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Finance from the Nova School of Business and Economics.

**BUSINESS IN PRACTICE: REFLECTIVE JOURNAL & THE  
TRANSITION TOWARD ELECTRIC MOBILITY**

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## **Abstract**

The Business in Practice was an immersive simulation where I got to learn more about myself and a company's operations. As a result, this paper serves as both a reflective journal, in which I will reflect on my behavior during two critical incidents, and a business analysis of three departments, Marketing, Human Resources, and Operations, of my team's virtual car manufacturing company, Mercury. Due to the current environmental crisis, the firm had six years to move on from combustion vehicles to all-electric and automated cars. All departments were committed to working together and noticed how interdependent they all were.

**Keywords:** Sustainability, Electric Vehicles, Human Resources, Operations, Marketing, Reflection, Critical Incidents Analysis.

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# **Individual Reflection**

## **Introduction**

Self-reflection is crucial for personal growth and to comprehend how our beliefs and attitudes directly impact others, including ourselves. It may be the means to different and better results since, in Einstein's words, "insanity is doing the same thing over and over again and expecting different results" (Wilson 2021). I may get to know myself better and consider the steps I'll take in the future to change how I react to circumstances like these two significant incidents that have affected me. I'll discuss my ideas, feelings, the way I portray myself, and what I may take away from this voyage into my intuitive "me".

## **Critical Incident 1**

### **Description & Response**

My first noteworthy event would be the sales pitch with Mrs. Stewart. Three of my teammates were picked to present our ground-breaking product to obtain the two billion dollars in revenue at stake for our company. I chose not to participate and stayed behind during the entire role play. Before the pitch, the team felt confident and prepared. Nevertheless, none of us were expecting Mrs. Stewart, who was portraying the car dealership, to be so immersed in her role or talk with such vigor and energy. From the moment we entered the room, such an act shocked us all, especially me.

Being a bit introverted myself, I wasn't used to anything like Mrs. Stewart's extroversion, energy, or this event, so I felt extremely nervous and overwhelmed. One of the reasons why I let my colleagues present is that I have never been comfortable talking in public. I could feel my heart racing and my breath catching. When it was my team's turn to talk to convince the buyer, I always asked myself what I would have responded to by imagining myself up there in

the front row. My blank mind made it impossible for me to come up with anything, which just made my stress level rise. I was on the verge of breaking down, feeling my eyes full of tears. I did not weep when I left the meeting, but I was still anxious.

### **Analysis**

One thing I did well was to make the effort to think of solutions in my head, even if I was not actively participating in the dialogue. I was more than a passive listener. Presenting offers several advantages, such as improving communication skills or organizing presentation materials. They are more knowledgeable about the subject at hand than those who just listen since they prepared the information themselves. However, they often fail to engage audiences or create expectations, or offer boring speeches that put people to sleep, which all contribute to the listeners' tendency to be easily distracted (Yug n.d.). As previously stated, none of this happened: the conversation was interactive, the meeting's purpose was set from the beginning as expressed in the wording of the exercise, it was all but monotonous as Mrs. Stewart put a lot of energy into it, and I was mostly aware of the content because I had prepared it the night before. All these factors enabled me to fully commit to the presentation.

Secondly, I am not used to participating in class as I do not want to make a mistake and for fear of being looked at by everyone. Therefore, I can avoid criticism by keeping my thoughts to myself. I usually try to envision answers to questions that are not explicitly asked of me to stimulate my brain, even though I do not communicate verbally. Answering questions is an important part of learning, which involves thinking about the meaning of the question, understanding it, forming the answer, and speaking it. I try to answer correctly rather than merely waiting for others to do so automatically.

It's also important to note that even though I could feel tears welling up in my eyes, I refrained from crying at all, and I'm proud of myself for that. In fact, I often cry when I'm feeling nervous and frightened, such as when I am giving a presentation. Since I was young, I have struggled

with it, and I cannot go on like this. Nonetheless, crying has many positive effects, including stress relief, aiding in the body's detoxification, and restoring emotional balance. Emotional tears contain stress hormones and crying enables us to let go of them (Chung 2022). I want to be capable of managing my emotions without suppressing them. In fact, this would only make me feel worse, as pointed out by psychologist Nikki Martinez (Brady 2022). I believe taking control of my feelings would be healthier and more responsible on my part, as I am no longer a child and can't keep crying whenever anything happens. Not crying before, during, or after the meeting was a good beginning.

Notwithstanding the favorable components, there were some bad ones in my reaction to this important occasion. For instance, one typical symptom of anxiety is the dread of public speaking, which is why I decided not to present during the meeting. According to a study conducted by Texas Christian University faculty members Finn, Sawyer, and Behnke (2009, 420), for some people, anxiety peaks in the minute preceding the speech, whereas, for others, it is ubiquitous, avoiding all scenarios that include public speaking. This may seriously impede one's ability to advance professionally and personally. Several causes might contribute to public speaking anxiety, such as fear of appearing nervous, going blank, lack of skills, or prior experience (Genard 2014). As for me, it may be the fact that I sense everyone's eyes on me, making me the center of attention. Being a little introverted, I would rather stay sit than be in front of an audience. Otherwise, I start focusing on everything that is wrong with me, such as my trembling hands or my racing heartbeat, increasing the likelihood of failure and, consequently, my anxiety. It is a cyclical process.

Because of my aversion to public speaking, my mind went blank, and I had no idea of what I would have said to Mrs. Stewart if I had been presenting. Anxiety, which interferes not only with performance but also with memory, was the cause of this once more. In reality, the brain is pressured under stressful circumstances and starts panicking, overruling slower and more

deliberate ideas. It is also possible to occasionally be intensely aware of our anxiety and fear levels. I was well aware of these, and I believe it made me even more nervous because I was incapable of handling my emotions or even pronouncing a single word. I was out of control, which the Discovery Insight describes as a characteristic of the "fiery red" I am. Furthermore, intimidation may have contributed to my blanking out. According to Chris MacLeod (n.d.), shy people feel uncomfortable around certain types of people: extroverted, self-assured, or knowledgeable people. Mrs. Stewart possesses each of these traits, especially considering her wealth of knowledge. She knew what to expect from this encounter, which was not my case, as it was the first time I had had an experience of this kind, and she was totally invested in her role. Loud talking from her did not make things better. I felt pressured, powerless, and inferior as if whatever I said was not going to be good enough. I kept forcing myself to come up with a response that would be sufficient, but the intent was unsuccessful as my brain was already completely blocked and it only made the situation worse.

### **Reflect and Learn**

After careful analysis of my actions and emotions during the presentation, I could have done things better, such as breathing exercises, as they make the body release natural painkillers and maintain a sense of inner peace. I will then be relaxed enough to gather my thoughts, and let my memory do its job before anxiety creeps in, hence avoiding blanks. Taking notes during the talk would have allowed me to look back on them later and build upon them, which could have prevented my mind from blanking out.

Next time a similar situation arises, I will take the following actions to overcome my fear of public-speaking: thinking about my audience, refocusing my thoughts during the minute before the presentation, as it is a crucial moment in which anxiety increases, and finally, making sustained eye contact, which is challenging as I do not know where to look. Furthermore, using this technique more than three times is said to decrease speaking anxiety (Gershman 2019);

thus, I will volunteer to present more regularly, as practice is one of the best strategies to surmount this issue. The more I present, the more I will get used to it. Thinking about a response was not the greatest plan because it did not make the anxiety disappear. Instead of pushing myself too hard, I should acknowledge that it's normal for the brain to occasionally go blank. It will eventually regain focus in its due course. It could also be a sign that I should change my center of attention. The only thing left to do is to convey my ideas once they can flow without being hindered by anxiety in my head. To overcome intimidation, I need to have faith in myself and my skills. By expressing myself with more confidence in my voice, the person in front of me will take me seriously and I will not feel powerless or inferior anymore.

## **Critical Incident 2**

### **Description & Response**

My second critical incident occurred during the last two quarters of the last year of the simulation. The company was performing well, increasing its revenues, profits, and all other key performance indicators. Cash was also rising, enabling the company to pay back its debts independently without taking out any loans. As a consequence, the debt-to-capital ratio fell below 30%, and the weighted average cost of capital (WACC) grew. The optimal scenario was to have a debt-to-capital ratio of between 40% and 50% in order to minimize the WACC, which was not the case here. From the beginning, the team managed to decrease the cost of capital, eventually having the lowest of all teams.

I was eager to win the finance prize, but I was worried we would not. I suggested borrowing money to improve the WACC and increase the debt-to-capital ratio. My team rejected this idea, claiming that doing so would result in an unnecessary cash surplus, which left me very perplexed. Part of me knew they were right. Nevertheless, single-minded as I am, I persisted several times, but the situation remained unchanged. I felt frustrated and very disappointed that

we had been performing so well for the first five years, and only because of the last round, we would lose the prize. It was obvious to me that other teams had succeeded in reducing the WACC. My teammates attempted to console me since they knew I wanted to win, but I was just too saddened to listen to them.

## **Analysis**

First of all, I am delighted with the way I expressed my opinion without fearing conflict. According to Lencioni's model (2002), avoidance of conflicts is one of the five dysfunctions of a team. When lacking trust, teams desire to preserve an unreal harmony by using cautious comments and veiled discussions. On the contrary, teammates are capable of engaging in passionate debates, which was the case here. I was in a psychologically safe environment, as mentioned by Edmondson (1999, 355), which is a feeling of confidence where members are comfortable being themselves, without being worried about being embarrassed, rejected, or punished because of speaking up. This was emphasized by the fact that I felt more at ease being part of a small group. Everyone has less time available to them on average as the group size increases, making it less likely that everyone will get a chance to engage in conversations. (Venditti and McLean 2015). As stated by Richard Hackman (1990, 2002 cited in West 2012, 78), a well-assembled team, which should be as small as possible while yet allowing the team to complete the task successfully, and which has the right composition of abilities and resources within the team, is one of the three crucial components required to provide a good structure for a team.

