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BUSINESS IN PRACTICE – LEADERSHIP AND PERFORMANCE ANALYSIS OF A SUSTAINABLE BUSINESS TRANSFORMATION

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List of Abbreviations

BiP.	Business in Practice
DOI	Days of Inventory
m	millions
bn	billion
Q	Quarter

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Abstract

Global automotive companies are currently undergoing a profound transformation, forced by disruptive technologies and the increasing importance of sustainability. “Business in Practice” – a simulation program that challenges students to oversee a well-established car manufacturer within diverse, international teams amid this transformative period. This thesis conducts a comprehensive analysis of this management experience, emphasizing performance and leadership aspects. The firm analysis will concentrate on three core corporate functions: Strategy, Innovation, and Operations. Additionally, the second part of the thesis includes a personal reflection on the author's leadership skills.

Keywords

Business simulation, Automotive industry transformation, Sustainability and ESG, Strategy development and implementation, Innovation management, Operations management, Cross-functional decision-making, Team dynamics, Communication, Critical incident analysis

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Firm Analysis

1 The automotive industry transforms toward greater sustainability

The automotive industry has been undergoing disruption for years because of the proliferation of electric cars due to climate change and new companies like Tesla and NIO. Such epochs of disruptive technological change can pose significant challenges for well-established enterprises - which the Business in Practice (BiP) simulation attempts to reproduce. From Year 1, Quarter (Q)5 (the company was founded in Year 0) to Year 6, Q28, the new team took over the board of managers and the key functional areas of an established car manufacturer to guide it through the difficult transformation phase. During this time, a new strategy was formulated and implemented to transform the company from a conventional automobile manufacturer to a sustainable manufacturer of electric cars. Furthermore, to lead the company into the future and symbolize this new beginning, a new company name was established: IXOR, named after the Greek word 'ixos' (mistletoe), embodies innovation, sustainability, and luxury thanks to mistletoe's healing properties and unique nature.

The resulting research question drives this analysis: Was the developed strategy successful in sustainably transforming the company and improving its long-term performance?

In this section, the performance of IXOR over the simulated period of six years in the areas of strategy (Chapter 2), innovation (Chapter 3), and operations (Chapter 4), as well as the connections between these areas, are analyzed and discussed. The team’s decisions and the simulation data are critically evaluated with academic frameworks, and comparisons are drawn with real companies. To conclude, Chapter 5 focuses on the key findings, main learnings, and the interdependencies of decisions across the functions.

2 Evaluation of IXOR's strategic response

After analyzing the most important and prevailing definitions of strategy, Johnsen et al. defined strategy as “the long-term direction of an organization” (2017, 4). According to David, the process of strategic management consists of strategy formulation, strategy implementation, and strategy evaluation (2011, 6-7). This process serves as a basic structure for the following analysis. The analysis also incorporates the concept of Mintzberg and Waters, who stated that a strategy evolves from an intended strategy to the realized one because, in addition to the deliberate strategy, components of the initial strategy remain unrealized while new unintended strategy components emerge (1985, 258). The initial strategy is part of the strategy formulation, while the deliberated, unrealized, and emergent strategies are the focus of the strategy evaluation.

2.1 Strategy formulation

Strategy formulation comprises identifying external opportunities and threats to the company; analyzing internal strengths and weaknesses; developing the company’s vision, mission, and values; and deriving the initial strategy (David 2011, 6).

2.1.1 Initial company review

To formulate a strategy, an external and internal audit must be conducted to examine the company more closely. As a basis the SWOT framework was used. In this framework, the external opportunities and threats of a company are linked to its internal strengths and weaknesses (Johnson et al. 2017, 115). Due to space limitations, the detailed one-page internal and external analyses can be found in *Appendix 1*.

2.1.2 Initial strategy

Based on the results of the analysis, an initial strategy was developed for IXOR to exploit the company’s strengths and opportunities and minimize its weaknesses and threats – or, in other words, to prepare for the future. To define the strategy, the purpose of the company in terms of

its mission, vision, and values has to be defined. A mission indicates for what a company fundamentally exists. The mission at IXOR is “enabling sustainable mobility transition by selling the most advanced zero emission cars.” With this mission, IXOR attempts to achieve its vision of “drive and save the future.” The corporate values of IXOR – that is, the “underlying and enduring core ‘principles’ that guide an organization’s strategy and define the way that the organization should operate” (Johnson et al. 2017, 8) – are corporate social responsibility, sustainability, innovation, and quality (further explanations in *Appendix 2*).

To derive the strategy from the above-stated purpose, the strategic diamond framework was utilized – which consists of five key elements: arenas (where a company competes), vehicles (how it competes), differentiators (what sets it apart), staging (timing and sequence of actions) and economic logic (how it makes returns) (Hambrick and Fredrickson 2005, 54). IXOR plans to continue offering all product segments in the USA, Europe, and Asia as well as manufacturing in these countries, but aims to establish a high-quality, high-tech electrical product portfolio in the next 6 years. With these products, IXOR aims to establish itself in the premium segment, in contrast to its current market positioning (*Appendix 3*). This will allow the company to be less dependent on economics of scale in the new electric market, since premium cars are already profitable at lower volumes due to the higher margins (e.g., Ferrari has a margin of 24%, while Nissan’s margin is only 3.5%) (Fiat Group 2023). For this, IXOR will rely on internal product development with high investments to become an innovation leader. To minimize risks, the company will distribute the investments gradually. To convey its new image to customers and establish a strong brand like Porsche, IXOR will significantly increase marketing expenditure[1] compared to its previous 1% of revenue to achieve the largest possible market share and margins.

[1] Was achieved with an average marketing cost of 3.33% of revenue between Years 2 and 6, Porsche was even spending roughly 6% in 2022.

In addition, the company will invest in the sustainability of its operations and employees to become a socially and sustainably responsible company – a high priority that is, nevertheless, subordinated to the innovation offensive in terms of capital allocation.

To cover the high investments and costs, IXOR will target price-insensitive customers who are willing to pay a premium price for a unique and advanced product.

The strategy is similar to that adopted by Peugeot to establish itself as the premium brand within the PSA group. The company accelerated the quality of its cars, invested large sums in features and innovation, and utilized high levels of marketing. These actions changed the brand perception over the long run, and the company was subsequently able to increase prices, become more profitable than before despite reduced sales numbers.

2.2 Strategy implementation and evaluation

During the implementation of the initial strategy in the simulation, the strategy was adjusted repeatedly due to changes in various conditions and unexpected developments. This section examines the most important corrective actions (David 2011, 7).

For the successful implementation of the strategy, a detailed, 3-year strategic implementation plan was created upfront for all departments and then discussed and revised quarterly and annually when necessary. The combination of agility and a clearly defined vision, mission, values, and strategy helped evaluate opportunities and challenges quickly (David 2011, 6-8).

For example, IXOR's core values helped determine whether to offer green financing or leasing to customers. While green financing required a higher investment, it was more in line with the value of sustainability since customers were actively encouraged to trade in old vehicles for recycling. Furthermore, due to the core value of social responsibility, the company invested significantly in training employees with a focus on sustainability, as motivated employees are crucial for the success of a company. This importance of employees is why, when IXOR faced a strike demanding a significant wage increase, the company decided to comply with the

demand. Because of the lack of budget and the critical stage of the company at that time, IXOR could not simultaneously invest in a sustainability project that was also proposed, which was not in line with its core values. Further investment decisions are discussed in greater detail in the innovation and operations Chapters.

The demand for electric cars was lower than forecasted, in the first years, resulting in lower revenue growth with just 15.5%[2] over the first three years (with some fluctuation) (*Figure 1*) and in combination with the high investments to a value added decline from $1,291.8m to $819m in the first three years:

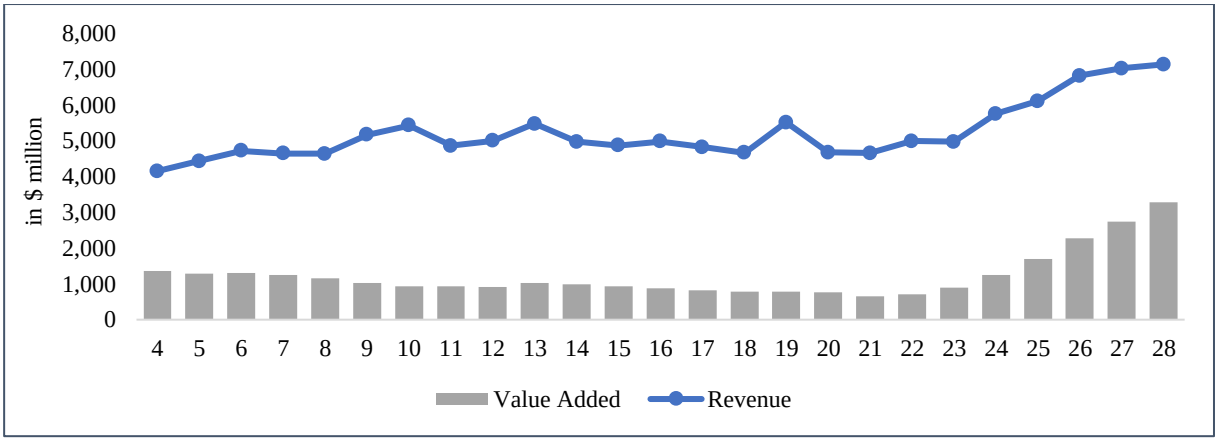

Figure 1: Development of IXOR's value added and revenue over the quarters

Therefore, marketing activities were increased, and the prices of new (high price) cars were reduced. Premium manufacturers, such as BMW and Mercedes, were also forced to reduce prices to boost the disappointing sales of electric cars in the Chinese market (Bloomberg 2022). However, reducing prices and short-term revenue jumps in Q9, Q10 and Q13 (*Figure 1*) through new electric cars and the overlap strategy (*Appendix 11*) did not produce the desired results for IXOR, so the company invested in a new, high-volume product segment, "Micro Electric," in Q15 to utilize its production capacities better. This car was launched as a "fighter" brand[3] to make the brand and features available to a wider customer base.

