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BUSINESS IN PRACTICE: SELF-REFLECTION AND COMPANY ANALYSIS

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Abstract

Business in Practice is a simulation program where students were given the task to transform an established automotive manufacturer into a fully electrical entity. This program presented several challenges, the learnings from which are highly valuable in the workplace. The given work project provides a company analysis from the perspective of the Finance, Strategy, and Innovation roles. As well as an in-depth personal reflection based on two critical incidents that occurred during the simulation.

Keywords

Apply theory in practice, Business simulation, Develop a business strategy, Integrate and coordinate decisions across business functions, Managing a business, Reflective practice, Sustainability and ESG, Team dynamics, Working in teams.

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1. ENIGMA MOTORS' ANALYSIS

1.1. FROM VISION TO GREENOVATION: FORGING A SUSTAINABLE COMPANY

Enigma Motors (Enigma), an established and promising automotive company has undergone a transformative journey over the past 6 years, shifting from conventional cars to a new portfolio of electric vehicles (EVs). To satisfy the increased demand for sustainability and to adhere to the new government laws ruling the business, this adjustment was essential.

The company's success relies on 3 pillars: building a green future, enabling a smooth transition, and democratizing electric transportation. To achieve these objectives, Enigma implemented a strategic approach based on a slow but safe replacement of traditional cars, while providing a wide portfolio, that could reach different types of customers.

Transitioning to electric vehicles hasn't been without its share of challenges. Incorrectly addressing customer preferences and needs, overexpanding the factory, and financial complexities such as high leveraging were examples that Enigma had to overcome to achieve its sustainability goals. The given analysis describes the firm's decisions during the simulation, by exploring three of the major roles in the company: Finance, Strategy, and Innovation. This section is going to dive into their main responsibilities, plan of action, and implications for the organization; in order to explain and understand Enigma's transformative journey in the automotive industry.

1.2. FINANCE: WISE FINANCIAL MANEUVERING

The Finance director's role was fundamental to formulating and executing Strategy, and it was crucial to secure both external and internal funds needed to transform the company. This section

critically examines the key tasks and evolution of Enigma's financial situation during the course of the 6 years.

1.2.1. Financial Performance Analysis

Capital Structure: Represents the proportion of debt and equity used to finance the firm's activities. In line with the pecking order theory (Gottardo, 2019), Enigma prioritized internal funds and moved to external ones, debt, and equity, as needs increased. Enigma's debt ratio went through several fluctuations, peaking at 54% within the first 3 years, and ultimately reaching 33% in year 6 (Figures 1 and 2). Overall, it experienced an average decrease of 6% over the 6-year simulation period. Signaling, that despite reaching high debt levels due to the need for external financing, the company stabilized as it was increasing revenues and decreasing the need for investments. A similar trajectory can be seen in real companies like Tesla, which during its initial years, took on considerable debt before stabilizing (Tesla Annual Report, 2010).

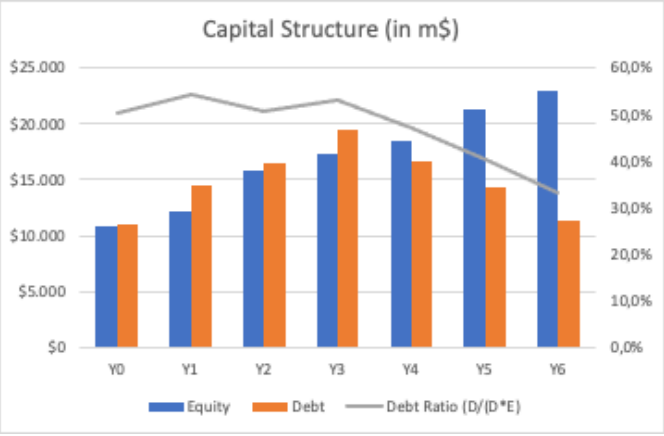


Figure 2: Enigma's Annual Capital Structure (Graphic)

Green Financing: When choosing financing options, green bonds were preferred due to their low interest rate of 3% and alignment with the company's sustainability goals. Loans and shares were utilized to secure additional capital, but, when possible, loans were replaced by green

bonds. Enigma's green capital ratio successfully increased from 5,34% in year 1 to 100% in the final year, issuing a total of $14.478M green bonds (Figures 3 and 4).

Weighted Average Cost of Capital (WACC): Represents the firm's average cost of financing, based on its cost of equity, cost of debt, and capital structure (Ross, 2008). Enigma's WACC remained relatively stable, oscillating between 7,5% and 7,2%. The lowest values correspond to the quarters with higher total debt (Q16 and Q17) (Figure 5). This is because the cost of equity financing is higher than debt financing since it has more implied risk, and so, the higher the D/E ratio the lower the WACC. Motivated by a vision of sustainability and inspired by the Modigliani-Miller theorem (Brusov, 2023) - by which interest payments are tax-deductible, thereby indicating that leveraging decreases the cost of capital - Enigma's Finance team prioritized investments over achieving the lowest cost of capital possible. Moreover, Enigma's WACC values are in line with the industry average of 7,6% (KPMG, 2022).

Investments Assessment: Net Present Value (NPV) models were used to evaluate potential investments by discounting expected cash flows (CF) using the company's WACC. CF were estimated based on sales projections and market prices, provided by the Innovation and Marketing departments. Even though the Finance department approved the launch of all 12 new models based on their positive NPV, two of them soon needed to be discontinued due to poor sales and low-profit contribution, which demonstrates the challenges of accurately predicting sales and assessing investments.

Payment Terms: Each year, Finance revised the customer credit terms, extending them from 30 to 40 days. Which boosted monthly revenue by 1%, but also increased the company's accounts receivable. Conversely, supplier payment terms were reduced from 30 to 15 days. This

led to a 1% decrease in monthly material costs while reducing the accounts payable, thus dwindling the company's "interest-free debt" (Figures 6 and 7). These strategic decisions put pressure on the firm's operating CF and liquidity, which increased the need for debt and consequently, the D/E ratio. However, they aimed to secure a competitive advantage by sacrificing short-term liquidity for long-term growth and financial stability (Berk, 2011).

Leasing: Similar to what other industry giants such as BMW offered to drive sales (BMW Group Annual Report, 2018), in Q8, the Finance team introduced a leasing program (Figure 8). Yet, it posed challenges for the company's financials since it was draining out the firm's CF, leading to negative operating CF in Q14 (-$387M) and Q16 (-$61M) (Figure 9). Moreover, in year 6, equipment on lease reached a concerning high volume of $9,52B. Despite the fear of having to stop offering the leasing program because of liquidity issues, from Q20 onwards, sales surged again, potentially attributed to the leasing initiative (Figure 10).

Discontinuing Cars: The Finance department constantly monitored each car's profit contribution. Since discontinuing a product was highly costly for the company, in order to ensure the lowest capital loss, underperforming models were only discontinued when their inventory reached its minimum level.

KPIs: Enigma's **revenues** increased in Q11 (Year 2), following the launch of two EVs and consistent Hybrids sales (Figure 10). A more pronounced growth was observed in Years 5 and 6, as Enigma optimized its car portfolio by discontinuing non-profitable models. Revenues reached a peak of $9.4B, which can also be attributed to an initial factory capacity expansion that allowed the company to sell and produce intensively. Both **Net Operating Profit** and **EBIT** mirrored this pattern with the increase in revenues and reduction of expenses. However,

during years 3 and 4, sales of hybrids and older cars declined. Also, two conventional cars launched to utilize excess capacity were unsuccessful. During that period, increased depreciation, rising G&A, and interest expenses led to poor financial performance.

Free Cashflows (FCF): Used as a measure of a company's capacity to generate cash, Enigma's trajectory clearly follows the typical pattern observed in growth-oriented firms, where heavy investments lead to initial negative CF (Brigham, 2016). Enigma's financials recorded negative FCF up until year 3, driven by the need to secure additional funding. However, from year 4 onwards, FCF turned positive due to the lack of investments, increase in revenues, and cost reduction, all of them influenced by the optimized car portfolio. FCF reached a value of $7.706M, indicating a robust financial health and ability to repay debt (Figures 11 and 12).

ROE: Employed to assess the profitability and efficiency of a company, Enigma's ROE obtained its lowest values during the company's critical years (Y3 and Y4). However, it quickly recovered reaching an outstanding value of 31% (Figure 13), with the increase of equity and net income. This value indicates that Enigma generates a 31% return on each dollar invested by the shareholders.

1.3. STRATEGY: DRIVING THROUGH ADVERSITY

Strategy defines the long-term direction and scope of organizations, aimed at obtaining competitive advantage in dynamic environments (Johnson, 2008, 33). As the automotive industry is transitioning into a new era - with shifts in mobility behavior, customer preferences, and electrification - Enigma developed a strategic response rooted in academic principles, real examples, and data from the simulation.

1.3.1. Mission, Vision, Core Values, and Goals

Grounded in academic studies that highlight the importance of guiding organizational principles (Collins & Porras, 1994), the firm defined guidelines for its new strategic direction. Enigma's mission is to accelerate the world's transition to sustainable transportation and to support its customers during this journey. With the vision to redefine and pioneer the automotive industry, the long-term goals are: to secure a green future by integrating sustainability in all their practices, ensure a smooth transition by developing strong charging infrastructure and exciting features, and democratize by ensuring its benefits are accessible to all. Lastly, the core values act as a guiding compass for the company. These include a commitment to integrity, quality, efficiency, and customer-centricity.

1.3.2. Situation Analysis

To determine the strategic direction of Enigma it was crucial to conduct both external and internal analyses using different frameworks. **PESTEL** (figure 14) and **Porter's five forces analyses** (Figure 15), known for contextualizing the company within its macro environment (Porter, 1979), highlighted the urgent need to invest in electrification. The sector is in a period of intense competition due to a shift towards EVs, with numerous rivals and potential new players offering fully electric portfolios. Moreover, there are political, legal, economic, and social factors that are driving the transition. The **Business Model Canvas** (Figure 16) analyzed the business model. Enigma should target eco-conscious, tech-savvy consumers with a wide offer of cars. The company could generate revenue from vehicle sales, leases, charging stations, and continuous upgrading, which would require constant innovation and infrastructure development. When analyzing the **SWOT** (Figure 17), Enigma demonstrated strong employee productivity and potential for sales and revenue growth. In terms of weakness, there was a need to restructure the portfolio and solve inventory issues. Nevertheless, there were significant

opportunities regarding technology, the use of cheaper green financing, marketing spending, and factory capacity. Sustainability became a priority, with ESG principles guiding all the changes (Figure 18). To implement them, alignment across departments was essential: adequate financing (Finance), staff training (HR), competitive prices and advertising (Marketing), factory capacity (Operations), and new EVs and features (Innovation).

1.3.3. Initial Strategy: A Seamless Transition

Recognizing the risks of rapid changes during market transitions (Tushman & O'Reilly, 1996), and especially concerned by market assimilation and profitability, the company opted for a gradual shift. Simulation data was clear: conventional cars still had a significant market share, with revenues outweighing CO2 penalties (only accounting for 2-5% of revenues) (Figure 19), making them crucial to ensure Enigma's profitability and shareholder value. This finding justified the continued sale of traditional vehicles, while progressively introducing hybrids and EVs. By operating in the existing regions (Asia, Europe, and the US), and offering a diverse portfolio to appeal to various consumers, the team took inspiration from real-world companies that emphasized a gradual transition, like BMW and Volvo. BMW introduced hybrid versions of its existing models, enabling the company to leverage its brand value while transitioning to EVs (Reuters, 2020). Volvo committed to full electrification by 2030, by following a smooth transition first aiming to have 50% of their global sales to be fully electric in 2025 (Volvo Group, 2021).

1.3.4. Evolution and Changes in the Strategy

Initial heavy investments in both innovation and factory capacity led to a rise in revenues and value added. In year 3, to fulfill the expanded capacity done by the Operations director, align with the gradual transition strategy, and follow the market research preferences, the company

created new combustion vehicles. However, Enigma started experiencing a downturn with revenues increasing by a mere 4% and net operating profit decreasing by 36% (Figure 10). Data showed that hybrid vehicles, and especially combustion cars, were underperforming (Figure 20). Concurrently, the expanded 12-model lineup (in pursuit of a diversified portfolio) was compromising economies of scale, leading to higher production costs and lower profit margins. It also affected the value added which decreased to an alarming value of $492M, clearly signaling a need for a strategy pivot (Figure 21).

