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THE GREEN ROAD: ZENMOTORS' TRANSITION TO ELECTRIC AND PERSONAL
REFLECTIONS FROM A BUSINESS SIMULATION

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Abstract

This paper delves into the journey of ZenMotors, a fictional automotive company, as it navigates its path toward electric mobility within the context of the Business in Practice Simulation. Divided into two parts, it first provides an analysis of the company, illuminating how market changes influence strategic decisions, innovation trajectories, and financial management.

It is followed by a personal introspection of my role within the simulation team through the analysis of two critical incidents. These center around the experience of receiving feedback, underscoring the importance of constructive criticism, and the concept of shared leadership to achieve dynamic collaboration.

Keywords

Business in Practice; Business Simulation; Reflective Practice; Sustainable Growth; ESG

Integration; Automotive Industry; Vehicle Electrification; Cross-Functional Decision Making;

Innovation; Firm Analysis

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Firm Analysis

Introduction

A Look into the Automotive Industry

The Automotive Industry is undergoing a rapid change towards electric vehicles (EVs) as the shift towards cleaner energy solutions continues. Simultaneously, we are seeing governments tighten environmental regulations regarding emissions and establish policies to encourage acquisition and use of EVs. Facing this, companies are quickly making plans to transition by launching new electric models but also electrified versions of their current combustion vehicles. Based on data from the Statista Market Insights (2023), revenues in the EVs market are expected to reach US\$ 906 billion by 2028, with China being projected to generate the highest revenue.

While some companies, such as BMW, have outlined plans to transition to electric by 2030, the sale of combustion vehicles will continue in certain markets. On the other hand, there are firms like Bentley that are more aggressively pursuing an all-electric future. By that same year, it plans to have only EVs available, even though some hybrid models are expected to be developed along the way.

ZenMotors: An Introduction to the Company

In the simulation, the team was assigned the role of managing a fictional automotive company named ZenMotors (ZM), an international player in the automobile industry. It started by producing only combustion vehicles in a range of categories, from compact to luxury. Our executive team set a goal for the six-year period of the simulation to define a clearer segment for the company and rapidly change to the production of electric cars.

In this section, a more in-depth look at the company will be presented, focusing first on the strategy adopted by the team, including its purpose, mission, and values, as well as a reflection on the many adjustments made to it along the way. Afterwards, the two

departments of Innovation and Finance will be further explored.

Strategy

“Every organization has a strategy: Its strategy is what it does” (Martin, Roger L., 2014).

This quote suggests that strategy is not merely a set of plans, but rather a reflection of the actual actions and decisions made by an organization. In other words, a company’s strategy is revealed through what it prioritizes, invests in, and executes. Consequently, there is a dynamic and ever-evolving nature to it, developing as the organization responds to internal and external factors.

Assessing ZenMotors’ Position: A SWOT Analysis Approach

Before reflecting on the strategy adopted by the team, it is important to reflect on the company's internal capabilities and external market dynamics. In order to do this, a SWOT analysis will be performed, since for many years it has been an essential tool to evaluate companies positioning in the market, being widely used to analyze both internal and external environments during times of indecision (Benzaghta, M.A. et al., 2021).

This analysis will be based on the state of the company at the start of the simulation:

Strengths	Weaknesses
• Diversified portfolio: range of car models across different categories catering to different customer preferences and needs. • Worldwide presence: large customer base. • Good sales on some models: City 75G and Air 135G with low days of inventory (DOI=30 days).	• Inefficiencies in inventory management: three car model lines with high DOI due to a mix of excessive production and slow sales. • Challenges in terms of innovation and preparation for emerging sustainability standards. • Lack of specialization and expertise in a particular category.
Opportunities	Threats
• Growth: industry expected to be predominantly driven by electric cars. • Green investments: incentive to prioritize sustainable projects.	• Introduction of stricter environmental-related regulations. • Changes in trade policy such as tariffs.

Table 1: ZM SWOT Analysis at Q4

Purpose, Vision, and Values: A Focus on Corporate Social Responsibility

ZM recognized the broader social and environmental impact of its operations, prioritizing Corporate Social Responsibility (CSR). It embraced an approach in line with the principles outlined by the United Nations Industrial Development Organization (UNIDO), that describes CSR as “the way through which a company achieves a balance of economic, environmental and social imperatives while at the same time addressing the expectations of shareholders and stakeholders”. Accordingly, the company established its purpose as redefining the future of mobility through sustainable innovation, making transportation cleaner and greener for a better world. It had a strong vision of making green mobility the standard, by aiming to accelerate the widespread adoption of EV in communities globally. Accordingly, and in parallel to the effort put into the development of the cars, ZM heavily invested in sustainability training for its staff and actively pursued green investments, allocating resources to environmentally friendly projects as soon as they became available, further embracing CSR principles.

Driving Innovation: Technology Push

According to Michael Porter (1996), strategy involves creating a distinctive and valuable position in the market through a unique set of activities. It means standing out from competitors and offering something of value to customers, with the goal of achieving a competitive advantage. Based on the SWOT analysis conducted, there were several strategic options for the company to achieve its ambitious goals. Recognizing the need for a swift transition to fully electric vehicles, the company made the strategic decision to prioritize the development and launch of electric cars, skipping the introduction of hybrid models. This approach allowed ZM to position itself as an early mover in the market, particularly in the Executive and Convertible EV categories, by launching both the ZEN BIZ-E and ZEN AIR-E, effectively filling market gaps (Table 2).

This strategy shares similarities with Tesla's approach, particularly in terms of introducing a unique vehicle as their first car, the Roadster. Both ZM and Tesla's first EV consisted of a convertible vehicle, proving that cars can both be environmentally friendly but also exciting and high performing. A Technology-Push approach was taken since both companies developed products driven by their belief in the potential of the emerging technologies, even if customer demand was not yet fully apparent. There were several risks associated since there was high uncertainty regarding market acceptance and the new technologies required substantial changes in infrastructure.

Understanding the challenge of selling expensive electric cars in a market where combustion engine vehicles were still preferred by customers, the company made significant investments in marketing in order to build a strong brand identity and to differentiate itself.

Reframing the Strategy

Even though ZM's plan was to charge high prices and establish a premium brand, the pricing strategy ended up undercutting conventional cars to incentivize the switch to electric mobility and sell more. However, reflecting on this approach in retrospect, the first-mover advantage might have been diminished by this, since a more innovative product was being sold at too low of a price compared to some of the competitors.

In order to continuously capture value, a company must persistently adapt its strategy implementation, making the necessary adjustments to its operations and developing new capabilities in response to changes in the external environment (Collis, David J., 2021). Consequently, in light of this issue, a strategic shift was made later in the simulation. The company decided to launch more affordable EVs that were technologically more advanced compared to existing offerings in the market, maintaining a premium brand image.

Interestingly, this revised strategy also shares similarities with Tesla's approach. In 2011, its CEO Elon Musk expressed that their first car was "just the beginning", and their goal was

to leverage the technology developed to create more affordable electric vehicles accessible to the masses. This parallels the company's decision to introduce cheaper EVs that still boasted advanced features making electric mobility more accessible.

Innovation

Product innovation is widely recognized as crucial for achieving sustained business success in the long term (Troy et al., 2001), and the dynamic global environment is leading organizations and businesses to constantly pursue the most efficient models to maximize their efforts in innovation management (Christiansen, 2000). The technology-driven automotive industry particularly relies on technological breakthroughs. Consequently, and as O'Reilly and Tuschman (2004) put it, it is essential for a company like ZM, navigating the transition into the EV market, to continue running existing processes smoothly while simultaneously stimulate creativity and innovation, ensuring sustained success.

A New Market and Innovation Focus

Before commencing the production of the first EV, the innovation department had to make a choice between Solid-State and Lithium iron phosphate (LFP) batteries. This choice has also had to be made by real car manufacturers: Tesla, for instance, has chosen to pursue LFP batteries which are known for their stability, fast charging rates, and overall lower production costs, by using more abundant raw materials. On the other end, Toyota has recently achieved a significant breakthrough in the development of solid-state batteries by drastically cutting the production processes to make them, addressing one of the primary challenges of the technology, its price (Zlatev, 2023). This is in line with the information given in the simulation, as solid-state batteries - although having a larger lifespan and being safer - required more investment in innovation. In the end, ZM opted for solid-state batteries, believing in the future of this technology.

Based on ZM's previously discussed strategy, the product launches were divided into

different phases: firstly, at Q7, the development of two unique electric car models that were not yet available on the market, aiming at establishing the brand as an early mover in the EV segment. Alongside this, and in order to discontinue as quickly as possible the conventional cars, the company had made all the possible investments related to innovation by the end of the second year , leaving behind only Cross-Platform Technology and Secure Infrastructure, with still one quarter left to be completely implemented at that time.

As shown in Figure 1, these initial investments in R&D amounted to 1,485M and 1,225M in years 1 and 2, respectively, which corresponded to 38% and 23% of the total investments. When considering the launch of the new models, the total innovation investments made in years 1 and 2 of the simulation amount to 5,352M, representing 57,22% of the total.

