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Business in Practice: A Reflection on Grizzly's Electrification and Team Dynamics

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Abstract (100 words maximum)

This thesis reviews the performance of the automotive manufacturer Grizzly during its electrification process as part of a business simulation that spans over six years. The analysis is divided into separate sections, including the company's strategy, innovation department, and finance department. Moreover, the impact of each component on the company's sustainability performance is discussed throughout the firm analysis. Additionally, it discusses Grizzly's team dynamics during the simulation and analyzes two critical incidents that had a significant impact on the team's experience, before reflecting on my peer- and self-evaluation as well as my color energy as defined by *Discovery Insights*.

Keywords (minimum of four)

Team Dynamics, Automobile Industry, EV Transition, Business Simulation

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1. Firm Analysis

Introduction

Climate-related risks have been among the greatest global risks in the recent past and are expected to gain more importance in the future, as discussed during the sustainability presentation by Cláudia Coelho of PWC. As a reaction, one of the key global initiatives has been the Paris Agreement of 2015, which calls for achieving net zero emissions by 2050 (United Nations Environment Programme 2023). Moreover, net zero is a crucial objective for limiting temperature to rise above 1.5°C relative to pre-industrial levels (United Nations Environment Programme 2023). Furthermore, the automotive sector is not only one of the largest sectors in the world, but it is also among the highest emitting sectors and therefore requires great decarbonization efforts from its industry players (RSM 2021; Deloitte n.d.). However, one must keep in mind that the sustainable transition that is required from automotive manufacturers can involve many difficulties.

During Business in Practice (BIP), the automotive manufacturer Grizzly faced this challenge of transitioning its business from Internal Combustion Engines (ICEs) to Electric Vehicles (EVs) in a time span of six years. For automotive manufacturers to become more sustainable it requires active involvement from all its departments, which is why a clear plan must be established to ensure that an effective transition to a sustainable future can be achieved.

The following sections will discuss how Grizzly approached this project by first analyzing how the company developed its strategy and how this strategy performed in the simulation. In the next section, this report will examine the decisions made by the innovation department before reviewing Grizzly's financial policies and performance. All sections contain a component that investigates the impact of the department on Grizzly's sustainable transition. Finally, this report will conclude its main findings and discuss my personal main learnings during the business simulation.

1.1 Strategy

The automotive industry is facing disruption by several trends including new business models, such as shared mobility, and technologies including autonomous driving, electrification, and connectivity, that have already transformed other industries (Gao, et al. 2016). Consequently, the strategy of Grizzly attempted to account for those transformations and to position Grizzly appropriately for challenges as they arise. The automotive industry is directly impacted by emission-related regulations such as limits or penalties to stimulate demand for low-emission vehicles (Aggeri, Elmquist and Pohl 2009). In accordance, Aggeri, Elmquist, and Pohl (2009) argue that the costs of innovation should therefore be seen relative to those arising from new regulations, suggesting that electrification makes sense even from a strictly financial perspective. Simultaneously, decreasing battery costs and an expanding charging infrastructure are turning EVs into a more viable alternative to ICEs (Gao, et al. 2016). Therefore, an electrification plan appears as a logical step for automotive manufacturers, which was embraced by Grizzly. However, gasoline engines are not expected to disappear soon, taking into account the development of hybrid electric vehicles (HEVs) (Gao, et al. 2016). Hence, Grizzly initially laid out the strategy of developing a HEV-dominated portfolio in the first three years of the simulation and then, into a fully EV portfolio towards the end of the simulation. Moreover, such an approach of incremental innovation is common in manufacturing (Bartezzaghi, Corso und Verganti 1997). In practice, however, Grizzly's electrification was faster than planned because of the stricter CO2 limits per unit that were imposed in Q6, thereby incentivizing the transition from early on. As a result, Grizzly only sold two HEV models during the simulation of which one was discontinued in Q14 and another one that was developed in Q5.

Apart from the electrification plan, the positioning of the Grizzly brand guided future decision-making. For this, we considered that the simulation had limitations, most notably

regarding the options available for product development and innovation. Considering Michael Porter's generic competitive strategies matrix, this implied that focused strategies such as serving the luxury or performance segment were not feasible, leaving the options of pursuing either cost leadership or broad target differentiation (University of Cambridge n.d.). Consequently, Grizzly adopted a broad target differentiation strategy because this would allow the creation of a strong brand that could be leveraged in the client role plays as well. Additionally, cost leadership would have required great investments in factories to attain economies of scale, which would have resulted in a restricted budget for investments and product development in the first quarters. Regarding the differentiating factor, we envisioned Grizzly to be "*the car for the brave professional*" in an attempt to combine performance and quality elements with electrification while appealing to rather affluent, middle-aged customers, yet also with some more accessible models. Moreover, Grizzly was intended to reflect a status comparable to *Audi* with its chic positioning and technology but additionally with the more adventurous image of *Land Rover* with an SUV at its core (Audi n.d.; Land Rover n.d.). Considering the electrification aspect, *Rivian* is another comparable brand that incorporates performance and adventure elements by building electric SUVs and Pickup trucks suitable for all kinds of terrain (Rivian n.d.).

However, with such a strategy it is important to keep in mind that Luke (2001) argues that performance characteristics have a natural contradiction to sustainability and fuel efficiency, which, for example, complicated *Ford's* transition from large and high fuel consumption vehicles to more environmentally friendly models. Nonetheless, the introduction of the *Tesla Roadster* demonstrates that combining electrification with performance can be a success and even attract buyers from the luxury segment, supporting Grizzly's strategy (Thomas and Maine 2019). Besides, this combination could be crucial in the future as SUVs are gaining popularity and made up 48% of car sales in 2023 worldwide of which the great

majority have internal combustion engines (Cozzi and Petropoulos 2024). In fact, more than half of new EV sales in 2023 were SUVs which is in agreement with Grizzly's strategy and branding (Cozzi and Petropoulos 2024). However, an auto manufacturer that is targeting the mass market must be aware of regulatory attempts to discourage SUV ownership because of their higher energy and space demands (EU Urban Mobility Observatory 2024). In Paris, for instance, residents voted in favor of tripling parking prices for SUVs, including EVs above 2,000 kg (EU Urban Mobility Observatory 2024). Again, this supports Grizzly's approach of offering a wider range of car types rather than the niche approach of *Rivian* which is centered exclusively around large vehicles that may rather be a burden in urban environments. In the simulation, this was implemented by producing all types of cars that were available in the simulation for development to secure sales in all segments, while the SUV was considered at the core mainly for branding reasons. Accordingly, research suggests that generally, a company's financial performance is positively influenced by a wider product line scope as it increases sales, entry barriers, and gives a company greater bargaining power (Kirca, et al. 2020).

Important considerations for the strategy were also the industry trends of new business models and mobility, as touched upon earlier (Gao, et al. 2016). Regarding this matter, Grizzly's finance department chose not to offer a subscription-based model in Q16 that would allow customers to acquire cars with more flexibility and shorter-term commitment for operational reasons. The operations department had already been experiencing complications regarding inventory management and the increased flexibility for customers could exacerbate those problems as they could easily cancel the subscription, leading to higher turnover. Additionally, offering subscriptions implies offering cars with the latest features which would require continuous investments from the innovation department. This was a decisive factor because Grizzly's strategy focused on reducing investment spending in years five and six to

improve profitability, which was successfully implemented as reflected in *Appendix 1*. Had the opportunity of offering subscriptions appeared in the first years rather than at the beginning of year four, it would have made more sense for Grizzly to pursue a new business model in the time frame of the simulation.

Moreover, Grizzly's strategy and positioning were important in guiding the team's approach in both client role plays. The *Client Acquisition* role play encompassed a five-minute sales pitch to win a contract with an international car dealership by communicating the brand's value proposition. Since we envisioned Grizzly to represent a lifestyle with elements of adventure, performance, and quality, leveraging this image and communicating the differentiating factor of our brand was a successful approach to win the customer. Had Grizzly pursued cost leadership instead, it would have lacked that differentiating factor, making winning the client more difficult. In the *Client Retention* role play, Grizzly addressed the quality concerns of an existing client who requested the company to offer cars exclusively in white to dedicate more resources to quality control instead. Moreover, this request contradicted what the Grizzly brand ought to represent and Grizzly was essentially forced to communicate that design limitations were non-negotiables to stay consistent throughout the entire simulation.

1.2 Innovation

In their product market innovation paths framework for the automobile industry, Dijk and Kemp (2010) identify three types of actors and perspectives on innovation, including consumers, suppliers of innovation, and policymakers. This distinction gives insights into the considerations that each actor has for pursuing a specific innovation and can thereby help anticipate the preferences of the other actors to identify and pursue the appropriate investments.