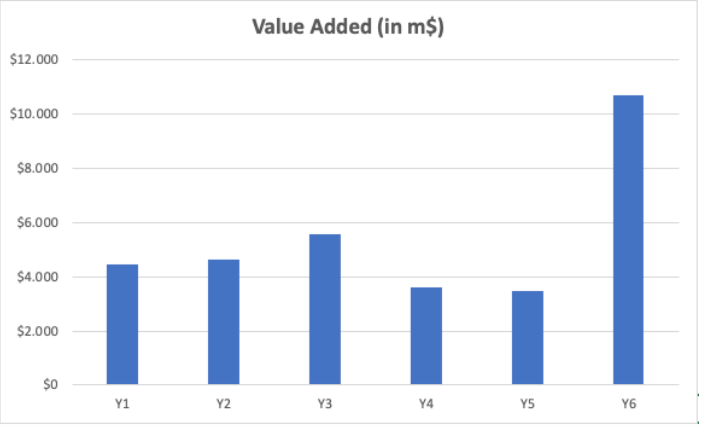


Figure 21: Enigma's Annual Value Added Values

The smooth transition approach was failing, the company had underestimated the market's readiness for EVs, which were now in high demand. Consequently, the team embraced an aggressive electrification strategy: from that point, only EVs were launched, and in just two years, all combustion and hybrid cars were discontinued. By year 6, simulation data confirmed the new trajectory's success, with an optimized portfolio of 8 EVs, and a value added of $3.568M (an 810% increase compared to its lower value). This strategic journey mirrors the real-life trajectories of companies like GM and Toyota, reinforcing the need for flexibility in strategy to deal with new challenges in a competitive environment (Iruthayasamy, 2021). General Motors (GM) faced bankruptcy in 2009 in part due to ineffective strategies and an oversaturated vehicle portfolio, similar to what happened to Enigma. GM focused on profitable

models and leveraging new trends regarding electric and autonomous vehicles, aiming to sell emission-free vehicles by 2035. Toyota was also slow to embrace full EVs, focusing instead on hybrid cars. However, the high competition and increased emission regulations made Toyota reconsider its strategy and commit to launching EV models globally.

1.4. INNOVATION: NEW RELEASES, RENEWED ENERGY

Innovation is the ability to develop and create new products or services for customers in order to obtain a competitive advantage (McKinsey, 2022) It is driven by the ability to see connections, spot opportunities, and exploit them (Tidd & Bessant, 2018). Enigma's Innovation department played a crucial role in showcasing the company's commitment to sustainability and CO2 reduction. The Innovation director was in charge of creating new goods (EVs) and significant features including connection, autonomous driving, and battery technology.

1.4.1. Innovation's Strategy

In a dynamic business environment, continuous innovation is essential to stay competitive and seize new opportunities while managing constraints (David F, 2020). In Europe, there have been new regulations such as the "Fit for 55" initiative, which aims to reduce the EU's net greenhouse gas emissions by 55% by 2030 compared to 1990 levels. Simultaneously, customer preferences are evolving, as evidenced by the 40% surge in global EVs in 2020 despite the impacts of the COVID-19 pandemic on the overall car market, which saw a 16% drop in sales (IEA, 2021).

Enigma, entering the EV race later than its three competitors, strategically decided to invest immediately in electrification. Rooting its strategy in studies that showed that incremental innovation often results in bigger gains over radical shifts (Tidd & Bessant, 2018), the

department started by developing hybrid cars. This tactful approach aimed to pave a gradual transition towards full electrification while navigating the governmental emission penalties.

1.4.2. Investments in Electrification and Sustainability

Enigma invested a total of $3.310M in technology advancements. With investments representing 2,7% to 4,7% of revenue up to year 3 (Figure 22). While this number may seem considerable, it is relatively modest when compared with industry giants. For instance, by 2030, BMW and Mercedes-Benz both committed to invest $35B and $47B, respectively, for EV production.

In the initial year, the Innovation department made key investments in connectivity, infotainment, big data, and home charging, to enhance competitiveness and stimulate EV demand. By year two, investments expanded towards automated parking, cross-platform technology, high-power charging, and driver assistance. Some of these investments were a reactive approach to industry trends. Investments continued in years three and four, focusing on cloud connection and secure infrastructure, which helped the company reach maximum autonomy and finally achieve all the features to develop a high-luxury electric car.

1.4.3. Product Development

Over the course of six years, the Innovation team created 12 new vehicles, spending $7.350M (Figure 23), and consistently following a strategic approach. The director followed consumer preferences, identified, and filled market gaps, analyzed the performance of previous models, and addressed competitors by offering superior or newer car features. To do so, continuous alignment with Marketing was crucial to get insights into market research and the pricing strategy. As well as Operations, to locate the production of new models. Moreover, avoiding

cannibalization was a guiding principle in the product development process. Cannibalization occurs when a company introduces a new product that is similar to an existing one resulting in a reduction in sales (Keller, 2013). In order to avoid it, the Innovation department closely monitored each product's sales.

In the first year, the department strategically launched 2 hybrid cars and 2 EVs to meet consumer demand and offer better features than the existing competitors. In the second year, with the e-drive modules ready to create EVs, Innovation introduced an executive EV and a micro EV. The former catered to the high-end market demand for executive electric cars, while the latter filled a market gap. Year three saw the introduction of the first Lux EV, replacing its hybrid version. Along with two diesel vehicles, aiming to satisfy the high demand for conventional cars in China and the EU. However, after witnessing the poor performance of the new diesel cars, the company's strategic focus shifted back to EVs, and Innovation rapidly adapted and introduced different electric models: compact, convertible, and SUV. The compact EVs substituted the compact hybrid, and convertible and SUV EVs were launched to substitute their previous electric models. Their launch was a success and allowed the company to have extraordinary sales in the subsequent years (Figure 10).

1.4.4. Performance Analysis

While Enigma's trajectory had its share of bumps, especially with the diesel cars, Innovation ensured the success of the company. A significant milestone was the accomplished transition of the company to being 100% electric. By choosing sustainability, the corporation not only advanced EV innovation but also significantly decreased its environmental impact. This decision not only placed the company at the forefront of EV innovation but also greatly reduced its environmental footprint. Enigma started with a CO2 fleet emission of almost 131 g/mile and

managed to steadily reduce it to zero by the end of year 5 (Figure 24). By always aligning with the other departments, responding to market needs, and quickly moving on to other projects when needed, Innovation was able to generate a competitive advantage, translating into higher profitability (Porter, 1979).

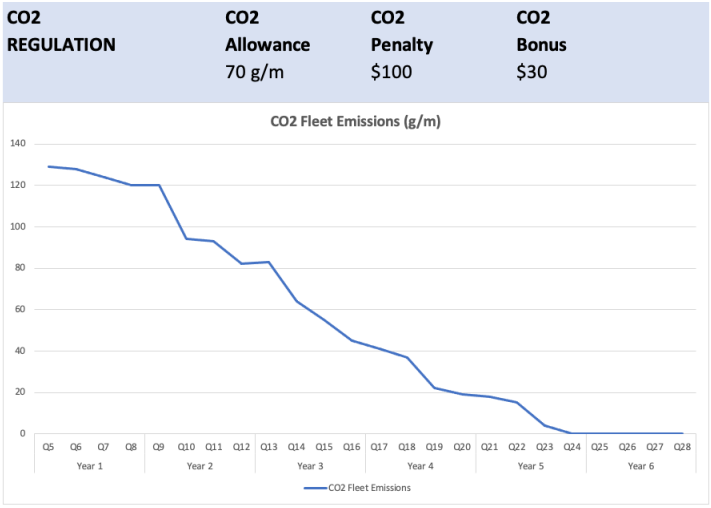


Figure 24: Enigma's Quarterly Fleet Emissions

1.5. FINAL CONCLUSIONS

The in-depth firm analysis from the Finance, Strategy, and Innovation directors' perspective provides a holistic understanding of the difficulties that Enigma encountered and overcame during this 6-year transition period towards electric mobility.

Finance functioned as the backbone of Enigma, making sure that every division's decision, in this case especially Strategy and Innovation, were based on economic reality. By making wise strategic investments and financial judgments, the company showcased its ability to quickly change course in challenging circumstances, while ensuring financial stability. In the area of Strategy, Enigma first tried to make the switch to EVs as smoothly as possible, mirroring titans of the sector such as GM and Toyota. But as is frequently the case in real-life business,

unforeseen market dynamics and financial challenges forced a change in strategy. This example highlights the importance of not only having a thorough plan but also the flexibility to change and adapt in the event of unanticipated difficulties. Innovation served as the department where ambitious plans for competition and practical implementation met. This function played an instrumental role in Enigma's race towards sustainability and effort to stay competitive, by investing in new technology, staying ahead of industry trends, and adapting to market demands and regulatory changes.

Each role was crucial to enable the transition, and it is impossible to underestimate their importance individually. Nevertheless, the key to Enigma's success was their collective synergy. The intricate interdependence between Finance, Strategy, and Innovation was both a source of difficulties and the secret to the company's success, by constantly supporting and challenging each other. For example, every functional area within the company needed financing, and thus, discussions with the Finance director were a constant in the day-to-day operations. The Innovation department required funding for technology that allowed the launch of new features, hybrid cars, and EVs along the way. It also relied on the financial prudence delivered by the Finance team as well as the strategic direction provided by Strategy. Financial insights also played a key role in designing the Strategy, since the team had to ensure that the strategic goals were in line with the company's long-term profitability. The significant reduction in Enigma's vehicle portfolio is an example of this interdependence.

At the same time, both Finance and Innovation relied on a well-defined Strategy to succeed. In the case of Innovation, Strategy provided the broader vision, and Innovation translated it into tangible products. For Finance, Strategy delivered an overview of the needs of the company, which turned into a means of obtaining external and internal funding. Last but not least, it was

essential that the team kept Finance up to date on all operating details. In this manner, it could evaluate the financial viability of their initiatives, guide investment decisions and their timing, and oversee daily operations to ensure the survival of the company, in terms of sustainability and growth.

From this comprehensive company analysis, several learnings arise. One underlying lesson is that to maintain their market relevance, even well-established industries like the automobile must adapt and change. This evolution is mainly driven by technology, which is disrupting all aspects of our lives, including industries. Similarly, sustainability has transformed into an urgent necessity rather than a viable option. Historically polluting industries, such as the automotive, should take responsibility for their actions, recognize the effects of their previous behavior, and lead the transition to more environmentally friendly practices. After all, as market trends indicate, the future is moving towards EVs and shared mobility, and the car industry must be ready to embrace it.

To conclude, Enigma Motor's turn towards a greener and electrified future provides valuable insights into the revolutionary worlds of EVs. It sheds light on the many difficulties that come with such a transition, including the requirement to understand market trends, consumer preferences, production issues, and regulatory frameworks, among others. Moreover, it highlighted the important role that strategic preparation, relentless innovation, and wise financial management play in designing a successful and sustainable transition, in a dynamic environment like the automotive sector.

2. PERSONAL REFLECTION

2.1. INTRODUCTION AND OVERVIEW

The two critical incidents presented in this analysis provide deep insights into the dynamics of collaboration, communication, and self-perception within the business simulation exercise at the automotive company Enigma Motors. Although there were several events that could have been considered a turning point for me during the simulation, I decided to choose the most relevant ones from a personal point of view that could have the highest impact on my future career. The two major themes that run across these incidents are interdepartmental communication and self-evaluation of competence. Both occurrences are highly significant because they highlight some of the most important facets of interpersonal relationships and personal development.

The first critical incident offers an intriguing example of intimidation, self-doubt, and the consequent transformation of one's perception. My role during the simulation changed dramatically after receiving feedback from my teammates. This event is relevant not only because it showcases the significance of peer feedback but also of self-confidence in professional environments. The second incident revolves around recurring communication problems between two departments when decisions were made during the strategic transition to EVs. This conflict showcases how little misunderstandings may transform into larger issues and the importance of addressing them promptly.

The analysis starts with an explanation of the events and my initial internal response followed by a breakdown of the factors and reasons that contributed to this situation. Finally, it concludes with a summary of learnings and recommendations for future improvements.

2.2. CRITICAL INCIDENT 1: THE ILLUSION OF INADEQUACY

2.2.1. The Event

During the Business in Practice simulation, I was appointed as the Finance director jointly with another student. When I met my finance colleague and worked together for the practice rounds, I realized that he was highly knowledgeable in finance. Although I have a good understanding of financial concepts, his confidence and expertise intimidated me. This lack of faith in my skills made me adopt a more supportive role within the Finance department. I still performed my tasks, but whenever any of the other directors had questions related to finance, I stepped back and let my teammate reply, as I believed his explanations would be more adequate than mine. This passive behavior resulted in the team members directing queries to my partner rather than me. Moreover, I always double-checked my financial decisions with my teammate, not only because we worked together, but also, because I doubted my own judgment.