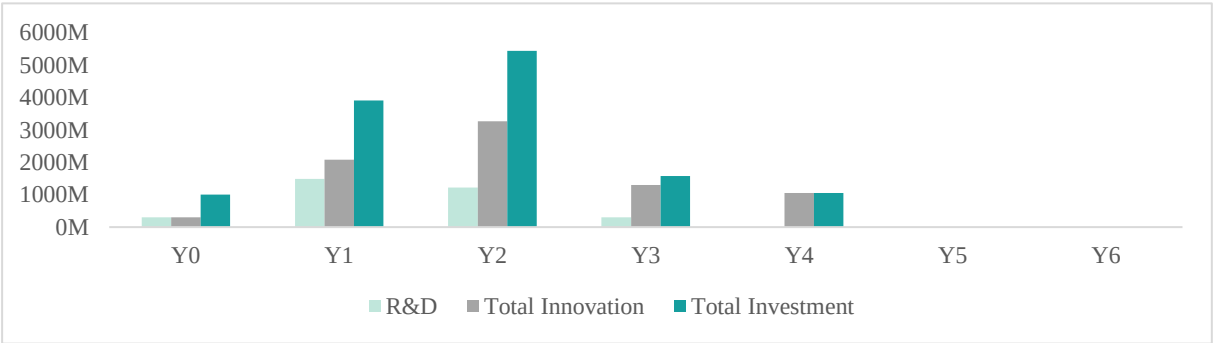


Figure 1: ZM Investments in R&D and Innovation compared to the Total Amount Invested per year in US million \$

With the start of production of the EV, a drastic decrease in the CO2 emissions of the company happened, as one can see from Q9 to Q12 in Figure 2. From Q17 onwards, the company started receiving a bonus, which can represent real life statal incentives, such as the ones granted by the government, further encouraging the transition to green practices.

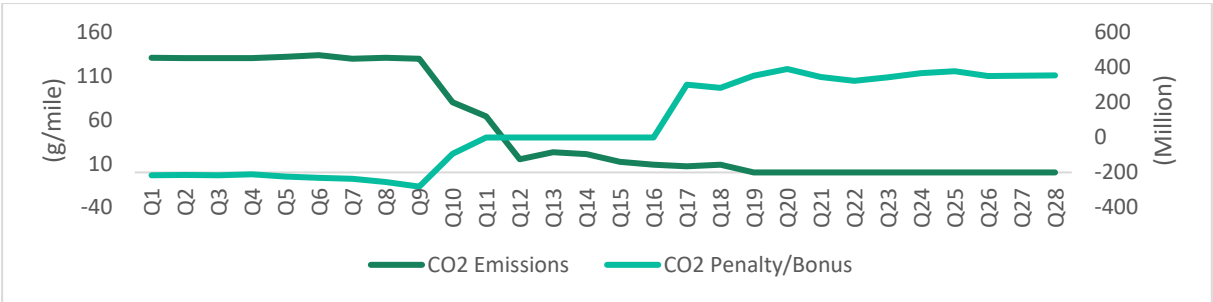


Figure 2: CO2 Emissions in g/mile and correspondent Penalty/Bonus per quarter in US million \$

Establishing Brand Presence in the EV Market

In later years, it became apparent that there might be a need to expand the sales volume and cater to a broader customer base to guarantee the company's growth and success. To achieve this, it was decided it would be good to introduce simpler cars, such as the Compact and Micro Class vehicles, while maintaining a certain level of premium quality associated with the brand. From the outset, our substantial investments in technology, particularly in electrification, connectivity, and autonomous driving, allowed us to develop subsequent car models with innovative features that surpassed the existing offerings in the market. For that reason, in year 3 the company decided to launch the ZEN-CITE, a compact car, alongside the more high-end ZEN-LUX and ZEN-SUV E.

In order to try to maximize its value added in the last two years of the simulation, the company decided to refrain from launching new cars. Instead, in Y3 and Y4, the company focused on diversifying its existing product line, by launching 2 versions of the Micro car, the ZEN-Tiny Tornado and the ZEN-BudgetBullet. The first one became the most technologically advanced product, to date, with higher technology such as maximum Connectivity level and Level II Autonomous Drive. Furthermore, it also developed a new version of the compact car, the ZEN-SIMPLE CITE.

Assessing the Performance

R&D Spending

Figure 3 compares the R&D spending of ZM during the high investment years (Y1 and Y2) to other companies. For the first year, ZM with a value of 8,7%, surpassed General Motors, which devoted 6.25% of its revenue in 2022 to R&D, more than any other of the companies in this analysis. In the second one, although the value was lower (5.5%), it was still on the high end of the spectrum. Companies that are currently investing more in EV are likely to overcome initial challenges sooner than their competitors, allowing them to redirect more

resources towards boosting their profits (McElroy, 2023). That is precisely what ZM intended with its innovation strategy – to overcome the slump before its competitors.

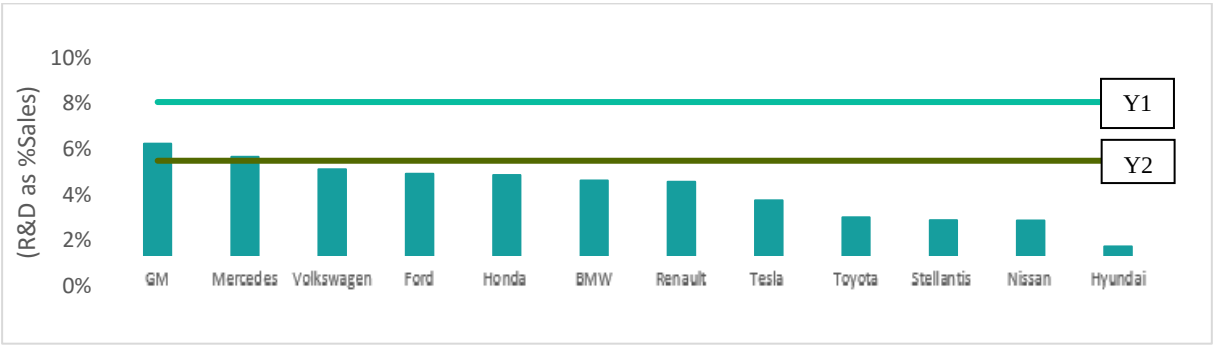


Figure 3: ZM R&D spending as % of Sales compared with real Automotive Companies

Ultimately, due to the change in strategy the company ended up investing in more technology than what was input into the cars. However, the simulation still recognized the value of those investments and they contributed to better sales.

New Car Launches

Examining the performance of the car models requires a close evaluation of their respective launch phases. In Figure 4, the profit contribution of the first two EV models introduced by ZM is depicted. The strategy proved successful as these models allowed the company to capitalize on the revenues generated by two previously non-existent offerings. After reaching the peak in Q13, where the profit margin for BIZ E and AIR E was respectively 24,52% and 26,86%, the value started to decrease as new cars were introduced at that time.

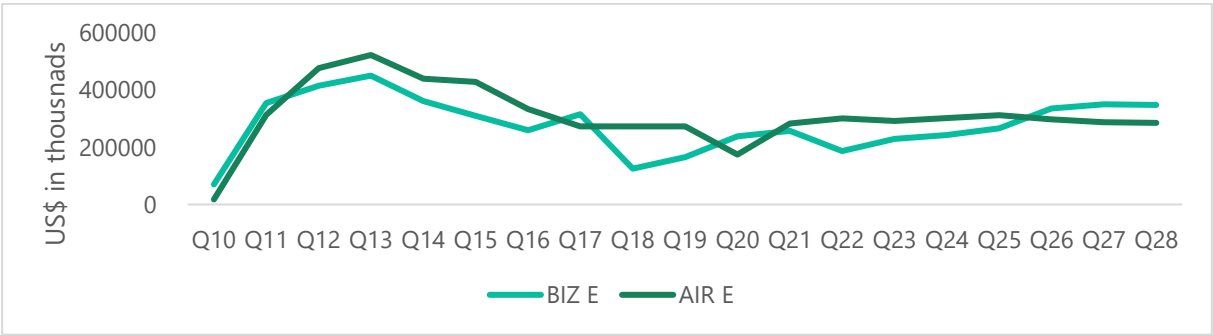


Figure 4: First Car Launch Phase: BIZ E and Air E Profit contribution per quarter in US thousand \$

A pattern can be detected between the first two car launch phases (Figure 5). Each one exhibits a significant increase in profit contribution, followed by a notable decrease upon

the introduction of newer cars, and ending with a more stable phase when the market adjusts to the newer offerings. In the final phase (Figure 6), as there were no new car launches, the drop in profit contribution is less pronounced, and a considerable increase follows. However, it is worth noting that the revenue peak achieved during the introduction of the first EV was never surpassed, which could be attributed to the loss of first-mover advantage for any of the subsequent car models, and as a substantial portion of new car sales shifted towards EV.

Outside of the simulation, and according to Goldman Sachs, the shift to EV will continue to accelerate (Figure 7), and by 2035 about half of new cars sales worldwide will be EV, which suggests that a complete transformation of the automobile industry is inbound.

Finance

Automotive executives have noticed the importance of sustainability efforts which go beyond new cars, and into every step of the operating model. By embracing environmentally conscious financing mechanisms, auto manufacturers demonstrate their dedication to fostering eco-friendly transportation and advancing the adoption of EVs.

