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BUSINESS IN PRACTICE:
CHALLENGES OF CHANGE MANAGEMENT - LEADING A CAR MANUFACTURER TO SUSTAINABILITY

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Abstract

Sustainability is becoming increasingly relevant. In fact, so much so that businesses inherently non-sustainable must adjust their focus and redefine their business model. This thesis aims to discuss the challenges of such an immense transformation. A simulated environment builds the basis for an analysis of the introduction of sustainable aspects to a company's full spectrum of activities. The analysis thereby includes two aspects. The first part is a personal reflection of the author, focusing on leadership capabilities and corresponding interpersonal challenges in the team leading the transformation. In contrast, the second part analyses purely the firm's performance.

Keywords

Marketing; Innovation; Automotive Industry; Humane Resources; Change Management; Apply Theory in Practice; Business Simulation; Develop a Business Strategy; Integrate and Coordinate Decisions Across Business Functions; Managing A Business; Reflective Practice; Sustainability And Esg; Team Dynamics; Working in Teams

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I. Introduction

The pressure to focus on sustainability is no longer a niche topic anymore but has reached the business world. Larry Fink, CEO of Blackrock, has identified that ‘there is no company whose business model won't be profoundly affected by the transition to a net-zero economy’ and that the shift in government policies and society's attitude will require any business to adjust its working methods (2021). The Paris Agreement defined the limit for global warming at 2, respectively, 1,5 degrees Celsius (United Nations 2015). Since 2021, new passenger cars may only emit an average of 95g CO2/km in the fleet, with targets to further reduce the thresholds in the future (BMU 2020). To reach this threshold, further optimizing internal combustion engines will not suffice, but the widespread use of new drive technologies such as electromobility or hydrogen propulsion will be required. Such an undertaking is a considerate challenge, especially for companies active in industries inherently non-sustainable, such as the automotive industry. Therefore, the automotive industry is currently facing the most significant transformation in decades. Properly managing the risks and opportunities of the transformation is a massive task. The organizational change on hand is not a natural evolutionary change of the first order but represents a radical alteration with fundamental redesigns of core processes (Levy and Merry 1986). It is, therefore, not just a simple shift in strategy and operations but additionally requires holistic consideration of the core attitude and values, the full spectrum of Porter's Value Chain, and the leadership's capabilities.

Business simulations, i.e., gamified environments typically focusing on training people on theoretical business knowledge and soft skills (IndustryMasters 2021a), have been proven to be an effective tool (Ahn 2008). In the context of this thesis, an IndustryMasters simulation dedicated to change management and the transformation of a car manufacturer towards sustainability (IndustryMasters 2021b) builds the base for both parts, one being a personal reflection of the author regarding their role in the team and part two representing a firm analysis.

II. Personal Reflection

A. Introduction

In the context of the change management simulation representing this thesis's basis, teams of people who had never worked together were formed. This brought additional social complexities alongside the transformation challenge. Tuckman's stages of small groups (1965) categorize new teams as in the Forming stage. Excitement and high positive expectations are prevalent, with the members being polite and guarded. Naturally, teams like to succeed. Lencioni (2007) states that high-performing teams have five winning factors: trust, conflict, commitment, accountability, and results. To be a functioning team, we need to trust and feel safe and supported to engage in healthy conflict. Engaging in healthy conflict gains commitment. In turn, the commitment of everyone on the team creates the peer pressure necessary to hold each other accountable. Lastly, accountability enables the team to achieve outstanding results.

Teams typically encounter challenges of Lencioni's dysfunctions in becoming a high-performing team, which also was the case for the author's team. The following sections will analyze two critical incidents. For the first incident, the author looks at a growing frustration due to a lack of expertise and directing that frustration toward team members. The second incident is closely connected to the first case, namely the author's action of accessing another team's data to improve the marketing understanding. As both incidents describe the author's continued and interlinked development, the learnings of both cases are then summarized in a joint conclusion at the end of this chapter.

B. Incident #1: Knowledge Challenges And Frustration

Coming into the Business in Practice module, I expected to be allocated the Finance director role and utilize the theoretical knowledge I gained during my Finance Master's at Nova.

However, at short notice, I got reassigned to be Marketing director at another team. Not having had a marketing class since my bachelor's in 2015, I felt immensely overwhelmed but trusted I could make it work. During the first simulations, my team members, who knew that marketing was not my strong point, provided their suggestions and opinions on decisions to make. Towards the end of the second simulation session, I realized that I was becoming increasingly unfriendly, somewhat unloading my frustration on my team members when they asked questions about marketing actions and decisions. The apparent lack of trust made me angry. And it was not only the lack of trust of my team members but also the lack of trust in my own abilities. I had prepared for my role by reading my old marketing notes and researching several strategies. But my teammates so strongly interfering with my activities and decisions made me reconsider and very often retake decisions within the simulation. Already at that moment, but even stronger later that day, I felt embarrassed about my inability to process my frustration internally.

Though realizing this at that very moment, I did not apologize out of embarrassment and did not uncover the reason for my sudden bad mood. At the time of the situation, I wanted to prove my value to the team but found myself unable to. This shows that, at that time, I had progressed from Tuckman's first to the second stage, namely the Storming phase. The Storming phase is when the team members feel the weight of uncertainty and confusion. There is tension and frustration as the team realizes that initial expectations are not completely met. To me, receiving continuous comments was a clear sign of absent trust in my ability to manage my tasks independently. It seemed I was neither meeting my teammates nor my own expectations. Interestingly, though, evaluating the peer review conducted during the simulation, most of my teammates assessed my knowledge to be at a high level. Only one teammate estimated my skills as sufficient only but expected a high level of quality from me nonetheless (cf. Figure 1). Analyzing the situation, I realize that my teammates acted in line with their personality types

as categorized by Insights (2022): Like I would have done was the situation reversed, the blues asked for details and reasonings behind my decisions, while the greens respectfully offered their opinions. All of them were trying to help solve the problem of my insecurity and enable me to contribute confidently to the team. Johnson, Heimann, and O'Neill (2000) compare the qualities corporate teams need with those of wolf packs and derive that knowledge sharing and effective communication are crucial factors to being a successful team. At that time, however, I did not realize this. Instead, I was embarrassed by the team focusing its discussions on my marketing decisions. However, I did not want to make myself vulnerable and admit this, unconsciously working against my team.

Trying to find a reason as to why I did not want to open up to my team, I remembered my youth. At school, I had a group of friends who, by far, were the most intelligent people in our year. Socially, however, they lacked skills. For them, it was quite normal to ridicule people who knew less. Especially if one also showed or admitted it publicly. Unfortunately, frequently that included me. Apparently, that period has a long-lasting influence on me. Indeed, research says that former experiences can significantly impact the trust-building process of people (Baril 2020). According to Lencioni, trust represents the basis for successful teamwork, making it critical that I overcome this negative internalization imprinted by past experiences. Projecting my past experiences on new teams is not productive but instead hinders the teams from functioning seamlessly. While it surely will be difficult in the beginning, in the future, I plan on openly sharing concerns from the very beginning. In case I get assigned a task I am relatively inexperienced in, I will share how I plan to overcome the weakness. When encountering obstacles I am unsure how to handle, I will make sure to approach my colleagues and ask for support. With this approach, I am openly communicating that I am committed to contributing to the team and willing to accept help if needed. Highlighting these Trust Factors, as Baril calls them, will help clearly define my role and accountability within the team. Simultaneously, this

facilitates team members in similar situations to possibly open us as well. In turn, this will foster mutual trust, building a critical baseline to become a high-performing team.

Besides the absence of trust, the incident in this section also displays the second dysfunction defined by Lencioni: fear of conflict. The lack of trust, as analyzed previously, hindered me from challenging and questioning my teammates and their suggestions of what marketing decisions should be taken. Johnson, Heimann, and O'Neill state that one main reason teams fail to succeed is not embracing healthy conflict. Therefore, by blindly accepting my teammates' recommendations, I explicitly contributed to a dysfunctional team. Usually, when I am within my expertise, I am not one to be afraid of challenging decisions or approaches. However, being responsible for a topic I specifically knew some of my team members were more knowledgeable in significantly shrank my confidence in any of my decisions. However, not standing up for decisions and opinions is counterproductive to the team's success, as it might result in inferior decisions. Teams that discuss diverse opinions have proven to perform better (Rock and Grant 2016). Challenging a status quo might reveal aspects that had not been considered before. In our case, the marketing decisions might have benefited from comparing the suggested solution with my approach and seeing the benefits and disadvantages they would bring. As a result, perhaps a combined solution could have been the better approach. But my silence lost us the opportunity to collectively reach a consensus through healthy conflict.

The solution to overcoming fear of conflict seems simple in this case: Being more confident in oneself and one's knowledge. MasterClass (2022) notes that gaining confidence is not quick but a process. Their article mentions several tips to address a lack of confidence, including getting out of one's comfort zone or setting specific goals. Interestingly enough, being marketing director within the simulation was entirely out of my comfort zone. And indeed, in the sessions later in the course of the simulations, I had already gained stronger confidence in my marketing decisions, often dismissing my teammates' suggestions with detailed answers

and reasoning as to why I would stick with my decision. Still, if I felt that the alternative ideas provided a better solution, I gladly accepted it. Unknowingly, my unexpected role within my team might have therefore solved the very dysfunction it caused.

Nonetheless, to improve my confidence for the benefit of myself and future teamwork, I will continue exposing myself to experiences out of my comfort zone. With my counselor at work, I have identified some situations that I feel uncomfortable in and, as a result, have enrolled in the Harvard Business School Online negotiation class (2022). The program will challenge me both topic-wise, but also due to the training with a randomly assigned peer. Moreover, my counselor and I designed small challenges for another topic I feel insecure about: networking. Step by step, I will work through the defined goals, actively contributing to improve my confidence.