This situation continued until a pivotal moment occurred in the last week during the team dynamic clinics (27th June). Professor Miguel Pinto gave us a sheet with peer and self-assessment feedback, and I was not expecting to get great results in certain areas due to my positioning in the Finance team. Contrary to my self-evaluation, my colleagues ranked my knowledge, skills, and abilities higher, triggering a significant internal shift (Figure 25). This positive feedback inspired me to reassess my position within the team and take a more proactive role. As a result, my teammates began directing finance questions to me as I took the lead in my department.

2.2.2. My Internal Response

Throughout the simulation, I was dominated by feelings of self-doubt and lack of confidence, particularly when compared to my Finance partner. My reaction was to retreat and hesitate

about my knowledge. However, the peer evaluation was a revelation that mixed emotions within me - confusion, surprise, and newfound optimism. At first, I could not understand the reasoning behind the results. Why did my colleagues trust my capabilities? And why I was not able to do the same? I thought I should start believing in myself as well. A renewed confidence and trust in my teammates inspired me to take a more initiative-taking position. From an external perspective, this change might have seemed minor, as it was gradual. After all, stepping outside your comfort zone is a process that takes time and effort. However, on an internal level, this shift was a turning point. From that moment of realization, I became more confident, and when any doubt arose again, I tried to go through it and put myself there.

2.2.3. Analysis:

Was I lying to myself?: The impostor syndrome

My behavior in the early stages of the simulation can be traced back to my struggle with the Impostor Syndrome (Clance & Imes, 1978), where despite possessing the necessary skills, I experienced self-doubt and feared being discovered as a fraud, with my partner's higher competency further augmenting this internal struggle. This phenomenon is common in times of uncertainty or change, such as taking on new responsibilities or roles (Amo, 2023). Surprisingly, about 70% of the population will experience this phenomenon at some point (Aquino, 2020). However, there are different methods to handle it. Sharing your experience with people you trust and getting their feedback can be genuinely helpful in understanding the value of your unique skills and accomplishments (Amo, 2023). In my case, my peer’s positive feedback helped me gain perspective and reframe my negativity. Another possible approach is to learn to prioritize progress over perfection. Striving to be perfect is impossible, instead focusing on progress will result in learning and growth.

Was I determining my worth wrongly?: Social comparison theory

Being paired with a more knowledgeable partner proved to be a daunting experience for me. Why instead of learning from him, I retreated to a secondary position? The answer lies in social comparison theory, which suggests that individuals determine their value by comparing themselves to others (Festinger, 1954). According to this theory, there are two types of social comparisons: upward and downward. The upward comparison entails comparing yourself with someone perceived as superior, whereas the downward comparison involves evaluating yourself against someone seen as inferior. This can lead to motivation and self-improvement but also can have a negative emotional effect, fostering feelings of inadequacy and intimidation (Guyer, 2018) - feelings that resonated with my initial reaction. Social comparison is affected by multiple factors such as similarity and relevance. In my case, I compared my abilities with someone who shared a similar background - a fellow finance student participating in the same simulation. Regarding relevance, when we compare ourselves, we do it for important things. The simulation was crucial for me, not only for my thesis but also for my academic and personal development. All these circumstances further magnified the impact of comparison. While social comparison is an inherent human tendency, I should have used it for self-improvement. Studies suggest that identifying similarities with the person we are comparing with has been linked to feelings of positive effects and enhances self-esteem (Guyer, 2018). Therefore, understanding and applying this facet of social comparison could have led to a more constructive self-evaluation and subsequent actions.

Was I ruled by my personal traits?: Yellow Personality

According to the color personality test, my dominant color is yellow, indicating a personality that manifests qualities of enthusiasm, spontaneity, and persuasive communication (Birkman, 2019). However, the yellow personality has certain vulnerabilities that affect my behavior. For

instance, fear of loss of social recognition and a tendency to self-doubt (Birkman, 2019). My initial reluctance to speak out might be attributed to the fear of making mistakes and losing the respect of my team members. Understanding and recognizing the traits is important, however, these traits are not necessarily deterministic. I should treat them as a tool to work on my personal growth and address my fear of social rejection and tendency to self-doubt.

2.2.4. Reflections and Learnings

After becoming aware of the perceived distortion of my own capabilities, I tried to change my attitude in order to become more confident. This experience taught me the importance of self-belief and the huge impact it can have on my performance. Looking back, I should have trusted my teammates and shared my insecurities with them, encouraging a more supportive environment that might have led me to confront my self-doubt sooner. I now perceive the presence of more knowledgeable colleagues not as intimidating but as an opportunity for learning. I should have asked my partner for guidance and clarification whenever I felt lost. For my future personal growth, I am not going to shy away from sharing my concerns and ideas. Regardless of the level of expertise others possess, I too can contribute valuable insights. Each unique perspective, including my own, adds depth and richness to the group's decision-making.

2.3. CRITICAL INCIDENT 2: THE COSTLY SILENCE

2.3.1. The Event

The business simulation was running smoothly without any evident issues until the third year when a misunderstanding arose between the Finance and Operations departments. The transition to EVs required discontinuing traditional cars and non-profitable vehicles, but since it was a costly process, my Finance partner and I came up with a cost-saving strategy. It was necessary to first stop producing the model, sell the remaining stock in the next quarters, and

then discontinue the car. In theory, the process was simple, and all the departments were informed and involved in the decision-making, but its execution revealed some communication gaps. Operations, which was in charge of controlling production, continued with the production of the car that was about to be discontinued motivated by the idea of fulfilling factory capacity. On confronting him, he argued that nobody had disclosed the plan to him. As a result, we were forced to discontinue the car incurring higher costs than intended.

I decided to not escalate the issue, treating it as a one-time miscommunication. Unfortunately, year five saw a repetition of the same scenario. This time, the tension between Operations and Finance was palpable. Not only because the incident repeated, but also because it happened when Enigma was dealing with financial instability. Even though it was towards the end of the simulation, I realized that some adjustments were necessary. Therefore, from that time forward, each member received direct communication from Finance regarding important decisions with special emphasis on ensuring Operations was informed.

2.3.2. My Internal Response

At the beginning of the incident, I was astonished and frustrated by the misunderstanding that resulted in a failed strategy execution. I did not accept the words of my teammate when he assured me that he was not informed, especially when I thought that I communicated the decision to everyone. I felt betrayed since I believed he prioritized his department's needs and that I was wasting my time with a failing strategy. However, I opted to keep the peace, attributing it to a non-critical error. After all, team dynamics had been great so far and I did not want to contribute to a conflict generation. Yet, when the same mistake occurred for the second time, I was furious. There was no room for patience or understanding in my feelings. I could only think that my plan was going to fail once more, and even if it was not done on purpose, his interests were once more put before mine. It became clear that this was not just a minor

issue, but a recurring problem. The adoption of a new communication strategy gave me comfort; however, it also made me feel disappointed with myself as I should have addressed the issue way earlier. But at least, it did not have serious implications in the simulation.

2.3.3. Analysis:

Was I running away from the real problem?: Conflict avoidance

My initial reaction to the situation was to avoid any confrontation with my teammate. This type of behavior, known as "conflict avoidance", is quite common in social interactions and can be detrimental since it frequently exacerbates the problem rather than solving it (Robbins, 2023). Kilmann and Thomas (1977) identified "avoiding" as one of the five conflict management styles in their study on conflict management strategies. This approach is associated with passivity and unwillingness to confront issues head-on. It is also common in individuals who prefer short-term peace, especially if the conflict is perceived as minor or if they believe it is not the correct moment to address it. This description mirrors my feelings and behavior during the simulation. Conflict avoidance can also be traced back to my yellow personality traits. The yellow personality is typically averse to confrontation and favors keeping relationships harmonious, aiming to maintain a positive environment where this type of personality thrives (Birkman, 2019). Trust and optimism are also characteristic attributes, which could explain why, after the first incident, I wrongly believed that the issue would not happen again by giving my colleague the benefit of the doubt and trusting him.

Although conflict avoidance may bring temporary calm, unaddressed concerns might build up and cause more serious disputes and consequences in the future. Some solutions to this matter encourage open and honest communication within teams, create a safe environment to voice concerns or establish feedback mechanisms (Robbins, 2023). However, it is important to note

that avoiding conflicts also comes with some advantages. It allows time to reflect and reconsider the best approach, while also stopping impulsive judgments, especially in circumstances where emotions are running high. Acknowledging this personal tendency of mine can help me develop techniques for dealing with it, and proactively communicate problems, while also leveraging the strengths of conflict avoidance.

Was I speaking a different language?: *Different communication styles*

The misunderstanding problem may also have resulted from inconsistent communication styles (Endress, 2016). The term "communication style" describes how individuals deliver information in different ways as well as how they interpret others' information. In my case, when the conflict happened, I was sure that I communicated the decision and the steps to follow to all the directors, however, Operations assured me that it was not true for him. This was a clear sign of inconsistency in our communication methods. Edward Hall (1976) distinguishes between ambiguous and clear communication styles. While some people prefer a more ambiguous communication relying on shared understandings, others opt for a straightforward and explicit approach. I recognize that my style leans toward the ambiguous one, while the Operations director had a clear preference. Despite communicating the steps of my plan, in fact, I did not explain in detail the reasons for its repercussions for Enigma. Perhaps if Operations had been clearly informed about that he would have understood why this strategy was important and executed it as planned. Recognizing these communication differences is crucial, as it will help me to close understanding gaps and collaborate more effectively in the future.

Was I even communicating correctly?: Lack of a communication system

The lack of an organized mechanism for communicating may have been another factor contributing to the existing miscommunication between my department and Operations.

Strategic decisions in an organization should follow a predefined communication system to guarantee that all departments are effectively informed (West, 2012). Without adequate communication, several negative effects can arise, including lack of trust, conflict escalation, or mistakes and errors. This is what happened with my failed car discontinuation strategy. To prevent such scenarios, Enigma should have previously established clear communication protocols, coupled with regular check–ins and meetings, as well as frequent feedback mechanisms. A structured communication system like this not only improves operations but also promotes a culture of trust and understanding among peers that will benefit the whole company (Crossman, 2022).

2.3.4. Reflections and Learnings

It was not until the conflict repeated and tensions increased that I recognized the need for active conflict management through the creation of a new communication system. The issue was effectively solved with this new approach, but it was evident that it should have been addressed earlier, rather than initially dismissing it as a minor communication error. This journey made me understand that successful communication involves more than simply speaking but ensuring that the message is effectively received and comprehended. I believe this is a valuable learning since nowadays companies highly value the ability to work in teams and foster good team dynamics. These qualities become extremely crucial in decision-making scenarios, such as this business simulation. One of my revelations was realizing the necessity of a more proactive and mature approach towards conflict management. And this need should not be overshadowed by my yellow personality trait, which leans toward harmony. In the future, I will make sure to establish a clear and efficient communication framework where communication styles may coexist peacefully, and where a trusting environment and culture can flourish.

2.4. CONCLUSION

The Business in Practice Simulation offered numerous experiential learnings coming from the challenge of managing a transformative company but also from the results of team dynamics. The two critical events described provide a direct reflection of both individual development and the value of collaboration. The illusion of inadequacy was an example of how imposter syndrome can affect a person's performance within a team, and how candid feedback can help reassess one's perception. The costly silence focused on a foundational element of teamwork: communication. An important lesson in organizational collaboration may be learned from the impact of personality traits, communication styles, and the lack of a communication system.

When analyzing my peer and self-assessment, my colleagues evaluated me highly regarding my skills and knowledge. However, they ranked me lower than my self-assessment regarding my interaction with the group, my contribution to the team, and keeping them on track (Figure 25). I believe this discrepancy is due to my initial position within the finance team, in which I consciously assumed a more secondary role. Because the peer evaluation occurred before the critical incident that made me change my behavior, the results do not reflect this transformation. The feedback received was crucial in my realization that change was necessary. I became aware of the importance of giving feedback and it is a change I am going to implement in my future working career as a means to continuously improve and collaborate effectively.

In conclusion, the simulation provided a representation of real-world corporative challenges. The incidents examined are timeless examples of how personal and teamwork development are a working process shaped by experiences and learnings. These valuable insights will definitely serve as guiding principle when I enter the larger world of business and leadership.