A pertinent illustration of this approach is Volvo's strategic move in 2020 when their Green Finance Framework was introduced, "acknowledging that the debt market will play an important role in achieving the goals of the Paris Agreement by channeling funds towards projects that will have profound impact on reducing CO2 emissions", quoting the company's CFO, Jan Ytterberg.

Navigating Sustainable Finance: Green Bonds and Green Financing

From the beginning of the simulation, ZM was confronted with Green Bonds as an alternative to regular debt financing at a lower interest rate of 3%, incentivizing the transition. Furthermore, on Q8, the company had the option to offer Green Financing. At the beginning, ZM decided to go with this option as it helped us enter the EV market,

increasing the demand and incentivizing customers to turn their old cars to be recycled, but ended up stopping at Q14.

Assessing the Performance

Cash Flow Management: To evaluate the firm's efficiency in managing its working capital throughout the different simulation periods it is important to look at different activity ratios (Table 3). In their work, Richards and Laughlin (1980) define the Cash Conversion Cycle (CCC) as the net time span between a company's real cash expenditures for acquiring productive resources and the cash receipts from the sales of products.

Overall, ZM's CCC decreased by 57% to around 53 days, due to lower average holding period which means inventories remained considerably less time in the company before being sold, putting less pressure on the company's liquidity, and an increase in the average payment period, as it took longer for the company to pay back its suppliers.

In order to keep these values under control, at the beginning of each year the Customer Credit and the Supplier Payment terms were discussed. At the start of the simulation, as a large amount of investments were being made, it was important to decrease the first and increase the latter in order to improve the operating cash flow and decrease the CCC, despite this implying a decrease in revenue and increase in material costs.

Liquidity: Liquidity ratios assess the ability of the company to meet its short-term obligations. In ZM's case, they indicate that due to the substantial investments being undertaken, the company's ability to meet obligations did decrease initially, reaching the lowest Current Ratio value of 3.81 in Y2 (Table 4). However, this change in liquidity was not a cause for significant concern, as the company maintained a generally favorable liquidity performance. In fact, it is ideal for a company to maintain moderate liquidity values, as firms with fewer current assets will have problems in continuing their operations while if the current assets are high, it shows the return on investment is not optimal (Horne

and Wachowicz, 2000).

Capital Structure and Cost of Capital: Modigliani and Miller (1958) asserted that in the presence of perfect capital markets, the overall value of a company should remain indifferent to its capital structure. However, in the real world, there are transaction, bankruptcy and agency costs, information is not symmetrical, and companies pay taxes, which complicates this scenario. Therefore, companies need to define an optimal debt level. Considering the industry's estimated value to be approximately 47.3% (Basdekis et al., 2020), when the first EVs started production the leverage levels went above average, reaching a peak of 51% (Figure 8). As investment pace decelerated and no new cars were being developed, the companies' debt ratio went below the industry standard because of the strategic decision of retiring the existing debt, and thereby enhancing the credit rating. Yet, to maintain proximity to the industry average and a more optimal debt position, the company opted to secure new debt at the lower interest rate, which contributed to the subsequent uptick in leverage levels towards the simulation's conclusion.

At Q18, the company decided to start using excess cash to buy back shares, reducing the number of shares outstanding without affecting its reported earnings (Pettit, J., 2001). Shareholders benefited with the increase in ownership percentage as the company's equity base shrunk, and share price was expected to also increase. Both sides of the capital structure adjustments led to a decrease of the Weighted Average Cost of Capital (WACC) throughout the years (Figure 9).

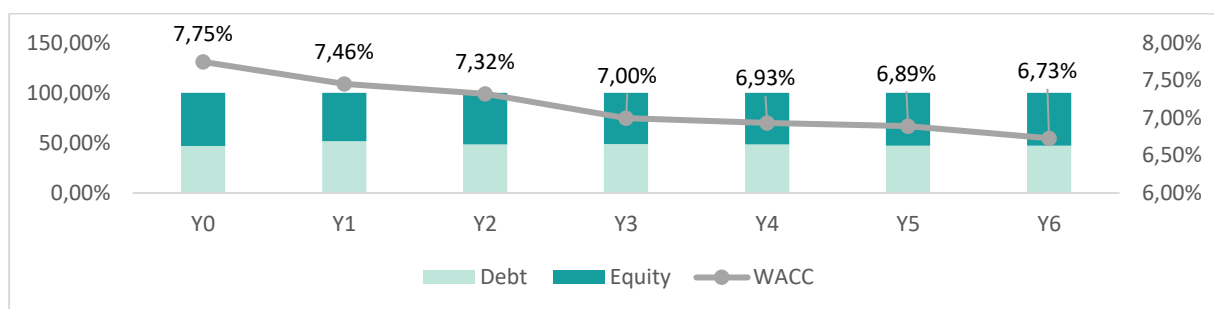


Figure 9: Debt Ratio, Equity Ratio and WACC evolution per year

Evolution of Revenues and Costs: Despite the company experiencing a decrease in revenues after reaching a peak in Y4, its net operating profit managed to continue increasing (Figure 10), which can be explained by a mix of cost reductions made within the human resources department, efficiency improvements in operations, and an increase in prices.

In terms of FCF, it is noteworthy that positive values were only achieved in Y4 (Figure 11), due to the slowdown in investments, indicating that the company became more financially stable, reducing the risk of default and enhancing its credibility.

Profitability: In order to evaluate the company's profits two metrics will be analyzed as shown in Figure 12. Firstly, the Return on Invested Capital (ROIC), which quantifies the returns a company is able to generate from its investments. In the case of ZM, its value was always higher compared to the WACC, ensuring that the company never destroyed value for its investors.

Secondly, the Return on Equity (ROE), which measures the firm's success in generating profits for shareholders. Comparing the company with an industry average of approximately 15% (Damodaran, A., 2023), ZM experienced three years during which its ROE was below this benchmark. In Y6 it had a value of 23.51%, showing that after the transition the company was being efficient in generating profits and returns for its shareholders.

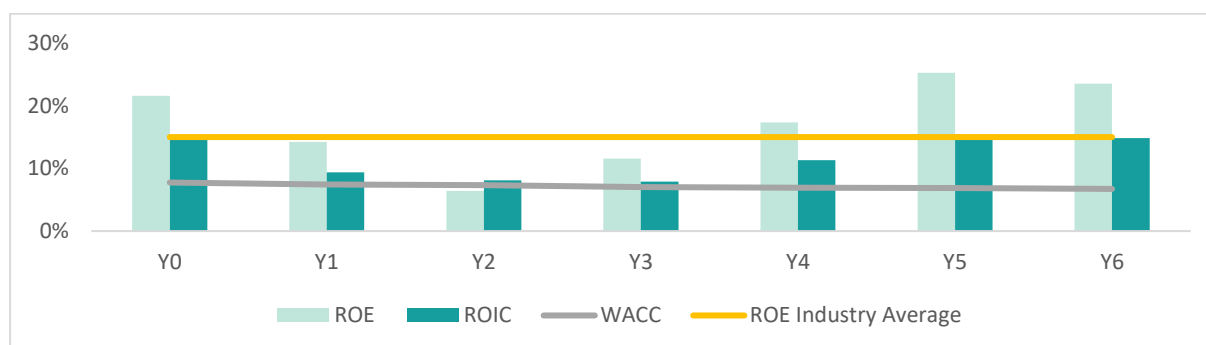


Figure 12: ROE and ROIC comparison with WACC and industry average ROE per year

Value added: The EVA evolution is in line with everything discussed (Figure 13), as seen by the slope when the results were still catching up with the investments made. At Q16 it

was noticeable that even though the Net Assets had increased by 64%, the NOP was lower than in the beginning. However, the company did not have any period where the value added was negative, meaning that the investors were being compensated for the capital they contributed. In the last quarter, it ended up amounting to US\$ 3,204.7M.

In regard to market capitalization, ZM ended up at Q28 with a value of 45,320M, 109% growth from the start of the simulation (Figure 14).

Conclusion

Adapting to Industry Transformations

Amidst a transformative wave in the automotive industry, the simulation immersed the team in the ongoing changes, as it had to lead an established car company through a period of adaptation. This green transition is pivotal for all automotive firms. Accenture's research on responsible leadership underscores this, revealing that companies with strong Environmental, Social e Governance (ESG) ratings enjoyed higher operating margins compared to lower-rated peers. Moreover, shareholders in these top ESG companies also reaped greater returns.

Cross-Functional Collaboration

Undoubtedly, cross-functional collaboration was key to ZM's success. Throughout the course of our analysis, we've observed how diverse departments within the company interacted, often synergizing their efforts to achieve overarching strategic goals.

Strategy permeated every aspect of the organization, serving as a guiding framework that aligned all the different departments. When the strategy was adjusted throughout the simulation, each one needed to reevaluate and adapt, with communication and collaboration being key to facilitate this process.

Innovation was a key driver for the firm's growth and an intricate component of strategic decision-making. It needed to be aligned with the marketing function, as market demands

and trends could not be overstated. As an example, we have the initial launch, that proved successful due to the market analysis carried out by the department.