C. Incident #2: (Peer) Pressure to Perform

While our team performed rather well in the first three simulation years, my team members, nonetheless, were astonished by the sales numbers the team I was previously allocated to managed to achieve. The numbers were far away from ours, and with every additional simulation round, my team members further questioned how they could achieve this and what we would need to adjust to reach similar levels. Triggered by the inquiries of my team members and the insecurity about my marketing knowledge, I mentioned that I still had access to my previous team's data folder. In the spur of the moment, I offered that we could check out the folder and see if we could find a file that answered the question. The access to their folder was unsuccessful as it did not hold a file providing us with the desired answer. However, the other team found out that we – led by me – had accessed their data. To this day, I still feel sick to my stomach thinking of this situation. My mind continues spiraling, questioning how the situation could have happened in the first place. I let the pressure to perform for my team result in me acting against two of my deepest core values: being fair and honest.

The situation was overall bad. Not only did it create tension with the other teams, but more importantly, I was not able to let go of my mistake. My mind kept circling around the moment, so much so that I even had trouble falling asleep. I could not understand how this could happen to someone who never even walks through a red light because it is the wrong thing to do.

Reflecting on how the situation came to be, it becomes obvious I acted out of pressure from my peers. The effects of peer pressure 'are a result of the need to find acceptance from one's social group' (Burkey 2005). In my case, I still found myself in Tuckman's second stage, Storming, trying to prove my value to the team. While not explicitly saying so, the comments of my teammates regarding the superior results of the other group suggested to me that my knowledge and corresponding results were not good enough. My half-jokingly suggestion to access the other team's data was not dismissed but instead supported, increasing the pressure on me and influencing me actually to go through with it. While somewhat stretching the five dysfunctions by Lencioni, one could see this moment as avoidance of accountability. As a team, we did not call each other out on a clearly counterproductive action. Besides being just inherently wrong, even if we had found data, the other team could have followed a different strategy than our company, making the data irrelevant to us. The pressure we stood under hindered us from thinking clearly and holding each other accountable to act right. The perceived benefit of the insight the data could provide shortly made us adjust our moral values. Such short-term adjustments are human and have been proven to affect people with the slightest incentives (DeScioli et al. 2014). Indeed, a survey of students found that the pressure to perform well influenced more than half of them to have cheated and supported others in their cheating activities (Burkey 2005). While this does not excuse the transgression, it shows why my comment was so readily received by my team instead of dismissing it right away as immoral. The pressure to perform well in the simulation was high. Though the teams were not competing

with each other, as masters students at a highly ranked university, we are naturally competitive and want to succeed.

The effect of the transgression on my self-esteem was tremendous. When acting against one's principles, feelings of shame are typical (Tangney, Stuewig, and Mashek 2007). People respond differently when experiencing shame due to a moral transgression. While some attack themselves or others, some withdraw from the situation and connected persons, and others avoid dealing with it or explicitly do so and make amends (Tangney, Stuewig, and Mashek 2007). Personally, I wanted to react with withdrawal. I was so ashamed of my action that I could not bear the thought of having to meet the persons impacted. Luckily – and this would definitely not have happened if the simulation program was not still running and we had to come to university every day for more than a week – I was forced to confront myself with my mistake. In line with possible redemption strategies, as stated by Tangney, Stuewig, and Mashek (2007), I apologized to both my own and the other team, ensuring that the action was not in line with my typical behavior.

However, the apology did not solve my inner turmoil. My action did not represent whom I thought I was and how I wanted to be perceived by my team and my general environment. Harkrider et al. (2013) found that a 'moral cleansing' can help rebuild one's self-image when one's moral values have been threatened or hurt. In detail, participants were able to rebuild their moral self-image by engaging in prosocial behaviors, as it served as a reminder that, despite their transgression, they are moral. And indeed, since the incident, I have been especially straight but also – unconsciously until this reflection – donated clothes, shoes, and household items to the German Red Cross and volunteered at a local sports event.

There is little I can do to ensure I would act differently if such a scenario should arise again. However, as discussed in the previous incident, improving my confidence might help to counteract underlying insecurities concerning my role in a team. Nevertheless, as research

shows, sometimes the environment one finds themselves can beat the strongest conviction to adhering to morale and inner values. What I can impact, however, is promoting self-compassion over self-criticism in my life. The peer evaluation shows my strong tendency for self-criticism as well. My peers assessed me significantly better, resulting in a strong gap between external perception and my self-image (cf. Figure 1). The same continues to happen for my work evaluations. Still, I tend to ruminate over mistakes and fear failure, and imagine that others are judging me. When writing this analysis, the incident happened almost two months ago. Yet, I am still blaming myself and reliving the situation, wondering when it went wrong. Not only is that a big stress factor, but research has proven that inordinate self-criticism reduces the ability to use coping mechanisms (Powers, Koestner, and Zuroff 2007) (McGonigal 2012). This means that in the long term, my excessive self-criticism would negatively impact my performance and, in turn, impede a positive contribution to any team.

Neff (2003) defines three components of self-compassion: self-kindness, meaning being kind and gentle to ourselves when going through a difficult period; common humanity, keeping in mind that everyone makes mistakes; and mindfulness, realizing when we are overwhelmed or struggling without judging it as something negative. Numerous research shows the importance of self-compassion, referring to greater happiness, optimism, and forgiveness as benefits of exercising self-compassion (Leary et al. 2007) (Neff, Rude, and Kirkpatrick 2007). Hibberd (2019) says that achieving self-compassion is a two-step process: Firstly, ‘becoming aware of what you say to yourself’, and secondly, ‘find[ing] a new voice for yourself’. Following Hibberd’s suggestion, I plan on starting a diary, collecting self-criticism examples, and evaluating whether the thought is accurate or exaggerated. Subsequently, I want to rephrase the criticism as an opportunity for myself to improve in and how I can achieve that. I will take responsibility for my actions but will process them more kindly by remembering that everyone makes mistakes.

D. Potential for Improvement

As an old proverb says: ‘self-awareness is the way to improve oneself’. Evaluating my role in our team and how I contributed to our common success, I realized that while I might not be the worst teammate, I have a reasonable amount of work to do. I find it surprising how many unconscious influences impacted my behaviors and actions. Going into the process of self-reflection, I did not expect to find that experiences that happened years ago still affect me. Neither did I expect my nitpicky self-criticism could also impact my ability to function as a productive teammate and negatively influence the team.

Previous to this experience, I focused on advancing rather quickly in my career as a consultant, aiming to reach the manager rank before turning 30 by putting in the hours and taking on additional responsibilities. Instead, I now realize that I should focus on developing myself further. I have found numerous shortcomings in my contributions to a team and am committed to working on them. I am sure that as a result, career advancement will naturally follow, as people will value my working style and appreciate my positive contribution to teams.

Teamwork has much more layers than apparent. I doubt anyone can be a perfect team member, as everyone has past experiences or unconscious behaviors. However, regularly reflecting on our role in a team enables us to continuously improve the environment of working together. In the words of Mark Sanborn: ‘The greatest danger a team faces isn’t that it won’t become successful, but that it will, and then ceases to improve.’

III. Firm Analysis: Einstein's Path Towards Sustainability

A. Introduction

Strategic transformations seldomly are successful, with an astounding 80 % of change initiatives failing, with its root cause found to be resistance towards the change within the company and the lack of required skills to both approach and execution of the new business model (Porsche Consulting 2021). The human factor, therefore, seems to be the leading aspect to consider in the context of change management. Porsche Consulting found 'five forces of change' that help internally foster a foundation that facilitates a strategic transformation: leadership, communication, guidelines and policies, new ways of working, and future skills. At the same time, the functions of the value chain need to continue to perform their day-to-day business while incorporating the strategic shift.

In the context of the change management simulation, an automotive company needed to be designed. The strategy of the simulated company (hereafter referred to as Einstein) in the context of the transformation towards sustainability was to be the leading innovator, providing quality and focusing on value and customer satisfaction.

The following sections revise the achieved simulated results, detailing the complexity of theoretical strategies and practical approaches to lead a company in a new direction. In particular, three functions of Porter's value chain (Porter 2013), namely Human Resource Management, Innovation, and Marketing, are looked at closer and evaluated by their general success, but also the change management is approached by the departments.

B. Human Resource Management: The Basis for Successful Transformations

There are two main employee-related challenges that managements face when initiating change: resistance to change and a lack of the required skills (Porsche Consulting 2021). So how can a company create a culture that is agile and receptive to change? Peter Drucker once

allegedly said ‘culture eats strategy for breakfast’. And as one of the supporting forces in Porter's Value Chain, Human Resource (HR) Management represents the totality of all goals, strategies, and tools that shape the behavior of managers and employees (Hilb 2008, 12), ultimately molding the company's culture.