During the "Lead yourself" workshop, I got to know more the people I was going to work with and noticed that I was not the only introvert. We were six fairly introverted people, which is one of the reasons why we got along so well. Despite the lack of research, companies' top executives have long believed that putting introverts together in a team was a good idea, said Abby Dubey, manager of Google's People Analytics division (Duhigg 2016). Indeed, I was



heard, understood, and able to act and speak up for myself without any fear or intimidation whatsoever.

Furthermore, because the simulation involved a rivalry between teams, my opinions were proof of my determination and competitiveness, which are attributes of my "red" personality. Sharing opinions is part of being a leader, shaping business decisions, and being a powerful solution to major challenges (Blank 2018). In addition, recognition and rewards encourage people to take action (Kirkman, et al. 2016). I was already driven to perform my best work since I am ambitious and dislike failure, but the simulation's rewards pushed me even more. I tried to think of various ideas to improve the company's business and share them so the whole team could benefit from them.

Nevertheless, this external motivation had downsides. I later realized that my eagerness to win could have jeopardized the company if my teammates had not disagreed with me. I was so focused on the prize that I neglected the main objective of this contest as well as the effects it could have had on other functional areas of business, just like a competitive organization would be by forcing lower prices, hence decreasing its customers and profit margins, which is not good. Another drawback is deception; in the words of Edward Deci, external rewards take away people's enjoyment (Cameron and Pierce 2002, 92). Being persuaded that I was about to lose, I was disappointed and frustrated, damaging my self-esteem as I could not meet my expectations, especially because all my previous efforts were not going to be recompensated.

Deep down, I believe that the reason behind this obsession was to prove to myself and others my competence as a financial director. This need could be explained by searching for a sense of worth and introversion, struggling to connect with people at the beginning, and notably, my tendency to let my anxieties rule my behaviors. In fact, lacking professional experience, I have never got the chance to apply all the knowledge I have acquired during my studies, and I was afraid of not being able to perform well and get the company to a good place financially.

Additionally, I strongly value others' perspectives when it comes to my academic performance. I am quite proud, and I like to show that I can achieve great things. Failure is not an option for me, as I perceive it as a form of weakness, which I do not want to expose. As a result, I put a huge amount of pressure on myself and often experience tension and anxiety. By telling myself that I must achieve certain things in a specific way, I increase the possibility of upsetting myself because of the panic. (Edelman and Remond 2005).

More, I kept pushing for my suggestion to be accepted by my teammates. Even if I felt at the time that they had a point, it was difficult for me to concede. As Marr points out, stubbornness is one of the things that destroys successful teams (n.d.). Teamwork requires being open-minded; hence, focusing on a single option will not make the team go forward with its activities or achieve its goals. Nonetheless, pride and stubbornness go together, as the latter has its roots in the former. It is difficult to accept being wrong if I cannot agree to fail.

### **Reflect and Learn**

I could have taken more actions. Here again, deep breathing could have been an excellent remedy for when I was stressed over losing the price. This would have helped me keep control of my emotions, and maybe I would not have been as pushy. Moreover, I could have taken time to process my teammate's thoughts. Everyone disagreed but me, leaving me no other choice but to accept their decision. Although I was still doubtful, I later understood that my teammates were right and that the correct decision had been made. I would not have responded the way I did; I would have been more composed if I had thought about the facts beforehand.

Reflecting on my behavior during this critical incident, I can now change how I act in the future. For instance, I could express my thoughts more clearly. Communication is one of the pillars of teamwork, and opinions should be clearly expressed so that teammates can fully understand. I should take the time to organize my ideas in my head so that they are as concise as possible. Furthermore, I would not be as pushy as I was. It may have been perceived as overbearing or

that I did not care about others' opinions. As claimed by Lafair (2017), the essential aspect of being pushy is building trust by being candid and sharing uncommon views. To best use my pushiness, I could attempt to include others in my efforts as opposed to only pushing to have my perspective heard, thus increasing the chances of getting a better solution to achieve better outcomes. Additionally, by being more self-confident, I would know that my past efforts would pay-off; I need to believe in my team and myself. Another possibility would be to stop thinking about the financial prize and just be in the moment, without giving up my competitive side.

### **Peer and Self-Assessment Analysis**

The goal of this evaluation is to assist me in understanding the scope of my talents and enhancing them.

Firstly, I considered myself a high contributor to the team. I have always done my best to assist my teammates when needed, shared my opinions to enhance the functioning of the team, and tried to always do more than anticipated. This approximately matched others' points of view, which means that I should continue down this positive path.

A similar situation happened when interacting with my teammates and keeping the team on track. For the whole duration of the simulation, I have requested and demonstrated interest in others' thoughts and contributions, boosted team morale, solicited input from teammates, and incorporated, most of the time, their recommendations to improve.

Most of these actions were stated in the team chart signed by each member of the team, and I am proud that I have respected them the whole time.

Finally, answers concerning having relevant skills, knowledge, and abilities, as well as expecting quality, were a bit more diverse than the previous ones. The reason behind it could be that I am not confident enough about my skills, which is easily noticeable, thus my results.

I have less experience in most areas than my whole team, and I was not as comfortable as they are in performing their roles. Moreover, I believed in my team and was sure we were going to achieve great results, which we did, even with no added incentive, and I think my teammates agreed on both facts. Looking back, I can see that I did not inspire them enough to succeed. I might have leaned on my co-workers, who were already inspiring the group.

I am glad that my entourage supports my vision by recognizing my actions. I should continue doing what I did well, and I need to have faith in my ability to do it properly and inspire my team members on my own. Not knowing everything is normal, there is always room for learning new things.

## **Conclusion**

We can only get knowledge from our experiences via reflection. Both critical incidents are opposite and similar at the same time, as my behavior adapts itself according to the circumstance. In the first episode, I could not and did not want to express my opinions and felt intimidated, whereas, in the second one, I was not afraid to speak my mind. Consequently, a safe environment plays a crucial role by enabling an individual to feel comfortable enough to speak freely and reducing stress. Anxiety, obstinacy, determination, and self-confidence were always present, in both incidents and regardless of the situation in my everyday life, although they were in different forms.

What I can draw from this analysis is that some of my actions and traits are positive and I should continue pursuing them, such as my determination or expression of opinions, while others are negative and impact my mental well-being and make me unable to think properly. To overcome these issues, I need to take control of my emotions by remaining calm, taking a deep breath, being open-minded, and also more self-assured.

# **Firm Analysis**

## **Introduction**

Mercury was a global car manufacturer operating in three regions: the U.S., Europe, and China, each consisting of several factories. Initially, the company's portfolio featured conventional cars, with diesel, gasoline, and one premium hybrid car. These vehicles were extremely polluting, thus emitting significant quantities of CO2 depending on their engine power.

Sustainability is the most important and increasing driving force of today's society. Many governments wish to achieve the targeted reduction in emissions following the UN's "17 Sustainable Goals." As one of the most contaminated industries worldwide, the automotive industry has been required to decrease its emissions and spearhead organizational transformation. As zero-emissions vehicles have been encouraged by the legislation, many competitors, like Volvo, have announced their transition to being all-electric by 2030. In a highly competitive market, Mercury's sustainable objective was a synonym for disruption and change. It had already begun the initial stage of investment for electric vehicles. Its board of directors thus made all the decisions interdependently to face these, gathering all their knowledge to create the value of tomorrow.

The academic concepts and frameworks will be used to analyze the performance of the company as well as provide a critical evaluation of the decisions made by the management team. This overall analysis will highlight the interdependencies and intertwining of decisions across Marketing, Human Resources, and Operations functions. It will also be possible to determine which actions work and which do not by comparing the simulation results and the team's decisions to real companies.

**Marketing Director’s Perspective**

The marketing director was responsible for managing the sales price, selecting the marketing strategy by vehicle model and budget amounts, such as campaigns, and analyzing market research to then share information with the board. It collaborated alongside the Operations director in order to efficiently allocate the vehicles according to the customers’ preferences, as well as with Innovation to create new cars if needed.

**The marketing strategic positioning of the brand**

The marketing mix refers to the group of initiatives and tactics that a company implements to promote its products and brand. The 4Ps assist businesses in making valuable investments within their constraints, such as budgets (Antonella 2017, 637). Table 1 below reflects Mercury’s strategies to accomplish its goals according to each P. As an international company, prices and products had to be adapted to the market segments’ preferences corresponding to the market research results, knowing that electric vehicles were extremely demanded in all regions.

*Table 1: Mercury's Marketing Mix (Year 6).*

<b>4Ps</b>	<b>Continents</b>	<b>Strategy</b>
Product	All	Most car models produced had the latest technology, while others did not.
	Europe & Asia	Same models were sold, but with different levels of connectivity, or autonomous driving, so that customers could choose the product most adapted to their needs and desires.
	America	Similar, except each model was unique.
Price	All	Car prices were determined by both their characteristics and those of the competition. Low entry price, followed by an increase.
	Europe	One model was priced higher than the market as it had higher technology, while the other one was lower.
	Asia	Both models’ prices were greater than the market because of their high technology.

