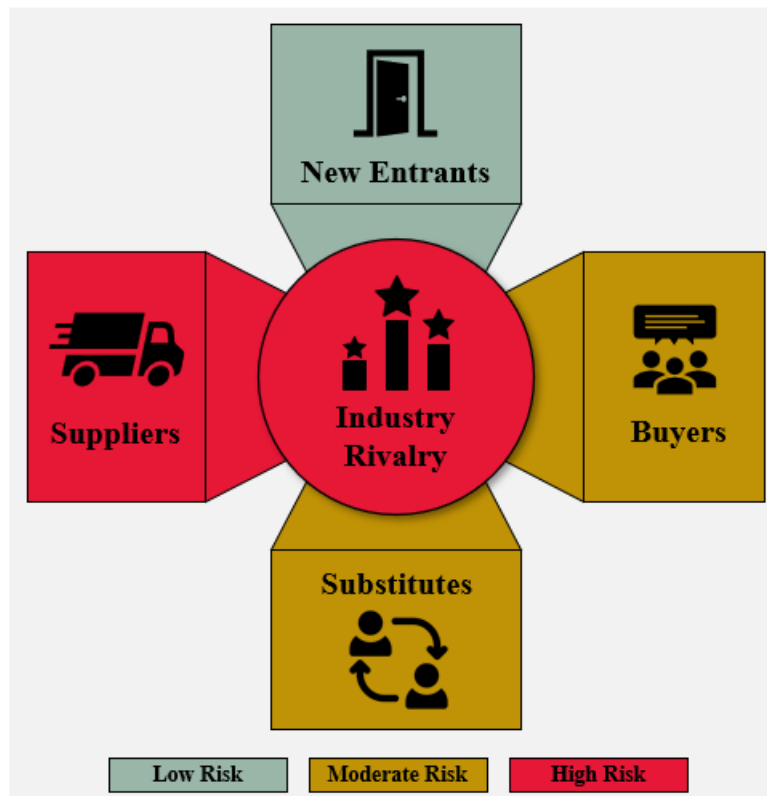


Figure 1: Porter's Five Forces (Porter 1979) analysis – overview (own illustration)






	<p>HIGH RISK</p> <ul style="list-style-type: none"> Highly competitive market with 4 companies, all transitioning to EVs Growth of traditional vehicles is slow, resulting in competitors competing on price and features Low switching costs for consumers
	<p>LOW RISK</p> <ul style="list-style-type: none"> High capital investment required for manufacturing facilities, R&D, and brand building Established car manufacturers have strong brand reputation and customer loyalty built over years Existing players benefit from low unit cost that are difficult for new entrants to match
	<p>MODERATE RISK</p> <ul style="list-style-type: none"> Buyers have many alternatives, including various brand, car types and models Internet provides comprehensive informations on available cars and their features Predominantly individuals, resulting in a large and diverse customer base that dilutes buyer power
	<p>HIGH RISK</p> <ul style="list-style-type: none"> Heavy reliance on a few key suppliers for critical components such as semiconductors and batteries High switching costs for critical parts often lock car manufacturers into long-term contracts Suppliers of key raw materials, especially for batteries, control significant parts of the supply chain
	<p>MODERATE RISK</p> <ul style="list-style-type: none"> Public transportation, ride-sharing services and microbability options are expected to grow in popularity, especially in urban areas No other transport option matches the private car's level of individualism and availability

Figure 2: Porter's Five Forces (Porter 1979) analysis – details (own illustration)







	<ul style="list-style-type: none"> Government policies: Regulations and penalties for cars with (high) CO2 emissions; subsidies for electric vehicles drive customer demand for more sustainable vehicles. Trade policy: Tariffs (especially between the U.S. and China) have a particular impact on global supply chains and costs.
	<ul style="list-style-type: none"> Fluctuating economic conditions: Currently, key markets are experiencing economic growth, which has a positive impact on vehicle demand. However, recessions or economic slowdowns are likely to reduce consumer spending on new vehicles. Raw material costs: Fluctuating prices of raw materials, such as steel and lithium affect production costs.
	<ul style="list-style-type: none"> Sustainability: Growing environmental awareness is shifting consumer preferences toward eco-friendly vehicles, especially electric vehicles. Consumers increasingly value brands that demonstrate commitment to sustainability. Urbanization: Preference for compact, fuel-efficient vehicles for city driving and rising popularity of public transportation.
	<ul style="list-style-type: none"> Innovation in autommotiv technology: Investments such as AI implementation, vehicle-to-vehicle communication, cloud connectivity, and new generations of e-drive modules or batteries lead to increased servitization of the automotive industry. Charging infrastructure: Critical to the widespread adoption of electric vehicles by the general public.
	<ul style="list-style-type: none"> Carbon footprint: Importance of reducing carbon emissions and complying with environmental regulations. Production & supply chain: Efforts needed to reduce direct emissions (e.g. by reducing waste and water consumption during production) and indirect emissions (e.g. energy sources and emissions from upstream and downstream activities).
	<ul style="list-style-type: none"> Regulatory compliance: Complexity and cost of complying with different regulatory standards in different countries for safety, emissions, and labor laws is evolving. Intellectual property: Importance of protecting innovation and managing patent issues.

Figure 3: PESTEL analysis (Johnson, Scholes, and Whittington 2008) (own illustration)

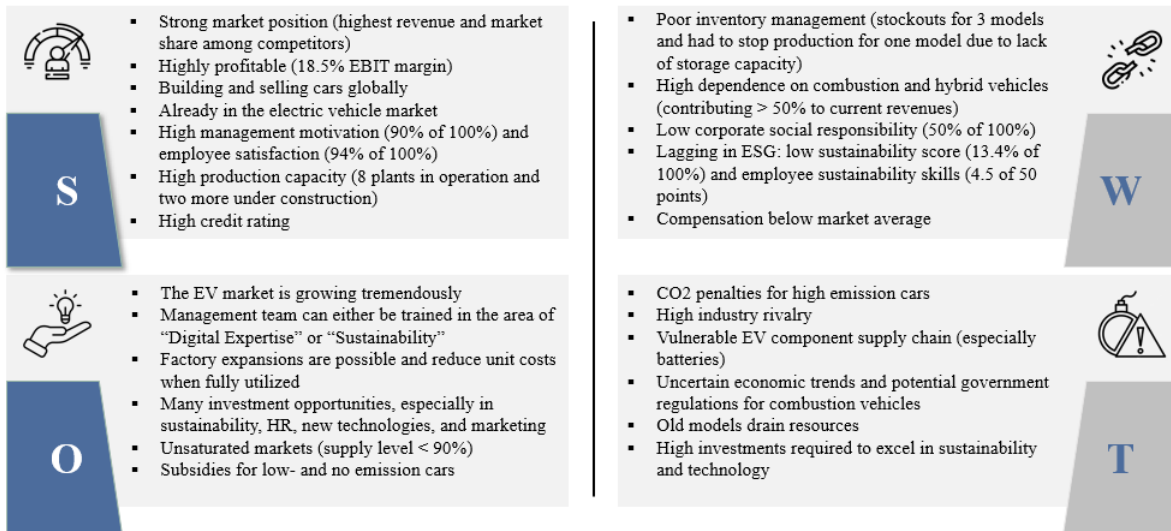


Figure 4: SWOT analysis (own illustration)