References

Amo, Sheila. 2023. “How to Get Past ‘Imposter Syndrome’ and Recognize Your Own Success.” Secured Lender 79 (4): 110–11. 2023. https://research.ebsco.com/linkprocessor/plink?id=f262eb69-a6fb-3365-bb91-3993075ca4ab.

Aquino, Jasmine. 2020. “Feeling like a Fraud?” TD: Talent Development 74 (7): 50–55.” 2020. https://research.ebsco.com/linkprocessor/plink?id=0875f354-c605-364a-8c07-6ff4f010c04e.

Berk, Jonathan B, and Peter M Demarzo. 2011. *Corporate Finance*. Boston: Pearson.

Birkman, R.W. 2019. *The Birkman Method: Your Personality at Work*. San Francisco: Jossey-Bass, A Wiley Brand.

Birkman, Roger. 1995. *True Colors*. Nashville: T. Nelson.

BMW Group. 2018. “BMW Group Annual Report 2018.” Bmwgroup.com. 2018. https://www.press.bmwgroup.com/global/article/detail/T0293372EN/bmw-group-annual-report-2018?language=en.

BPP Learning Media (Firm). 2013. *Business Essentials. Supporting Pearson BTEC Higher Nationals and Foundation Degrees. Business Strategy. Course Book*. Bpp Learning Media.

Brigham, Eugene F, and Michael C Ehrhardt. 2016. *Financial Management: Theory & Practice*. Cengage Learning.

Brusov, Peter, Tatiana Filatova, and Natali Orekhova. 2023. *Generalized Modigliani–Miller Theory*. Springer.

Clance, Pauline Rose, and Suzanne Ament Imes. 1978. “The Imposter Phenomenon in High Achieving Women: Dynamics and Therapeutic Intervention.” *Psychotherapy: Theory, Research & Practice* 15 (3): 241–47. https://doi.org/10.1037/h0086006.

Collins, Jim, and Jerry I Porras. (1994) 2004. *Built to Last: Successful Habits of Visionary Companies*. London Etc.: Random House Business Books, Cop.

Council of the EU. 2023. "Fit for 55': Council Adopts Regulation on CO2 Emissions for New Cars and Vans." Press Release 240/23. 2023. https://www.consilium.europa.eu/en/press/press-releases/2023/03/28/fit-for-55-council-adopts-regulation-on-co2-emissions-for-new-cars-and-vans/#:~:text=The%20new%20rules%20set%20the,cars%20and%20vans%20from%202035.

Crossman, Joanna. 2022. *Workplace Communication: Promoting Workplace Wellbeing and Interpersonal Relationships in Multicultural Contexts*. Milton: Taylor & Francis Group.

David, Fred R, and Forest R David. 2020. *Strategic Management: Concepts and Cases: A Competitive Advantage Approach*. 16th ed. Boston: Pearson.

Endress, Paul. 2016. *The Magic of Communication Styles: Understanding Yourself and Those around You*. Harrisburg, Pennsylvania: Cardinal House Press.

Festinger, L. 1954. "A Theory of Social Comparison Processes." Human Relations, 7, 117-140. 1954. https://doi.org/10.1177/001872675400700202.

Gorner, Marine, and Paoli Leonardo. 2021. "How Global Electric Car Sales Defied Covid-19 in 2020 – Analysis." IEA, 28. 2021. www.iea.org/commentaries/how-global-electric-car-sales-defied-covid-19-in-2020.

Gottardo, Pietro, and Anna Maria Moisello. 2019. *Capital Structure, Earnings Management, and Risk of Financial Distress: A Comparative Analysis of Family and Non-Family Firms*. Cham, Switzerland: Springer.

Guyer, Joshua J., and Thomas I. Vaughan-Johnston. 2018. “Social Comparisons (Upward and Downward).” *Encyclopedia of Personality and Individual Differences*, 1–5. https://doi.org/10.1007/978-3-319-28099-8_1912-1.

Hall, Edward Twitchell. 1976. *Beyond Culture*. New York: Anchor Books.

IEA. 2020. “Global EV Outlook 2020 – Analysis.” IEA. June 2020. https://www.iea.org/reports/global-ev-outlook-2020.

Immink, Ron. 2017. “Innovation: Do or Die.” Cork Ireland: NuBooks. 2017. https://research.ebsco.com/linkprocessor/plink?id=481cc1c8-f245-3255-aa11-05f63dea0dd3.

Johnson, Gerry, Kevan Scholes, and Richard Whittington. 2009. *Exploring Corporate Strategy*. Harlow Financial Times Prentice Hall.

Keller, Kevin Lane. 2013. *Strategic Brand Management: Building, Measuring, and Managing Brand Equity*. Upper Saddle River, N.J.; New Jersey: Prentice Hall.

Kilmann, Ralph H, and Kenneth W Thomas. 2009. *Conflict Mode Instrument*. Mountain View, Calif.: Cpp.

Lencioni, Patrick. 2002. *The Five Dysfunctions of a Team*. John Wiley & Sons.

Lienert, Paul. 2022. “Exclusive: Automakers to Double Spending on EVs, Batteries to $1.2 Trillion by 2030.” *Reuters*, October 25, 2022, sec. Technology. https://www.reuters.com/technology/exclusive-automakers-double-spending-evs-batteries-12-trillion-by-2030-2022-10-21/.

Lourdesamy Iruthayasamy. 2021. *Understanding Business Strategy*. Springer Nature.

McKinsey. 2022. “What Is Innovation? | McKinsey.” Www.mckinsey.com. 2022. https://www.mckinsey.com/featured-insights/mckinsey-explainers/what-is-innovation.

Osterwalder, Alexander, and Yves Pigneur. 2010. *Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers*. Hoboken, New Jersey: Wiley.

Porter, Michael. 1979. *How Competitive Forces Shape Strategy*. Harvard Business Review.

Robbins, Stephen, and Timothy Judge. 2023. *Organizational Behavior, Global Edition*. Pearson.

Ross, Stephen A, Randolph Westerfield, Jeffrey F Jaffe, and Bradford D Jordan. 2019. *Corporate Finance*. New York, Ny: Mcgraw-Hill Education.

Rothaermel, Frank T. 2020. *Strategic Management*. MCGraw Hill.

Schilling, Melissa A. 2020. *Strategic Management of Technological Innovation*. New York, Ny: Mcgraw-Hill Education.

Schuetze, Arno. 2020. "BMW Aims for 20% of Its Vehicles to Be Electric by 2023 - Paper." *Reuters*, December 27, 2020, sec. Business News. https://www.reuters.com/article/bmw-electric-idUSKBN2910GV.

Sharon Birkman Fink, and Stephanie Capparell. 2013. *The Birkman Method: Your Personality at Work*. San Francisco: Jossey-Bass, A Wiley Brand.

Tesla. 2012. "Tesla Annual Report." Sec.gov. 2012. https://www.sec.gov/Archives/edgar/data/1318605/000119312513096241/d452995d10k.htm.

Tidd, Joseph, and John Bessant. 2018. *Managing Innovation: Integrating Technological, Market and Organizational Change*. 7th ed. Hoboken: Wiley.

Tschöpel, Stefan Schöniger, Heike Snellen, Andreas. 2022. "Cost of Capital Study 2022 - KPMG Germany." KPMG. December 14, 2022. https://kpmg.com/de/en/home/insights/2022/10/cost-of-capital-study-2022.html.

Tushman, M.L., and J.I. Porras. 1996. “Ambidextrous Organizations: Managing Evolutionary and Revolutionary Change.” California Management Review. 1996.

Volvo Car Group. 2021. “Volvo Cars to Be Fully Electric by 2030.” Www.media.volvocars.com. 2021. https://www.media.volvocars.com/global/en-gb/media/pressreleases/277409/volvo-cars-to-be-fully-electric-by-2030.

West, Michael A. 2012. *Effective Teamwork Practical Lessons from Organizational Research*. Malden Bps Blackwell.

Appendix

Enigma's Annual Capital Structure							
In million $	Y0	Y1	Y2	Y3	Y4	Y5	Y6
Equity	$10.811	$12.127	$15.865	$17.241	$18.522	$21.216	$22.875
Debt	$10.993	$14.469	$16.430	$19.444	$16.597	$14.340	$11.368
D/E	**1,02**	**1,19**	**1,04**	**1,13**	**0,90**	**0,68**	**0,50**
Debt Ratio (D/(D*E)	**50,4%**	**54,4%**	**50,9%**	**53,0%**	**47,3%**	**40,3%**	**33,2%**
% change		**7,9%**	**-6,5%**	**4,2%**	**-10,8%**	**-14,7%**	**-17,7%**
						AV.DECREASE	**-6%**

Figure 1: Enigma's Annual Capital Structure
Source: Own creation - Data from BiP Industry Master's Simulation. 2023

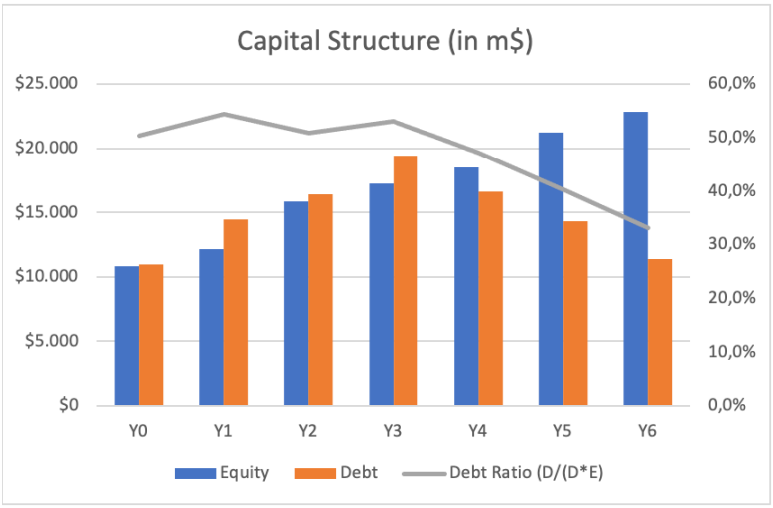


Figure 2: Enigma's Annual Capital Structure (Graphic)
Source: Own creation - Data from BiP Industry Master's Simulation. 2023

Issued Bonds

Contract	Volume	Interest Rate	Term *	Rest Term *
Bond Issued	$1,612M	3.00%	16	15
Bond Issued	$711M	3.00%	16	14
Bond Issued	$3,188M	3.00%	16	12
Bond Issued	$1,110M	3.00%	16	12
Bond Issued	$209M	3.00%	16	9
Bond Issued	$573M	3.00%	16	9
Bond Issued	$590M	3.00%	16	8
Bond Issued	$8.93M	3.00%	16	4
Bond Issued	$155M	3.00%	16	4
Bond Issued	$499M	3.00%	16	3
Bond Issued	$52.64M	3.00%	16	2
Bond Issued	$553M	3.00%	16	2
Bond Issued	$532M	3.00%	16	1
Bond Issued	$723M	3.00%	16	0

* Term is shown as Quarters

Figure 3: Enigma's Issued Green Bonds
Source: BiP Industry Master's Simulation. 2023

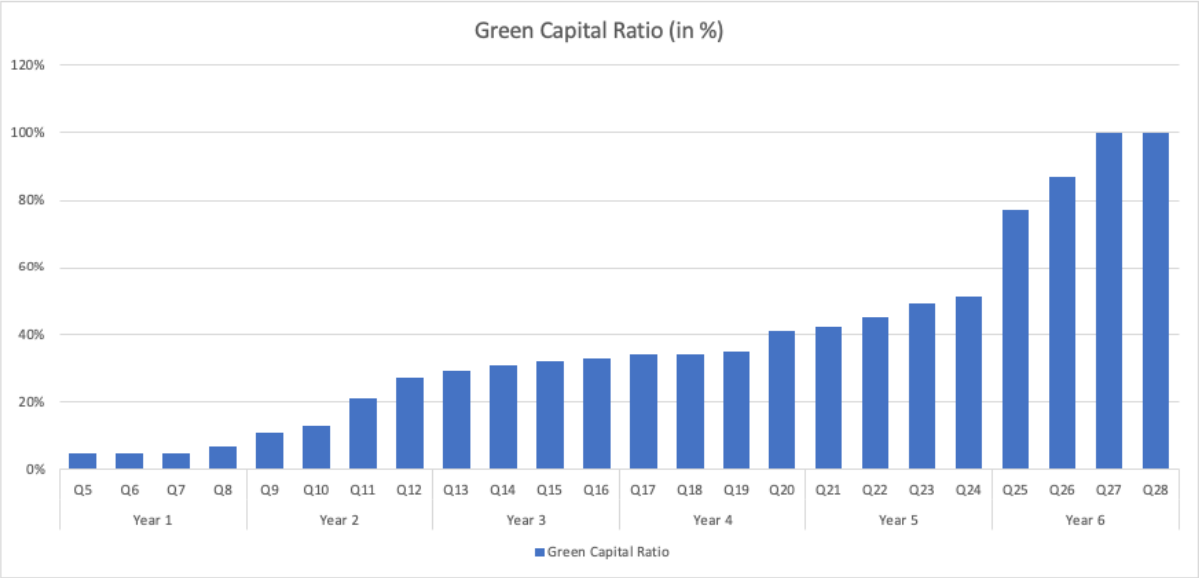


Figure 4: Enigma's Quarterly Green Capital Ratio Values
Source: Own creation - Data from BiP Industry Master's Simulation. 2023

