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THE HIGHS AND LOWS OF PANTHEON – LEARNINGS AND PRINCIPLES OF A BUSINESS SIMULATION

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Abstract: In this thesis, the author analyses the performance of Pantheon, a virtual firm, throughout 6 years in a business simulation. Emphasis is placed on the established long and short-term strategies of the firm, the operational principles that guided decision making and its innovation initiatives, reflecting on both successful and failed strategies and attempting to explain them. Additionally, an in-depth analysis of two personal incidents that served as learning experiences was also performed. This paper is a compilation of crucial learnings and principles that the author personally took from the BiP program as well as extended reflections that these led to.

Keywords: Business Simulation, Operations Management, Business Strategy, Principles, Fleet Electrification, Team Dynamics, Reflective Practice, Firm Analysis.

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1 A Comprehensive Firm Analysis of Pantheon

In this paper, I intend to analyse Pantheon, a virtual company created for the purpose of Nova SBE's Business in Practice, a program in which I had the privilege to participate. The program had a duration of three weeks in which students, such as me, had the opportunity to manage their virtual company through a software developed by Industry Masters that effectively created an entirely virtual context, filled with competitors, regulations, customers from different regions and various assets and investments to work with. My role was that of Director of Operations and our team was composed of 7 elements spread across 5 different roles, with both Operations and Finance having two individuals. At the beginning of the simulation, we were presented with a company with no name that held a series of assets, notably cash, factories spread across three regions as well as a few vehicle lines. We were also given the objective of fully electrifying our fleet and making the firm surrounding it sustainable, all while maintaining a profit and growing the company. Inspired by examples like Tesla Motor's notorious open source patents for their lithium batteries, which set the standards for the EV industry in the real world (Rothaermel, n.d., page 29), our team was motivated to set the standards for the automobile industry within the context of the simulation, through heavy investments into various characteristics of the electric vehicles that were easily beyond anything else being offered in the market, as well as the introduction of models such as the Micro Electric into its various operating regions. Chapter 1 will be a thorough firm analysis, focused on Pantheon's strategy, it's innovation aspirations and endeavours and finally its operations, whereas chapter 2 will focus on two learnings that I personally took from this simulation.

1.1 A Strategic Analysis of Pantheon

From the beginning, we agreed that our objective would be to position ourselves as a high-quality brand. Effectively, we wanted to be at the forefront of the industry's development, investing in our products and greatly developing the customer experience, in this way providing a car built to last, both functionally and in terms of relevance of its features. This core idea informed all the positioning and strategic decisions that surged afterwards.

We landed on the name Pantheon, alluding to that which is divine, and which humans have looked up to from the start of civilization. Similarly, we name each of our different models after a unique god of the Greek pantheon: Zeus (Executive model), Apollo (Convertible), Athena (Compact), Hermes (Micro Electric), Poseidon (SUV) and Aphrodite (Luxury) (refer to Appendix A). The team thought the names were unique, memorable, and coherent with our central objective of setting the standards for the automotive industry going forward, by creating vehicles with a great value-for-money relation.

As a means of achieving this superiority of traits, we had a detailed and ambitious schedule for innovation both in the sustainability of our production facilities and improvement of the vehicles' characteristics. For reference, 1.100M $ were spent on innovations in year 1 alone (mostly on improvement of vehicle characteristics), in addition to approximately 623M $ in sustainability of Operations.

A key factor of our strategy was the placement of customers' preferences as the singular most important factor to influence our decision making. Before the simulation began, we realized that the consumers from different regions had somewhat distinct identities, effectively leading to different preferences regionally. For example, it became clear that Compact models sold far better in China than elsewhere, the same was true for Executive models in the EU or Convertibles in the USA. Then, there were other trends that were observable globally, like the

initial affinity for cars ran on fossil fuels over EVs. In response to these trends, we decided to aim for the creation of 3 car types (the preferred one for each region) and then update these models' features as time progressed, always paying attention to the region's trends and adapting accordingly. For example, as mentioned previously, a trend that was quite evident from the beginning was China's affinity for Compact models, so we designed a line of products tailored to this market, the Athena. We first created the Athena Mark1 (a hybrid), sometime later Athena Mark2 (now electric) and so on. It's important to point out that many aspects of this strategy were eventually changed, as we learned more about the way the simulation worked and started applying additional principles (explored in chapter 1.9) in our decision making. However, the core idea remained: we intended to provide high-quality models tailor made to the preferences of the different regions in which Pantheon operates and decided to produce those models in the factories of that same region.

It was also part of our strategy to gradually electrify our fleet as opposed to rushing the creation of various EV models. We based this decision on the assumption that the market's opinion of electric cars would slowly and gradually shift, replicating trends observable in real life. Even though electric vehicles are more environmentally friendly, consumers take a plethora of other factors into consideration when purchasing a vehicle, some of which have contributed towards the slow adoption of this new technology (Higueras-Castillo et al. 2021). Research shows that three factors predict purchase intentions more than any other: range (vehicle autonomy), incentives (by the government or in the form of fuel or electricity prices, for example), and reliability (trust in the technology and products) (Higueras-Castillo et al. 2021). However, this was not the case for the simulation. In the beginning of the second year, there was a sudden shift in customer preference across regions towards electric vehicles. This unexpected turn of events affected Pantheon harshly, forcing us to play catchup for the three following years.

1.2 The Context Behind Pantheon's Transition to Electric

The timing of the identity shift of the company that eventually led to the creation of Pantheon (by which is meant the company we were offered to manage in the beginning of the simulation), was by no means a coincidence, but instead a necessity. An external analysis, in the form of a PESTLE model, reveals that the company was created in a transition period for the automotive industry. Various changes point towards electrification as the most viable way to operate in the industry for the foreseeable future.