[2] For example, BMW´s revenue grew by 37% during the last three years (Statista 2023 a).
[3] Lower-priced brand to combat low-cost competition (Ritson 2009).

After the first 3-year strategy implementation plan was completed, an external consultation was conducted, and IXOR was advised to lower prices even further. After intensive consideration, the company decided to move away from its original strategy of asking premium prices and offer the most expensive products on the market. According to Shahzad, Bajwa, and Zia, both differentiation and low-cost strategy elements can be combined in a dynamic and disruptive business environment (2013, 196). However, IXOR did not consider that, with the upcoming market introduction of the IXOR City Sprinter E, it had already initiated a measure to address the operations problem. Therefore, both initiatives together led to the opposite effect: the production capacity was no longer sufficient to meet the total demand. Thus, the company raised prices again, starting in Q20, which allowed IXOR to return to its initial strategy rather than remaining between differentiation and cost-leadership strategies. In addition, IXOR decided to invest in a new production line in China in Q20 to meet the high demand and generate more growth. This mistake could have been prevented by a revised forecast regarding the two initiatives, which would have helped, in the best-case scenario, to recognize the need to expand production capacity earlier, thereby achieving growth faster.

After revenue in Q19 grew by approximately $1bn and 20%, (*Figure 1*) respectively, due to the full market maturity of the new electric Lux E and City Sprinter E, IXOR lost a major customer with an annual revenue of $1.92bn and a gross profit of $769m in Q20 (*Figure 1*). This loss meant that the growth generated by the increased market demand for electric cars was lost.

However, due to the second product offensive and the new production line, the company was able to generate strong revenue growth of 43.5% between Q23 and Q28 and, thus, a significant increase in value added of 365% (*Figure 1*). This value could have been even more significant, but in the last year, IXOR had lost an investor due to the poor preparation of its first ESG report, which resulted in the divestment of a $1bn investment and therefore significantly impaired the value added.

In summary, a good strategy was developed and implemented in a well-planned manner as seen in the long-term upward trend over the last 2 years, and the value added was increased from $1,292m to $3,287m in the six years, while the revenue increased by 171% to $7,135m. Thus, the strategy transformation toward a sustainable electric car manufacturer classically followed the j-curve of startups (Love 2016). Due to the significant investments at the beginning, the value added initially fell during the transition phase, which is characterized by product development, but then rose sharply due to the ramp-up of production, as in the ideal curve. However, in the valley of death, IXOR over hasted on the lower-than-forecasted demand challenge, and the leadership team placed too little focus on the external sales challenges, thereby losing key customers and investors.

3 Innovation creates the future business

"Innovation is the cornerstone of sustained business growth and competitiveness in today's rapidly evolving market landscape" (Drucker 2002). Therefore, the innovation department was key to the execution of IXOR's strategy. The department's responsibilities include developing new car models, optimizing feature combinations, and evaluating and guiding feature investments in the areas of autonomous driving, connectivity, and electrification. Additionally, the CO2 report is significant because the overarching objective of the department was to eliminate fleet-based CO2 emissions to earn CO2 bonuses rather than paying high penalties. Thus, the analysis below focuses on portfolio management and investment decisions.

3.1 Portfolio management

Before beginning the simulation, the initial portfolio was examined from the following points of view for optimal portfolio innovation: trend of sales and profitability; market trends, such as the regulatory limit of fleet-wide average CO2 emission to 95g CO2/mile with $60 penalty per g/mile exceeded and the expected 20% drop in sales of diesel cars in response to the diesel

scandal; and life-cycle analysis with the technology s curve, which has the phases introduction, growth, maturity, and decline. When a product has reached maturity, it is necessary to invest in product innovation to avoid the decline in demand (Kucharavy and De Guio 2011, 561). Furthermore, with an initial portfolio offering just one hybrid car, IXOR far exceeds the legal maximum fleet emission with 130.7 g CO2/mile and must pay with $935.8m (5.6% of the revenue) by far the highest CO2 penalties of all competitors in Year 0.

Due to high emissions and the expected drop in sales resulting from the diesel scandal, the 4x4 100D and Biz 135D models were prioritized for portfolio renewal. Initially, the 4x4 100D was favored due to its higher maturity. In addition, evaluation of customer preferences showed that SUVs would be most negatively affected by the change from conventional cars to electric cars. Therefore, IXOR decided to launch a hybrid SUV allowing product development in the first quarter since the electric powertrain would not be available until the seventh quarter. Unfortunately, the demand for the product was low because the company made the mistake of equating the customer preference for combustion and hybrid cars. In addition, in the following years, customer preference shifted toward electric cars, and competitors offered electric SUVs, making IXOR's product unattractive. In addition, this decision led to the offering of two large luxury high-powered hybrid cars, the Lux 225H and the 4x4H, which emitted significantly more CO2 than allowed despite the more sustainable powertrain. Thus, IXOR had to pay significantly longer and higher cumulative penalties with $2.3bn (*Appendix 4*).

With the availability of the electric powertrain, investments were made in the development of a new executive class model, the Biz E. Due to its advanced maturity, investments were made in the development of the Air E, followed by the Compact E, in the subsequent quarters. With this, IXOR followed other premium brands, such as Mercedes (Schäfer 2018), in their electrification to rely on the top-down principle (starting with bigger, luxury flagship models and working down the portfolio).

Examining the initial wave of electric models and their comparatively exceptional features raises queries about their less-than-optimal market reception and demand. The most plausible reason for this reception, particularly when pursuing an innovation-driven technology-push approach, could revolve around the context beyond advanced technology, including consumer apprehension toward new innovations. The bulk of consumers fall outside the Innovators and Early Adopters category, preferring to mitigate risk and await broader acceptance before embracing new technology (Rogers 1995, 166). Consequently, companies with pioneering features, such as IXOR, face the challenge of limited initial consumer acceptance. Although IXOR's models might have showcased unparalleled features, competitors' offerings, while less groundbreaking, may have aligned better with prevailing market demand. More market research and data analysis should have been done to determine which features customers desired. However, with improved market maturity and infrastructure, the acceptance of electric cars increased steadily from Q10 onward. Therefore, IXOR achieved 100% customer satisfaction with its advanced features from Q15 onward.

After developing most of the available features, IXOR decided to develop its flagship model as an electric car, the Lux E, in Q14 and, as explained on page 6-7, the City Sprinter E in Q15. Both models were successful due to the strong demand for electric cars. In Q17, Q18, Q19, and Q21, the company invested in the second generation of its electrified models using the same top-down methodology to implement new features, remain competitive, and counteract the fleets' aging. With the launch of the 4x4 E, IXOR managed to achieve a zero-emission product portfolio by Q20 (*Appendix 5*) and thus benefited even stronger from the government program "Project Green Car" and the bonus payments of $30 per gram CO2 below the allowance of 70g/mile introduced in Q16. This enabled the company not only to offset the cumulative CO2 penalties until Q25 but also to generate $810.4m extra revenue in the last year (*Appendix 4*).

The second car generation was significantly more successful than the first due to increased demand, electric testing, government incentives, and improved infrastructure. IXOR achieved a market share of over 5% in all core segments, selling the Top 5 models by revenue (due to high price strategy) in the market while offering the most advanced features (*Appendix 6*).

3.2 Investments in the entire business ecosystem

In addition to the investments in the development of new models described above, IXOR also invested in features and services for the cars. In total, the company invested $9.9bn in the innovation department over the 6 years. IXOR's technology investment strategy focused on the timely exploration of new technologies and features for upcoming product launches.

While Mercedes, the most innovative premium brand according to PwC and the Center of Automotive Management in 2022 (Schesswendter 2022), invests 5.7% of its revenue in R&D in 2022 and is also transforming to an electric portfolio (Statista 2023 b; Statista 2023 c), IXOR invested significantly more in the first years, at 13.4%, 7%, 9.5% and 13%. This shows that high investments do not automatically lead to direct market success. As previously discussed, IXOR pushed its developments into the market before the customer were ready.

Initially, IXOR prioritized researching e-mobility features and services to quickly meet customer requirements. Despite higher investment costs and potential reliability issues, the company invested in solid-state battery technology in Q6, aligning with its sustainability values for longer-range electric cars. This decision was crucial due to customer skepticism about electric cars' environmental impact due to the sustainability of batteries and the raw materials needed. Additionally, investing in residential charging stations in Q7 addressed range and charging time concerns, reducing barriers to electric vehicle adoption before IXOR launched its first electric car. In Q12, IXOR tried to further accelerate adoption by establishing a fast-charging system. NIO has taken an even more extensive approach with their charging solutions

and services, including battery swap stations and mobile charging vans, to facilitate convenient and efficient charging for their electric cars (NIO 2023).

In Q24, IXOR entered the car-sharing market through an acquisition (in-house development would have taken too long) to benefit from the trend of diversified mobility. Although this acquisition represented a large investment of $1bn and could not generate a positive net present value in the three quarters it was effectively available to customers in the simulation, it was a sound investment in the future of the company. According to the three-horizon framework from Baghai, Coley, and White (1999), the acquisition was a Horizon 2 investment – that is, the development of new customer segments and markets.