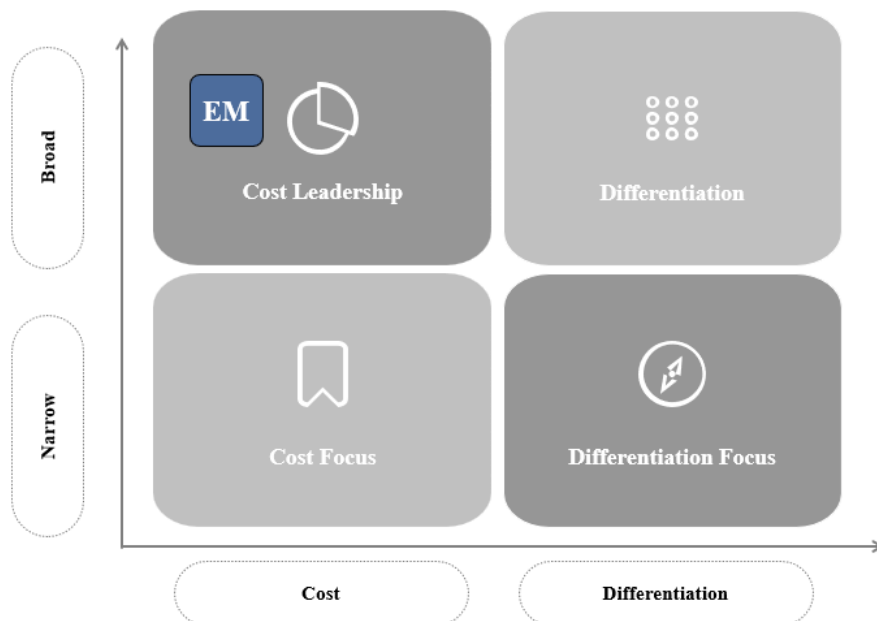


Figure 5: EM's strategic positioning according to Porter's Generic Strategies (Porter 1985) (own illustration)

Key Partners <ul style="list-style-type: none"> Suppliers of raw materials, batteries, semiconductors, etc. Governments, regarding CO2 subsidies and green bond regulations Shareholders of the company Dealerships for the distribution of cars 	Key Activities <ul style="list-style-type: none"> Car manufacturing R&D Marketing & Promotion Supply Chain Management Sustainable initiatives Other core functions, including HR, Strategy, and Finance Key Resources <ul style="list-style-type: none"> Strong brand reputation Financial resources Skilled workforce and management team, particularly in the area of sustainability Intellectual property Manufacturing facilities 	Value Propositions <ul style="list-style-type: none"> Sustainability: Offer environmentally friendly vehicles that help reduce carbon emissions Affordability: Providing cost-effective vehicles to make sustainable transportation accessible to the general public 	Customer Relationships <ul style="list-style-type: none"> User-centric customer service Automated services to reduce costs High speed and reliability of customer support Channels <ul style="list-style-type: none"> Direct Sales: Own website Indirect Sales: Dealerships Physical showrooms for customers to experience the vehicles before purchasing Digital marketing campaigns on social media to appeal to younger target group 	Customer Segments <ul style="list-style-type: none"> Urban commuters: Individuals in urban areas seeking compact and fuel-efficient vehicles Eco-conscious customers: Buyers who want to travel sustainably and reduce their environmental impact Price-sensitive customers: Customers who value affordability and value for money Regional focus: Sell cars in all three regions, with focus on Europe (due to its focus on sustainability) and China (due to its price-sensitivity)
Cost Structure <ul style="list-style-type: none"> Manufacturing costs, expenses related to production, including raw materials and labor High sustainability investments, particularly in operations and human resources High marketing and sales budget for advertising and promotion to penetrate the electric market R&D costs to develop new electric car models Administrative expenses, particularly for the managers and their sustainability training Potential CO2 penalties for remaining combustion and hybrid vehicles in the portfolio 		Revenue Streams <ul style="list-style-type: none"> Vehicle Sales: Revenue from the sale of primarily electric cars Government incentives: Financial subsidies for the production and sale of electric vehicles Leasing and financing: Revenue from vehicle leasing and financing options offered to customers Service and maintenance: Revenue from after-sale service, maintenance, and repairs EV charging network: Income generated from owning and operating EV charging stations 		

Figure 6: EM's Business Model Canvas (Osterwalder and Pigneur 2010) (own illustration)

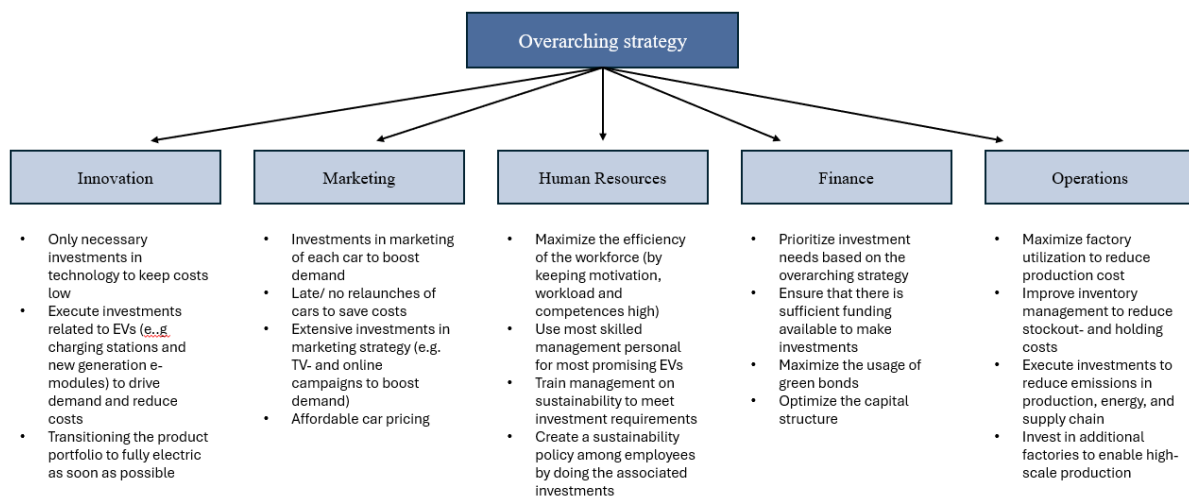


Figure 7: Implications of the strategy for each business function (own illustration)