- Various government subsidies incentivizing the purchase and production of electric vehicles can be found in all three of Pantheon's operating regions. Since, as we had seen previously, these incentives are one of the key factors that influence customer's purchase decision, this political interest in electrification supports a transition (Matušovičová, n.d., page 100).
- The currently high prices of electric vehicles, electricity, diesel and petrol, as well as these vehicles' maintenance and operating costs is one of the major drawbacks of fleet electrification, however, there's reason to believe that as the industry continues to develop, so will these prices decrease (Matušovičová, n.d., page 101).
- Socially, some identified trends include a greater interest in digitalization and electromobility, as well as vehicle-sharing (Matušovičová, n.d., page 101). This is further supported within the simulation, through news that appeared on year 2 regarding customers' sudden interest in electric vehicles.
- The technological development of batteries and their respective charging stations has led to a progressive increase in the range of EVs, allowing them to adapt to a greater variety of costumer lifestyles (Matušovičová, n.d., page 102). Within the context of the simulation, this technology continues to progress as a result of Pantheon's R&D investments.

- In Europe, one of Pantheon's operating regions, constant tightening of regulations regarding the amount of CO2 per kilometre allowed are being applied. The region intends to have 2030 CO2 emissions per passenger fall by 37.5% in relation to 2021. An ambitious goal that, according to Deloitte, demands the share of electric vehicles to be of 10% (Matušovičová, n.d., page 102). In the simulation, companies are forced to pay a premium on their fleet's emissions and are benefited with a substantial bonus when emissions reach zero.
- Air pollution is one of the world's most pressing environmental issues, and it is believed that reaching carbon neutrality in the world's vehicle fleets is a key step towards addressing this concern. However, even though full industry electrification might be beneficial, it might create a new issue, one regarding used batteries and specifically how to properly dispose of them (Matušovičová, n.d., page 103).

1.3 Pantheon's Inherent Advantage in the Simulated World

With this context in mind, and in accordance with professor João Pedro Delgado's teachings, an internal analysis would immediately follow to provide an idea of the intrinsic value of our company in relation to its competitors (for which we will consider the three virtual competitor companies we faced in the simulation itself, since these are Pantheon's only known direct competitors). For this purpose, the VRIO framework will be used. This particular framework is useful because it makes a clear distinction between factors that are truly unique and valuable to the company and those that do not result in a sustained competitive advantage. Even though factors such as our investments in various technologies that improve the quality of our cars or the sustainability of our factories, our presence in various regions and possession of various production factories might be considered as sufficient to fulfil the requirements of the VRIO

framework, I do not believe that to be the case. Within the context of the simulation, it is not clear to me that any of these valuable aspects of our company unquestionably provide a sustained advantage over our competitors, seen as all of them are to an extent imitable and none of them are intrinsically rare (which are two of the requirements of the VRIO framework). Additionally, not much information is provided regarding each company's reputation or regarding the individual value of the digital managers and other employees, which stops us from assessing these as core competencies. Instead, I propose a somewhat meta solution to this conundrum. The truly unquestionable competency that Pantheon has in regard to its digital competitors is its board of directors and the fact that it is composed of human beings as opposed to virtual entities tasked with managing their respective companies. It is worth noting, however, that this competency is not clearly superior in every dimension to a purely digital management. In fact, there's a very solid argument to be made in favour of fully tech-based management, with decision being made through a rigorous and profound analysis of the existing data, something hardly replicable by humans. Even real companies like "Mobile Works" are experimenting with the idea, having combined efforts with an AI to analyse data and delegate tasks to certain employees, but even these do not fully remove humans from the equation, bringing them on as a form of "smart delegation" (Sahota and Ashley 2019, page 22). That said, there are differences between humans and current artificial intelligence, both in the ways these process data as well as in the solutions they come up with to solve complex issues, so it is difficult to isolate a single factor that led to our results in relation to the virtual competitors. But the truth is that, be it our access to more creative solutions to issues that may arise (Trimarchi 2009), our capacity of contextual understanding (Tversky and Kahneman 1981), our methodology for handling complex-issues (Kahneman 1974), or something else entirely, the end-result was a significantly higher Value-added for Pantheon in relation to its competitors, which is why I deem it our most important competency in this context.

1.4 Innovation: The Key to Survival in a Highly Competitive Environment

Pantheon's transition to electric represents no less than a complete recreation of the company's central value proposition, its fleet. The new board of directors, in charge of implementing this switch, brings along a series of changes in operating principles, objectives, opinions and demands. Essentially, this is a very demanding process with a lot of risk involved. The established company had already found a customer-base, sunk millions into various assets and developed a company culture, making a shift like this hard to justify (Wyk, Pretorius, and Pretorius 2022). Referencing a dichotomic relation first taught to us by Professor Euclides Major, it is a matter of moving from exploitation (of the established company's strengths) to exploration of new options within the industry. Though as we had seen previously, in the external analysis, various factors that greatly affect the market are highly incentivizing car manufacturers to take this leap and innovate (refer to Appendix B). Customers are concerned with the environment and start to trust the product, governments implement incentives and ambitious deadlines, technology is being developed to combat the drawbacks previously associated to EVs and more (Matušovičová, n.d.). Essentially, it is curious that the context in which Pantheon operates is one of high instability, where the generally safe method of exploiting a corporation's strengths is no longer sufficient, and where the traditionally risky exploration of different options is incentivized. Naturally, innovation plays a key role in this dynamic, which immediately begs the question, who's responsible for driving innovation? The push-pull framework determines that two forces may drive innovation: what is known as a technological push and a demand pull (Lorentz et al. 2015). A company's acceptance of either one greatly influences its innovation decisions, making this a key internal choice to be made. In the following section, we'll see Pantheon's approach to this issue.

