The Divorced Parents Syndrome – A Strategic Management Analysis of Joint Ventures between Competitors

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“Hofstadter's Law: It always takes longer than you expect, even when you take into account Hofstadter's Law.”

- Douglas Hofstadter

This document is dedicated to the loving memory of our dearest friend Apostolis who left us so soon but stayed enough to help us shape who we have become. May he rest in peace and always be with us in spirit.

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Abstract

Popularized in the 80s and 90s with international strategic alliances, Joint Ventures have been a prominent cooperative strategy. In the current highly volatile and antagonistic environment, organizations trying to create synergies are more acceptable to partner with their adversaries. Entering such a relationship with the opposition may present greater risk and complexity. This study investigates the intricacies of conducting a strategic management analysis of joint ventures between competitors.

Considering the cognitive processes that drive the human factor and their frequent business applications, we proposed using an analogy to conceptualize our analysis objective. We named this analogy the Divorced Parents Syndrome, which is based on the circumstances of Co-Parenting, the situation where two parents undertake the upbringing of the child conjointly. We argued that the post-divorce dynamics developed in this triadic relationship present similarities with Coopetitions and offer valuable insights when assessing them. Additionally, we examined the strategic management theory steps and evaluated the differences and critical factors that arise when managing a Joint Venture (Child) between Competitors (Parents). We also offer our ideas and hypotheses produced by this body of work, signifying the importance of building trust, maintaining balance, and developing strong corporate governance.

Finally, we describe Victus Networks, a joint venture created by two major competitors in the Greek telecommunications industry (Vodafone Greece & Wind Hellas). This case study analysis took into account the fundamental Co-Parenting ideas and the strategic management assumption of Coopetition that were provided by this document.

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Part Zero – The Divorced Parents Syndrome

Psychology & Business

"The emphasis in successful management lies on the man, not on the work."

- *L.M. Gilberth*

For over a century, the science of Psychology has placed its foothold in the Business world. From Behavioral Economics and Behavioral Finance to Marketing Research and Managerial Psychology, more and more the field of applied psychology provides valuable solutions to practical problems of business management with the use of psychological methods.

The standard definition of Psychology is the scientific study of the human mind and its functions, especially those affecting behavior. As such, throughout the years, it has been incorporated into all aspects of human involvement, from decision-makers to employers to consumers. Whether as a scientific study or by pure everyday intuition, Psychology offers a valuable insight that affects the way we understand, analyze, and act in Business.

Marketing

Marketing is the apparent beneficiary of the coalition between Psychology and Business. This fact becomes evident by the definition of Marketing, according to the Chartered Institute of Marketing, which describes it as "the management process responsible for identifying, anticipating, and satisfying customer requirements profitably." [1]

From the first decades of the 19th century, Marketing is aiming to persuade consumers and to provoke specific behaviors. Even though it was not registered as a scientific field from the very beginning, since it used to be considered as more of a creative art, it has always adopted the contemporary psychological theories to achieve its goals. Nowadays, the academic study of Marketing has capitalized upon the use of social psychology, anthropology, neuroscience, along with mathematics and economics, and is widely accepted as a science. [2][3]

Consumer's Behavior

A significant key to a successful marketing plan is considered to be the understanding of how and why people think or act in a specific way. Studying the consumer's behavior and assessing their desires is an invaluable tool, and several Psychology concepts have been used to that end, both as theories as well as experiments. Some common technics include focus groups, attitude scales, and choice experiments, where some of the most prominent principles of psychology having marketing implications are listed below.

Social Proof

The term that was introduced by R. Cialdini (1984) is also known as informational social influence. It refers to the psychological phenomenon wherein people tend to conform to the behavior of a larger group. This herd psychology is considered prominent in ambiguous social situations where people are unable to determine the correct decision and comply with the actions of others, under the assumption that they possess a more in-depth understanding of the situation. [4] Following the above, consumers will adopt the behavior of a group of people, and companies will find it beneficial, providing their customers the ability to share the views on their product.

Verbatim Effect

Studies have shown that people are inclined to remember short pieces of information instead of extensive details. That is because the memory process is primarily based on the general meaning of the given data rather than the specifics, something that can be linked to the hippocampal part of the human brain that operates based on semantic relationships. [5] This natural act of condensing information incentivizes marketers to create short, dense, and compelling headlines.

Reciprocity

The concept of reciprocation is prominent in all human societies as far back as the Hammurabi's code (1792–1750 BC). [6] The social construct of repaying a positive action with another positive reaction can be used to the advantage of a business by building a continuing relationship of exchanges with its customers. Even a simple giveaway such as a mint at the end of a dinner or a hand-written thank you card can instill the feeling of obligation to the customer, which in return will benefit the business. To the words of the renowned archeologist Richard Leakey, "We are human because our ancestors learned to share their food and their skills in an honored network of obligation." [4]

Scarcity / Loss Aversion

It seems that humans are more motivated by the idea of losing something than by the one of gaining something of equal value. This concept indicates that potential loss plays a significant role in our decision-making process. A straightforward application of this principle is affecting the collectible items market. There, the tactic of limited-number products skyrockets the desire of consumers. [4] A noteworthy contributing factor to the effectiveness of scarcity is social proof. A sold-out item gives the impression that there were a large number of people that bought it.

Authority

The notorious Milgram experiment shockingly highlighted the human tendency to obey the instructions of authority figures. [7] An undisputed authority of our everyday life is the doctor. A doctor's directives are usually followed to the fullest and are seldom questioned, even from other (lower ranked) medical professionals. This inclination is why marketers are using such distinctive figures that emit a sense of expertise in their brand messaging (i.e., actors portrayed as medical experts in advertisements). [4]

Frequency Illusion

Known also as the Baader-Meinhof Phenomenon, is referring to the perception that a subject (i.e., a word, a name, or a symbol) that has recently come to our attention keeps reappearing in a high frequency shortly after our first encounter with it. It is a form of cognitive bias that exaggerates the importance of our observation and increases the probability of becoming aware of the subject when we reencounter it. This condition magnifies the nurturing process of marketers. Whenever a consumer comes in contact with the product, it is essential to facilitate this reoccurrence of observation to convert them into a customer. This principle enhances the effectiveness of targeted advertisements such as Google Ads.

Primacy & Recency Effect

These two principles describe the ability of the human mind to better recall the first and the last items of a list, respectively. [8] This is also known as the Serial Position Effect and has associations with advertising. Depending on the platform, marketers are competing for the most valuable position. For example, TV viewers tend to remember the last advertisement of the commercial break, where the top two ad positions on a search engine's page are considered to be best in search engine marketing.

Psychology & Economics

The link between Economics and Psychology is dated back to the era of classical economics. The forefathers of market economies incorporated human psychology in their work to explain the behavior of the individual. The great Adam Smith in his book "The Theory of Moral Sentiments" (1759), which predated his magnum opus "The Wealth of Nations" (1776), approached the sense of morality through the lens of psychological motives. [9] His contemporary Jeremy Bentham introduced the concept of utility as the measure of satisfaction in his utilitarian code of law. His idea was adopted and reshaped by the neoclassical economists as a utility function, a representation that signifies the preferences expressed by an individual. [10]

However, classical economics presupposed a state of certainty where the individual has full access to information, and a perfect understanding of the rules applied. This assumption led to painting the picture of the economic man (also described as homo economicus), [11] an agent that acts in perfect rationality and is seeking the optimal alternative. Subsequently, even though the use of psychology principles assisted their theories, for generations, economists decided to disregard the several irrationalities of decision-making, especially when dealing with uncertainty.

Economic Psychology

The turn of the century brought the emergence of Economic Psychology, where its prominent figures Gabriel Tarde and George Katona advocated the rapprochement between Economics and Psychology. Katona, in particular, following his work with the U.S. government during WWII, utilized the application of psychological principles in macroeconomics. His research led to the creation of the well-known UMCSENT (University of Michigan Consumer Sentiment Index), a monthly nationwide survey of consumers that evaluates consumer confidence and estimates future spending and saving. Most importantly, his use of empirical data rather than theorized assumptions of rationality set the foundation for the development of Behavioral Economics. [12]

Behavioral Economics

Traditional Economics presumes that the decision making by individuals or markets is fundamentally a rational process and not influenced by cognitive biases. It used to be considered that for all intense and purposes, the individuals, on average, act in a rational manner. However, observations and experiential data suggested otherwise. The developments in Cognitive Psychology offered a deeper understanding of the human brain and helped to shape a new perspective about the boundaries of rationality. The American economist and cognitive psychologist Herbert A. Simon revised the traditional approach by introducing the concept of bounded rationality. His proposition describes that rationality is, in fact, limited and weighted by factors like the cognitive limitations of the human mind and the time provided for decision making. [13]

The later work of psychologist Daniel Kahneman and mathematical psychologist Amos Tversky magnified the belief in irrationality by contrasting cognitive models of decision making under uncertainty to economic models. The Prospect Theory suggested by the two scientists argued that the individuals show a subjective perception of objective stimulus. Their work employed the Heuristic method in problem-solving (an idea introduced by H.A. Simon in his research for bounded rationality) and applied cognitive psychology to explain divergences of economic decision making. [14]

Heuristics

The first pillar of behavioral economics is the use of the heuristic method in decision making. This approach favors a practical decision that appears satisfactory rather than the optimal or rational alternative. It includes the generally accepted principles of the educated guess, rule of thumb, intuition, and common sense. The heuristic technique derives from lessons learned by previous experiences and applies simple yet efficient rules on the judgment of individuals faced with insufficient information or complex situations. These mental short-cuts contradict the predictions based on rational thought.

Framing

Another prevalent theme in behavioral economics is the concept of framing. It consists of a set of perspectives developed by an individual, a group, or a society in the attempt to assess and comprehend reality. These stereotypes are, in fact, a series of mental filters that influence our choices and create predispositions that manipulate the effect of the available options, invalidating rational choice.

Market Inefficiencies

The Efficient Market Hypothesis (EMH) had been in the driver's seat of Finance for decades. The idea introduced by the University of Chicago in the 1960s captured the imagination of academics and turned into an incredible theoretical success. According to EMH, the price of an asset is a direct reflection of the available information to the market. Several theories emerged that built upon the concept of EMH, and early empirical data appeared to coincide with its principles. The theoretical base of the hypothesis was constructed upon three primary assumptions regarding rationality. Firstly, individuals within the market are assumed to act rationally. Secondly, even if there are cases of irrationalities, they are considered to be random events and are expected to nullify one another without affecting the price of the asset. Lastly, in the rare case that irrational behaviors are complementing each other, the rational agents of the market will be led to act in an arbitrage way that will eliminate the influence of the irrationalities on the asset price. As one would expect, in recent years, the validity of the hypothesis has been significantly challenged, and Behavioral Finance has developed into the most promising alternative. Nowadays, the idea of an efficient and rational market seems counterintuitive since every market appears subject to anomalies. Behavioral Finance, as a branch of Behavioral Economics, is formulating theories for understanding how and why market participants are making irrational decisions in a systematic fashion, in contrast to the perception of a rational market. These irrationalities are directly affecting asset pricing and create what is referred to as market inefficiencies. Issues such as the under- or over-reaction to information, the tendency of loss aversion, and typical herd instincts produce market trends and might even result in bubbles or crashes. [15]

A noteworthy fact is that in the last few decades, the field of Behavioral Economics has produced several "Nobel Memorial Prize in Economic Sciences" awards in the works of Daniel Kahneman (2002), Robert J. Shiller (2013), and Richard Thaler (2017). The former of whom was the first non-economist (in profession) to receive the award.

Management & Human Resources

Management in general and Human Resources Management, in particular, were always people-centric scientific fields. The dawn of the industrial revolution and the emergence of larger-scale corporations created the necessity for a more in-depth study of Management. That study and analysis sparked the ideas of contemporary industrialists like Robert Owen and Charles Babbage, who recognized the workforce of an organization as a significant factor in its success.

By the turn of the century, those preliminary ideas formulated what we now describe as the Classical Management Perspective. The accumulated work of that epoch is subdivided into the branches of Scientific Management and Administrative Management. The latter considers the organization as a whole and addresses the fundamental managerial functions of planning, organizing, leading, and controlling, while Scientific Management focuses on improving the performance of employees as individuals. The Classical Management Perspective remains relevant to this day. Job specialization techniques remain standard practice for many manufacturing positions, while several aspects of the bureaucratic procedures suggested by the classical perspective are put into use by many modern organizations. Undoubtedly, efficiency dictates that a core responsibility of managers throughout the organizational ladder is getting the most out of their employees. [16]

However, the classical perspective was unable to address the instability and complexity of moderns businesses. Also, it limited the role of the individual in organizational success, focusing on the way managers would be able to control and standardize the employees' behavior. Nonetheless, it provided the building block for the construction of the Behavioral Management Perspective. Frederick Winslow Taylor, a prominent figure during the early days of Management Science, was an inspiration for psychologist Hugo Munsterberg, the later called father of Industrial Psychology. Munsterberg, in his famous book "Psychology and Industrial

Efficiency," recognized the significance of the individual in the workplace and set out to understand the human element. His goal was to answer three fundamental questions, how to find the most suitable individual for a job, what are the psychological conditions that would secure the optimum outcome, and how to influence the individual behavior towards effectiveness. Reiterating the quote by Lillian Gilberth, which was mentioned at the start of the chapter, "the emphasis in successful management lies on the man, not on the work." [16]

In her book published in 1914, Lillian Gilberth introduced the concept of "Psychology of Management" by overlapping the two sciences of Psychology and Scientific Management. Gilberth was a psychologist, an engineer, and a pioneer in the field of Management Theory. In her analysis, she attempted to combine basic concepts of human behavior with management principles of her era through underlying ideas like individuality, functionalization, and standardization and contrasting their places in the psychological and the managerial spectrum. Her study, along with the work of Hugo Munsterberg and their peers paved the way for the development of the Industrial and Organizational Psychology of the new millennia. [17]

Industrial & Organizational Psychology

Surprisingly enough, Industrial and Organizational Psychology (also called I/O Psychology) was initially applied in a big scale during WWI. Researchers of the time utilized what was accepted as I/O Psychology tools to develop intelligence and personality tests for military personnel. The outcome was the Army Alpha (and Army Beta for illiterates) that measured knowledge, verbal and numerical ability, as well as the ability to follow directions. The test results were used to evaluate the performance and skills of recruits to optimize the duty assignment process. The goal was to deploy the best-fitted individuals to the appropriate post rapidly and to discover those with the potential to fulfill leadership roles. [18]

After the war, the boom of industrialization in the U.S. furthered the need for the application of I/O Psychology methods in production lines. The private sector, motivated by the successful use in the army, tried to emulate mental ability test and invested in additional research of industrial psychology. A pivotal moment in the scientific field was the often-cited Hawthorne Studies. Hawthorne Works was a large factory complex of Western Electric Company in Chicago, producing telephone equipment. In 1924 the company commissioned a series of studies to research possible divergences in productivity in relation to physical stimuli (i.e., improved lightning). The results concerning the initial hypothesis were inconclusive. However, the head of research Elton Mayo was impressed with the significant findings that suggested social factors and workers' emotions were directly linked with productivity. This realization fueled a series of experiments from 1927 to 1932 that showed the dependence of individual performance in intangible motivators like job satisfaction, sense of inclusion, and the attention provided by the supervisor. [19]

Since then, I/O Psychology has developed into an ever-growing field. In 2018, it became one of the 16 recognized specialties by the American Psychological Association (APA). In the same year, the annual Bureau of Labor Statistics' Occupational Outlook Handbook ranked it within the fastest-growing occupations with a mean salary of over $80,000. [20] According to a present-day definition by GAIOP, Industrial-Organizational (I/O) Psychology is the scientific study of working and the application of that science to workplace issues facing individuals, teams, and organizations. The scientific method is applied to investigate issues of critical relevance to individuals, businesses, and society. [21] In general, I/O Psychology deals with the behaviors of individuals within an organization and how they affect it, as well as the effects an organization can have on an individual. There are two areas in this scientific field, Industrial and Organizational, which respectively derive from those two crucial aspects of every organization, people and business.