In the context of the automobile industry, policymakers have the objective of reducing emissions and promoting sustainable innovations to help them do so, which can be traced back

to the net zero targets of the Paris Agreement (European Comission n.d.). In the simulation, these interests were reflected by the CO2 allowance and the premiums/bonus payments for meeting, if not falling below the allowance. In Q4 the CO2 allowance was at 95g/mile per unit with a $20 Bonus payment for each car with lower emissions, incentivizing car manufacturers such as Grizzly to develop fuel-efficient or electric vehicles. Considering Grizzly's planned strategy of a smooth transition to a fully electric car portfolio with the interim objective of focusing on HEVs, the company developed a hybrid sports car in Q5. However, since the allowance was quickly halved in Q6 to 47.5g/mile, Grizzly experienced a fast increase in CO2 penalties of $1,267 per car sold. In comparison, it was still receiving bonus payments of $540 per car sold in the prior quarter. Uncertain of future regulatory tightening, Grizzly considered it most sensible to accelerate its electrification and only developed EVs from that point onwards. The acceleration also had the intent of benefiting from the bonus payments, yet the benefit was limited as the bonus was already abolished in Q12.

The innovation department was at the heart of Grizzly because the company's competitiveness depends on its ability to innovate its products relative to its competitors (Mikkola 2001). From the perspective of the car manufacturer, the main considerations for innovations include profitability, potential first-mover advantages, and consumer preferences (Dijk and Kemp 2010). Furthermore, Christensen (1995) argues that innovations can generally be attributed to four categories, namely, science-based R&D, process development, aesthetic design, and product application. In the simulation, the available investments for the innovation department fall into the product application category that involves product development, both by applying new technologies, as well as functional application which deals with applying technology for new uses (Christensen 1995). In contrast, the investments available to the operations departments rather fell into the process innovation category, for instance, *Water Consumption Reduction* and *Energy Management System*. As mentioned earlier, it made sense

for Grizzly to reduce CO2 penalties and accelerate electrification from the first year onwards, which is why it invested in Sodium-ion batteries already in Q6. The motivation was to include this technical production application in all future EVs as it promised lower production costs and could be justified with the strategy of exclusively developing EVs, implying that the cost of this investment would be spread out across more units.

The consumer perspective deals with their preferences which had to be considered by Grizzly in investment decisions as well. For instance, Grizzly invested $500M in *AI Implementation* to address the high market demand for autonomous driving in Europe, Asia, and the Americas as indicated in the market research of the marketing department. Considering the simplification of the simulation, the other investments available to the innovation department also led to increased demand, meaning that they were addressing consumer needs. Although Grizzly's strategy was centered around electrification and sustainability, the company maintained ICE cars in its portfolio until Q18. The reason for this was that Grizzly chose to address that there was still high consumer demand for conventional engines, in particular Diesel, in the Americas, Europe, and Asia according to the market research from the marketing department. Additionally, consumers were also interested in powerful engines in the Americas, while in Asia and Europe, the preferred ICE engine was of medium power. Since ICE engines did not play a role in Grizzly's corporate strategy for the future, however, the company had to decide at what moment it would prioritize its transition to electrification over some consumer preferences, which was in Q18 and explains the sharp drop in CO2 fleet emissions from Q18 to Q19. In terms of CO2 penalties, the timing for the discontinuation of ICE engines could have been later as well, considering that Grizzly had not been paying penalties since Q14, and thus, notable penalty savings could have only been made before Q14.

Apart from this, one of the main responsibilities of the innovation department was coordinating investment needs with other departments, mainly operations, finance, and

marketing, which made prioritization a company-wide task. In line with this, Mikkola (2001) suggests applying a portfolio view to innovation in order to acquire a company-wide overview of capital needs and to decide what projects need to be prioritized. Additionally, the portfolio view should aid in aligning capital allocation and project selection with a company's long-term strategy as well as its growth and profit targets (Mikkola 2001). An additional dimension that Grizzly considered for new car development and the timing for it, was the current factory utilization and changing demand for existing car models. To attain an overview, the author presents the *R&D Project Portfolio Matrix*, categorizing investment opportunities along two dimensions of benefits for customers and competitive advantage, resulting in four categories as depicted in *Figure 15* (Mikkola 2001). Considering the limitations of the simulation, all available investments could be considered to be either in the STAR or FAD category given that they were associated with higher demand or reduced production costs representing benefits for consumers and a competitive advantage in production, respectively. In reality, it would be expected to also include riskier projects in the portfolio because those risks are essential to the learnings and gradual improvements that are made before an innovation is finally adopted and accepted as the dominant design for standardization (Fujimoto 2014). In the simulation, however, there was neither risk in taking the available investments nor tradeoffs since it was financially feasible and realistic to undertake all investments throughout the course of the simulation.

The innovation department can also be seen as one of the main drivers for Grizzly's advancements in sustainability, together with the operations department. While the operations department's investments reduced the CO2 emissions along all three scopes, it is notable that Scope 3 had the greatest magnitude. Furthermore, vehicle sales and the use that their owners give those vehicles are included in Scope 3 emissions, implying that cars developed by the innovation department had a meaningful contribution in reducing Scope 3 emissions during the

course of the simulation (Mercedes-Benz Group 2024). Moreover, Grizzly achieved CO2 fleet emissions of 0g/mile in Q24 and onwards, while the fleet emissions were still at 68.693g/mile in Q5. Although the operations department made 2 investments specifically to reduce Scope 3 in addition to quarterly payments as part of a CO2 offsetting scheme, the impact of the EV transition on Scope 3 is still strongly depicted in *Appendix 2* with a correlation of 0.81 between Scope 3 and fleet emissions from Q5 to Q24.

1.3 Finance

At Grizzly, the finance department managed decisions related to the company's capital structure and working capital, as well as approving and coordinating investments for all departments. Regarding the capital structure, Grizzly mainly relied on debt and aimed at maintaining a credit rating of at least A- when issuing new loans to avoid risking financial distress. In retrospect, it would have been realistic to aim for a lower credit rating as well. For instance, S&P rates comparable automotive manufacturers such as *Tesla* and *Jaguar Land Rover* BBB and BB, while bigger players like *Volkswagen* or *Hyundai* are rated BBB+ and A- respectively (Madlani und Binns 2024; Jaguar Land Rover 2023; Volkswagen Group 2024; Hyundai 2024). Equity was only to be considered as a last resort because of its much higher cost which would increase the company's WACC, and was never actually issued during the simulation. Here, the tradeoff was that the interest rate for bank loans was based on the company's debt-to-equity ratio and that issuing equity, i.e., increasing the proportion of equity, could have decreased the ratio, leading to a credit rating improvement and a lower interest rate. However, additional issuances of equity implied an increase in dividend payments in the last quarter of each year. It must also be noted that in the real world, additional factors are reflected in the credit rating methodology. Moody's, as an example, specifies for automobile

manufacturers a methodology that includes a scorecard, in which 40% of the outcome is based on a company's business profile in terms of market position (Moody's 2021).

Another argument for avoiding equity issuance was the attractiveness of green bonds at 3% relative to bank loans that generally ranged from 4-5% and the cost of equity that exceeded 8% until Q24. Although initially, the availability for green bonds was low, Grizzly's EV transition strategy required large investments, meaning that *Green Capex* would grow during the course of the simulation and thus also the availability of green bonds that the company could issue. green bonds are defined as instruments for funding projects that benefit the environment (The Green Bond Principles 2022). However, we had a crucial misunderstanding pertaining to the applicable use of proceeds of the green bonds in the simulation as we initially believed that the funds could only be used for green investments specifically. In practice, the simulation based green bond availability on *Green Capex* and allowed using the funds for anything, not only the investments that were marked with the green symbol. Consequently, Grizzly missed out on lowering its WACC until realizing this mistake much later in Q15. This mistake is reflected in *Appendix 3*, where the *Green Capital Ratio* remained low although the *Green Capex Ratio* was growing, implying that green bond issuance was low although their availability was growing. Additionally, the turning point at Q15 is highlighted in red after which it can be seen that Grizzly rapidly increased its green bond issuance.

In the simulation, a low WACC did not only imply cheaper financing, but it was also directly related to the score metric *value added*. In the last 1.5 years of the simulation, Grizzly generated more cash while reducing investment spending at the same time, leading to a greater budget surplus. Consequently, Grizzly considered share buybacks to reduce WACC and dividend payments, and because this had a better opportunity cost than hoarding excess cash. As a result, the company conducted its first repurchase in Q23 for $1,447M and its second in

Q25 for $1,854M. Noticeably, this was an expensive operation, especially considering that the company's share price had risen uninterruptedly since Q19. While in Q19 the price was still $272, in Q23 and Q25 the price increased by over 50% to $413.48 and by almost 100% to $530, respectively. In retrospect, the company should have considered making those repurchases much earlier as it would have been cheaper in the first two years when the share price dropped following large investments and lacking profitability. Furthermore, earlier buybacks could have decreased WACC earlier, allowing it to impact more quarters, leading to a greater *value added*. Nonetheless, the decision not to repurchase early was influenced by the trade-off for capital needs of other departments, particularly innovation and its new product development, which Grizzly prioritized consistent with its strategy. Additionally, in the beginning, the company faced greater uncertainty about its performance and not performing well would have decreased equity. In turn, increasing the debt-to-equity ratio would have increased the interest rate for bank loans, making debt more expensive and potentially exacerbating financial issues should the company not perform well.