1.5 Using the Customer as an Innovator

A key take-away from Pantheon's strategy is that the customer is ultimately at the center of all decisions (Wyk, Pretorius, and Pretorius 2022). Our objective was to fulfil our clients' needs by providing what we believed to be, through a meticulous analysis of the available data, the preferences of the market for any given region. One of the various processes influenced by customers is our innovation strategy (what is commonly known as open innovation) (Harper MSc 2022). It greatly affected the models that we decided to research and produce at any given point, as well as the characteristics of the car itself (such as its battery range, connectivity, and autonomous driving potential). Occasionally, the simulation itself would provide us with key insight, in the form of news, regarding what customers demanded, in one such occasion, for instance, there was a sudden rise in preference of the "Autonomous Drive Level IV" characteristic, and so, we promptly adapted our strategy to fulfil that need in the shortest time possible. Another example of a situation in which customers influenced our innovation priorities is our change in scheduling regarding the creation of our first line of electric vehicles, which were pushed forward by 1-2 quarters due to the sudden market preference shift towards EVs and the unsatisfactory sales numbers of the hybrid lines. As a result, these were researched in the 3rd quarter of year 2 as opposed to 1 or 2 quarters later, as initially planned. In other words, a proper interpretation of the market's direct and indirect demands allowed Pantheon to utilize its customers as an innovator, informing the direction of the company's R&D pursuits, and allowing us to follow a definitively "pull" strategy.

1.6 Innovation at Pantheon: The Highs and the Lows

In the previous segment, it was established that Pantheon relied on customer intel, both direct (simulation news) and indirect (the available market research) to inform its innovation

decisions, which include both the types of cars as well as the characteristics of the vehicles themselves. However, we also saw that this strategy heavily relies on a high-quality data set as well as a proper interpretation of customers' indirect queues in order to be viable. In the case of Pantheon, it was the making of assumptions that would ultimately be proven wrong that resulted in its undoing for most of the simulation's duration (years 2 through 4).

1.7 Ignoring the Tax: A Major Oversight

One of the major learnings that came from our innovation strategy came from our underestimation of the carbon tax and benefits system. As a means of remaining coherent with our goal of achieving net-zero emissions at a slower pace to focus on investments that would enhance the quality of the vehicles, the first line of cars we created, the hybrids, still had sub-par emissions according to the regulatory system of the simulation. It allowed for a maximum of 70g/mile of CO2, enforcing a somewhat significant penalty if these requirements were not met, and even granting a bonus if they were below the value. One of the main reasons why Pantheon opted to do this is because offering fully electric vehicles in year 2 would seriously hinder their quality, forcing us to utilize weaker batteries and lower power engines, ultimately affecting the quality of the product. That said, it might have been worth it to rush electrification to achieve the bonus as fast as possible, turning it from an expense to, what proved to later be, a significant source of income. In total, Pantheon paid 2753M in penalties split across 14 quarters (from Q1 to Q14) and earned 3466M in bonuses split across 12 quarters (from Q17 to Q28) (refer to Appendix C). However, we can't state for certain that an alternative strategy would have resulted in a significantly higher value earned from this regulatory measure, since both penalties and bonuses are based on cars sold, meaning that many other factors come into play. It is worth noting that, even though on average it seems like penalties are worth less than

the bonuses (quarterly paid penalty value is approximately 190M, whereas quarterly bonus value is approximately 290M), had we successfully sold more hybrid models in the beginning, one could easily speculate that this expense would have been much greater, perhaps netting negatively in the end. In conclusion, dismissing the importance of these values was a major oversight on Pantheon's part, and even if it hadn't changed our decisions too much, a more prolonged discussion should have taken place.

1.8 Operations: The Internal Mechanisms of Pantheon

Serving as the backbone of Pantheon's vision are a series of principles, assumptions, and mechanisms: its operations. Its effect is greatly felt across roles, evidenced by the great implications that operational needs and characteristics had in their decisions. The need, for instance, to replace a production line might incentivize the Innovation team to start research one or more quarters earlier. The need to reduce inventories might prompt the Marketing team to decrease prices or increase marketing efforts. A change in the vehicle produced at a certain factory might force Human Resources to hire or dismiss employees.

Such an influential position forced its team of directors to be as efficient as possible, both in the way the assets and investments were organized, but also in its communication across roles. And so, with this goal in mind and to remain coherent with the overarching strategy of costumer-centricity, it was decided that cars would be produced in the regions that would prefer them most. For example, the compact models (which we branded with the name Athena) were a car type that was much more preferred in the Chinese market in relation to the USA or Europe, therefore, we would produce it in China. This had an additional advantage for the consumer, seen as in the first year, transaction costs across certain regions had been increased (and as far as we know, never decreased again). Ultimately, this allowed us to more accurately predict the

real cost for the consumer for best-sellers of the region that we expected it to matter most for, since more sales of that vehicle would come from there. This strategy would ultimately prove to be beneficial, and for the most part, was followed for all six years.

Even though efficiency was the company's goal from the beginning, some aspects of our operations took some time to polish. The most evident example of this was the relation between operations and marketing. In the first few years, Pantheon had issues depleting inventories, which was making factories considerably less efficient (the average factory utilization for year 3 was 66.22%, in this period, value added was decreasing substantially). With time, trial, and error, as well as various internal meetings, Pantheon found its footing, and managed to raise its factory utilization substantially (in comparison, year 6 factory utilization was 98.73%, in this period, value added was increasing substantially). This was the result of greatly improved communication between these roles (having improved the team's ability to have a shared mindset) (Martine Haas and Mortensen, n.d., page 74), as well as the application of certain operating principles that will be discussed shortly.

As was established in the strategy section, it was Pantheon's intention to address the needs of the three markets in which it operates, by producing the three car types that best fit that market's preference and gradually upgrade them (aiming for customer centricity, which involves market segmentation and focus on the selected costumer group, in this case, a geographic distinction) (Shah et al. 2023, page 6). Therefore, we initially expected that we would have a relatively low variety of products at any given point, but that we'd produce them at a greater volume, something that would only be possible if the vehicles we made were of great quality and in demand. In theory, this simple relation between volume and variety seemed to be coherent with the rest of our strategy, allowing us to invest more on other factors that would improve the customer's quality of life or the sustainability of our assets, rather than spreading ourselves thin. However, many issues soon appeared, and we would later discover that the relationship is much

more nuanced. One nuance that affects the relation between these variables in real life, but that was hardly translated into the simulation was the idea of modular product design. It is a way that manufacturers have found of minimizing the trade-off between volume and variety production, and it is something that surged in response to the modern consumer's demand for increased variety of products with individually shorter life cycles (Serge Carrier Kjeld Nielsen Frank TPiller Editors, n.d., page 421). Essentially, it is the mass production of components that are similar across various products, therefore reducing costs of production, and achieving economies of scale, but that assemble into a variety of different options, therefore fulfilling the costumers' customization demands. In the simulation there are some examples of this standardization of components, for instance the quality-of-life R&D investments are applicable across models (Serge Carrier Kjeld Nielsen Frank T.Piller Editors, n.d., page 421). However, different car types still have different production needs (mostly regarding workforce) and fulfil different consumer niches, being very distinct in terms of production costs.