Communication is a critical change force of HR (Porsche Consulting 2021). Martin (2017) states that the status quo bias can represent a critical barrier and trigger the employees' resistance to change. She found that strategically framed communication can help. In detail, she suggests that reframing the status quo facilitates acceptance and adoption rate. At Einstein, a Sustainability Policy was created early on. The policy clearly defined sustainability as a key factor to be considered in all business decisions, with subsequent mandatory training for all employees. It represented the common goal, fostering a positive change in behavior and approaches, therein creating an essential framework at Einstein. As a result, its quick and imminent introduction at the very start of the transformation can be deduced as successfully framing the perspective as setting a new status-quo, encouraging behavior in line with the new business strategy. However, proper communication can only be successful if leadership leads by good example. Porsche Consulting (2021) defines leadership and their genuine conviction of the new vision as vital to the employees' motivation and satisfaction. These are impacted by numerous factors, such as workload, qualification, salary, and more. Roos (2008) found a positive correlation between motivation and the company culture. This can be fostered if values and strategy are adequately communicated and embodied by the upper management and can also be observed at Einstein. At the beginning of the simulation, management motivation was relatively low at 90 %. Aligned with the introduction of the sustainability policy and its respective training, it strongly increased to 96 %. However, in Q10 and Q11, when the sustainability awareness training took place, motivation went down to 94 %, and even further to 92 % in Q17 (cf. Table 1). When analyzing the period from Q11 to Q17, it becomes evident

that multiple other factors might be impacting the motivation of Einstein's management. For example, the diversity KPI constantly changed throughout the chosen period (cf. Table 2). Hence, one can deduce that the pool of employees underwent multiple fires and new hires, possibly resulting in a feeling of job insecurity at Einstein. More drastically, there was a substantial loss of knowledge in Q17 (cf. Table 3) due to the employee restructuring. Both aspects might have negatively impacted the remaining managers and their performance as they would have to try to compensate for that and find solutions to the lack of specific skills (Rahman, Fatema, and Ali 2019). In turn, this could also explain the volatility of Einstein's market share (cf. Table 4) and vice versa. The missing skills might result in ineffective distribution and marketing efforts and, therefore, respective weak and inconsistent market share results. Lack of skills has also been named one of two main hurdles for change management by Porsche Consulting. In 2006, Gloet said: ‘knowledge is both the key resource and a basis for sustainability,’ and Unnikrishnan and Hegde (2007) name it the key success factor of sustainability efforts. At Einstein, all management personnel was continuously trained in the key transformation skill sustainability throughout the simulation, resulting in an increase of 17.746 % and an average knowledge of sustainability of 7,64 out of 10. Besides sustainability skills, Einstein's management increased its knowledge in almost all categories. However, two critical skills, namely Automotive Technologies and Interpersonal Skills, drastically fell at the end of Y5 and were not recovered (cf. Table 3). This must have resulted from replacing one of the high-paid managers with a new hire in order to save costs. The significant loss in qualification, however, bids the question of whether the marginal short-term drop in average salary payments from $ 201.772 to $ 191.552 (cf. Table 5) was worth it or would instead bring future challenges to Einstein's business.

While lack of skill is purely technical, the second hurdle, as defined by Porsche, resistance to change, represents a behavioral challenge. As earlier described, communication and

leadership can be utilized as drivers to foster receptiveness to change. Another way to generally minimize the hurdles of transformation acceptance is by creating a diverse workforce. Diversity has multiple positive effects on a company's success, e.g., a 35 % higher chance to financially perform above their competitors (McKinsey 2015) as well as higher return on equity and higher net income growth (Credit Suisse 2012). Numerous studies attest to diverse teams being 'smarter' than more homogenous groups. This is due to different approaches challenging conform thinking, ultimately enabling groups to overcome potential biases they adhere to (Rock and Grant 2016). A diverse workforce, therefore, might be less prone to resist a transformation as they more quickly understand the need for it. Though slowly, Einstein continuously increased its diversity proportion from 28 % to a balanced 49 % (cf. Table 2). Furthermore, it achieved and maintained gender equality in its management team early on in the simulation with a proportion of 15 to 15 Female to Male (cf. Table 6). Today's statistics show how significant that achievement is: women currently only represent 18,3 % of CEOs and 28,1 % of board representatives in the automotive industry (Drive 2021). However, it is not enough to only fulfill a desirable ratio of gender proportion. While not specifically a hurdle of transformations, salary and salary fairness are significant factors of sustainable HR. Even though representing almost half of total employment, women seldomly are in decision-making positions and, if so, often earn less than their male counterparts (UN 2022). At Einstein, the average salary of the female managers comes in at 16,28 % lower than their male colleagues at the end of the simulation (cf. Table 7). With a global average of women earning 23 % less than men (UN Women – Headquarters 2022), in the real world, Einstein would be part of the problem. Lacking the social responsibility it should take on as a large corporation might also impact its recruiting and employee attrition capabilities. Incentive and compensation systems are discussed as essential elements for a successful sustainability orientation in companies (DuBois and Dubois 2012). As specific target agreements and incentives were not part of the simulation, a salary analysis

must suffice to evaluate fairness and employee motivation and satisfaction. Einstein paid its management an average salary of $179.813 over the six simulation years, ending at an average of $206.532 in Y6 (cf. Table 5). The US Bureau of Labor Statistics estimated the average annual wage for a general manager in the automotive industry at $ 136.350 (Work - Chron.com 2022). Assuming Y0 of the simulation to be 2022 and an average inflation rate of 2,08 %, the projected industry average comes in at $167.424 (SmartAsset 2022), attesting Einstein's salaries to be fair. Fair salary, besides the individuals' work experience, takes into account subject expertise as well (Schlee and Karns 2017). The relationship between salary and knowledge can clearly be observed at Einstein: Better-skilled managers were proportionally compensated better than their less-skilled colleagues (cf. Figure 2). Offering employees training opportunities is a great sustainability driver. While it provides the employees with continuous development, it also enables Einstein to build a framework for sustainable success.

When looking at Einstein's HR activities, a clear focus on its employees and internal processes becomes evident. While this internal orientation - owed to the simulation design – is crucial for a successful business model transformation, there are further tools that support sustainable HR efforts beyond a company's direct impact. For example, Audi employees engaged in social and sustainable projects in the context of the Audi Volunteer Day 2021, carrying Audi's corporate values to society (Volkswagen AG 2022a). Moreover, BMW recently awarded its employees who perform extraordinary volunteer work with a monetary endowment, recognizing their tremendous efforts towards various ESG aspects and encouraging others to take on responsibility in their private lives (BMW Group PressClub 2022).

The path to integrating sustainability into a business model seems to start in the HR department. It is where the foundation for a successful transformation is laid and whether it will be embraced sustainably, achieving a significant positive impact internally and externally. Even though Porter defines HR only as a supporting function, it forms a critical cornerstone in a

company's transformation. It facilitates the ability of the other functions within the company to successfully integrate the sustainability aspect into the core of all their day-to-day activities and focus on the sustainability challenges specific to their department's activities only.

C. Innovation: The Value Driver

Innovation management can be seen as the first step of actual value creation in the value chain. Roughly four forms of innovation are distinguished: product, process, marketing, and organizational innovations (OECD 2021). In line with the innovation department's available actions within the simulation, this section's analysis focuses primarily on product innovation.

Zhang and Khan (2019) examined the contribution of innovation on sustainability and financial performance and found a strong positive correlation. Innovation activities can therefore be seen as a crucial driver in the transformation towards sustainability. However, innovation requires a favorable environment to emerge. Such an environment is represented by a thriving interrelation of three internal drivers: the innovations manager, the innovation process, and the company's innovation culture (Dziatzko et al. 2011). The importance of culture was also confirmed by studies conducted by the Institute for Change Management (Dziatzko et al. 2011): When asked to name features of a desirable environment, innovation manager's answers included first and foremost a culture promoting innovation within the company, feedback culture, general openness to new ideas, fault tolerance, and sincere support from the top management. Interestingly, this aligns with the previous analysis that the HR department is responsible for building a company's transformation ability framework.

At Einstein, in line with the strategy and fully supported by all department managers, the innovation manager strongly invested in innovation from the beginning, researching three areas of current technology trends in the automotive industry: electrification, connectivity, and autonomous driving (Continental Automotive 2022a) (cf. Table 8). By the end of Y2, all but a secure infrastructure for autonomous driving had been researched, and four EV models with

state-of-the-art features had replaced their internal combustion engine (ICE) predecessors. When comparing the effort and financial strength put into innovation with real automotive companies, Einstein presents an image in line with its ambition to be the industry's innovation leader. With investments of 13 %, 7 %, and 6 % of revenue into innovation efforts from Y0 to Y2 (cf. Table 8), Einstein invested considerably more than Daimler AG plans to. Based on Daimler's 2021 revenue (Mercedes-Benz Group 2022) and assuming a linear expenditure of the planned $ 40 b planned (Daimler AG 2021) for the next eight years, the German automotive company reinvests a relatively low 3 %. Nonetheless, the Center of Automotive Management (CAM) has found Daimler to be the most innovative premium brand of 2021 (CAM 2021). This shows, that the effort in innovation must translate to successful EV models and sales, which does not solely result from high financial investments. Tesla spent more than any other car manufacturer on R&D per car, namely $ 2.984 (Crider 2022), similar to Einstein's efforts in Y1 and Y2 (cf. Table 8). Still, Tesla only comes in second in CAM's study of most innovative premium brands of 2021, with Daimler being far in the lead. This might be because various details, including the choice of model type and features, are relevant for an innovative product's success. The decision on models and their go-to-market features was made together with the marketing department's support through detailed market research data. Following the Stage-Gate model (Kleinschmidt, Geschka, and Cooper 1996), Einstein conducted pre-analyses concerning market preferences as well as performances of current Einstein models. Afterward, detailed analyses of features of competitors' models were undertaken before the development and design of a new model was started. Following a waterfall approach, Einstein then launched its portfolio's first two EV models only a year after the start of the simulation, with two more following in the same year and the last two models being introduced by the end of Y3 (cf. Table 9). Einstein's rapid innovations and car launches were in line with Zhang and Khan's findings, helping increase global market shares significantly with the first wave of EV models. However,

the two other waves were not as successful, even aligning with market share drops, respectively (cf. Table 9 and Table 4). Considering that the wave two and three models received the most advanced features (cf. Table 10), it begs the question of why the market did not accept them well. There could be multiple reasons for that. Two of them could be misaligned marketing and pricing efforts, which will be examined in the subsequent section dealing with the marketing department. A reason that would be based upon a flawed pre-analysis on the innovation side could be the choice of launch model and features. Einstein's models, when introduced, offered far superior features compared to the available competitors. While that seems positive, besides the higher price tag that comes with superior technology, other aspects must be considered, especially when following an innovation lead strategy. Though adequately researched and tested before launching, consumers might be hesitant to adopt new technology. The diffusion theory of innovation by Rogers (1995) states that innovators and consumers can be categorized according to their receptiveness to innovative products and services: Only a small portion of consumers represent the so-called Innovators and Early Adopters who are willing to take on the risk of the unknown before others. As a result, this puts companies with innovative products, and in Einstein’s case, at a disadvantage regarding consumer access. Another factor is the required environment for innovative car technologies to function properly. The car of the future requires a reliable, quick, and comprehensive connectivity network, such as 5G (Continental Automotive 2022b). However, 5G is currently only rolling out and still to prove an adequate solution (Reich 2021). While some experts believe that autonomous driving for the general society but specifically in the public transportation sector will be realized in the next five years, others are more skeptical, at most imagining the truck business to be driverless in around ten years (Spotpress 2021). The skepticism is easily understandable considering the regular newspaper articles of driverless Tesla's crashing (Siddiqui, Lerman, and Merrill 2022). While Einstein's models might have been the most advanced on the market, it might well be that

competitors' models - though less innovative - matched the market demand better. As a result, Einstein could have driven former clients to its competitors, in turn decreasing its market share as it transformed its business model from averagely priced ICE to premium, innovative EV models. A more critical analysis of the market research and forecast might have prevented this.

