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Quattro Motors' Odyssey: Navigating Personal and Professional Growth through an
Immersive Business Simulation

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Table of Contents

<i>Abstract</i>	2
<i>Quattro Motors' Journey</i>	3
1. Quattro Motors	3
2. Strategy	4
3. Operations	9
4. Human Resources	13
5. Final Remarks	16
<i>Personal reflection</i>	17
1. Critical Incident #1: How MY need for control blocked OUR creativity	18
2. Critical Incident #2: The power of vulnerability	22
3. Final remarks	25

Abstract

Amidst a transformation era for the automotive industry, marked by the emergence of a new mobility paradigm, effective management proves detrimental to a car company's survival. The Business in Practice (BiP) simulation provided an opportunity for a diverse student cohort, including myself as the Human Resources Director of Quattro Motors, to collaboratively harness collective knowledge in this challenging context. Success hinged on the ability to transform industry disruptions into innovation catalysts. This paper explores business insights gained from six years of managing Quattro Motors, also serving as a platform for introspection, highlighting the personal growth fostered by BiP.

Keywords

Teamwork, Emotional Intelligence, Team Dynamics, Business Simulation, Automotive Industry, Sustainability, Innovation and Technology, Business Strategy, Corporate Performance, Interdependence Across Business Functions

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Quattro Motors' Journey

As a participant in the Business in Practice (BiP), I was presented with the challenging task of managing the human resources (HR) of a car company amidst what many consider disruptive times for the automotive industry.

The rapid emergence of new technologies, raising concerns about sustainability, and changing consumer preferences are indeed expected to drive a structural transformation in the mobility ecosystem (Heineke et al. 2023). Therefore, original equipment manufacturers must evolve and reshape their value proposition to remain relevant in the emerging ecosystems (Gao et al. 2016).

The upcoming section of this thesis aims to analyze how Quattro Motors, the automobile company where I held an executive role, tackled the aforementioned challenge.

This section will commence with a general overview of Quattro Motors, followed by an in-depth analysis of its performance over the past six years. This analysis will primarily focus on the company's strategic, operational, and HR aspects. To close the section, key business insights derived from managing Quattro Motors will be presented.

1. Quattro Motors

Quattro Motors is a car manufacturer with a worldwide reach, possessing production plants in Europe, China, and America. It is committed to offering a vast selection of top-tier automobiles, equipping them with the latest technologies available in the market. Beyond its focus on excellence, Quattro Motors is also striving to become a leader in promoting ESG initiatives, integrating sustainable methods into its production processes, and embracing the shift to full electrification of its vehicles.

2. Strategy

Defining a company's strategy is crucial to its success (Boyles 2022), as it directs all aspects of a business towards a shared goal, enhancing the establishment of a competitive edge.

In this section, the rationale behind Quattro Motors' choice of strategy will be critically examined, followed by an analysis of its implementation and performance.

2.1 Strategy Definition

Once aware of its external environment (Appendix 1), Quattro Motors defined the pursuit of sustainable practices, such as full electrification, and the adoption of the latest innovations in the tech world as key to remaining competitive in the ever-changing landscape.

By committing to attaining full electrification of its vehicles, Quattro Motors would reduce the CO2 emissions premium it was exposed to (Appendix 2), while meeting the growing consumer demand for more sustainable products.

Additionally, the adoption of cutting-edge technologies, increasingly popular among consumers, including autonomous driving and connectivity, presented an opportunity for Quattro Motors to incorporate software expertise into its value proposition, a strategic move considered by many as crucial for manufacturers to remain relevant (Gao et al. 2016).

Since these investments in cutting-edge technology would be most valued by premium customers, who give increasing importance to a car's software (Xu and Liu 2018), the pursuit of distinction as a premium brand has emerged as a viable tactic for Quattro Motors to remain competitive in the eyes of consumers.

From this follows the strategy of Quattro Motors: establish itself as a top-tier automotive brand, focusing on delivering superior quality and exceptional performance, materialized in a vast selection of electric and innovative vehicles.

2.2. Strategy Implementation

Positioned as premium, Quattro Motors prioritized standing out through differentiation, rather than competing solely on cost-effectiveness. To successfully implement this approach, the company aimed to develop products recognized as unique, enabling it to command higher-than-average prices (Salavou 2015). In pursuit of this objective, Quattro Motors equipped all its newly manufactured vehicles with superior design and the latest available technologies. Key to this was the innovation department, set with the mission to invest considerable amounts in autonomous driving, connectivity, and electrification (Appendix 3).

While it may appear to be a well-rounded approach, the broad nature of this strategy ultimately hindered the ability to maintain a competitive edge. There was no clear strategic focus. Quattro Motors did not aim to capture a specific consumer segment or specialize in any particular type of vehicle, leaving room for deviation.

As a result, Quattro Motors aimed to create the most luxurious car in the market while also developing a compact car with differentiated features. It followed the belief that Quattro Motors could benefit from economies of scale through the sale of a compact car to the mass market, while still making a profit from the upper-level segment willing to pay for a luxury car with unique features. Just as BMW, a premium car manufacturer that entered the premium sub-segment of small cars through the acquisition of “Mini” (Simms and Trott 2007).

Initially, Quattro Motors successfully managed to maintain a diverse portfolio of top-notch vehicles, spanning from luxury to compact cars. However, as time went on, the company was forced to shift away from its differentiation strategy and introduce models that notably deviated from the typical attributes associated with premium vehicles.

2.2.1 What Went Wrong?

The development of *Tokyo 75H* materialized the entry of Quattro Motors in the premium sub-segment of small cars. While many considered its launch a success, generating 19% of the company's revenues during its introduction phase (Appendix 4), it also shed light on the challenges faced by Quattro Motors in balancing economies of scale with differentiation.

Designing a high-end version of a compact vehicle involves incorporating advanced technology and unique features, which inevitably raises production costs, posing a challenge when striving to offer a more affordable price point. Consequently, the vehicle may not appeal to the entry-level segment of consumers, who do not value differentiation as much as price (Proff 2000), ultimately curbing its market reach and hindering the company's ability to achieve economies of scale. This is exactly the reason why Quattro Motors' production expectations were not met by *Tokyo 75H*. Indeed, reserving three lines of production to *Tokyo 75H* proved to be excessive since the number of units sold was constantly behind the production volume, resulting in a growing inventory.

In its essence, Quattro Motors' strategic plan was constructed around an audacious proposition - being able to penetrate the mass market with a premium compact car - which proved to be unfeasible, ultimately compromising the efficient use of the already built capacity, contributing to instability in operations.

Additionally, the ambition to reach a broad range of customers and the consequent manufacturing of a diverse array of vehicles resulted in decreased staff productivity and higher production costs, as each model presented a unique set of production demands.

Even more detrimental, attempting to compete in multiple ways at once led to inconsistencies that ultimately compromised not only brand identity, but also organizational motivation and focus, as highlighted by Porter (1996).

2.3 A Change in Strategy

The inadequately formulated strategy directly contributed to the evident decline in Quattro Motor's value added during the first four years of operations under BiP's management team (Figure 1), posing a reevaluation of the company's strategic stance as key to reverting this tendency.