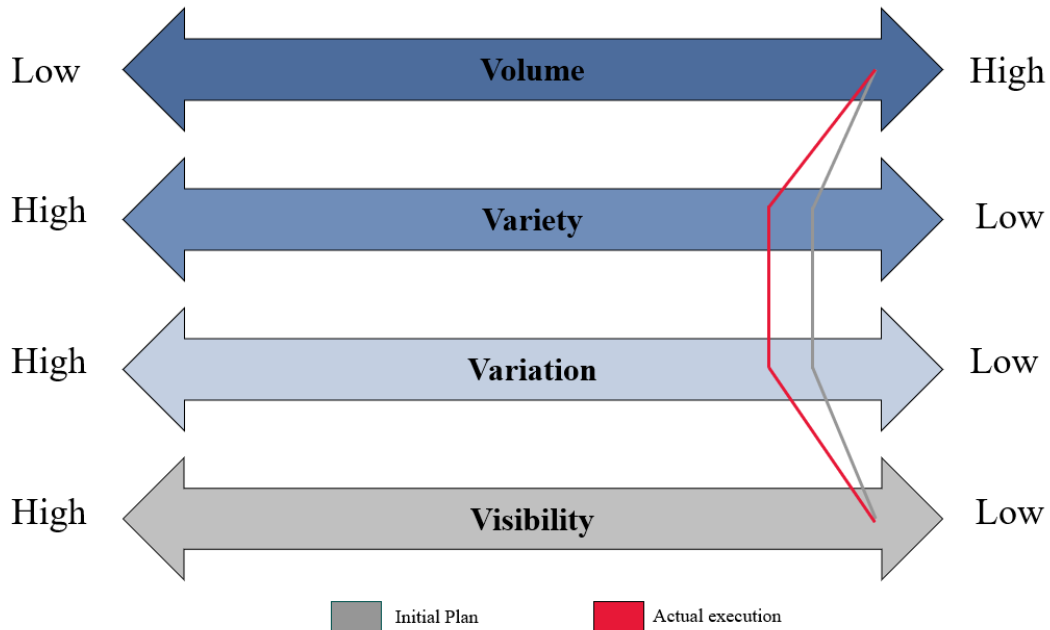


Figure 8: EM's operational characteristics according to the 4V framework (N. Slack, Brandon-Jones, and Johnston 2016, 19-23) (own illustration)

		Year 1											
		Q4			Q5			Q6			Q7		
		Car	Utilization	Car	Utilization	Car	Utilization	Car	Utilization	Car	Utilization		
EU	Sport-E		83%	Sport-E	100%	Sport-E	100%	Sport-E	100%	Sport-E	100%		
	Sport-E		83%	Lux 225G	100%	Microcar	83%	Sport-E	100%	Sport-E	100%		
	Lux 225G		83%	Lux 225G	100%	Microcar	83%	Microcar	100%	Microcar	100%		
							Lux 225G	100%	Microcar	100%	Microcar	100%	
CHINA	City-E		100%	City-E	100%	City-E	100%	City-E	100%	City-E	100%		
	City-E		100%	City-E	100%	City-E	100%	City-E	100%	City-E	100%		
										Lux225G	100%		
US	4x4E		83%	4x4E	100%	4x4E	100%	4x4E	100%	4x4E	100%		
	4x4E		83%	Business 135H	83%	Business 135H	100%	Business 135H	100%	Business 135H	100%		
	PU 225G		100%	PU 225G	100%	PU 225G	100%	PU 225G	100%	PU 225G	100%		
Business 135H	Inventory	44.066	0	26.106	17.960	15.000	26.106	6.854	15.000	26.106	-4.252	15.000	26.106
	4x4E	4.008	24.000	8.890	19.118	12.000	8.890	22.228	12.000	8.890	25.338	12.000	8.890
	Sport-E	4.502	13.500	11.377	6.625	13.500	11.377	8.748	13.500	11.377	10.871	27.000	11.377
	PU 225G	4.004	12.000	12.000	4.004	12.000	12.000	4.004	12.000	12.000	4.004	12.000	12.000
	Lux 225G	4.040	9.000	1.969	11.071	18.000	8.000	21.071	9.000	8.000	22.071	9.000	8.000
	City-E	32.056	36.000	34.888	33.168	36.000	34.888	34.280	36.000	34.888	35.392	18.000	34.888
Business 135H	Warehouse	20.000	5.000	20.000	20.000	5.000	20.000	20.000	5.000	20.000	20.000	5.000	20.000
	4x4E	32.000	8.000	32.000	16.000	4.000	16.000	16.000	4.000	16.000	16.000	4.000	16.000
	Sport-E	36.000	9.000	36.000	18.000	4.500	18.000	18.000	4.500	18.000	36.000	9.000	36.000
	PU 225G	16.000	4.000	16.000	16.000	4.000	16.000	16.000	4.000	16.000	16.000	4.000	16.000
	Lux 225G	12.000	3.000	12.000	24.000	6.000	24.000	12.000	3.000	12.000	12.000	3.000	12.000
	City-E	48.000	12.000	48.000	48.000	12.000	48.000	48.000	12.000	48.000	48.000	12.000	48.000

*Illustrative values

Figure 9: Schematic representation of EM's Operations Planning Excel File (own illustration)

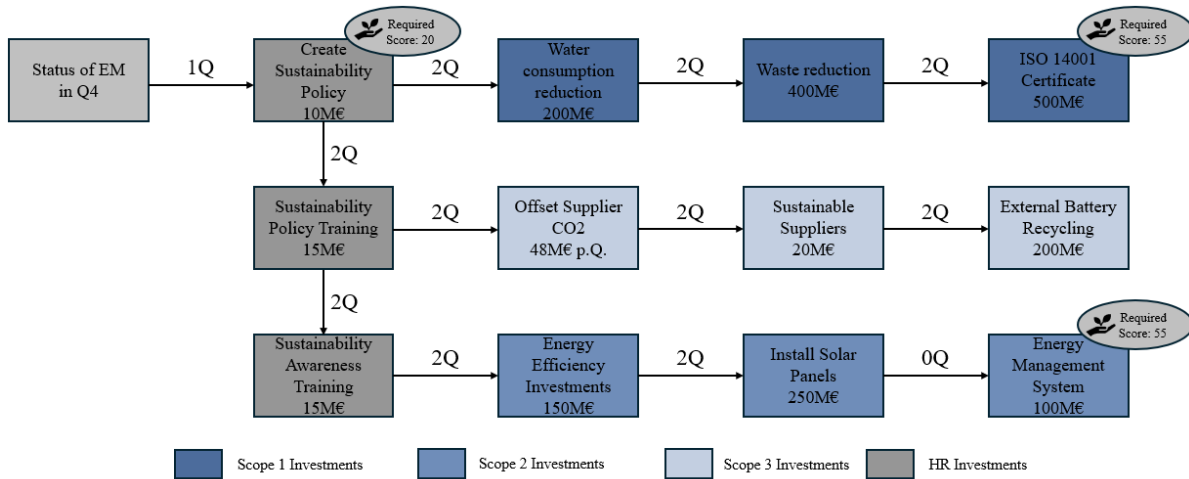


Figure 10: Possible investment roadmap in the simulation (own illustration)