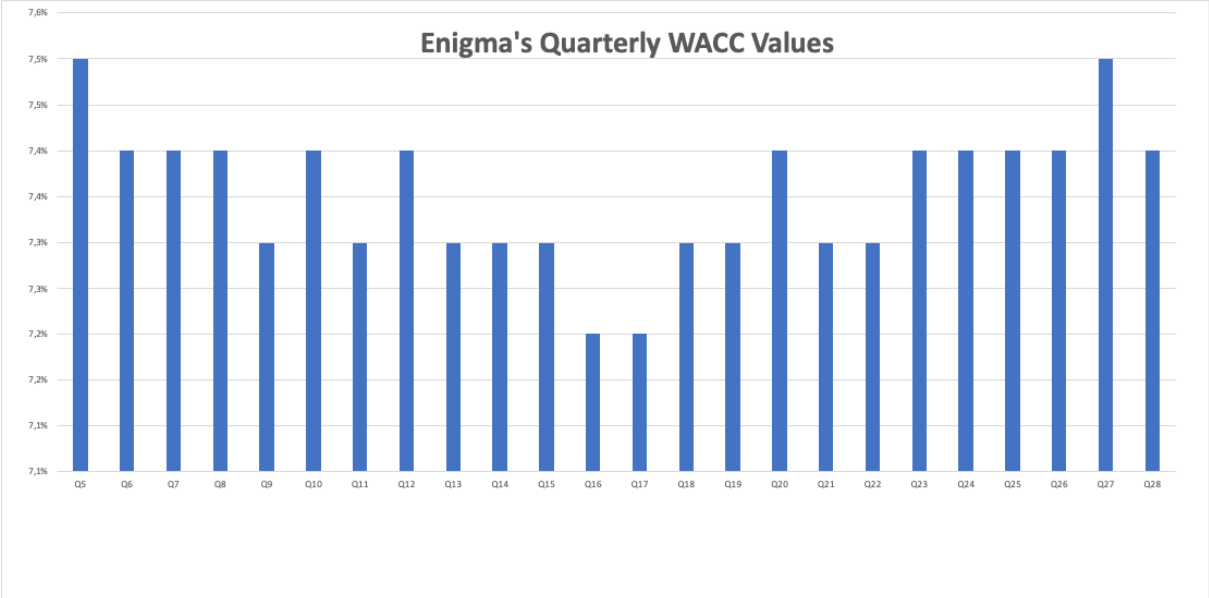


Figure 5: Enigma's Quarterly WACC Values
Source: Own creation - Data from BiP Industry Master's Simulation. 2023

Enigma's Annual Accounts Receivable and Payable							
In million $	Y0	Y1	Y2	Y3	Y4	Y5	Y6
Accounts Receivable	**$2.749**	**$3.542**	**$3.790**	**$4.104**	**$3.912**	**$4.669**	**$5.149**
%change		29%	7%	8%	-5%	19%	10%
Accounts Payable	**$851**	**$514**	**$623**	**$783**	**$1.163**	**$825**	**$831**
%change		-40%	21%	26%	49%	-29%	1%

Figure 6: Enigma's Annual Accounts Receivable and Payable
Source: Own creation - Data from BiP Industry Master's Simulation. 2023

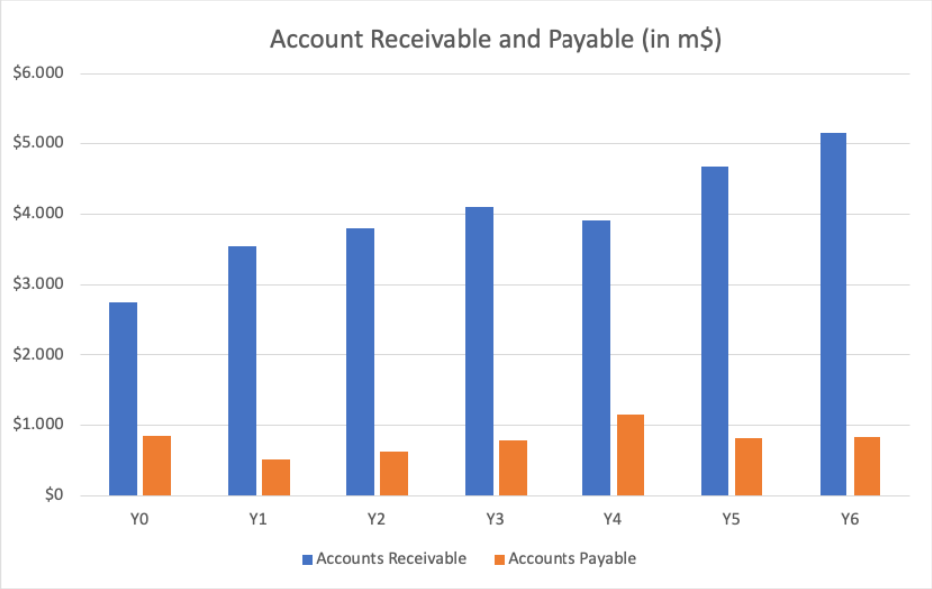


Figure 7: Enigma's Annual Accounts Receivable and Payable (Graphic)
Source: Own creation - Data from BiP Industry Master's Simulation. 2023

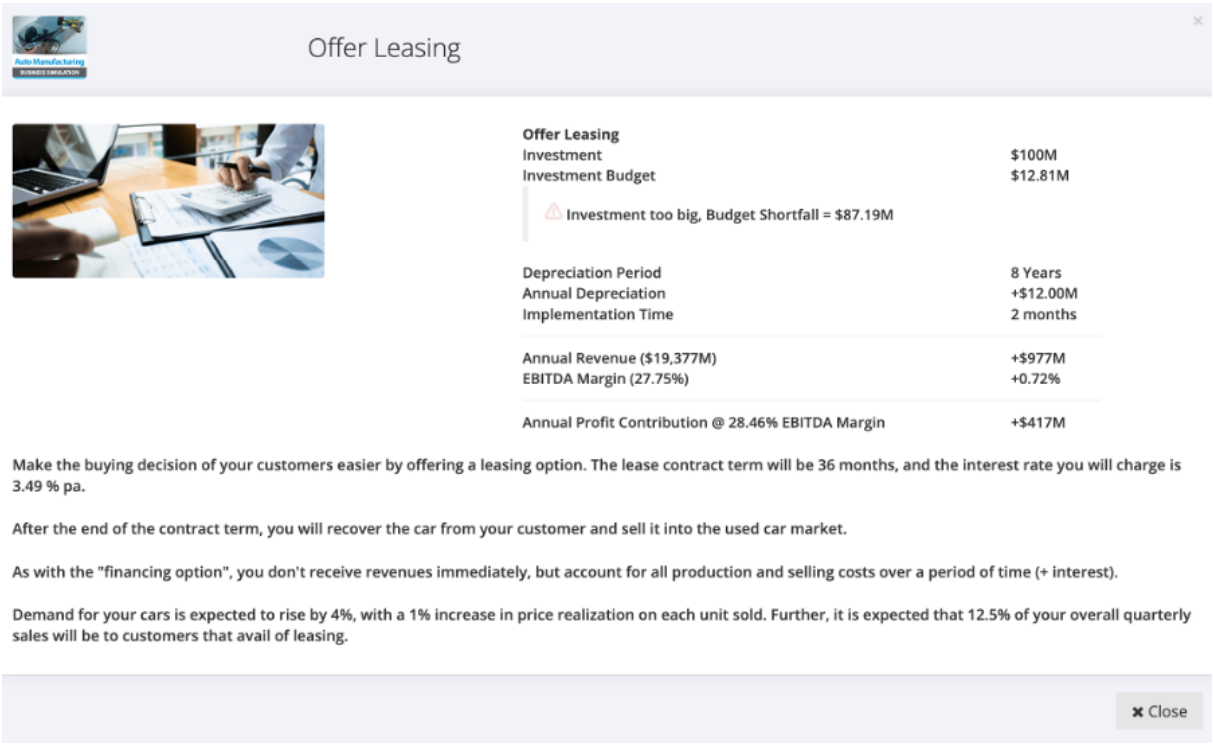


Figure 8: Leasing Option offered by Enigma Motors.
Source: BiP Industry Master's Simulation. 2023

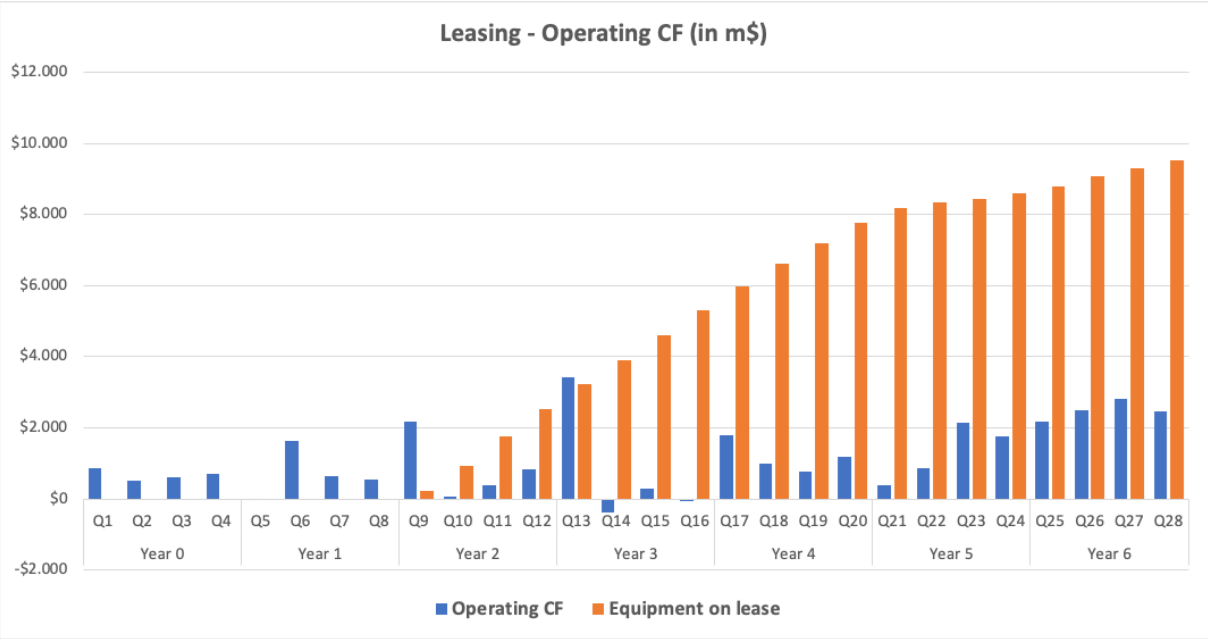


Figure 9: Enigma's Quarterly Leasing and Operating Cashflow Values
Source: Own creation - Data from BiP Industry Master's Simulation. 2023