Industrial Ψ

Industrial Psychology focuses on the individual and revolves around what would be described as Human Resource Management issues. It formulates procedures and tools for managing employees to make them more productive. The Industrial Psychology cycle starts with a job analysis that critically analyzes and portrays the requirements for a particular position. The outcome of the study will ascertain the skills, abilities, and overall qualifications that the employee must possess to flourish in said role. Those premises will affect recruitment and selection mechanisms. Following the selection, Industrial Psychology will support the personnel development process, assisting the growth of employees within the boundaries of their careers throughout their stay with the company (i.e., with training, motivation, retention incentives).

Organizational Ψ

Organizational Psychology looks into the internal aspects of a business considering the individual as a member of the group and studies group behavior in formal corporate settings. Modern organizations are dynamic entities in constant interaction with their environments, both internal and external. The backbone of such a volatile element is Organizational Culture, which encompasses the values of the organization as a whole. This collection of principles, beliefs, policies, and assumptions creates habits and sets the tone for how things are supposed to be done. Company culture dictates the way employees interact and how they identify with the organization, directly affecting their emotions and overall group relations. This division of I/O Psychologic deals with motivation, leadership, authority, and responsibility aspects of the work environment to assist managers in better understanding the psychological patterns involved in coordinating individuals around a common goal. [22]

Organizational Behavior

The field of Organizational Behavior (OB) has been described as the study of human behavior in organizational settings, the interface between human behavior and the organization, and the organization itself. This broad definition conveys significant similarities with the discipline of Organizational Ψ. Admittedly, there is some arbitrariness in setting apart the two fields since they both study the same phenomena. However, the subtle yet significant difference between Organizational Behavior and Organizational Ψ is that the former is concerned with the organization itself. This approach of self-reflection at a macroscopic level investigates the importance of organizational structure and strategy. [22][23]

Organizational Behavior draws from several contributing disciplines such as psychology, sociology, and economics, and provides insights, perspectives, and tools for Management. An understanding of organizational behavior principles assists managers in all industries to comprehend why others within the organization behave in a specific manner. Managers are associating with individuals in all directions of the corporate ladder, and OB can be an acumen factor in handling those interactions more effectively. They can also use the tools of OB in a self-centered approach to ascertain their feelings, motives, and behaviors, and their improve capabilities and decision-making. [23]

By definition, Organizational Behavior is subdivided into three crucial areas of research, the individual behavior in organizations, the way workgroups and organizations associate, and how organizations behave as a whole. Since social sciences are a significant benefactor of OB, they have bequeathed to it several research technics and practices, including the level of analysis, which matches the three OB pylons into Micro-Level, Meso-Level, and Macro-Level of study. [24]

Micro-Level

Similar to sociology, the smallest unit of analysis is an individual. Thus, the Micro-Level organizational behavior subfield is focused on the attributes and performance of individuals within the organization. This area derives from experimental and clinical psychology and has the most overlap with Industrial Ψ since it supports the selection, training, and development processes of employees. Its main goal is to examine factors that affect decision-making, work satisfaction, stress, and performance of individuals, and to assist with managing diversity and stereotypes. [24]

Meso-Level

This middle ground analysis addresses the characteristics of groups and the behaviors developed by individuals within teams. It coincides with Organizational Ψ in studying group relations and dynamics. It looks into factors such as leadership, motivation, and work design as a means to improve efficiency and overall team effectiveness. [24]

Macro-Level

This subfield is the critical area of differentiation from I/O Psychology. Macro-Level Organizational Behavior is concerned with the behavior of organizations as entities. Its origins are linked to four distinct disciplines Sociology, Anthropology, Political Science, and Economics. It considers the effects of corporate structure and design, and analyses events not in terms of individual behavior but that of organizational processes. The administration of macro organizational behavior dives into corporate politics assessing agents such as power, conflict, and control and tries to capitalize on the benefits of organizational culture. Precisely, the fashion in which managers can formulate the values and beliefs that affect the way employees understand their organization, and they can instill the expected behavior throughout the company. Finally, managing a complex entity like an organization is a demanding task that requires constant adaptation to the environment. Macro OB aids managers in initiating the necessary change that will alleviate problems and threats and will take advantage of opportunities and strengths. [24]

The Divorced Parents Syndrome Analogy

"And yet, according to Epicurus, it is for pay that a father loves his son, a mother her child, and children their parents"

- Plutarch, On Affection for Offspring

Parent – Child Analogy

The word Analogy derives from the Greek word *"αναλογία"* and describes a cognitive process or linguistic expression that attempts to transfer the understanding of a particular subject onto another. This thought method has been popularized by the Classical period in Ancient Greece, where the forefathers of Western philosophy, Plato and Aristotle, utilized metaphors and allegories as arguments to convey the essence of their teaching in a more comprehensible manner. Analogy is a powerful tool in problem-solving and decision-making, which uses a reference to a familiar topic to simplify the conceptualization of another more abstract. Comparisons, metaphors, and exemplifications are in the core of human cognition and are essential not only in ordinary communication and common sense but also in philosophy and science.

The use of recognizable schemas in analogies can considerably appeal to the audience. Comparisons based on themes already familiar to the receivers will assist them in assessing its validity and its applicability to the topic in question. Thus, a widely used paradigm revolves around family. Humans are social beings. Throughout our history, we had some sense of kinship, despite the specifics of social structure in each era. The traditional view of a conjugal family (two parents and children) remains a coherent model to this day. Utilizing the dynamics of a Parent-Child relationship into analogies has proven a fruitful framework of argumentation for many fields.

State & Governance Analogies

Political theory repeatedly employed family as a model for the organization of the state. From the Classical period of Ancient Greece, Aristotle had argued that the progression of human beings into the Polis starts with the family. Confucius, in his work to describe the *Junzi*, which means "lord's son" but can be translated as "gentleman," portrayed the citizens of a sovereign state as children that should be subordinate to the ruler who is to be regarded as the father of the nation.

During the rule of the Roman Empire, the Latin honorific of *Pater Patriae* was awarded to significant political leaders and rulers. The title was initially referring to Romulus (753 BC), the legendary founder of Rome, and translates into “Father of the Country.” In the following years, the honorary title was given to significant figures for their achievements. Namely, to Marcus Furius Camillus (386 BC) for his role in the Gallic siege of Rome, to Marcus Tullius Cicero (63 BC) for suppressing the Catilinarian conspiracy and to Gaius Julius Caesar (45 BC) for restoring the Pax Romana after the numerous civil wars. After the ascension of Augustus (5), the title was passed on from one emperor to his successor until the days of Constantine the 1st (307) and the creation of the Byzantine Empire. Incidentally, the term was also appointed to George Washington for being the 1st President of the United States.

The Parent-Child metaphor has also been used to describe the dynamics of imperialism. For instance, the imperialist ambitions of the British Empire can be dated back to the 16th century with conquest or Ireland and the establishment of the West India Company and carried on to the colonization of North America. Throughout those years, the British instilled the Parent-Child analogy as a comparison to affairs with its colonies. This approach was used to rationalize a status between England and America, where the mother-nation was the authority in control, and conceptually reinforce its claims over the colonies. In 1775, it was the American political activist and highly influential figure of the era, Thomas Paine that revisited this metaphor in an attempt to repurpose it. Paine, in his famous pamphlet “Common Sense,” suggested a shift in the fixed hierarchy of the traditional parent-child relationship. According to Paine, the paradigm should consider the development of the child. He argued that even though a child in its early days will thrive upon his mother’s milk, it should not be forever denied the taste of meat. This concept of development into adulthood fueled the spirits of his compatriots and inspired the start of the American Revolution and the declaration of independence from Great Britain.

Business Analogies

We can encounter the usage of the metaphor in Business, with significant utility in analysis and understanding. Such an approach can be applied in the field of franchising, where many analogies have been used to describe the managing of the Franchisor–Franchisee relationship. Typically, the franchisor undertakes an instructive role similar to that of a parent, which will dispense the amassed know-how as guidance towards the promotion of the franchisee’s growth. On the other hand, franchisees usually come to expect advice and the provision of security from their elder. Moreover, the parent is the de-facto authority figure in this dynamic that will set the rules and will discipline the child who violates them.

Another example is the one used to describe the way founding entrepreneurs bond with their businesses. A parent to child bond is a strong tie that revolves around the protection and growth of the youth. Several scholars have argued that this bond can also exist in the

Entrepreneur-Venture relationship (Cardon et al. 2005). This comparison seems instinctively very well-aimed. However, in this particular application, the analogy is so profound that fMRI studies have shown considerable similarities in the brain activity of parents and entrepreneurs regarding their offspring. The findings suggested that the two bonds are very equivalent, especially in how they invoke similar emotions and the way they influence important mental factors associated with judgment. [25]

Finally, there are cases where basic business terms imply Parent-Child analogies. For instance, the BCG (Boston Consulting Group) Growth-Share Matrix, which represents the product lines of a corporation in a Market Growth to Market Share matrix. The BSG matrix describes as Question Mark or Problem Child those product lines that fall into the high growth & low market share category. Furthermore, Strategic Management and the field of Corporate Strategy, which is concerned with the management of various business units, portray the role of the corporate headquarters as that of the organizational parent and the business units as children. Each of the business units might employ its strategies to compete in its market. However, the corporation must coordinate those distinct strategies in a way that will be beneficial to the whole family. [26]

Children of Divorce

In 2005, four group burials were discovered in Germany that contained the remains of humans that lived around 4600 BC. Inside one of the graves were the remains of an adult male, an adult female, and two younger males. A DNA analysis determined that the deceased were blood relatives and, specifically, a mother, a father, and their children. This finding constitutes the earliest indications of a conjugal (also called nuclear) family is dated back to the Stone Age. [27]

Up to the 20th century, that typical nuclear family composed of a heterosexual couple their biological children had become a staple of our social structure. However, statistical data have indicated a continuous shift in family formations after 1970. The initially radical change reached its plateau at the start of the 21st century. Nowadays, the traditional schemas are declining into a minority with the emergence of new family arrangements. Nevertheless, even in the present day, the vast majority of children are raised in two-parent compositions. [28] These facts, along with the steady increase in crude divorce rates, provide a coherent frame of reference for our modern society. [29]

In a casual approach, society sees the act of divorce of a married couple as a resolve of the marital status, which expectedly terminates the relationship. However, in many cases, the link between all involved members persists long after the divorce with a new dynamic, concentrated mainly on financial disputes and children. Post-divorce complications can manifest into ambivalence, or even hostility, between the divorced spouses, or even a parent and the child. Common problematic patterns include the competition between divorced spouses over the parenting roles, the development of an alliance between one parent and the child against the other parent, the opposition between the parents in issues unrelated to the child's upbringing, and friction in the Parent-to-Parent relationship instigated by the child to promote its desires. [30]

A series of psychological and sociological studies have depicted the consequences of divorce on the general welfare of children and their parents. The general consent finds potential issues with the shift in the marital status-quo. This life change not only threatens the embedded family bonds but consumes the physical and the emotional energy of all parties. Nevertheless, the way the parents (primarily) and the child (secondarily) handle the predicament can minimize or even alleviate the harmful effects of divorce. Namely, the adjustments in the Parent-to-Parent and Parent-to-Child relationships. [30][31]

Co-Parenting

The participation of both parents in childrearing affairs has been proven highly beneficial. The term Co-Parenting was introduced to describe the overlapping and shared responsibilities of both parental figures in the child's upbringing. The co-parenting relationship refers only to the fields relevant to the child and omits all other romantic, emotional, financial, or even legal aspects of the parents' life. Its original application was attached to the idea of the nuclear family. However, with the decline of the traditional family structure, it has been extended to encompass current social norms, including divorce.

Parent-to-Parent Relationship

Research suggests that the relationship between co-parents has a direct influence on the mental and emotional well-being of children. Notably, on the development of anxiety and depression since parental discord perpetuates a state of emotional disequilibrium. Divorce ruptures the previous relationship between the two parents, hindering the preservation of the imperative parent-to-child bond. Instead of hostility, parents should collaborate to reestablish a common ground of understanding. Otherwise, the child might be led to ally with one parent or to withdraw from both. Besides, this instability can enable the child to play one parent against the other to advance its goals. [31]

Parent-to-Child Relationship

Studies have argued that joint custody arrangements that secure a great deal of interaction between the child and both parents can lead to positive outcomes in a child's life. The quality of the parent-to-child relationship can enhance or undermine the effectiveness of the particular parental figure, which in turn will affect the nurturing role expected. Close and healthy interaction with both parents will alleviate any concern that the child was part of the turmoil in the marriage. It will also exemplify the undiminished affection towards the child and provide reassurance of the lasting primary bond with each parent. This feeling will minimize the child's preoccupation with the parent-to-parent relationship and saving energy to be channeled into social and school-related activities. Case-control researches highlight that, even though the parent-to-parent bond carries a great significance, it is not as important as the maintenance of parent-to-child attachment. The unique effects of the parent-child interaction were the main contributors to a harmonic family environment. [31]

The Divorce Parents Syndrome

Family system theory, the psychotherapy branch that addresses the systems of interaction between family members, has described co-parenting as an executive subsystem. In this analogy, the parents assume the role of co-managers that administer the family members' behaviors and relationships and regulate their interactions and outcomes. This theory has been utilized in divorce research, where findings focus on the management of post-divorce factors like parental absence, inter-parental conflict, and triadic interaction as the most negative influences in a child's adjustment. [32]

Typically, on one hand, both the parents are trying to acquire the dominant parenting role. This way, they can enforce their will on the child's upbringing while gaining the majority of its affection. At the same time, despite their disputes and opposition, it is paramount that they work together for the child's interest. On the other hand, from the child's point of view, the child will most likely try to balance the conflicting demands of its parents to safeguard a working relationship among them. Sharing its time and affection to both and striving to meet each one's expectations.

In this document, we argue that the post-divorce turbulence among the involved parties (Parents and Child) can be viewed as a form of Coopetition and provide a good analogy for the intricacies and dynamics inherent to the operation of a Joint Venture (Child) between Competitors (Parents). Under that light, the scope of this work is to approach the complexity of practicing a Strategic Management analysis for Joint Ventures between Competitors.

Heuristics & Framing of the Analogy

As we have exhausted above, cognitive biases are an integral part of the human psychic and find a wide application in fields affected by the human factor. Intuition and common sense have always been a good source for decision-making and understanding. Furthermore, the use of analogies allows us to transfer that understanding from a comprehensible topic into a more complex one. With those factors in mind, we describe some fundamental Co-Parenting ideas that might prove useful when assessing a Coopetition.

Conflict

The parental discord is a prominent factor of this triadic situation. Despite the child's upbringing, which is their common denominator, the Parents remain in antagonizing sides with their own agenda and list of desires. This dynamic can lead them in acts that undermine one another, disrupting their bond with the child. Also, one parent can try to gate-keep the child from the other parent by trying to minimize their interactions.

Moreover, one parent can use the child as a means to punish the other either by sabotaging their relationship or by attempting to gain information for their opponent. Finally, a parent can, consciously or not, mitigate the emotional burden of the dispute to the child. All of the above can derail family dynamics and result in distraught.