Inextricably linked to the above is the financial aspect of the business. It is the department that navigates the financial implications of strategic choices, assessing the balance between risk and reward. As the company expanded its investment in technology, the finance department played a pivotal role in determining the feasibility of these ventures. Additionally, numerous investments made in operations carried significant financial implications as they often qualified for Green Bonds, illustrating the reciprocal connection.

ZenMotors Results

ZM's strategic approach, underpinned by a strong commitment to CSR, exemplified the agility that automotive companies must possess to respond effectively to market shifts. Even though it was not the company with the highest value added, it had a good performance, being able to increase its revenues by 53%, having good prospects for the future.

However, upon reflection, the performance could have been even better if certain adjustments had been made. For instance, the pricing strategy should have been more in line with the premium brand image, meaning that there might have been a lack of communication and analysis between the marketing and finance departments.

Furthermore, adopting a less conservative stance in the latter years regarding new car launches could have yielded better results. By introducing another high-end model, higher pricing and elevated margins could have been achieved, contributing to the overall result.

Despite these considerations, ZM ended up winning two prizes, one for Innovation due to the highest cumulative E-Cars units sold, and other for Operations, due to having the highest factory utilization, only possible due to the high involvement of the whole team.

Personal Reflection

Overview

In recent years, there has been a “shift from work organized around individual jobs to team-based work structures” (Kozlowski and Bell, 2010), as organizations evolved and faced increasingly complex challenges, making limitations of singular job-focused work more apparent. In view of this, in today’s world it is of extreme importance that each individual is able to respond effectively to different team dynamics, embracing diversity.

The BIP experience revealed to me the multifaceted nature of teamwork, and how team dynamics is a very complex topic that can be influenced by many factors such as individual personalities, communication styles, and differing perspectives.

Throughout this journey as a team member, I witnessed the power of a cohesive team but also situations of conflict. I especially felt internal conflicts that encouraged me to critically examine the role I played within the team and my contribution to the overall collaborative process, prompting introspection.

In this section I will specifically analyze two incidents that shaped my understanding of personal growth and effective teamwork. The first one is related to receiving feedback and criticism from other members. As I embark on my professional career this reflection is especially important as it opens my eyes to future challenges that I may experience as I start my professional career, and how I should adapt to them. The second one revolves around the concept of shared leadership, and the impact of collaboration and distributing responsibility within a team.

For each one I will start by presenting the specific event that led to the reflection, followed by an analysis of how I reacted and why, how I felt, and then ending with a reflection of how I should have addressed the question, and what will I do in the future if a similar situation arises.

Incident 1: Feedback as a Driver

The incident

The BIP serves as a quick and immersive experience that gives the opportunity for everyone to assess how well they collaborate, communicate, and contribute to the collective goal of the team. Moreover, it also allows the observation of how each member reacts to the actions and behaviors of the others. The response to feedback received can reveal a lot, such as the level of self-awareness, emotional intelligence, and ability to embrace growth.

During the third week of the project a significant event took place as we received the results from both a self-assessment and team assessment, presented in the form of a comprehensive chart. It aimed to provide insights into individual and team performance, highlighting areas of strength and areas for improvement, allowing each member to reflect on their own contribution and evaluate their effectiveness withing the team. The chart served as a visual representation of our performance, outlining key metrics such as “Contribution to the team” and “Having relevant knowledge, skills and abilities” (Figure 15).

To further explore the implications of the assessment results, a team dynamic clinic was conducted with a coach to discuss the team’s performance and address any concerns, working as a free space to openly discuss the team’s strengths and weaknesses. The coach facilitated the discussion, encouraging us to share our perspectives and gain insights into how we evaluated each other.

This reflection will focus on the idea that peer assessment, while offering numerous benefits, can also evoke feelings of vulnerability and create a sense of being under scrutiny, which may stem from various factors, such as fear of judgment, concerns about being compared to others, or a deep-rooted desire to meet expectations.

Relating to some of these feelings, this event carried a significant impact on me due to my emotional response which might have been somewhat disproportionate given the situation.

As Sagan (1980) put it “Where we have strong emotions we’re liable to fool ourselves”. The feedback made me question my own abilities and competence, leading to self-doubt and a sense of inadequacy. However, recognizing that my response was not ideal made this incident even more significant to me, as it served as a wake-up call and motivated me to initiate changes in my behavior and how I interacted within the team, presenting as an opportunity for personal development.

Analysis

Upon review of the assessments, the overall results were not negative, but seemed to confirm some of the worries I had, as I felt I was not up to par in terms of communication with my peers. Comparing myself to others who appeared more expressive and better at projecting a positive image led to some concerns about personal competence and the ability to work effectively in team environments now and in the future.

It was very challenging to process the feedback, so even though the clinic presented a perfect opportunity to further explore my struggles and gain a better understanding of how I could improve, I regretfully did not take full advantage of it, as I felt uncomfortable confronting my own limitations and receive criticism.

Based on the Leading Yourself Workshop we had during the first week, it would be appropriate to further discuss the concept of Emotional Intelligence, described as the “ability, capacity, skill, or self-perceived ability to identify, assess, and manage the emotions of one’s self, of others, and of groups” (Serrat, 2017).

Even though my heightened emotional response may suggest a strong level of self-awareness, as I was able to recognize and react to my own feelings, it also highlighted a lack of self-management, as I was not able to regulate my emotions. This inability is aligned with Daniel Goleman’s (2006) quote of “If you are not able to manage your distressing emotions, if you can’t have empathy and have effective relationships, then no matter how smart you

are, you are not going to get very far”. It emphasizes that while intellectual abilities are valuable, it is essential to recognize and effectively deal with negative emotions, in order to make rational decisions and prevent these emotions from impacting your relationships.

In this case, besides self-management, empathy may also be lacking, as it should not only be seen as the ability to understand other’s feelings, but also be able to share them. In the context of receiving feedback, it enables us to genuinely listen and understand others' viewpoints without becoming defensive or dismissive.

On further thought, I realize that my reaction may be attributed to certain aspects of my personality type. In accordance with the Insights Discovery model discussed during the business skills sessions, individuals with a blue personality type, such as me, can be perceived as overly self-judgmental, constantly striving for perfection. I can strongly relate to the tendency of being overly critical of myself, which is shown with my self-assessment being lower in most aspects than peer assessment. However, the discrepancy in the item of team contribution deepened my feelings of falling short of my own expectations and created a perception of underperformance that did not meet my personal standards. Being introspective and sensitive to perceived shortcomings, this tendency to self-reflect could have also amplified my emotional response, magnifying the significance of the evaluations in my mind.

Learnings

In the days following the feedback, there were still 2 years of the simulation and the ESG report left to be submitted. I made a conscious effort to be more present and not shy away from sharing my opinions, and tried to actively engage with my peers, seeking opportunities to contribute and participate more meaningfully. Rather than being consumed by the fear of making mistakes or being judged I shifted my focus to doing my best even if it was not perfect.

For the last years of the simulation, we had more time for thorough discussions and planning within our respective departments. This also provided a more supportive space to vocalize my thoughts, ensuring that my perspectives were heard by the team.

Reflecting back, I now understand that it is important to remember that every team member has unique strengths and areas for development, including myself. Effective teamwork is not solely reliant on being the most expressive or having superior communication abilities, so rather than focusing on comparisons, it is essential to recognize and build upon individual strengths while actively working on areas that need improvement.

Furthermore, I see the power of constructive feedback as a tool for growth and self-improvement by providing new perspectives, as we must be willing to challenge our existing behaviors even if it is difficult.

Concluding on my previous personality analysis, although there might be some correlations between one's personality types and teamwork, they are not solely dependent on each other, as it is a skill that can be learned and refined over time with practice and dedication. Every opportunity to practice communication skills is key, so as to be prepared when an important incident happens.

Teamwork is a continuous learning process, and as each individual gains more experience and exposure to different team dynamics, it will have ample opportunities to refine its communication skills and contribute effectively to future teams.

Therefore, I realized that it is essential to view this experience as an opportunity for personal growth and improvement, rather than allowing it to define my future and my ability to work effectively with others, as one isolated incident does not determine the trajectory of my entire professional career.

Overall, the experience has taught me the importance of self-reflection and made me committed to making the most of feedback opportunities and guidance from my colleagues.

Incident 2: The Power of Collective Leadership

The incident

Prior to the sales workshop, even before the simulation began, there were instances of miscommunication among the team members. Despite our team's innovative ideas, we encountered challenges in translating those plans into action. There was a tendency among team members to assume that others would take responsibility for implementing the ideas, resulting in a lack of execution, and, as Peter Drucker put it, “Unless a decision has 'degenerated into work', it is not a decision. It is at best a good intention”.

This resulted in a sense of frustration and an impression that not all team members were equally engaged. One team member in particular appeared to assume a leadership role and take on more responsibilities, which created a sense of pressure for them.

Although I may have reservations about the perception that this member was contributing more than anyone else to the team, I recognize that they started to be regarded as the primary leader within the team, due to their confident and assertive personality.

This situation posed a challenge in our shared leadership model that emphasized the distribution of responsibilities and decision-making, promoting equal accountability. As Acar (2010) pointed out, shared leadership marks a significant departure from the traditional concept of a singular, designated leader. Instead, it embraces the concept that team members have the capacity to mutually influence one another and actively partake in shared roles, responsibilities, and functions. In light of this, some changes in our team dynamics needed to be introduced.