When approaching the innovation process, the factor of knowledge is also crucially relevant (Hauschildt and Salomo 2007). The expertise available at Einstein strongly developed throughout the simulation (cf. Table 3). Skills like Sustainability and Industry Connections quickly developed. However, it must be noted that industry-crucial skills like automotive technologies, consumer behavior, and product engineering did not develop as rapidly. Instead, most of the more useful skills for innovation and product development only increased after the launches of the EV models, which could be connected to the learnings made during the development. Hence, though seemingly advanced, competitors might have developed superior solutions in the same areas if they had employees with better skills. While for future developments of Einstein, the on-the-job acquired knowledge is beneficial, an early streamlined skills strategy by HR might have positively impacted product development. In turn, higher quality at possibly lower cost and thus stronger parallelism to Einstein's brand reputation of innovative and qualitative products could have been achieved.

As a fundamental source of value creation, innovations represent the source of survival for every company. However, the innovation case is often caught between profitability and sustainability goals due to significant initial investments. Interestingly, strategy transformations requiring large initial investments follow the j-curve of a start-up, as introduced by Love (2016). Because of the significant investment required to initiate the change in the business model, there is an initial decline in added value which continues while the company develops the new product. Then, production and marketing of the product ramp up, and the results of the significant investments and development efforts are collected, optimally resulting in a steep

increase in value. When continuing the value add trend of Einstein, even though the final increase in value is not as drastic, it can clearly be seen that an initial drop at the beginning of the simulation is followed by a constant growth in value (cf. Graph 3). Therefore, Einstein's investments with a focus on sustainability confirm Zhang and Khan's findings and helped Einstein grow more robust and turn its inherently unsustainable business model around towards a solely EV car-producing and sustainability-promoting company.

D. Marketing: Driving Sustainability Internally and Externally

Marketing activities represent the only department in the context of this analysis that Porter assigns to be a so-called primary activity of the value chain. In recent years, the focus on the four basic marketing instruments, also called 4Ps (Meffert 2015), has receded into the background (Ramme 2009). Instead, customer orientation and consideration of society have become more important. Consequently, the American Marketing Association (2017) defines marketing as 'the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large'.

To transform their brand image and align the marketing activities with the focus on sustainability, classic marketing tools must be utilized from a new angle. With sustainable marketing, the first of the 4Ps, namely Product Policy, includes the consideration of the production circumstances, including basic materials and their procurement, but also the disposal of waste and end-of-life products (Ramme 2009). This means that the marketing department's task is to care for all product features the customer perceives, including catering to their needs, desires, and challenges. A great example of sustainably approaching a product end to end and supporting a client's sustainable experience with a product is Mercedes Benz. The German automotive company has given car parts a second chance for almost 25 years now: a dismantling and recycling company takes back end-of-life vehicles, recycling and disposing of

parts in an environmentally friendly manner (Mercedes-Benz Gebrauchtteile 2022). Other car manufacturers, such as Volkswagen and Peugeot, pursue similar business models (Volkswagen AG 2022b) (Peugeot 2020). Unfortunately, the simulation did not allow for such precise actions along the product's life after its sale. However, another important factor in product policy is the innovation and development of new products. The market research provided by the marketing team is a crucial input factor for the innovations team. As analyzed in the previous section, the results of the innovation efforts at Einstein were not as substantial as hoped for. Misinterpreted market research and forecasts, as well as lousy timing, had been mentioned as possible reasons for that. However, an adjusted Pricing Policy (second P) could also have been a possible cause for that. While Einstein priced its ICE models close to the market average, it decided to adjust its pricing approach for its EV models. With its strategy shift and resulting unique position of offering far superior and qualitative innovative features with its EV models, a premium of 10 % in comparison to its competition was targeted. The premium was installed in Y3 for all EV models and might have impacted Einstein's brand image as consumers might have experienced confusion as a result. The abrupt adjustments in price and the compared higher-priced EV models must have affected market share as it hurt the consumers' expectations of price stability and confidence. Both are indispensable factors in winning and retaining customers (Diller 2008).

The third P for Promotion played a vital part and offered a variety of controls. Generally, its task is to inform the public about the existence and advantages of a company's products and motivate purchases (Ramme 2009). However, promoting sustainable products requires careful consideration. Candid communication is vital to avoid rueful customers (Lee, Bhatt, and Suri 2018). In addition, sustainably reaching its target audience is becoming increasingly difficult for companies. With the rise of on-demand platforms such as Netflix and Spotify, tv and radio campaigns found fewer and fewer recipients (Dixon 2021). This media shift towards social media platforms has introduced a change in marketing approaches. Influencer marketing helps

reach a chosen target audience through the help of individuals representing a fitting lifestyle or conviction, aka influencers, through their follower reach (Fischer 2016). Finding an authentic influencer aligned with the brand and its values is complicated, and it is crucial that the company's brand positioning fulfills all three elements of the brand-market-connector model: deliverability, desirability, and differentiation (Bruce and Jeromin 2016). On paper, if the fit is right and the brand image and added value are concise, the return on investment is expected to be substantial, which is why budgets for influencer campaigns have strongly increased (Kolsquare 2021). Einstein decided to hire a celebrity in Q12 to endorse its new EV models. From a financial aspect, the prospected return ratio of the investment of $ 2 m was 3.735 % (cf. Table 11). While the impact of the influencer campaign cannot unambiguously be assigned within the context of the simulation results, a substantial increase in market share in all three areas was observed from Q12 to Q13 (cf. Table 4), possibly depicting a successful influencer marketing return. Automotive companies of the real world prove that promoting EV models via social media is working for them: Tesla uses influencers to break into the Chinese market (Hyperdrive 2021), and Renault promotes its model Zoé (Schiele 2017). Nonetheless, traditional marketing tools are still relevant. Besides direct marketing for specific models of its portfolio, the simulation offered Einstein mainly the use of a marketing mix of customer promotions, training/service, print as well as TV campaigns. Einstein's efforts regarding the different marketing vehicles have slowly increased during the simulation, before falling and then stagnating in Y5 at somewhat high levels in all categories (cf. Figure 4). Providing a higher expense-demand margin of utility for customer promotion and training/ service categories (cf. Table 12), in theory a focus on these marketing vehicles might have benefitted Einstein better. However, while research shows that advertising helps gain customers in the long run, both price and non-price promotions might have conflicting impacts in the short term. Especially the substantial use of customer promotions may have inhibited Einstein's growth in market share.

They tend to make customers (and even more so non-loyal over loyal ones) more price sensitive (Mela, Gupta, and Lehmann 1997). With Einstein adjusting its pricing strategy in Q3 and pricing its models at an average of a 10 % premium, both existing and potential clients might have reacted adversely to the promotions and instead bought the lower in quality and equipment but average-priced competitors' models. On the contrary, non-price promotions make existing customers less price sensitive but drastically increase the sensitivity of non-loyal ones. According to these findings, Einstein's marketing mix could have been optimized. For the launches of new models, Einstein could have focused on non-price promotions and dialed back on price promotions. Due to the introduction at premium prices, lower price sensitivity in existing customers could have resulted in a smooth initial sales experience, keeping the market share stable. While initially, this would have kept non-loyal consumers from making a purchase, after the introduction of the new model directed at loyal customers, a subsequent focus on price promotions would have relatively lowered the price sensitivity, possibly leading to purchases of the non-loyal consumer category and thereby increasing market share. Nevertheless, even such a refined marketing strategy might not have helped Einstein sustainably if the relevant skills were not available. Unfortunately, in Q17, Einstein's marketing expertise dropped most likely due to the replacement of an experienced manager, possibly being the reason for the average market share promptly falling by 3,6 % in Q18 (cf. Figure 5).

In the end, sustainable marketing has two dimensions: marketing for sustainability, e.g., promoting sustainable lifestyles, while also producing sustainable marketing, meaning a sustainable approach with the 4Ps. While the simulation provides evidence of modern and classic approaches, there are far more aspects where marketing can impact sustainability internally by successfully collaborating with other departments, but also externally by leading by good example and demonstrating the benefits of a sustainable lifestyle.

IV. Conclusion

Change management represents immense challenges for the departments both with regards to transforming the existing processes as well as interpersonal relations, successfully handling the pressure, and interacting harmoniously as a team. An adequate framework needs to be available, and it is therefore vital for HR to build a culture within the company that not only focuses on business activities but also enables its employees to grow and rise to the challenge by fostering technical skills as well as developing soft skills. In turn, this enables the departments to dedicatedly approach the various solutions to make their processes more sustainable and, in interaction with the other areas of the company, can find new ways to work. The aspects to consider and ways to become sustainable are thereby numerous. It can be as small as switching to recycled paper for print advertisements or as large as aiming for diversity and gender equality in all aspects throughout the whole company. All changes - no matter how seemingly small – will come together and, in the end, form a holistically sustainable business. New aspects like influencer marketing offer capable additions to complement classic approaches, such as the 4Ps, that are enhanced to align with the new focus.