Compromise

On the other hand, effective management of conflict seems highly beneficial. Parents' ability to resolute disagreement demonstrates a secure environment where threats are countered, and the child is safeguarded. To develop the level of alliance that will result in the optimal family dynamic, parents need to establish a proper communication channel. A simple foundation for co-parenting can be built upon respect, understanding, and flexibility. This encouragement should not be mistaken as an emotional route since the two parents are still opposing forces. Instead, it is usually advisable to set a business-like tone for the exchange.

Governance

By definition, co-parenting conveys a duality in authority and decision-making. Parents are incentivized to act consistently, to avoid confusion, additional conflict, and disappointment. Setting specific rules, guides, and schedules that apply in all family relationships help the child to understand what is to be expected. Additionally, reacting in a similar disciplinary manner or rewarding fashion is highly valuable. This practice will assist the child in knowing what to expect, but also it will nullify the dangers of playing favorites.

Finally, parents are urged to remain child-centric. The child and its development are their purpose and should be the main focus. If the child and the expected outcome of the co-parenting arrangements did not exist, the parents would most probably act in open confrontation. This fact should be taken into consideration in all of their actions.

Balance

The notion of balance is a crucial aspect of family management. First and for most, the balancing of each parent's interactions with the child is indispensable. This symmetry in dyadic connections will inspire trust and imbue the family structure with a sense of integrity, a value that is paramount for the success of the co-parenting schema. Moreover, engaging in open discussions with sharing information and making joint decisions is a significant trait. This arrangement assures that both parents are involved in the development of the child. Having your voice being heard gives out the feeling that your objectives will be met.

Last but not least, parents should provide enough space for the development of the child's character. This urge should not be considered as a triangulation as it does not elevate the child as an equal part of the triad. Parents remain the de-facto authority figures, but instead of dictating every detail of a child's life, they should allow the cultivation of its personality. Having the child partake in the decision-making process gives access to a different and valuable point of view. Something like that will be extremely beneficial to the child's progression and eventually to the whole family.

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Part A – Strategic Management Analysis of Joint Ventures between Competitors

Section One – Strategic Management Analysis

Strategic Management in management theory is a method of making decisions, and taking suitable actions, seeking long-term success in the business world. This scientific approach, developed by academic research and business practices, includes designing and implementing a company's strategy. The techniques used by managers and leaders to evaluate the overall conditions and decide upon the necessary actions have significantly evolved over the years. The beginning stages of management practice were restricted to *basic financial planning*, a tactic that is closely associated with budgeting. During this process, managers would meet to discuss future projects and ideas with the primary objective of devising the annual budget. The information input was minimal, and the environmental analysis was limited.

The next evolutionary phase was *forecast-based planning*. The annual budgets failed to evaluate the long-term performance of the company and to address multiyear projects. Decision-makers needed to map the more distant future. The forecast-based planning produced plans with a time horizon of three to five years. The extended lifetime of the chosen tactics required a better evaluation of internal and external factors to base their assumptions. The formulation of such a strategy would take several days, even months. During that time, managers would lobby, promoting their projects, and competing over the available budget. Phase 2 raised significant concerns due to the political influences over the multiyear plans and its inability to adequately foresee the upcoming conditions. This frustration resulted in the development of phase 3 and the externally oriented *strategic planning*. Here, the lower management is omitted from the strategy formulation, which falls exclusively on top management officials and carefully selected consultants. In this top-down method, the consultants provide valuable insights and information, utilized by the top management, to develop long-term plans.

However, the separation between upper and lower management presented considerable flaws. The lower managers' lack of involvement could translate into a lack of commitment. Also, their distance from the company's strategic planning obscured their view of the business goals. By the 1990s, most corporations had performed the transition from strategic planning to the next evolutionary step, *strategic management*. [1] The new method incentivizes companies to include managers and key personnel from across the organization in planning groups, distributing information throughout the company. This approach provides a clear understanding of the company vision and maintains the focus on critical strategic factors. The main concern remains in improving the company's long-term performance. Yet, acknowledging the frequent changes in a volatile environment, strategic planning becomes an ongoing process.

Strategic management helps formulate decisions by trying to reply to three fundamental questions.

- Where are we now?

To respond to this question, the company needs to conduct a thorough evaluation of the internal and external environment. Understanding the environment helps assess the company's current position and provides valuable insights into the following questions.

- Where do we want to go?

Here the company sets its mid-term to long-term goals. What is the company's vision, and what role does it want to embody. If nothing changes significantly, are we on track to achieve these objectives?

- How will we get there?

If remaining stable does not ensure the desirable outcome, adjustments are in order. The firm should exploit the knowledge acquired from the previous steps and map the course of necessary actions.

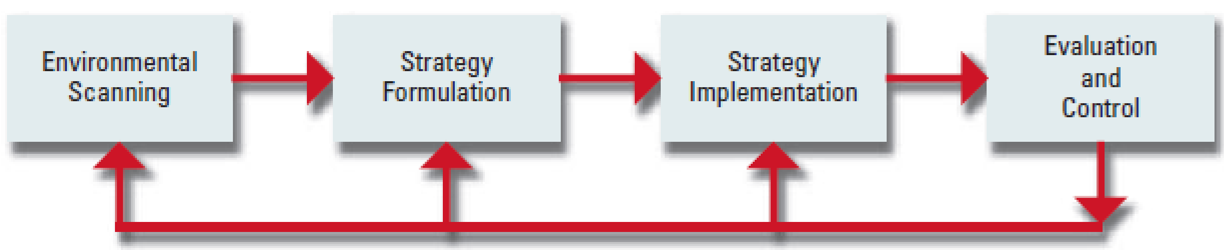

Figure A.1 *Basic elements of the Strategic Management Process*

Source: *"Strategic Management and Business Policy – Globalization, Innovation and Sustainability" 15th ed. – T.L. Wheelen et al.*

The basic strategic management model consists of four stages, as shown in Figure A.1. The process begins with an analysis of the broad ecosystem. *Environmental scanning* evaluates the internal and external factors that affect, or may affect the company. Here the organization collects information and insights to describe the framework within it will be competing. The following step, *strategy formulation*, utilizes the gathered knowledge to produce long-term plans. In this phase, the company sets its main goals and objectives and formulates a plan to achieve them. Next we have the *strategy implementation*, where the firm puts the plans into action. This process includes determining the activities and procedures which will accomplish the objectives and allocating the required budget.

Finally, we have *evaluation and control*. This segment is monitoring the performance of the organization in each of the previous phases. The strategic management model is an ongoing procedure with constant bidirectional interactions between the several steps. Valuable information is collected by evaluating the actual results and assessing each intermediate step's performance. This feedback is continuously redistributed to all strategic management levels and supports the company in making crucial adjustments in a fast-changing environment. Strategic Management is a recognized scientific model utilized (at least partly) by most corporations worldwide. Still, it is also considered a form of creative art, driven by experienced top executives, sophisticated consultants, and charismatic leaders. Figure A.2 illustrated the fundamental elements of this theory.

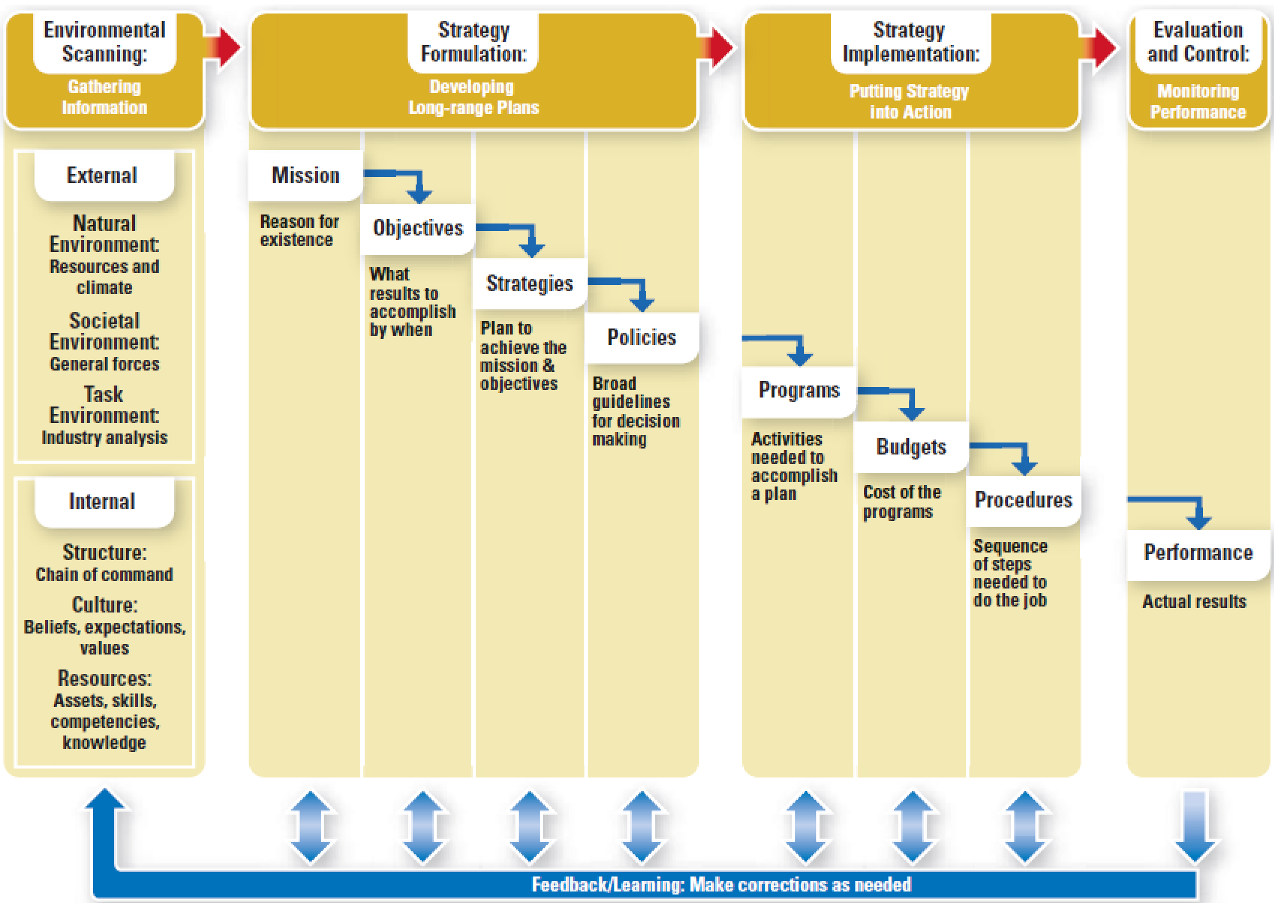

Figure A.2 *Strategic Management Model*

Source: *"Strategic Management and Business Policy – Globalization, Innovation and Sustainability" 15th ed. – T.L. Wheelen et al.*

Environmental Scanning

The principal novelty of the Strategic Management model is the focus on environmental scanning. In previous business policies, the management would formulate the company's mission and then analyze the environment to implement the chosen strategy. In Strategic Management, the starting point is gathering valuable information from the environmental analysis, which will influence the formulation of the company's mission and dictate the implementation steps.

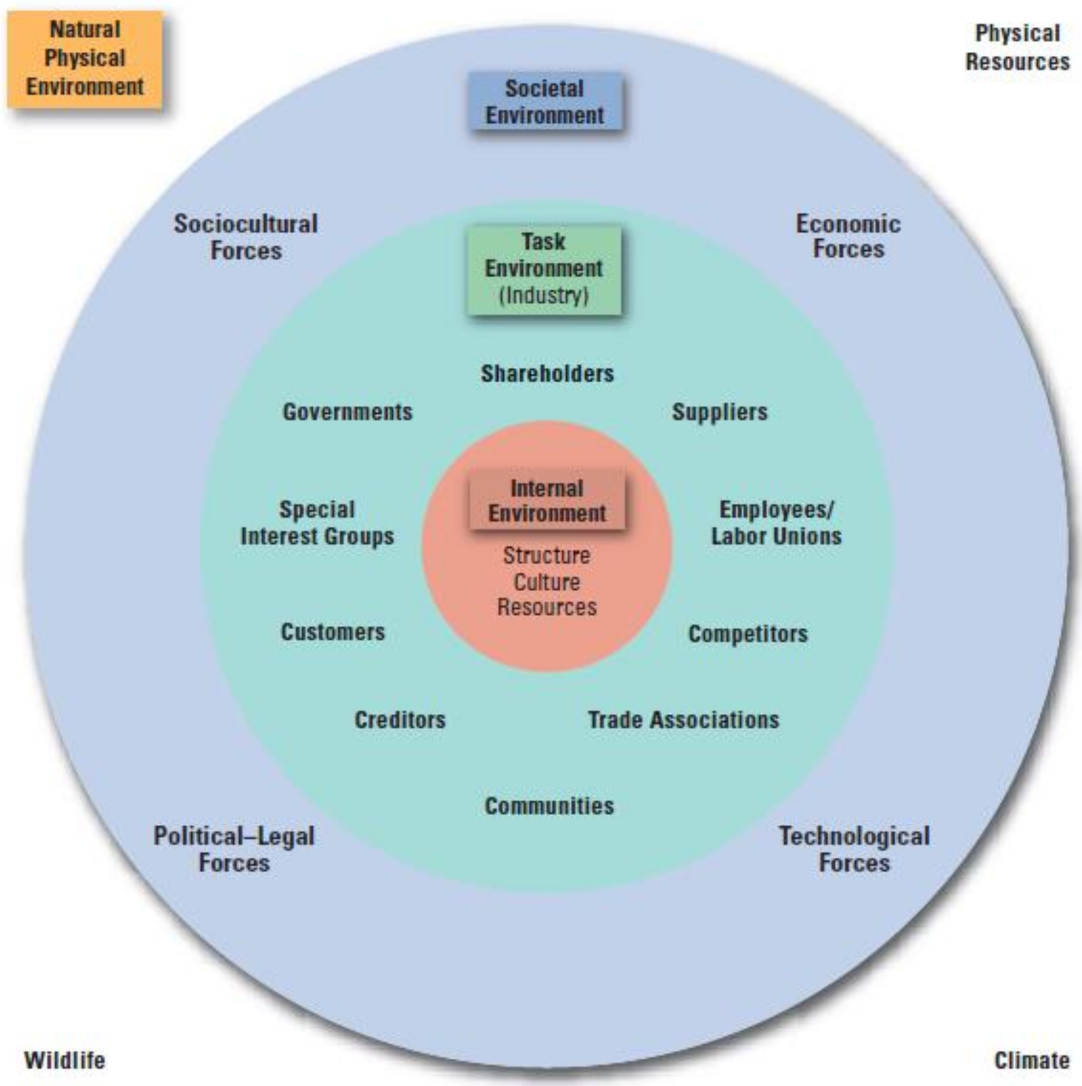

Figure A.3 *Environmental Variables*

Source: *"Strategic Management and Business Policy – Globalization, Innovation and Sustainability" 15th ed. – T.L. Wheelen et al.*

The word environment is somewhat of an abstract concept that can have different definitions. The default setting of any organization is its internal variables that significantly affect its operation. At the same time, depending on its field, the company belongs in an industry (also described as the task environment). Yet, there are a vast number of additional forces that shape the business world, especially in our era's globalized society. Modern practitioners of Strategic Management are utilizing a more holistic approach that goes beyond the internal and task environment, reaching out to variables in the societal environment and the physical world. Figure A.3 presents a graphic representation of the significant environmental variables that should be evaluated.

External Scanning

In the Strategic Management model's typical practice, analysts start from the outmost variables and work their way towards the company's core. Thus, external scanning precedes the evaluation of internal environmental factors. The scanning process for possible external strategic factors has two distinct steps: the indirect environment (namely the natural and societal environment), and the actual industry. By conducting a thorough evaluation of the external environment, the company can acquire a great understanding of emerging opportunities and upcoming threats. These strategic factors will populate the corresponding quadrants of the SWOT chart, the conceptual tool of strategic analysis.