This was a pivotal incident for me as I recognized my tendencies to passively follow others rather than taking full ownership of my responsibilities within my group. It made me aware of some areas I needed to improve, particularly in terms of my commitment and sense of accountability.

Analysis

As James Scouller (2011) describes it, leadership is a process, "a series of choices and actions around defining and achieving a goal". Describes it as a four-dimensional process that involves setting a purpose and direction which inspires people to combine and work towards willingly, paying attention to the means, pace and quality of progress towards the aim, upholding group unity, and attending to individual effectiveness throughout. Asserts that by perceiving leadership as a process, the likelihood of seeing "leadership" and "leader" as the same is greatly reduced.

From the same author and according to his Three Levels of Leadership Model, individuals must simultaneously work on three levels: Public, Private and Personal Leadership. The significance of self-mastery, which is the foundation for a person's leadership presence and attitude towards others, is emphasized. Positive changes on a personal level positively impact the two other outer levels, highlighting the importance of individual growth and self-awareness for leadership development.

Reflecting on this, I understood that I needed to embrace personal leadership and actively engage in decision-making processes in order to create a more balanced team environment. In this context, being a leader did not mean assuming a dominant or authoritative role. I did not have to start being harsher or trying to make all the decisions myself, but rather embrace the concept of shared leadership.

This principle has been found to have a positive impact on organizational performance, as it encourages personal initiative. When individuals feel empowered and trusted to take action, it boosts productivity and job satisfaction within the team, as they are motivated to work harder by seeing their work contribute to the achievement of the collective goals (Edelmann et al., 2020).

This can also be applied to my experience in the BIP project. Before the simulation started,

I was approaching the project with a somewhat indifferent mindset. My primary goal was achieving the Finance prize, and I was not as invested in the overall score of the team.

This mindset may have been influenced by a sense of distance I felt within the team, where it seemed like we were not fully working together towards a common goal.

Holding an open and candid discussion before the simulation proved to be incredibly valuable. Despite having been initiated by a team member sharing their frustrations, this dialogue created a space where every team member could voice their concerns, which helped me gain a deeper understanding of their perspectives.

Furthermore, it also set a base for open communication and fostered a stronger sense of connection and cohesion. From that point on I found myself trying to be more invested in the success of the project and felt that my teammates were doing the same. As an example, I started to take more notes during our discussions and meetings, to then share with the team, ensuring that everyone had a clear understanding of the items discussed.

Sharing our notes promoted transparency, and fostered a sense of alignment within the team, minimizing misunderstandings and gaps in knowledge. By fostering these habits, we were able to make more informed decisions and have a greater sense of unity, which is in consensus with conclusions from Bergman et al. (2012), that demonstrated that teams with shared leadership experienced less conflict, greater consensus and higher intragroup trust and cohesion.

As I started being more open about my thoughts and ideas with my colleagues, I could actually feel a shift in their behavior towards me. They started to recognize and appreciate more my skills and insights, which in turn motivated me to become even more engaged and proactive in my contributions. There was a change in my mindset as I felt a heightened sense of responsibility and commitment to get the best score we could in the simulation.

Regarding the peer feedback, as discussed previously, even though I initially felt negative

towards it, I can now analyze more objectively that my teammates considered my contribution was overall positive. However, there is still clear room for improvement, particularly in the aspect of “Keeping the team on track”, highlighting that I still need to continue working on my leadership skills in the future.

Learnings

Effective teams are rare, as Patrick Lencioni (2002) explores. In his book, it defined 5 levels of dysfunction that teams commonly struggle with (Figure 16). In this case, there was a clear lack of commitment and avoidance of accountability, allowing an environment of ambiguity to prevail. Every team member needed to shift their posture, me included.

I understood that leadership does not have to rely on one person. In a shared leadership environment, the responsibility for leading and facilitating team dynamics should be distributed among all team members. Each individual should have the opportunity to contribute their ideas, take on leadership roles, and actively participate in decision-making processes.

Initially, the idea of being held accountable for potential setbacks or challenges unnerved me. I hesitated to fully embrace the notion of taking personal responsibility for the outcomes of our collective efforts. This experience served as a turning point, compelling me to reassess my approach, sparking a renewed commitment within me to actively contribute, share my ideas, and fulfill my responsibilities to the best of my abilities.

Furthermore, it showed me the importance of building strong relationships and trust within teams. If the members feel supported, valued and encouraged, it becomes much easier to achieve our goals.

Conclusion

As the Finance Director of ZenMotors during BIP, I encountered numerous challenges, particularly in the realm of team dynamics. However, these intensive three weeks helped me gain a deeper comprehension of how I can enhance my contributions and cultivate a more harmonious team environment in my future professional career.

This opportunity for reflection was essential for my growth, as I would not have done it otherwise. I was able to put me in an outsider position and objectively evaluate my behaviors, evaluating how and why I reacted in certain ways, and what I should have done differently. “Clarity of thought can never be underestimated: it enables you to assess situations rationally and make the best decisions for your team” (Gregg, 2023). With this in mind, I plan to practice self-reflection more regularly in order to continuously improve myself by being aware of my strengths and weaknesses.

Related to the first incident, I want to further work on my ability to communicate my thoughts, empathize, listen actively, and manage my emotions in a healthy way, in order to maximize the outcome of my teams’ collective efforts.

Furthermore, and related to the second incident, this experience also taught me that the success of a company is not solely dependent on a single leader. In today's dynamic and complex work environments, it is crucial for every team member to step up and exhibit leadership qualities, take initiative and make valuable contributions.

While I focused primarily on areas for future improvement in my discussion, I'm equally dedicated to honing my existing strengths. Among these, my ability to listen attentively and remaining calm even in difficult situations. These qualities proved valuable in the role I took during this experience, and I want to cultivate them further for them to have a positive impact in my future.

References

- Acar, F. P. 2010. "Analyzing the effects of diversity perceptions and shared leadership on emotional conflict: a dynamic approach". *Int. J. Hum. Resour. Manag.* 21, 1733–1753.
- Accenture. 2020. "Seeking responsible leadership". <https://www.accenture.com/us-en/insights/consulting/responsible-leadership>.
- Armstrong, Kevin. 2023. "Tesla's Original Roadster: Price, Specs and Range of the Vehicle That Sparked the Electric Revolution". Not a Tesla App. <https://www.notateslaapp.com/tesla-reference/1350/tesla-s-original-roadster-price-specs-and-range-of-the-vehicle-that-sparked-the-electric-revolution>.
- Basdekis, et al. 2020. "Profitability and optimal debt ratio of the automobiles and parts sector in the Euro area". <https://www.emerald.com/insight/content/doi/10.1108/JCMS-08-2020-0031/full/pdf?title=profitability-and-optimal-debt-ratio-of-the-automobiles-and-parts-sector-in-the-euro-area>.
- Benzaghta, M.A. et al. 2021. "SWOT analysis applications: An integrative literature review". <https://digitalcommons.usf.edu/cgi/viewcontent.cgi?article=1148&context=globe>.
- Bergman et al. 2012. "The Shared Leadership Process in Decision-Making Teams". https://www.researchgate.net/publication/221809250_The_Shared_Leadership_Process_in_Decision-Making_Teams.
- Brem and Voigt. 2009. "Integration of market pull and technology push in the corporate front end and innovation management - Insights from the German software industry". https://www.sciencedirect.com/science/article/abs/pii/S0166497208000898?casa_token=pErDoeTBwZwAAAAA:uw86udXBtF_qlRo2DYlQ5-HkkHtGdR0GySPG0YBQv-7fljcEQ0qg5ugQSNkHHJFwcTcNQKTxSQ#bib29.
- Christiansen, James. A. 2000. *Building the Innovative Organization*. Springer.
- Collis, David J. 2021. "Why Do So Many Strategies Fail?". <https://hbr.org/2021/07/why-do-so-many-strategies-fail>.
- Damodaran, A. 2023. "Return on Equity by Sector (US)". https://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/roe.html.
- Drucker, P. 1967. "The Effective Decision". <https://hbr.org/1967/01/the-effective-decision>.
- Edelmann, et al. 2020. "The Power of Empowerment: Predictors and Benefits of Shared Leadership in Organizations". <https://www.frontiersin.org/articles/10.3389/fpsyg.2020.582894/full>.
- Galal, A. 2018. "Push vs. Pull Supply Chain for Electric Vehicles: Comparative Study between Toyota and