Working capital management at Grizzly consisted primarily of extending the supplier payment terms to 40 days from the second year till the end of the fourth to improve operating cash flow. Moreover, the reasoning for this was that Grizzly's strategy involved large investments in the first four years before reducing investment to attain a sustainable financial position towards the end of the simulation. Nonetheless, extending supplier payment had a tradeoff, namely, a 0.5% material cost increase as well as an accumulation of accounts payable that could pose a threat to liquidity as they come due. By Q20, Grizzly had reached an all-time high of $2,091M in *Accounts Payable*, and consequently, at the start of year five, Grizzly reduced the balance by setting the supplier payment terms to 30 days. For the same purpose, Grizzly accelerated its payments to suppliers to 15 days in Q24, leading to a 1% decrease in materials costs and attaining the company's lowest levels of payables throughout the

simulation. This decision also intended to mitigate the effects of the anticipated economic recession, causing falling car demand and implying lower revenues and higher unit costs. Additionally, Grizzly increased customer credit terms to 40 days to maintain high revenues .and as a result, the company even exhibited revenue growth in the following quarters. Conveniently, the company exhibited a healthy financial position at the time and since it was not expecting major investments anymore, it could afford the decrease in operating cash flow during the recession. Therefore, this approach can be considered to have worked.

To follow Grizzly's EV transition and sustainability objectives, the company prioritized capital allocation to the departments with the greatest impact, namely, innovation and operations. Accordingly, the department with the highest investment was innovation with over $9,565M while the second highest spending department was operations with $2,839M, while marketing and HR spent $1,349M and $47M, respectively. Quarterly spending is visualized in *Appendix 4* for a better overview. Generally, R&D spending ranged from 2.3% to 6.8% of sales for car manufacturers in 2022, with EV manufacturers *Tesla* and *BYD* spending 3.8% and 4.7% of sales, respectively (Carlier 2023). In comparison, Grizzly's innovation spending was higher, ranging from 5.2% to 12.2% from year one to year five, with an average spending of 8.63% during the simulation, which may reflect the greater financial demands of the electrification process when starting out with a portfolio of ICE cars.

Regarding the profitability of car development, *Appendix 13* shows that all developed models exhibit a positive NPV, calculated from the investment quarter till the last quarter that they were sold, except for two models of which one was the newest car that Grizzly developed. Since that car involved great development costs of $1,136M and was only sold for five quarters, one must consider that the possibility of this car development turning into a positive NPV investment remains. The other negative NPV model called the *Turbo-H* is the first car and only hybrid that Grizzly developed. Although its NPV is significantly impacted by the

discontinuation costs, *Appendix 5*, which shows the present value of the quarterly net profit at the time of development and quarterly EVA, reveals that the *Turbo-H* had not been performing well since Q18. Furthermore, the car model had both negative net profit and EVA, and consequently, Grizzly discontinued this model for $626M in Q23. Also, the car was already in the declining phase of the product life cycle. Notably, there can also be seen a spike in Q22, however, this is explained by the fact that the car model was out of production from that quarter onwards and only leftover inventory was sold. In retrospect, discontinuing appears as the correct decision, yet its timing could have been a few quarters earlier considering EVA and the present value of net profit, although the delay allowed for observation of whether the car model's performance would rebound.

Conclusion and Learnings

In conclusion, Grizzly can be considered to have completed a successful electrification with the help of an appropriate strategy that considers the ongoing trends in the automotive industry. Nonetheless, current regulatory developments require that a strategy is adapted to changes, which Grizzly experienced by accelerating its electrification in response to stricter emission allowances. Furthermore, coordinating and prioritizing investments is an essential and company-wide task that should reflect the corporate strategy. However, Grizzly's performance in terms of *value added* suffered an adverse effect consequent to inefficient use of green bonds in the first quarters, and from late share repurchases which maintained WACC at a high level. Since Grizzly's spending level was high in the first years, the impact of the high WACC was particularly pronounced. Nonetheless, almost all newly developed EV models broke even and achieved a positive NPV.

During my BIP experience, one of my main learnings was that no department can function alone and that lacking communication leads to more than just inefficiencies. For

instance, had the two departments with the greatest investment spending, operations and innovation, decided independently when to conduct major investments and coincided by chance, the company could have faced severe liquidity issues. The interconnectedness of operations and innovation was particularly strong as I learned that product development and the timing for the launch of the new product require the appropriate operational capacity for it. Otherwise, there would be "dead time" and funds could have had an alternative use had the investment been timed with coordination between the departments.

Besides, if the departments understand how the other departments function and what information is most relevant for them, it benefits efficiency, as one department can identify faster what needs to be communicated to another department without overwhelming them with irrelevant information. Furthermore, it became clear to me how much the corporate strategy serves as the red thread in the decisions of all departments, especially when considering the long-term perspective such as achieving a fully electric fleet by year six for Grizzly. Additionally, if all departments use the strategy for guidance, consistency is achieved throughout the organization. However, I also realized that the strategy that is defined in the beginning need not be final and on the contrary, it must be evaluated frequently, whether the strategy is performing as expected or needs to be adapted.

Moreover, sustainability is a company-wide task and not just part of the departments that have the most obvious and direct link to emissions such as operations and innovation. For instance, it became clear to me that even the HR department is actively involved in the transition to electrification by sourcing staff with the necessary sustainability skills.

2. Personal Reflection

Introduction

This section of the dissertation is devoted to revisiting my experiences during the three weeks of BIP which involved extensive teamwork as part of a dynamic business simulation. Moreover, I was part of a car manufacturer named Grizzly and was in charge of the finance department with which I accompanied the company's transition from gasoline engines to becoming a successful electric vehicle manufacturer.

Furthermore, this experience involved many challenges of which I will highlight and analyze two critical incidents that had a significant impact on the team's performance. The first incident occurred in the second week of the simulation and involved a confrontation with one team member who was lacking engagement and interest during some activities. Additionally, this incident taught me the importance of one's openness to accepting feedback and that accepting individual behaviors that may initially seem harmful can actually benefit the group if treated right. The second incident took place in the final week of BIP during the *Client Retention* role play and involved one team member deviating from the approach that we had discussed and practiced in the group. During our preparation, he had not shared any suggestions and thereby surprised everyone who took part in the role play. Following this incident, I learned that it is crucial to create an environment in which each team member feels safe to take risks and share all ideas no matter how abstract they may be. This requires active efforts and cannot be taken for granted because of friendly relationships. Also, such an environment is helpful in reaching agreements that everyone is satisfied with and could have prevented this incident from happening. Besides, this section is concluded with a reflection on my individual behavior during BIP and a review of my peer assessment as well as the color energies of *Discovery Insights*.

2.1 The First Incident

2.1.1 Description of the Event

During the *Leadership in Practice Workshop* in the second week, there was a Team Dynamics exercise to pick one out of three given problem scenarios based on which one of those applies to our team the most. After some discussion, the team opted to discuss the scenario in which "one team member appears to be doing the bare minimum" because there was a team member who was not engaged in all discussions and exercises and seemed distracted or simply not interested during some activities. Before the exercise, the issue had been noticed in the group, but we had not talked about it. One team member started addressing the issue by asking whether the person had any discomfort and made an effort to understand why the issue prevailed. However, the team member who was being accused of doing the bare minimum simply acknowledged the issue but did not show any willingness to change that behavior. Given that we had limited time before having to return to the classroom, we did not arrive at a solution or a deeper understanding of the problem, leaving us with some ambiguity regarding how to deal with this issue.