However, while the changes to be made sound relatively simple in theory, the simulation has shown that there is more to it. The decisions of departments are highly interdependent. Even if the marketing strategy was solid, the tiniest decision, like HR firing one person or Finance changing payment terms, might strongly impact market shares. Research not meticulous enough, employees being a too homogenous group, and marketing efforts not as effective due to a lack of marketing skills or unawareness of negative interdependencies of marketing tools; there are numerous reasons that a company is not as successful as it could be. Therefore, reflecting on their personal contributions to a team's and also the company's success is an essential activity of team members and should be encouraged. Because even if a team has extensive technical skills, it might fail if they cannot come together successfully.

V. References

Ahn, Jung-Hoon. 2008. “Application of experiential learning cycle in learning with a business simulation game.” *E-Learning*, 5(2).

AMA, ed. 2017. Definitions of Marketing. https://www.ama.org/the-definition-of-marketing-what-is-marketing/ (accessed September 4, 2022).

Baril, Mark B. 2020. “How To Build Or Repair Trust In Your Team: The Trust Formula.” *Forbes.* September 28. https://www.forbes.com/sites/forbescoachescouncil/2020/09/28/how-to-build-or-repair-trust-in-your-team-the-trust-formula/?sh=68aa7e64481e.

BMW Group PressClub. 2022. BMW Group recognises employee commitment / Ceremony honours four employees for volunteer work. https://www.press.bmwgroup.com/global/article/detail/T0303251EN/bmw-group-recognises-employee-commitment-/-ceremony-honours-four-employees-for-volunteer-work?language=en (accessed August 28, 2022).

Bruce, Annette, and Christoph Jeromin. 2016. *Agile Markenführung. Wie Sie Ihre Marke stark machen für dynamische Märkte*. Wiesbaden: Springer Gabler.

Burkey, Heidi. 2005. “The Power of Peer Pressure.” In *Journal of the Health Resource Center*, 25–30.

CAM, ed. 2021. Ranking of the most innovative automotive OEMs and premium brands 2021. https://auto-institut.de/en/automotiveinnovations/automotiveinnovations-ranking-of-the-most-innovative-automotive-oems-and-premium-brands-2021/ (accessed September 3, 2022).

Continental Automotive, ed. 2022a. Technology Trends. https://www.continental-automotive.com/en-gl/Passenger-Cars/Technology-Trends (accessed September 3, 2022).

Continental Automotive, ed. 2022b. Technology Trends. 5G Connectivity. https://www.continental-automotive.com/en-gl/Passenger-Cars/Technology-Trends/Holistic-Connectivity-(1)/5G-Connectivity (accessed September 3, 2022).

Credit Suisse. 2012. Large-cap companies with at least one woman on the board have outperformed their peer group with no women on the-board by 26% over the last six years, according to a report by Credit Suisse Research Institute. https://www.credit-suisse.com/about-us-news/en/articles/media-releases/42035-201207.html (accessed September 3, 2022).

2020. "Das System der CO2-Flottengrenzwerte für Pkw und leichte Nutzfahrzeuge." Bundesministerium für Umwelt, Naturschutz und nukleare Sicherheit. https://www.bmuv.de/fileadmin/Daten_BMU/Download_PDF/Luft/zusammenfassung_co2_flottengrenzwerte.pdf.

DeScioli, Peter, Maxim Massenkoff, Alex Shaw, Michael B. Petersen, and Robert Kurzban. 2014. "Equity or equality? Moral judgments follow the money." *Proceedings. Biological sciences*, 281(1797).

Diller, Hermann. 2008. *Kohlhammer Edition Marketing*, *Preispolitik*. 4th ed. Stuttgart: Kohlhammer.

Dixon, Colin. 2021. "More people watch on-demand streaming than live TV." *nScreenMedia.* September 21. https://nscreenmedia.com/live-tv-on-demand-streaming/.

Drive. 2021. Women remain underrepresented in automotive industry, study shows. https://www.drive.com.au/news/women-remain-underrepresented-in-automotive-industry-study-shows/ (accessed September 3, 2022).

DuBois, Cathy L. Z., and David A. Dubois. 2012. "Strategic HRM as social design for environmental sustainability in organization." *Human Resource Management*, 51(6): 799–826.

Dziatzko, N., M. Kielkopf, F. Schittenhelm, and A. Streinwandt. 2011. “Die Bedeutung des Innovationsmanageaments in mittelständischen Unternehmen - eine empirische Untersuchung.” In *Zweite Aalener KMU-Konferenz - Beiträge zum Stand der KMU-Forschung*, ed. Alexander Haubrock, 35–51.

Fink, Larry. 2021. Larry Fink's Annual 2022 Letter to CEOs. The Power of Capitalism. https://www.blackrock.com/corporate/investor-relations/larry-fink-ceo-letter (accessed September 2, 2022).

Fischer, Catharina. 2016. *ITB 2016: Influencer Marketing – Was braucht es für erfolgreiche Kampagnen*.

Gloet, Marianne. 2006. “Knowledge management and the links to HRM. Devloping leadership and management capabilities to support sustainability.” *Management Research News*, 29(7): 402–13. https://www.emerald.com/insight/content/doi/10.1108/01409170610690862/full/pdf?fullsc=1.

Harkrider, Lauren N., Michael A. Tamborski, Xiaoqian Wang, Ryan P. Brown, Michael D. Mumford, Shane Connelly, and Lynn D. Devenport. 2013. “Threats to Moral Identity: Testing the Effects of Incentives and Consequences of One's Actions on Moral Cleansing.” *Ethics & behavior*, 23(2): 133–47.

Harvard Business School Online, ed. 2022. Negotiation Course Online. https://online.hbs.edu/courses/negotiation/?c1=GAW_SE_NW&source=INTL_NEGM&cr2=search__-__nw__-__international__-__negotiation_mastery&kw=negotiation_classes_phm&cr5=601706039176&cr7=c&hsa_cam=1396947329&hsa_grp=60857960131&hsa_mt=p&hsa_src=g&hsa_ad=601706039176&hsa_acc={792-723-8641}&hsa_net=adwords&hsa_kw=negotiation%20classes&hsa_tgt=kwd-

354959394927&hsa_ver=3&gclid=EAIaIQobChMIzeKY2K-A-gIVhbp3Ch1XtQXiEAAYAiAAEgKIAPD_BwE (accessed September 6, 2022).

Hauschildt, Jürgen, and Sören Salomo. 2007. *Vahlens Handbücher der Wirtschafts- und Sozialwissenschaften, Innovationsmanagement*. 4th ed. München: Vahlen.

Hibberd, Jessamy. 2019. *The Imposter Cure. How to stop feeling like a fraud and escape the mind-trap of imposter syndrome*. London: Kyle Books.

Hyperdrive. 2021. "EV Makers in China Turn to Social Media Influencers for an Edge." *Bloomberg.* August 4. https://www.bloomberg.com/news/articles/2021-08-04/electric-vehicles-chinese-automakers-turn-to-influencers-to-market-evs#xj4y7vzkg.

IndustryMasters. 2021a. IndustryMasters Simulation FAQs. https://www.industrymasters.com/industrymasters-simulation-faq (accessed August 30, 2022).

IndustryMasters. 2021b. Industry-Specific Business Simulations. https://www.industrymasters.com/business-simulations/industry-specific-business-simulations (accessed August 30, 2022).

Insights, ed. 2022. Insights Discover. https://www.insights.com/us/products/insights-discovery/ (accessed September 6, 2022).

Johnson, Pamela R., Virginia L. Heimann, and Karen O'Neill. 2000. "The wolf pack: team dynamics for the 21st century." *Journal of Workplace Learning*, 12(4): 159–64.

Kleinschmidt, Elko J., Horst Geschka, and R. G. Cooper. 1996. *Innovations- und Technologiemanagement Ser, Erfolgsfaktor Markt. Kundenorientierte Produktinnovation*. Berlin, Heidelberg: Springer Berlin / Heidelberg.

Kolsquare, ed. 2021. Influencer marketing budgets exploded in 2021 and will continue to grow in 2022. https://www.kolsquare.com/en/blog/why-are-influencer-marketing-budgets-booming-in-2021/ (accessed September 4, 2022).

Leary, Mark R., Eleanor B. Tate, Claire E. Adams, Ashley B. Allen, and Jessica Hancock. 2007. “Self-compassion and reactions to unpleasant self-relevant events: the implications of treating oneself kindly.” *Journal of personality and social psychology*, 92(5): 887–904.

Lee, Jeonggyu, Siddharth Bhatt, and Rajneesh Suri. 2018. “When consumers penalize not so green products.” *Psychology & Marketing*, 35(1): 36–46.

Levy, Amir, and Uri Merry. 1986. *Organizational transformation. Approaches, strategies, theories*. 1st ed. New York, N.Y.: Praeger.

Love, Howard. 2016. *The start-up J curve. The six steps to entrepreneurial success*. Austin, Texas: Greenleaf Book Group Press.

Martin, Brittany H. 2017. “Unsticking the status quo.” *Management Research Review*, 40(2): 122–41.

MasterClass, ed. 2022. How to Be Confident: 8 Tips for Building Confidence. https://www.masterclass.com/articles/how-to-be-more-confident (accessed September 6, 2022).

McGonigal, Kelly. 2012. *The willpower instinct. How self-control works, why it matters, and what you can do to get more of it*. New York, New York: Avery a member of Penguin Group (USA) Inc.

McKinsey. 2015. “Why diversity matters.” *McKinsey & Company*. January 1. https://www.mckinsey.com/business-functions/people-and-organizational-performance/our-insights/why-diversity-matters.

Meffert, Heribert. 2015. *Springer eBook Collection, Marketing. Grundlagen marktorientierter Unternehmensführung Konzepte - Instrumente - Praxisbeispiele*. 12th ed. Wiesbaden: Springer Gabler.

Mela, Carl F., Sunil Gupta, and Donald R. Lehmann. 1997. “The Long-Term Impact of Promotion and Advertising on Consumer Brand Choice.” *Journal of Marketing Research*,

34(2): 248–61. https://www.jstor.org/stable/pdf/3151862.pdf?refreqid=excelsior%3Aa27cf30f2c7d5981f05fe51fc09ea1aa&ab_segments=&origin=&acceptTC=1.