- Tesla”. <https://atlascorps.org/push-vs-pull-supply-chain-electric-vehicles-comparative-study-toyota-tesla/>.
- Goldman Sachs. 2023. “Electric vehicles are forecast to be half of global car sales by 2035”. <https://www.goldmansachs.com/intelligence/pages/electric-vehicles-are-forecast-to-be-half-of-global-car-sales-by-2035.html>.
 - Goleman, D. 2006. “Emotional Intelligence”. <https://nursingeducationnetwork.net/2017/09/18/book-club-daniel-goleman-emotional-intelligence/>.
 - Gregg, T. 2023. “Five ways leaders can practice self-reflection and why it’s important for business growth”. <https://www.peoplemanagement.co.uk/article/1814062/five-ways-leaders-practise-self-reflection-why-its-important-business-growth>.
 - Horne and Wachowitz. 2000. “Fundamentals of Financial Management”.
 - Ichsani and Suhardi. 2015. “The Effect of Return on Equity (ROE) and Return on Investment (ROI) on Trading Volume”. <https://www.sciencedirect.com/science/article/pii/S1877042815054580>.
 - Kozlowski and Bell. 2010. “Work Groups and Teams in Organizations: Review Update”. https://ecommons.cornell.edu/bitstream/handle/1813/75230/Bell97_Work_groups_and_teams.pdf?sequence=1.
 - Lencioni, P. 2002. “The Five Dysfunctions of a Team”.
 - Martin, Roger L. 2014. “Strategy Isn’t What You Say, It’s What You Do”. Harvard Business Review. <https://hbr.org/2014/06/strategy-isnt-what-you-say-its-what-you-do>.
 - McElroy, John. 2023. “General Motors Tops the Auto Industry in R&D Spending”. <https://www.wardsauto.com/industry-news/general-motors-tops-auto-industry-rd-spending>.
 - Modigliani, F., and M.H. Miller. 1958. “The cost of capital, corporate finance and the theory of investment”. *American Economic Review* 48, 261-297.
 - O’Reilly and Tushman. 2004. “The Ambidextrous Organization”. <https://hbr.org/2004/04/the-ambidextrous-organization>.
 - Pettit, J. 2001. “Is a Share Buyback Right for Your Company?”. https://www.researchgate.net/profile/Justin-Pettit/publication/12033998_Is_a_share_buyback_right_for_your_company/links/564f876d08aeafc2aab3e3f0/Is-a-share-buyback-right-for-your-company.pdf.
 - Porter, M. E. 1996. “What Is Strategy?”. <https://hbr.org/1996/11/what-is-strategy>.
 - Richards and Laughlin. 1980. “A Cash Conversion Cycle Approach to Liquidity Analysis”.

<https://www.jstor.org/stable/3665310>.

- Sagan, C. 1980. *Cosmos*.
- Scouller J. 2011. *The Three Levels of Leadership: How to Develop Your Leadership Presence, Know-how and Skill*.
- Serrat O. 2017. “Understanding and Developing Emotional Intelligence. In: Knowledge Solutions”.
https://link.springer.com/chapter/10.1007/978-981-10-0983-9_37.
- Statista Market Insights. 2023. “Electric Vehicles – Worldwide”.
<https://www.statista.com/outlook/mmo/electric-vehicles/worldwide>.
- Troy et al. 2001. “Generating new product ideas: An initial investigation of the role of market information and organizational characteristics”. <https://link.springer.com/article/10.1177/0092070301291006>.
- United Nations Industrial Development Organization. “What is CSR?”. <https://www.unido.org/our-focus/advancing-economic-competitiveness/competitive-trade-capacities-and-corporate-responsibility/corporate-social-responsibility-market-integration/what-csr>.
- Volvo Group. 2020. “Volvo Green Finance”. <https://www.volvogroup.com/en/investors/debt-information/green-financing.html>.
- Zlatev, Daniel. 2023. “Toyota announces solid-state battery discovery that may let it catch up with Tesla faster”. <https://www.notebookcheck.net/Toyota-announces-solid-state-battery-discovery-that-may-let-it-catch-up-with-Tesla-faster.732050.0.html>.

Appendix

ZenMotors EV Portfolio								
Type	Image	Product	Year of Launch	Investment	Range	Autonomous Drive	Connectivity	Production
Convertible		ZEN-AIR E	2	650M	Extra Long	Level I	Level II	USA
Executive		ZEN-BIZ E	2	550M	Extra Long	Level I	Level II	Europe
Luxury		ZEN-LUX	2	710M	Extra Long	Level II	Level II	Europe
Compact		ZEN-CITE	2	510M	Extra Long	Level II	Level II	China
SUV		ZEN-SUV E	3	665M	Extra Long	Level III	Level III	USA
Micro		ZEN-TinyTornado	3	560M	Extra Long	Level II	Level IV	China
Compact		ZEN-SIMPLE CITE	4	500M	Short	Level I	Level I	China
Micro		ZEN-BudgetBullet	4	550M	Short	Level I	Level I	Europe

Table 2: ZenMotors EV Portfolio

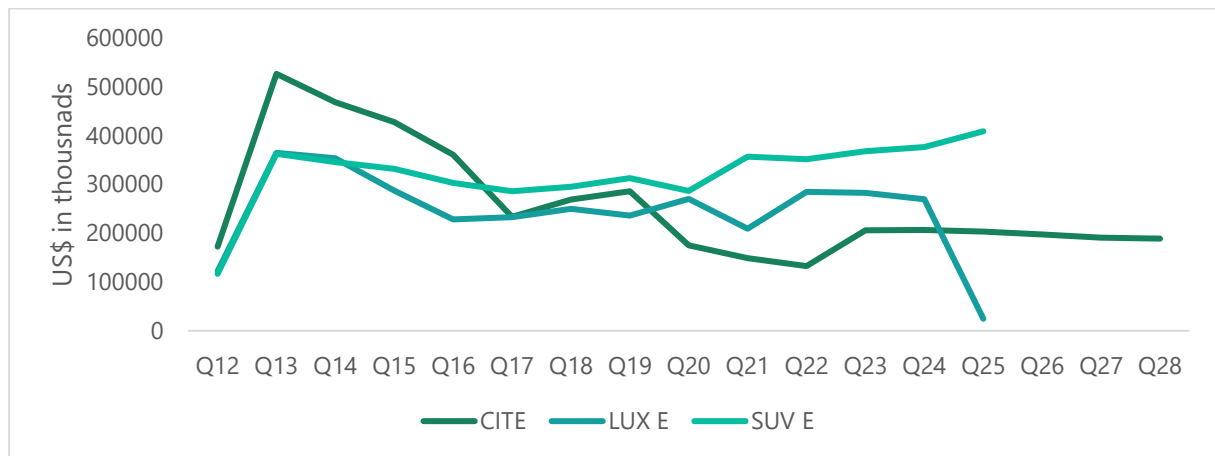


Figure 5: Second Car Launch Phase: CITE, LUX E and SUV E Profit contribution in US thousand \$

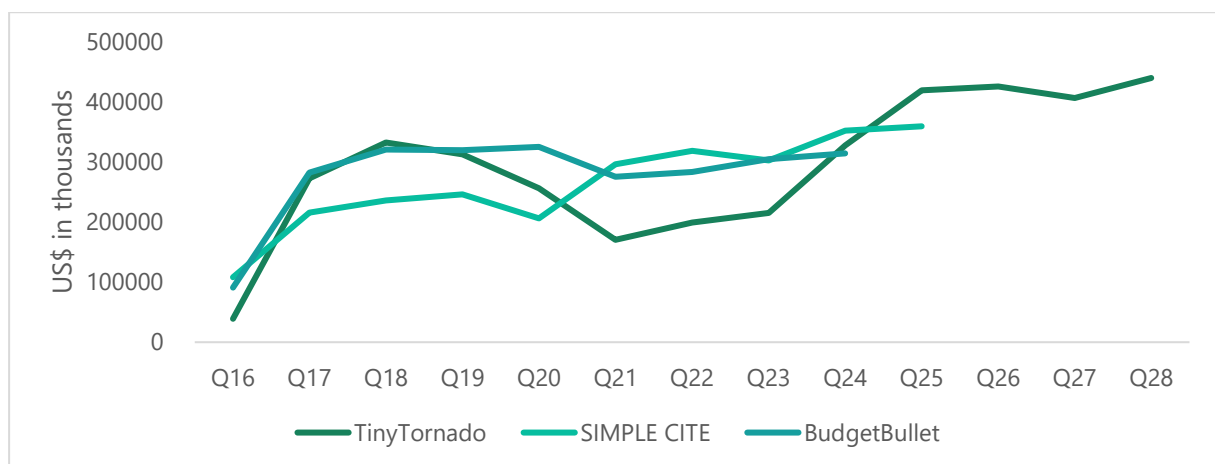
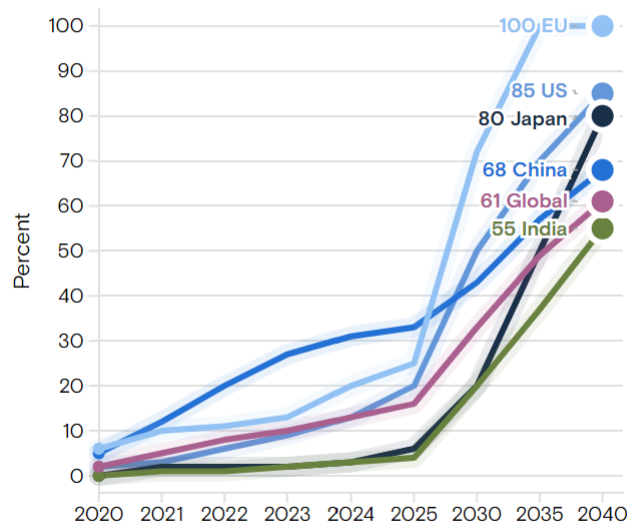