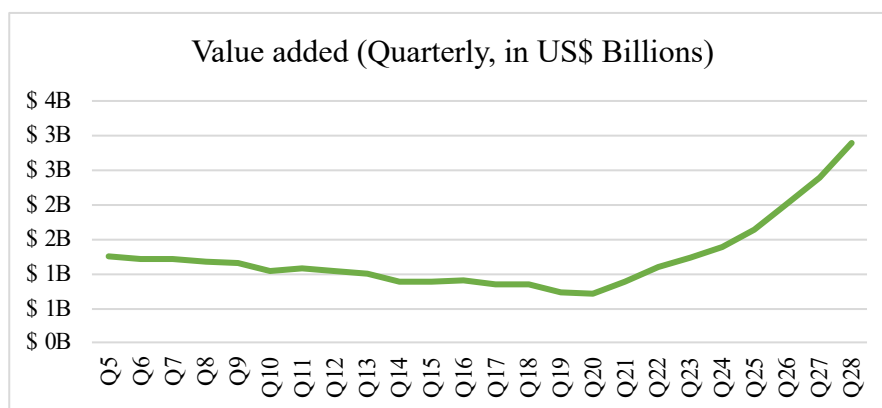


Figure 1: Quattro Motors' Value Added, Quarterly, in US\$ Billions

Given that certain structural decisions had already been established with the underlying intent of pursuing economies of scale – exemplified by the construction of new factories - restricting efforts solely to the upper-tier consumer segment was an unviable option.

As such, the company was left with the option to embrace cost-effectiveness, compromising some premium features, when developing cars targeted at satisfying the mass market, while also maintaining a line of luxurious cars for upper-level types of customers.

While acknowledging that this approach would not resolve Quattro Motor's brand identity and organizational challenges, it seemed detrimental to the effective use of its already-built capacity and so key to increasing efficiency in its operations.

2.4 Reassessing Quattro Motors' Journey and the Imperative of Trade-offs

Although there is growing evidence of the high performance of hybrid strategies that combine more than one generic strategy positioning (Salavou 2015), Quattro Motors' journey constitutes a great example of its limitations.

Quattro Motors failed to sustain any strategic position due to the absence of trade-offs. The car company's broad strategy created a misconception that trade-offs were not imperative, when in fact, they are critical in establishing a unique position and preventing imitation (Porter 1996).

Undeniably, Quattro Motors' attempt to eliminate trade-offs and reach mass production while offering a differentiated product proved to be naturally conflicting in its essence. Soon enough, the low demand for Quattro Motors' premium version of a compact car revealed the inherent incompatibility between mass production and differentiation.

Upon reflection, it becomes evident that Quattro Motors should have undertaken a comprehensive internal analysis during its strategy formulation phase, instead of focusing on the unattainable goal of eliminating essential trade-offs among different strategic positions. Such an analysis would have enabled Quattro Motors to identify rare, valuable, imperfectly imitable resources, often seen as more crucial to maintaining a competitive advantage than the company's competitive positioning (Barney 1991; Slack, Brandon-Jones, and Johnston 2014). Moreover, this introspection would have shed light on the company's vulnerabilities, notably its inability to operate under an alternate brand, a key element for the success of hybrid strategies, as exemplified by the success of BMW's "Mini" (Simms and Trott 2007).

3. Operations

Operations are widely regarded as a core activity of any organization. It is through its effective management that firms successfully make use of their resources to produce goods and/or services that satisfy human wants.

This section aims to provide a comprehensive overview of Quattro Motors' operations, including its strategy and performance, ending with key takeaways on operations management.

3.1 Operations Strategy

As per Skinner's (1969) insights, the manufacturing management's success hinges on its ability to meet the demand set forth by the company's business strategy. Hence, the operations strategy should prioritize performance objectives that align with the corporate strategy (Wheelwright 1978).

As a premium brand, Quattro Motors emphasized diversification through the utilization of technological innovation and sustainable practices. Striving for consistency between its policies and the overall business strategy, the manufacturing department prioritized developing the capabilities that supported these strategic objectives.

Additionally, operational efforts were set to excel simultaneously in all its performance metrics: quality, cost, speed, dependability, and flexibility, following Quattro Motors' goal to satisfy the naturally conflicting needs of a wide customer base.

3.2 Operations Performance

Quattro Motors' operations department successfully attained its objective of promoting environmental sustainability within the company. This achievement is evidenced by the substantial investments made towards sustainable practices in the production process, energy generation, and throughout the entire value chain (Appendix 5).

Economically, however, the performance was not as satisfying. During the first four years of operations under BiP's management team, a high variation in inventory levels (Figure 2) and factory utilization (Appendix 6) pointed to some instability in operations.

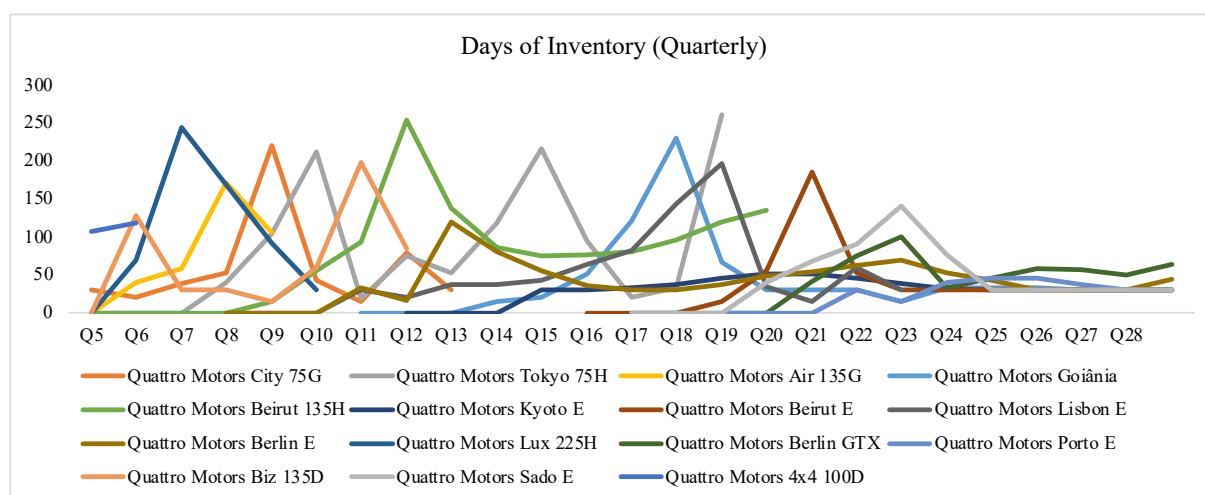


Figure 2: Days of Inventory per Vehicle, Quarterly

This instability, in turn, resulted in cost inefficiencies, as evidenced by an increasing trend in COGS (Appendix 7) and Staff Costs (Appendix 8) per vehicle.

Operating in such an inefficient environment proved harmful to the financial health of Quattro Motors, contributing to the verified decreasing trend of the company's value added during these first four years (Figure 1).

3.2.1 Unveiling the Root Causes Behind Operational Inefficiencies

The inefficiency of Quattro Motors' operations is directly related to the failure of the company's strategy, discussed in section two.

Due to the erroneous premise upon which Quattro Motors' strategy was predicated, the operational competencies developed in alignment with that strategy, including the establishment of manufacturing facilities, ultimately proved to be devoid of utility, which led to an excess of production lines and consequent high levels of inventory.