Natural & Societal Environment

The natural environment describes the physical world that is an integral component of our existence. Natural resources, wildlife, and climate were perceived as abundant supplies that can be conquered, extracted, and exploited. In particular, the businesses used to address the natural environment as a commodity to be bought, sold, or fought over. Those practices had detrimental effects on the planet conditions and are significantly affecting human society. Global warming, especially, has become an immediate threat to humanity, by rising sea levels, promoting climate change, and damaging ecosystems. The custom of giving little to no regard to the natural environment is a thing of the past. Nowadays, sustainability is developing into a crucial factor for most industries. Corporations need to scan for elements that used to be considered a given, like the effects of greenhouse gas emissions and water reserve pollution, and prepare for the future.

The societal environment can be a field of innumerable strategic factors. Even in the current global era, societies throughout the world present notable differences in their habits, desires, views, and values. Each corporation has to conduct an evaluation that corresponds to its specifics. For example, international companies have a more significant set of variables to consider than domestic ones. To better approach this complex issue, the STEEP analysis was introduced as a general categorization tool into the main external forces that affect a company.

The STEEP or PESTLE analysis classifies the natural and societal environment variables into distinct segments. Companies populate each area with the strategic factors that exhibit relevance to their activities. When initially introduced, this method consisted of four distinct forces: Political, Economical, Sociocultural, and Technological. Over the years, the political segment was supplemented with legal factors (as shown in Figure A.3). Finally, the increasing environmental concerns resulted in the ecological variables branching out of the sociocultural forces.

- Sociocultural

Here we will find variables originating from the ethics, values, and overall culture of human society. Significant parts of these features are demographic trends, behavioral tendencies, and adopted beliefs. Depending on their activities, companies might consider factors like lifestyle changes, birthrates, immigration, consumer expectations, personal health consciousness, and increasing environmental awareness.

- Technological

Technology is the primary driver of many companies and can impact even more. Technological advancements can heavily disrupt existing industries by bringing down barriers, converging fields, altering productivity, or even kick-starting new markets. Some areas with a widespread multilevel impact are machine learning, robotics, alternative energy sources, and genetics.

- Economic

Economic developments should be an apparent factor in any business's activities. Inflation and interest rates, average income, unemployment levels, pricing control, energy cost, GDP trends, and overall economic growth are just some prominent examples.

- Ecological

Ecological forces emerged as a noticeable societal sector, with the rapid developments in climate change. The pace of global warming has generated a series of environmental concerns that can affect a business operation by raising supply-chain, resource availability, litigation, even physical risks. Another common threat is regulations. In addition to any domestic initiative, most countries have signed the so-called Paris Agreement of 2016 under the United Nations' auspices. Yet, perhaps the most significant consideration regards the company's reputation. With the increasing environmental awareness of consumers, companies underperforming in carbon footprint can damage their public image and become less attractive. At the same time, more sustainable products gain market penetration.

- Political & Legal

Political and legal forces tend to have a long-term impact on business endeavors. Trade regulations, taxation levels, political stability, bureaucracy, opposition groups, domestic and international legislation, and the overall legal system can directly influence a company's operations. These strategic factors have the notable characteristic that the firm is typically forced to abide by them. Otherwise, it would not be allowed to operate.

Task Environment

Moving inwards, we can find a collection of external factors that are directly affecting the company. This segment of environmental scanning is named the task environment or microenvironment. Here we have an analysis of the variables that constitute the company's competitive environment.

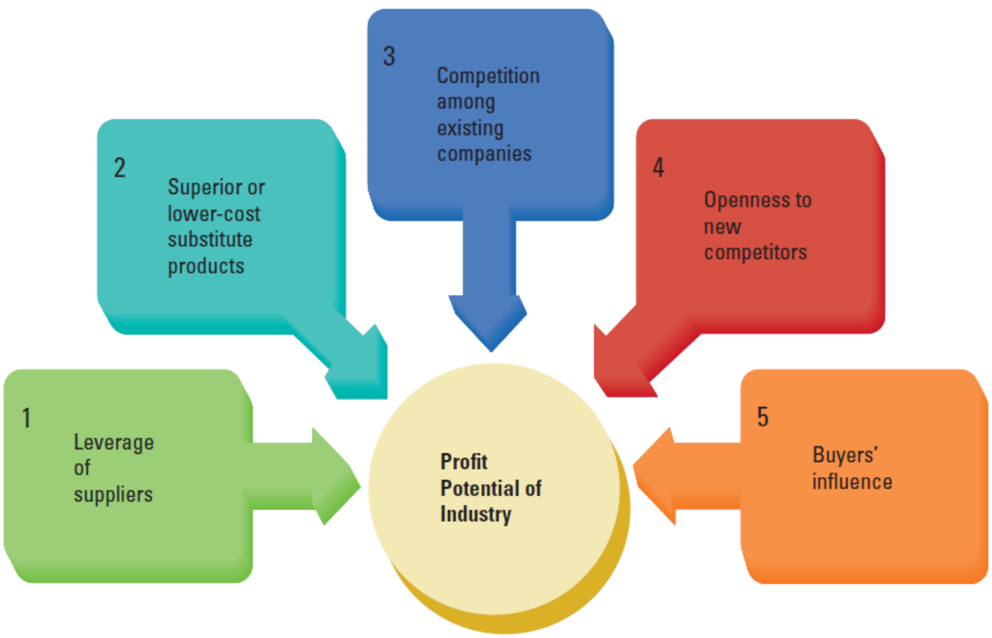

Figure A.4 *Porter's 5 forces driving industry competition*

Source: *"Strategic Management and Business Policy – Globalization, Innovation and Sustainability" 15th ed. – T.L. Wheelen et al.*

The research method applied had been introduced by M. Porter in 1980 as a framework to determine an industry's attractiveness. Porter proposed five forces that examine an industry as a whole (company included) to assess its potential in terms of profit and long-term return on investment. Figure A.4 demonstrates the influence exerted on the industry, according to Porter.

Over the years, another force was recognized and added to the model, supplementing the existing five with the relative power of other stakeholders. Each factor is assessed and assigned a value from low to high, depending on its influence level. The overall rating is disproportionate to the industry's appeal. The higher the effect of those powers leads to a more intense competition of the task environment.

- Industry Competition

The first of the five forces investigates the rivalry between the existing firms. Individually, companies strive to overcome competition, win market share, and increase their profits. Yet, in this stage, we look at the industry's current conditions to assess factors that affect the entire sector's profitability. For example, a large number of opposing companies signifies a stiff competition. Such a highly competitive environment drives prices down and pressures profits for all players. Another variable is, naturally, the industry's growth. A growing market gives more opportunities to raise a company's earnings, while a receding one would compress them. Also, various product features can significantly affect the task environment. High fixed costs, storage costs, or a product's vulnerability can limit profit margins. Furthermore, some products are more of a commodity and present little diversity. In these industries, companies have limited opportunities to grow by diversification and are forced to engage in price wars. Lastly, some sectors can present significant exit barriers (e.g., highly specialized fields reduced equipment sale value, exit fees from leases and agreements, loss of initial investment). In these cases, underperforming companies are bound to stay within the industry and keep competing, further undercutting the overall margins.

- Threat of New Entrants

In this step, we estimate the underlying risk of new players entering the market and adding to the existing competition by analyzing the industry's entry barriers. Understandably, high entry barriers signify a lesser threat of newcomers, and ultimately, a more appealing sector. Some such limitations are properties that give significant advantages to businesses that are already competing within the industry, like economies of scale and access to distribution channels. For instance, new entrants in the brewing market might not match the volume production of established brands. Also, they might struggle to place their products on store shelves. Furthermore, it is challenging for new players to follow a cost leadership role among preexisting companies. Typically, firms operating within a market for years have passed their learning curve and have found ways to cut costs. In industries with limited product differentiation, new competitors might face difficulties in gaining a foothold. Additional prohibiting factors are excessive initial capital requirements and restricting government policies or legislation (e.g., to operate as a radio station, a company will need the relevant licenses from state authorities).

- Threat of Substitute Products

Another incoming threat is that of products presenting an alternative to the industry under discussion. To be addressed as a substitute, the good or service should satisfy similar needs (e.g., tea and coffee). Effectively, substitutes offer customers an alternative option that sets an upper limit in the industry's pricing. Once this limit has been exceeded, consumers will most likely switch to other markets seeking replacements. This risk can develop into a significant limiting factor for the sector's companies.

- Bargaining Power of Suppliers

In this phase, we analyze the haggling ability of suppliers. Through their business agreements, companies and product providers are engaged in a give-and-take relationship. If suppliers hold a stronger position than companies, they gain the ability to increase prices or reduce quality. Often, the relative power can be translated into the significance this relationship holds for each side. For instance, a small number of suppliers may offer a highly specialized or unique product. Here the alternatives for corporations are limited, and suppliers' comparative strength is increased (e.g., there are seven publicly traded oil companies worldwide, also described as supermajors). Likewise, there are cases where the providers' products present considerable switching costs for a firm. As a result, the company is locked-in into maintaining the relationship allowing suppliers to seize a leading position. Lastly, a supplier's ability to vertically intergrade forward can be a considerable risk that might provide a better bargaining position.

- Bargaining Power of Buyers

Analyzing this force, we can follow, for the most part, the same principles as above. Here again, we have a give-and-take relationship with a role reversal, where the industry supplies its products to customers. In these circumstances, buyers can influence prices, demand higher quality, or otherwise exploit the industry's internal competition. Similarly to before, low switching costs, plenty of alternative products, and a customer's ability to vertically intergrade backward give buyers the upper hand. Additionally, an important point of consideration is the customer's profitability. When buyers are faced with low profits, they become very cost-sensitive and more prone to seek alternatives or request lower prices. Finally, in our day and age, information is abundant, strengthening a consumer's bargaining power by default.

- Relative Power of Other Stakeholders

The sixth force was included to account for the various stakeholders and their influence over the task environment. This section provides a vast diversity of strategic factors from one industry to another. Labor unions, creditors, interest groups, lesser government institutions, local communities, and trade associations are just some examples. Stakeholders might have positive or negative effects on an industry, and their importance might vary significantly, depending on circumstances. For instance, consumer protection agencies weigh differently on retail businesses than on manufacturers of industrial equipment.

Internal Scanning

In the innermost circle of environmental scanning, we analyze the company. By investigating the external environment, we can recognize the peculiarities of the competitive environment inside which the company operates and the position it holds within this context. These realizations can assist in identifying the underlying threats and arising opportunities. Subsequently, by looking within the organization itself, we can gather the inner strengths and weaknesses that characterize the firm. These internal strategic factors dictate whether the company is in a position to evade threats and capitalize on opportunities. Conducting the internal environment's analysis offers the final quadrants of the SWOT analysis. This technique has found practical application by asking and answering key questions that generate valuable knowledge. Managers utilize this information to identify the company's competitive advantages and support their decision-making process.

Structure

Essentially, there are no restrictions on the structural form a company can choose to exercise. However, there are some recognizable patterns in corporations' compositions, with varying complexity. Regardless of the actual design, companies seek to utilize their structure to better support their business strategies. Understandably, some structural properties present better fits than others, depending on the company's characteristics and developing strategies. Figure A.5 displays the basic organizational structures most commonly employed by modern organizations.

- Simple structure

This schema appears to be suitable for small domestic businesses with minimal product lines. With the lack of managerial layers, corporations are highly dependent on their owners, who act as a single point of decision-making. Here, we may find entrepreneurial companies that address small market niches. Usually, employees present lesser specialization than in more complex firms, since, without departments, the workforce tends to serve more general purposes. In this form, the absence of mid-level management provides owners with firm control over all operations and enables the company to have a quick and transparent direction. However, this dependence can hinder a company's activities when the person on top becomes unavailable or overwhelmed. Also, a single-minded management approach is more likely to fail to recognize threats or opportunities. This model becomes less capable of facilitating business strategies as the scope expands or becomes more complicated.

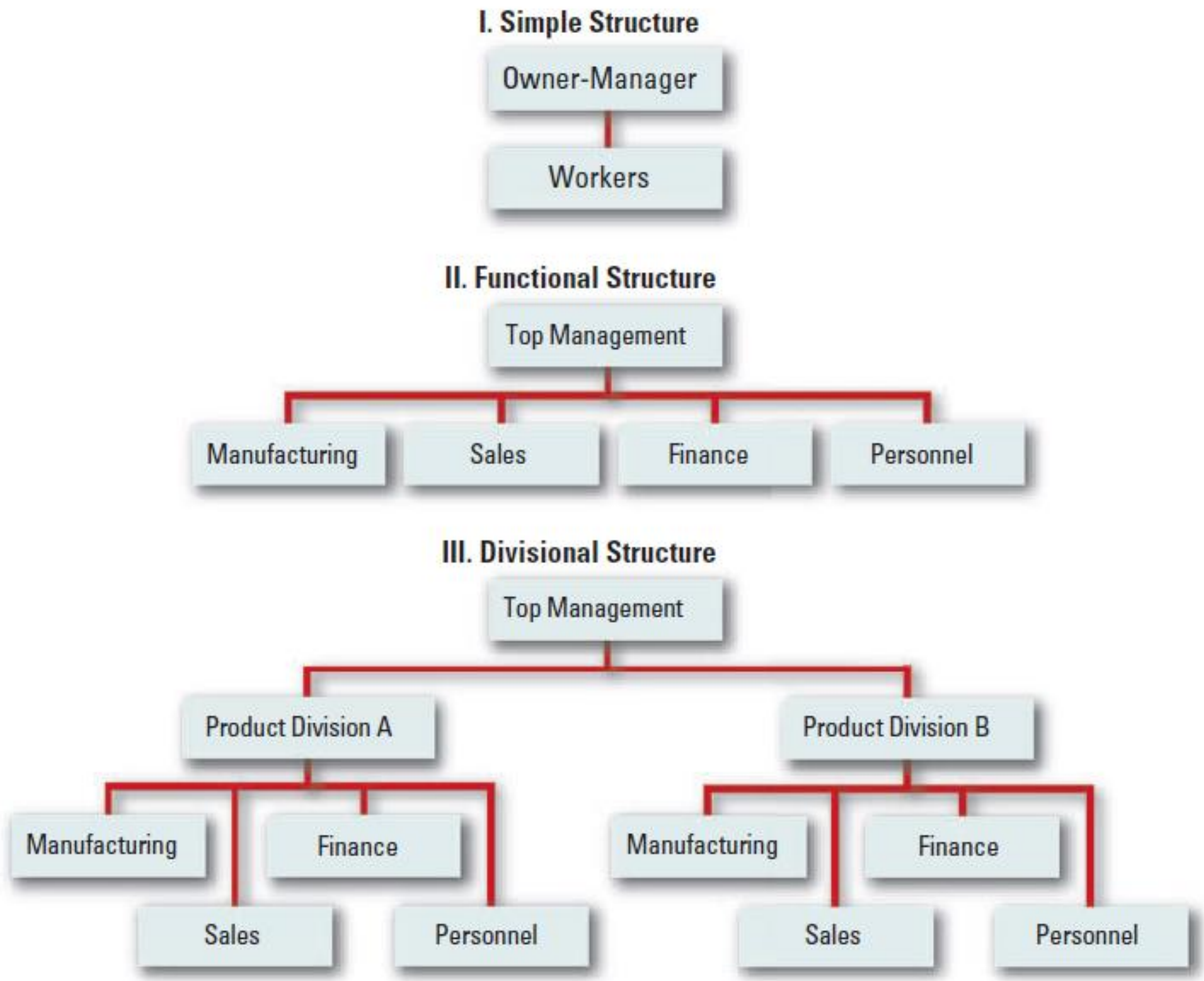

Figure A.5 *Basic organizational structures*

Source: *"Strategic Management and Business Policy – Globalization, Innovation and Sustainability" 15th ed. – T.L. Wheelen et al.*

- Functional structure

Transitioning into the following basic structural form, the brilliant founders and entrepreneurs that controlled simply-structured firms give way to a management team. This design is fitting for medium-size corporations with a variety of product lines within an industry. The company follows a hierarchical organizational chart divided into departments based on functions. Employees tend to be more skilled and specialized, depending on the function they serve. The key feature of this structure is delegation. From the single point of decision making, some decision power is delegated to functional managers and their departments. Intermediate management levels are added to distribute control and responsibilities within the organization. This way, the company aims to utilize the personnel's skills better and deliver business objectives.