	America	All cars were high priced because of their advanced technology.
Place	All	Mercury was an international company, established in three continents and with a strong distribution network.
	Europe & America	Vehicles were all placed according to the customers' preferences. Main market for Electric Compact, Executive, and Lux vehicles (EU), and Convertible vehicles (US)
	Asia	The Micro car was the best seller despite not being part of the preferences. Main market for Electric Microcars
Promotion	All	<ul style="list-style-type: none"> <li>- Four types of promotions were used: customer promotions/ POS, trainings/services, print campaigns, and TV campaigns.</li> <li>- A blockbuster action movie was filmed with the company's vehicle in it.</li> <li>- Joint venture with another company to gain more visibility</li> <li>- Considerable amounts of marketing expenses were applied to boost brand awareness and the overall sales, especially when launching a new car or when there were high days of inventory.</li> </ul>

### **Impact of promotion on performance**

According to Forbes Magazine, marketing expenditures represent a higher percentage of the revenues of small businesses in their early stages than more mature companies. Nonetheless, these last must invest significantly as well if they wish to expand (Biderman-Gross 2021). The U.S. Small Business Administration (Lesonsky 2019) reports that established B2C companies selling products typically spend around 9.6% of their revenues. Mercury, on the other hand, recorded a proportion varying between 0.8% and 5%, which was rather low (Figure 1).

Furthermore, promotions have a high influence on the number of cars sold. Over the first year, marketing expenditures rose (Figure 2) to establish the new brand in the public eye, especially with the launching of two new hybrid vehicles. As a result, the company's sales rose (Figure 3). A similar situation happened the following year when the board decided to heavily invest in marketing to increase sales and thus revenues. In Quarter 12, although this marketing-sales pattern continued, marketing spending as a percentage of revenue reached over 4%, a 1%

difference in comparison with the previous quarter. From Quarter 18 to 22, marketing costs per revenue reached their maximum value of the simulation, 5%. Again, the company faced high sales, low revenues, and high inventory days. Nevertheless, this drop in earnings could be explained by low prices, which were also a direct consequence of the latter, as did great promotion expenses. Many studies indicate that pricing managers tend to sap their company's profits by setting prices too low (Urbany 2001).

By the end of Year 5, marketing costs per revenue started to fall, as shown in Figure 1, and prices were being increased. The automotive company was implemented in the market where it was the firm with the largest market share in Europe, Asia, and America, registering 36%, 32%, and 31%, respectively at the end of the simulation (Figure 4). Demand grew with less promotion, outgrowing supply, and being sold out in the last quarter. A similar company, Ford Motor, has recently decided to cut most of its investment in major marketing campaigns for its electric vehicles as demand exceeds the supply (McEachern 2022).

### **New opportunities and cannibalization effect**

To grow the company, Mercury opted for a product development strategy consisting of bringing a new product into an existing or new market. In the long term, current consumers, along with new ones, had to shift their preferences to adapt to electric cars, as Mercury's goal was to be 100% electric. The board of directors agreed to gradually restructure the product portfolio to ease the transition without rushing them, just like BMW which has set a modest objective of being 50% electric by 2030, in contrast to competitors (Bateman 2021). This was emphasized by the fact that introducing EVs without the required infrastructure being widespread would only annoy clients as they would not be able to charge them freely and would be limited to a few communities offering adequate charging locations (Todd, Chen and Clogston 2013).

Already with a hybrid model in its portfolio, Mercury launched two hybrid cars in Year 1, an Executive and an SUV (RS23 and CC2 respectively), whose models were best sellers in Europe



and America, respectively, so that customers could have an insight into the benefits of driving such cars. These vehicles were successful at first, with an important rise in revenues in Quarter 9 (Figure 2). As of Quarter 10, days of inventory kept increasing (Figure 5), and sales remained steady until production was stopped 3 quarters later.

According to Colin McKerracher, head of advanced transport at Bloomberg New Energy Finance, there was a cannibalization effect and a creation of new demand (Pyper 2018) when the E. Convertible IM22 was brought to the market in Quarter 10 (Figure 3), thus explaining this fall. Figure 6 from the California New Car Dealers Association illustrates the decline in market share for hybrids, in contrast to the strong growth of EVs and PHEVs from 2012 to 2018. As an example, Toyota has consistently sold more conventional automobiles than electric vehicles. However, in 2015, sales growth of the former fell behind those of the latter, whose numbers progressively rose from 1.2 to 2.62 million in 2015 and 2021, respectively (Figure 7) (Toyota Motor Corporation n.d.). As indicated earlier, Mercury's initial two electric cars featured level 1 technology so that customers could gradually appreciate the products, and another one with more sophisticated technology was developed as well to reach a wider range of customers. From Quarter 13 onward, infrastructures such as home chargers were already implemented, and more were on the way, making the environment conducive for the introduction of new EVs. With medium and advanced levels of technology and a bigger client base, Mercury's portfolio was totally electric by Year 4.

### **Human Resources Director's Perspective**

The Human Resources director was in charge of hiring and retaining top talent by region, adjusting salaries for the staff's motivation, and building the sustainability skills of managers to enable investments in sustainable projects in the different scopes of Operations.

## **Compensation as a solution to raise satisfaction, motivation and attract new talents**

Compensation refers to the wage received by an employee for their contribution to the company and varies according to their credentials, experience, and position. Despite being a financial reward, salaries have other major benefits like boosting motivation, attracting and retaining qualified personnel, preserving products or services' market competitiveness, as well as reinforcing the firm's culture (Tulasee Naidu and Satyanarayana 2018, 6)

As seen in Figures 8, 9, and 10, salary growth engendered a rise in motivation and employee satisfaction. Nevertheless, it can clearly be noticed that the first variable depended on the company's number of employees. Since the firm had a long-term vision, it was necessary to hire more personnel in order to develop additional factories, provide clients with a wide selection of automobiles, and have enough supply to satisfy both current and future demand. As an illustration, Ford Motors is revamping three of its factories and will reportedly hire about 6,200 new employees to build new electric and gas-powered models as well as more of its current models. (Rosevear 2022).

Newly hired staff had lower motivation levels until they were fully integrated into the team and the firm's culture. The compensation system also considers the degree to which a person's conduct conforms to the corporate culture. Employees expect their employers to reward them for upholding the company's values and principles, and they will likely feel let down if the "reward system" doesn't reflect this expectation (Luc n.d.). Increasing salaries is, therefore, a solution to alleviate this dissatisfaction. According to Gurusamy and Mahendran's research (2013, 77) conducted in the Indian automobile industry, salary is the main driver of employee satisfaction. Taking into account Mercury's decisions, each time employees were de-motivated, salaries were increased, thus restoring motivation to its initial level, i.e., 100% (Figures 11, 12, and 13). Furthermore, satisfaction is influenced by compensation benefits and impacts the length of employees' employment at the firm. The more satisfied they are, the longer they will

stay and support the organization's ideals. Even though there was no variable for the culture, the values of sustainability, learning, and community, among others, were respected as they received training about sustainability and worked all together to bring the company up. Mercury's workers were extremely content, and the organization did well in acquiring and retaining them as their number only rose over the years.

### **Salaries and workload relation**

Compensations were also adjusted depending on the workload, which also influenced their satisfaction. In fact, the salary/workload relationship establishes a long-lasting presence in the industry (Wiles 2022), rises productivity and workers' well-being, and increases base pay, responding to market rates. It is said that salaries and workload are strongly related if the two following conditions exist: firstly, higher salaries are correlated with higher workloads, and employees work additional hours, whether they are satisfied or not, to stay competitive (Facci and Chartier 2008, 1900). Mercury fulfilled these two conditions. For instance, in Quarter 7, a new Chinese factory opened, leading to a large increase in sales of the City 75G (Figure 3), as the product was sold out in the prior quarter. Although extra workers were hired, they had to work additional hours, thus reducing their happiness (Figure 11). The next quarter, their salaries were increased in consequence, bringing their satisfaction back to 100%. Thus, most salary and workload increases were a direct result of newly hired employees for new factories, cars selling out in the previous quarter, or higher sales, as in America in Quarter 10 (Figure 12). This quarter is also an example of wages positively affecting productivity, which could eventually improve the business's bottom line. According to research from the Harvard Business Review, employees frequently put in more effort than is necessary when a firm grants them an unexpected wage boost (Carter 2019). In American factories, in Quarter 10, the workload and salaries increased simultaneously, which could prove this statement. It could also be a motivating force as they know they will probably not find any other job with that pay.

### **Skills development through sustainability training**

Two of the department's primary responsibilities are training and development. In a competitive and fast-paced environment, a competent workforce is essential to achieve a competitive advantage. With lower qualified or skilled workers, the team will be less productive, and more staff will be required to accomplish the same performance, as in China or America in Quarter 10 and 19, which is not efficient. Consequently, training is a way of showing that employees are valuable, positively affecting them by increasing their motivation, satisfaction, and performance. As we move into a sustainable era, sustainability training is gaining importance. In the words of Wehrmeyer (1996 cited in Shayista, Khan and Sayeed 2019, 1835-1836), Green Human Resources Management (Green HRM) corresponds to the coordination of standard HRM practices with the organization's environmental objectives.

To invest in the different training programs for employees to further develop their skills, Mercury had to first train some of them to earn the required points as they needed to have sufficient knowledge of the subject. More, these points were indispensable to invest in the different scopes of the Operations area. Those to be trained were chosen according to their satisfaction level, so if someone was not satisfied, training would be a good solution. At the same time, as they would be more competent afterward, they would ask for a higher salary, thus improving their satisfaction too and giving them a sense of meaning and accomplishment.

The first step was to develop a sustainability policy, including implementation goals and strategies. For instance, Mercury's would include the wish of becoming 100% electric by Year 6, as Ford wishes to be carbon neutral globally by 2050, and regarding the strategies, to face the transition slowly, by first selling hybrid vehicles and then moving on to electric ones. Then, the training was implemented, followed by the Sustainability Awareness Training to improve the work culture and work-life balance. All the success factors for Green HRM were reunited (Table 2).