1.9 The Operational Principles

The increasing efficiency of Pantheon's operations is largely attributable to the establishment of a series of operating principles, as was eluded to earlier. These are effectively learnings that, through trial and error, would then guide our decision making and culminate in Pantheon's resounding success over its competitors. In no particular order, these are the principles that were instituted throughout the simulation:

1.9.1 The Significance of Production Location

Even though for the most part, following our initial strategy, Pantheon did not produce the same car types in different regions, in a few exceptions, this was the case. These experiments made us realize that there was a relatively significant effect of the production region in the sales for

that region. For instance, in quarter 16, when Athena Mark 1 (our hybrid compact model) was moved from China to Europe, sales for the European region raised by 25% (that is between quarters 16 and 18, there was an increase even though the model had entered the decline phase). Another example is the start of production of the Aphrodite Mark 2 in China (having only been produced in Europe until then) whose increase in sales for that region was of 43% (in quarters 18 and 19). Many of these observations allowed us to conclude that the location in which a model is produced significantly influences its sales in that region.

1.9.2 The Significance of the Optimal Market

However, it was also observed that this influence that was mentioned earlier is significantly different depending on which region the car is produced in. As a means of illustrating this point, we will use the model Athena Mark 1 and its observable sales values. Specifically, the comparison will be between the average value of the Athena's sales when it isn't being produced in region X and when it is. For Europe, when Athena Mark 1 is being produced in Europe, on average it sold 4656 units in that region, whereas when being produced elsewhere, on average it sold a similar number in the EU as well, making the "regional boost effect" a much smaller raise in average sales. For China, when Athena Mark 1 is being produced there, on average it sold 15000 units in that region, whereas when being produced elsewhere, on average it sold 5000 units, making its "regional boost effect" a raise of 300% in sales for that region, a massive difference. In other words, even though there is an evident boost in sales when the customer matches the region in which the vehicle is produced, this increase varies across regions. We speculate that, among other factors, that region's affinity for that type of vehicle is a crucial factor in determining how powerful this effect will be. It is worth pointing out that, even though all these ideas are purely based on observations, the understanding and exploitation of these principles led to real results and allowed Pantheon to surpass its competitors even though it was poorly positioned to do so.

1.9.3 The Nuances of Volume & Variety

Finally, an analysis of observations from the first 4 years of the simulation significantly altered the way we perceived the relation between volume and variety, greatly changing our strategy as well. As we seeked to optimize the production of certain vehicle types, we realized that the units sold of certain models were very different from others (for example, Athena -the compact model- averaged 35421 units sold in year 5 whereas Aphrodite -the luxury model- averaged 13692 units sold in that same year). We initially attributed that to a failure in some aspect of the car's production or marketing (which may have also been the case), but later realized that some types of car simply sell less than others, even if there is a regional demand for it. These tend to be the more expensive models, naturally, seen as this effect is mirrored in the real world. For instance, in the first half of 2022, approximately 750000 vehicles classified as compact cars were sold in Europe, as opposed to approximately 300000 vehicles classified as belonging to premium brands (which in the selected data set was the closest one to the luxury models of the simulation) (Bart Demandt 2020). This realization meant that cars like the Apollo (our convertible model, with a higher price associated) could not be produced at such large scale (with multiple factories for that model), or else inventory would inevitably accumulate (as was the case in quarter 13-15, in year 3, where days of inventory peaked at 339 for that model). Instead, if we wished to keep a series of pricier options in our fleet, we would have to diversify (increase variety, seen as increasing volume was not an option for these models), and so we did. By year 6, Pantheon had identified which car types could not be produced at scale and found a way to produce them in regions where they would be optimal, and simultaneously, we had learned to maximize the production of vehicles that would sell more units (such as the Hermes and Athena models).

2 Frustrating Incidents: An Opportunity for Self-Improvement

In the upcoming chapter I will be looking at two incidents of critical importance that occurred throughout the BiP simulation. Among other factors, these incidents were selected because they led me to reflect on my own behaviours and experiences, essentially being great sources of learning in my eyes. The incidents will be analysed in chronological order in which they occurred. For each, first we will be looking at the context behind them (seen as it is important in order to grasp the thought process that it led to), followed by an analysis of the situation and particularly my role to play and reactions to it, finally culminating in what I believe to be constructive takeaways for myself.

The first incident took place in the second week of the BiP program (20th of June) during the sales roleplay exercise with professor Miguel Pinto Fernandes, and it pertains to the exercise itself. Reflecting on the feedback the professor gave us as well as my own perception of my performance in the exercise in question, it became clear that the way in which we had prepared for the sales call was flawed and that my performance in it reflected my clear lack of experience in sales related affairs as well as our clear lack of preparation.

The second incident took place in the 4th year of the simulation (26th of June, during the third week of the BiP program), and it consisted of an untimely conflict between me and my colleague Laura Nerenhausen, our team's second Operations director, regarding the organization of our production lines. As we will see, this event led me to reflect on the timing of suggestions and how that might affect a team's willingness to seriously consider them. Consequently, it also led me to think about how one might hear these suggestions, regardless of when they are shared with the team, and be able to capture their actual value, instead of immediately dismissing them or blindly following them.

2.1 Learning to Sell Myself and My Product

It was the 20th of June, the day in which we were introduced to the first challenge outside of the Industry Masters software. We were told that our performance in this exercise would directly affect our virtual company in the BiP simulation, with positive results leading to a significant influx of cash, average results leading to a less significant amount and negative results leading to a failure to secure the client entirely (no change in cash). We were tasked with devising a sales pitch targeted at a car dealership with the ultimate goal of securing it as one of our downstream distributors. The roleplay would be divided into two phases: one in which we present ourselves and our company to the dealership rep (in actuality, professor Fernades himself), and a second phase reserved for questions about our pitch and our company.