Moreover, the expansive scope of Quattro Motors' strategic orientation concerning its targeted market segments hindered the company's operations team's ability to prioritize different performance metrics. For instance, while there was a pressing need to enhance cost efficiency to offer the market an affordable premium car, Quattro Motors remained steadfast in its commitment to not compromise the quality of any of its cars, posing an unresolvable dilemma for operations management to contend with. Reducing the variety of vehicles was also out of the plan, which, ironically, further eroded the company's capacity to be cost-efficient, as it increased operational complexities and diminished worker productivity. With a persistent unwillingness to make strategic tradeoffs, Quattro Motors' operations were left with the impossible mission of meeting conflicting performance objectives.

These operational challenges were exacerbated by a lack of coordination between manufacturing and marketing decisions, evidenced by the small or even null variation verified in cars' prices during this period (Appendix 9). In fact, research has shown that businesses experience significant performance improvements when manufacturing and marketing work together effectively (Hausman, Montgomery, and Roth 2002). While high inventory levels were not solely attributable to marketing inefficiencies, implementing marketing tactics could have provided a temporary solution to this issue.

3.3 Recovering Operations

To address strategic weaknesses and leverage its current infrastructure, Quattro Motors developed affordably priced vehicles with fewer premium features and so appealing to a wider audience.

This strategic shift enabled a more efficient resource allocation in the manufacturing facilities, resulting in 100% factory utilization (Appendix 6) and a stabilization of the days of inventory (Figure 2) over the last five quarters of operations. This operational refinement, in turn,

increased efficiency, likely contributing to the observed upward trajectory in value added during these last five quarters (Figure 1).

Despite the potential challenge this strategic shift posed to the brand's identity and organizational focus, as discussed in section two, it showcased a remarkable degree of manufacturing flexibility, a capability considered key in achieving superior operational performance in today's ever-changing world (El-Khalil and Darwish 2019).

3.4 Elevating Manufacturing as a Strategic Advantage

Quattro Motors' operational experiences underscore the cause-and-effect relationship between business strategy and manufacturing. Yet, a pivotal insight derived from this journey is that this relationship is bidirectional. Not only do different strategies place different demands on manufacturing, as argued by Skinner (1969), but manufacturing choices, such as the construction of new facilities, can also limit the corporation's strategic options, as demonstrated by Quattro Motors' trajectory.

Looking ahead, a promising approach to managing operations lies in incorporating manufacturing considerations during the formulation of business strategy. The involvement and influence of manufacturing executives are indeed proven to have positive effects on business performance (Papke-Shields and Malhotra 2001).

But to really succeed in today's turbulent competitive environment, operations should be viewed as more than just a tool for implementing strategy. Instead, this function should be perceived as a source of competitive advantage, since it holds the power to build a unique set of capabilities that will serve as a competitive edge. So, rather than trying to obsessively replicate Toyota's successful production processes by implementing the latest advanced practices, such as Flexible Manufacturing Systems (FMS) or Total Quality Management (TQM), a company should approach these improvement programs not as an end goal of

achieving parity with competitors' efficiency, but as a means of building a set of capabilities that forges a distinct identity (Hayes and Pisano 1994).

4. Human Resources

In the current rapidly changing economic environment, where traditional sources of competitive advantages, such as technology or natural resources, are increasingly easy to imitate, interest in HR as a strategic lever is growing among top performers (Smit et al. 2023).

To the extent that the supply and demand of labor are heterogeneous, Skills, Knowledge, and Abilities (SKAs) are normally distributed among individuals, work processes are socially intricate and HR are transferable across technologies, human capital possesses the attributes required to be a source of sustained competitive advantage, according to the resource-based view of the firm (Wright, McMahan, and McWilliams 1994; Barney 1991).

4.1 HR Strategy

Aware of the proven linkage between HR and firm performance (Huselid, Jackson, and Schuler 1997), Quattro Motors faced the challenge of understanding how to unlock the potential of its people.

According to Schuler and Jackson (1987), establishing an internally consistent set of HR policies is crucial in cultivating a top-notch human capital pool that effectively supports a company's business strategy. However, there is growing consensus among HR theorists that it is not just the Human Resources Management (HRM) content that matters in inspiring a company's workforce to adopt the behaviors that contribute to the organization's strategic objectives but its seamless integration with HRM processes (Bowen and Ostroff 2004).

Quattro Motors' HR strategy therefore aimed at designing a bundle of initiatives that were consistently aligned with the company's overall strategy, while placing a strong emphasis on

ensuring all employees had a clear understanding of the information conveyed through those HR practices, by developing what Bowen and Ostroff (2004) call a strong HRM system.

To achieve this, Quattro Motors began by establishing a set of core values regarding its workforce that would be translated into company-wide policies and leadership behaviors. These principles would ultimately inform the creation of HR policies, developing a consistent, distinctive, and consensual HRM system (Bowen and Ostroff 2004).

Considering Quattro Motors' aspirations to become a premium brand, building and developing a highly qualified workforce posed as a priority (Schuler and Jackson 1987). Since the company also placed a great emphasis on ESG initiatives, creating a culture of diversity, along with environmental consciousness among its people sounded urgent. Aware of the value of HR as a company's core asset, the manufacturer ultimately aimed at retaining its highly qualified and diverse workforce. From this, the philosophy underpinning all HR activities followed: "Our Road 4Excellence: Nurturing Talent, Community, and Eco-Consciousness", publicly announced in the company's ESG report (Appendix 10).

4.2 HR Strategy Implementation

To cultivate a skilled workforce, Quattro Motors applied selectivity in recruitment and investment in training. These two practices are vital not only to developing highly qualified human capital but also to fostering a sense of value among employees, encouraging them to strive for excellence in their performance (Pfeffer 1995).

To promote a culture of diversity, increasingly incentivized by regulators (Buttinger 2023) and proven to have positive effects on a firm's profitability (Dixon-Fyle et al. 2020), Quattro Motors undertook a transparent positive action in recruitment and committed to building an inclusive workplace.

With the goal of promoting green employee behavior, Green HRM practices were implemented (Kuo et al. 2022), including training in sustainability areas (Appendix 11).

The Implementation of the aforementioned HR practices automatically made retaining a highly qualified and diverse workforce easier, highlighting the reinforcing effects of a coherently organized set of HRM practices. Indeed, employers with highly satisfied employees score higher on ESG performance (Jiang et al. 2020), showcasing the favorable influence of HR efforts to tackle ESG concerns on workers' motivation. This, combined with training and development opportunities, encourages employees to work harder and stay with the organization, establishing a virtuous circle.

Nevertheless, Quattro Motors took additional initiatives to ensure high levels of retention of its people, including ensuring external and internal equity concerning managers' salaries. To this end, the company aimed to maintain a minimum compa ratio of 1%. By offering wages above market requirements, the company would be signaling a commitment to employees. Moreover, the company implemented a policy to increase managers' salaries whenever their competencies improved, creating an incentive system, crucial in keeping them motivated.

4.3 HR Performance

The high levels of satisfaction registered among Quattro Motors' employees (Appendix 12) may anticipate the success of an HR strategy designed to unleash the potential of its people.

Quattro Motors indeed managed to build, develop, and retain a diverse and highly qualified workforce, as evidenced by the absence of layoffs, an increase in gender and race diversity, and an improvement in management skill level (Appendix 10).