Table 2: Green HRM Success Factors

Factors	Justification
Adoption of Green Business Tactics Across All Organizational Areas	Electric vehicles designed by Innovation and Marketing, green financing and green bonds, green investments in environmental scopes, and sustainability training.
Shift in abilities	New training to develop new skills, company’s culture and satisfaction were improved.
Availability of Funds	The required funding was provided by the Finance department. The green bonds were available too, obtained by investing in green investments.
Top Management Support	Board Directors were skilled and credible people

This training was highly beneficial as employees’ skills levels increased tremendously in six years (Figures 14 and 15). Sustainability competencies rose, from 0.95 to 134.1, and so did other abilities like consumer purchasing, which more than doubled.





**Operations Director’s Perspective**

The Operations division is key to the sustainable success of any company. Its director was responsible for maximizing economies of scale by deciding and adjusting which vehicle lines should be manufactured and at which sites, managing the inventory by determining which lines should be expanded or downsized, and investing in carbon-related GHG improvements to build ESG performance.

**The 4Vs of operational processes.**

Operation is the heart of any business as it converts inputs into outputs, yet each organization has different operational procedures. These differences are present in the four following dimensions: Volume, Variety, Variation, and Visibility, more commonly known as the “4Vs”, and influence the management of processes as reflected in Table 3 (Slack, Brandon-Jones and Johnston 2013, 23-24).

Table 3: Mercury's Operations Processes.

Characteristics	Level High - Low	Justification
Volume		Mercury <i>produced</i> a large number of cars (Figure 16). This high volume allowed the company to gain <i>economies of scale</i> , hence reducing the cost per unit (Figure 17). For instance, the JML GT model (Luxury EV) saw its costs reduced from Q16 to Q17 as production increased, although they were still high since it is a luxury vehicle. Tasks were <i>systemized</i> , <i>automatized</i> , and <i>repeatability</i> was high with specialized equipment responsible for manufacturing the cars.
Variety		Competing on differentiation, Mercury was able to offer a wide variety of vehicles (8 in total) with high and mid-level technology to various demographics at affordable prices.
Variation in Demand		Overall <i>factory utilization</i> was high, registering 91.3%, even though there were fluctuations throughout the years. Unstable demand made it difficult to predict, except when a new car was launched.
Visibility		According to Figures 11, 12, and 13, the average workload was 99.65%, showing that <i>staff utilization</i> was maximized. The <i>time lag</i> was high as the customer had to wait months before receiving their new cars. Although back-office processes like the assembly were not visible to customers, some other activities were, as the selling process. Customers go to shops to get more information about the product and to test-drive it to feel the experience. Sales advisors have to convince them and answer their questions, thus the importance of visibility.

It can be noticed that the company’s operations were focused on reducing its unit costs by maximizing economies of scale, factory, and staff utilization, without giving up customer contact by offering a large variety of products and being visible to its customers.

**Efficiency operational management**

Inventory days are an important piece of the operational capital requirements for a company. A lower amount denotes an efficient company able to make large profits by rapidly adapting to

the market, whereas a greater number shows that the business may be having trouble managing its outdated, high-volume, or high-investment products (Hayes 2022). In fact, vehicles that are in the maturity or decline phase are more difficult to sell, even by decreasing the prices while keeping production running.

The DOIs should ideally range from 30 to 60 days. For instance, Ford Chief Financial Officer John Lawler said that the company is not going back to high inventories and is targeting 45-55 DOIs (White and Shepardson 2022). Nevertheless, Mercury was confronted with volatile inventory days (Figure 18), most of which were outside this targeted gap. As demand was unstable, it was challenging to anticipate, and although it was expected for sales to rise with lower prices and heavy marketing costs, the problem appeared to be getting worse as DOIs continued increasing. The Luxury, Convertible, and SUV models were the most problematic ones, with the highest DOIs (Figure 5). Because of their high prices, the company did not sell as much as expected as production was much greater than demand. To reduce inventory days, production was stopped, and factories downsized to earn money. Quarters later, when an appropriate number of days was obtained, obsolete cars were discontinued, such as the conventional ones, or put back on the market, like the Electric Lux, JML GT. In the last year, Mercury improved and DOIs dropped, being almost sold out on all models, with approximately 32 DOIs in Quarter 28, which is lower than other real-life competitors like Ford at 60 or GMC at 42 (Cox Automotive 2021). Lean manufacturing, known as Toyota Production System (TPS) or “just in time production” created by Toyota’s father, Taiicho Ohno, is an effective solution to excessive inventory and overproduction, which are two of the seven waste categories of unproductive manufacturing processes TPS responds to (De Bucourt, et al. 2011).

Capacity utilization is another key metric of a company, referring to how quickly the projected output levels are being reached or utilized. Overall factory utilization was 91.3%, but some variation can be noticed throughout the duration of the simulation (Figure 19). The KPI is

influenced by demand (CFI Team 2022), inventory days, and a car transfer to a foreign factory. A clear relationship is shown in Figure 19, with a few exceptions in Quarters 9, 19, and 22. In fact, when DOIs or demand increased, factory utilization increased as well, and vice versa. For instance, in Quarter 19, demand rose, and production dropped, thus maximizing utilization, and reducing inventory days while fewer cars were produced. In Quarters 9 and 22, the situation was reversed, with lower demand, higher production, and a wider gap between both. With already sufficient DOIs and low demand, the company kept producing, thus decreasing the utilization rate. car production decreased and so did factory utilization.

**A sustainable supply chain**

Sustainability must encompass a product’s life cycle, from its design to returns or recycling. The supply chain accounts for 80% of a company’s greenhouse gas emissions in most consumer-goods categories (Bové and Swartz 2016), and in the long run, large investments to reduce direct and indirect emissions pay-off. Mercury spent almost two billion, considerably decreasing scope 1, 2, and 3 CO2 emissions over the years (Figure 20) and deeply benefiting the company in the five following aspects (Nutburn 2019) (Table 4).

*Table 4: Five Benefits of a Sustainable Supply Chain.*

<b>Benefits</b>	<b>Justification</b>
Reduced Environmental Impact	Investments in waste and water reduction (scope 1), energy efficiency, solar panels, and energy management systems (scope 2). Consequently, costs were reduced.
Improve Supply Continuity	Diversification of suppliers, choosing a sustainable one (scope 3)
Protection Against Reputational Damage	The supply chain impacts brand reputation and employees play a huge part as they are the company. They were highly satisfied, had their salaries increased, and received sustainability training.
New Partnerships	Sustainable activities are attractive to customers and other suppliers who wish to partner. Mercury chose a sustainable supplier, co-invested with another one, and invested in environmental projects worldwide each month. (Scope 3).



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Increase Sales

The ISO 14001 (scope 1) certification improves the company's image and credibility.

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### **Integrated View Across Functions**

Inter-functional collaboration and communication are essential prerequisites for effective company operations, claimed Hausman, Montgomery and Roth (2002, 242). To achieve such positive outcomes, the directors of Marketing, Operations, and Human Resources joined forces in order to provide value for their clients and inspire them to adopt innovation.

**Human Resources & Marketing:** The brand message is developed by marketing and distributed to the company's personnel, which is under HR's responsibility. Following training sessions, the employees serve as the company's heart and promote its values and missions. These are a part of the brand-building marketing strategies. Moreover, if marketing expects demand to climb, additional workers will have to be assigned to the factories, so supply keeps up with demand.

**Marketing & Operations:** After thorough market research highlighting customers' preferences, vehicles were allocated to areas and factories in accordance with those choices. Then, prices were determined in accordance with rivals in the specified area, sales, and days of inventory. Based again on these factors, Marketing either raised or decreased promotion costs for each vehicle and modified the marketing strategies.

**Human Resources & Operations:** Following the distribution of automobiles, HR assigned the necessary number of staff based on projected sales and inventory days so that they would have the appropriate workload. Furthermore, Operations needed a particular number of points from their sustainability training in order to invest in GHG improvement projects. As a result, HR had to continually train employees so it could invest.

## **Conclusion**

Mercury's analysis demonstrated the significance of each department along with their interdependencies. According to Slack, Brandon-Jones, and Johnston (2013, 6), Operations and Marketing are core functions, and HR is a supporting one, adapting itself to fit the needs of others. The automobile manufacturing company grew as a result of collaboration by building additional plants and diversifying and expanding its product portfolio. Mercury was awarded for the considerable investments made in the early years and for having such an efficient board of directors, enabling it to meet both primary objectives of becoming 100% electric and automated, drastically reducing its CO2 emissions, and growing the company's market shares.

Although facing difficult moments such as cannibalization, high fluctuations in factory utilization, inventory days, or low prices, the firm was able to maintain a long-term vision and continued working toward the end result. Due to increased pay and a positive work environment, Mercury's employees reported very high levels of satisfaction. Respecting and adjusting customers' preferences, prices, and marketing expenditures, respectively, led to the success of the vehicles, and hence, customers' satisfaction as the company was almost sold out by the end of Year 6.

All departments were deeply engaged in making a difference in sustainability. Training provided by Human Resources helped all of its employees improve their skills considerably — not just sustainability skills—. While Marketing promoted and assisted the development of zero-emissions cars, Operations transformed its standard supply chain into a green one with the aid of skilled individuals and large investments across all scopes.

The simulation was very instructive and directly immersed participants into the business world and competition. The simulation provided a unique opportunity to learn more about the many departments and how they are all interconnected with one another.