Additional rules included the fact that only three members of the total group were allowed to participate (ours was composed of seven members) and that whoever does the initial pitch is not allowed to answer any questions in the second phase of the roleplay. With this in mind, we swiftly selected the three members that would compose the team for this first exercise. My colleague Bernardo Pires, tasked with delivering the pitch itself and both our Human Resources Director Yuran Tian and I meant to address any concerns after the presentation. We spent the afternoon preparing the pitch, our goal being to clarify the company's priorities and values, our benefit statement, and our production philosophy. The following day arrived, and we felt ready. During the meeting, everything seemed to be going smoothly until we reached the Q&A segment. Professor Fernandes had asked a series of questions regarding the relationship between our company and his dealership that we were not prepared to answer. Ultimately, we managed to provide some clarification, but in my opinion, our answers were somewhat confusing, and the lack of preparation was noticeable regardless due to the prolonged silences before answers were provided. Leaving that meeting, I felt personally responsible for our poor

performance in the second portion of the sales call, feelings that lingered on even after we got the results and feedback from the professor (refer to Appendix D).

The points we had managed to build-up were enough to secure the client, but not with the desired much more integrated contract, netting the company the second-best option overall. However, even though I was proud of what we had managed to achieve, I kept asking myself what was it that I could have done differently. And I do, in this case, intentionally mean "I", instead of "we", partly because I still felt responsible for the lost points and partly because it is a custom of mine to think about that which I can control as opposed to the actions of other people. My own reflections had landed on two central points: one, a cursory preparation that failed to follow any particular methodology and which therefore left out a series of reflections that were necessary in order to address the professor's concerns; and two, my own lack of sales related skills, which ultimately resulted in a poor deliverance of any answers we managed to have. It is likely that a combination of both points is what led to the observed results. This was the starting point of my analysis, which had the goal of understanding exactly how these two points might influence an individual's performance when selling an idea, company or product and ultimately devising a plan for me to acquire these skills and be more successful in the next sales pitch I deliver.

Firstly, analysing our preparation for the exercise on the 20th of June, as mentioned in the previous paragraph, I believe it might not have been sufficient, not taking into consideration a wide array of issues that might concern the client such as the relationship between our two companies, potential added benefits, and our work culture. Effectively, this demonstrates a failure in my part to truly understand what the concerns of the client were, therefore, not truly applying the knowledge and frameworks taught to us by Professor Fernandes that very same afternoon. In one of the models the professor showcased (refer to Appendix E), one of six mentioned core competencies of outstanding sales professionals includes customer-centricity,

which entails a deep understanding of customer's context, perceptions, and expectations. This is an exercise that I could have performed in preparation for the meeting the following day. Our primary focus was to develop an excellent presentation with a clear value proposition as a means of differentiating ourselves from competitors. In the process we failed to actually consider what the needs of our direct client (by which I mean the dealerships) were, focusing only in the needs of the consumers (who look for great qualities in characteristics at a good price, and who look for specific car models according to their personal needs and lifestyles). (INAMIZU, SATO, and IKUINE 2017). In the previously mentioned article, Inamizu, Sato and Ikuine understand preparation as the consideration of customer related information, such as their business environment and how they might perceive our company in relation to its competition, and then formulating hypothesis anticipating concerns and attempting to pre-emptively address them (page 5). This interpretation meets the ideas we had access to through Professor Fernandes' presentation regarding the importance of a customer centric approach to sales, and it represents one of the points I failed to understand then. Consequently, a more thorough preparation on my part, considering the direct needs of our company's soon to be partner, would have left me more confident during the actual simulated sales call, and might have prevented some of the awkwardness that I felt during the Q&A section. That said, even though it would have likely resulted in a better result, singlehandedly it is no replacement for sales related skills, which I certainly feel I lack.

Research shows that many factors play a part in determining the performance in sales of any given individual, including environmental characteristics, job-related psychosocial factors or even motivation (Chawla et al. 2020, 1363-1366). My interest, however, will be on sales related skills by which is meant all "learned proficiency" necessary for greater performance in sales related tasks (Chawla et al. 2020, 1363-1366) . Skills include all kinds of learned concepts and techniques that allow for a better understanding of the client and the job itself, and can be

divided into selling-related knowledge (of product, types of sales situations and strategies and knowledge-processing), salesmanship skills (making of presentations and closing of sales), inter-personal skills (issue resolution) and technological skills (needed when performing sales-related tasks through sales technologies) (page 1365-1366). Based on my interpretation of the feedback from the sales exercise, a better performance might have been achieved on my part if through the application of these skills I had approached the questions differently. That is, not only would I have been able to approach preparation for the sales call differently, perhaps being able to identify the client's immediate concerns and predict his questions, but also, in the face of the unexpected, handled the situation more smoothly, putting into use concepts acquired through extensive procedural knowledge or sales consulting, for example.

In conclusion, I feel as though I would benefit from a formal learning experience of these theoretical concepts with clearly practical implications, seen as I have benefited greatly from such experiences regarding other topics in the past. Similarly, I recognize that many of these concepts are intrinsically related to practice, and therefore, believe I would greatly benefit from engaging directly in sales to apply these techniques and concepts in the real world. Therefore, in the near future, I intend to take these reflections into consideration and search for opportunities to learn and apply sales related skills.