2.1.2 Response

During the exercise, I was afraid of the confrontation developing into a "6 vs. 1" situation since team members started confronting the member directly, while he chose to remain mostly silent and simply nodded sometimes. At first, I held back as well because I remembered that emotional intelligence could play an important role in dealing with this issue, as discussed earlier in the *Leading Yourself Workshop* during the first week. Eventually, I reacted by trying to show empathy and pointed out that I had noticed a contrast regarding the engagement of the person when working on more qualitative and subjective exercises in comparison to his preferred qualitative and analytical tasks. Moreover, showing empathy can be defined as the

ability to understand other's emotional or psychological conditions through means of communication and it is one crucial component of emotional intelligence (Krishnappa und Hg 2014). Thereby, I intended to make sure that everyone in the group was clear that the issue being discussed was not a general lack of commitment, but rather a discrepancy in motivation depending on the type of team exercise. In reflection, I understood that the team member did care about the group's performance in the simulation at all times, yet, for example, he perceived the sales pitch, which had no analytical foundation, as boring and hence, he did not participate in the creation or practice of the pitch. Nonetheless, I discovered that he usually spent that time analyzing numbers of the simulation and thinking how to approach the decision quarters. Besides, I wanted this reaction to come off as support for the team member in question since he had not said anything since the start of the confrontation to defend or explain himself and I did not want him to feel disliked by the group. This turned out to be an important factor, as Druskat and Wolff (2001) find that there are three fundamental conditions that allow for group effectiveness, namely, trust between team members, group identity, and group efficacy. Notably, trust and the feeling of a group identity could have been at risk had the confrontation escalated which in turn, could have negatively impacted the functioning of the group. Furthermore, Druskat and Wolff (2001) argue that emotional intelligence is a trait that the most effective teams possess, which is also in line with the results of Jordan and Troth (2002) who find a positive relation between emotional intelligence indicators with team performance. Consequently, it is important to examine the role that emotional intelligence had on my team's performance during the simulation in more detail. According to Druskat and Wolff (2001), effective teams are also characterized by norms that foster emotional intelligence including confronting team members when they behave errantly. In addition, team conflict is most efficient when addressed proactively instead of postponing confrontation and letting the issue become more severe (Toegel und Barsoux 2016). This suggests that the confrontation with the

unengaged team member was a vital event that benefited the subsequent team performance during the simulation, considering that it was addressed in time as there were still four decision quarters left at the time of the incident. Besides, there are also norms regarding care that teams should exhibit such as making members feel valued and respected while avoiding attacking them or being disrespectful (Druskat and Wolff 2001). In this critical incident's context, I believe that my reaction in support of the team member in question was in line with these norms and could therefore have been a key factor in maintaining the positive and friendly relationship that every single team member in the group had with each other, even outside of the BIP setting.

In the following days, the issue persisted with no noticeable improvements which was frustrating for the team. Moreover, it was not until the *Team Dynamics Clinics* session in the third week that I made an important realization regarding the issue. More specifically, the professor of the Business Skills sessions, Miguel Pinto Fernandes, reminded us to consider the steps for providing feedback discussed in the *Leadership in Practice Workshop*. Namely, the first step to providing feedback effectively is to make sure that the recipient is willing to receive feedback in the first place. Furthermore, we determined during the session that this was not the case and consequently, I realized that not fixing the issue was a viable option as well given the circumstances. Insisting on providing feedback regardless of this important first step could have had a detrimental effect on our team dynamics and could have worsened the conflict.

Moving forward, this learning helped me to cope better with the issue for the remaining days of BIP because it gave me a better understanding of the situation and in addition, it helped me develop my skill of working effectively in a team, even when the circumstances are not ideal. Additionally, respecting the unwillingness to receive feedback proved to be the correct approach in the following days for the following reasons. First, the issue did not worsen, and all team members knew what to expect from the team member in question when working on more subjective and qualitative tasks. Hence, no one felt offended by his lack of engagement

in those tasks, making it easier to move forward. Second, not fixing the issue did not imply that we simply needed to work with one less person. Instead, the person in question noticed and appreciated how the team accepted his limited contributions to qualitative exercises and made sure to show that he was still committed to the team's overall performance by delivering work beyond expectations for his preferred quantitative and analytical tasks. In the future, I will be aware that the willingness to receive feedback is essential before confronting people and that coping with one person's unique behavior can be an effective solution too.

2.2 The Second Incident

2.2.1 Description of the Event

In the final week of BIP, our group was facing the *Client Retention Role Play* in which we were supposed to demonstrate our skills in active listening and asking appropriate questions to attain a deeper understanding of a problem or situation. In our team, we decided that it would make the most sense to assign one main speaker and another member to be his main support for additional contributions should he notice that the main speaker was stuck. Moreover, another team member was assigned to take notes during the meeting and to recap those notes towards the end of the meeting with the purpose of showing that we were truly listening to the client as well as to give the client a chance to confirm that we understand his concerns accurately. I was also present in the role play with a supportive role of the "sustainability expert" in case the client's issue was related to sustainability matters. Additionally, we also agreed on how we wanted to represent the brand. For instance, we were going to make it clear that we could not change our brand's values and strategy simply to please them, yet we still wanted to show that we are willing to listen to any concerns and take them into consideration if they are reasonable. Also, we stressed the importance of approaching the role play by asking questions instead of

justifying for the accusations that the client could make, to come off as understanding and caring.

Before the role play took place, we practiced this assignment of roles by having the three team members who were not going to take part in the role play, simulate being the client with several concerns. In the practice rounds, everyone acted according to the approach that we had agreed on earlier. However, the actual role play did not go as planned. Although we began the meeting as planned, the note-taker started making his own suggestions midway through the role play. This not only confused the other team members in the role play, but it also diverted from the approach that we had agreed on earlier and how we wanted to represent our brand. More precisely, the note-taker made proposals that were too closely linked to the numbers and features of the simulation and did not entirely address the issues that the client was expressing during the role play. In addition to that, there was some stubbornness of the note taker as he continued despite the client explicitly saying that she did not care about these things. Neither I nor the other group members interfered directly.

Consequently, the unexpected proposals of the note taker took away valuable time that could have been used to determine and understand the client's issue on a deeper level, especially, since the role play was only five minutes long. At the end of the role play, it was clear that we had not performed well, and that we were going to lose the client which led to some disappointment within the group. After the role play, the note-taker did not apologize or justify his behavior.

2.2.2 Response

I was slightly frustrated because our failure was easily evitable had the note taker shared his suggestions with the group in advance. Thereby, we could have found ways to incorporate his ideas in a way that was in line with the other's ideas and perhaps even assigned the roles

differently. However, the note-taker chose to accept his role without objections and did not share his ideas with the main speakers or the rest of the group when preparing the role play. In reflection, I believe that the note-taker had no bad intentions and was convinced that his approach would be successful because I had noticed his sometimes abstract ways of thinking during the decision quarters on which he placed a lot of importance. Also, I consider the possibility that we had not defined what constitutes our brand enough as a group, offering the possibility of differing interpretations of the company's vision, for instance, which could have influenced the note-taker's argumentation during the role play. Considering that this occurred towards the end of the simulation and that this was the last role play, I did not insist on confronting the note-taker about the incident at the time. Instead, I chose to move forward to focus on the remaining two decision quarters and to avoid developing resentment within the group. In retrospect, I believe that constructive feedback could have been useful after the role play, even if it seemed that it would not have a direct impact on the team's performance anymore because ignoring small issues could allow them to grow.

One concept that could explain why the note-taker did not share his ideas for the role play could be psychological safety, according to which team members do not fear rejection or embarrassment when sharing risky ideas if it is high (Duhigg 2016). Moreover, West (2012a) stresses the importance of psychological safety as one of four key elements of team participation and that cooperation is enabled by trust. Therefore, it could be that the note taker did not feel enough psychological safety in the group for him to take the risk of proposing a completely different approach for the role play than the rest of the group. Especially, considering that some of his more abstract ideas during the decision quarters of the simulation had not found much support in the group in the past. Additionally, West (2012b) describes a form of lack of support that I consider applicable to me, namely, the one of being a team member who is generally positive about any thoughts that team members have but not actively

helping to develop or implement them. This, however, does not justify the fact that the note-taker unexpectedly started speaking during the role play.

Alternatively, the note-taker might have simply wanted to avoid conflict. Nevertheless, Lencioni (2002) asserts that the avoidance of constructive conflict will hinder a team's performance, which is in accordance with West (2012b) who views conflict as an enabler for innovation. Also, the fact that our team did not perform well in this role play is in line with the suggestions of the literature. Interestingly, Lencioni (2002) names a lack of conflict as the second out of five dysfunctions of a team and according to his model, it is enabled by the first dysfunction, namely, the absence of trust. Hence, this concept suggests that there was an absence of trust in the first place, which is consistent with the literature on psychological safety in the previous paragraph.

Besides, it is noteworthy to mention that everyone in our group had a good relationship with the other team members, not just during but also outside of BIP, as we conducted activities that were completely unrelated to the simulation during the three weeks. However, I believe that these friendships could have inadvertently led to flaws such as Groupthink or a desire for social conformity (West, 2012a).

Apart from that, Knight (2013) argues that exploratory research, i.e., deliberate efforts to find and apply new ways of working, diminishes from the first to the second half of the existence of a team. Consistent with this, Ford & Sullivan (2004) find that after the midpoint of a team's existence, suggestions for new ways of working are considered more disruptive than helpful in the group. Given that this incident occurred in the third week of BIP and thus also after our group's midpoint, the literature suggests that the note-taker's rather abstract proposal for the role play was unlikely to find acceptance within the group since similar approaches had not been employed before.

Nevertheless, this incident offers great learning opportunities that I will apply in the future, for instance, that we should have actively encouraged more healthy conflict and supported attempts at innovation more (Lencioni, 2002). Also, creating an environment of trust and psychological safety may require more than just friendly relationships between team members. Furthermore, being aware of the group's midpoint can help in noticing when attempts at new ways of working are initially or subconsciously being neglected although they could potentially benefit performance. Moreover, applying techniques such as the Stepladder technique described by West (2012a), where each team member voices his opinion before hearing one of the others, ensures that everyone gets the opportunity to be heard and could prevent unexpected individual efforts such as in this incident. Similarly, giving more structure to problem-solving, especially including an ideation stage where the goal is to develop many possible solutions before choosing one, could have prevented this incident and is clearly a stage that we fell short of (West, 2012b).