When compared with its competitors, however, Quattro Motors appears to have fallen behind (Appendix 13). A successful HRM strategy requires support from all functions within an organization. Although the general view of HR as a primary asset was shared across all the

departments, the complexity of Quattro Motors' strategy undermined its optimization. The production of a high variety of models with different staff requirements, combined with unexpectedly low demand for compact models, created inefficiencies in staff planning and increased staff costs, as explored in the previous sections, explaining Quattro Motors' relative position.

4.4 Unlocking Human Capital Potential

According to a McKinsey study, companies that emphasize both financial outcomes and developing their human capital exhibit higher earnings resilience and a heightened ability to attract and retain talent, making them better equipped to navigate the current business landscape and emerge victorious in the ongoing talent war (Smit et al. 2023).

Quattro Motors' highly satisfied workforce was the ultimate consequence of a consistent, distinctive, and consensual HRM system. This serves as a testament to the critical role of a strong HRM system in unleashing the human capital potential to drive consistent and sustained outperformance within the organization (Campos e Cunha and Cunha 2004).

Overall, one can consider Quattro Motors was able to transform HR into a company's core asset since more than recruiting high-quality and diverse individuals, the company fostered a culture of diversity and learning, backed by its leadership, whose variety of backgrounds and fed inclusive behaviors that reinforced the company's philosophy regarding its employees.

5. Final Remarks

In retrospect, the journey of Quattro Motors across the six years of operations vividly illustrates a critical lesson in the dynamic landscape of business management.

While the initial strategy, centered on manufacturing premium vehicles for a diverse customer base, may have appeared ambitious and promising, it soon revealed its vulnerabilities, proving the importance of accepting tradeoffs. The unfounded assumption that economies of

scale could be achieved by simultaneously producing premium compact cars and luxury vehicles led to a complex and inefficient production infrastructure. This, in turn, undermined efficiency across all business functions inside the company, showcasing the significant interdependencies that exist between different departments within a business.

It was the company's ability to astutely recognize the need for adaptation and the unwavering commitment to innovation, sustainability, and electrification that ultimately allowed its recovery. By pivoting its attention towards manufacturing more cost-effective automobiles and adopting the burgeoning trend of electric vehicles, the company achieved notable success, selling 2,13 million electric cars and generating US\$2,891.5 million in value added.

The pivotal lesson from Quattro Motors' journey is therefore clear: while a flawed strategy can indeed pose significant challenges all over the organization, it is the capacity to adapt, learn from mistakes, and harness the power of innovation that ultimately determines a company's resilience and long-term viability in the ever-changing business world.

Personal reflection

BiP provided me the opportunity to engage in teamwork, increasingly relevant in modern work and often considered the ultimate competitive advantage of a company (Patrick 2002).

For companies to be able to take the most value out of this way of working, teams must overcome their inherent dysfunctions, which becomes particularly difficult in today's global world, given the increasing complexity of those same teams, in what comes to diversity.

Considering that dysfunctions within a team arise from our imperfections as human beings (Patrick 2002), I believe that overcoming them ultimately requires every member to possess a significant amount of emotional intelligence.

BiP simulated an environment in which our ability to work with other individuals would end up defining our performance. In essence, we were given the perfect context to cultivate our emotional intelligence. To be able to take advantage of this opportunity, I must adopt a reflective attitude toward my behavior in team dynamics. Indeed, to build any kind of emotional intelligence, it is imperative that I can reflect upon and understand the root causes of my attitudes, promoting self-awareness. Therefore, this section aims to be a reflection on two incidents that have greatly contributed to my growth as an individual.

For these incidents to become valuable learning tools, each one will be described and then analyzed from different angles, by taking a “Closer Look”. After a careful analysis of each incident, a reflection on the main learnings will be conducted.

During the early stages of my collaboration with the team, I made a decision that had a substantial impact on our collective efforts. Given the magnitude of its effects, I find this decision to be an incident worth of an in-depth analysis.

Another moment that I consider particularly insightful marks the first time I was provided with constructive feedback. As such, an analysis of its effects on my behavior as a team player will be conducted.

1. Critical Incident #1: How MY need for control blocked OUR creativity

1.1 What happened?

After three intensive hours figuring out how to make business decisions in the simulation context, I felt overwhelmed. In addition to the substantial amount of new information we were being presented with, our time was constrained, and we were a group of seven people.

For me, a methodical type of person who presents as an introvert in professional contexts and whose preferred method of working involves a quiet office, it was challenging to make any type of decision under so much of an “unstructured” and unpredictable context.

Fearing that working in such a disorganized manner would prevent me from reaching my potential was a sufficient motive for letting go of my introverted tendencies and alerting the group that it was urgent to design work processes.

As soon as I expressed my desire to build processes, one of my colleagues volunteered to design those same processes and ensure we followed them. The next morning, the whiteboard was already filled with a process to follow: extract data, analyze it, report relevant issues, and assign departments to solve those same issues. Unexpectedly, the relief I felt after seeing the board was short-lived.

The process ended up being too strict and detailed, constraining us from natural brainstorming and making us lose the “whole picture”. Aware of this, I decided, again, to let go of my introversion, and give feedback to the one person that would interrupt every time we deviated from the defined process.

1.2 A closer look

1.2.1 The need for structure

In a first look, one can say that my urgency in building processes was triggered by the anxiety felt over an unstructured way of working. Being a methodical type of person, having a clear structure and optimally designed processes is crucial for my professional success.

In a closer look, the need for a structure relates more to personality traits, rather than just my cognitive style. I consider myself shy, which many times prevents me from giving my input in relevant debates, negatively contributing to team dynamics. Aware of this, the idea of having some kind of communication process would force me to intervene, allowing me to overcome a prominent weakness without having to work it out.

In an even deeper analysis, this need for structure could be hiding an attempt to reduce the cognitive burden of managing such complex team dynamics. Our process entailed matching

the problems' nature with the departments' expertise, which would ultimately enhance the development of a transactive memory system – a division of cognitive labor (Wegner, 1987), reducing the cognitive burden on each team member (Brandon and Hollingshead 2004).

1.2.2 One Decision, Many Implications

Woolley (2009) argues that the initial team's focus, whether it is on processes or outcomes is perpetuated over time, allowing me to infer that my decision to direct the focus of the team to processes had a long-term impact on our team dynamics.

Considering the relevancy of my decision for team dynamics, analyzing whether focusing on processes has a positive impact on team effectiveness seems crucial.

Following processes when working constitutes one crucial element of a strong structure, which, according to Hackman Richard (2002) constitutes an “enabling condition” of team effectiveness. Additionally, using processes to conduct work in team meetings promotes a shared vision of how to proceed, another critical condition for modern teams to thrive (Martine Haas and Mortensen 2016).

Nevertheless, the constraints of following a strict and detailed process started to be clear to me when natural brainstorming was being interrupted by the team member appointed to control the process. This, in turn, reduced the level of psychological safety, crucial for team members to propose new ideas (Edmondson 1999). As a consequence, the level of creativity in our team became compromised at the expense of following our processes.

1.2.3 A Turning Point

My perception of the negative consequences of a decision I have taken shows a certain degree of social awareness. For instance, I rapidly understood how following a strict process prevented more creative team members from contributing with their ideas.

This social consciousness produced action, encouraging me to act on behalf of my team, by constructively giving feedback. Although this action produced results, making the respective member limit the interruptions, processes were already embedded in our culture as a team, constraining not only our creativity but also our flexibility, crucial in such a dynamic context as a business simulation.