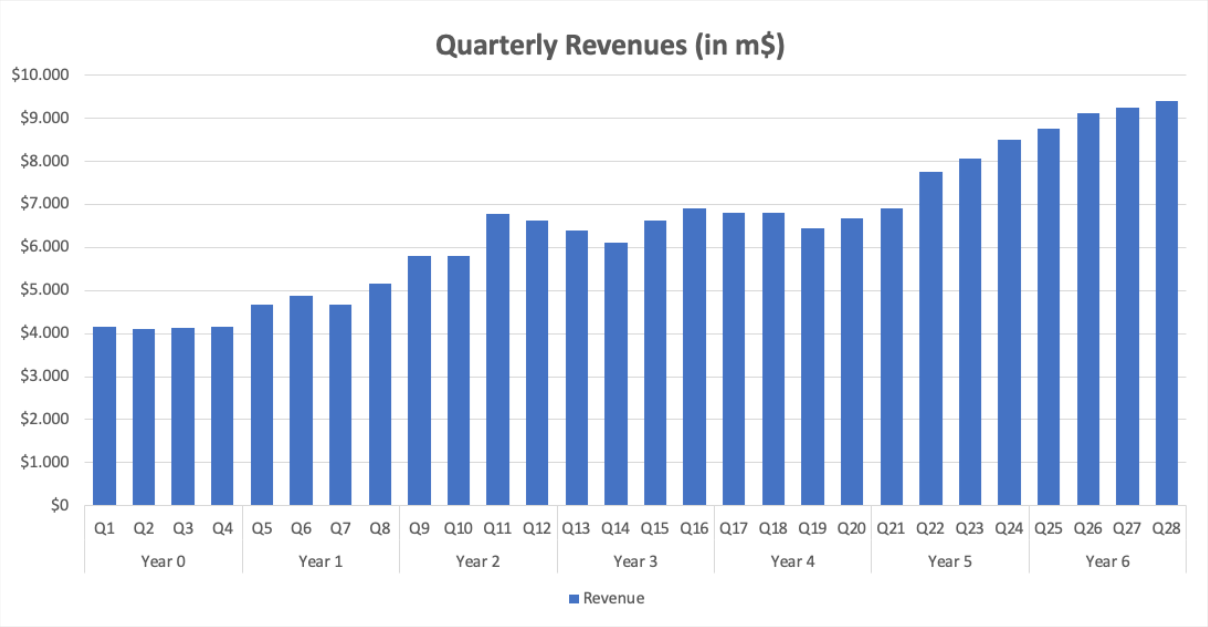


Figure 10: Enigma's Quarterly Revenue Values
Source: Own creation - Data from BiP Industry Master's Simulation. 2023

Enigma's Annual Revenue, Net Operating Profit and EBIT							
				Critical years			
In million $	Y0	Y1	Y2	Y3	Y4	Y5	Y6
Revenue	$16.554	$19.377	$25.000	$26.024	$26.724	$31.223	$36.501
%change		17%	29%	4%	3%	17%	17%
Net Operating Profit	$2.334	$1.881	$3.219	$2.062	$1.830	$3.850	$7.045
%change		-19%	71%	-36%	-11%	110%	83%
EBIT	$3.788	$3.250	$5.613	$4.284	$4.221	$6.746	$10.436
%change		-14%	73%	-24%	-1%	60%	55%

Figure 10: Enigma's Annual Revenue, Net Operating Profit, and EBIT
Source: Own creation - Data from BiP Industry Master's Simulation. 2023

Enigma's Annual FCF						
In million $	Y1	Y2	Y3	Y4	Y5	Y6
FCF	-$3.223	-$3.681	-$3.603	$1.849	$3.742	$7.706
% change		14%	-2%	-151%	102%	106%

Figure 11: Enigma's Annual FCF Values
Source: Own creation - Data from BiP Industry Master's Simulation. 2023

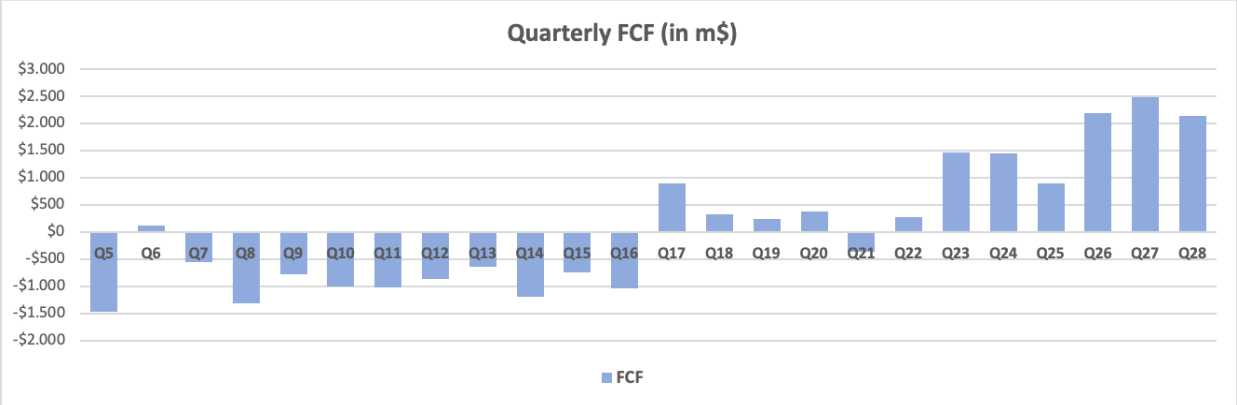


Figure 12: Enigma's Quarterly FCF Values (Graphic)
Source: Own creation - Data from BiP Industry Master's Simulation. 2023

Enigma's Annual ROE							
In million$	Y0	Y1	Y2	Y3	Y4	Y5	Y6
Equity	$10.811	$12.127	$15.865	$17.241	$18.522	$21.216	$22.875
Net Income	$2.334	$1.881	$3.219	$2.062	$1.830	$3.850	$7.045
ROE	**22%**	**16%**	**20%**	**12%**	**10%**	**18%**	**31%**

Figure 13: Enigma's Annual ROE
Source: Own creation - Data from BiP Industry Master's Simulation. 2023

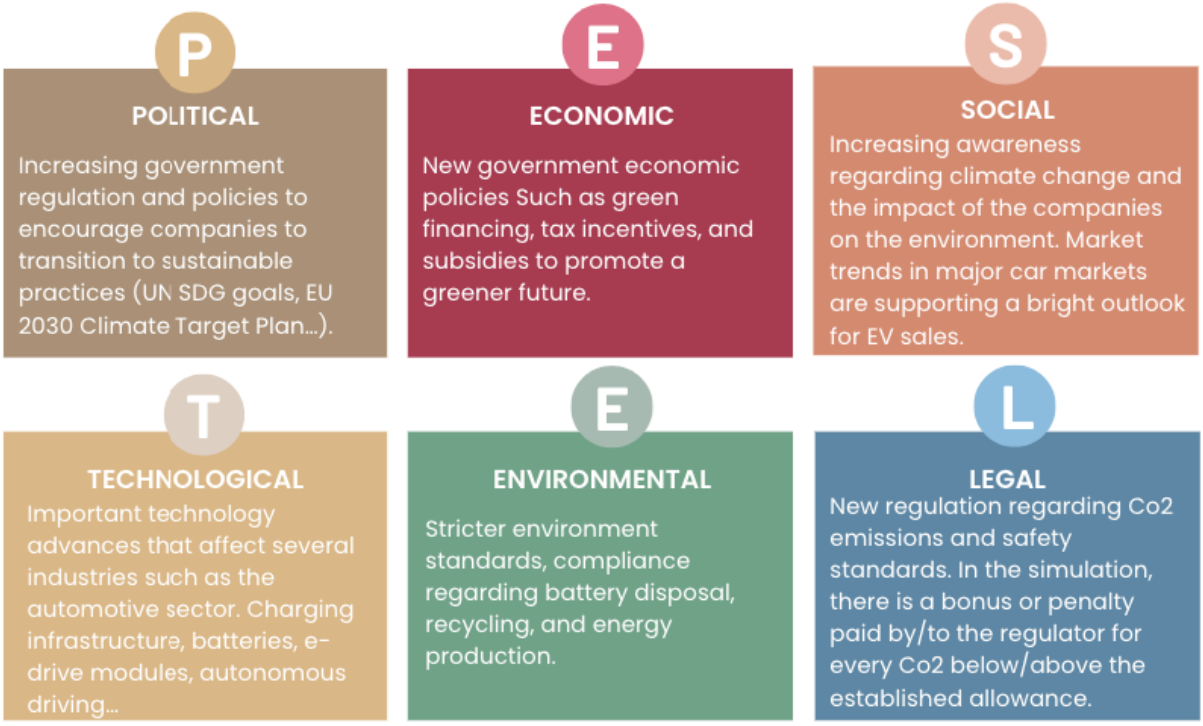


Figure 14: Enigma's Pestel Analysis
Source: Own creation - Data from BiP Industry Master's Simulation. 2023

PORTER'S FIVE FORCES
Industry Rivalry: High
The competition in the automotive industry is intense and it will remain like this or even increase during the transition to EVs. Traditional companies will have to compete with the new innovative brands that arise around the world and sell internationally. Moreover, many of these new brands already offer a 100% fully electric portfolio.
Bargaining Power of Suppliers: Medium
Since there are many suppliers to choose from, suppliers do not hold high power. However, the switching costs are high, which limits the option of the auto manufacturers to change from one supplier to another.
Threat of Substitutes: High
Not only traditional car substitutes which are public transport or airlines should be considered. In recent years, other types of transportation have become a threat to cars, electric bicycles, scooters, and the rise of their shared mobility in cities.

Bargaining Power of Buyers: High
Customers have the advantage of switching from one automotive brand to another, especially with the increasing competition with new players entering the industry (like China) that offer innovative solutions.
Threat of New Entrants: Low
The high entry barriers make it difficult for new competitors to enter the automotive industry. It is a sector that requires high capital investments, with factories, and distribution channels. However, with the increasing interest in EVs new competitors from the technological sector can irrupt the industry heavily threatening and increasing the competition (China, is entering the Western market).

Figure 15: Enigma's Porter Five Forces
Source: Own creation - Data from BiP Industry Master's Simulation. 2023

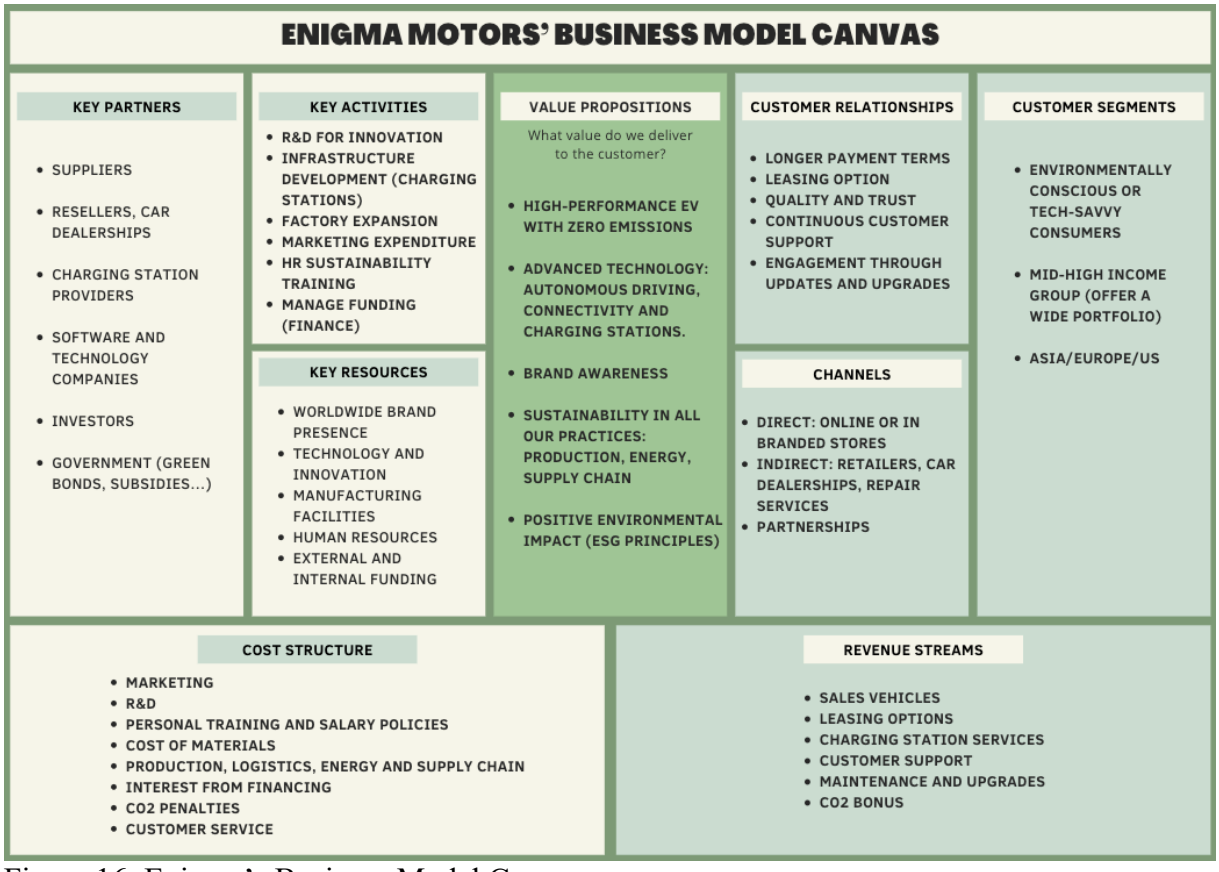


Figure 16: Enigma's Business Model Canvas
Source: Own creation - Data from BiP Industry Master's Simulation. 2023