Figure 6: Third Car Launch Phase: TinyTornado, SIMPLE CITE and BudgetBullet Profit contribution in US thousand \$

The shift to electric vehicles is forecast to accelerate

Electric vehicle sales ratio (%)



Source: IHS Global Insight, Goldman Sachs Research • 2022-2040 are forecasts

Goldman Sachs

Figure 7: Electric Vehicle Sales Ratio (%) from 2020-2040 (Goldman Sachs, 2023)

	Y0	Y1	Y2	Y3	Y4	Y5	Y6
Average Holding Period	96,96	99,48	76,70	121,94	45,12	46,82	30,79
Average Collection Period	60,62	61,52	41,96	65,49	63,76	64,77	61,12
Average Payable Period	34,04	17,29	52,97	35,68	11,81	15,32	38,50
Cash Conversion Cycle	123,54	143,71	65,70	151,75	97,06	96,26	53,41

Table 3: ZenMotors Activity Ratios in days

	Y0	Y1	Y2	Y3	Y4	Y5	Y6
Current Ratio	9,18	17,31	3,81	7,51	14,60	13,95	5,30
Quick Ratio	6,33	11,56	2,36	4,09	10,78	10,89	4,50
Cash Ratio	3,10	5,53	1,08	1,08	2,56	3,71	1,66
Net Working Capital	6958806	8396388	5598202	9816106	7861601	8029051	6435059

Table 4: ZenMotors Liquidity Ratios

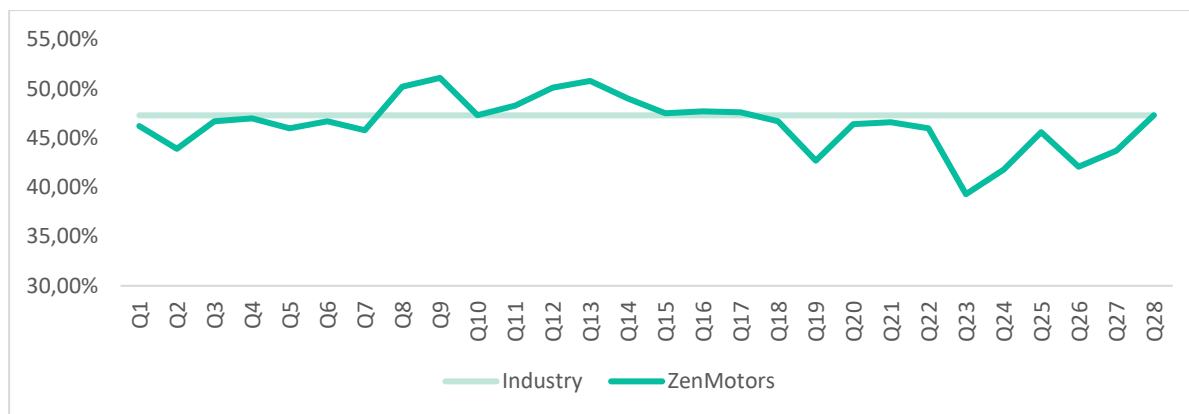


Figure 8: ZenMotors' Debt Ratio comparison with the industry average per quarter

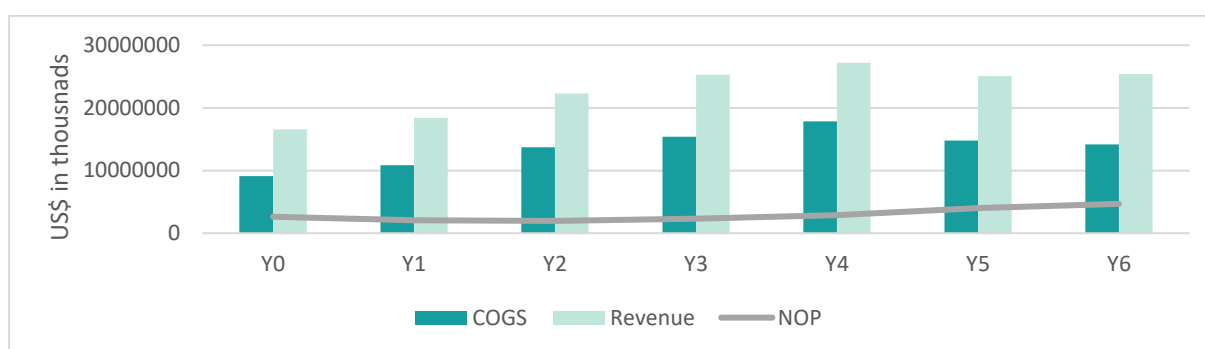


Figure 10: ZenMotors Revenues, COGS and NOP per year in US thousand \$

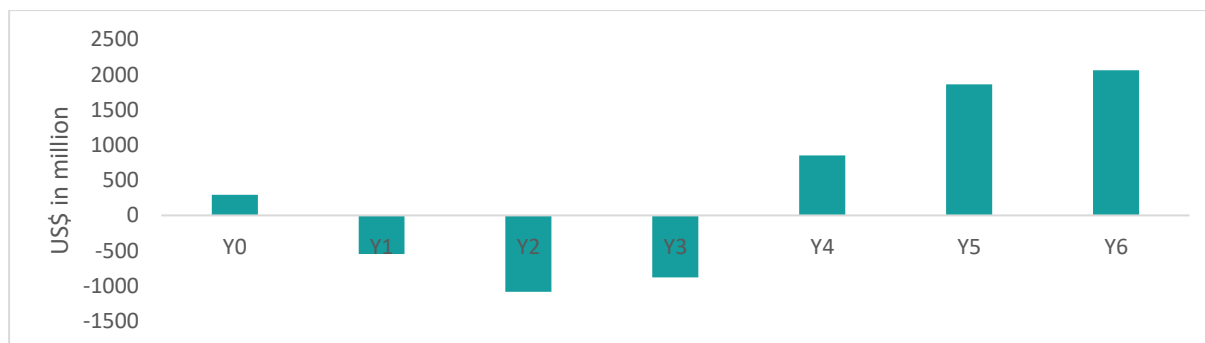


Figure 11: ZenMotors FCF per year in US million \$

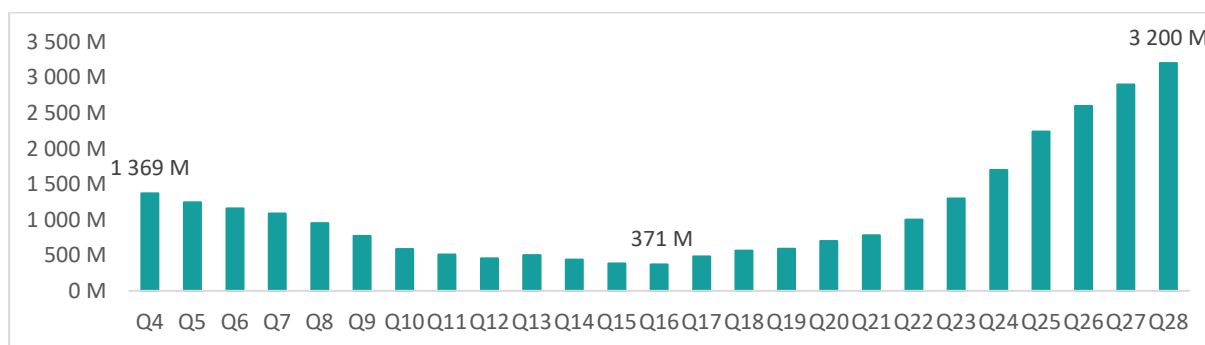


Figure 13: ZenMotors EVA per quarter in US million \$

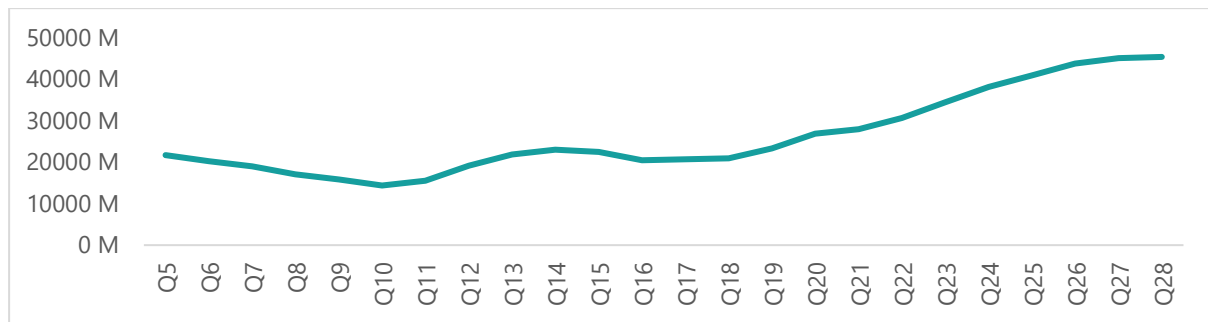


Figure 14: ZenMotors Market Capitalization Evolution per quarter in US million \$