Mercedes-Benz Gebrauchtteile, ed. 2022. Mercedes-Benz Gebrauchtteile Center | Unternehmen. https://www.mbgtc.de/unternehmen/ (accessed September 4, 2022).

Mercedes-Benz Group, ed. 2022. Mercedes-Benz Kennzahlen. https://group.mercedes-benz.com/investoren/kennzahlen/ (accessed September 3, 2022).

2021. "Mercedes-Benz Strategy Update: electric drive." https://group.mercedes-benz.com/dokumente/konzern/sonstiges/daimler-mercedes-benz-strategy-update-electric-drive.pdf.

Neff, Kristin. 2003. "Self-Compassion: An Alternative Conceptualization of a Healthy Attitude Toward Oneself." *Self and Identity*, 2(2): 85–101.

Neff, Kristin D., Stephanie S. Rude, and Kristin L. Kirkpatrick. 2007. "An examination of self-compassion in relation to positive psychological functioning and personality traits." *Journal of Research in Personality*, 41(4): 908–16.

OECD, ed. 2021. Defining innovation. https://www.oecd.org/site/innovationstrategy/defininginnovation.htm (accessed September 3, 2022).

Peugeot, ed. 2020. Recyclable Vehicles: Environmental Priority For PEUGEOT. https://www.peugeot.com.mt/brand-and-technology/peugeot-news/recyclable-vehicles-environmental-priority-for-peugeot.html (accessed September 4, 2022).

Porter, Michael E. 2013. *Wettbewerbsstrategie. Methoden zur Analyse von Branchen und Konkurrenten = (Competitive strategy)*. 12th ed. Frankfurt am Main: Campus.

Powers, Theodore A., Richard Koestner, and David C. Zuroff. 2007. “Self–Criticism, Goal Motivation, and Goal Progress.” *Journal of Social and Clinical Psychology*, 26(7): 826–40.

Rahman, Md. H., Mst. R. Fatema, and Md. H. Ali. 2019. “Impact of Motivation and Job Satisfaction on Employee’s Performance: An Empirical Study.” *Asian Journal of Economics, Business and Accounting*: 1–10.

Ramme, Iris. 2009. *Marketing. Einführung mit Fallbeispielen, Aufgaben und Lösungen*. 3rd ed. Stuttgart: Schäffer-Poeschel.

Reich, Phil. 2021. “Car Talk: How 5G, Mobile, And Cloud Are Transforming The Automobile.” *Forbes.* November 1. https://www.forbes.com/sites/googlecloud/2021/11/01/car-talk-how-5g-mobile-and-cloud-are-transforming-the-automobile/?sh=51933018995d.

Rock, David, and Heidi Grant. 2016. Why Diverse Teams Are Smarter. https://hbr.org/2016/11/why-diverse-teams-are-smarter (accessed August 28, 2022).

Rogers, Everett. 1995. *Diffusion of innovations*.

Roos, Wanda, and Rene van Eeden. 2008. “The relationship between employee motivation, job satisfaction and corporate culture.” *SA Journal of Industrial Psychology*, 34(1).

Schiele, Marc. 2017. Wenn bigFM René auf Elektro abfährt. https://www.bigfm.de/trends/21883/bigfm-rene-elektro-abfaehrt (accessed September 4, 2022).

Schlee, Regina P., and Gary L. Karns. 2017. “Job Requirements for Marketing Graduates: Are There Differences in the Knowledge, Skills, and Personal Attributes Needed for Different Salary Levels?” *Journal of Marketing Education*, 39(2): 69–81.

Siddiqui, Faiz, Rachel Lerman, and Jeremy B. Merrill. 2022. “Teslas running Autopilot involved in 273 crashes reported since last year.” *The Washington Post.* June 15. https://www.washingtonpost.com/technology/2022/06/15/tesla-autopilot-crashes/.

SmartAsset. 2022. Best Inflation Calculator (2022) - Historical & Future Value | SmartAsset.com. https://smartasset.com/investing/inflation-calculator#EANTQ7tC3O (accessed August 27, 2022).

Spotpress. 2021. “Autonomes Fahren: Wann kommt es nach Deutschland?” *Wirtschaftswoche.* May 9. https://www.wiwo.de/technologie/mobilitaet/grosse-hoffnungen-auf-technik-autonomes-fahren-wann-kommt-es-nach-deutschland/27158296.html.

2021. “Strategic Change Management. How executives transform large organizations with the five forces of change.” https://www.porsche-consulting.com/fileadmin/docs/04_Medien/Publikationen/321613_Strategic_Change_Management/Strategic_Change_Managament_C_Porsche_Consulting_2021.pdf.

Tangney, June P., Jeff Stuewig, and Debra J. Mashek. 2007. “Moral emotions and moral behavior.” *Annual review of psychology*, 58: 345–72.

UN, ed. 2022. Goal 5 | Department of Economic and Social Affairs. https://sdgs.un.org/goals/goal5 (accessed August 26, 2022).

United Nations, ed. 2015. The Paris Agreement. https://www.un.org/en/climatechange/paris-agreement (accessed September 2, 2022).

Unnikrishnan, Seema, and D. S. Hegde. 2007. “Environmental training and cleaner production in Indian industry—A micro-level study.” *Resources, Conservation and Recycling*, 50(4): 427–41.

Volkswagen AG, ed. 2022a. Audi Volunteer Day 2021, digital and analog: employees help in Ingolstadt and Neckarsulm. https://www.volkswagenag.com/en/news/2021/09/audi-

volunteer-day-2021--digital-and-analog--employees-help-in-i.html# (accessed August 28, 2022).

Volkswagen AG, ed. 2022b. Verwertung. https://www.volkswagenag.com/de/sustainability/circular-economy/recycling.html (accessed September 4, 2022).

Work - Chron.com. 2022. The Salary of Auto Industry Executives. https://work.chron.com/salary-auto-industry-executives-21175.html (accessed August 25, 2022).

Zhang, Yongan, Umair Khan, Seoyeon Lee, and Madiha Salik. 2019. "The Influence of Management Innovation and Technological Innovation on Organization Performance. A Mediating Role of Sustainability." *Sustainability*, 11(2): 1–21. https://ideas.repec.org/a/gam/jsusta/v11y2019i2p495-d198835.html#.