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# Appendix

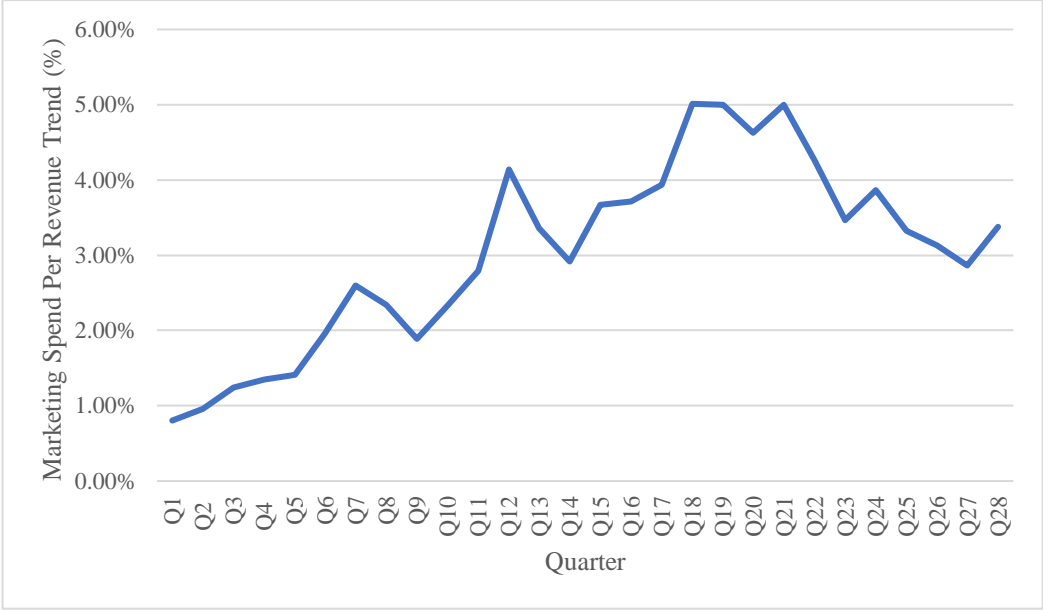


Figure 1: Marketing Spend Per Revenue Trend

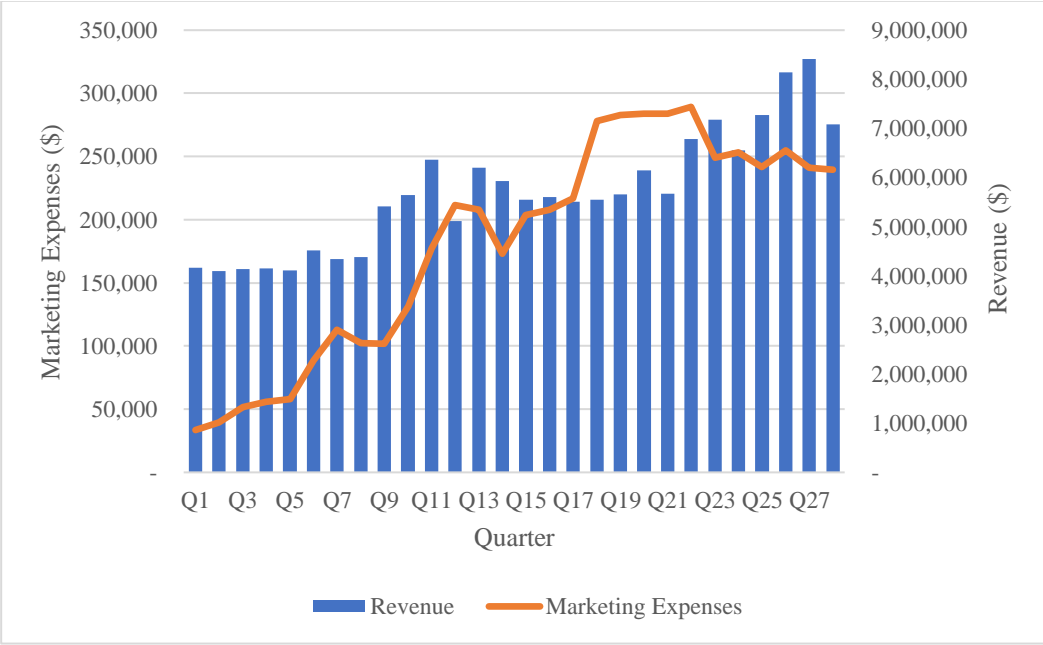


Figure 2: Marketing Spend and Revenue Trend

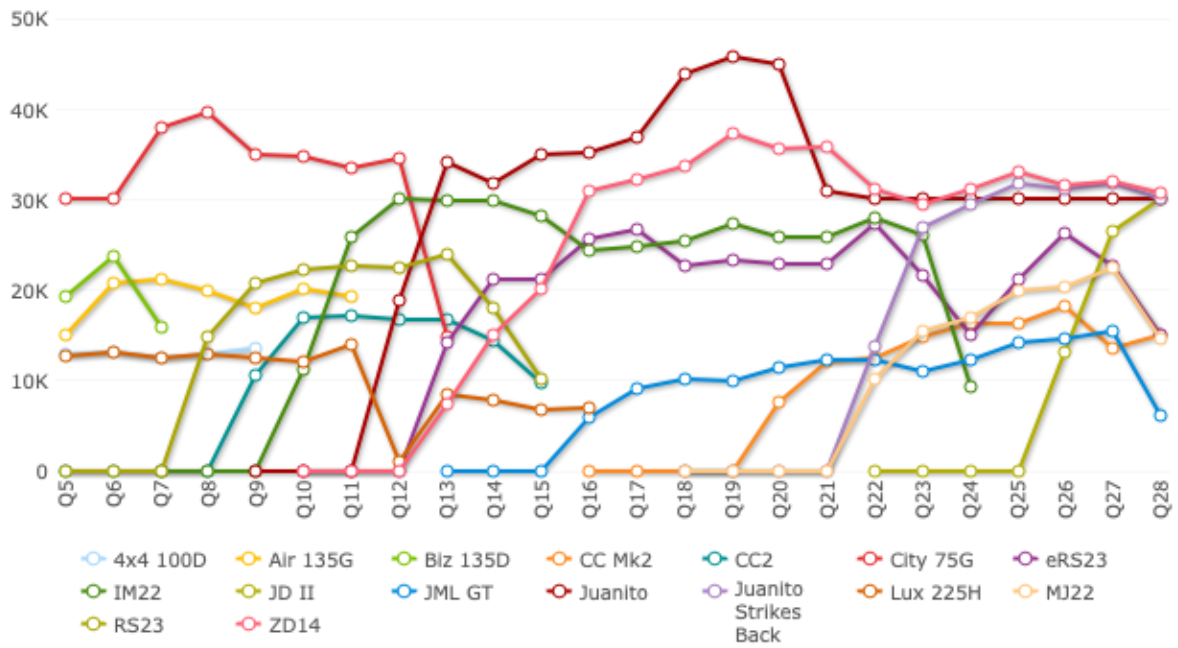


Figure 3: Car Sales

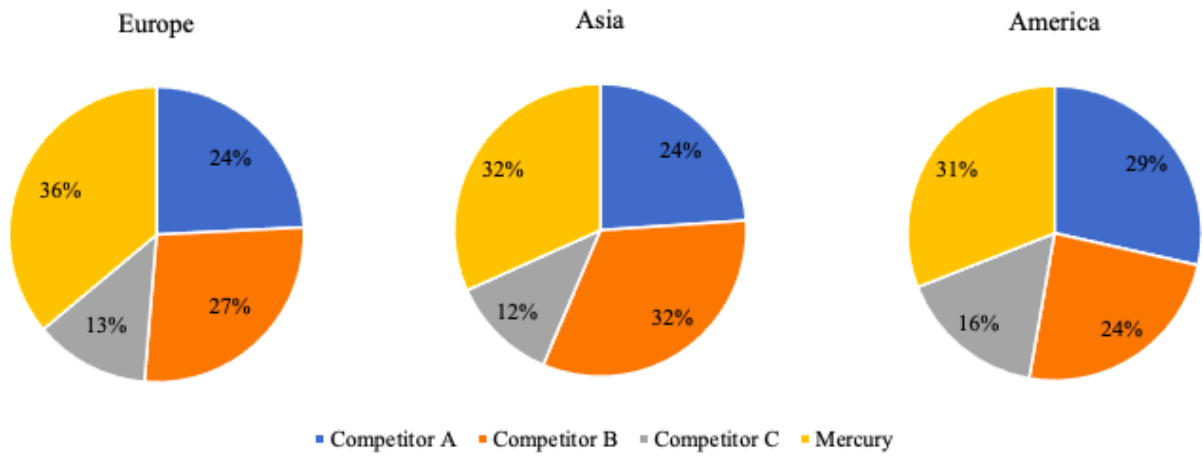


Figure 4: Market Shares Per Region and Per Company



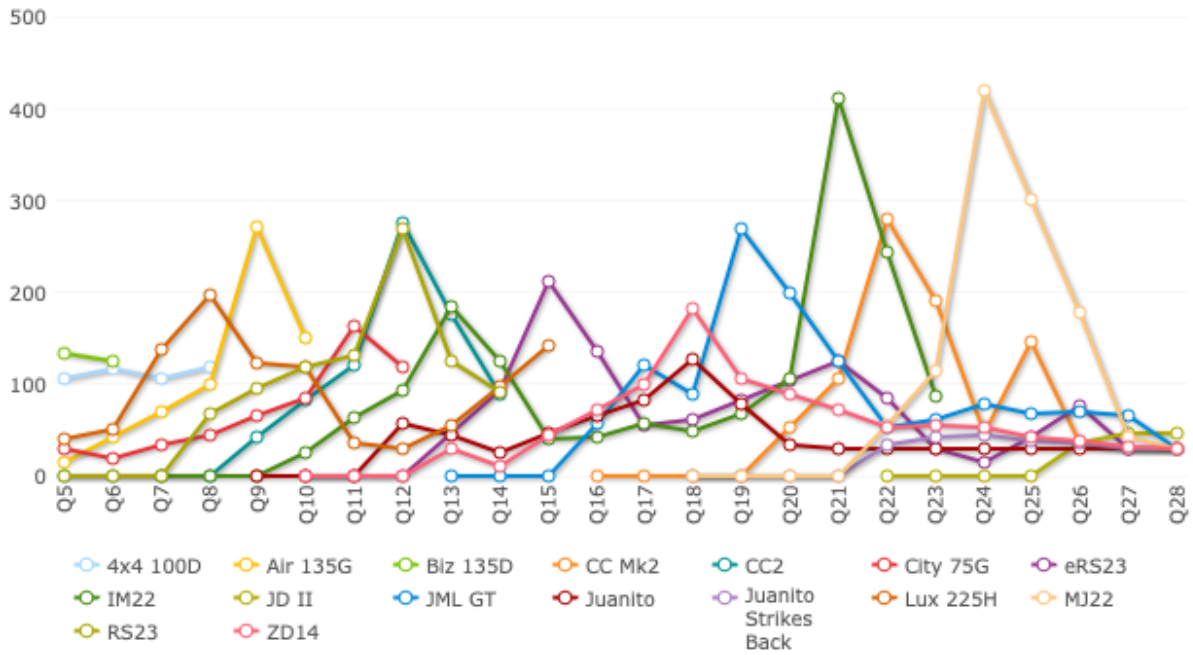
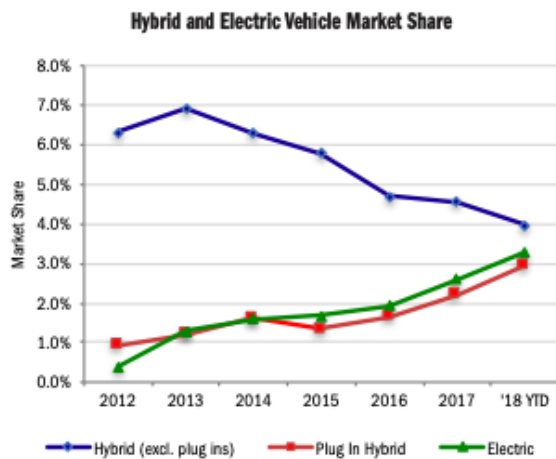


Figure 5: Days of Inventory

HYBRID AND ELECTRIC VEHICLES

Electric and Plug In Hybrid Vehicle Segments Gain Ground in 2018

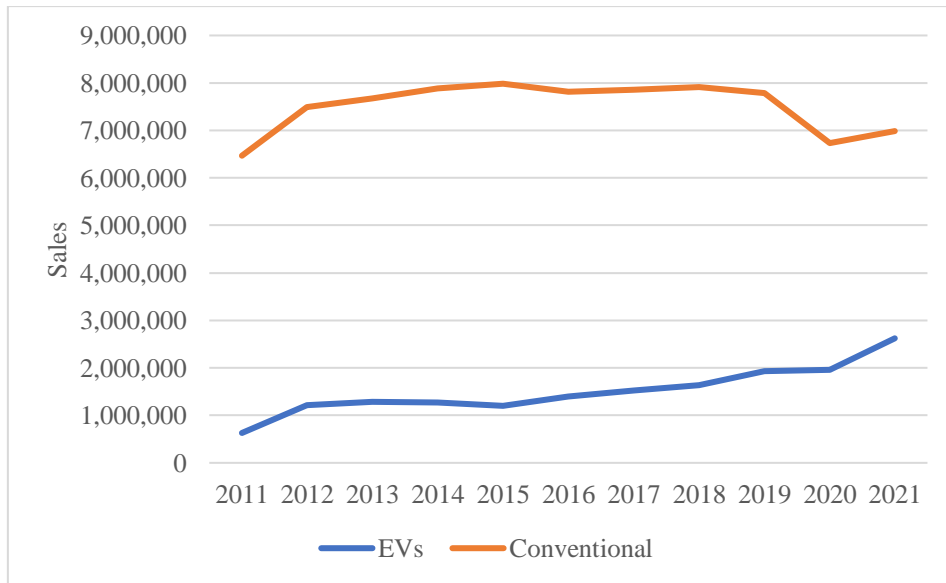