- Divisional structure

When a firm grows enough to diversify into multiple industries, the functional departments are no longer very beneficial. The company needs to transition into a different organizational form that can provide enough autonomy to the separate product lines, where upper management receives decision-making freedom. In the divisional structure, the company is broken into sections according to the field of activities. The decision-making power is decentralized and delegated to divisional directors. Each division operates as a functional structure with its internal hierarchy, departments, and business strategy. Depending on the organization's top executives' decree, the company can transform into a conglomerate, where divisions operate as silos, agnostic to the other divisions' objectives. Otherwise, they can be coordinated by the central headquarters to supplement each other's operations concerning the entire corporation's benefits.

Culture

Despite how it is expressed or how noticeable it is, every organization has a set of values and beliefs that define its operations. Essentially, these characteristics are the company's identity, the "how" and "why" things are getting done. The corporate culture can be cultivated or emerge organically. Regardless, it is a crucial piece in a company's success and a significant internal strategic factor.

Corporate culture can be decomposed into two fundamental attributes, cultural intensity (depth) and cultural integration (width). The intensity signifies to which extent personnel embraces the company values. Cultural integration expresses how widespread are these common belies within the organization. A strong corporate culture demonstrates high intensity and broad integration. Cultural attributes shared across the organizational chart convey a collection of principles to which employees can relate, promoting their engagement with the company. They can also act as a frame of reference in decision-making and a behavioral guide in all activities.

However, a strong corporate culture is more than a stability factor. It can influence a corporation's ability to adjust its direction. Whatever path a firm decides to follow in its strategic formulation, eventually, its people are the ones that will execute it. It is essential to shape their behavior in ways that benefit the business objectives. Also, deeply shared values and beliefs can enhance coordination and provide added motivation. Naturally, having employees on-board can significantly improve corporate performance.

Most importantly, the development of a strong culture can be invaluable tacit knowledge. Creating a robust and widely accepted corporate culture requires time, effort, and resources. It is a quality that is very hard to be imitated by rivals, strengthening the firm's competitive position. Additionally, distinctive competence implanted within the company's culture can generate competitive advantages. For example, Howard Schultz created the Starbucks brand aiming to provide a new coffee experience. The mission was to build a third-place outside of home and work where people could spend time enjoying their coffee. To achieve its objective, the company needed to cultivate an approach that welcomed people and encouraged them to stay and chat. These values became a staple of the corporate culture, with the Starbucks experience being the primary business focus for all employees. Utilizing these qualities, the brand developed into an American success story and a global powerhouse. [2]

In Strategic Management, we analyze the "company way" as part of the internal environment, to assess its fundamental traits and qualities. During strategy formulation, this information will be taken into account. Is our culture aligned with our plans? If not, how can we change? Is it feasible? Does it worth the effort and resources, or should we reevaluate our strategy?

Resources

In an abstract view, a corporation is a system of converting inputs into outputs. The main inputs for businesses are their resources, the collection of material, or immaterial assets that the company utilizes to facilitate its purposes. An organization's assets come in two main varieties, tangible and intangible. Tangibles are the company's physical assets, such as raw materials, facilities, machinery, and financial capital. They tend to be finite, with an easily identified monetary value, and they constitute the traditional form of capital displayed on balance sheets.

On the other hand, intangibles are a set of more loosely defined, immaterial and invisible assets. This type of capital cannot be captured in traditional metrics and holds more of a suggested value than a monetary one. It usually consists of the company's intellectual properties, knowledge, and relationships. Patents, license rights, trademarks, and brand value are typical examples of valuable non-physical resources. Moreover, through their operations, companies can gain vital knowledge that can develop into an asset. Some forms of knowledge are explicit, meaning that they can be documented and articulated in one way or another. For example, production methods, organizational designs, manuals, and databases are explicit knowledge utilized by corporations. However, other types are less pronounced and harder to share or transfer. These form the organization's tacit knowledge, a compilation of behavioral traits, information, and skills rooted in the individuals. It is usually developed by practice, experience, or intuition, and is the embodiment of the personnel's "know-how".

The two major categories of tacit knowledge are human capital and organizational culture. The latter encompasses the set of values and behaviors that characterize the company's operation. Human capital is the accumulation of knowledge, skills, and competencies provided by the workforce. By default, tacit knowledge cannot be adequately codified and systematized. Thus, it is difficult to transfer and eventually maintain. Companies should make a conscious effort to sustain it by training, mentoring, and coaching.

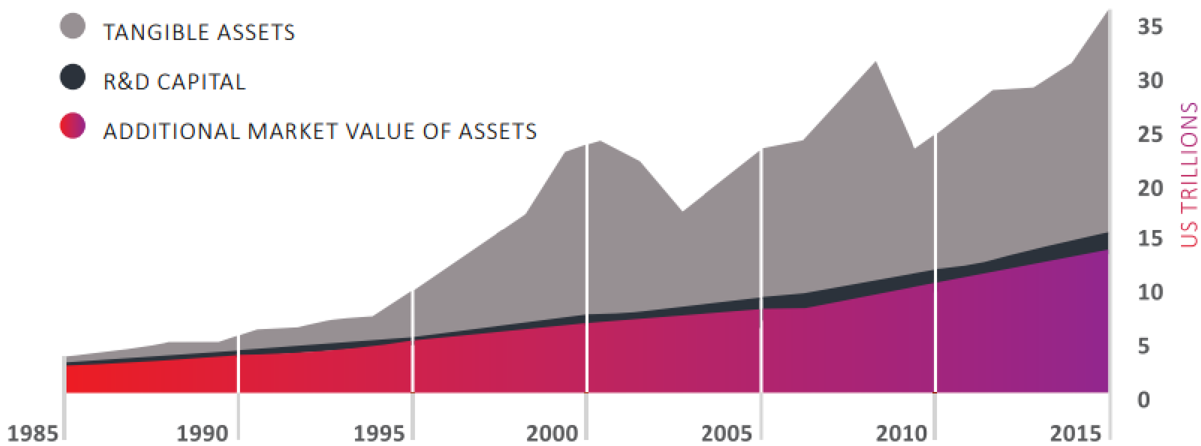

Figure A.6 *Composition of market value of assets all public companies*

Source: *"Organizational Capital: A CEO's Guide to Measuring and Managing Enterprise Intangibles" – B. Lev, S. Radhakrishnan, P.C. Evans*

Intangible assets present substantial value for businesses in all industries, although in some considerably more than in others (e.g., software houses, R&D driven sectors). They hold an additional significance because, in many cases, they cannot be easily bought or developed. Also, when they form organically within the company, they are rare and harder to imitate. Intangibles are listed by companies on their balance sheets as long-term assets, and in recent years, they are gaining in importance. Figure A.6 depicts investments' market value, illustrating the increasing role of intangible assets on corporate value. [3]

Strategy Formulation

Environmental scanning analyzes the external forces that affect the company, the task environment in which it is competing, and the internal variables that help it compete. With that knowledge under their belt, executives should have gained a deep understanding of the current situation and developed an insight into the things to come. The following step in Strategic Management is long-term planning. Strategy formulation is the set of processes involved in creating and determining the organization's plans. It begins with a situation analysis and defines four consecutive parts: the corporate mission, its objectives, strategies, and policies.

A commonly used tool for situation analysis is the already mentioned SWOT matrix. Managers and decision-makers use SWOT analysis to summarize their understandings and draw inspiration. Its name is an acronym of its four conceptual quadrants: Strengths, Weaknesses, Opportunities, and Threats. After populating each segment with the environmental scanning results, the goal is to find the strategy that better fits the internal and external conditions. All four parameters and their relationships are significant in shaping the company's strategy. By themselves, opportunities present little value if the firm lacks the abilities required to benefit from them. Moreover, capabilities, distinctive competencies, and resources are less impactful when not associated with rising opportunities. In essence, the company should try to benefit from its strengths to take advantage of opportunities while minimizing the impact of weaknesses and avoiding threats.

Despite being developed in the 1970s and having an obscure origin, the SWOT analysis still holds a considerable acceptance. Its practice exceeds company strategic planning purposes and finds application in many business analyses. [4] However, regardless of its popularity, the SWOT chart has received significant criticism. Some main points are its oversimplification of variables, its dependency on the author's opinion, and its focus on a single point in time instead of broader time frames. Still, the elements of strengths, weaknesses, opportunities, and threats can be a useful conceptualization method, even if based on perception.

Over the years, academics have proposed several alternative approaches with varying responses. In this document, we will be applying the Strategic Factors Analysis Summary (SFAS) matrix. SFAS is the end product of the External Factors Analysis Summary (EFAS) and Internal Factors Analysis Summary (IFAS) tables. This system was developed to alleviate some of the SWOT issues and provide a more condensed and coherent view to decision-makers. Its key component is the introduction of weighted scores and estimated duration. Initially, the EFAS and IFAS tables are respectively populated with the external (i.e., Opportunities, Threats) and internal factors (i.e., Strengths, Weaknesses). [5]

Each factor is assigned a weight that signifies its importance to the organization's progress. The addition of all weight values should be equal to 1. Then, each strategic factor is rated on how well the company is acting on it. As expected, in the IFAS table, strengths tend to have the highest ratings, while weakness the lowest. After completing the two tables, the factors with the most significance are listed in the SFAS matrix. Again, the weight must total 1, so some adjustments might be necessary. SFAS also classifies the factors in terms of duration in short, intermediate, and long-term. On average, the accumulation of the weighted scores is 3. Figure A.7 illustrates the combination of EFAS and IFAS data into the creation of an SFAS matrix.

Internal Strategic Factors (1)	Weight (2)	Rating (3)	Weighted Score (4)	Comments (5)
Strengths				
S1 Quality Maytag culture	.15	5.0	.75	Quality key to success
S2 Experienced top management	.05	4.2	.21	Know appliances
S3 Vertical integration	.10	3.9	.39	Dedicated factories
S4 Employee relations	.05	3.0	.15	Good, but deteriorating
S5 Hoover's international orientation	.15	2.8	.42	Hoover name in cleaners
Weaknesses				
W1 Process-oriented R&D	.05	2.2	.11	Slow on new products
W2 Distribution channels	.05	2.0	.10	Superstores replacing small dealers
W3 Financial position	.15	2.0	.30	High debt load
W4 Global positioning	.20	2.1	.42	Hoover weak outside the United Kingdom and Australia
W5 Manufacturing facilities	.05	4.0	.20	Investing now
Total Scores	1.00		3.05	

External Strategic Factors (1)	Weight (2)	Rating (3)	Weighted Score (4)	Comments (5)
Opportunities				
O1 Economic integration of European Community	.20	4.1	.82	Acquisition of Hoover
O2 Demographics favor quality appliances	.10	5.0	.50	Maytag quality
O3 Economic development of Asia	.05	1.0	.05	Low Maytag presence
O4 Opening of Eastern Europe	.05	2.0	.10	Will take time
O5 Trend to "Super Stores"	.10	1.8	.18	Maytag weak in this channel
Threats				
T1 Increasing government regulations	.10	4.3	.43	Well positioned
T2 Strong U.S. competition	.10	4.0	.40	Well positioned
T3 Whirlpool and Electrolux strong globally	.15	3.0	.45	Hoover weak globally
T4 New product advances	.05	1.2	.06	Questionable
T5 Japanese appliance companies	.10	1.6	.16	Only Asian presence is Australia
Total Scores	1.00		3.15	

Strategic Factors (Select the most important opportunities/threats from EFAS, Table 4–5 and the most important strengths and weaknesses from IFAS, Table 5–2) (1)	Weight (2)	Rating (3)	Weighted Score (4)	Duration (5): SHORT	INTERMEDIATE	LONG	Comments (6)
S1 Quality Maytag culture (S)	.10	5.0	.50			X	Quality key to success
S5 Hoover's international orientation (S)	.10	2.8	.28	X	X		Name recognition
W3 Financial position (W)	.10	2.0	.20	X	X		High debt
W4 Global positioning (W)	.15	2.2	.33		X	X	Only in N.A., U.K., and Australia
O1 Economic integration of European Community (O)	.10	4.1	.41			X	Acquisition of Hoover
O2 Demographics favor quality (O)	.10	5.0	.50		X		Maytag quality
O5 Trend to super stores (O + T)	.10	1.8	.18	X			Weak in this channel
T3 Whirlpool and Electrolux (T)	.15	3.0	.45	X			Dominate industry
T5 Japanese appliance companies (T)	.10	1.6	.16			X	Asian presence
Total Scores	1.00		3.01				

NOTES:
1. List each of the most important factors developed in your IFAS and EFAS Tables in Column 1.
2. Weight each factor from **1.0** (Most Important) to **0.0** (Not Important) in Column 2 based on that factor's probable impact on the company's strategic position. **The total weights must sum to 1.00.**
3. Rate each factor from **5.0** (Outstanding) to **1.0** (Poor) in Column 3 based on the company's response to that factor.
4. Multiply each factor's weight times its rating to obtain each factor's weighted score in Column 4.
5. For the duration in Column 5, check the appropriate column (short term—less than 1 year; intermediate—1 to 3 years; long term—over 3 years).
6. Use Column 6 (comments) for rationale used for each factor.

Figure A.7 *Strategic Factor Analysis Summary (SFAS) Matrix*

Source: *"Strategic Management and Business Policy – Globalization, Innovation and Sustainability" 15th ed. – T.L. Wheelen et al.*

Mission

The initial step of formulating a company strategy should be determining the corporate vision and mission. Vision marks the things the company aspires to be. It is the response to the question of what we want to become. A company's mission is the expression of the management's vision in terms of its business activities and its future. It defines the firm's purposes and reasons for existence. These two concepts are in direct correlation and often combined into a single mission statement. The mission statement explicitly describes the activities the company is pursuing, and the course it has set for the future. Creating a mission statement presents numerous benefits. For starters, the mission statement solidifies the executives' vision for the organization's long-term prospects and clarifies the company character. Also, it acts as a navigation tool for identifying and evaluating opportunities. It can become a source of inspiration for employees and focus their energy and effort on the activities that present value for the firm. Finally, it can act as a guideline for all personnel, providing direction, and setting business objectives. Thus, a well-constructed mission statement should be a valuable tool in implementing the company's strategy.

Objectives

After formulating the mission statement, strategists should determine the company objectives. In essence, these are the company's aspirations and can be described as the desired outcome of planned activities. They can take different forms, from highly specific to abstract, or from officially depicted to verbally communicated, and can address a wide variety of areas. For example, they can regard productivity, profitability, market share, survival, reputation, and resource utilization. However, to better serve their purpose, objectives should be quantified and measurable. This way, they can be easier to comprehend and to evaluate.