4 Operations as the decisive factor for IXOR's transformation

"Operations management is the set of activities that creates value in the form of goods and services by transforming inputs into outputs" (Heizer 2010, 36). In the simulation, operations management included activities like production-line expansion, production planning (where to produce which model in which quantity), scaling production up or down, and investments in CO2 reduction to enhance sustainability. IXOR's core challenge was crafting a dynamic production system that aligned capacity and inventory with demand. Achieving such as system involved decisions shaped by sales projections, utilization, industry trends, and competition.

The operations performance objectives quality, speed, dependability, flexibility, cost, and sustainability (added by Prof. Costa) help a company achieve competitiveness, but according to Skinner, a company must sacrifice one objective to achieve excellence in another (1969). Therefore, IXOR concentrated on quality, flexibility, and sustainability. To achieve these objectives, the operations department developed KPIs: days of inventory (DOI)[4] below 60 days, factory utilization above 90%, and CO2 emissions in scope 1, 2 and 3. In the following section,

[4] The days of inventory are the average time a company needs to sell the inventory.

IXOR's operation department is analyzed through a discussion of these KPIs, and mistakes and key lessons are elaborated. The emissions caused by operations are analyzed separately in Chapter 4.2 (*and Appendix 7-10*) because of the required investments.

4.1 KPI analyses

IXOR's operations management was highly controlled by the four Vs. In line with the company's premium strategy, IXOR had low volume but high variety of products to offer six customized models for different target customers (Katic and Agarwal 2018, 69). The variation in demand fluctuated greatly because of the new technology and was therefore difficult to predict, which created challenges for production planning. This factors led to high unit costs, as economies of scale were not achieved since only one or two production lines were used. However, it allowed the desired flexibility, aligned with IXOR's strategy, and still led to high margins due to the premium prices. Nevertheless, visibility was low because of the nature of a car manufacturer's business model (Slack, Brandon-Jones and Johnston 2013, 24).

After the market research regarding customer preferences, pricing, historical sales data, tariffs, and production costs was evaluated, the large high-end models were produced in smaller quantities in the USA, while the mid-size cars were produced in Europe and the compact cars were produced in China.[5] This division initially led to 100% factory utilization in the first year, but due to overestimated market demand for IXOR's products (and the inability to produce less than 15,000 units per production line and to shut down factories), the company's DOI rose above the 60-day mark (*Figure 2*). To stabilize the DOI around this mark to control costs, the factory utilization in Years 2 and 3 was characterized by high fluctuation because IXOR had to suspend production of models with too high DOI and make adjustments repeatedly, resulting in lower factory utilizations:

[5] Due to the limit of this paper, the analysis (especially tariffs) will be explained further in the defense.

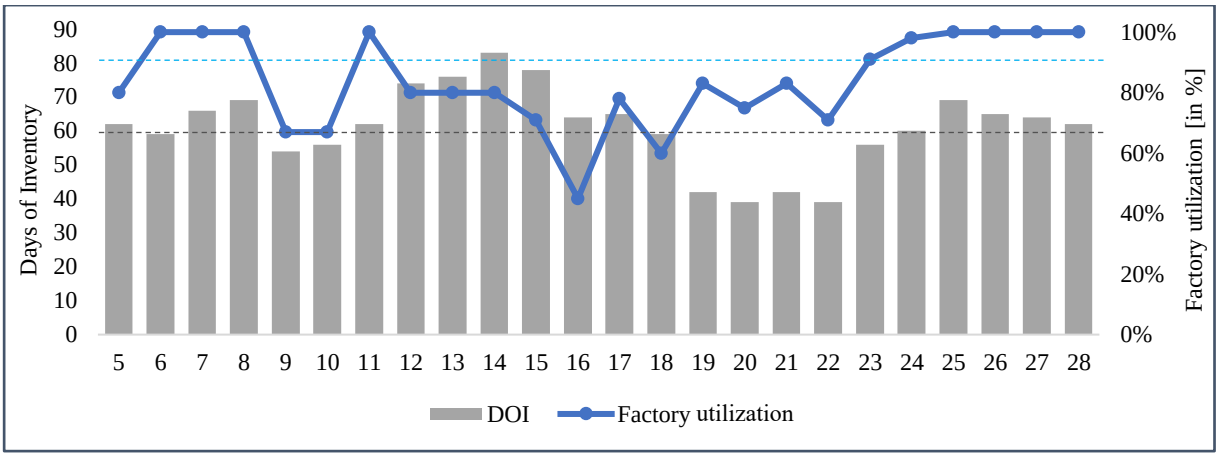

Figure 2: Development of IXOR's days of inventory and factory utilization with KPI lines

In cooperation with the marketing team, the company attempted to solve the problem through promotion and pricing activities, but as Shalender and Singh similarly determined, this was only a short-term solution (2015, 255). The respective refitting times (3 weeks), costs (fewer products produced to cover fixed costs and changeover costs), subsequently declining EBIT margins (*Appendix 12*), and fluctuation of required employees (much resentment at HR) led IXOR to adjust its initial strategy (*see p. 6-7*). Due to the aforementioned mistake of the simultaneous price reduction of all products and the introduction of the City Sprinter E in Q17, which was produced in Europe due to customer preferences, the DOI fell into a significantly low range from Q19 onward. Therefore, demand for some products could not be met, and IXOR decided to invest in a new production line in China in Q20. The production was expanded in China to enable future production of the Lux without affecting the production and sales of the volume product City. The sales of the Lux in the Chinese market were expected to increase significantly, as without the transport costs and tariffs, the market price would be significantly lower and thus better suited to the price elasticity of Chinese customers. However, factory utilization did not increase immediately, as the production start of the City Sprinter E, Lux E, 4x4 E, and the second generation of the remaining models caused long changeover times and a subsequent loss of production. With the high demand for the new models, IXOR managed to keep factory utilization at 100% from Q23 onward, and with the opening of the new production

line in China in Q23, the company also managed to level the DOI around 60 to meet the demand for all models. With around 60 days of inventory, IXOR is similar to other premium manufacturers, such as BMW, which also had around 60 days in the last 10 years (Morningstar 2023 a). In comparison, volume manufacturers like Toyota have significantly lower DOIs, with an average of 42.6 days in the last 5 years (Morningstar 2023 b).

When introducing new models, IXOR relied on an overlap strategy (*Appendix 11*) before it discontinued the old model, which worked well for the change from internal combustion to electric cars but not for the change of electric car generations due to cannibalization. With the change from the Air 135G to the Air E, the old model was accidentally taken off the market too early in Q10, which meant that IXOR was not able to use the overlap strategy as planned and had an avoidable drop in revenue of around $600m in Q11 (*Figure 1*). This decision was considered to offset the short-term debt caused by the negative net income in Quarter 10 (*Appendix 12*), which was triggered by high costs.[6]

4.2 Investments in sustainable operations

The operations team had the opportunity to reduce emissions from production (Scope 1), energy (Scope 2), and the supply chain (Scope 3) through investments in green projects. Reducing greenhouse gas emissions is crucial for businesses, as failure has regulatory and reputational damage risks while success offers efficiency, cost savings, and competitive advantages (Levin et al. 2023). In total, IXOR invested more than $1.6bn, reducing emissions by 74% in Scope 1, by 83% in Scope 2, and by 85% in Scope 3. *Appendix 8-10* shows the development of IXOR's CO2 emissions, and the investments made. Due to space limitations, the detailed one-page analyses can be found in *Appendix 7*.

[6] Due to the page limit of this paper, the analysis of the EBIT margin and net income development will be explained in the defense.

5 Conclusion

The company was successfully transformed into a sustainable electric car manufacturer, revenue was almost doubled, and value added was tripled in the 6 years. However, some challenges were encountered during this transformation. One major issue was unstable production due to lower-than-predicted initial demand. IXOR mistakenly attempted to solve this problem both by introducing the new segment "Micro" and by drastically reducing prices. Better collaboration between the operations and marketing team and a more data-driven demand forecast would have improved the alignment of production and demand, and issues would have been anticipated and resolved earlier. This reveals how interconnected the different functional areas in a company are; none of them can make efficient decisions without the others.

At IXOR, the innovation department collaborated with the finance department for funds and marketing for customer insights, which helped the company develop superior products. Operations, HR, and marketing had to get the insight of developed cars to prepare the launch. The mission was to invest in green electric mobility and features, many of which were qualified for funding with green bonds, reinforcing its dependence on finance. Based on the capital allocation of the finance department and the resource requirements of the innovation department, the operations team had to plan its investments. Operations and marketing collaborated to gauge and manage demand via pricing, promotion, and supply through production adjustments. The latter closely tied operations and HR, as production tweaks impacted staffing. Conflicting departmental goals necessitated constant compromise, with the initial strategy serving as valuable guidance to departmental decisions and discussions.

IXOR is well prepared for the future because its high margin of 33.6%[7] (*Appendix 12*) and free cash flow (compared to others in benchmarking) of $2.7bn in the last quarter, which allow the company to invest in its aging product portfolio, R&D, and production capacity expansion.

[7] Compared to the 24% of Ferrari (highest in automotive industry), it is very high. Due to the limit of this paper, this will be elaborated upon in the defense.