Hybrid/electric vehicle market share, YTD '18 (thru June):  
**10.2 percent**

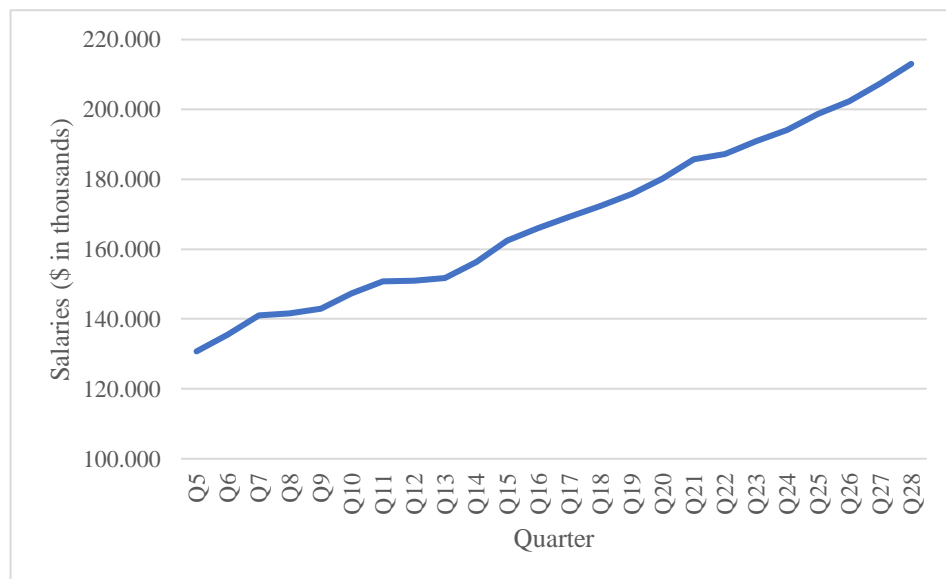
Hybrid and Electric New Vehicle Registrations and Market Share					
	2014	2015	2016	2017	YTD 2018
Hybrid regs.(excl. plug ins)	116217	118981	98083	93251	40011
Hybrid share(excl. plug ins)	6.3%	5.8%	4.7%	4.6%	4.0%
Plug in hybrid regs.	29949	27740	34727	45040	29622
Plug in hybrid share	1.6%	1.4%	1.7%	2.2%	2.9%
Electric regs.	29536	34477	40347	53500	33015
Electric share	1.6%	1.7%	1.9%	2.6%	3.3%

Source: IHS Markit

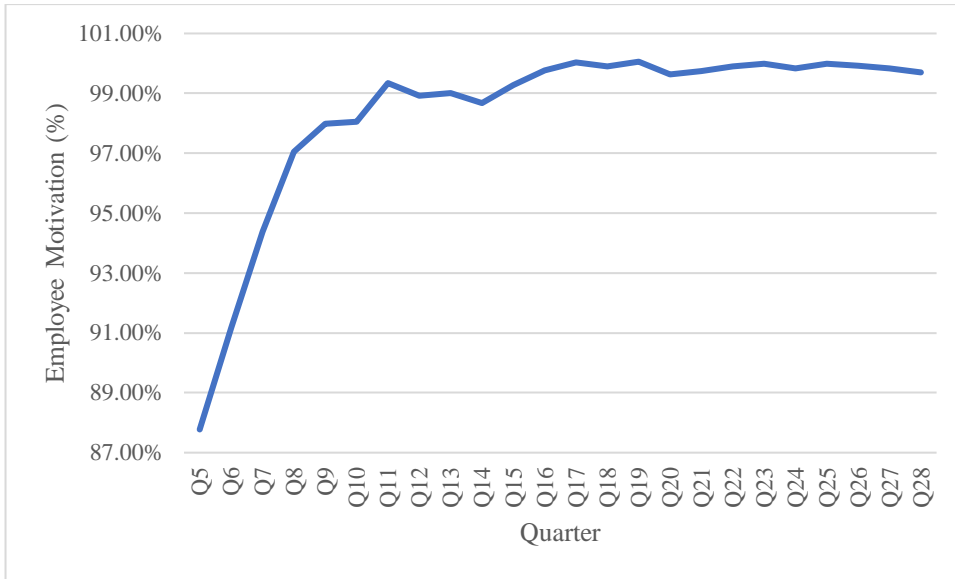
Figure 6: Hybrid and Electric Cars' Market Shares