Regardless of their structure, objectives are part of the strategy formulation's backbone and a key input to the following step, that of devising strategies. We must keep in mind that achieving objectives should result in fulfilling the company's mission. If not, these company objectives hold little relevance to its strategy and do not present significant value. Moreover, if there is a discrepancy between the desired and actual results, changes are necessary. When something like this transpires, the strategy formulation might need to be modified to improve performance and meet objectives. Otherwise, the set objectives might be overconfident and need to be revised to represent more realistic expectations. In any case, objectives should be under close monitoring and often reevaluated to secure their relevance and overall value.

On a final note, Strategic Management makes a clear distinction between objectives and goals. Goals refer to results in a more conceptual manner, often disregarding specifics. Most importantly, they omit any reference to the timeframe in which they should be realized (e.g., increase productivity). On the other hand, objectives define the desired outcome by determining a particular period to accomplish it. They explain what needs to be done and until when (e.g., increase productivity by 5% within the next three years).

Business Strategies

Strategies are deriving from objectives. They are the expressed action plan on how to serve the company mission by accomplishing the chosen goals. Essentially, they are the formula for how the firm will compete (Michael Porter) and aim to create a competitive advantage. Depending on the company objectives, industry dynamics, and stakeholders' influence, businesses might follow competitive strategies or decide to cooperate with another firm against other rivals.

Competitive

In his defining book titled "Competitive Strategy," Porter introduced three broad descriptions of the ways companies decide to compete. These categories have a generic value, meaning that they can be generally applied across industries and regardless of business size.

- Cost leadership

Cost leadership strategy describes the firm's ability to outperform the competition in the total cost of producing and marketing a specific product. The critical aspect of this strategy is efficiency, with cost leading companies aiming to optimize performance in all of their operations. A standard approach is maintaining general expenses to an absolute minimum.

However, this method should not come at the expense of quality. The products of a cost leading firm should always remain comparable to those of competition. Otherwise, the merits of the cost leadership position are diminished. It should be noted that this strategy revolves around cost and not price. Successfully employing this strategy will not always result in the cheapest product for customers. Companies utilize this position to gain price flexibility over competition and maximize their profit margin.

- Differentiation

Companies that employ this strategy aim to distinguish themselves from the competition by offering products that hold significant value for the customer. Here, the fundamental purpose is to inspire the sentiment that the organization and its products are unique or, in some way, superior. This method can be applied in various areas, such as performance, quality, additional features, or sustainability. This vantage point can be achieved for specific product lines or the whole firm as a brand (e.g., Apple has diversified its company profile in the minds of most consumers, regardless of the given industry it operates). It should also be noted that this customer notion can be either established on facts or a slightly perceived reality. This perception is usually based on consumers' opinions, often cultivated by marketing. This strategy's clear intention is convincing buyers to prefer the company's products over the rivals'. Still, the most decisive goal is creating a customer base that finds value in its goods, making them less sensitive to higher prices. This way, the firm can transfer additional costs to buyers and protect profit margins. Also, the loyalty displayed by the consumer base can act as an entry barrier for other competitors. While the cost leadership strategy usually offers a broader market penetration, the differentiation strategy can produce higher profits.

- Focus

The third generic strategy comes in two flavors, cost focus and differentiation focus. It is essentially a replication of the above main categories, aiming solely in a specific market segment. Here, the company chooses a customer group, a geographical zone, or some other market section and concentrates its efforts to compete within it, while neglecting all other parts of the market. This way, the firm can apply the cost leadership method by eliminating additional costs that arise when competing with the whole sector (e.g., advertising costs, international trading fees). The company can also choose a market slice to invest in an attempt to diversify from the competition. By focusing on the segment's distinct needs, the organization can create significant value for those particular buyers (e.g., health products for toddlers, services for German tourists, event planning for weddings). This way, the firm can become the dominant force and demand a price that over-compensates the focused expenses. This differentiation focus approach is usually the most appropriate competitive strategy for small firms targeting market niches.

Cooperative Strategies & Strategic Alliances

In the business world, competition is not always an endless field of conflict. Another means of tackling opposition is cooperating. Working together with other firms and establishing alliances can be a great way to create competitive advantages. Additionally, companies can apply cooperative strategies to close the gap with a rival, minimize costs, or maximize their profits. These collaborations take many forms that vary on the relationship between the involved parties and how officially they are conducted.

Strategic alliances are cooperative strategies between firms that agree to embark on business ventures together. They are attractive options for most industries, offering incentives that include accessing new markets, reducing political or financial risk, and acquiring new capabilities. They usually are long-term arrangements. Still, several are proven to be short-lived, mainly due to internal conflict and friction between the partners. In general, strategic alliances are categorized into four main groups. As Figure A.8 displays, these arrangements can be characterized by how strong the ties between the involved parties are.

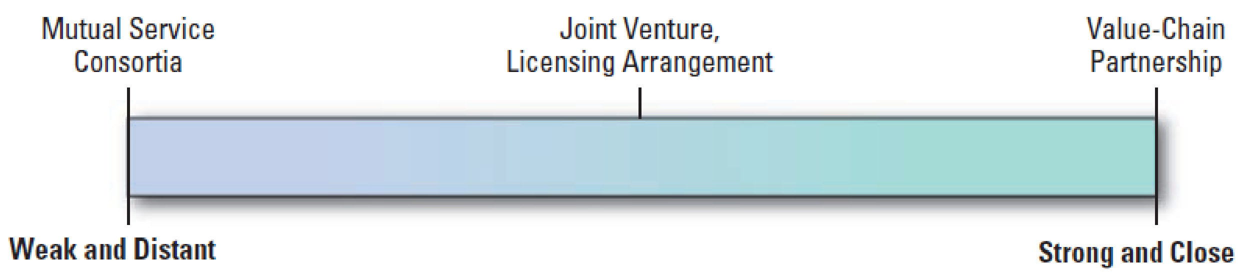

Figure A.8 *Continuum of Strategic Alliances*

Source: *"Strategic Management and Business Policy – Globalization, Innovation and Sustainability" 15th ed. – T.L. Wheelen et al.*

- Mutual Service Consortia

Mutual service consortia is the cooperation between similar firms in comparable industries that aims to accumulate their resources to achieve something that would be otherwise unattainable. This weak and distant relationship demands minimal interaction between the partners. Companies usually employ it when they are not able or not willing to meet the expenses of a specific business activity independently. For example, organizations that establish research alliances when developing advanced technologies.

- Value-Chain Partnership

On the other side of the strategic alliances' spectrum, we have the value-chain partnerships. This agreement is formed between a firm and its key suppliers or distributors and aims to provide a mutual benefit. For example, a firm might choose to work together with a supplier to develop a product or partner up with a retail company to gain premium access to distribution channels. These specializations have apparent advantages for the organization but can also secure significant profits for all sides. In this arrangement, the partners' bonds are very strong, with the companies committing to long-term relationships.

- Licensing Agreements

Here, a firm bestows the rights of manufacturing, marketing, or selling its product to another company that operates in another market. This relationship creates a medium level dependency that compensates the licensor for its technical expertise. Licensing agreements are appropriate for recognizable firms that want to enter a foreign market but lack the funds or are restricted from investing by the local legislation. This strategic alliance needs additional caution since there is the inherent risk of the licensee developing into a competitor. Thus, the licensing company should always be aware of the information it provides, safeguarding its distinctive competencies.

- Joint Venture

The joint venture is a cooperative strategy that results in the creation of a separate business entity, mutually owned by the collaborating parties. These are the most common forms of strategic alliances with their popularity peaking the previous decades when numerous international ventures were founded between western and Asian firms. With joint ventures, the partners concentrate resources (financial or otherwise) to form a company where they share ownership, responsibilities, and returns. Also, they often occur as an alternative to when merging is not a viable option. The goal for companies is to combine their individual strengths in the most mutually advantageous way. For example, a company with distinct competencies in product manufacturing may seek to ally with a firm offering significant access to distribution channels. Despite their enduring popularity, joint ventures present a high failure rate. Due to their dependence on their owners' strategic objectives, these alliances are incredibly vulnerable to internal conflict. Additionally, some companies enter a joint venture as a temporary measure, intending to use them as a stepping stone to gaining a more dominant position or as a way to mitigate the risk of their weaknesses until they can amend them. Similarly to license agreements, the relationship with the other partners is close enough to put distinct competencies at a transfer risk. However, research highlights that joint ventures' success rate is closely related to the relationship between the partners and their dependency on its existence. Specifically, when the allies have equal rights and ownership and are commonly reliant on the ventures' outcomes. Essentially, the longevity of the joint firm is more secure the more right we on the continuum of Figure A.8. [6]

In contrast to the strategic alliances, collusion is a collaborative method usually carried under the table. It is an agreement between firms within an industry to follow a similar course of action on a given subject. These arrangements can look into raising prices, limiting production, defunding advertisements, or segmenting the market. Essentially, this cooperation's primary purpose is to gain a mutual benefit by reducing internal competition. In most countries, this interaction is banned as an unethical practice and subject to competition laws. Collusion can be an explicit act, where the firms have direct communication over the subject (e.g., executive meetings or classified messages). It can also be tacit, with companies engaging in an informal interaction through a form signals or common understanding. For example, a firm can choose to be excessively open and vocal about its strategies, expecting rivals to follow suit. These insinuations can result in conscious parallelism, an illegal deed where companies imitate each other's steps to decrease competition. [7]

Policies

The final step of strategy formulation is developing policies. The company policies provide some baselines for the entire organization's decision-making and operations. Also, they act as a bridge connecting the strategy formulation and implementation, passing on the principles that are expected to be applied. Their goal is securing that staff functions and exercises its judgment in a way that facilitates the achievement of the company's mission, objectives, and strategies. Usually, policies gain a strong foothold on the firm's operation, being the strategy formulation element closer to employees. By directly affecting the personnel's way of working, they can become deeply rooted in the company's culture, and even outlive strategies in some cases. The link between policies and culture is so significant that a company can manage its culture via its enforced policies. [8]

Strategy Implementation

Strategy implementation refers to the manner of applying policies and executing the strategic plan. In this stage of Strategic Management, the company is called to act upon the formulated objectives, strategies, and policies. It involves determining how the business operates by introducing programs, budgets, and processes. Naturally, its success lies in achieving strategies and meeting objectives. Usually, while the company's upper echelons carry out the strategy formulation, the strategy implementation comes to fruition by middle and lower management activities. Prior to execution, the company should consider: who are its people involved in accomplishing the required plans, how to adjust its operations with its new direction, and how those involved will work in the required way. These subjects are not dissimilar to the internal environment's scanning and should have already been considered to some extent. After all, there is an apparent link between formulation and implementation, with the two segments of Strategic Management working hand-in-hand. The former defines the activities of the latter. At the same time, the success of implementation determines the success of the formulation. Additionally, executing the company's plans may produce lessons learned and good practices that, in turn, will support future ideas and decisions. [9]

Programs & Tactics

Moving down the Strategic Management ladder, illustrated in Figure A.2, we find more detailed expressions of the necessary course of action. Starting with programs and tactics, we describe the steps and activities needed to accomplish the company plans. By definition, tactics address a more specific and narrow scope, compared to strategies and policies. They also engage personnel in shorter timeframes. However, they serve as the counterpart of policies in associating the strategy formulation and strategy implementation segments. Programs are linked with tactics in a one-to-many relationship, with a program being a set of tactics. Still, the terms can be interchangeable. Establishing tactics is an action-oriented process that outlines the expected effort from those involved. Tactics can have various shapes and forms. Yet, there are some basic structures of tactics utilized in competitive strategies. These tactics address the when and where a company should compete.

Timing tactics refer to when the firm should implement a given strategic plan. Pioneers producing novelties and creating new product markets are considered as the first-movers. Being a first-mover comes with significant advantages. These companies enjoy the benefits of establishing a reputation and gaining valuable experience from the relevant learning curve before the appearance of competition. This way, they gain the opportunity to set standards for incoming competition and strengthen their position over potential rivals. However, being the first to enter a market can present considerable disadvantages. These drawbacks are the advantages offered to those joining the market at a later stage, also called late-movers. For example, late-movers can imitate the first-movers' success by following their tried path, but with lesser cost and risk.

Also, there are market location tactics that explore where the firm should implement a corporate strategy. This tactic scheme can be broken down into offensive and defensive tactics. Defensive tactics aim to raise barriers that decrease the likelihood of incoming attacks, to reduce their severity, or even divert them to less impactful areas. On the other hand, offensive tactics consist of a series of maneuvers that attack the established opposition within a market. They can be a full-frontal assault where a company goes head to head with its rival in every category. This tactic demands significant resources and perseverance. Usually, it is exceptionally costly to follow through and can result in diminishing the entire sector's profits. Essentially, only market giants have the means to employ this tactic. Other offensive tactics are the so-called flanking maneuvers. Here, instead of marching straight on, the attacker focuses on a specific market segment where its competitor presents significant weaknesses. A different tactic is that of guerilla warfare, where the firm engages in asymmetric assaults. These attacks usually target different market sections, are periodic in character, and have limited severity. This approach is mostly utilized by small companies looking to obtain small earnings while avoiding to gain the attention of a big firm. [10]

Budgets

The next step of strategy implementation is budgeting, where the company defines the cost of implementing the programs. Budgets are financial planning processes over a specific timeframe. In this stage, the organization has the last opportunity to evaluate the feasibility of its strategies. After assigning the individual costs for each program and tactic, the selected business plan might be proven inefficient or even impossible. If the financial requirements are found acceptable, the Strategic Management method proceeds with developing the necessary procedures.

Procedures

Procedures describe in detail every activity that needs to take place for a program's completion. Also called Standard Operating Procedures (SOPs), these organizational methods are the primary medium that companies use to produce outputs. Typically, articulated in official documents, these step-by-step guides specify the expected routine operations. They conclude the strategy implementation process and reflect the decision-making and strategic planning performed.

Evaluation & Control

The last step of Strategic Management, called evaluation and control, essentially monitors the company's performance. To ascertain the successful implementation of the formulated strategy, the company should regularly collect and evaluate the actual results and compare them with the desired ones. If a deviation from the expected outcome is detected, corrective actions are in order. The course of action can vary depending on the discoveries. For example, if the deviation reason is determined to be the failure in implementing the necessary processes, lower management should review employees' activities and correct them accordingly. On the other hand, if the issue is the procedures themselves, upper and lower management should revisit the programs and tactics to produce new, more effective ones. Evaluation and control can even identify weaknesses in the strategic plan that may eventually lead to reforms.

Performance Indicators

The first part of measuring performance is determining what should be under monitoring. Traditional measuring methods, such as return on investment (ROI), internal rate of return (IRR), and earning per share (EPS), can accurately assess profitability. However, corporate objectives address much more than profits, depending on the particular industry and the current company strategy. For example, critical factors in telecommunications refer to quality and customer satisfaction. As a result, some key metrics include network availability, drop-call rate (DCR), the average return per user (ARPU), and subscriber turnover. [11]

Companies need to define measures that fit their specific units, activities and expected outcomes to control strategic targets' progression effectively. Based on the objectives of strategy formulation, top management executives set the basic standards that will eventually measure the organization's overall performance. Additionally, managers in mid and lower levels monitor the various performance indicators in their respective realms of responsibility. All performance data should be collected, reported, and evaluated at regular intervals. This way, the company will be able to respond with any required adjustments swiftly. Figure A.9 illustrates the evaluation and control process that aims to align the company's performance to the required standards.