Personal Reflection

1 Introduction

"The key to happiness is really progress and growth and constantly working on yourself and developing something" (Lewis Howes). Nevertheless, a survey by the University of Wisconsin -Madison showed that only 46% of surveyed team leaders in the US regularly performed post-project analyses. Among them, just 27% applied their learning to future projects, and only 13% shared their insights (Johnson, Heimann and O'Neill 2000, 163).

To counteract this tendency and enable personal growth and development, I use the framework presented in class, which consists of four steps – 1) describe, 2) respond, 3) analyze, and 4) reflect and learn – and is based on the critical incident technique of the psychologist John C. Flanagan, to explore two personal critical incidents during the BiP experience. Flanagan describes an incident in his paper as actions or events that impact someone's life (1954, 327). In the describe phase, I recount events; in the respond phase, I share my thoughts and emotions; in the analyze phase, I make sense of the incident with insights from skill sessions and academic readings; in the reflect and learn step, I explore potential improvements and learnings for future actions. My role as a leader plays a central role in the analysis. The explanation of leadership by Warren Bennis serves as a basis: "Leadership is a function of knowing yourself, having a vision that is well communicated, building trust among colleagues, and taking effective action to realize your own leadership potential" (1985, 42).

2 Incident 1: Difficult leadership and lack of trust

2.1 Description

During the meeting regarding the decisions for Year 2 of the simulation, two negative situations occurred for me and formed this incident. First, I had already noticed at the beginning that the attitude of two of my peers toward me had changed significantly; they categorically rejected

every suggestion I made and ended debates regarding ideas either by not answering me at all or by saying, “Do as you want.”

In addition, at the end of the meeting, when making decisions for Q11, we had the problem of having to free up capital to offset short-term debt due to negative net income in the previous quarter. In addition to the idea of offsetting this with green bonds or long-term loans, my co-operations manager came up with the idea of discontinuing our Air 125D earlier than planned. The co-operations manager was also one of the colleagues mentioned in the first paragraph who was already negative toward me throughout the meeting. When I expressed my concerns, based on my meticulous Excel evaluation the weekend before, that abandoning the planned overlap strategy (*see p. 15*) would have a very negative impact on our sales in the following month because in the setting, the inventory was always sold at only 90% of the production cost instead of the high selling price, the co-operations manager avoided the discussion by saying, “I don’t care. Do what you want!” I nevertheless presented my arguments to the rest of the team, and we agreed to take a vote. Before we could do so, however, it turned out that my co-leader had already irrevocably discontinued the car.

2.2 Reaction

Because of these incidents, I felt that the two colleagues were conspiring against me. I felt unfairly treated and that it was disrespectful and ungrateful because since the beginning of the BiP and even before, I had put in a great deal of effort to move the project forward, while most team members had low motivation, only did the minimum, and were not willing to go the extra mile. The frustration regarding the rejection by my colleagues and the avoidable mistake, which was only excused with a casual “Oops. Sorry. I guess it’s like that now,” made me leave the room for a short while to avoid an emotional confrontation. The question I could not get out of my head was “What had I done to cause this reaction, and how can I improve the working atmosphere?” This question also serves as the analysis question for this incident.

2.3 Analysis and Reflection

I already had an idea where the negative attitude of my colleagues came from because I had already reflected on my attitude in the days before, triggered by the leadership seminars, and discovered the following: The lack of motivation and the do-the-minimum attitude of some of my teammates, which they demonstrated by coming late to meetings, not meeting deadlines, and lack of understanding of the interrelationships in the simulation, coupled with the very high demands on myself and my work and the desire to deliver a good project, led to high resentment in me and brought out my worst-case leadership side (*Appendix 13*). This is characterized by a lack of trust and, thus, lack of delegation.

Johnson, Heimann and O'Neill found in their paper that lack of commitment and motivation is one of the main reasons for team disruptions (2000, 162), which Toegel and Barsoux confirm in their research in relation to meeting deadlines and being on time for meetings (2016, 82), which according to West can be triggered by the social-loafing effect[8] (2012, 128). According to Castelfranchi and Falcone, this leads to lack of disposition belief and lack of understanding of my peers regarding the interrelations of the simulation to lack of competence belief, which triggered the lack of trust on my side (2011, 69). Researchers such as Lencioni, Coast et al., and West state in their work that trust is an indispensable basic requirement for successful teamwork (Lencioni 2002, 188; Costa, Roe and Taillieu 2010; West 2012, 133). This led to me not trusting the decisions of some colleagues and feeling the need to control or take over their decision-making process, which in turn caused them to have negative feelings of mistrust and micro-management (Parker, Knight and Keller 2020). This leads to the fact that these peers, according to the Thomas-Kilmann conflict mode model (1977), fall into the avoiding mode; which is, when they avoid dealing with the other person, which leads to the whole team losing because the team dynamics are dysfunctional.

[8] "The social-loafing effect is the tendency of individuals in teams to work less hard than they do when individual contributions can be identified and evaluated." (West 2012, 128)

The day after the incident, we had the team clinic, where Prof. Fernandes gave us the opportunity to give feedback to each other, and it confirmed that the before mentioned triggered the negative attitudes of the two peers toward me. In the following constructive group discussion, where everyone gave their point of view, it turned out that the two peers rated me extra negatively in the peer evaluation out of emotion, which is why the peer evaluation in *Appendix 14* does not have much significance. However, we gave each other feedback again at the end of the simulation, with similar criteria. The feedbacks are shown in *Figure 3*:

Peer 1	Peer 2	Peer 3
You did a great job in the simulation. You were **a good leader for our team**. My suggestion to you is for you to **listem more the opinion of others** and try to accept them or think about positive things of the opinions of others and not only on the negative side. **However, I think you improved a lot during the three weeks in this aspect.**	You were always very **proactive during all sessions**. I really liked that you **didn't lose enthusiasm even in the last sessions when all of us were already kind of tired**. You were always actively coming up with new ideas in all areas, which reflects that you were **always paying attention to all the roles**. But sometimes it is normal that we disagree with some of your ideas, because probably those ones have not been carefully studied or were not of your expertise. **When we disagreed with your ideas, that's when you got a bit stubborn.** You sometimes get too focused on your own opinion that you can't hear other voices and can't consider other different opinions.	Perfect job Lino, **good that you sometime took the lead** when discussing certain topics. Great contribution to the team. You **expected a high german quality work everytime**, which also **gave a boost to the team,** and **thank you for preparing the excell sheets** where we documment the strategy. It was a bit hard for you to digest the results of the survey we did, like Peer 4 also, but this was a good point of **divergence** where we **needed to find solutions or just adapt with the situation**. **You did great.**
Peer 4	**Peer 5**	**Peer 6**
Very motivated and expecting high quality from the beginning. Good that you challenge the "why" behind decisions, and discuss to come to the best outcome. **You can still reflect on your reaction when people dissagree with you**, and how to move forward in a productive manner.	**For me you were the leader of our group and by far the most committed part, which I appreciated very much. I like people who say what they think and with whom you always find an honest and open ear. Unfortunately, your very extroverted and leading manner is not always well received by everyone. In order to become the perfect leader (that you are) and also to understand/respond to very introverted people, you can still work on your empathy. I don't mean your reflective nature (because you are already very good at that). I'm talking more about listening attentively. When you're as honest and open as you are, you usually expect the other person to be as well. But in the working world, especially in leading positions, you can't assume that everyone will be as open with you. Here it is crucial to learn to "read" your fellow human beings and to recognise their needs, weaknesses, strengths and problems non-verbally.**	It often happened during the simulation that the whole team got into **arguments**, and you were **scapegoat**, but right now **I have to say that without your support I don't think each of us would have understood deeply what the whole simulation was about.** You were always **pushing each of us to put in effort, as you are a high achiever, expecting quality from your peers. Contributing to the team, out of 5, for you, would be a 10.** *I'm sorry about the Windsurf Cafe meeting, You were always trying interactios for the whole team, which was really appreciated.* Regarding keeping the team on track, **your debating spirit pushed you down on this one, it is yes really important to grasp what we were doing fully, but sometimes we were losing ourselves in foolish arguments, runnin.g out of time. You have very high relevant knowledge, skills and abilities.**

Figure 3: Peer evaluation at the end of the simulation

From the feedback and during the team clinic, it also became clear that my eagerness to discuss coupled with my persistence intimidated my introverted peers from speaking their minds, and I was sometimes too stubborn about my opinions.

My character trait of questioning ideas and creating new visions is also reflected in my Insights Discovery® dominant color, yellow, which goes back to the psychologist Carl Jung. What emanated from me as passionate behavior was perceived by others as personal attack. This misjudgment of behavior is also mentioned by Toegel and Barsoux as a frequent source of team

conflicts (2016, 80), and it is also related to the fact that I probably gave less consideration to the ideas of others than I would have given in my good case leadership because of my lack of trust (West 2012, 128). This is also stated by Nicolas and Stevens in their paper as follows: "[I]n different degrees and in many different ways, listening ability is affected by our emotions" (1957, 15). My lack of empathy in this group work leads me, according to the Thomas-Kilmann conflict mode model (1977), to fall into the competing mode, in which I place my considerations above those of others.

In a functioning team, discussions, healthy conflicts, and questioning of ideas lead to progress and superior, well-thought-out solutions because more options and aspects are considered (Toegel and Barsoux 2016, 80; West 2012, 131). Therefore, I do not want to give up my way of bringing in new ideas, questioning things, and presenting my perspective, but I have to be more empathetic toward others and their needs and give them more space for their ideas, even in difficult group dynamics where one has more knowledge and motivation for the task than others, in order to gain benefit from their questioning of my ideas, make better decisions, and develop myself further (Gallo 2018).