	Y0	Y1	Y2	Y3	Y4	Y5	Y6
Assets							
Long-Term Assets	13451756	16477828	18580432	18192424	17101530	15501431	13629425
Property, Plant & Equipment	8751756	11877828	14080432	13792424	12801530	11301431	9529425
Land & Buildings	4700000	4600000	4500000	4400000	4300000	4200000	4100000
Current Assets	7809522	8911219	7589068	11323482	8439585	8649272	7931890
Cash and Cash Equivalents	2636952	2845933	2145206	1633023	1479253	2299295	2483923
Accounts Receivables	2749220	3103071	2560921	4539158	4752613	4454732	4250745
Inventory	2423350	2962215	2882941	5151301	2207719	1895245	1197222
Equipment on Lease	0	0	0	0	0	0	0
Receivables from Financial Investments	0	0	0	0	0	3500000	13332300
Receivables from Financial Services	0	0	2198231	2894628	2185798	1448164	680553
Total Assets	21261278	25389047	28367731	32410534	27726913	29098867	35574168
Liabilities and Equity							
Shareholder Equity	10810562	12004989	13522091	15790150	13905681	15012624	17970665
Share Capital	10000000	10000000	10350000	10700000	9650000	9300000	9300000
Capital Reserve	0	0	562135	1204000	-1319500	-2518670	-2518670
Retained Earnings	810562	2004989	2609956	3886150	5575181	8231294	11189335
Liabilities	10450716	13384058	14845641	16620385	13821233	14086243	17603505
Long-Term Debt	9600000	12869227	12854775	15113009	13243249	13466022	16106674
Short-Term Debt	0	0	0	0	0	0	0
Accounts Payable	850716	514831	1990866	1507376	577984	620221	1496831
Other Liabilities	0	0	0	0	0	0	0
Total Liabilities and Equity	21261278	25389047	28367732	32410535	27726914	29098867	35574170

Table 5: ZenMotors Balance Sheet

	Y0	Y1	Y2	Y3	Y4	Y5	Y6
Revenue	16553518	18411341	22275834	25299398	27208163	25104853	25386750
(-) COGS	9122710	10868561	13719365	15418872	17860515	14775893	14190290
(=) Gross Profit	7430808	7542780	8556469	9880526	9347648	10328960	11196460
(-) Marketing Expenses	180130	437464	970646	1569039	1221714	499536	545426
(-) G&A Expenses	892448	1147299	1855691	1950583	1969219	1927444	1624755
(-) Premium	860010	945845	375893	0	-1331401	-1381527	-1436681
(-) Depreciation	1710427	2070918	2546904	3070586	3347046	3547425	3767661
(=) EBIT	3787793	2941254	2807335	3290318	4141070	5736082	6695299
(+) Other Items	-275	-383	-1051261	-224612	-269084	-14360	-306257
(+) Financial Income	0	0	32517	116968	102626	78821	136837
(-) Interest Expense	452969	503253	553951	578181	527600	379903	489062
(=) Profit Before Tax	3334549	2437618	1234640	2604493	3447012	5420640	6036817
(-) Taxes	1000365	731286	370392	781348	1034101	1626192	1811045
(=) Net Income	2334184	1706332	864248	1823145	2412911	3794448	4225772

Table 6: ZenMotors Income Statement

	Y0	Y1	Y2	Y3	Y4	Y5	Y6
(+) Net Income	2334185	1706333	864247	1823145	2412902	3794447	4225772
(+) Depreciation	1710427	2070918	2546904	3070586	3347046	3547425	3767661
(-) Change in Inventory	1365557	538865	120221	2308777	-2927951	-312474	-673049
(-) Change in Accounts Receivable	-233046	353851	-542150	1978237	213455	-297881	-203987
(-) Change in Uncollectible Accounts	166284	180500	145571	220799	269266	252106	254166
(+) Change in Accounts Payable	-51244	-335885	1476034	-483490	-929391	42237	876610
(-) Profit/Loss from Disposal of Assets	0	0	-1050982	-224439	-250393	0	-305562
(-) Change in Equipment on Lease	0	0	0	0	0	0	0
(-) Change in Receivables from Financial Services	0	0	2198231	696397	-708829	-737635	-767610
(=) Operating Cash Flow	2694573	2368150	4016294	-569530	8235009	8479993	10566085
Investing Cash Flow	-1839250	-4916490	-5355425	-2645801	-2221648	-1695220	-1922078
(+) Change in Debt	1224029	3269227	-14452	2258234	-1869760	222774	2640652
(-) Change in Bank Deposits	0	0	0	0	0	3500000	9832300
(-) Dividends Paid	0	511906	259281	546951	723871	1138334	1267732
(+) Proceeds from New Shares	0	0	912135	991865	-3573500	-1549170	0
(=) Financing Cash Flow	1224029	2757321	638402	2703148	-6167131	-5964730	-8459380
Change in Cash and Cash Equivalents	2079352	208981	-700729	-512183	-153770	820043	184627

Table 7: ZenMotors Cash Flow Statement

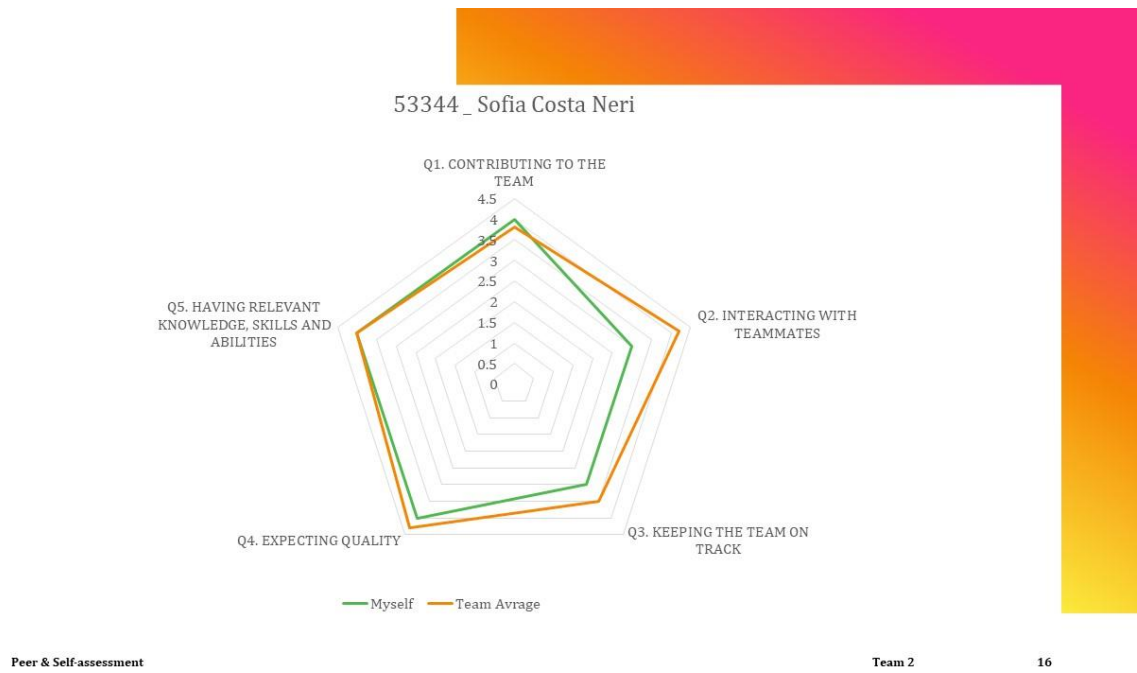


Figure 15: Peer & Self-Assessment from the Leading Yourself Workshop

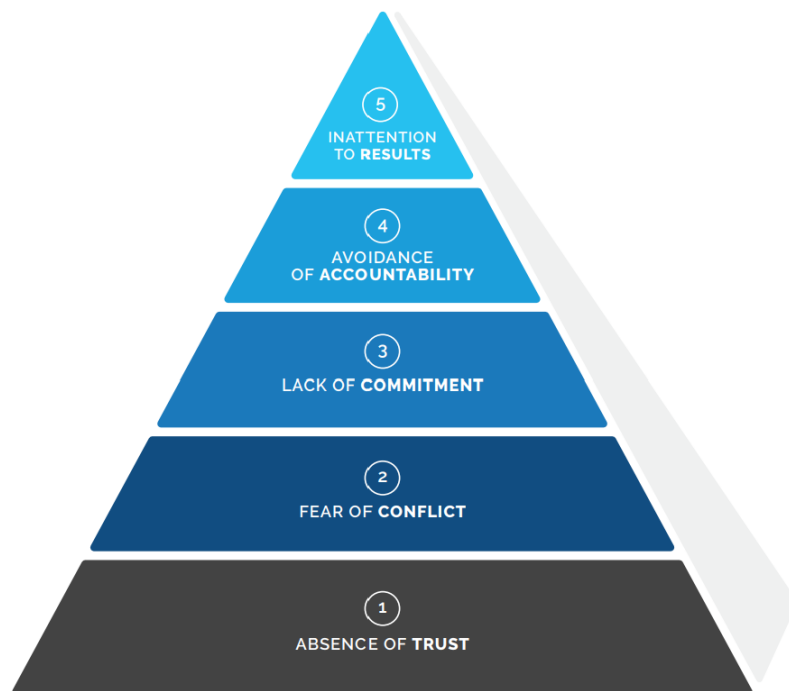


Figure 16: The Five Dysfunctions of a Team (Patrick Lencioni, 2002)