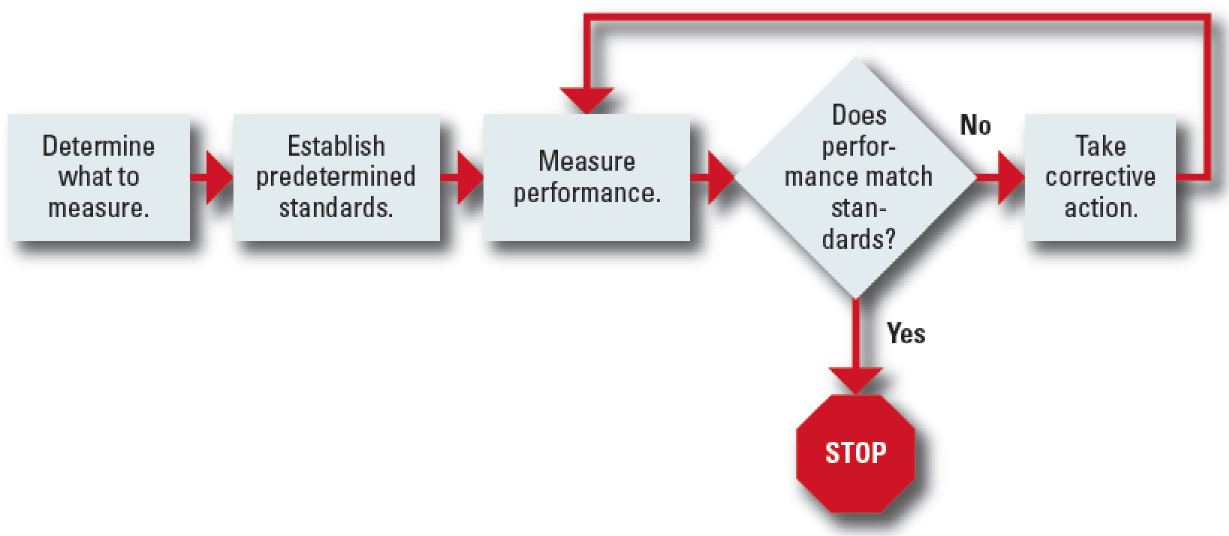

Figure A.9 *Evaluation and Control process*

Source: *"Strategic Management and Business Policy – Globalization, Innovation and Sustainability" 15th ed. – T.L. Wheelen et al.*

Controls

Companies' control methods can be categorized into three major groups, depending on their focus area. Output controls concentrate on the outcome of activities, looking into the actual end-results, and evaluating their performance. They constitute the most typical controller form and find a wide variety of applications. The IOR, ARPU, and EPS metrics mentioned above, fall into this category. Output controls are the most suitable when the expected results are specific and measurable, but the exact way activities produce them is somewhat unclear.

In contrast with output controls that focus on what should be done, behavior controls address how it should be performed. These control methods monitor the actual activities and how they are implemented to determine performance. For example, some widely adopted behavior controls are quality assurance standards like the ISO 9000 series. Behavior controls are more fitting in cases where the outputs are slightly abstract or not assessable, but the cause-effect relationship between activities and outcomes is apparent.

Lastly, there are controlling means that focus on resources. The input controls become appropriate in areas where the organization lacks the understanding to measure outputs, and the connection from activities to results in is undefined. These methods are usually related to intangible assets such as knowledge, culture, and employees' abilities.

Feedback

Strategic Management is a perpetual process. As displayed in Figure A.2, each step is continuously providing and receiving information regarding the lessons learned in other stages. This feedback is used to reevaluate decisions, plans, and procedures. Also, it can be a triggering factor that will notify the organization of emerging threats and opportunities.

Section Two – Strategic Management Assumptions

Ideas & Insights

Long-Term Goals

Setting long-term goals with multiyear plans can arguably assist in the success of the JV. The anticipation of significant gains in the long-run imbues patience in all involved parties and entices them to set aside less meaningful disputes to avoid turbulences. Thus, short-term frictions tend to be lessened over the expectation of future benefits.

Resources

In principle, creating a JV is a strategic move that combines skills and resources from the shareholders to formulate a more potent force in an industry. In cooperative partnerships, companies tend to exchange specialized resources and unique talents to reduce the environmental impact on the business and obtain mutual benefits, in an attempt to increase their competitive advantage over rivals (Bucklin and Sengupta, 1993). However, in the Coopetition of a JV between competitors, the involved parties are less likely to share valuable capabilities and core competencies with their opponent, especially intangible assets that are usually harder to imitate. In this triadic relationship, the child companies have to manage the given resources and create the JV's own capabilities. The goal is to develop them into distinct competencies and increase the collective competitive advantage.

Human Resource Transfer

Human capital is a valuable intangible asset, and often the experience and skills of employees can be considered a core competency. Thus, the shareholders are expected to act with scrutiny on choosing the transfer personnel.

Each parent should aim to safeguard their core competencies, not compromise its business continuity by retaining the appropriate personnel, and provide the JV with the necessary means to succeed. After all, the child company will benefit from having the right people with the right skills in the correct position. This principle should apply in the staffing of lower and upper management, as well. On the other hand, the transfer of human resources to the JV allows the shareholders to maintain a high communication level and further support the overall trust.

Here, not unlikely other resources, the balanced contribution of assets will create a sense of fairness to the parents, strengthening the triadic relationship.

Culture

Integrating Incoming Cultures

Usually, the creation of the JV results in a combined workforce with different backgrounds and corporate cultures. The cultures cultivated by the parent companies can be from merely diverse to conflicting. If the parent's cultural disparity is considerable, the JV should be cautious and act promptly. If not attended, the initial gap can develop into a clash of cultures, generating significant friction points and affecting the JV ability to execute its role. As we will propose in our case study, the most advantageous method to mitigate these risks is to integrate the incoming cultures into a new corporate culture.

Corporate Governance

The JV's corporate governance differs considerably from those of publicly traded companies, yet it is profoundly significant. In other company forms, a robust and reliable corporate governance mechanism is vital in achieving credit rankings, stock prices, or attracting investors. In the JV case, it is paramount for its existence since it provides an excellent level of transparency, monitors the risk of corruption, and creates trust.

Strategic Decision-Making Mode

Considering H. Mintzberg's three modes of strategic decision-making, entrepreneurial, adaptive, and planning, we could argue that the latter is the most suitable choice for the JV. The entrepreneurial model is driven by opportunities and the strong vision of those in charge (e.g., the founder, a talented CEO). This decision-making method offers certain advantages with a heavy focus on growth. However, its person-centered character can be problematic for the JV since it requires immense trust in the decision-maker. The parents would expect to secure a more firm control over the JV's endeavors than this decision-making mode can offer.

Also, the adaptive method is a more reactive approach that focuses on providing solutions to given problems. It might service cases where the JV is created to face a shareholders' specific weakness, but its usage is relatively narrow scoped. The planning model is based on information gathering and systematic analysis of the relevant parameters. By design, this mode is more analytical and reasonable, which can assist with the inherent complexity of when competitors need to come to terms. A rational strategy plan is far less political, adding to the much-needed transparency. [12]

Management Board

- Composition

JV's management board will most probably be composed of both inside and outside directors. Those non-management board members will likely be placed as representatives of a specific shareholder. Expectedly, parents will require a strong (but equal) presence on the company's board. A balanced approach for the chairman position would be to elect the CEO (or another inside director) as a common affiliate of both parents. Otherwise, the shareholders can choose to appoint a parent's representative and alternate with the other's in specific intervals.

- Role

Typically, a management board is anticipated to carry a series of tasks depending on its activity and degree of involvement. In the JV case, the parent's authority should be decisive. As a result, the firm's board would be highly active, going beyond monitoring, evaluating, and influencing its strategic management. The JV board is also expected to initiate and determine its mission and strategies, have effective strategic management participation, and become a catalyst.

- Characteristics

According to research, board members tend to have a better understanding of the company's financial position (91%) and the on-going strategy (87%), rather than the firm's value creation (74%). However, the JV's management board should pay extra attention to the value creation since it is the primary objective for its formulation. Also, there is an additional level of complexity with the value being shared between the competitors. [13]

Evaluation & Control

Types of Control

In general, performance controls can be divided into input, output, and behavior controls, each respectively measuring resources, results, and activities. It is reasonable to assume that the JV is created as a means to an end, with the parents entering a Coopetition seeking desired outcomes. As a result, output controls hold a great significance. Besides, the results constitute typically a more easily measurable target than behavior and input controls like policies, knowledge, and motivation. The objectivity they provide makes output controls more likely to be accepted by all parties as performance indicators.

Nevertheless, we could argue that behavior controls can transpire into valuable performance measurements for a JV between competitors, as long as they are widely accepted to have a clear cause-effect relationship (e.g., international standards such as ISO certifications). These recognized standards can generate economic benefits by improving quality and efficiency. But most importantly, they act as a reassuring sign for the company's focus. In our case, this method can be an encouraging factor for the parents regarding the JV's operation and performance. Input controls are usually preferable when there is difficulty in measuring outputs, and there is no apparent connection between actions and results. Such a case would present a significant amount of uncertainty from the get-go, a rather unappealing condition for firms that consider cooperating with a competitor.

Measures & Benchmarking

Popular value measures, such as Economic Value Added (EVA) and Market Value Added (MVA), have become the prominent corporate performance metrics, replacing traditional economic measures like ROI, ROE, and EPS. Still, they remain heavily focused on the financial interest of the shareholders. In the case of a JV between competitors, other significant factors come into play in addition to the immediate financial need to create wealth. We argue that EVA and MVA, despite their utility and importance, they can be proven insufficient on their own since they do not reflect every aspect of value expected by the parents. The proposed alternative is using the Balanced Scorecard Approach, where key performance measures (KPM) put into perspective the non-financial aspects of value.

Corporations with strategic business units (SBUs) tend to apply the same principles for measuring performance throughout the organization. Thus, we can expect the shareholders of the JV to impose similar performance measures when evaluating the child company. However, the parents may utilize quite different approaches in evaluation and control methods. In this case, a decision should be reached on whether to compromise and create a consolidated measuring system or maintain separate scorecards for each shareholder.

Finally, suppose the JV was created for a scope that was previously performed by a parent company. In addition to benchmarking strengths and weaknesses to past performances and key competitors, it should be essential to benchmark the JV's performance of the transferred activities with the preceding parent division's results. A positive outcome of this comparison will solidify the usefulness of the JV for the shareholder.

Exit Agreement

Pre-establishing a contingency plan mitigates part of the venture's inherent risk. Having an acceptable exit strategy inspires a feeling of security and can result in a more positive approach towards the partnership. We would expect that the less threatened the parents feel, the less friction they would generate.

Key Success Factors

Balance (Equal Value)

One of the critical objectives for a Joint Venture between competitors is ensuring that this partnership remains mutually and equally beneficial at all times. This factor is highly significant for the company's survival. If, at any point, the value is not evenly distributed, it can cause considerable turbulence. For example, the side that benefits the least can find the JV no longer advantageous and decide to depart from the agreement (depending on contractual bindings). At the same time, the side that is profiting the most might grow enough to determine its involvement in the Coopetition no longer necessary and break the arrangement.

Furthermore, even if the parents wish to remain in this business relationship, providing uneven value to the shareholders can significantly disparity the shareholders' overall strength. This situation has other inherent risks, which can greatly affect the JV's longevity. In such an unbalanced dynamic, the weakest firm might become too dependent on the arrangement. So much so that it can be forced to yield more and more of its distinct competencies to keep the other side interested in the triadic relationship, essentially becoming a captive company.

From the child's point of view, maintaining the balance should be of utmost importance, to the extent that the JV should refrain from even suggesting any course of action that will be overall mutually beneficial but with an unevenly divided value to the parents (even by a mere 51-49 split).

Level of Trust

Reading this document, it is apparent that the most common denominator in our analysis is trust. Trust is arguably the most vital feature for the JV's survival.

When entering a strategic agreement with a competitor, a company is undertaking a considerable risk, ceding resources and autonomy. This danger goes beyond the perils of a failed business venture since it can result in its opposition's empowerment. Understandably, every aspect of this relationship will be meticulously examined and addressed with extreme caution. In a way, the parent companies are obligated to remain suspicious. It is the child's responsibility to earn their trust. Building a trustworthy relationship with each parent and providing the needed security should be an utmost priority since it can directly affect JV's survival. Throughout its operation, the JV ought to develop a sense of reassurance by acting with transparency, maintaining balance at all times, and ensuring justice. Then and only then, the triadic relationship will be functional and sustainable.

All business ventures aim to meet objectives and produce results to secure their survivability and pursue growth. However, in the case of a JV between competitors, there is another key success factor, the shareholder's confidence that the child will always act in a manner that keeps the parent's best interest in mind.

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Part B – Study of Victus Networks Case

Overview

The introduction of mobile communications in the Greek market produced an unprecedented boom that led to years of remarkable industrial growth. However, by the start of the last decade, companies encountered a rapid decrease in their revenue and market penetration. Pursued by the intense competition in what was becoming an ever-shrinking market, the established industry firms were forced to look for alternatives. Traditional approaches such as liquidations and merges were effectively prohibited by the significant exit barriers and European regulations. Yet, the immense capital and operational costs compelled decision-makers to devise more ingenious strategies. These conditions paved the way for the birth of Victus.

Background & Company History

Victus Networks emerged as the collaboration of Vodafone Greece, a subsidiary of the global powerhouse, and Wind Hellas in 2014. The organization was formed as a joint venture (JV), where each parent company holds 50% of the ownership. The JV's primary commitments are managing the standalone Radio Access Networks (RAN) of its parents, and implementing network sharing activities, creating a Multi-Operator RAN (MORAN). The initial scope of work described a partial MORAN of 2G and 3G technologies, concerning mostly rural areas. Nevertheless, the synergies provided by Victus quickly produced a convincing success story. As a result, its scope expanded year by year, including the sharing of 4G technologies, micro-sites, and eventually entering the urban environment.

The company was founded in February of 2014 and officially began its operations on March 10th of the same year. As part of the initial agreement, Vodafone Greece and Wind Hellas committed the amount of 150 million euros over three years in investments, 55 of which were destined for constructions and 95 million for new-age telecom equipment. The parents agreed to contribute to the staffing by transferring part of their personnel to the new company. Victus was manned by 170 ex-Vodafone and 130 ex-Wind employees, mostly technicians that were already working on the specific handed-over areas. This move accumulated about the twothirds of the field's experts, under one company, which formulated a very specialized and competent workforce. As a matter of fact, Victus takes great pride in its employees.

The conception of Victus Networks came in a time when the Greek mobile communications industry was showing clear signs of stagnancy. The existing players were in close competition but failed to alter their individual market shares, even matching the opposition's strategic planning with similar countermoves. Vodafone and Wind, being the second and third players of the Greek telecommunications respectively, were searching for ways to stop the "bleeding". The two rivals decided to consolidate their forces and establish the new JV. By entering a state of Coopetition, they tried to disrupt the status quo.

This conjoined effort developed synergies that produced new efficiencies and significantly cut costs. Additionally, it allowed operators to focus on other areas and shift time and resources to differentiate their value proposition, catch up to competition, and develop distinct competencies. As expected, the success of the initial project incentivized the parents to seek more related opportunities. The most notable was in 2019, when part of the fixed network activities from the two shareholders, were transferred to Victus. However, this project will not be included in our analysis as it falls outside the concerns of this document.

Corporate Mission & Vision

Victus Networks is essentially a non-marketable enterprise whose mission is to provide services to its two parents, Vodafone Greece and Wind Hellas. The company has no actual commercial brand and holds zero consumer recognition. In some regard, Victus acts as a supplier of a white label product. It enables its customers, the two shareholders, by providing the necessary means to target the market, without ever directly reaching the end-customer. The gravity of this condition greatly influenced the company's vision statement. According to which, Victus envisions being "a creative leader and key enabler for our shareholders, offering value by delivering and managing top quality networks in an efficient way and empowering them to compete successfully in the converged market.". [1]

The text seems exquisitely well-constructed, emphasizing the fundamental goals and communicating the unique philosophy of the company. Going into a more in-depth analysis, we recognize that the wording was meticulously selected to serve specific purposes. Therefore, we will attempt to rationalize the statement's key points.