2.4 Learning

Since my goal is to be a good leader in the future, I need to learn to lead and motivate non-committed teams and not fall into my worst-case leadership style and contribute to a toxic group culture. A good starting point is the three-level leadership model by Scouller, which consists of personal leadership, private leadership, and public leadership. At its core is personal leadership, which consists of continuously developing technical know-how and skills, learning to treat people as important as yourself to earn their trust as a leader, and working on psychological self-mastery to connect with your values and lead with authenticity (Scouller 2016). Yukl's work also provides a good foundation by compiling the most important behaviors for effective leadership from many research findings (2012).

I already implemented this well in the last BiP week by backing off more and actively trying to understand the ideas of the others. This worked very well because the others also understood my point of view through the clinic, worked much more for the project, and showed higher motivation. Therefore, it has been shown that constructive conflict with open communication, when resolved, can lead to better team performance, as Toegel and Barsoux and Lencioni state in their research papers (2016, 79-80; 2002, 38). This quote from a manager in Toegel and Barsoux's paper describes very well our group dynamics after the resolution of the incident: "We still disagree, but there's less bad blood and a genuine sense of valuing each other's contributions" (2016, 83). My individual development was also evident in the final peer feedback, and my leading role and high contribution to the team's success, compared to the emotion-led first peer assessment, were appreciated (*Figure 3*).

3 Incident 2: Lack of agreement and responsibilities

3.1 Description

The following incident occurred during the client retention roleplay, where we were trying to retain a client who had lost confidence in our company. Two of my peers and I volunteered to have this sales conversation, and it was decided that I would lead the conversation and give direction after we understood the customer's problem due to having the best overview of all functional areas in the company. In the main part of my argument, one of my peers intervened in the conversation and explained a completely different value proposition than I did, which both thwarted my argument and confused the customer because we were arguing in different directions. Ultimately, this led to us losing the customer.

3.2 Reaction

In order to not further confuse the customer and allow a coherent argument from her, I backed out of the conversation when it became clear that my peer would not. Inwardly, however, I was

upset with the behavior and knew it had cost us this customer. Following the conversation, I openly and honestly discussed the issue with the peer and shared my concern, and the peer then apologized. In the following, I analyze which aspects may have contributed to this incident. Due to the limitation regarding the number of pages, I perform the analysis and reflection in parallel for this incident.

3.3 Analysis, reflection, and learning

This incident revealed two of the 16 common conflicts within sales teams as identified by Forbes. First, the throw-it-over-the-wall mentality, where one party does not align their actions with the other, and second, different understandings of the value proposition (Forbes 2021). Contrary to Prof. Fernandes's explanations in the corresponding lecture that extensive planning with priority to the clear understanding of our value proposition[9] as well as coordination of the distribution of tasks are indispensable for the success of a sales meeting, we did not take the time for this and only decided briefly who would go into the meeting and take the lead.

Lencioni explains in his model that an extensive debate must be conducted in which everyone is heard so that everyone buys in and commits to a decision made by consensus. In this case, the debate failed both in terms of the leader's decision and the value proposition, which could have led to a lack of consensus and thus a lack of commitment by the mentioned peer, causing him to deviate from the agreed plan (2002, 188+207). Furthermore, it is surprising that we had fundamentally different ideas about the value proposition, even though we had defined a clear mission, vision, and values for IXOR. This phenomenon was also observed by Haas and Mortensen in their research and makes clear that to enable great teamwork, it is important to build a shared mindset among team members for a common understanding (2016, 72). Following the meeting, after a lengthy discussion, we defined our value proposition as "Enable

[9] A value proposition is a short and concise statement of the unique selling points a company offers its customers.

green and innovative mobility" because it is important as a team to have the same objectives and priorities in order to work together effectively (Yukl 2012, 78).

My colleague's action against the agreement can also be explained by an avoidance of accountability, which can follow from a lack of commitment. According to Lencioni, not committing to concrete plans can lead team members to "[...] actions and behaviors that seem counterproductive to the good of the team" (2002, 189+212). Such isolated actions could be observed frequently in our team, which could be related to the fact that we decided not to divide responsibilities but to make decisions together. This also played a part in the team disruptions considered in Incident 1, because it reinforced the social-loafing effect (*p. 19*). As West points out in his book, the diffusion of responsibility can lead to not taking responsibility for one's own actions (2012, 128). According to Johnson, Heimann and O'Neill, individual accountability and personal responsibility lead to team members learning together and performing better by taking responsibility for a fair share of the work (2000, 163).

The last aspect of the incident to be highlighted is the constructive criticism and accompanying feedback from me to the colleague, which led to a positive result and subsequently allowed us to work out the value proposition collaboratively in the team. This was not perceived negatively by the peer because I was interested in what caused her to act and did not attack her personally. The literature distinguishes between constructive and destructive criticism, which determines the effectiveness of the feedback. Constructive criticism entails specific considerate remarks that refrain from attributing poor performance to intrinsic causes. In contrast, destructive criticism flouts these fundamental principles and is more likely to engender resistance and hinder future collaboration (Baron 1988). Fong et al. (2018) state that constructive feedback can lead to valuable learning experiences and better teamwork, as seen in this incident.

In summary, it can be seen that a team must take time to prepare, discuss, and distribute clear responsibilities that everyone agrees with. However, the incident also revealed that in

teamwork, one needs to be prepared for unexpected actions and be agile. “Organizations, today, need to plan for the future like a wolf pack. The pack cannot anticipate events so the pack must be flexible and capable of responding to unpredictable events” (Johnson, Heimann and O’Neill 2000, 160).

4 Conclusion

“Team conflict can add value or destroy it” (Toegel and Barsoux 2016, 79). This has been demonstrated in our team, but fortunately, the described incidents and related conflicts always added value to our group dynamic. In general, it is important to understand that “for good ideas and true innovation you need human interaction, conflict, argument, debate” (Margaret Heffernan). To achieve this beneficial outcome, positive peer relationships are important and can be built up through personal exchange and events apart from the project topics (Haas and Mortensen 2016, 76; Johnson, Heimann and O’Neill 2000, 160); this can help build a common understanding and identity that in turn help build trust and achieve a shared mindset and commitment, which would have helped with the dysfunction in Incidents 1 and 2. I have suggested a private team meeting to get to know each other many times because I have had good experience with this in previous group work, but unfortunately, the rest of the team has never been able to find time. Peer 6 (*Figure 3*) refers to this circumstance in his feedback.

Generally, the BiP experience was a good opportunity for me to intensively deal with my strengths and weaknesses before entering my career. Especially for difficult group constellations, I need to further improve my leadership skills in order to become the leader I want to be in the future. According to John Quincy Adams, one is a leader if one’s actions inspire others to dream, learn, do, and become more, which, unfortunately, I did not achieve in this group work. For this reason, I am currently enrolled in the online leadership course of the Yale University to further improve my skills.

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Appendix

Appendix 1: Strategy – Initial company review

For the external audit,[10] the macro environment was analyzed with a PESTEL,[11] and the industry was evaluated using Porter's five forces[12] (Johnson et al. 2017, 32–87). The key findings are summarized in the following. Sustainability is a significant force shaping the world; for example, the EU limits fleet CO2 to 95g/km (2020-2024), with a 95€/g penalty for exceeding the limit (European Commission 2020). It also has banned the sale of new CO2-emitting cars from 2035 onward (European Parliament 2023). Due to this global focus on sustainability, investors and customers are increasingly demanding sustainability. In response to this trend, the automotive industry is swiftly transitioning to electric vehicles, with major OEMs making substantial commitments. For example, GM plans to phase out internal combustion cars by 2035 (Boudette and Davenport 2021). Embracing sustainability is also essential in response to competitive newcomers like Tesla, NIO, and potentially tech giants like Apple (IndustryMasters 2023, 4-6). According to McKinsey, in addition to electrification, the tech trends of autonomous driving and connectivity represent for existing OEMs not only a vast opportunity in the next decade but also a threat to be left behind if they do not act quickly enough. Further, the trend toward diverse mobility, such as car sharing, offers new growth potential while simultaneously creating the threat that fewer people will own a car, causing sales to drop (Gao et al. 2016). These are also the versatile opportunities in which IXOR could invest in during the simulation. The scarce availability of batteries and chips in the market increase the bargaining power of suppliers, while tariffs are on the rise, leading to cost increases

[10] "An external audit focuses on identifying and evaluating trends and events beyond the control of a single firm […]" to identify the most important opportunities and threats (David 2011, 60).
[11] The PESTEL analysis examines the six macro-environment factors: politic, economic, social, technology, and legal (Johnson et al. 2017, 34).
[12] Porter's five forces is used to determine the attractiveness of an industry by analyzing the bargaining power of suppliers and buyers, the competitive rivalry, and the treatment of new entrants and substitutes (Porter 1998, 4).

for imports and exports, including vehicles and their components in the automotive industry. In the simulation the tariff war between China and USA was included between Q7 and Q11.

To better understand whether the company is prepared for the challenging external environment, an internal audit was conducted to complement the SWOT analysis and identify the company's competitive advantages and internal weaknesses. The audit found that IXOR has a well-established, diversified portfolio, with cars in all segments. However, inventory continues to increase, and customer satisfaction is only 40%, indicating that customers desire other cars. Competitors A and B, with whom IXOR dominates the market, are similarly positioned, but they are already developing electric cars and have a higher share of hybrid cars. In contrast, IXOR has only one hybrid car in the luxury segment thus far and otherwise relies on combustion engines. Of the three manufacturers, IXOR has the lowest revenue with 4,152M compared to $4,978m (B) and $4,397m (A), which has been largely stagnant for three quarters, perhaps due to the fact that IXOR invests significantly less in marketing than its competitors, at about 1% of revenue.