Figure 11: EM's operational performance objectives (Slack, Brandon-Jones, and Johnston 2016, 39-54) (own illustration)

You at your best	Confident	Passionate	Focused	Calm	Collaborative
	I trust in my skills and abilities and approach challenges with self-assurance and clarity.	I approach my work and personal interests with deep energy, enthusiasm and commitment.	I have the ability to block out distractions and stay engaged in my tasks ensuring productivity.	Even in stressful situation, I remain calm, allowing me to think clearly and make thoughtful decisions.	I work well with teammates, engaging with others, sharing ideas, and contributing to team success.
You at your worst	Perfectionist	Micromanager	Reserved	Impatient	Insensitive
	I get lost in details, losing sight of the bigger and slowing down progress.	I often try to do everything myself, struggling to trust others and failing to delegate task.	I tend to be shy or reserved once I don't feel comfortable in a team, affecting my engagement/ communication.	I easily become frustrated or irritated when results don't meet my high expectations.	I sometimes overlook the emotional needs of others, focusing too much on results and efficiency.

Figure 12: Self-assessment "Me at my best – me at my worst" (Pinto Fernandes 2024)

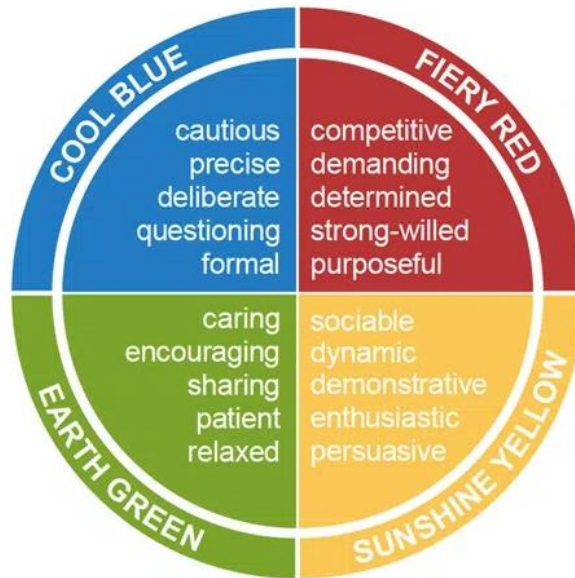


Figure 13: The four personality types according to the Insights Discovery test (Insights Discovery 2024)

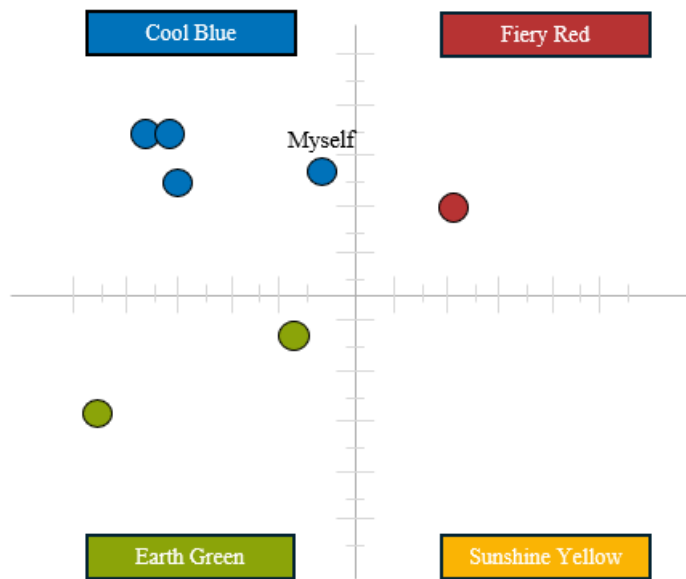


Figure 14: Personality Type matrix of the EM team (own illustration 2024)

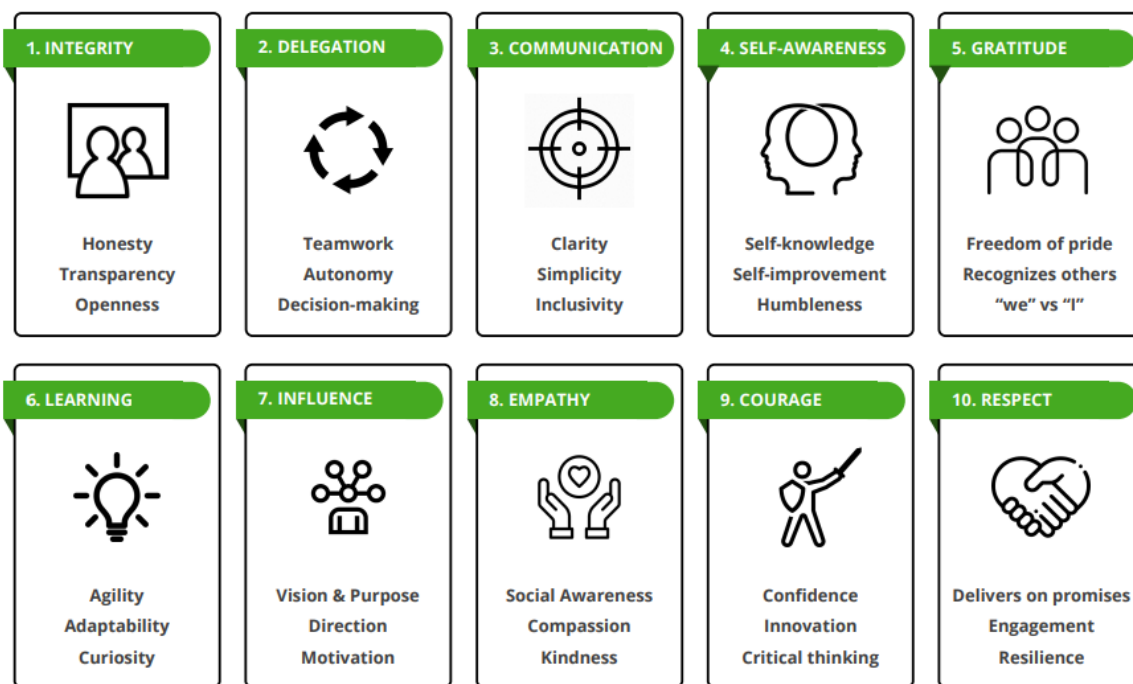


Figure 15: 10 key qualities of leadership (Pinto Fernandes 2024)