2.3 Individual Performance

Following the reflection and analysis of two critical incidents in my team during BIP, I consider it important to devote this section more specifically to my individual performance and role in the team.

Regarding the peer- and self-evaluation, it was immediately noticeable that my self-evaluation was within the bounds of the peer evaluation as shown in *Appendix 14*, implying that I rated my own performance more conservatively than my group. Nonetheless, the shape of both evaluations was the same, with the highest rating for *interacting with teammates* in both the peer- and self-evaluation. The most striking thing about the peer and self-evaluation was that it reaffirmed my tendency to underestimate my skills and contributions, which was brought to my attention in different situations in the recent past as well. Consequently, I

realized that it is something that I need to continue working on, also, because Kammeyer-Mueller, Judge, and Piccolo (2007) find that the level of self-esteem is linked to career success. More precisely, the authors describe that higher perceived self-esteem is related to higher performance and that people with higher self-esteem lean towards jobs that suit their perceived abilities, which are both expected to result in higher income. In other words, higher self-esteem helps getting higher-level jobs and their perks.

Apart from this, the *Discovery Insights* profiling questionnaire placed me in the middle of the blue quadrant, suggesting that I was a detail-oriented and analytical person. Overall, I agree with the characterization of being analytical, however, during the simulation I became aware that there is a point where I consciously prefer taking a faster, yet imperfect, decision instead of extensive analysis. Similarly, I noticed that I cared about harmony within the group and let it influence my behavior. Therefore, I would still consider blue my dominant color but it would be more accurate to be placed more closely to the origin or to the red and green colors that represent conciseness and harmony, respectively. Another realization that I made about how I performed in the team is that being a blue character comes with a preference for working independently at times, meaning group discussions sometimes felt tiring and not as productive as devoting some individual time to the issue first. Also, I believe that I produce my best ideas when I get to work on an issue alone before sharing it with the group and expanding on it. However, considering the benefits of teamwork and the increased demands for spontaneity that I expect at the workplace, I became aware that this is an area that I want to work on.

References

Aggeri, Franck, Maria Elmquist, and Hans Pohl. 2009. "Managing learning in the automotive industry - the innovation race for electric vehicles." *International Journal of Automotive Technology and Management* 9 (2): 123-147.

Audi. n.d. *Inside Audi.* Accessed September 2, 2024. https://www.audiusa.com/us/web/en/inside-audi.html.

Bartezzaghi, Emiliano, Mariano Corso, and Roberto Verganti. 1997. "Continuous improvement and inter-project learning in new product development." *International Journal of Technology Management* 14 (1): 116-138.

Carlier, Mathilde. 2023. "Research and development expenses and intensity of selected global automotive manufacturers in 2022." *Statista.* December 15. Accessed September 1, 2024. https://www.statista.com/statistics/1306984/randd-in-selected-global-automotive-oems-expenses-and-intensity/.

Christensen, Jens Frøslev. 1995. "Asset profiles for technological innovation." *Research Policy* 24 (5): 727-745.

Coelho, Cláudia. 2024. *Sustainability | ESG: Business Transformation.* Lisbon: pwc.

Cozzi, Laura, and Apostolos Petropoulos. 2024. *SUVs are setting new sales records each year - and so are their emissions.* May 28. Accessed September 1, 2024. https://www.iea.org/commentaries/suvs-are-setting-new-sales-records-each-year-and-so-are-their-emissions.

Deloitte. n.d. *Pathways to decarbonization.* Accessed September 1, 2024. https://www.deloitte.com/global/en/issues/climate/pathways-to-decarbonization-series.html.

Dijk, Marc, and René Kemp. 2010. "A framwork for understanding product market innovation paths - emergence of hybrid vehicles as an example." *International Journal of Automotive Technology and Management* 10 (1): 56-76.

Druskat, Vanessa Urch, and Steven B Wolff. 2001. "Building the Emotional Intelligence of Groups." *Harvard Business Review* 79 (3): 80-90.

Duhigg, Charles. 2016. "What Google Learned From Its Quest to Build the Perfect Team." *The New York Times*, February 25.

EU Urban Mobility Observatory. 2024. *Paris introduces triple parking fees for SUVs.* February 12. Accessed September 1, 2024. https://urban-mobility-observatory.transport.ec.europa.eu/news-events/news/paris-introduces-triple-parking-fees-suvs-2024-02-12_en.

European Comission. n.d. *Climate Action.* Accessed September 2, 2024. https://climate.ec.europa.eu/eu-action/effort-sharing-member-states-emission-targets/overview_en.

Ford, Cameron M, and Diane M Sullivan. 2004. "A time for everything: How the timing of novel contributions influences project team outcomes." *Journal of Organizational Behavior* 25 (2): 279-292.

Fujimoto, Takahiro. 2014. "The Long Tail of the Auto Industry Life Cycle." *Journal of Product Innovation Management* 41 (1): 8-16.

Gao, Paul, Hans-Werner Kaas, Detlev Mohr, and Dominik Wee. 2016. *Automotive revolution - perspective towards 2030.* January 1. Accessed September 1, 2024. https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/disruptive-trends-that-will-transform-the-auto-industry/de-DE.

Hyundai. 2024. *Hyundai Moto Group Companies' Ratings Upgraded by Global Top Rating Agencies.* August 24. Accessed September 1, 2024. https://www.hyundai.com/worldwide/en/newsroom/detail/0000000815.

Jaguar Land Rover. 2023. *Jaguar Land Rover Automotive PLC S&P Rating Upgraded to 'BB'.* November 14. Accessed September 1, 2024. https://www.jaguarlandrover.com/news/2023/11/jaguar-land-rover-automotive-plc-sp-rating-upgraded-bb.

Jordan, Peter J, and Ashlea C Troth. 2002. "Emotional Intelligence and Conflict Resolution: Implications for Human Resource Development." *Advances in Developing Human Resources* 4 (1): 62-79.

Kammeyer-Mueller, John D, Timothy A Judge, and Ronald F Piccolo. 2007. "Self-Esteem and Extrinsic Career Success: Test of a Dynamic Model." *Applied Psychology* 57 (2): 204-224.

Kirca, Ahment H, Praneet Randhawa, Mehmet Berk Taley, and Billur Akdeniz. 2020. "The interactive effects of product and brand portfolio strategies on brand performance: Longitudinal evidence from the U.S. automotive industry." *International Journal of Research in Marketing* 37 (2): 421-439.

Knight, Andrew P. 2013. "Mood at the Midpoint: Affect and Change in Exploratory Search Over Time in Teams That Face a Deadline." *Organization Science* 26 (11): 99-18.

Krishnappa, Umashankar, and Charitra Hg. 2014. "Conflict Resolution Through Training on Emotional Intelligence and Empathy in a Workplace - An Empirical Study." *Research in Business and Management* 1 (2): 121-145.

Land Rover. n.d. *Above % Beyond.* Accessed September 2, 2024. https://www.landroverusa.com/our-story/index.html.

Lencioni, Patrick M. 2002. *The Five Dysfunctions of a Team: A Leadership Fable.* San Francisco: Jossey-Bass.

Luke, Timothy W. 2001. "SUVs and the Greening of Ford: Reimagining Industrial Ecology as an Environmental Corporate Strategy in Action." *Organization & Environment* 14 (3): 311-335.

Madlani, Nishit K, and David Binns. 2024. *Tesla Inc. 'BBB' Ratings Affirmed Despite Pressure On Margins and Cash Flows; Outlook Stable.* May 1. Accessed September 1, 2024. https://disclosure.spglobal.com/ratings/en/regulatory/article/-/view/type/HTML/id/3163780.

Mercedes-Benz Group. 2024. "Climate Transition Action Plan 2024." *Mercedes-Benz Group.* April 23. Accessed September 1, 2024. https://group.mercedes-benz.com/documents/investors/reports/annual-report/mercedes-benz/mercedes-benz-climate-transition-action-plan-2024-en.pdf.

Mikkola, Juliana Hsuan. 2001. "Portfolio management of R&D projects: implications for innovation management." *Technovation* 21 (7): 423-435.

Moody's. 2021. "Rating Methodology: Automobile Manufacturers." *Moody's.* May 21. Accessed September 1, 2024. https://ratings.moodys.com/api/rmc-documents/72240.

Rivian. n.d. *Forever Starts Now.* Accessed September 2, 2024. https://rivian.com/our-company.

RSM. 2021. *Driving change: the revolution of the automotive industry.* March 15. Accessed September 1, 2024. https://www.rsm.global/insights/sector-insights/driving-change-revolution-automotive-industry.