1.3 Fostering a Team Player Attitude Over Process Dependency

This incident was a valuable learning tool, enhancing professional and personal growth.

Firstly, I understood that individual actions can have great collective implications, ultimately, affecting the effectiveness of a whole team. In my view, as long as the main goal behind one's actions entails maximizing the team's welfare, one can be considered a team player. It was not the case. Behind my instinct to alert for processes was what Patrick Lencioni (2002) identifies as a dysfunction: inattention to results, triggered by an egocentric behavior. Indeed, finding a way to work that would be compatible with my personality traits and cognitive style seemed more pressing to me than reaching any collective goal. After all, I prioritized myself at the expense of the whole team, a behavior that demonstrates a focus on individual ego, incompatible with the one of a team player.

Instead of being concerned with establishing processes so that harmony was achieved, I should have, for instance, realized that what means harmony to me could mean confusion for a less methodical person. Taking into consideration that my team was composed of people with very different personality traits, for instance, would be crucial for making a proper team decision. As for my future, I will certainly take it as an input for every decision.

To summarize, if I were to direct the team's focus somewhere, it should have been to build resilience as a team rather than satisfying an individual need of mine.

A certain degree of social awareness allowed me to rapidly understand the negative effects of my actions, which I take as a strength. Being socially aware of the consequences of my decisions enhanced in me a change of behavior. I became more flexible and empowered to adopt a team player mindset. This time, I was able to act on behalf of the team's welfare, by giving constructive feedback, whose effectiveness convinced me of its usefulness in both my professional and personal life.

2. Critical Incident #2: The power of vulnerability

2.1 What happened?

Managing a business implies engaging in consecutive decision-making and BiP was no different. As the HR director, every time I was faced with a decision particularly concerning HR, I would engage every member in the decision-making process. First, I would share the unique information I had access to with my colleagues and then try to get some input from them. After considering their perspectives, I would make a decision and explain to them the rationale, in search for their understanding and consequent approval.

One day, I was following the process mentioned above, when a colleague of mine interrupted: "Ana, feel free to take those more specific decisions on your own. We trust you". From that point onwards, my attitude toward decision-making changed. Another turning point that would shape my mind as a team player.

2.2 A closer look

2.2.1 The need for approval

At first glance, valuing every team member's input when making decisions can be seen as a diplomatic attitude. Considering that my color energy is green, this comes as no surprise. According to The Colour Works, individuals with green energy prioritize ensuring all

individual perspectives are considered when making choices, having as a primary focus maintaining harmony.

Delving further, the manifestation of social approval may serve as a veil for underlying feelings of insecurity. The search for validation may indeed reflect a lack of confidence in my capabilities, evidenced by the fact that my peers evaluated me better than myself in every criterion of the peer assessment (Appendix 14).

Upon deeper analysis, the desire for approval is primarily rooted in the need for invulnerability, rather than being a result of my diplomatic tendencies or insecurity. I perceived my team's members as highly qualified individuals, which, aligned with the high expectations we all shared for our performance, reduced my willingness to fail and so, to commit to any decision without approval. In my view, failing to make a "good" decision could have detrimental effects on our overall performance, so I would avoid it at all costs, by gathering as many perspectives as I could on the topic.

Moreover, seeking the consent of each team member before arriving at a decision would remove a significant burden from me, hindering accountability.

2.2.2 One Decision, Many Implications

As previously stated, considering each team member's perspective when making decisions could be viewed as advantageous to team performance since shared knowledge is fundamental to successful collaboration (Martine Haas and Mortensen 2016).

Nevertheless, a decision-making process that entails hearing every member of a team composed of seven people can be considered of low effectiveness.

But more than wasting our limited time, my fear of failure ended up preventing the whole team from learning, crucial to the team's performance. As was concluded before, my fear of failure hindered my ability to make decisions independently, making me seek approval to

guarantee I made the “right” decision. However, I came to realize that there is no such thing as a “right decision”. In fact, it is when we encounter failure that we learn, which can positively impact team performance, as demonstrated by Edmondson’s (1999) research.

2.3.3 A Turning Point

The constructive feedback I was given produced a change in my behavior, which I take as positive. After reflecting upon what I was told, I took two main conclusions that fostered the adoption of a different attitude. Firstly, I understood that my method of decision-making was not perceived as efficient by my colleagues. And, more importantly, I realized I was surrounded by a supportive climate, which empowered me to commit to my own decisions.

2.4 Embracing Vulnerability, Feedback, and Accountability for Growth

This incident improved my self-awareness and, consequently, my emotional intelligence in numerous ways. To begin with, I became aware of how being open to vulnerability is crucial for improving performance. Ironically, my eagerness to contribute positively to the team ultimately hindered its potential, as I was not aware of the power of making mistakes. In fact, it is through the discussion of errors that a team can learn and, consequently, improve. Moreover, engaging in this learning behavior is particularly important for teams facing uncertainty (Edmondson 1999), which was certainly our case.

Furthermore, being open to receiving feedback proved fundamental not only in improving self-awareness but also in developing “team awareness”. My colleague’s words were essential for me to conclude I was surrounded by an environment where trust was a central value, enabling me to feel psychologically safe and so, more willing to take risks (Edmondson 1999).

Finally, this incident showed me the importance of being willing to face the consequences of my decisions. Every decision carries its own set of repercussions, and it is not always feasible

to foresee how every variable at play will behave. Consequently, one must acknowledge and accept the accountability entailed in every decision-making process, embracing the potential outcomes as a valuable learning opportunity.

3. Final remarks

These two critical incidents, along with many other experiences BIP exposed me to, allowed me to gain a better understanding of my strengths while enabling me to work on my weaknesses. I was able to build on my emotional intelligence, enhancing my ability to contribute to a diverse team and fostering my growth as an individual.

In a nutshell, the first incident contributed to my understanding of the adverse consequences of adopting self-centered behavior while working in a team. This, in turn, was instrumental in transforming my perspective towards one of a team player, whose mindset involves prioritizing team objectives and contributing to the creation of psychological safety, critical to teamwork, more than anything else (Charles 2016).

The second incident made me aware of my fear of vulnerability, whose negative implications motivated me to overcome it. Additionally, it showed me the importance of being open to constructive feedback, a tool that enhanced my understanding of myself and others.

Upon reflection, this simulation has proved to be a transformative experience, not only providing valuable business insights but also fostering personal growth. Within this dynamic and challenging environment, I have come to understand that success is not solely determined by individual performance but hinged greatly on the ability to collaborate, communicate, and function effectively within a team.

References

- Ajanovic, Amela. 2015. "The Future of Electric Vehicles: Prospects and Impediments." *Wiley Interdisciplinary Reviews: Energy and Environment* 4 (6): 521–36.
<https://doi.org/10.1002/wene.160>.
- Barney, Jay. 1991. "Firm Resources and Sustained Competitive Advantage." *Journal of Management* 17 (1): 99–120. <https://doi.org/10.1177/014920639101700108>.
- Bowen, David E., and Cheri Ostroff. 2004. "Understanding HRM–Firm Performance Linkages: The Role of the 'Strength' of the HRM System." *Academy of Management Review* 29 (2): 203–21. <https://doi.org/10.5465/amr.2004.12736076>.
- Boyles, Michael. 2022. "What Is Business Strategy and Why Is It Important?" Harvard Business School Online. October 2022.
- Brandon, David P., and Andrea B. Hollingshead. 2004. "Transactive Memory Systems in Organizations: Matching Tasks, Expertise, and People." *Organization Science* 15 (6): 633–44. <https://doi.org/10.1287/orsc.1040.0069>.
- Buttinger, Lydia. 2023. "Diversity, Equity and Inclusion: Strategies for Success." *Journal of Securities Operations & Custody* .
<https://research.ebsco.com/linkprocessor/plink?id=5318a3ce-add4-3885-ba52-9feb4159cec2>.
- Campos e Cunha, Rita, and Miguel Pina E. Cunha. 2004. "Impact of Strategy, HRM Strength and HRM Bundles on Innovation Performance and Organizational Performance." *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.882464>.