		Totally Agree	Partially Agree	Neutral	Partially Disagree	Totally Disagree
1. Integrity	I act in an ethical manner, am honest and open to hear others	x				
2. Delegation	I trust others to take responsibilities and encourage them to take decisions				x	
3. Communication	I am an effective speaker, able to work with all kind of people, tactful and good listener	x				
4. Self-Awareness	I know myself, am aware of my strengths and working on my improvement areas		x			
5. Gratitude	I recognize other people's efforts and celebrate their achievements		x			
6. Learning	I am open to do things differently, and adaptable to innovative ways of thinking	x				
7. Influence	I share my vision and keep a positive attitude while motivating others	x				
8. Empathy	I am sensitive to my peers, accepting others for who they are, and I am compassionate		x			
9. Courage	I can generate and express new ideas and think through stressful situations	x				
10. Respect	I deliver on promises, am committed and do not led astray by peer pressure	x				

Figure 16: Self-assessment of the ten leadership skills (own illustration)

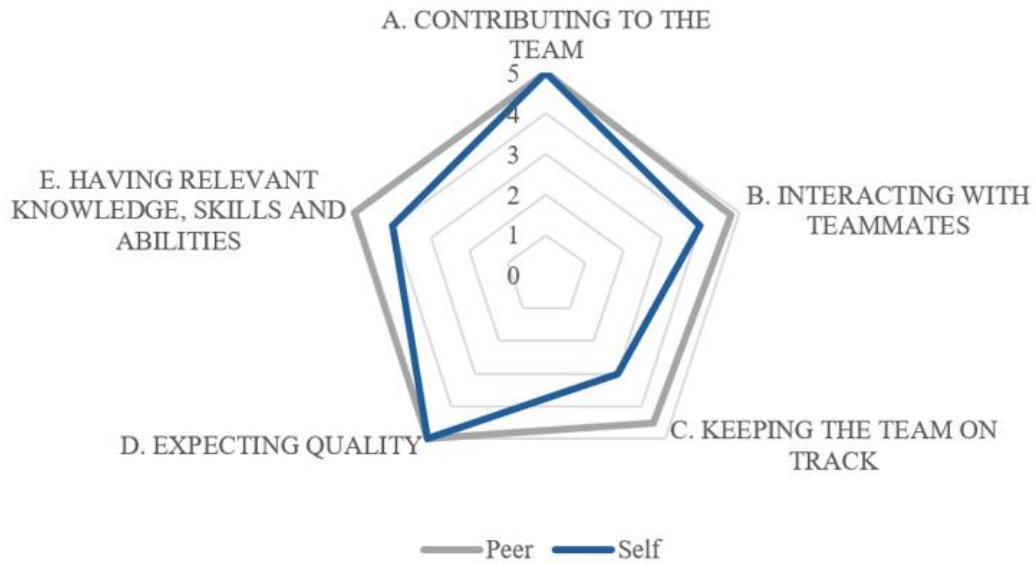


Figure 17: Self- and Peer Assessment of Jonas Rudolph's performance in the EM team (own illustration)

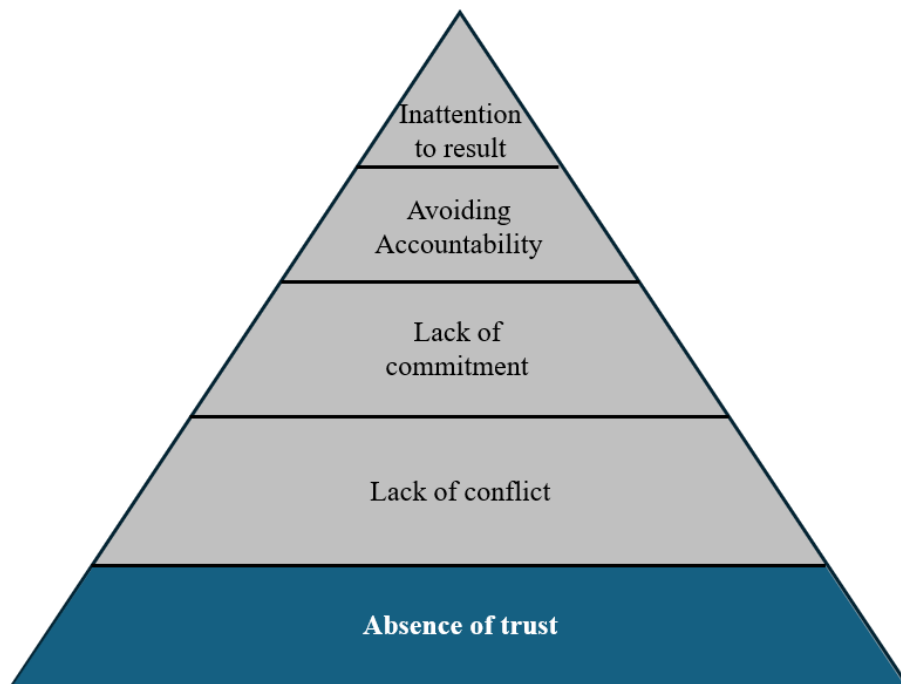


Figure 18: The Five Dysfunctions of a team (Lencioni 2022) (own illustration)