The Green Bond Principles. 2022. "Green Bond Principles." *ICMA.* June. Accessed September 3, 2024. https://www.icmagroup.org/assets/documents/Sustainable-finance/2022-updates/Green-Bond-Principles-June-2022-060623.pdf.

Thomas, V.J., and Elicia Maine. 2019. "Market entry strategies for electric vehicle start-ups in the automotive industry - Lessons from Tesla Motors." *Journal of Cleaner Production* 235: 653-663.

Toegel, Ginka, and Jean-Louis Barsoux. 2016. "How to Preempt Team Conflict." *Harvard Business Review* 94 (6): 78-83.

United Nations Environment Programme. 2023. *Emissions Gap Report: Broken Record - Tempartures hit new highs, yet world fails to cut emissions (again).* Nairobi: United Nations Environment Programme.

https://wedocs.unep.org/bitstream/handle/20.500.11822/43922/EGR2023.pdf?sequence=3&isAllowed=y.

University of Cambridge. n.d. *Porter's Generic Competitive Strategies (ways of competiting).* Accessed September 2, 2024. https://www.ifm.eng.cam.ac.uk/research/dstools/porters-generic-competitive-strategies/.

Volkswagen Group. 2024. *Ratings.* Accessed September 1, 2024. https://www.volkswagen-group.com/en/ratings-15756.

West, Michael. 2012a. “Team Playing.” In *Effective Teamwork: Practical Lessons from Organizational Research*, 119-134. Wiley-Blackwell

West, Michael. 2012b. “Creative Team Problem Solving.” In *Effective Teamwork: Practical Lessons from Organizational Research*, 155-171. Wiley-Blackwell

Appendix

Figure 1: Total Investment, Yearly (in millions)

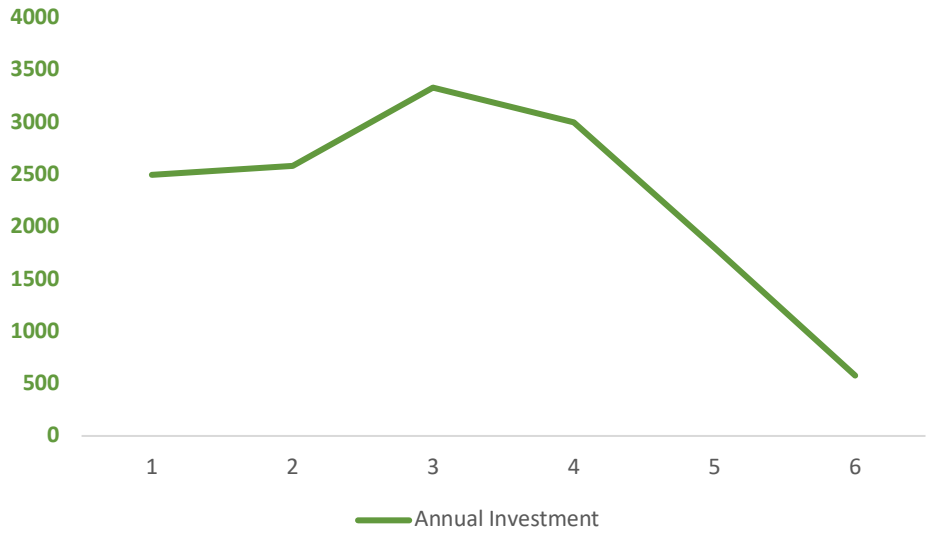


Figure 2: Scope 3 vs. Fleet Emissions, Quarterly

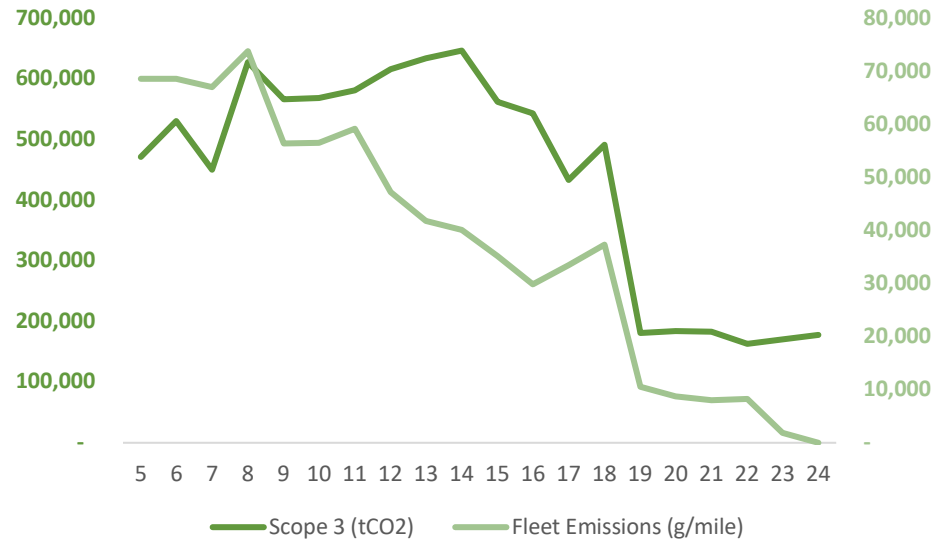


Figure 3: Green Capex vs. Green Capital

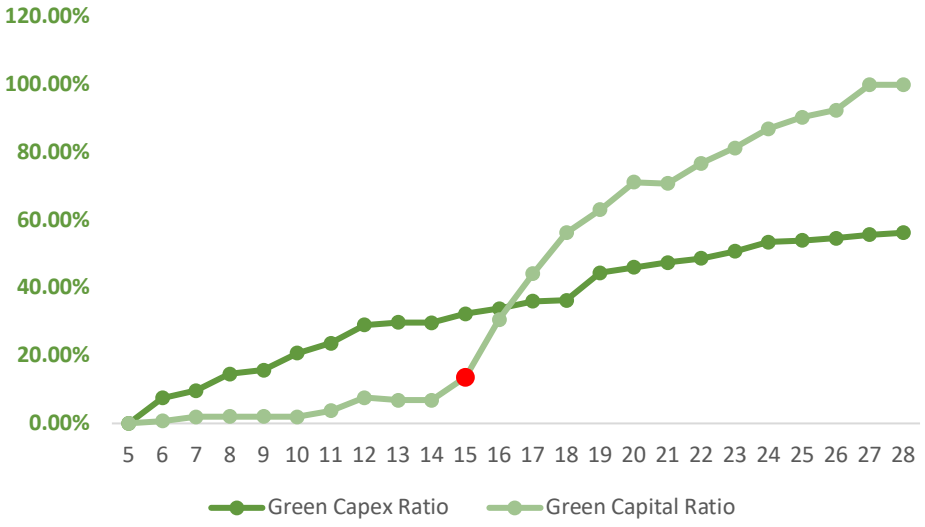


Figure 4: Investment by Department, Quarterly (in millions)

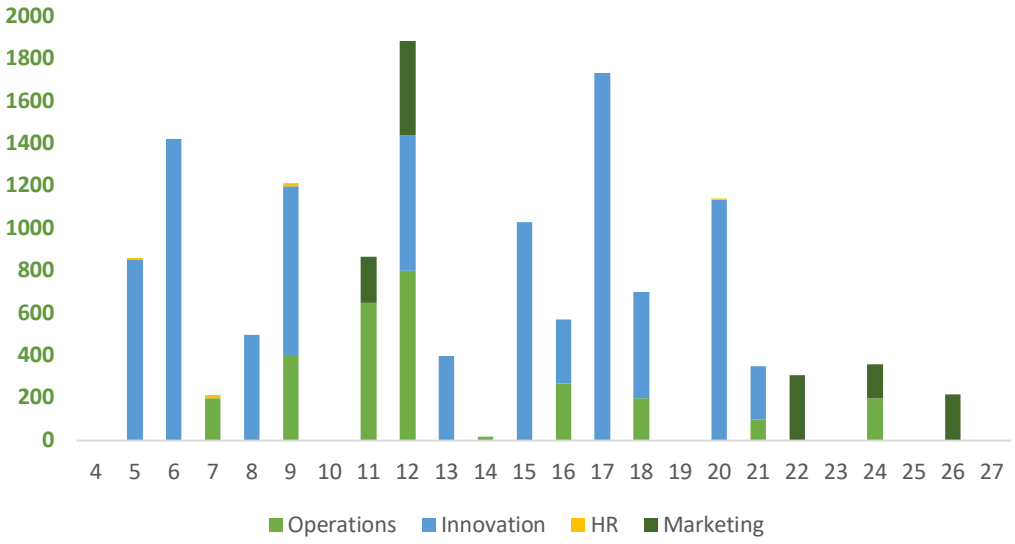


Figure 5: Turbo-H: EVA vs. PV(Net Profit)