Strengths		Weaknesses
• Vehicle lines that are popular and selling well (<60 days of inventory) • Initial stages of investment in electric vehicle are expected to bring revenue growth in the short term • Excellent employee relations leading to good productivity achievement	S W	• The product porfolio consists exclusively of conventional vehicles • Three vehicle lines with >60 days of inventory need management attention in operations and marketing • A restructuring of the business in the short term may be required
Opportunities	O T	**Threats**
• Electromobility is the future! E-Drive modules can be used in 3 quarters • Green investments that can be financed with green bonds are available • New product offerings with up-to-date technology • Expansion of factories are possible • The stock market appears receptive to a share issuance • The market responds well to marketing spend		• Older model lines are a drain on resources • Expensive debt due to current credit rating and access to new borrowing • Increasing competition in the electric vehicles market • Continuing aggressive government regulations that threaten profitability • Volatility in the cost of raw materials

Figure 17: Enigma's SWOT Analysis
Source: Own creation - Data from BiP Industry Master's Simulation. 2023

COMPANY INFORMATION

We are gradually reducing our environmental footprint and empowering individuals to embrace a greener and more inclusive world. We aim to lead by example and inspire change within Enigma Motors and beyond.

WHAT WE STRIVE FOR

At Enigma Motors, we aim to provide a **smooth, flexible, and pleasant** experience as customers embrace a more sustainable future.

Green Future

Shaping the future through ethical and sustainable business practices, social responsibility, lasting partnerships and continuous improvement

Smooth Transition

Investing in infrastructure and providing exciting features that improve the customer's experience and thus foster the transition towards electrification.

Democratization

Making sure EV is accessible to everyone, by providing financing options, being broadly available, and offering an extensive car portfolio to meet various needs.

WORKING TOGETHER TOWARDS A SUSTAINABLE FUTURE

Innovation

Driving adoption by enabling reliable and exciting **electric mobility**. Promoting trends like e-mobility and shared mobility to contribute to **sustainable cities and business models**.

Marketing

Encouraging **customer adoption** through strategic marketing and pricing. Building a **positive public image** by effectively communicating our sustainability efforts and initiatives.

Operations

Establishing strong and lasting **partnerships** to support the transition to cleaner and more efficient operations. Investing in across **scope 1, 2, and 3** to reduce our environmental impact.

Finance

Prioritizing **green financing** (e.g. green bonds), to support our sustainability investments and gain access to the various benefits associated with **sustainable financial practices**.

HR

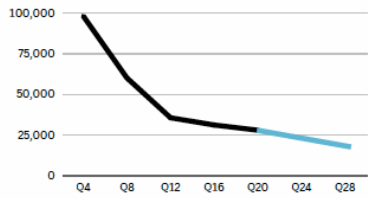
Educating and **training our employees** to gain skills and implement sustainable practices in their work. Promoting **ethical practices** in hiring, fostering gender equality, and ensuring fair salaries.

RESOURCE MANAGEMENT – Scope 1

As an automotive company committed to sustainability, we prioritize reducing our environmental impact and promoting responsible manufacturing practices.

COMPANY PRODUCTION & COMPANY VEHICLES

CO2 in Production - Scope 1



Reduction of Water Consumption

1. **Water Recycling and Reuse:**
   - Implemented water **recycling systems** in our manufacturing processes.
   - Treat and reuse water for various purposes.
   - Minimize our overall water consumption.
2. **Water-Efficient Technologies:**
   - **Advanced technologies** that optimize water usage.
   - Ensure efficient water management.

Sustainable Waste Management

1. **Waste Reduction and Recycling:**
   - Implement waste management practices.
   - Focus on waste reduction, recycling, and responsible disposal.
2. **Circular Economy Approach:**
   - Implement a circular economy approach in our **manufacturing processes**.

FUTURE PLANS

1. **Implementation of Energy-Efficient Technologies:**
   - Maximize energy efficiency, minimize CO2 emissions, reduce carbon footprint.
2. **Transition to Renewable Energy Sources:**
   - Utilizing clean energy to reduce our reliance on fossil fuels.
3. **Alternative Fuels and 100% Electric Vehicle Integration by 2030:**
   - Development of alternative fuels, such as **hydrogen, and biofuels**.
4. **Carbon Capture and Storage:**
   - implementation of **CCS technologies** to capture and store CO2 emissions generated during our manufacturing processes.

RESOURCE MANAGEMENT – Scope 2

We made investments in energy efficiency and green energy generation to reduce our CO2 and GHG Emissions.

ENERGY GENERATION

Energy Efficiency

To **reduce** the overall energy **consumption** Enigma Motors implemented standards and codes:

- Insulation
- Lighting systems
- Heating, ventilation, and air conditioning

Green Energy Generation

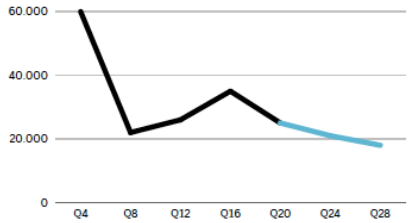
We installed **solar panels** to further reduce our CO2 and GHG Emissions.

- No pollution
- Reduces energy costs
- Excess energy can be sold

CO2 Reduction

Over the past **five years**, Enigma Motors managed to **reduce its emissions** in terms of energy generation, although the overall demand for energy increased.

CO2 in Energy



FUTURE PLANS

1. Implementation of an Energy Management System (EMS)
- Monitor, control, and optimize the performance of the generation or transmission system.

2. Further reduce Emissions of Energy Generation
- Increase energy efficiency
- Implement more green energy generation

RESOURCE MANAGEMENT – Scope 3

A sustainable and ethical battery supplier has been chosen and when normalising for growth, supply chain emissions are continuously reduced through effective measures.

SUPPLY CHAIN

SUSTAINABLE BATTERY SUPPLIER

- Sources materials **ethically** and **sustainably**, including conflict-free cobalt.
- Uses 'green' manufacturing with **renewable energy** sources.
- Operates a **battery recycling** program to recover and reuse critical minerals.
- Actively **invests in R&D** to reduce reliance on scarce materials.
- **Certified** by recognized battery safety and performance standards.

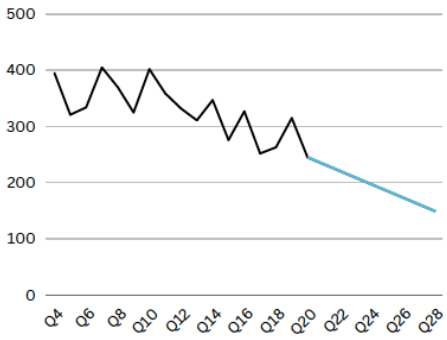
CURRENT SCOPE 3 MEASURES

- Actively working with suppliers to **encourage sustainable practices** and reduce emissions.
- **Vehicles** are designed to be **energy-efficient**, reducing CO2 emissions during usage.
- Operate **recycling programs** for end-of-life vehicles and batteries.

FUTURE PLANS

1. Introduce a **supplier certification** program requiring ESG compliance.
2. Aiming for **100% electric** vehicle production by **2030** to lower product emissions.
3. Target to increase **recycling** rates and develop **second-life** applications for batteries.

CO2 Emissions
Normalised to Q1 Revenues



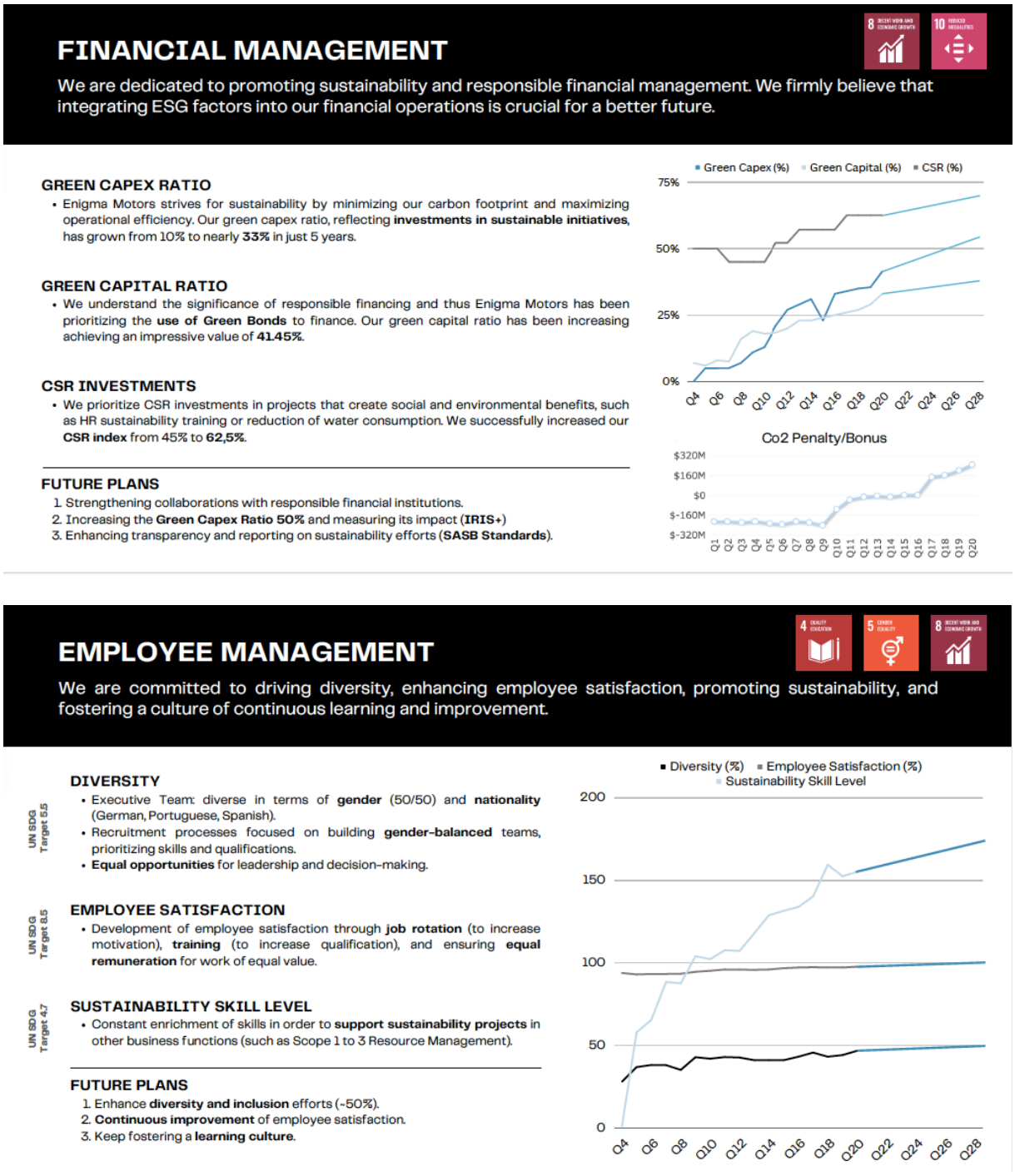


Figure 18: Enigma's ESG Report
Source: Own creation - Data from BiP Industry Master's Simulation. 2023

Enigma's Annual Revenues and CO2 Values							
In million $	Y0	Y1	Y2	Y3	Y4	Y5	Y6
Revenues	$16.554	$19.377	$25.000	$26.024	$26.724	$31.223	$36.501
CO2 penalties	$860	$905	$400	$25	$0	$0	$0
% of Rev	5%	5%	2%	0%	0%	0%	0%

Figure 19: Enigma's Annual CO2 Penalties
Source: Own creation - Data from BiP Industry Master's Simulation. 2023