- Charles, Duhigg. 2016. "What Google Learned From Its Quest to Build the Perfect Team." *The New York Times Magazine*.
- Dixon-Fyle, Sundiatu, Vivian Hunt, Kevin Dolan, and Sara Prince. 2020. "Diversity Wins: How Inclusion Matters." <https://www.nytimes.com/2020/03/31/us/equal-pay-coronavirus-economic-impact.html>.
- Edmondson, Amy. 1999. "Psychological Safety and Learning Behavior in Work Teams." *Administrative Science Quarterly* 44 (2): 350–83. <https://doi.org/10.2307/2666999>.
- El-Khalil, Raed, and Zainab Darwish. 2019. "Flexible Manufacturing Systems Performance in U.S. Automotive Manufacturing Plants: A Case Study." *Production Planning and Control* 30 (1): 48–59. <https://doi.org/10.1080/09537287.2018.1520318>.
- Gao, Paul, Hans-Werner Kaas, Detlev Mohr, and Dominik Wee. 2016. "Automotive Revolution-Perspective towards 2030."
- Hackman, Richard. 2002. *Leading Teams: Setting the Stage for Great Performances*. Boston: Harvard Business Press.
- Hausman, Warren H., David B. Montgomery, and Aleda V. Roth. 2002. "Why Should Marketing and Manufacturing Work Together? Some Exploratory Empirical Results." *Journal of Operations Management* 20 (3): 241–57. [https://doi.org/10.1016/S0272-6963\(02\)00010-4](https://doi.org/10.1016/S0272-6963(02)00010-4).
- Hayes, Robert H, and Gary P Pisano. 1994. "Beyond World-Class: The New Manufacturing Strategy." *Harvard Business Review* . <https://hbr.org/1994/01/beyond-world-class-the-new-manufacturing-strategy>.

Heineke, Kersten, Nicholas Laverty, Timo Möller, and Felix Ziegler. 2023. "The Future of Mobility."

Huselid, Mark A., Susan E. Jackson, and Randall S. Schuler. 1997. "Technical and Strategic Human Resources Management Effectiveness as Determinants of Firm Performance." *Academy of Management Journal* 40 (1): 171–88.
<https://doi.org/10.5465/257025>.

Jiang, Lingjun, Angela Ferguson, Jaclyn Yeo, and Bailey Rob. 2020. "ESG as a Workforce Strategy Part I: Overview and Results."
<https://www.marshmcclennan.com/insights/publications/2020/may/esg-as-a-workforce-strategy.html>.

Kuo, Yen-Ku, Tariq Iqbal Khan, Shuja Ul Islam, Fakhru Zaman Abdullah, Mahir Pradana, and Rudsada Kaewsang-on. 2022. "Impact of Green HRM Practices on Environmental Performance: The Mediating Role of Green Innovation." *Frontiers in Psychology* 13 (June). <https://doi.org/10.3389/fpsyg.2022.916723>.

Martine Haas, BY, and Mark Mortensen. 2016. "The Secrets of Great Teamwork." *Harvard Business Review*.

Neil, Winton. 2019. "U.S./China Tariff War Will Lose Auto Industry Sales Worth \$770 Billion: Report." *Forbes*, October 2019.
<https://www.forbes.com/sites/neilwinton/2019/10/03/uschina-tariff-war-will-lose-auto-industry-sales-worth-770-billion-report/?sh=5b2a3a7c25e4>.

Papke-Shields, Karen E., and Manoj K. Malhotra. 2001. "Assessing the Impact of the Manufacturing Executive's Role on Business Performance through Strategic

- Alignment." *Journal of Operations Management* 19 (1): 5–22.
[https://doi.org/10.1016/S0272-6963\(00\)00050-4](https://doi.org/10.1016/S0272-6963(00)00050-4).
- Patrick, Lencioni. 2002. *The Five Dysfunctions of a Team*. Jossey-Bass.
- Pfeffer, Jeffrey. 1995. "Producing Sustainable Competitive Advantage through the Effective Management of People." *Academy of Management Perspectives* 9 (1): 55–69. <https://doi.org/10.5465/ame.1995.9503133495>.
- Porter, Michael. 1996. "What Is Strategy?" *Harvard Business Review*.
- Proff, Heike. 2000. "Hybrid Strategies as a Strategic Challenge — the Case of the German Automotive Industry." *Omega* 28 (5): 541–53. [https://doi.org/10.1016/S0305-0483\(00\)00018-9](https://doi.org/10.1016/S0305-0483(00)00018-9).
- Salavou, Helen E. 2015. "Competitive Strategies and Their Shift to the Future." *European Business Review* 27 (1): 80–99. <https://doi.org/10.1108/EBR-04-2013-0073>.
- Schuler, Randall S., and Susan E. Jackson. 1987. "Linking Competitive Strategies with Human Resource Management Practices." *Academy of Management Perspectives* 1 (3): 207–19. <https://doi.org/10.5465/ame.1987.4275740>.
- Simms, C., and P. Trott. 2007. "An Analysis of the Repositioning of the 'BMW Mini' Brand." *Journal of Product & Brand Management* 16 (5): 297–309.
<https://doi.org/10.1108/10610420710779591>.
- Skinner, Wickham. 1969. "Manufacturing - Missing Link in Corporate Strategy." *Harvard Business Review*, May 1969.

- Slack, Nigel, Alistair Brandon-Jones, and Robert Johnston. 2014. *Operations Management*. 7th ed. Pearson. www.pearson-books.com.
- Smit, Sven, Michael Chui, Chris Bradley, Mekala Krishnan, Kweilin Ellingrud, Anu Madgavkar, Marco Piccitto, et al. 2023. "Performance through People: Transforming Human Capital into Competitive Advantage." *McKinsey Global Institute*, February. www.mckinsey.com/mgi.
- The Colour Works. n.d. "Insights Discovery Colour Energies: A Beginners Guide."
- Wegner, Daniel M. 1896. "Transactive Memory: A Contemporary Analysis of the Group Mind."
- Wheelwright, Steven C. 1978. "Reflecting Corporate Strategy in Manufacturing Decisions." *Business Horizons* 21 (1): 57–66. [https://doi.org/10.1016/0007-6813\(78\)90032-0](https://doi.org/10.1016/0007-6813(78)90032-0).
- Woolley, Anita Williams. 2009. "Means vs. Ends: Implications of Process and Outcome Focus for Team Adaptation and Performance." *Organization Science* 20 (3): 500–515. <https://doi.org/10.1287/orsc.1080.0382>.
- Wright, Patrick M., Gary C. McMahan, and Abigail McWilliams. 1994. "Human Resources and Sustained Competitive Advantage: A Resource-Based Perspective." *The International Journal of Human Resource Management* 5 (2): 301–26. <https://doi.org/10.1080/095851994000000020>.
- Xu, Jian, and Xiaoming Liu. 2018. "Technology Is Changing What a Premium Automotive Brand Looks Like." *Harvard Business Review*, May.