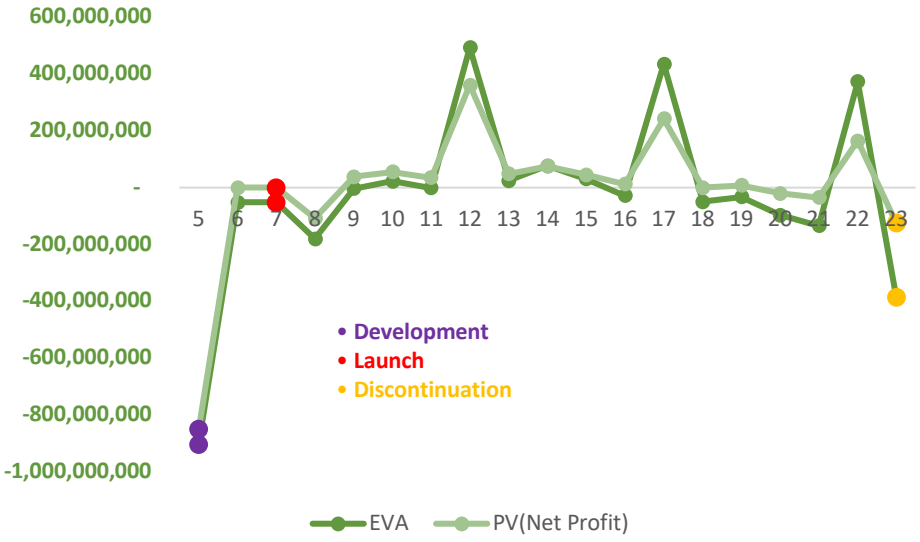


Figure 6: Baby-E: EVA vs. PV(Net Profit)

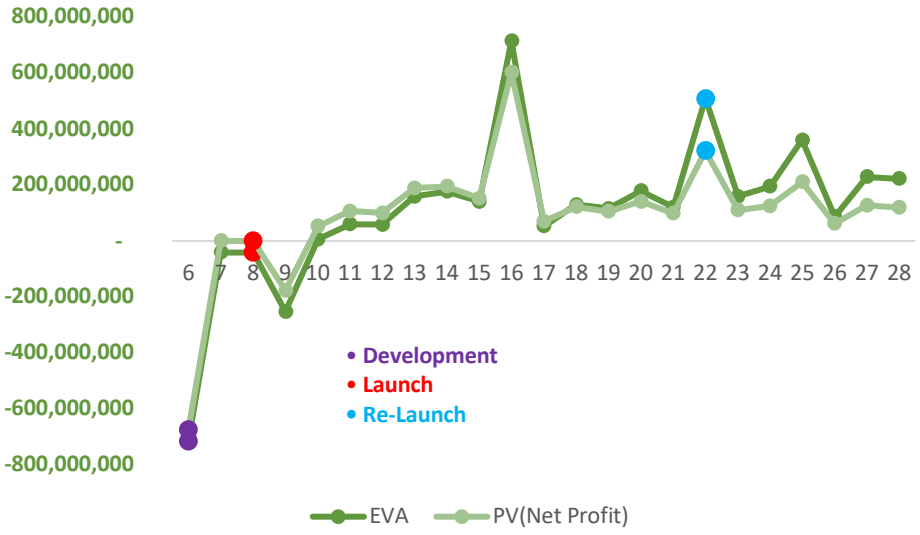


Figure 7: Corporate-E: EVA vs. PV(Net Profit)

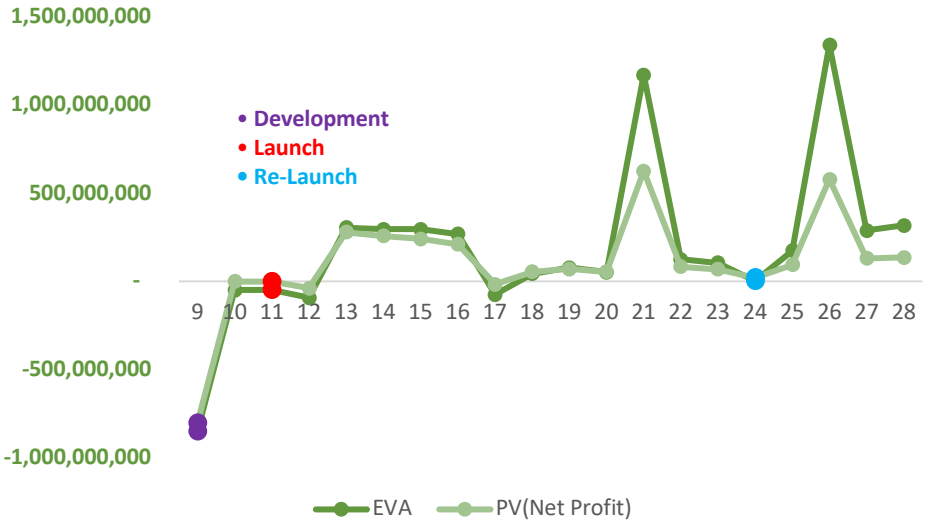


Figure 8: Mini Baby-E: EVA vs. PV(Net Profit)

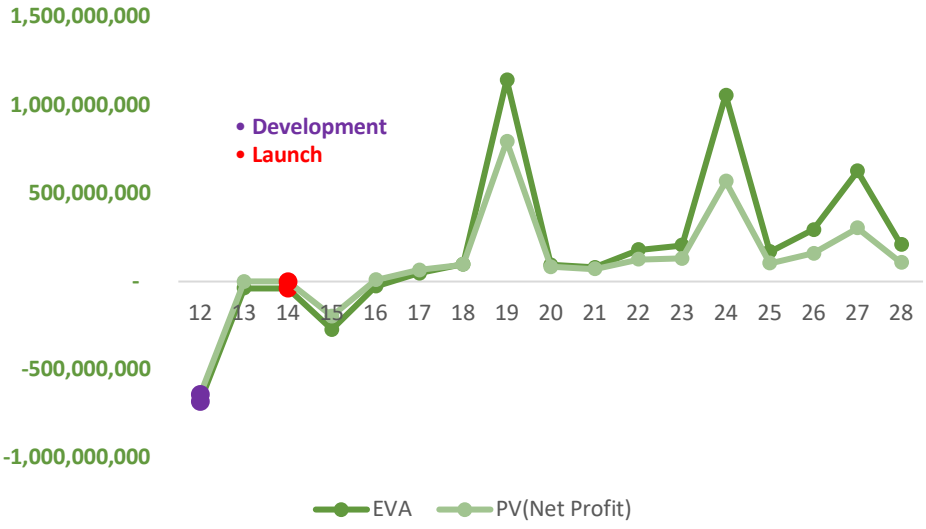


Figure 9: Shiny-E: EVA vs. PV(Net Profit)

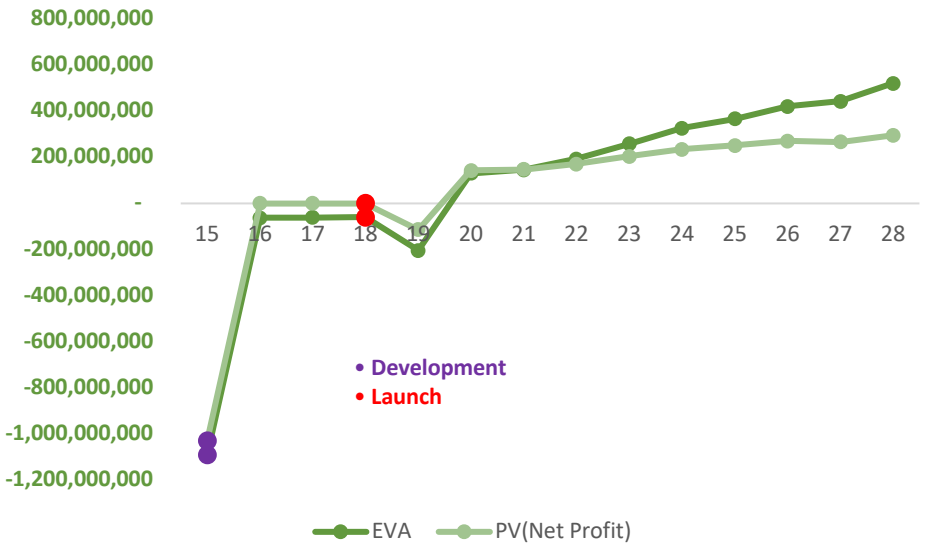


Figure 10: McQueen-E: EVA vs. PV(Net Profit)