2.2 Learning to Capitalize on the Flow of Discussion

It was the afternoon of the 23rd of June and Pantheon was discussing its strategy going forward. It had been a rough year, simulated that morning, but it had been productive, since we had started to identify some key principles of the simulation. We had decided to stay as late as we needed to and ensure we were aligned both in vision and in strategy for the last 3 years, and so we did. The team discussed what we believed needed fixing or had not worked thus far and

wrote down both the lineup of cars that we intended to have by the end of the simulation as well as what needed to be done in terms of investments to achieve it. We settled on dates to start each investment and agreed on a production lineup for the next few quarters that would allow us to sustain ourselves until the new models had been created. Everyone was satisfied and we left for the weekend. On Monday, my fellow Operations director Laura Nerenhausen told us a new idea she had come up with during the weekend for a different way to distribute our production lines in the upcoming quarter. At a first glance, this alternative distribution seemed to ignore some of the key principles we had discussed the week before and appeared to be geared to secure the short-term survival of the company at the cost of greater expenses down the line. This, combined with the fact that the actual 3h time span we had to make the yearly decisions had already begun, made me much more hesitant to embrace her proposal. On top of this, in the previous week of working together we had come to the conclusion that I had the tendency to keep my eyes on our long-term objectives, whereas Laura was much better at identifying short-term fixes, but also less likely to follow a cohesive long-term strategy. This meant that there was a chance that following this new distribution would compromise the strategy we had previously devised and made me become even more averse to the idea. This culminated in a discussion between the two of us that would have been much more productive outside of the limited timespan we had to operate in. We ended up following her idea, and in hindsight, her proposal did have plenty of merit to it even though it did go against some of the principles we had established previously, and perhaps was the best way to manoeuvre the short term as we waited for the creation of newer models. But this realization left me with the impression that a lot of value could have been lost due to external factors beyond the merit of the proposal itself, in this case, the timing of Laura’s idea. In fact, many such ideas have likely been lost due to this exact reason. So, I decided to look into it, in order to learn how to react in

situations like the one described, and to propose my own ideas when those listening are most willing to accept them.

In a paper regarding how the timing of novel contributions affects a team's results, researchers propose the idea that one of the factors that primarily affects the way creative, new or valuable information is perceived by a team is the "phase" of the project in which it is proposed. In other words, the same idea, regardless of its inherent value, can be interpreted by other members within the project team in a different way purely because of when they hear it (Ford and Sullivan 2004). In other words, the same idea, regardless of its inherent merit, can be interpreted by other members within the project team in a different way purely because of when they hear it. The authors claim that novel contributions are most beneficial to a project team early in its development (page 279), whereas later in the process, listeners may become frustrated due to a feeling of unfocused effort or diminished productivity (page 279). The researchers make an interesting case to justify this phenomenon, basing it on the argument that "creativity is an inherently destructive process" (page 280). It is claimed that "creative actions initially disorganize" and then function as the basis for restructuring the development of tasks (page 280). A distinction is also clearly made between established and easily differentiated phases of a project's development, to further clarify when novel ideas are best accepted and when they're not. Research suggests the existence of a "midpoint transition" in a project's life in which the primary tasks and structure on the work has been established and in which a team's focus shifts towards execution. Before this midway point is reached, novel ideas create "value for project teams who are still struggling to find ways to meet project requirements" (page 280), however, after this key point, these proposals may "disrupt a team's organizing efforts and induce frustration", perhaps even leading to "lower project quality" and "decreased team member satisfaction" (page 280).

Relating back to the occurrence on the BiP program that was described earlier, it is relatively simple to find parallels between it and the theory mentioned here. For instance, in this example there is a clearly defined midway point, in which the team's focus shifted from strategizing and planning to execution. This point is reached shortly before the 3-hour period in which the simulation is open, and decisions are made. As was predicted in the research, the introduction of a novel idea after this period led me to feel frustrated and concerned that we were losing sight of our long-term objective and established strategy. The team was mentally prepared to execute the decision we had agreed upon and was certain that our strategy was solid and realistic.

That said, even though this influence of timing is felt in our perception of the novel idea, it does not serve as an impartial judgement of the true value of said idea. I expect that many times in my professional life, these ideas will come at unfortunate times, and it is my intention to properly judge them based on their inherent value. Identifying this bias as well as the feelings that it may invoke on me is a crucial first step towards ensuring I am no longer affected by it. This very task of deeply analysing the incident, the way it made me feel and seeking to justify it with scientific research will equip me with the tools to perceive it the next time it surges before me. Provided I keep this experience in mind, actively reviewing it from time to time, it is unlikely that I will be caught in this bias again. This analysis serves also to learn when I should propose any novel ideas I may come up with, focusing my efforts on the phases of a project group's life cycle in which my fellow team members are most receptive, which is the pre-midpoint stage, most commonly known for its lack of direction or cohesive strategy.

3 Conclusion: The Learnings of a Business Simulation

Having undergone and deeply reflected on many of the strategies and incidents that occurred throughout the duration of the Business in Practice program, I can confidently say that the process, both of having experienced the simulation but also of writing this thesis has generated a series of learnings that once internalized make me a better professional and individual. In the first chapter, regarding firm analysis, it became clear that a thorough analysis of the context surrounding a decision (including the customer-base, regulations and governing entities, and other factors) is not only imperative but might be the single most important factor contributing towards success of a company. A company such as Pantheon, that intends to use customers as the central factor of their decision making is forced to undergo this thorough analysis of its environment, ensuring that data points are well interpreted and assumptions are grounded, otherwise, it risks making suboptimal predictions and failing to truly provide the value customers expect. It was this rigorous attention to patterns in its environment that allowed for the Management team of Pantheon to define operating principles that would ultimately come to define the firm's success in the later stages of the simulation, further corroborating this key point of the thesis.

Regarding personal learnings, it became clear in the first sales exercise of the thesis that this represented a serious gap in my own abilities, and that it is fact not something intrinsic to the individual, but a skill that can be practiced. In this chapter I concluded not only that I would benefit from formal learning of sales techniques but also of actual sales experience and proposed to seek such opportunities in the near future. Also, in this chapter it was concluded that there is such a thing as the most opportune moment to provide creative suggestions in a team context, and that the timing in which these are given does affect the willingness of the listeners to truly take in the information. A mindful realization of this phenomenon can function

as a way of minimizing the effects of this bias on us and will help us better time our own interventions.