Appendix

Political	Economic	Social	Technological
The significant contribution of the transportation sector to global greenhouse gas emissions is pressuring regional and national governments to implement measures that curb private-vehicle use (Heineke et al. 2023).	The rise of the global consumer middle class, particularly in emerging economies, presents as an opportunity to expand car manufacturers' sales (Heineke et al. 2023).	The growing popularity of shared mobility solutions, such as car sharing and e-hailing, is contributing to the declining importance of private car ownership (Heineke et al. 2023).	The advancements in autonomous driving and connectivity are transforming automobiles into intelligent devices, where the value of software has become more significant than hardware (Gao et al. 2016).
A crescent number of governments are adopting policies to promote the use of electric vehicles, from non-monetary initiatives to economic incentives (Ajanovic 2015).	The trade war between US and China greatly affects the import/export of vehicles and their components (Neil 2019).	Raising consumer preferences for more sustainable products is at the core of shifting transportation habits to greener ones, such as electric vehicles (Heineke et al. 2023).	As deployment and technological advancements continue, the cost of batteries for electric vehicles is decreasing, leading to increased cost-competitiveness for electric vehicles (Gao et al. 2016).

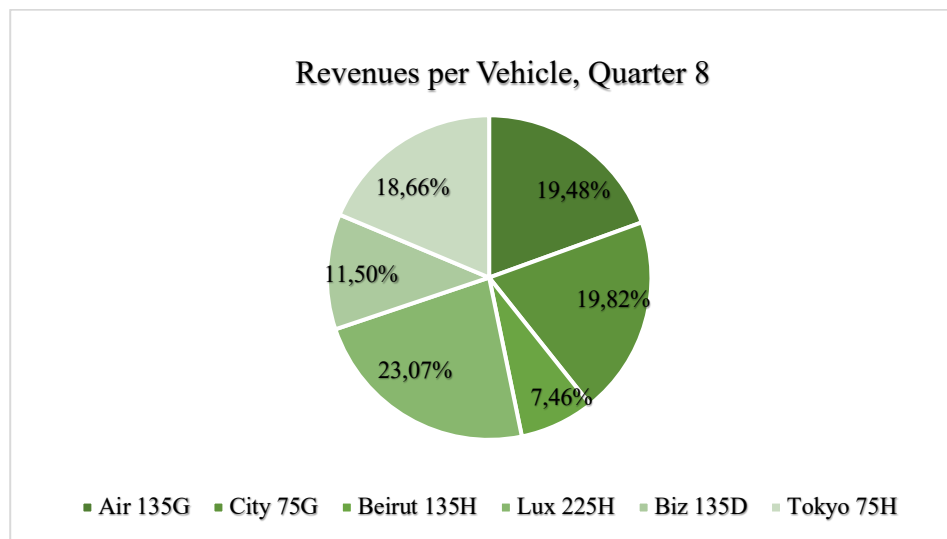
Appendix 1: PEST analysis; Source: Own Illustration

Quarter	Average CO2 allowance per car sold	Emissions premium per gram CO2 above allowance
4	95g/mile	\$60
8	90g/mile	\$60
12	85g/mile	\$100
15	70g/mile	\$100

Appendix 2: CO2 Emissions' Premiums in US\$; Source: Own Illustration – Data from BiP Industry Master's Simulation. 2023

Investment	Quarter	Area	Amount (in M)
E-Drive Modules	4	Eletrification	\$600,00
Connectivity Technology	4	Connectivity	\$250,00
Automated Parking	5	Autonomous Driving	\$500,00
Home charging stations	7	Eletrification	\$300,00
Infotainment Services	8	Connectivity	\$160,00
Driver Assistance	8	Autonomous Driving	\$250,00
High Power Charging (HP)	9	Eletrification	\$200,00
Cloud Connection	10	Autonomous Driving	\$300,00
Big Data	10	Connectivity	\$150,00
Secure Infrastructure	14	Autonomous Driving	\$400,00
Total			\$3 110,00

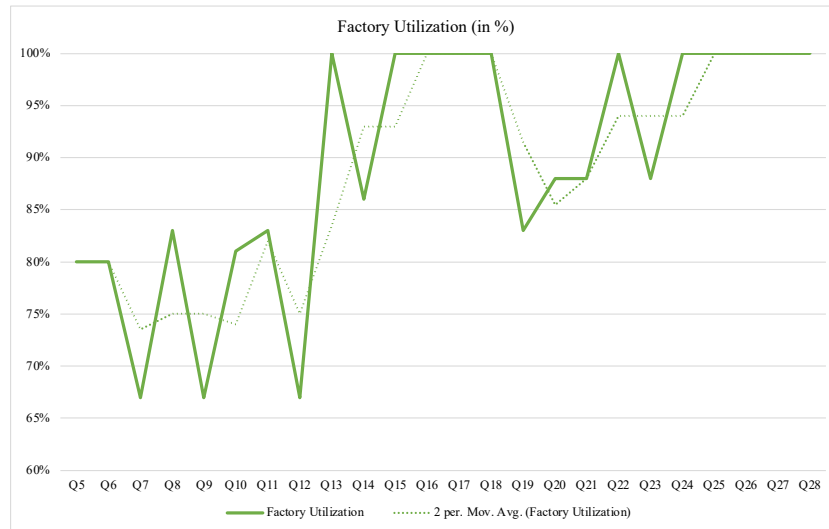
Appendix 3: Innovation's Investments in US\$ Millions; Source: Own Illustration – Data from BiP Industry Master's Simulation. 2023



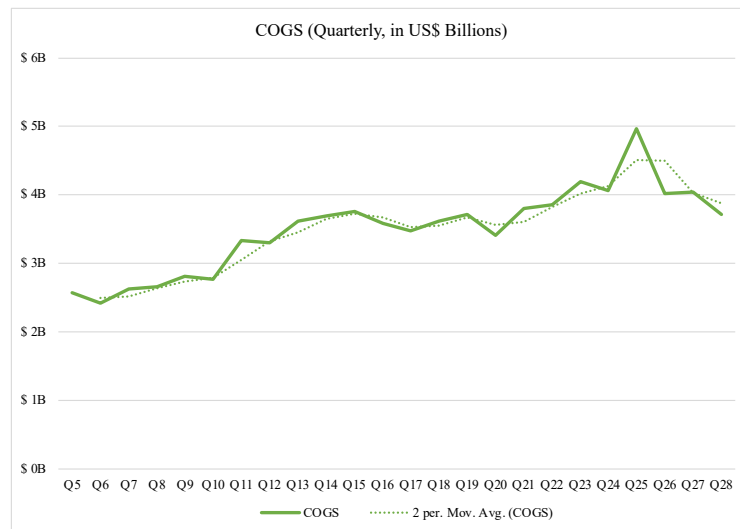
Appendix 4: Revenues per Vehicle, Quarter 8; Source: Own Illustration – Data from BiP Industry Master's Simulation. 2023