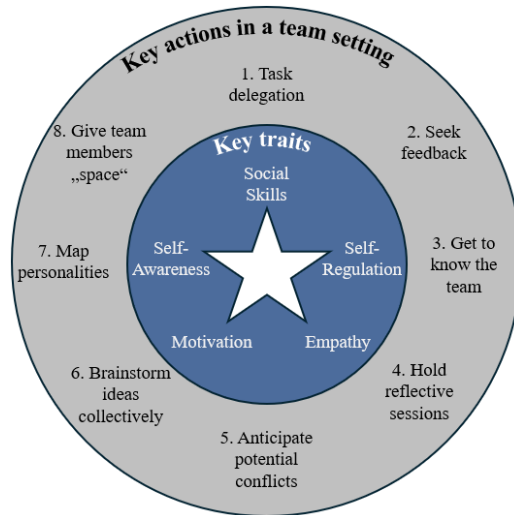
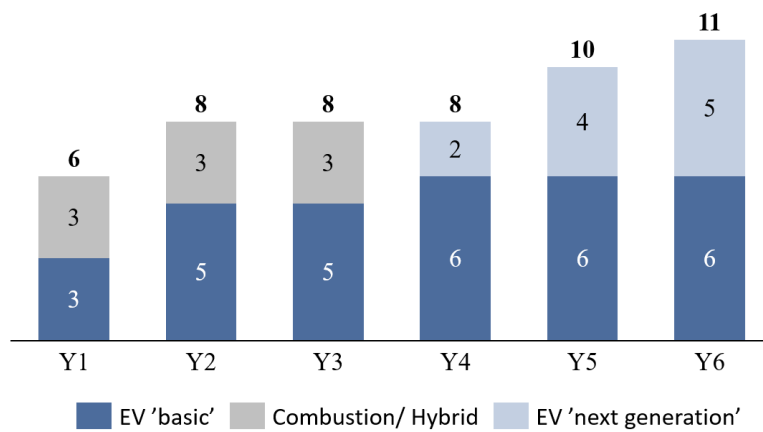
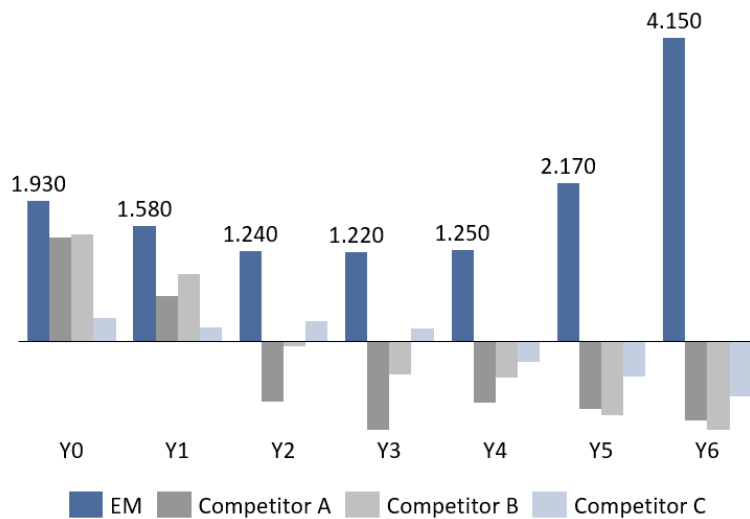


Figure 19: Key traits and actions to become a better leader (Goleman 1995) (own illustration)

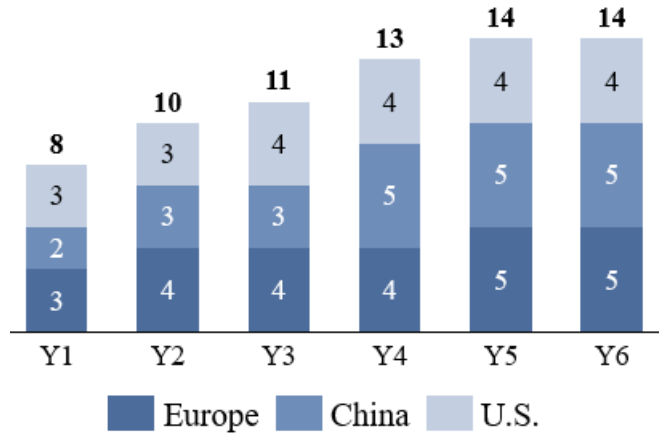
C. Graphs



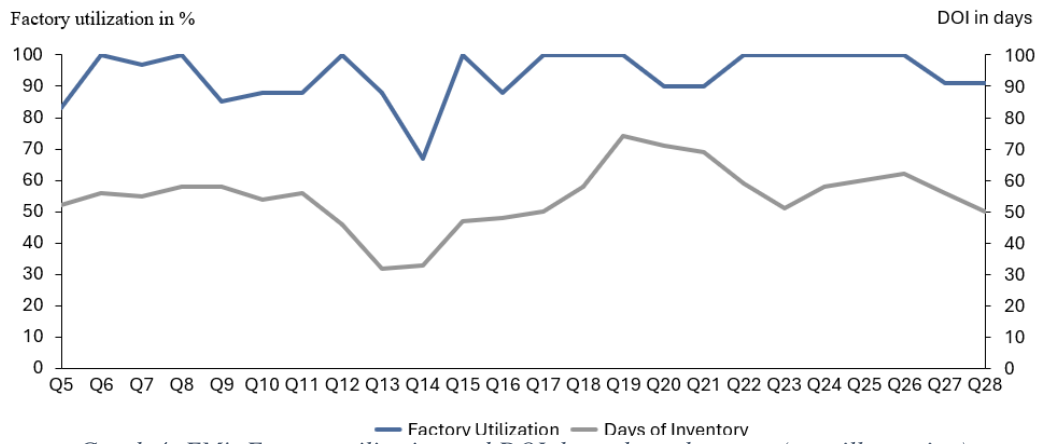
Graph 1: EM's portfolio per vehicle category at the beginning of each year (own illustration)



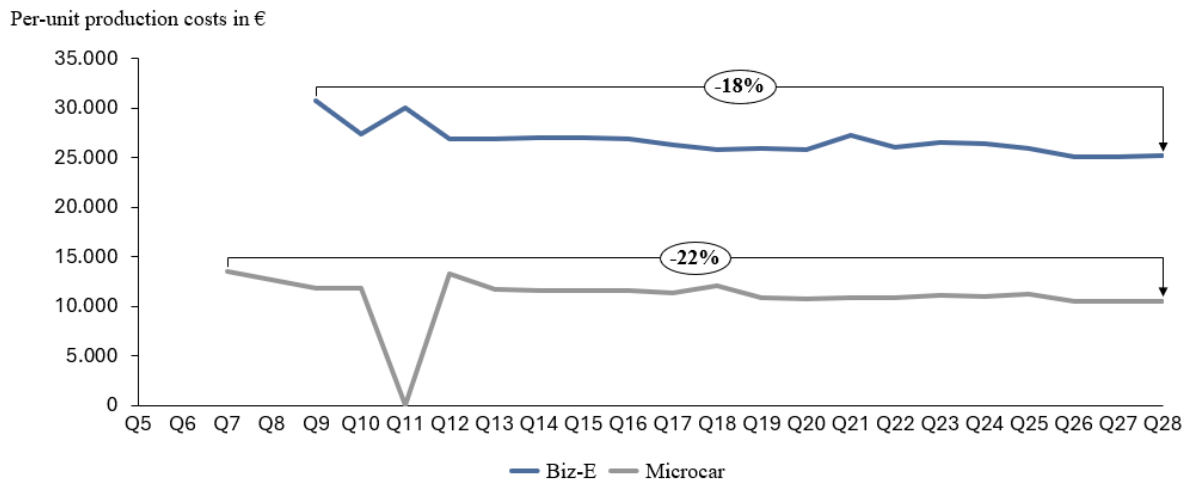
Graph 2: Value Added score in USD of EM and its competitors at the end of each year (own illustration)