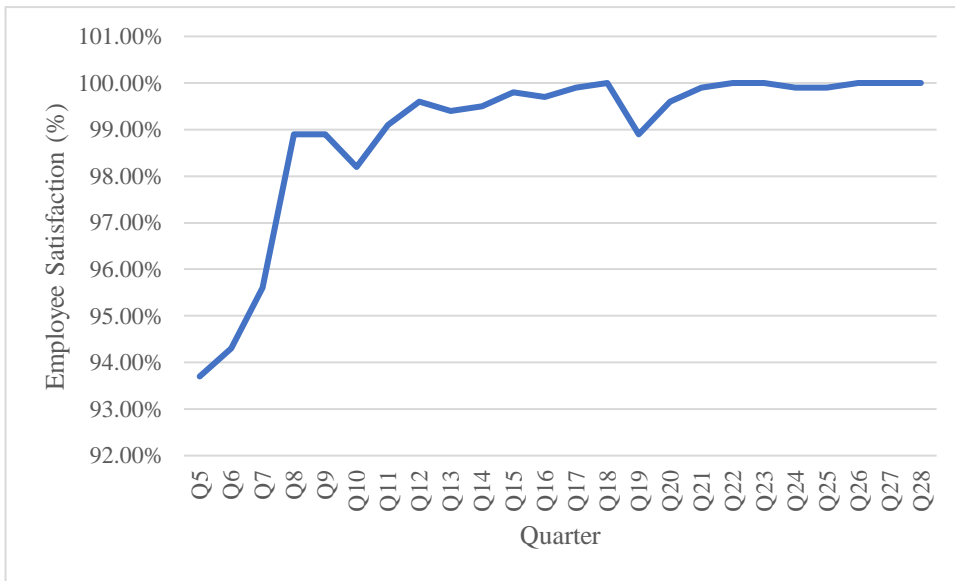
*Figure 7: Toyota's Worldwide Sales*



*Figure 8: Management Salary*



*Figure 9: Employee Motivation*



*Figure 10: Employee Satisfaction*

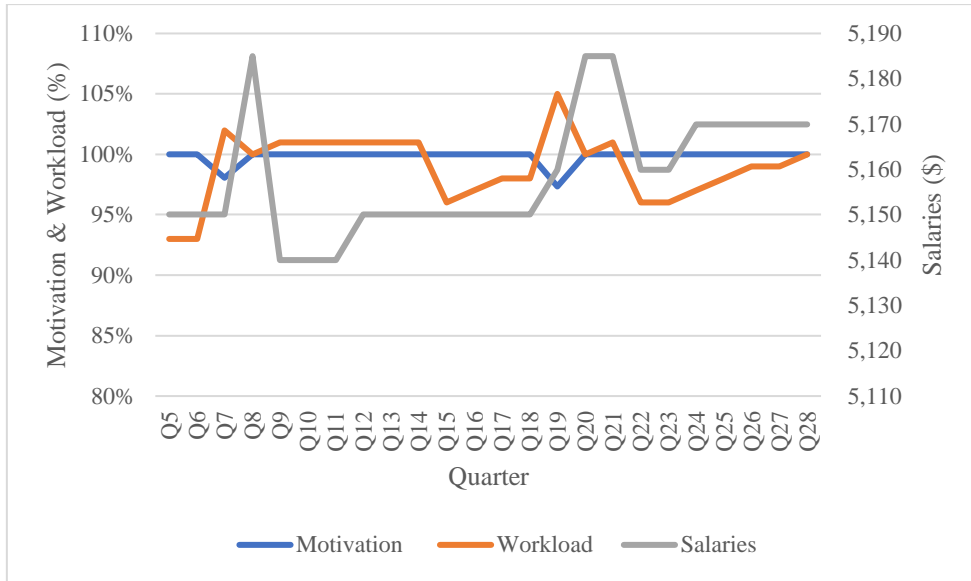


Figure 11: Salaries, Motivation, and Workload in Chinese Factories

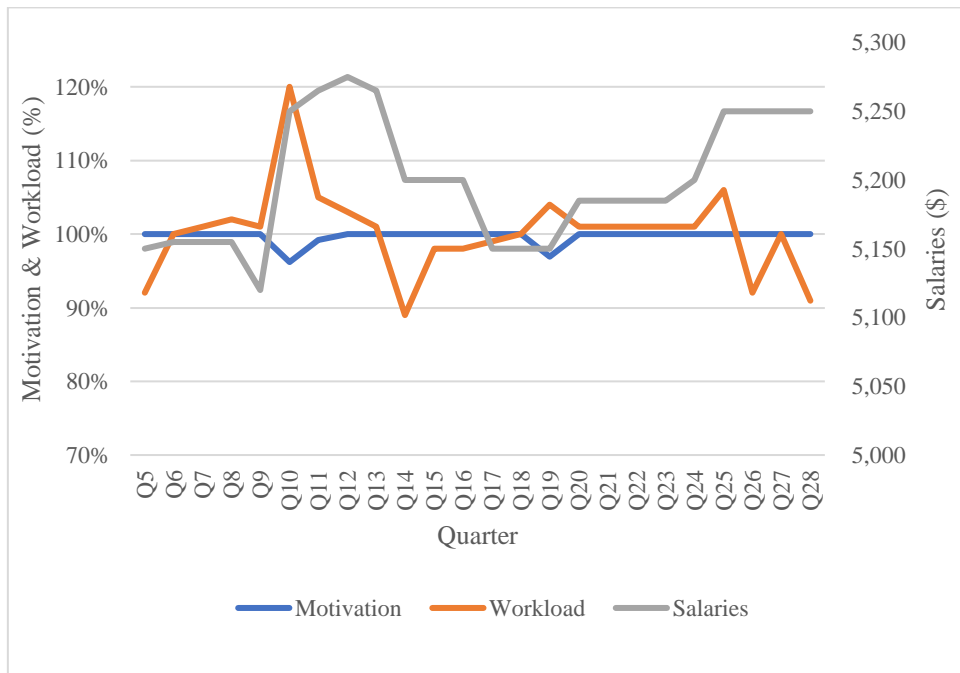


Figure 12: Salaries, Motivation, and Workload in American Factories



Figure 13: Salaries, Motivation, and Workload in European Factories

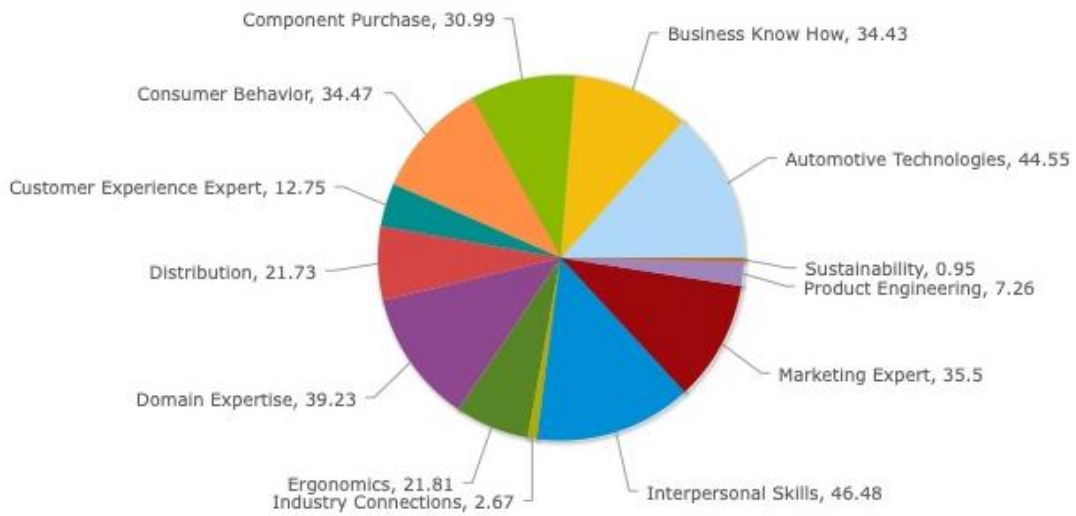