Investment	Scope	Quarter	Amount (in M)
Water Consumption Reduction	Production (Scope 1)	5	\$200,00
Energy Efficiency Investment	Energy (Scope 2)	5	\$150,00
Offset Suppliers CO2 (monthly payment)	Supply Chain (Scope 3)	5	\$15,53
Choose Sustainable Supplier	Supply Chain (Scope 3)	5	\$10,00
Waste Reduction	Production (Scope 1)	7	\$400,00
Install Solar Panels	Energy (Scope 2)	7	\$250,00
Co-Invest with Supplier	Supply chain (Scope 3)	7	\$50,00
ISO14001/ EMAS certificates	Production (Scope 1)	9	\$500,00
Energy Management System	Energy (Scope 2)	9	\$10,00
Total			\$1 585,53

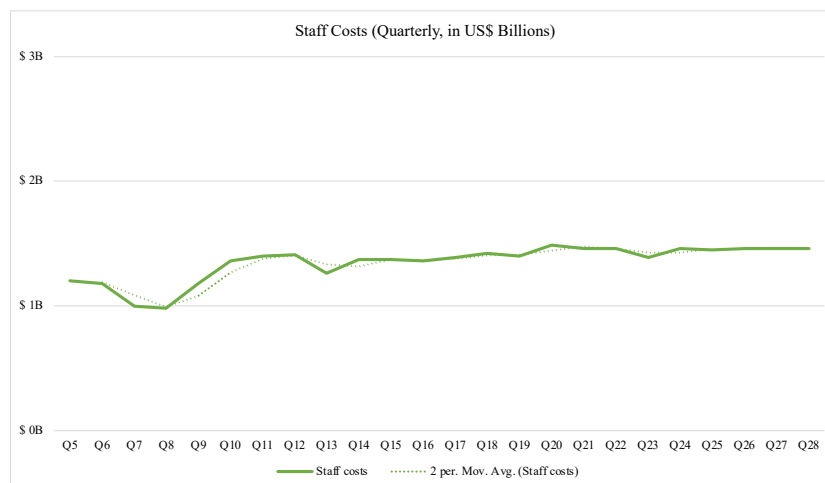
Appendix 5: Operations' Investments in US\$ Millions; Source: Own Illustration – Data from BiP Industry Master's Simulation. 2023



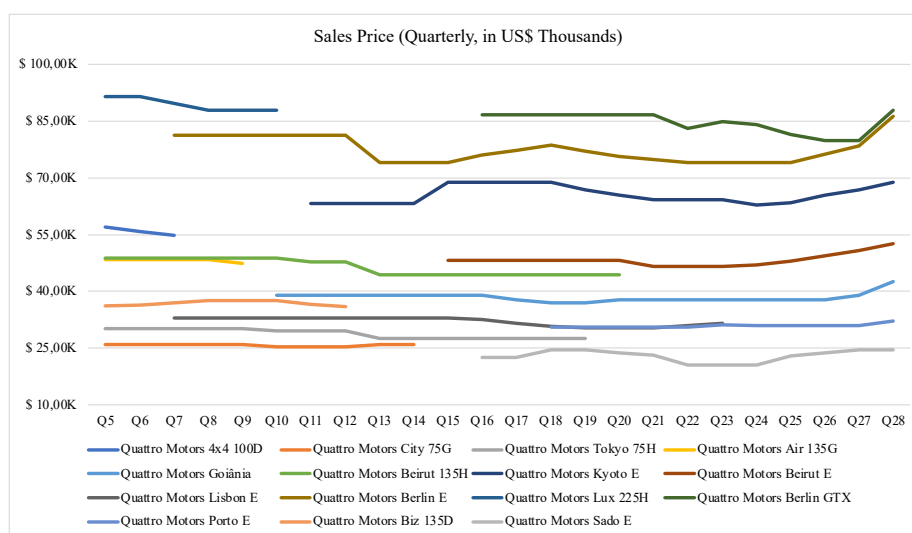
Appendix 6: Factory Utilization, in %; Source: Own Illustration – Data from BiP Industry Master's Simulation. 2023



Appendix 7: COGS, Quarterly, in US\$ Billions; Source: Own Illustration – Data from BiP Industry Master's Simulation. 2023



Appendix 8: Staff Costs, Quarterly, in US\$ Billions; Source: Own Illustration – Data from BiP Industry Master’s Simulation. 2023



Appendix 9: Sales Price per Vehicle, Quarterly, in US\$ Thousands; Source: Own Illustration – Data from BiP Industry Master’s Simulation. 2023



Appendix 10: Quattro Motors' ESG Report; Source: Own (team) Illustration

Investment	Quarter	Amount (in M)
Create Sustainability Policy	5	\$10,00
Sustainability Policy Training	7	\$15,00
Sustainability Awareness Training	9	\$15,00
Total		\$40,00

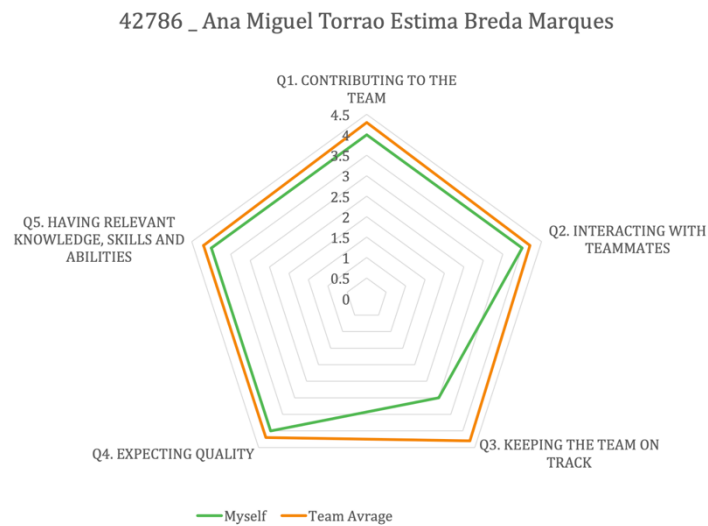
Appendix 11: Investments in Sustainability Training, in US\$ Millions; Source: Own Illustration – Data from BiP Industry Master's Simulation. 2023



Appendix 12: Employee Satisfaction, in %; Source: Own Illustration – Data from BiP Industry Master's Simulation. 2023

1.	91.30	Humba Motors (Team 14029 12) [Rodada 1/1, tick 84]
2.	92.00	Zeno (Team 14029 11) [Rodada 1/1, tick 84]
3.	92.60	Curro cars (Team 14029 1) [Rodada 1/1, tick 84]
4.	92.80	Zen Motors (Team 14029 2) [Rodada 1/1, tick 84]
5.	95.80	Volta (Team 14029 5) [Rodada 1/1, tick 84]
6.	97.60	Quattro Motors (Team 14029 4) [Rodada 1/1, tick 84]
7.	98.60	Enigma Motors (Team 14029 9) [Rodada 1/1, tick 84]
8.	99.50	8Tron (Team 14029 8) [Rodada 1/1, tick 84]
9.	99.60	Leaf Tech (Team 14029 6) [Rodada 1/1, tick 84]
10.	99.80	Car Cavelos (Team 14029 10) [Rodada 1/1, tick 84]

Appendix 13: Quattro Motors' Relative Position in Employee Satisfaction; Source: Data from BiP Industry Master's Simulation. 2023



Appendix 14: Self and Peer Assessment