Appendix 2: Strategy – IXOR's values

With a commitment to ethical behavior and a focus on positive contributions to society, we integrate green practices throughout our operations, working towards a brighter, sustainable future for all. As leaders in the automotive industry, innovation drives us, as we continuously integrate groundbreaking technologies to redefine mobility and elevate the driving experience. Excellence is our unwavering standard, ensuring top-tier quality in every aspect, exceeding customer expectations, and providing reliable products and services.

Appendix 3: Strategy – Market positioning compared to real companies

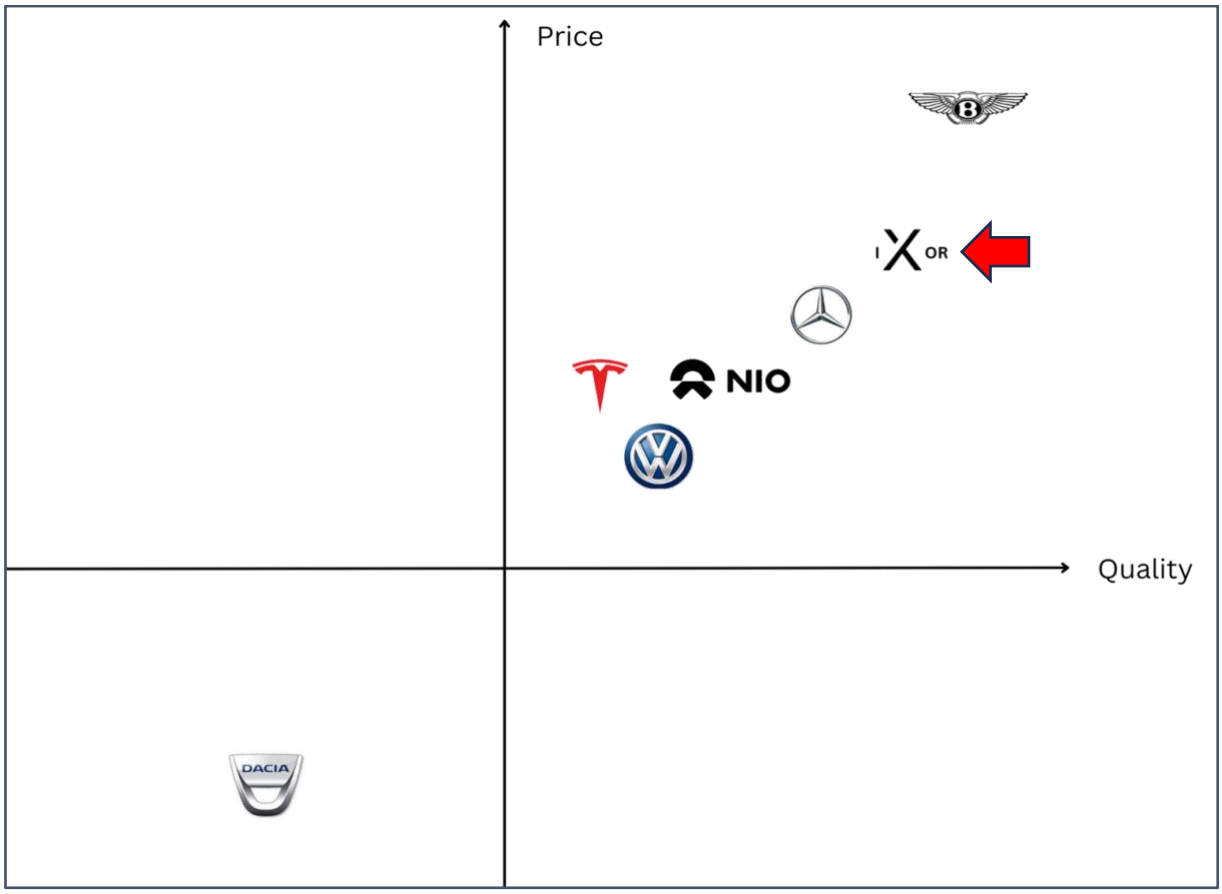

Figure 4: Market positioning map IXOR compared to real companies

Appendix 4: Innovation – CO2 penalties

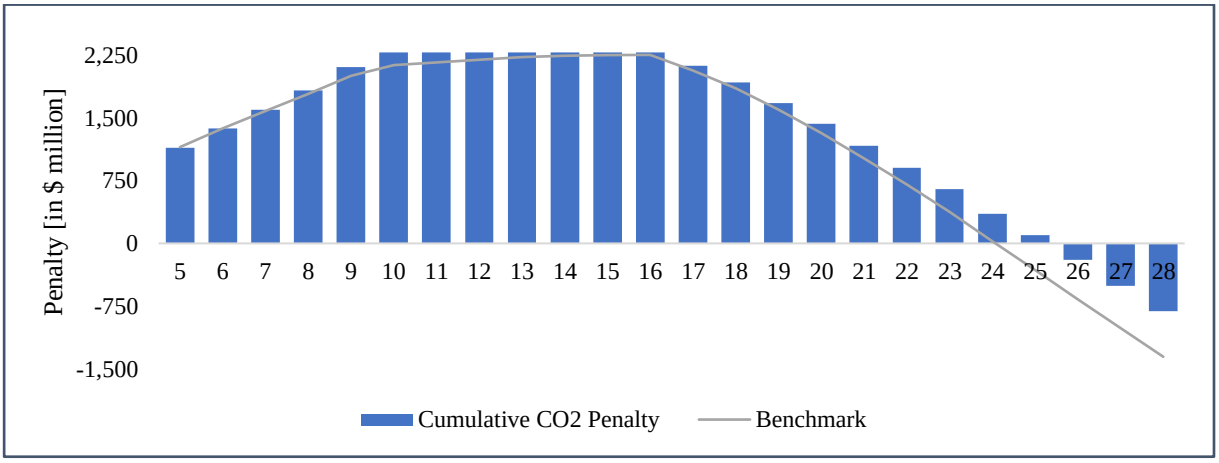

Figure 5: Development of IXOR's CO2 penalty over the quarters compared to benchmark