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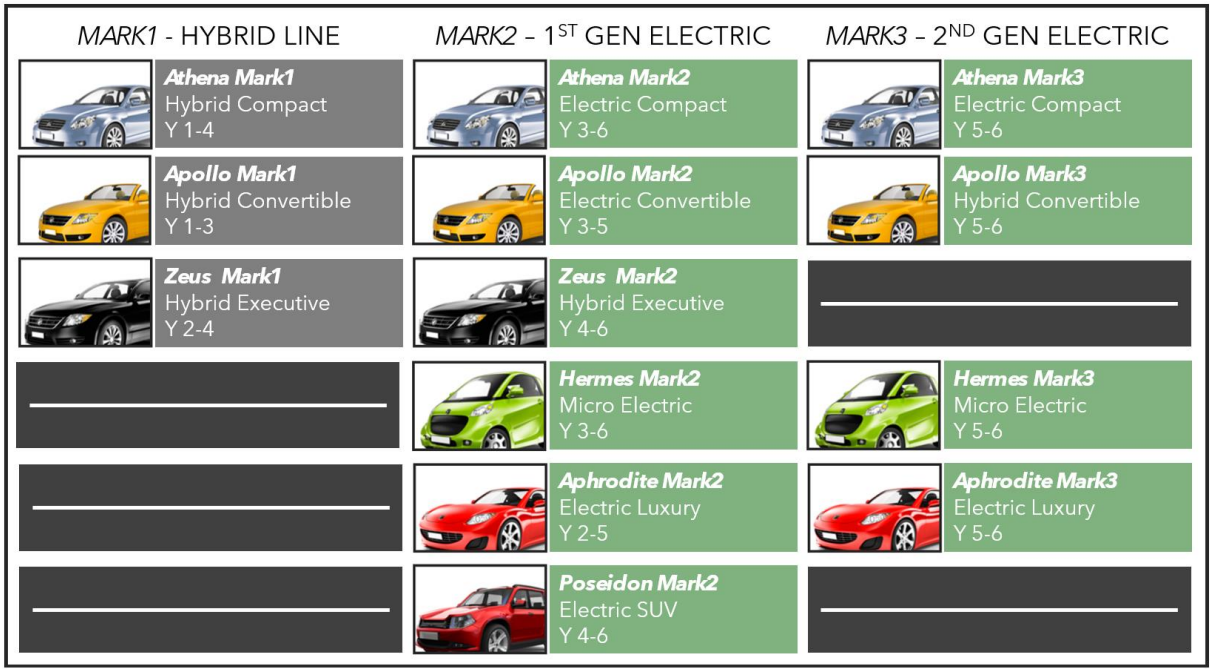
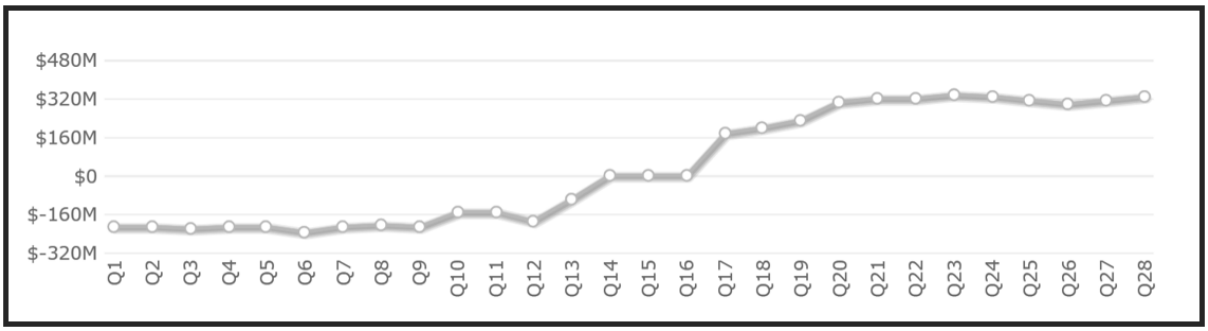
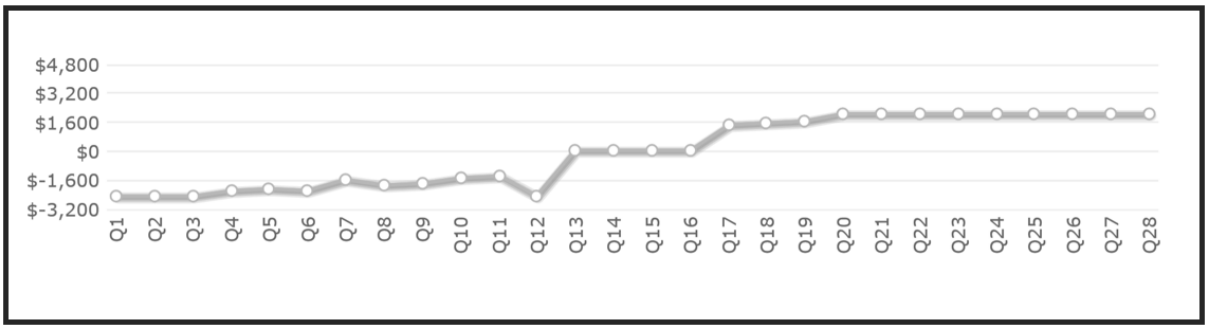
Appendix