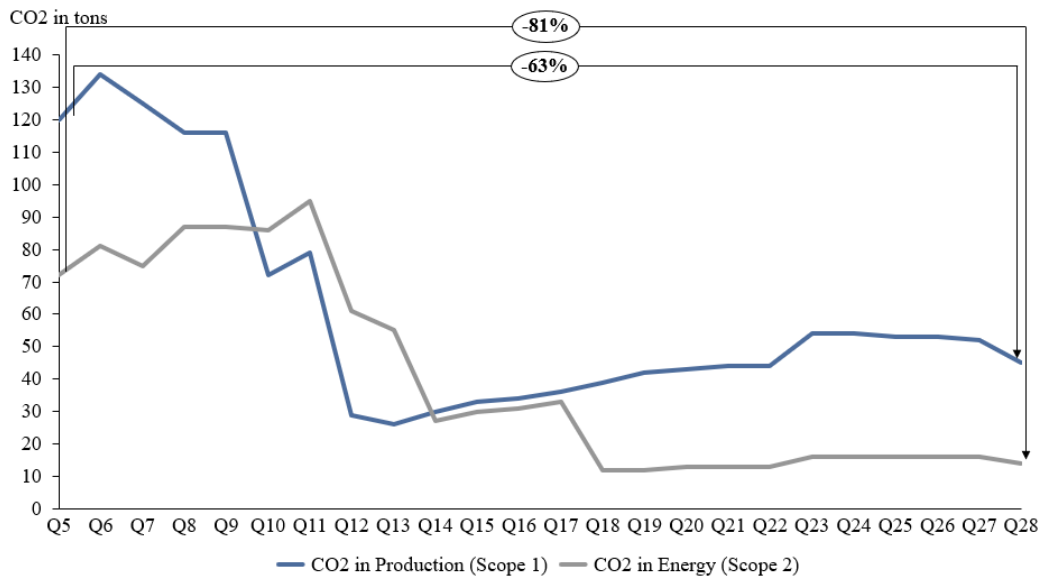
Graph 3: EM's factory plants per region at the beginning of each year (own illustration)



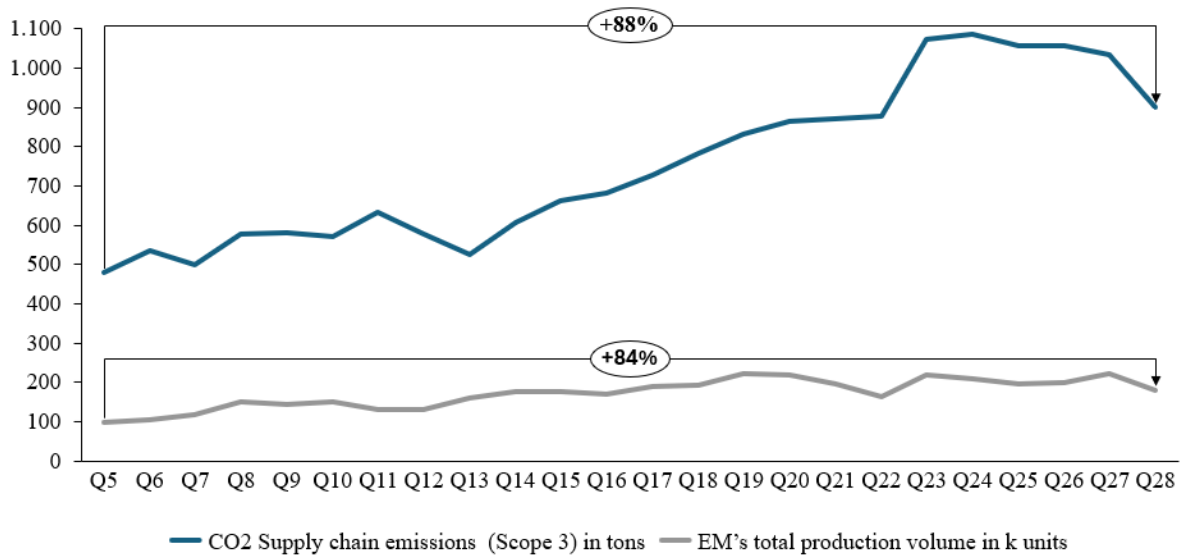
Graph 4: EM's Factory utilization and DOI throughout the years (own illustration)



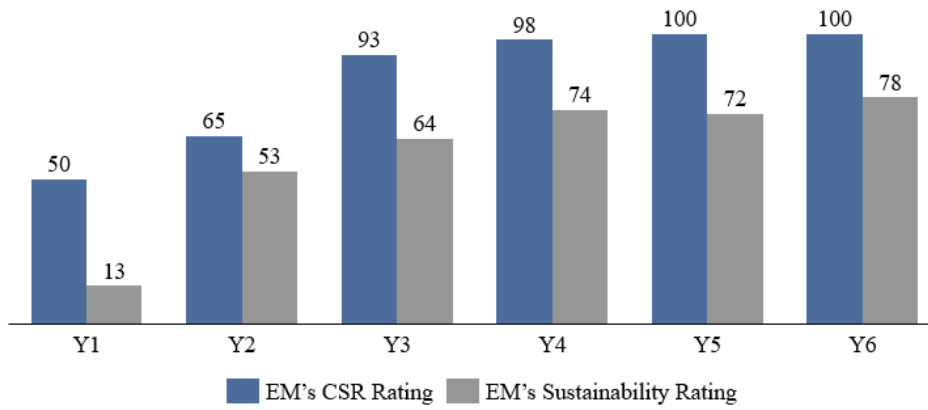
Graph 5: Per-unit production costs of EM's Microcar and Biz-E (own illustration)