Appendix 5: Innovation – IXOR's fleet emissions

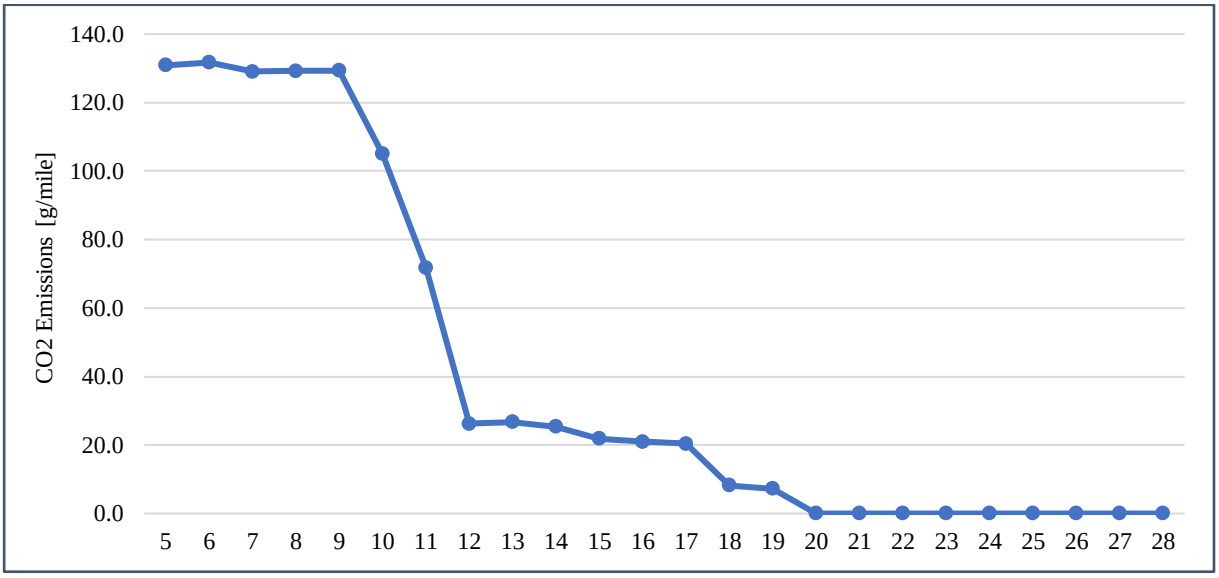

Figure 6: Development of IXOR's fleet emission over the quarters

Appendix 6: Innovation – Feature level in Q28

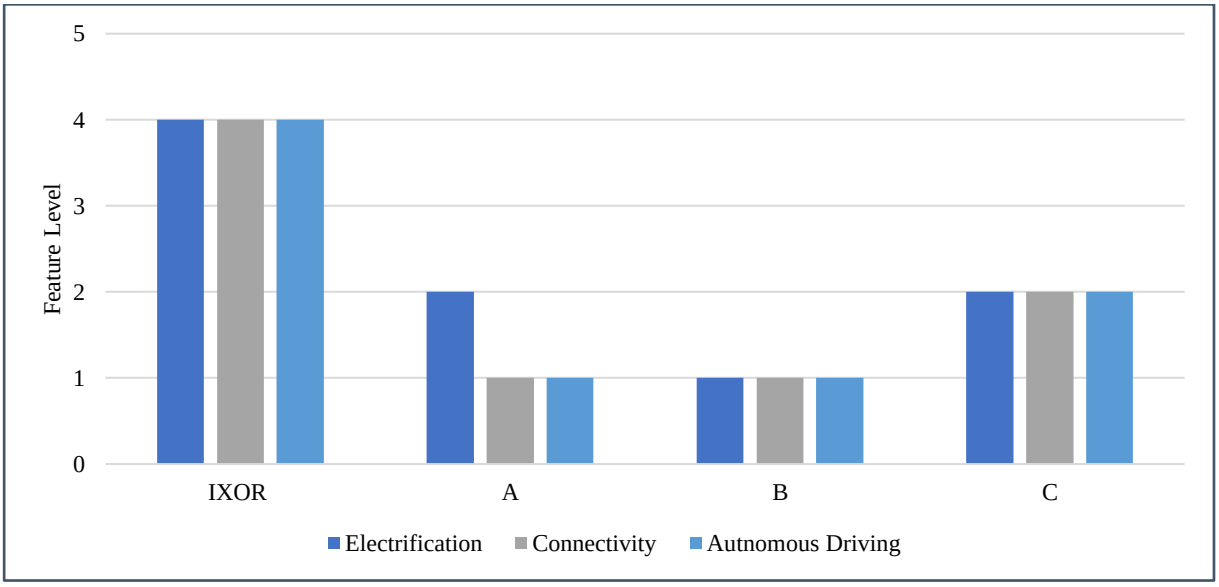

Figure 7: IXOR's feature level compared to competitors in Q28

Appendix 7: Operations – Investments and emissions

As previously explained in the Strategy chapter, investing in sustainability was one of IXOR's core values and objectives, although it was lower in priority than investing in innovation. Therefore, it took the company longer than planned to execute all investments (until the last quarter) due to the high investment volume for innovation and the lower-than-expected demand and, therefore, income. In total, IXOR invested more than $1.6bn, reducing emissions by 74% in Scope 1, by 83% in Scope 2, and by 85% in Scope 3. *Figure 8-10 in Appendix 8-10* shows the development of IXOR's CO2 emissions, and the investments made. As shown in the graph, most of the investments led to a direct, steep reduction of CO2 emissions. However, in Scope 3, IXOR initially decided to invest in sustainable suppliers rather than supplier CO2 offsets because the company wanted to reduce its GHGs sustainably and directly. However, as shown in the graph, the impact of the offset was significantly higher. Furthermore, investments in reduction in water consumption (Scope 1) and energy systems (Scope 2) had only a small effect on the respective CO2 emissions but helped make production more sustainable overall.

Further, a strong fluctuation of emissions can be observed in Q16, Q17, and Q18 across all scopes. Detailed analysis revealed that this fluctuation was related to the factory's utilization. The low utilization and, subsequently, low production (*Figure 2*) in Q16 (45%) and Q18 (60%) led to low emissions, while the relatively high utilization in Q17 (78%) led to a strong increase in emissions.

In Q20, IXOR additionally invested in the sustainability of its supply chain, but due to capital constraints, the company had to invest in the less sustainable option, which promised only short-term improvement and was contrary to IXOR's core values.

Appendix 8: Operations – CO2 emissions Scope 1

Investments: 1 – Water consumption reduction, 2 – Waste reduction, 3 – ISO14001/EMAS certificates

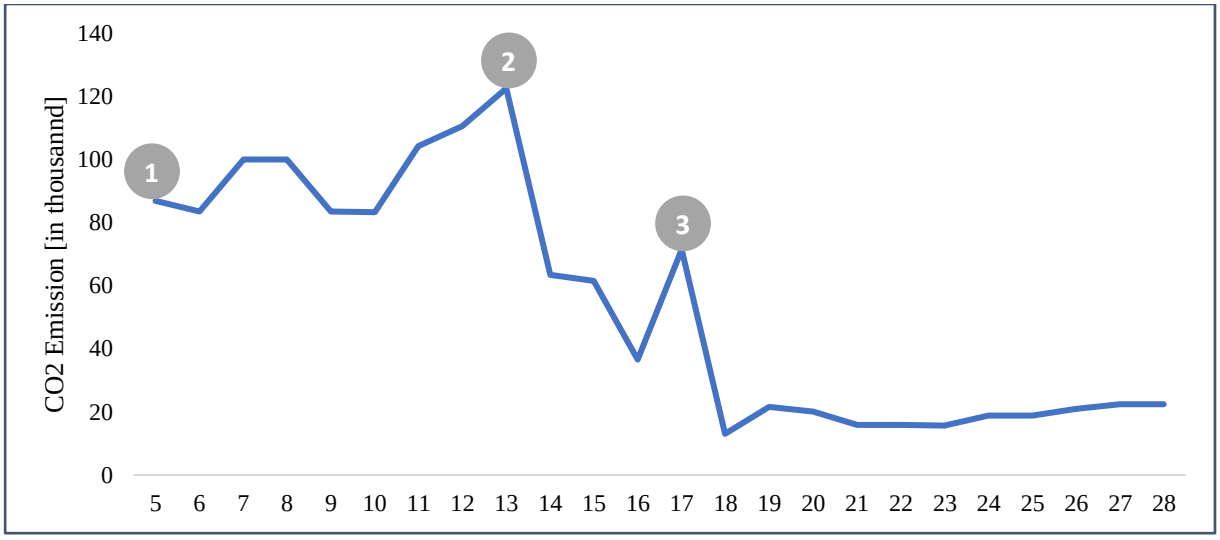

Figure 8: Development of IXOR's Scope 1 CO2 emissions incl. investments over time

Appendix 9: Operations – CO2 emissions Scope 2

Investments: 1 – Energy efficiency investment, 2 – Install solar panels, 3 – Energy management system

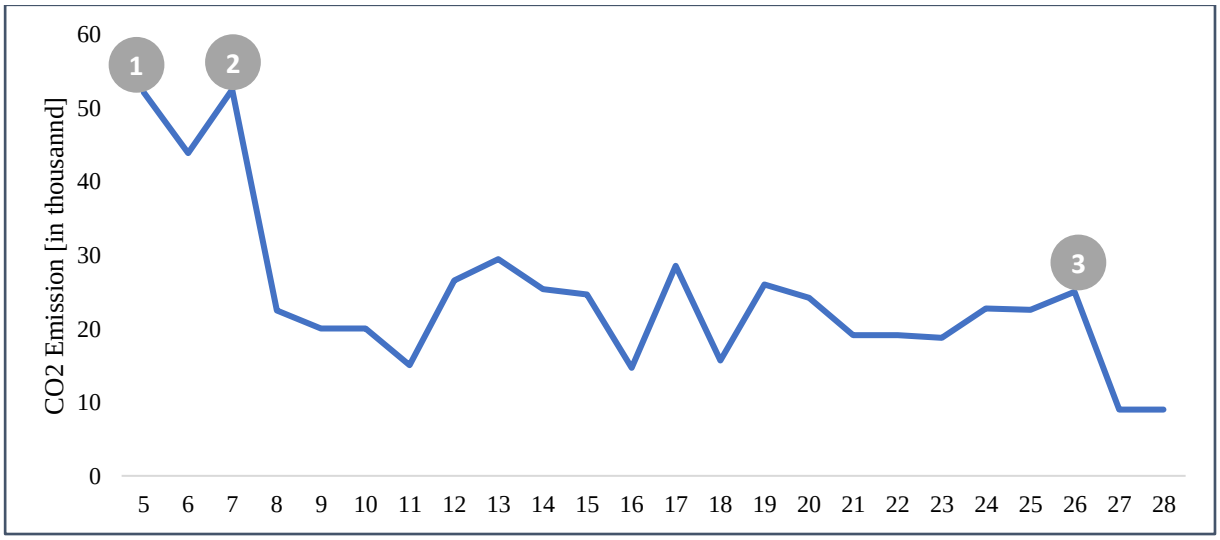

Figure 9: Development of IXOR's Scope 2 CO2 emissions incl. investments over time

Appendix 10: Operations – CO2 emissions Scope 3

Investments: 1 – Offset suppliers CO2, 2 – Choose sustainable supplier, 3 – Co-Invest with supplier

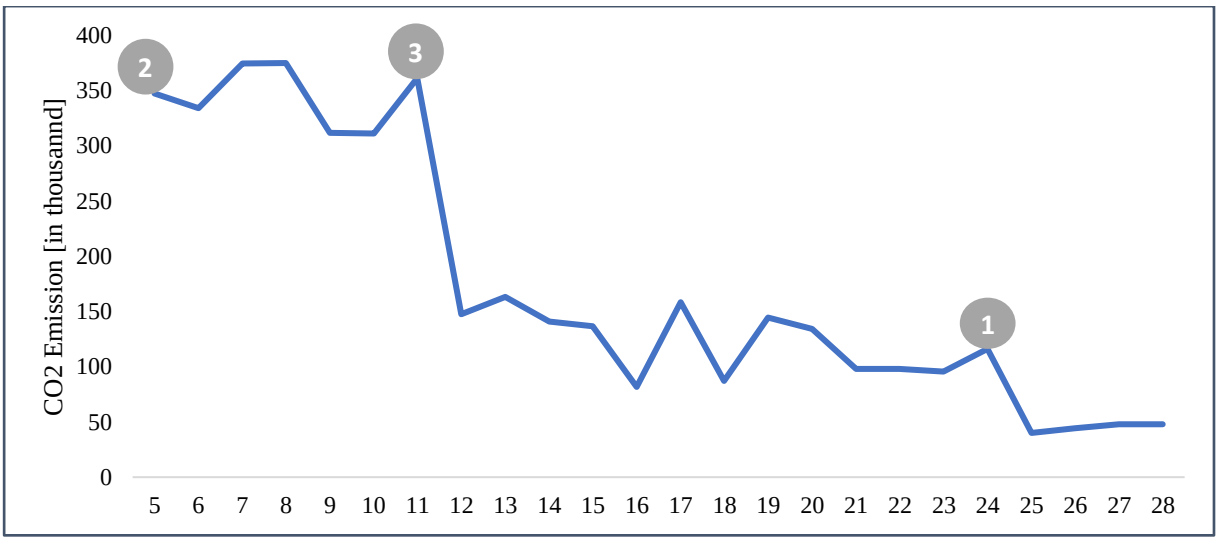

Figure 10: Development of IXOR's Scope 3 CO2 emissions incl. investments over time