VI. Appendices

A. Figures

Figure 1
Peer & Self Assessment Results

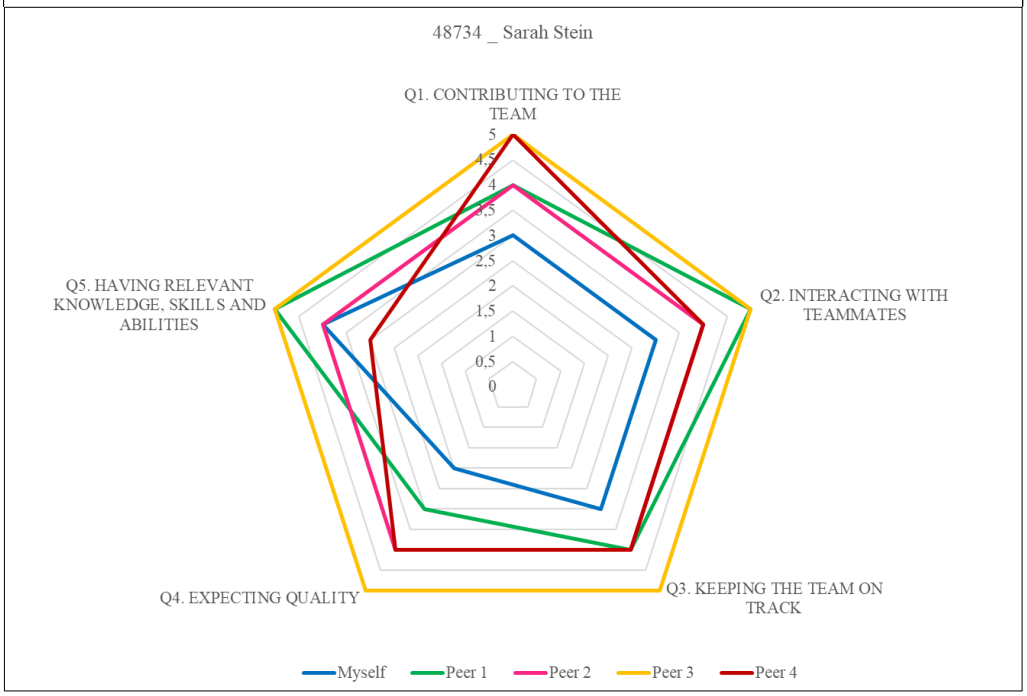


Figure 2
Relationship Between Skills and Salary at Einstein

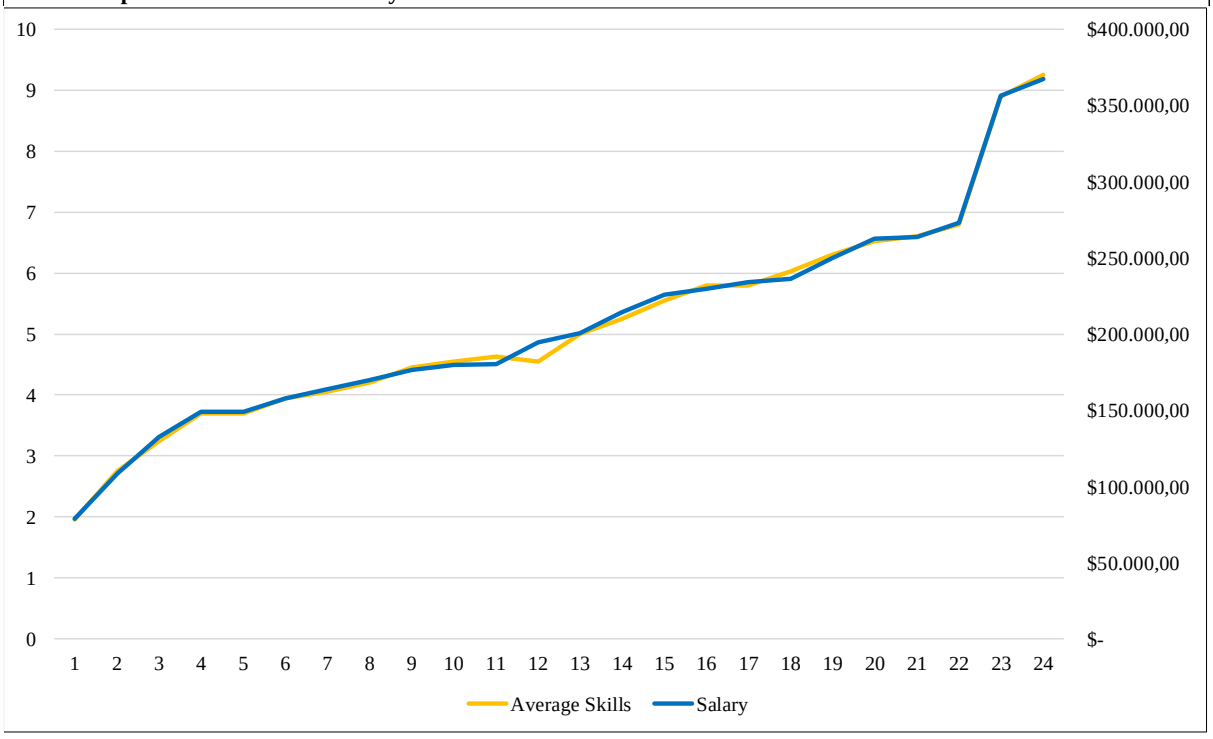


Figure 3
Value Added Throughout the Simulation ($)

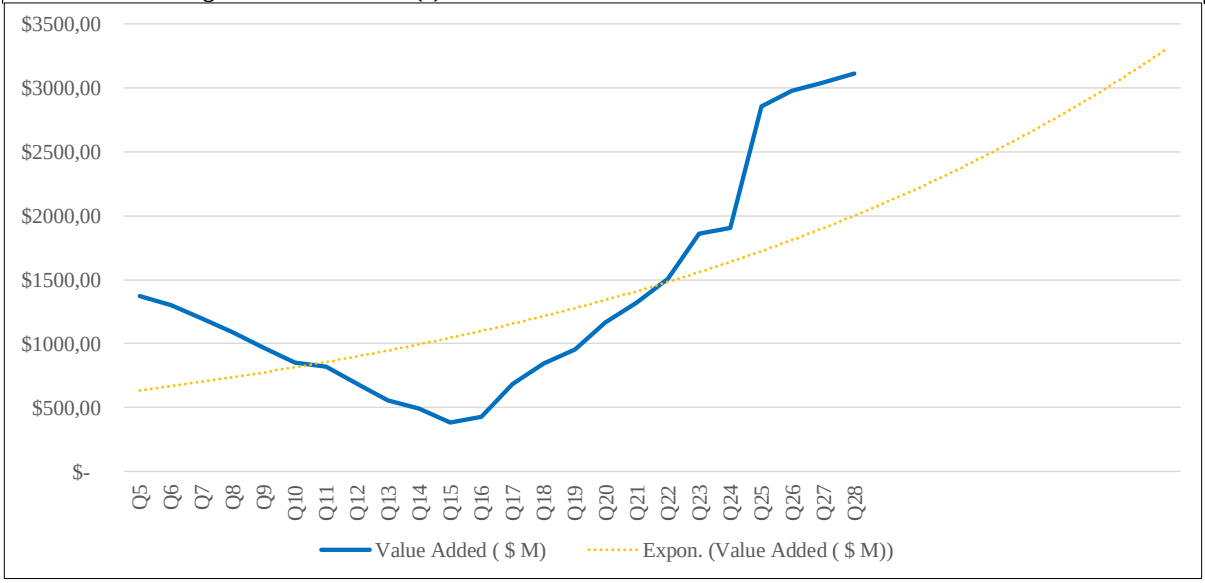


Figure 4
Marketing Mix Utilization

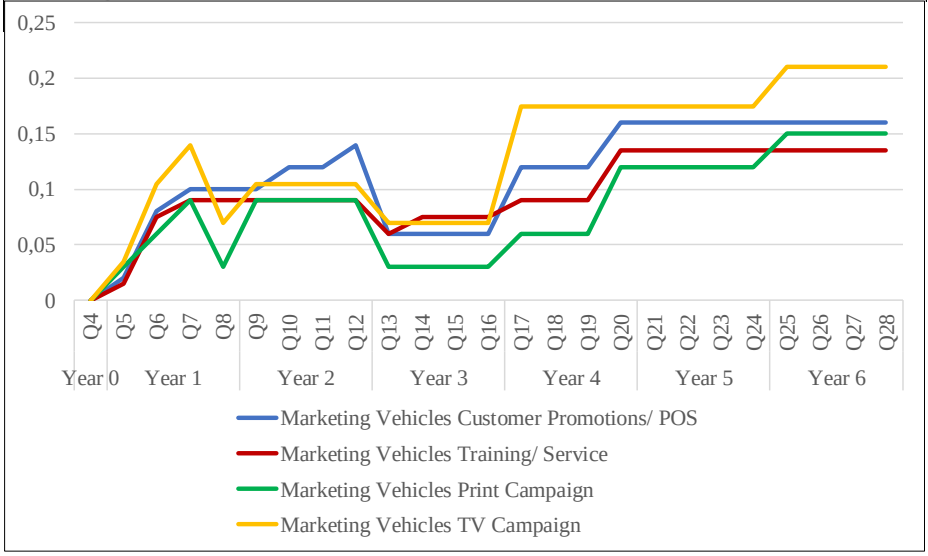
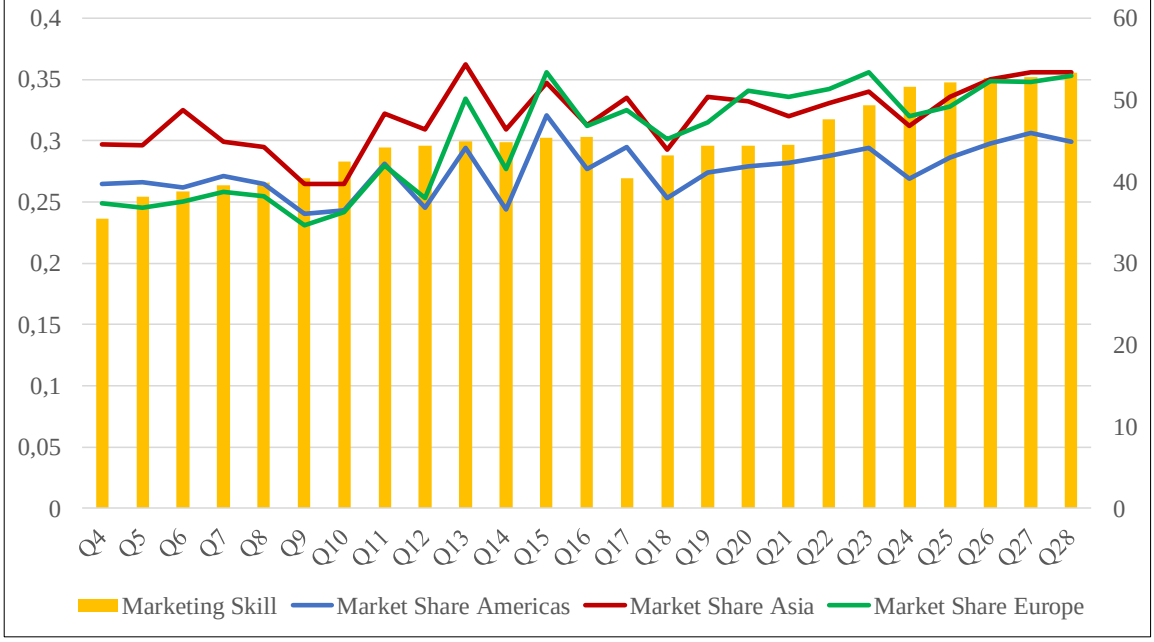


Figure 5
Relationship Between Marketing Skills and Market Share



B. Tables

Table 1
Relationship between Motivation and Company Culture

	Year 0	Year 1				Year 2				Year 3				Year 4				Year 5				Year 6			
	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28
Motivation	*n/a*	90%	91%	93%	96%	96%	95%	94%	94%	94%	93%	93%	93%	92%	93%	96%	97%	97%	95%	94%	93%	91%	91%	91%	91%
HR Investments Promoting Company Culture																									
Sustainability Policy		-10	Implement																						
Sustainability Policy Training				-15	Implement																				
Sustainability Awareness Training						-15	Implementa																		
HR Challenge: Push for environmental projects													-200												

Table 2
Development of the Diversity KPI

	Year 0	Year 1				Year 2				Year 3				Year 4				Year 5				Year 6			
	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28
Diversity	28%	31%	31%	31%	31%	27%	32%	32%	33%	33%	31%	33%	33%	30%	33%	35%	35%	35%	37%	43%	49%	49%	49%	49%	49%