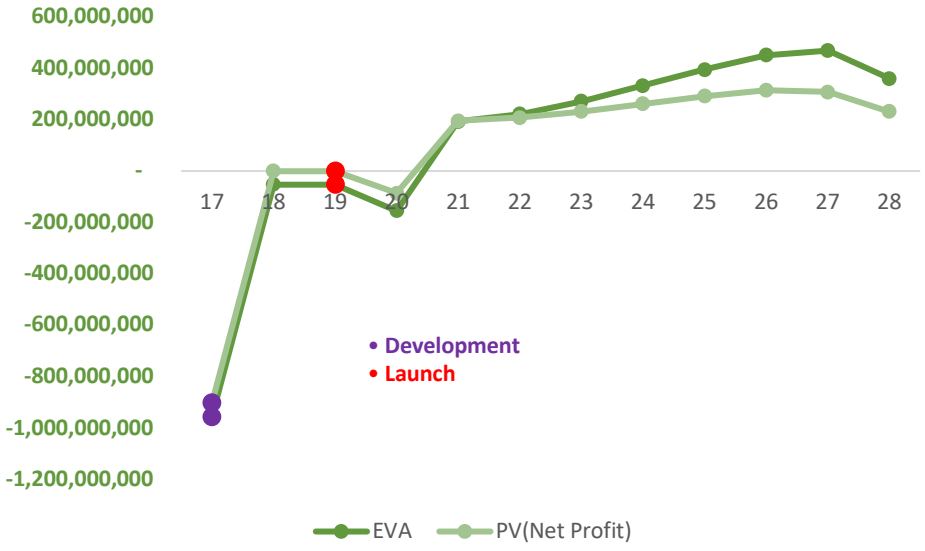


Figure 11: UPM-E: EVA vs. PV(Net Profit)

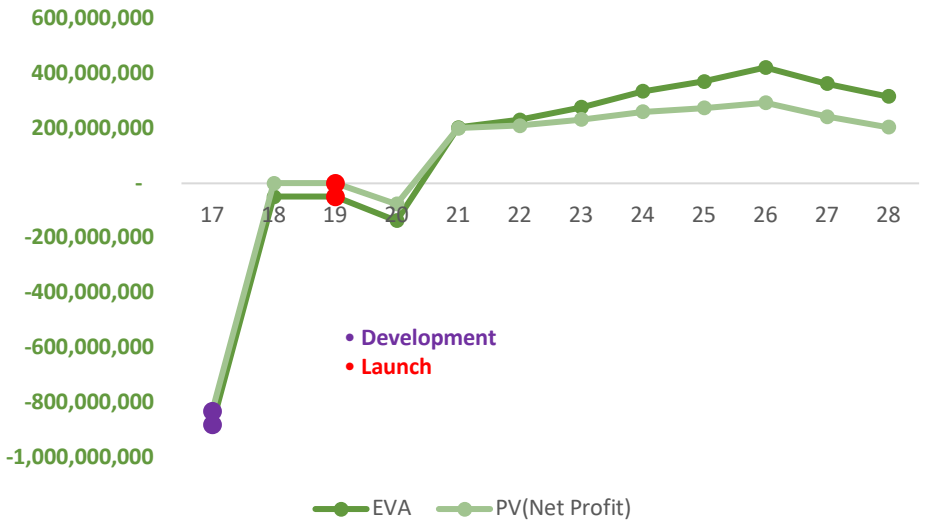


Figure 12: Jesus-E: EVA vs. PV(Net Profit)

Figure 13: NPV at Development Quarter by Model

Model:	Developed in Q	Quarters Sold	NPV @ Development
Turbo-H	5	16	- 55,876,520
Baby-E	6	20	2,169,563,696
Corporate-E	9	17	2,048,866,266
Mini Baby-E	12	14	1,779,618,422
Shiny-E	15	10	840,761,789
McQueen-E	17	10	1,052,535,429
UPM-E	17	9	1,017,523,893
Jesus-E	20	5	- 190,294,994

Figure 14: Peer- and Self Evaluation

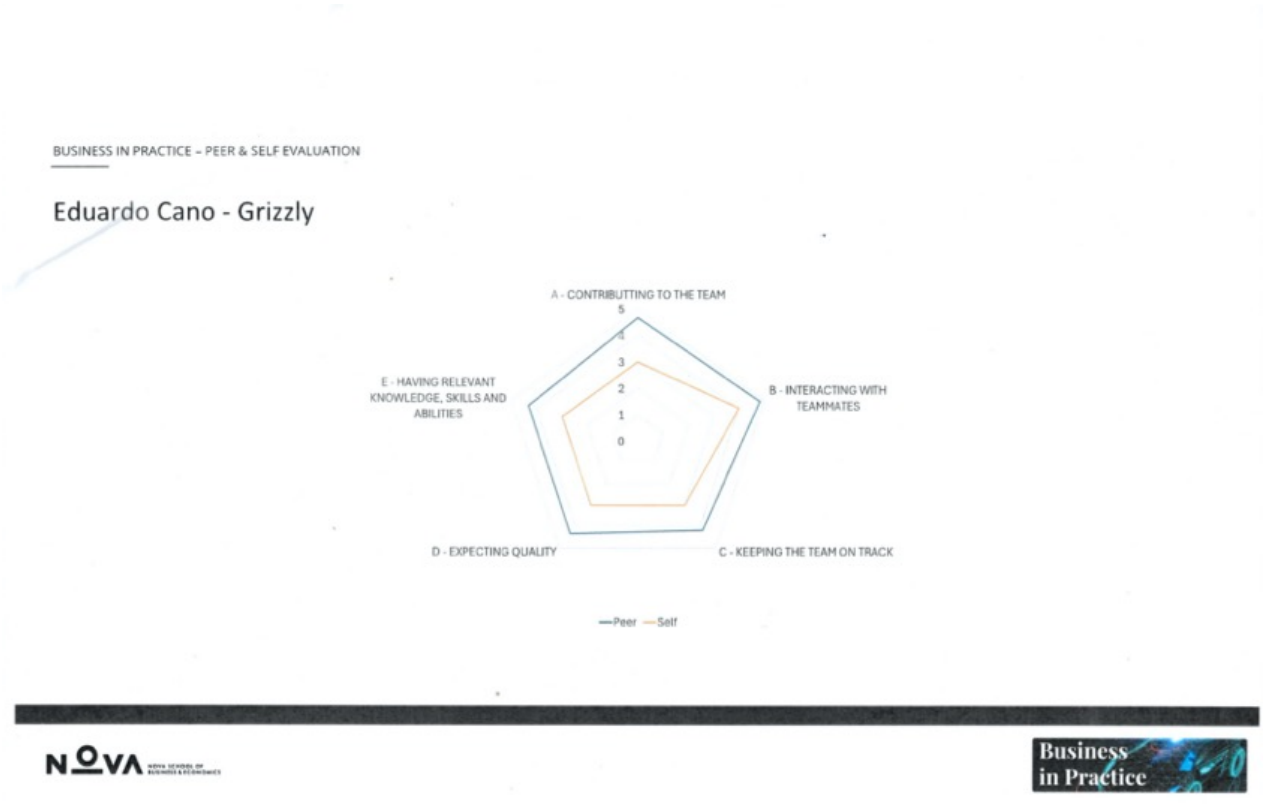
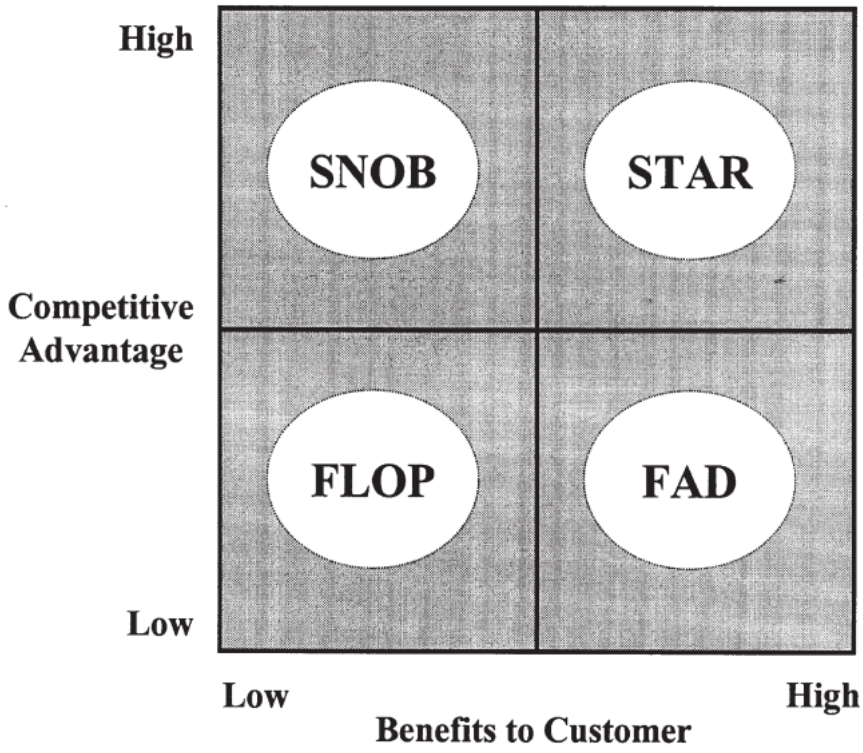


Figure 15: The R&D Project Portfolio Matrix.



Source: Mikkola, Juliana Hsuan. 2001. "Portfolio management of R&D projects: implications for innovation management." *Technovation* 21 (7): 423-435.