Appendix 11: Operations – Overlap strategy

We have always let the old and new model overlap by one quarter. In preparation for the simulation, we collected data that showed that this is the best way to maximize sales and profits even though the complexity cost increase, since the new model always needs three weeks to ramp up, and the old model slowly loses its attractiveness. This avoided a significant drop in sales in the segment during the quarter in which the new model was introduced.

Appendix 12: Operations – Net income and EBIT margin

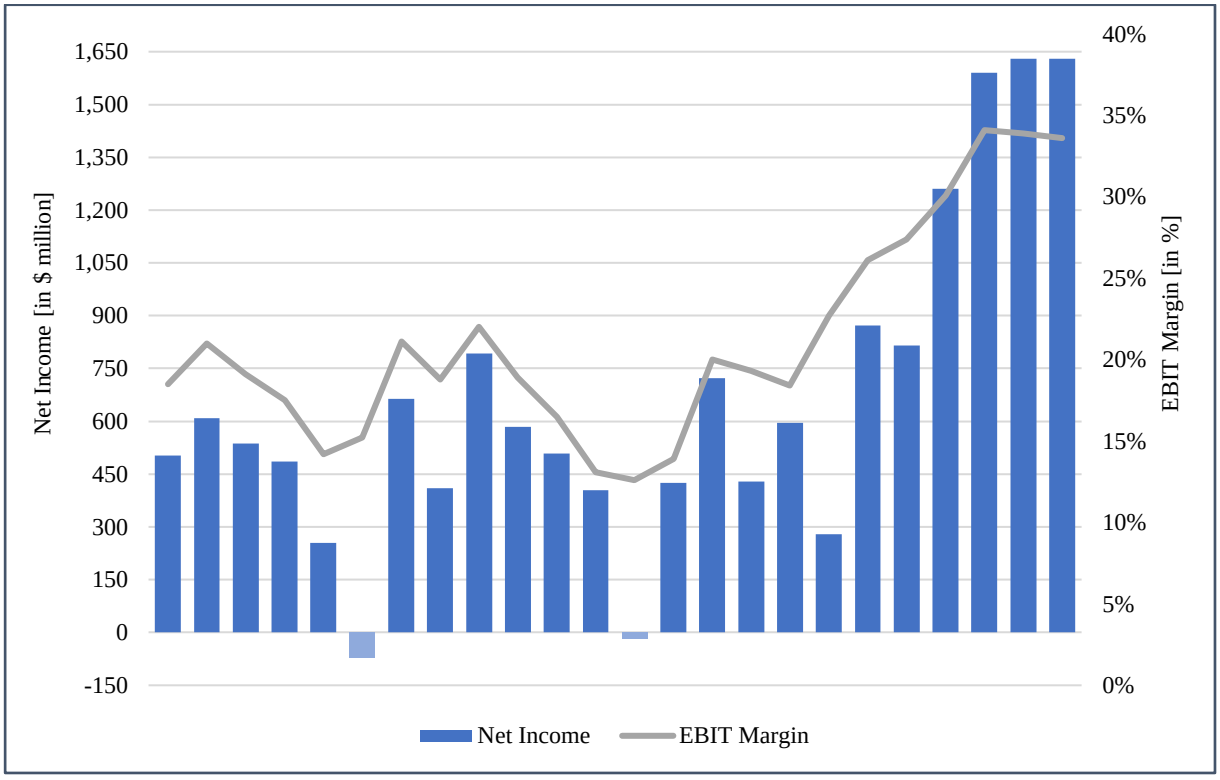

Figure 11: Development of IXOR's net income and EBIT margin over the quarters

Appendix 13: Incidents – Best- and worst-case leadership style

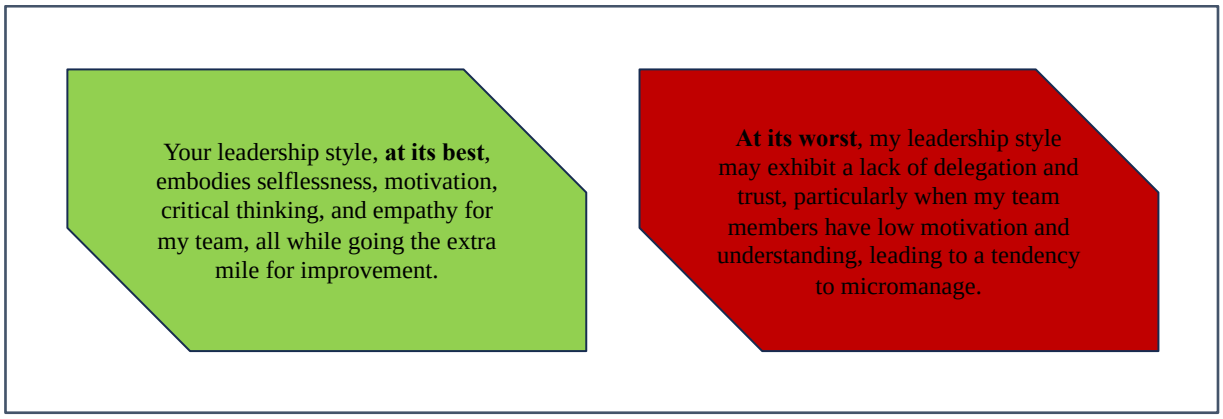

Figure 12: Best- and worst-case leadership style

Appendix 14: Incidents – Peer Assessment

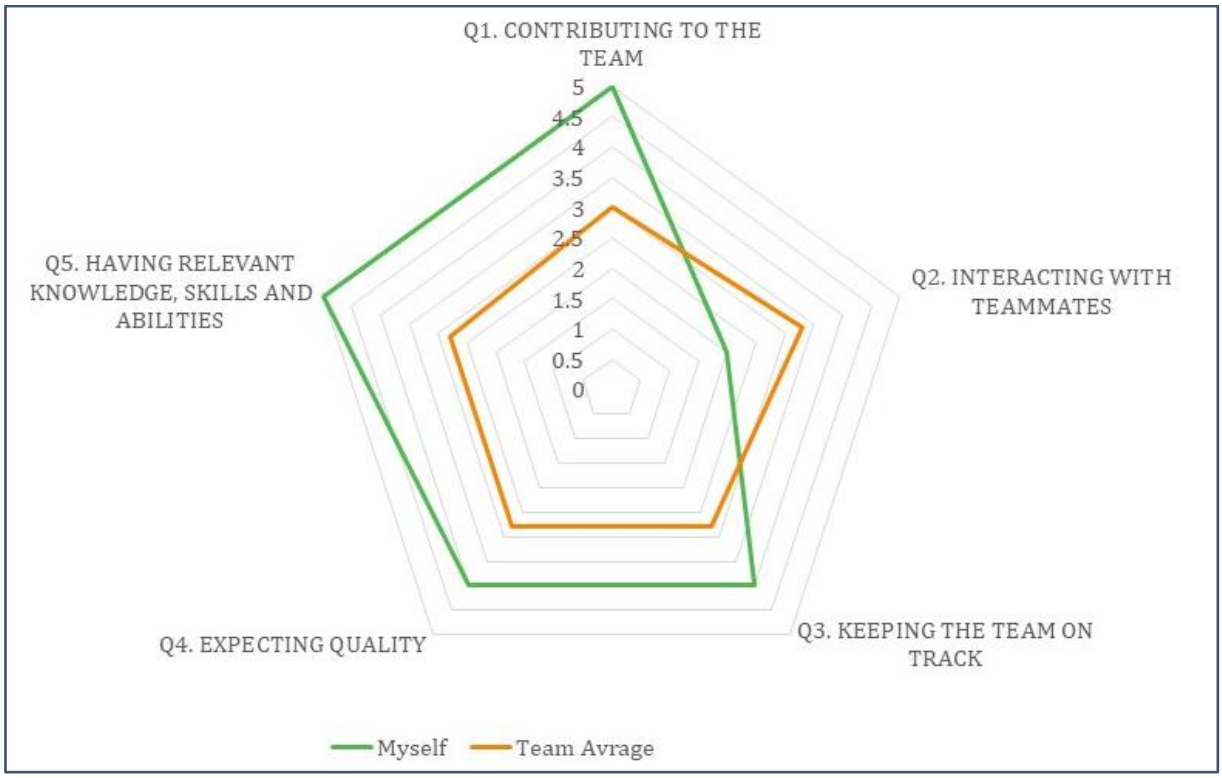

Figure 13: Peer and self-assessment