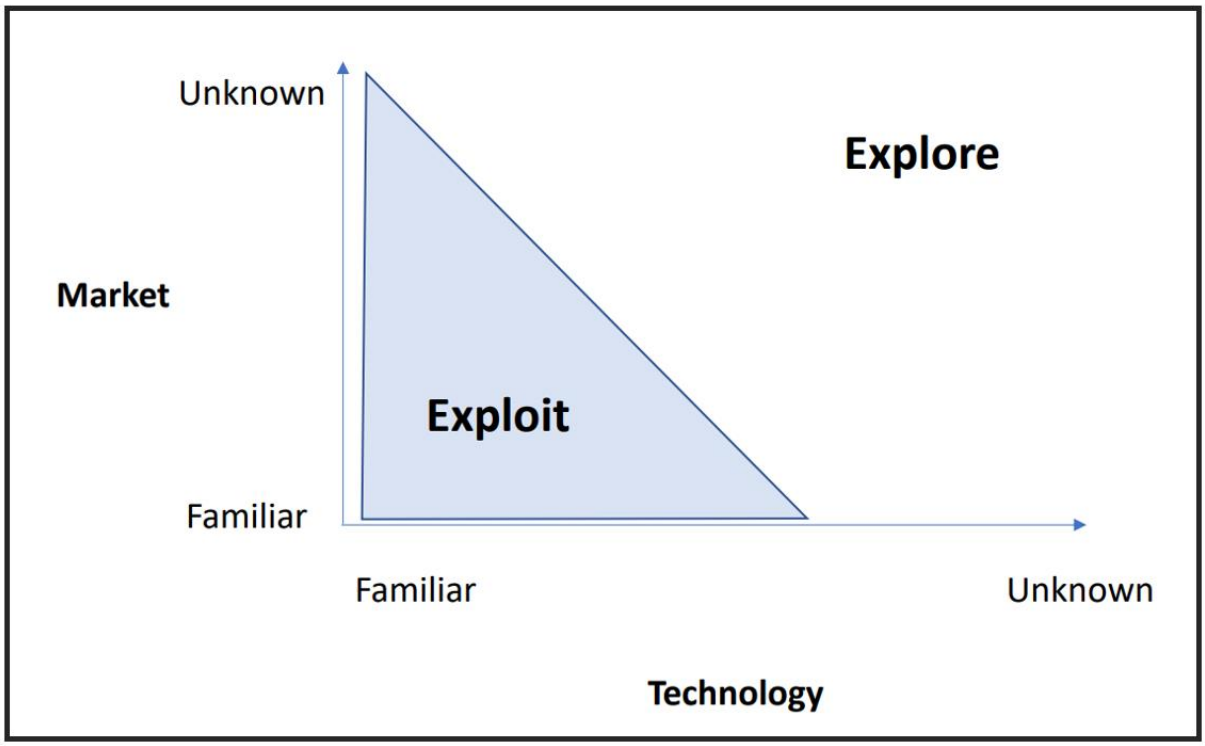
Appendix A. Evolution of Pantheon's Fleet across 6 simulated years.



Appendix B – Figure 1. CO2 Penalty/Bonus Tax (value paid each quarter).



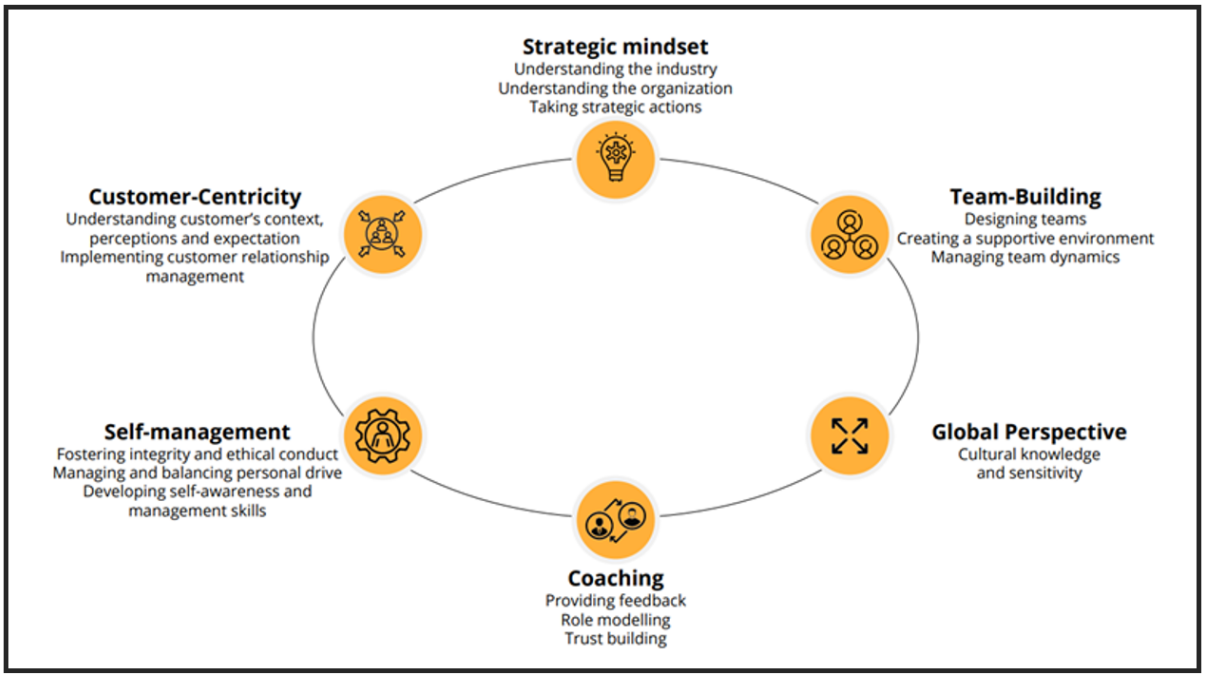
Appendix B – Figure 2. CO2 Penalty/Bonus Tax per Car Sold (value paid each quarter).



Appendix C. Relation between exploration and exploitation in the market.

PANTHEON	*Very unsatisfying*				*Very satisfying*		
Skill / Behaviour	**1**	**2**	**3**	**4**	**5**		Comments
Body language: eye contact, smile, gestures, body position				x			
Verbal Language: assumptive, relevant, straight to the point, brief, simple, confident				x			good communication skills
Rapport: establishing trust, keep it natural and familiar, conversational			x				
Value proposition: clear, persuasive, clear USP, relevant, short, unique				x			clear VP
Content: focus on customer needs and seller's differentiators, not focus on product specificities			x				
Form: simplicity, uniqueness, story telling, creativity, engagement, time managament ...				x			creative and out-of-the box, inspiring
Extra 2min: Ability to answer posed questions, objections, etc.		x					answers did not really addresssed my questions, a bit vague and difficult to follow
	0	1	2	4	0	**24**	

Appendix D. Sales Pitch Feedback.



Appendix E. Core Competencies of an Outstanding Salesman.