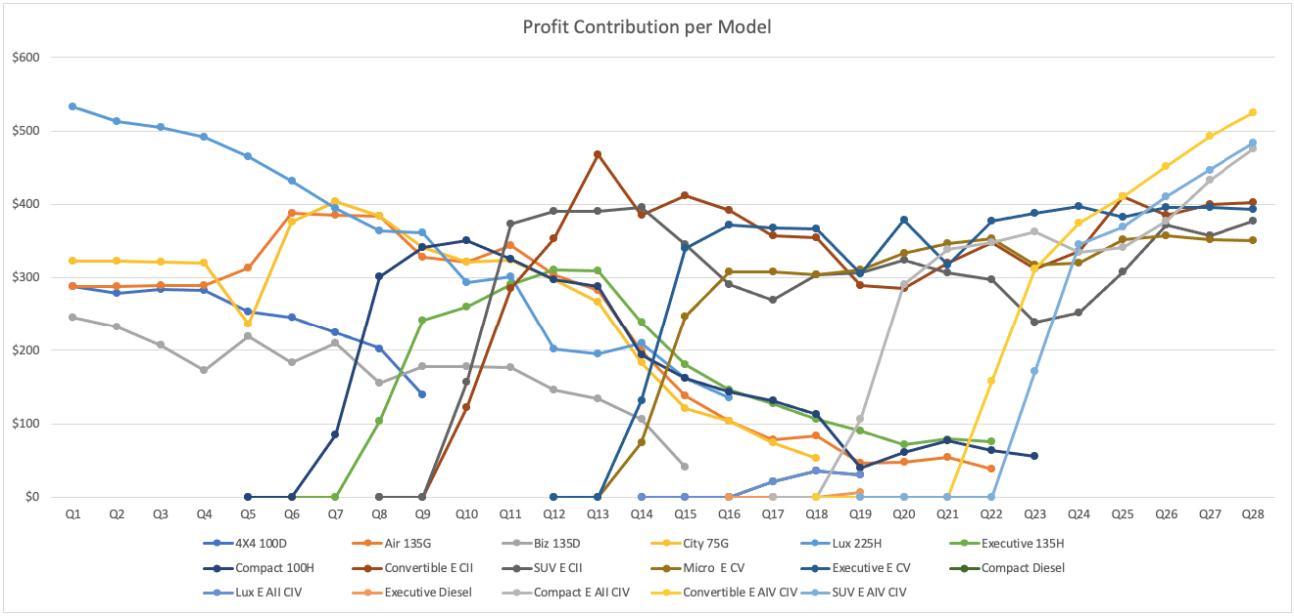


Figure 20: Enigma's Profit Contribution per model
Source: Own creation - Data from BiP Industry Master's Simulation. 2023

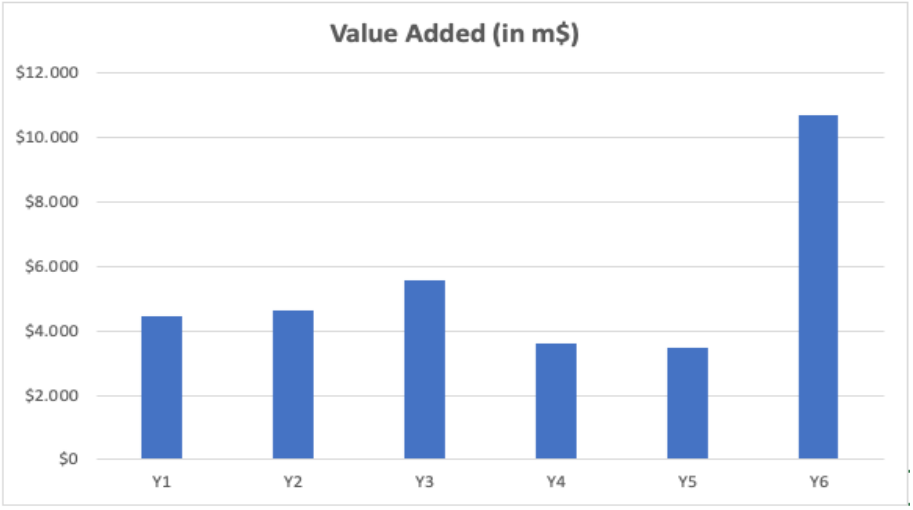


Figure 21: Enigma's Annual Value Added Values
Source: Own creation - Data from BiP Industry Master's Simulation. 2023

Portfolio of technology Investments (R&D)

		Implementation Time (Q)	Capex ($m)	Year 0				Year 1				Year 2				Year 3				Year 4				Year 5				Year 6			
				Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28
Electrification	E-drive Modules	8	600 €	75 €	75 €	75 €	75 €	75 €	75 €	75 €	75 €																				
	Home Charging Stations	2	300 €							150 €	150 €																				
	High Power Charging	2	200 €										100 €	100 €																	
Connectivity	Connectivity	1	250 €				250 €																								
	Infotainment	2	160 €					80 €	80 €																						
	Big Data	2	150 €							75 €	75 €																				
	Cross-Platform	2	200 €									100 €	100 €																		
Autonomous Driving	Parking	2	500 €									250 €	250 €																		
	Driver Assistance	2	250 €											125 €	125 €																
	Cloud	2	300 €													150 €	150 €														
	Infrastructure	2	400 €															200 €	200 €												

Total Investment	**3.310 €**	**550 €**	**910 €**	**1.150 €**	**700 €**	**0 €**	**0 €**	**0 €**
% Revenue		3,3%	4,7%	4,6%	2,7%	0%	0%	0%

Figure 22: Enigma's Portfolio of Technology Investments (R&D)
Source: Own creation - Data from BiP Industry Master's Simulation. 2023

Portfolio of Cars

Period	Name	Segment	Type	Motor	Design	Engine	Safety	Extras	Aut. Driving	Connectivity	Emissions	Investment (m$)	Launch Date
Q4	City 75G	Conventional	Compact	Gas	Urban	75KW	8AB	Entertainment	n/a	n/a	114	n/a	n/a
Q4	Air 135G	Conventional	Convertible	Gas	Elegant	135KW	Drive assist.	Navigation	n/a	n/a	142	n/a	n/a
Q4	Biz 135D	Conventional	Executive	Gas	Elegant	135KW	12AB	Entertainment	n/a	n/a	126	n/a	n/a
Q4	4x4 100D	Conventional	SUV	Diesel	Offroad	100KW	4AB	Radio	n/a	n/a	144	n/a	n/a
Q4	Lux 225H	Conventional	Luxury	Hybrid	Elegant	225KW	Drive assist.	Navigation	n/a	n/a	150	n/a	n/a
Q4	Compact 100H	Electric	Compact	Hybrid	Elegant	100KW	Drive assist.	Navigation	n/a	n/a	90	$545	Q6
Q4	Executive 135H	Electric	Executive	Hybrid	Elegant	135KW	12AB	Entertainment	n/a	n/a	108	$585	Q7
Q7	Convertible E CII	Electric	Convertible	Electric	n/a	n/a	n/a	n/a	Level I	Level II	0	$650	Q9
Q7	SUV E CII	Electric	SUV	Electric	n/a	n/a	n/a	n/a	Level I	Level II	0	$650	Q9
Q11	Executive E CV	Electric	Executive	Electric	n/a	n/a	n/a	n/a	Level I	Level IV	0	$550	Q13
Q11	Micro E CV	Electric	Micro	Electric	n/a	n/a	n/a	n/a	Level I	Level IV	0	$550	Q13
Q13	Lux E AII CIV	Electric	Luxury	Electric	n/a	n/a	n/a	n/a	Level II	Level IV	0	$710	Q15
Q14	Compact Diesel	Conventional	Compact	Diesel	Elegant	100KW	Drive assist.	Navigation	n/a	n/a	108	$560	Q16
Q15	Executive Diesel	Conventional	Executive	Diesel	Elegant	135KW	Anti collision	Navigation	n/a	n/a	126	$630	Q18
Q16	Compact E AII CIV	Electric	Compact	Electric	n/a	n/a	n/a	n/a	Level II	Level IV	0	$520	Q18
Q18	Convertible E AIV CIV	Electric	Convertible	Electric	n/a	n/a	n/a	n/a	Level IV	Level IV	0	$700	Q21
Q19	SUV E AIV CIV	Electric	SUV	Electric	n/a	n/a	n/a	n/a	Level IV	Level IV	0	$700	Q22
									Total Car Investments (m$)			**$7.350**	

Figure 23: Enigma's Portfolio of Cars
Source: Own creation - Data from BiP Industry Master's Simulation. 2023

CO2 REGULATION	CO2 Allowance	CO2 Penalty	CO2 Bonus
	70 g/m	$100	$30

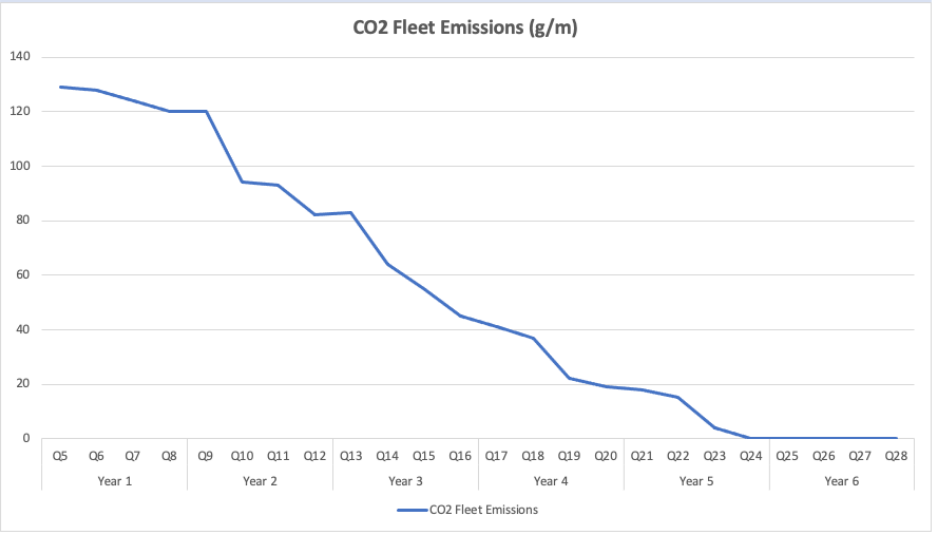


Figure 24: Enigma's Quarterly Fleet Emissions
Source: Own creation - Data from BiP Industry Master's Simulation. 2023

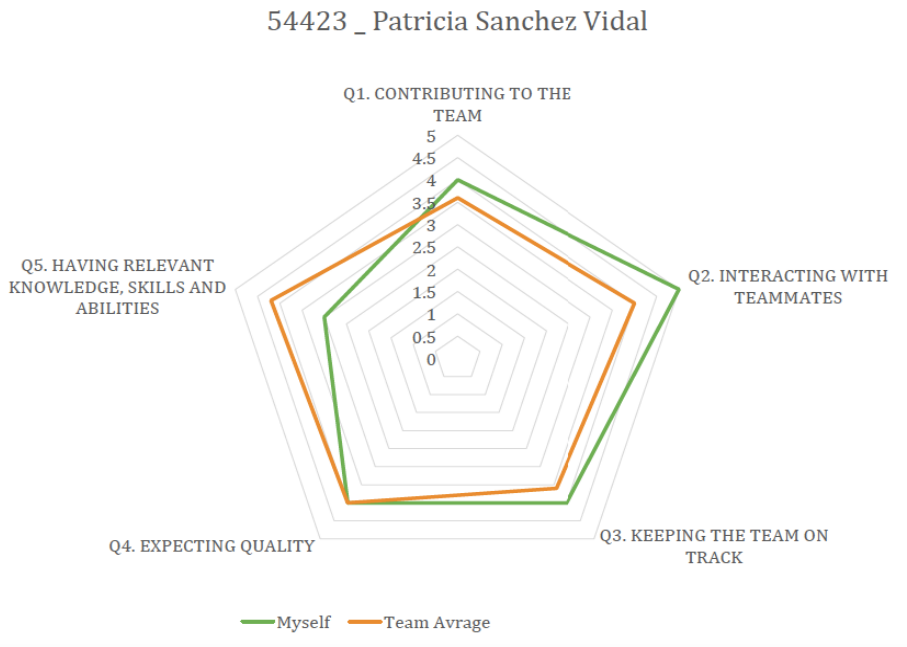


Figure 25: Peer and Self-assessment
Source: Business in Practice Simulation. 2023