Figure 14: Management Skills Level in Quarter 4

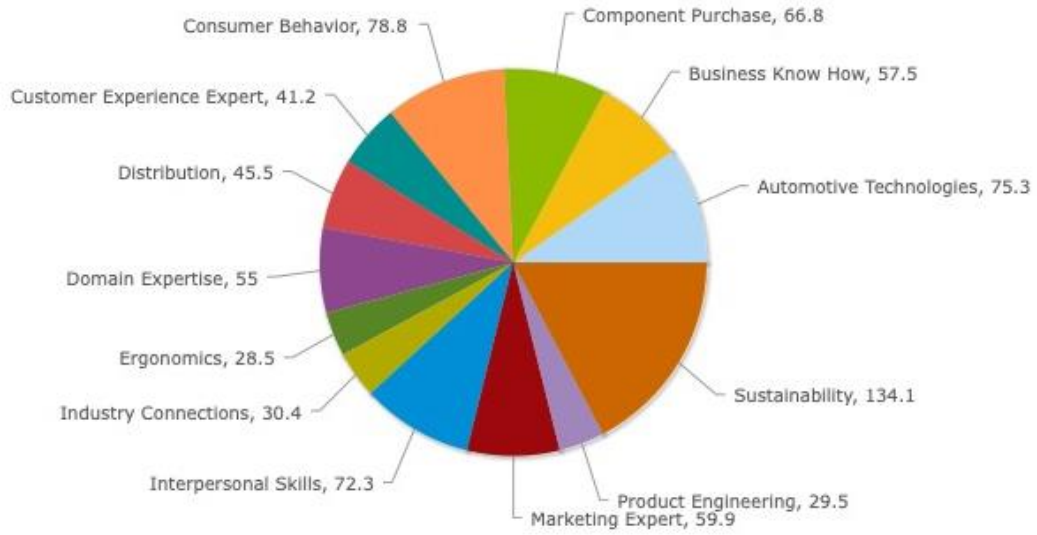


Figure 15: Management Skills in Quarter 28

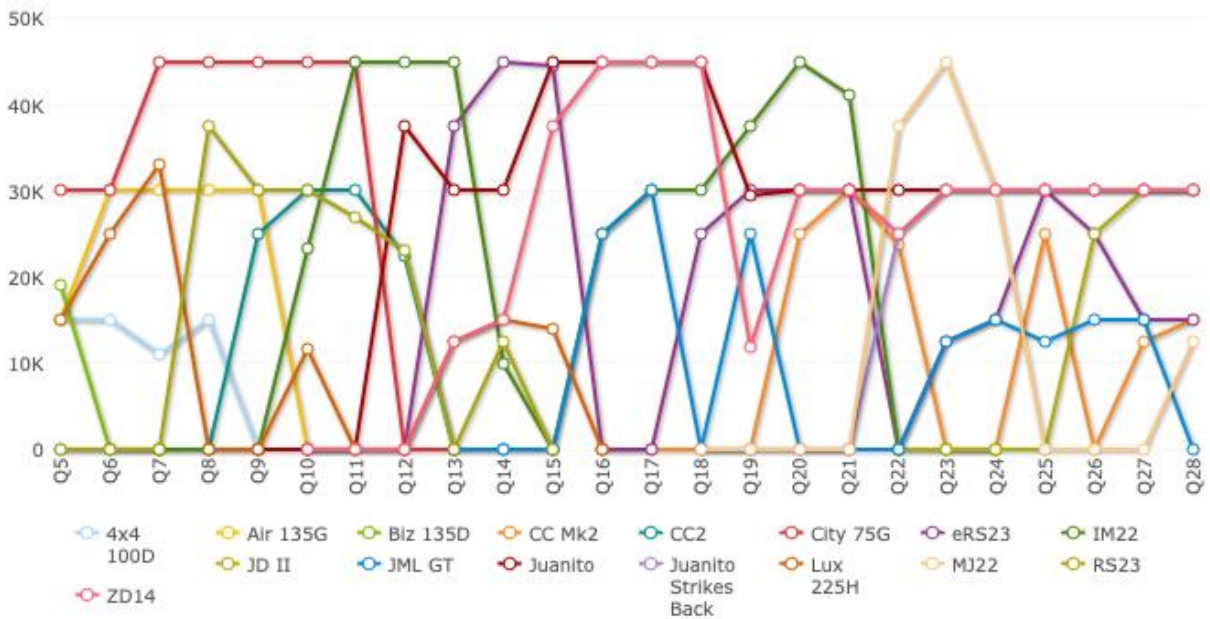


Figure 16: Production Volume

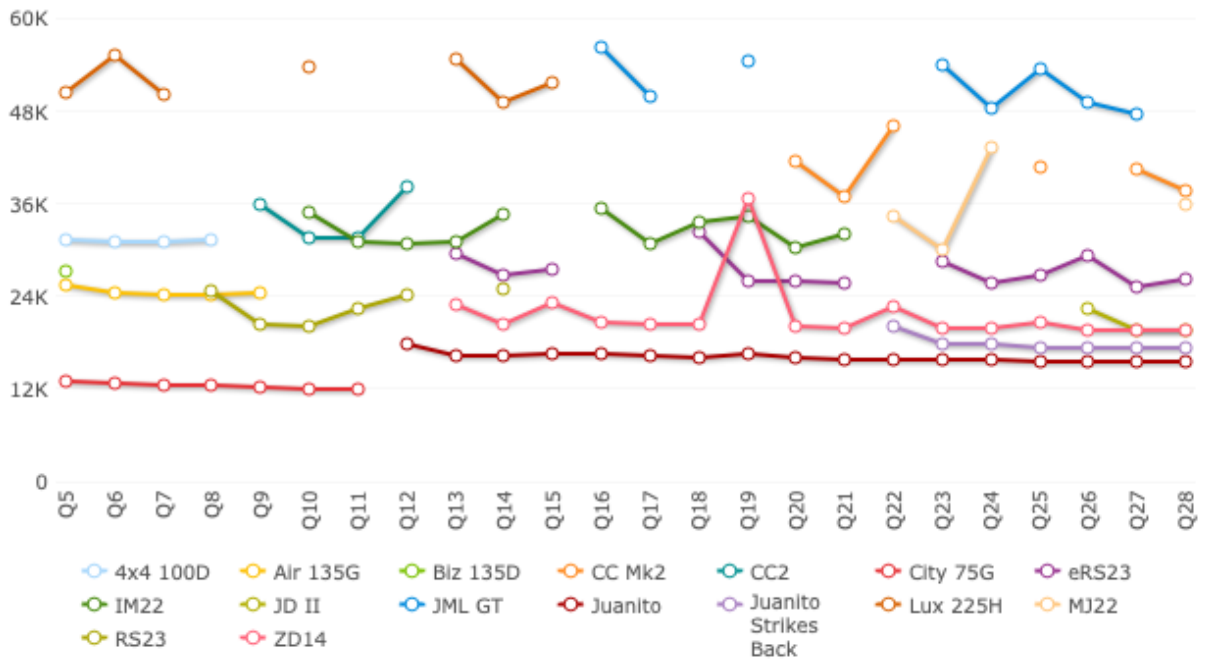


Figure 17: Production Cost/Unit

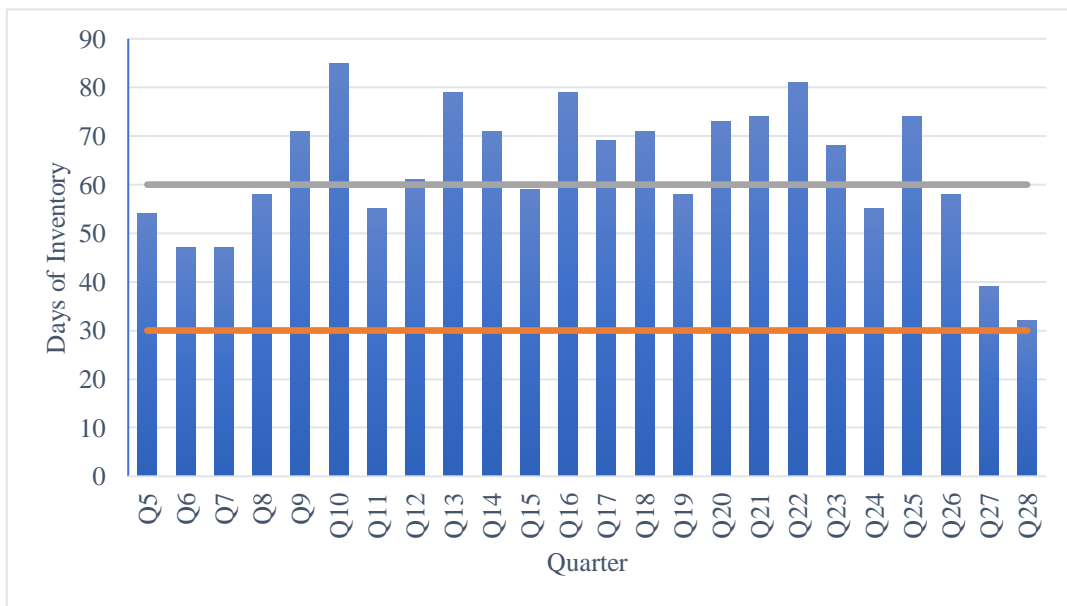


Figure 18: Average Days of Inventory and Ideal DOI Internal

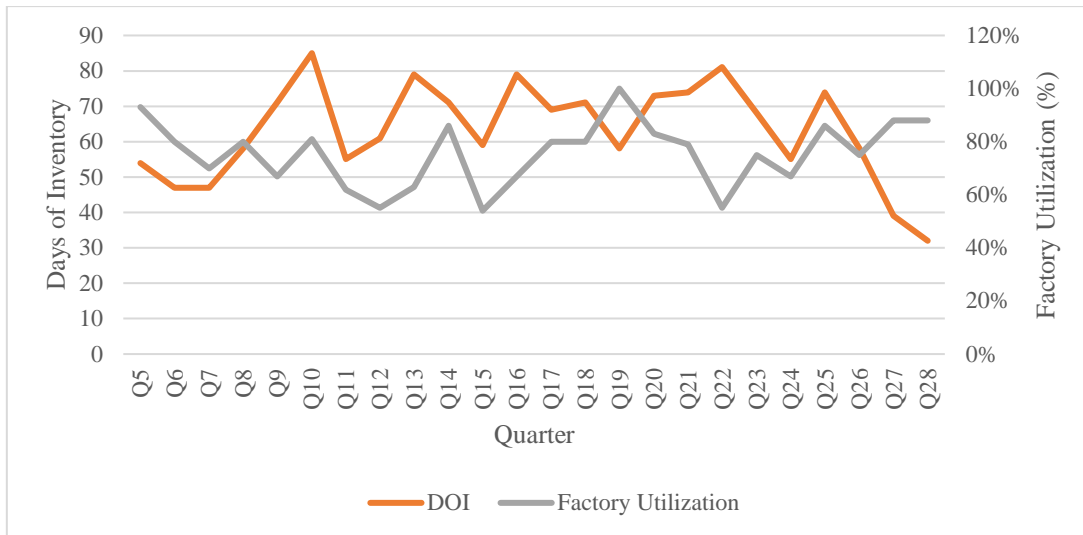


Figure 19: Days of Inventory and Factory Utilization Relationship

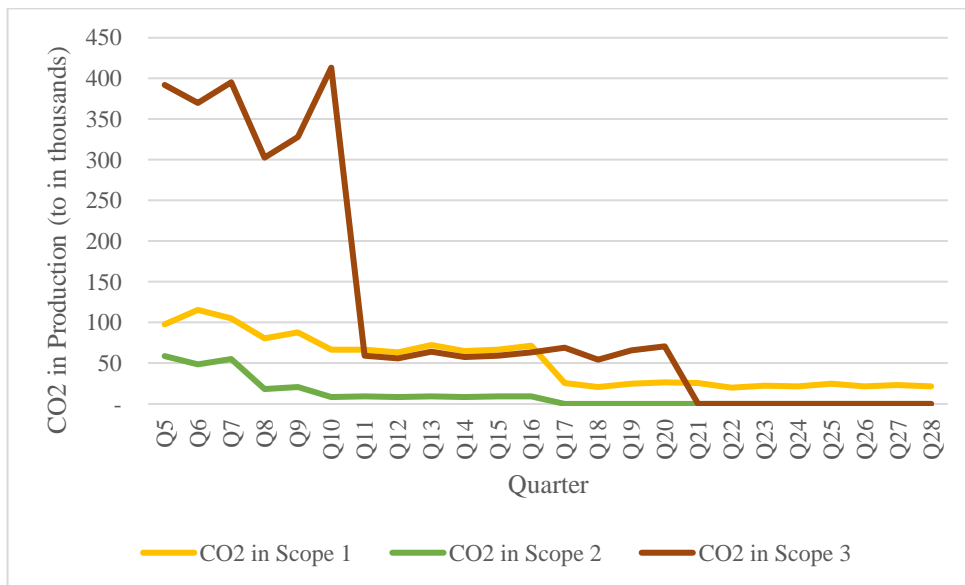


Figure 20: CO2 in Production