Table 3
Development of Expertise

	Year 0	Year 1				Year 2				Year 3				Year 4				Year 5				Year 6				Development
	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	
Automotive Technologies	44,55	45,8	47,1	48,1	48,5	49	49	49,1	48,4	49,8	47,5	48,7	48,9	49,4	51,4	53,3	54,4	54,8	56	53,04	43,6	40,6	42,3	42,8	42,9	-4%
Business Know How	34,43	36,6	37,5	38,6	39,1	39,8	41,4	42,2	42,1	42,5	41	42	42,3	40	40	41,2	42	42,5	44,3	45,31	43,6	44,2	45,3	45,8	46,1	34%
Component Purchase	30,99	34,5	35,2	36,1	36,6	42,5	41,4	42,3	42	43,3	43,3	44,2	44,4	42,3	40,5	42,4	42,9	43,2	39,5	40,16	38,3	39,4	39,5	39,8	39,9	29%
Consumer Behavior	34,47	39,8	41,5	43	43,8	45	45,6	47,3	46,7	48,6	47,7	48,3	48,8	42,4	48	50,6	51	51,3	53,2	55,42	50	45	45,8	46	46,4	35%
Customer Experience Exper	12,75	19,4	20,9	22,4	23,1	24,1	27,4	29,2	29,2	30,2	29,7	30,1	30,6	24,9	28,7	30,8	31,4	32,1	30,2	31,1	32,8	34,5	35	35,5	36	182%
Distribution	21,73	23,6	24,2	25,2	25,9	34,1	35,7	36,3	32,3	37,9	37,9	38,5	39	39,5	38	41,4	42,8	43,4	40,3	38,61	37	37,6	37,6	38	38	75%
Domain Expertise	39,23	42,2	42,8	43,4	43,7	47,4	48,1	48,7	48,1	49,4	49,1	49,1	49,1	49,2	51,1	52,8	53,4	53,8	49,3	44,21	42,9	43,9	44,2	44,4	44,6	14%
Ergonomics	21,81	22	22	22,2	22,3	25,6	28,1	28,8	28,8	29,3	29,2	29,5	29,6	29,8	30	30,6	31	31,2	33	33,58	32,6	33	33,4	33,5	33,8	55%
Industry Connections	2,67	5,52	6,23	6,88	7,27	7,7	7,66	7,95	7,95	8,18	8,01	7,8	8,26	6,96	7,1	7,56	7,6	7,72	6,6	9,46	13,7	17,1	18,1	18,7	19,1	613%
Interpersonal Skills	46,48	48,7	49,5	50,7	51	51,8	53,3	54,4	53,6	55	52,9	54,6	54,6	55,2	59,8	62,7	64	64,7	61,1	56,71	42,2	39,9	41,1	41,3	41,5	-11%
Marketing Expert	35,5	38,2	38,8	39,5	39,9	40,4	42,5	44,2	44,4	44,9	44,8	45,4	45,4	40,4	43,2	44,4	44,4	44,5	47,6	49,39	51,6	52,1	52,6	52,8	53,3	50%
Product Engineering	7,26	9,87	10,6	11,2	11,5	17,5	18,5	18,9	18,9	19,8	19,6	20,7	21,5	22	22,1	24,9	25,9	26,1	22	22,29	17	19,5	20,2	20,6	20,6	184%
Sustainability	0,95	69,6	69,7	77,1	78,6	85,1	83,1	88,8	87,2	89,2	87,8	87,9	89,2	89,3	121	126	128	128	149	148,7	134	155	167	168	170	17746%

Table 4
Market Share Per Area and On Average

	Year 0	Year 1				Year 2				Year 3				Year 4				Year 5				Year 6			
	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28
Americas	26,5%	26,6%	26,2%	27,1%	26,5%	24,0%	24,3%	28,1%	24,5%	29,4%	24,4%	32,1%	27,7%	29,5%	25,3%	27,4%	27,9%	28,2%	28,8%	29,4%	26,9%	28,6%	29,8%	30,6%	29,9%
Asia	29,7%	29,6%	32,5%	29,9%	29,5%	26,5%	26,5%	32,2%	30,9%	36,2%	30,9%	34,7%	31,3%	33,5%	29,3%	33,6%	33,2%	32,0%	33,1%	34,0%	31,2%	33,6%	35,0%	35,6%	35,6%
Europe	24,9%	24,5%	25,0%	25,8%	25,5%	23,1%	24,2%	28,0%	25,3%	33,4%	27,7%	35,6%	31,2%	32,5%	30,1%	31,5%	34,1%	33,6%	34,2%	35,6%	32,0%	32,8%	34,9%	34,8%	35,3%
Average	27,0%	26,9%	27,9%	27,6%	27,2%	24,5%	25,0%	29,4%	26,9%	33,0%	27,7%	34,1%	30,1%	31,8%	28,2%	30,8%	31,7%	31,3%	32,0%	33,0%	30,0%	31,7%	33,2%	33,7%	33,6%

Table 5
Average Management Salary

	Year 0	Year 1				Year 2				Year 3				Year 4				Year 5				Year 6				Average
	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	
Salary ($)	*n/a*	$146,600	$150,295	$157,500	$160,206	$163,184	$160,186	$162,137	$165,210	$167,897	$167,171	$169,227	$169,523	$184,085	$193,569	$194,468	$194,376	$197,563	$205,626	$201,772	$191,552	$198,692	$202,830	$205,316	$206,532	$179,813

Table 6
Gender Ratio

	Year 0	Year 1				Year 2				Year 3				Year 4				Year 5				Year 6			
	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28
Female	10	10	10	10	11	14	14	14	14	14	14	14	14	14	15	15	15	15	15	15	15	15	15	15	15
Male	16	16	16	16	17	16	16	16	16	16	16	16	16	16	15	15	15	15	15	15	15	15	15	15	15

Table 7
Gender Pay Gap

Year 6				Difference
Male	Female	Male Average	Female Average	Female / Male
$ 367.561,00	$ 263.713,00	$ 231.677,00	$ 193.956,38	$ -37.720,63
$ 356.629,00	$ 262.815,00			
$ 272.938,00	$ 250.024,00			
$ 236.534,00	$ 234.278,00			
$ 180.153,00	$ 229.684,00			
$ 157.656,00	$ 226.093,00			
$ 149.195,00	$ 214.307,00			
$ 132.750,00	$ 200.670,00			
	$ 194.824,00			-16,28%
	$ 179.987,00			
	$ 176.458,00			
	$ 169.784,00			
	$ 164.025,00			
	$ 149.195,00			
	$ 108.613,00			
	$ 78.832,00			

Table 8
Research & Development Investments

				Year 0				Year 1				Year 2				Year 3				Year 4				Year 5				Year 6			
Area	Technology	Time	Investment ($ m)	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28
Electrification	E-Drive Modules	8	-600	-75	-75	-75	-75	-75	-75																						
	Home Charging Stations	3	-300							-100	-100	-100																			
	High Power Charging (HPC	2	-200										-100	-100																	
Connectivity	Connectivity Technology	1	-250				-250																								
	Infotainment Services	2	-160						-80	-80																					
	Big Data	2	-150								-75	-75																			
	Cross-Platform Technology	2	-200										-100	-100																	
Autonomous Driving	Automated Parking	2	-500					-250	-250																						
	Driver Assistance	2	-250								-125	-125																			
	Cloud Connection	2	-300										-150	-150																	
	Secure Infrastructure	2	-400																		-200	-200									
Total Investment			-3310	-550				-1210				-1000				0				-400				0				0			
% of Revenue				13%				7%				6%				0%				2%				0%				0%			
R&D Cost per Car Sold				$ -6.092,29				$ -2.952,21				$ -2.726,51				$ -				$ -787,12				$ -				$ -			
Average R&D Cost per Car Sold		$	-1.794,02																												

Table 9
EV Model Launches

		Year 0	Year 1				Year 2				Year 3				Year 4				Year 5				Year 6			
Class	Model	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28
SUV	EINSTEIN Freedom									D	D	D	P	S												
Convertible	EINSTEIN Lifestyle				D	D	P	S																		
Business	EINSTEIN Executive						D	D	P	S																
Compact	EINSTEIN Urban						D	D	P	S																
Luxury	EINSTEIN Delux									D	D	D	P	S												
Micro	EINSTEIN Mini				D	D	P	S																		

D = Development Phase
P = Production Start
S = Start of Sale

Table 10
EV Model Attributes

Wave	Class	Model	Range	Autonomus Drive	Connectivity
3	SUV	EINSTEIN Freedom	Long	Level 3	Level 4
1	Convertible	EINSTEIN Lifestyle	Extra Long	Level 1	Level 1
2	Business	EINSTEIN Executive	Extra Long	Level 1	Level 2
2	Compact	EINSTEIN Urban	Extra Long	Level 1	Level 2
3	Luxury	EINSTEIN Delux	Long	Level 3	Level 4
1	Micro	EINSTEIN Mini	Extra Long	Level 1	Level 1

Table 11
Marketing Challenge Details

	Options		
	#1 Celebrity Endorsement	#2 Product Replacement	#3 New Prototype
Investment	$ 2.000.000	$ 5.000.000	$ 20.000.000
Effects Last (in months)	9	24	12
Exp. Monthly Revenue Gai	$ 8.300.000	$ 410.000	$ 1.660.000
Cum. Expected Return	$ 74.700.000	$ 9.840.000	$ 19.920.000
Return Ratio	3735%	197%	100%
Choice	x		
Celebrity Type	Environmental Activist		

Table 12
Expense-Demand Margin of Utility for Marketing Mix Vehicles as Provided by IndustryMasters

	Level of Utilization																				
	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10
Customer Promotion	-50,00%	-45,00%	-40,00%	-35,00%	-30,00%	-25,00%	-20,00%	-15,00%	-10,00%	-5,00%	0,00%	47,50%	45,00%	42,50%	40,00%	37,50%	35,00%	32,50%	30,00%	27,50%	25,00%
Training/ Service	-53,33%	-48,00%	-42,67%	-37,33%	-32,00%	-26,67%	-21,33%	-16,00%	-10,67%	-5,33%	0,00%	50,67%	48,00%	45,33%	42,67%	40,00%	37,33%	34,67%	32,00%	29,33%	26,67%
Print Campaign	-40,00%	-36,00%	-32,00%	-28,00%	-24,00%	-20,00%	-16,00%	-12,00%	-8,00%	-4,00%	0,00%	38,00%	36,00%	34,00%	32,00%	30,00%	28,00%	26,00%	24,00%	22,00%	20,00%
TV Campaign	-45,71%	-41,14%	-36,57%	-32,00%	-27,43%	-22,86%	-18,29%	-13,71%	-9,14%	-4,57%	0,00%	43,43%	41,14%	38,86%	36,57%	34,29%	32,00%	29,71%	27,43%	25,14%	22,86%