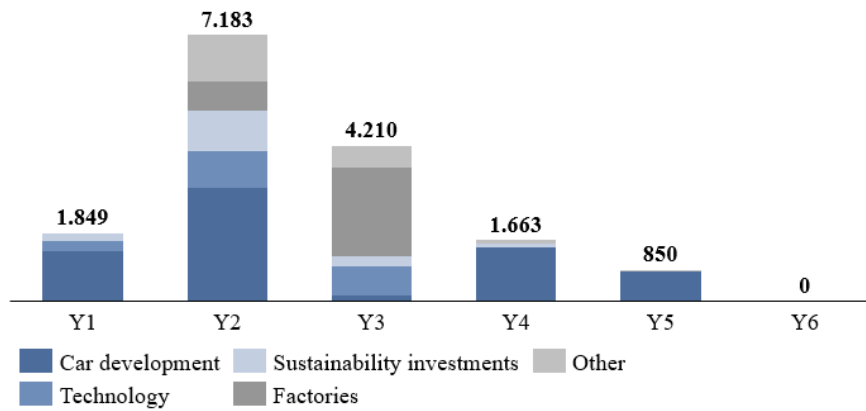
Graph 6: EM's Scope 1 and Scope 2 emissions (own illustration)



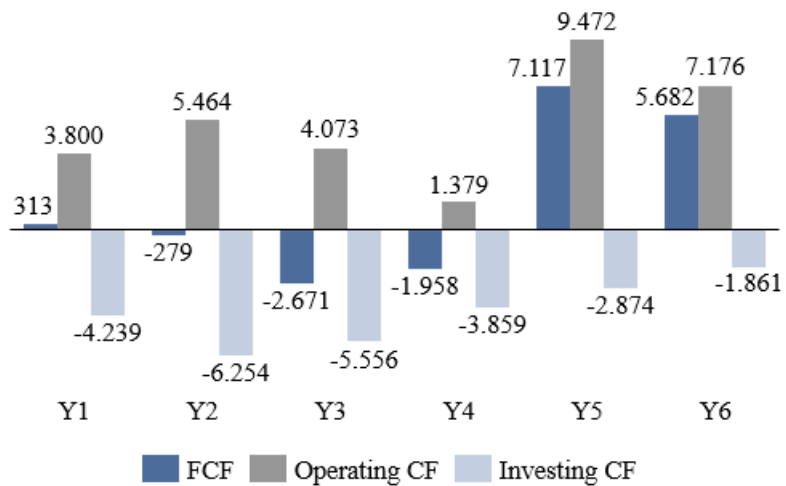
Graph 7: EM's Supply chain (Scope 3) emissions and total production volume (own illustration)



Graph 8: EM's CSR and Sustainability Score at the beginning of each year (own illustration)



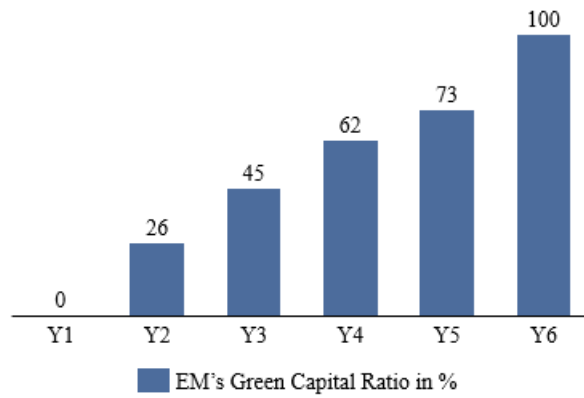
Graph 9: EM's investment per category in million Euro (own illustration)



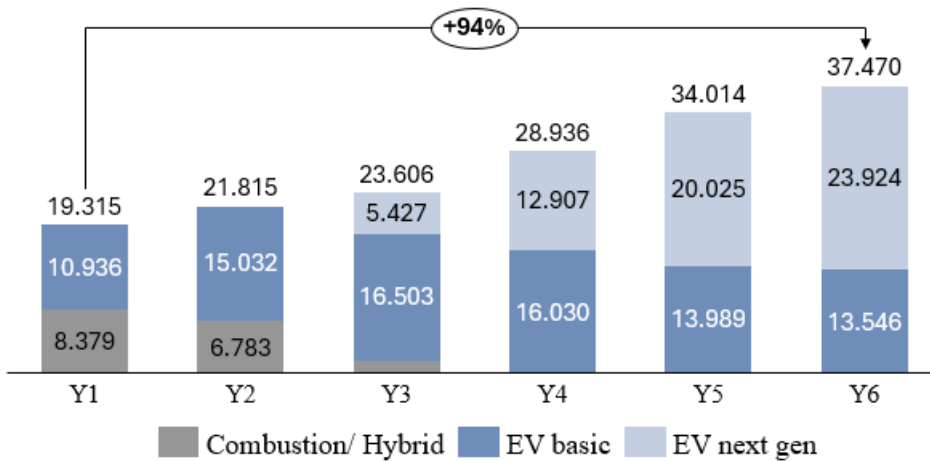
Graph 10: EM's Cashflow development in million Euro (own illustration)



Graph 11: EM's WACC and Debt-to-Equity Ratio at the beginning of each year (Own illustration, 2024)



Graph 12: EM's Green Capital Ratio at the beginning of each year (own illustration)



Graph 13: EM's revenue per portfolio category for each year (own illustration)

D. Tables

Model	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
Lux 225G	17.9%*	13.0%	9.8%	9.0%	7.1%	4.8%	2.7%	**	-
Business 135H	12.8%	18.7%*	16.5%	13.2%	12.8%	12.6%	10.2%	6.7%	**
PU 225G	16.3%	16.3%*	13.5%	12.0%	7.1%	8.0%	3.8%	1.7%	**

*Planned phase-out ** Actual phase-out

Note: In the quarter prior to the phase-out the car was not produced anymore, thus lowering the profit margin

Table 1: CO2-penalties adjusted profit margins of EM's non-electric vehicles (own illustration)

Possible Investments (Operations)	Scope	Material Cost	CSR	Demand	Motivation
Water Consumption Reduction	1	-	+	+	
Waste Reduction	1	-	+	+	
ISO14001	1		++	++	+
Energy Efficiency Investment	2	-	+	+	
Install Solar Panels	2	-	+	+	
Energy Management System	2	-	+	+	
Offset Suppliers CO2	3	+	+	+	
Sustainable Suppliers	3	+	+	+	
External Battery Recycling	3		+	+	



Investments undertaken by EM



Investments not undertaken by EM

Table 2: Operational Investments undertaken by EM (own illustration)

Quarter	Model	Missed sales in k units	Car price	Missed revenue in M€	Total revenue in M€	% of total revenue
Q10	City-E	13	22.814	297	5.661	5,2%
Q11	Microcar	20	22.814	456	5.899	7,7%
Q14	4x4-E	4	59.514	238	5.264	4,5%
Q17	City New-E	10	36.010	360	5.856	6,2%
Q22	4x4-E	2	58.531	117	8.156	1,4%
Q24	City-E	6	23.518	141	8.511	1,7%
Q26	Micocar	5	20.011	100	5.988	1,1%
Q5-Q28	-	60	-	1.709	-	-

Table 3: EM's stockouts and their impact (own illustration)