- Creative Leader

The opening words of the statement are nothing short of an explicit declaration of the role Victus intends to embody. Victus Networks is the child of its shareholders, and as such, the two parents dictate much of its endeavors. Nonetheless, the company will not embrace a life of passivity. It clarifies its predisposition to act as a leader who seeks opportunities and brings to the table creative and innovative ideas.

- Key Enabler - Offering Value

These two points directly reflect the company's main objective. Victus was founded to become an invaluable instrument in its parent's operations. Also, despite having no commercial presence, it aims to create customer value to secure its survivability, like any other corporation.

- Top Quality Networks in an Efficient Way

People of Victus pride themselves as not only being tech-savvy but also tech-driven. The company aspires to maintain a leading role in the "hi-tech networks" business and provide new and competitive services. On the other hand, finding synergies is in the Victus pedigree. The company was formed in an attempt to consolidate resources and cut costs. This phrase from the mission statement represents the JV's dual value proposition, doing the right things in the right way.

- Empowering Competitiveness

As we analyzed earlier, the notion behind the creation of Victus was the shareholder's need to cope with the intense competition in a declining industry. Vodafone and Wind, expect the JV to serve as a significant competitive factor.

- Converged Market

The last words of the mission statement resemble a form of realization. The JV acknowledges the theory of convergence in telecoms, understanding its disruptive nature. Voice and data already utilize a single data stream, while other traditional services are growing archaic, in favor of new applications (e.g., radio and podcasts). Including this specific remark in the company's vision can function as a reminder of the ever-changing operating environment and the necessity to inspect and adapt. Most significantly, it represents the JV's willingness to expand its scope and accommodate its parents' differentiated demands. A prime example of this direction was the transfer of fixed operations to Victus in 2019.

STEEP Analysis

The aftermath of the 2008 financial crisis led to the decade-long Greek debt crisis. The outcome was a series of reforms, severe austerity measures, and a nation-wide humanitarian crisis. The recession impacted every part of life within the nation and transcended its borders, becoming a global issue. This transition painted a grim picture for the post-crisis Greece. The current Societal Environment is characterized by high volatility and creates significant stress for the industry, especially in terms of profitability.

At the same time, the Natural Environment is undergoing a vast transformation on a global scale. Even though the telecommunications industry is more loosely linked to the environment than others, nature remains an integral cog of all operations. Climate change, resource scarcity, and people's demand for sustainability have raised significant concerns that need to be addressed.

Political- Legal Forces

Since the beginning of the debt crisis, the Greek political scene's instabilities have been a regular theme for all enterprises. However, even though the current situation has been enlarged and perpetuated by the recent financial developments, it is nothing new for the industry. Since its introduction to the Greek market, the telecommunications industry has been widely affected by the political and legal forces.

Licensing

A constant obstacle in the activities of mobile communication providers and their affiliates is licensing. The legislative framework for procuring the necessary licenses to construct a Base Transceiver Station (BTS) is exhaustively complex and causes profound difficulties in the development of the mobile network. It is worth pointing out that the acquisition of a BTS license requires relevant permits from at least five different Public Services (i.e., EETT, Urban Planning Agency, Local Municipal Authority, Forestry Office, and Atomic Energy Committee). Recent governments have expressed the desire to bring the country into the digital age. In the past few years, in preparation for the 5G era, an official dialogue between public agencies and mobile communication providers has been established. The result of the consultation is a new licensing law proposal that will simplify the procedure and accelerate the permit issue. This law is expected to be put to parliament vote by the end of the year.

Nevertheless, although the new legislation has brought an air of optimism to the whole industry in a nation-wide view, lesser political institutions remain a point of friction and have a direct impact on the business environment. Prime examples are municipalities. Near elections, acting mayors or candidates running for office are known to employ “anti-antenna” rhetoric during their canvasses. Their actions can hinder the operations of mobile communication providers in more ways than legislating local restrictions or vetoes. For instance, these political figures tent to campaign against new or even existing BTS within their authority by organizing protests calling for their citizens’ protection. The apparent goal of amassing supporters by appealing to the public sentiment has resulted not only in the suffering of the public image of companies but also in damages to physical assets.

EU Legislation

In a more macroscopic view, Greece is a part of the European Union (EU), and in addition to domestic political forces, the Greek industry falls under European laws and regulations. Noteworthy is the 2015/2020, also called the Roam-like-at-Home (RLAH) regulation. Roaming in mobile communication terms refers to the use of a mobile device outside of its home network, namely while traveling abroad. This service was provided with significant additional charges that were given as compensation to the national providers of the visiting country. However, since the regulation was instated in 2017, it practically abolished extra fees for roamers when traveling within the EU. Mobile operators are still obliged to pay for wholesale rates to networks outside of the nation but cannot directly charge the consumer. Some providers in the EU have sought ways to pass on the cost to the end-user by increasing monthly subscription or by completely removing the roaming services from their standard packages. We will revisit this issue below. [2]

Net Neutrality

Another major discussion point that has led to EU regulations is the effects of Net Neutrality (NN). Internet access has developed into an imperative need for modern society, and its significance has been elevated from luxury to commodity, to social good. Governments and regulatory organizations worldwide have been concerned with frameworks that will secure the internet’s role and promote further growth and innovation, which, in turn, will benefit industries and end-users alike. The Net Neutrality principle depicts that all data traffic should be treated equally regardless of content, application, service, sender, receiver, or equipment. The mission of NN is to safeguard the internet ecosystem from any discrimination, restriction, or other types of interference and to ensure that it will remain a level playing field for innovation. [3]

This idea predominantly refers to Internet Service Providers (ISP) and their ability to apply traffic management techniques into their systems. Pro NN movements argue that the underlying network should be agnostic to the data it facilitates. Otherwise, there will be a significant danger of disparity in internet access. The abolition of NN regulations will allow ISPs to prioritize internet traffic according to their preferences. ISPs will be able to divide the provided service into so-called “fast” and “slow” lanes. The former will be a premium service where applications, content creators, and consumers can gain prioritized access on a fee. At the same time, the latter will be reduced into a best-effort product. Companies that can afford the additional cost will gain a significant advantage over those forced to remain on a low-quality lane. This situation will create a gap between big brands and smaller companies and will become an enormous entry barrier for startups, thus undermining completion and sabotaging innovation. Current powerhouses, such as Google and Microsoft, which begun as startups are amongst the proponents of NN legislation. [4]

Another point of consideration is the cases of ISPs competing in the content provision industry, namely cable TV companies that have been vertically integrated into content and service providers (CSP). CSPs like Comcast and Verizon can be enabled by the absence of NN control to engage in corporate warfare. In this case, ISPs will be able to promote their product by restricting competitors into slow-access lanes or even denying the end-customer access to competing platforms (e.g., Netflix) via the internet service their network provides. Such an incident occurred in 2008 between Comcast and BitTorrent when the CSP decided to enforce delays in the flow of peer-to-peer (P2P) traffic. The US Federal Communications Commission (FCC) intervened by issuing a cease-or-desist order against Comcast that was later overturned by an appeals court. [5]

Growing concern from the heated debate, forced into action EU and US legislation bodies. As of 2015 European parliament has issued the 2015/2120 regulation that puts measures to protect user’s rights and to safeguard open internet access. The Open Internet principle advocates that the internet as a whole should be kept an easily accessible platform to all individuals and enterprises. It embodies the ideas of open standards, lack of censorship, low entry barriers, and of course, net neutrality. In Article 3 of the 2015/2120, the EU sets the groundwork for NN by acknowledging the end-users’ right to access, distribute, use, or provide any type of information, content, or application. The exercise of this right should not be limited by any commercial agreements or practices conducted by ISPs that affect characteristics such as prices, speed, and data volumes. The regulation takes a hard stand in the matter by explicitly depicting that ISPs should treat all traffic equally. Moreover, 2015/2120 describes that ISPs should be prevented from applying traffic management that discriminates, restricts, or interferes with data and charges national authorities to supervise and enforce the ISP compliance to the regulation. [3]

The EU addressed broadband internet access as an essential social good and decided to regulate it as a public utility, similar to the approach used for electric power, water supply, and gas. However, across the Atlantic, the relevant legal background has been considerably more unstable. Instead of a cemented belief pro or against NN, there is a series of back and forth depending on political will, running administrations, lobbying power, and local state authorities. On a federal level, the communication industry's regulatory system was introduced with the Communication Act of 1934 and the creation of FCC. This Act consolidated preexisting regulating schemes regarding radio, television, and phone communications. Under the Act, the subject matter of FCC was divided into seven segments depending on business activity. The crucial sections also named titles concerning NN, were Title-I (General Provisions) and Title-II (Common Carriers). According to the Act, Title-I companies were under laxer regulations imposed by the Federal Trade Commission (FTC), while Title-II companies were to be more strictly regulated by the FCC as a measure to ensure equal access to networks. [6]

The next significant reform came under Clinton's administration, with the Telecommunication Act of 1996. The emergence of new technologies like the internet called for a more up-to-date regulation. With this Act, the latest technologies were distributed within Title-I and Title-II segments depending on functionality. The outcome was that internet service providers of the time were classified as Title-I and telecommunication carries like Digital Subscriber Line (DSL) providers were included in the Title-II section. In the following years, with cable TV companies like Comcast and AT&T integrating into broadband internet providers, a rearrangement of services into titles was ante portas. In 2002, under the administration of G.W. Bush, the FCC ruled that internet access should be omitted from the Title-II services. In essence, FCC de-classified broadband providers from public utilities and granted them the liberties of Title I companies. This FCC order faced significant opposition because of the deregulation that abolished common-carrier principles and allowed providers to interfere with network access, according to their interest. The case reached the Supreme Court that ruled in favor of FCC. The reasoning was the ambiguity of technical definitions within the Telecommunication Act of 1996. For all intents and purposes, the court bestowed upon FCC, the ultimate authority to differentiate between telecommunication services and information services and to decide upon interpretations and policies. [6]

In the years that followed, the liberties permitted to the ISPs resulted in complaints by consumers unions and advocacy organizations. Over time, FCC reevaluated its policies, adopting a more pro NN stance. A first attempt to enforce some regulations came in 2005 when FCC filed a Letter of Inquiry towards Madison River Communications to investigate accusations that the company was preventing customers from using VoIP services by blocking ports used for such applications. To avoid any further litigation and terminate the investigation, Madison River agreed to cease its port blocking practices. [7] A turning point came in 2008 under the Obama administration. Following the disclosure of Comcast's interference with P2P packets, mentioned earlier, FCC issued a censure order towards the telecommunications conglomerate. Comcast complied but also filed an appeal on the grounds of being categorized as a Title-I company that stands outside FCC's jurisdiction. The FCC order was indeed overturned in court in 2010. Nevertheless, in its statement following the ruling, FFC affirmed its commitment to promote the principles of an open internet. Subsequently, FFC produced a series of relevant orders that were culminated with the 2015 Title-II Order. The order returned ISPs to the "Common Carriers" title. This reclassification allowed the commission to administer strict regulations and was the first time the US government addressed internet services as a public utility. [6]

This viewpoint shift was not proved to be long-lasting. In 2017, a few months after the elections, the incumbent US President Donald Trump appointed Ajit Pai as chairman of the FCC. The new head of the commission is a proponent of repealing NN protection under the argument that they disrupt the growth of the telecommunication industry. Since 2018, the Restoring Internet Freedom Order has repealed the classifications and regulations of the Obama-era. [6] The reversal of the NN rulings by FCC has, expectedly, an effect on a federal level. However, individual states have tried to uphold net neutrality through legislation on a state level. The state of California, home of Silicon Valley, has managed to pass the California Internet Consumer Protection and Net Neutrality Act of 2018. [8] In this bill, California goes beyond the regulations eliminated by imposing even stricter policies. The federal government responded with a suit, arguing that rules over the internet are outside the states' jurisdiction. Until the issue is resolved in court, other states might follow California's example. At the same time, with California being the largest state economy of the country with over a 3 trillion (USD) in GDP and immense influence over new-age industries, ISPs might be incentivized to conform. [9]

5G Geopolitics

Lastly, on a global scale, the geopolitical scenery is causing severe and unexpected disturbances. Unlike its predecessors, 5G has become a significant contention point between the two technological superpowers, China and the US. The emergence of 5G as a game-changing technology has produced critical political dimensions regarding commercial dominance and national security.

The Chinese Communist Party (CCP) seeks to obtain the first-mover advantages in this new era and has put enormous effort and resources into becoming the proprietor of the next technological leap. Chinese titans like Huawei and ZTE have worked closely with the 3rd Generation Partnership Project (3GPP) on the development of the new 5G standards. With the state's support, these companies aspire to enter global supply chains as manufacturers of both 5G infrastructure and handset devices. At the same time, the Chinese government is cooperating with the native mobile communication providers to create a local Standalone (SA) 5G network in a roadmap that is years ahead of the rest of the world. The commercial value of those actions is expected to be tremendous. The collaboration with 3GPP will produce a series of patents on behalf of the Chinese corporations, which should facilitate the needs of all future industries, resulting in significant revenue. Moreover, this early deployment of a SA 5G network will allow Chinese enterprises to rapidly reap the industrial benefits of 5G and become more competitive on the international scale. [10]

However, the critical aspect of this new technological battlefield is national security affairs, with western countries, and predominantly the US raising concerns regarding the use of Chinese equipment. The 5G architecture, to facilitate that enormous data traffic in such a small latency, has pushed regular core functionalities to the "edges" obscuring the lines between the traditional Radio Access Network (RAN) and Core network. This practice, by default, presents inherent security considerations. Nevertheless, the critical factor of this geopolitical battle revolves around the so-called "Huawei effect". Throughout the rise to its current supremacy, Huawei has been linked to ties with the Chinese state and especially the Chinese army (PLA). Despite the proclamations of being privately owned and fully independent, the company was founded by former Chinese army personnel and has received generous subsidies from the Chinese government. Also, state authorities are known to hold a number of the company's shares. [11] Given the influential role an infrastructure provider can have on 5G networks and the Huawei - PLA alleged relationship, West sees a pathway that can allow China to militarize 5G. The usage of security "back doors", the installation of "kill switches", the possibilities of intelligence leaks, and the collection of personal data with malicious intent are considerable threats. [10]

The disquiet of the US government is palpable with a series of countermeasures being employed. For more than a decade, the US government has thwarted the expansion of Huawei's activities within its soil, mostly by blocking acquisitions (i.e., 3Com in 2007 and 3Leaf in 2011) and influencing the strategic decisions of local telecommunication providers (i.e., Sprint network upgrade in 2010). [12] However, in this case, the US has chosen a bolder course of action with nationwide effects. In 2018, the Trump administration temporarily banned ZTE from accessing US goods, specifically semiconductors, an invaluable resource in which China is still unable to compete with American manufacturers. In 2019, the Commerce Department blacklisted Huawei and other Chinese affiliates. In 2020 FCC officially designated Huawei and ZTE as threats to national security, effectively blocking the use of their products in local 5G networks by barring the purchase of their products via government subsidy funds. [10] [13] Additionally, The US has reached out to key allies and like-minded countries, urging for similar steps. In 2019 the US Secretary of State Mike Pompeo toured Europe pushing the envelope of the incoming "Chinese threat" and advocating the need for actions to mitigate the underlying risk. Pompeo painted a stark picture to his interlocutors and warned that inaction might result in losing access to American intelligence. [14]

Nevertheless, despite the strenuous US efforts, the outcome was not as fruitful as expected. At the end of 2018, the Eurasia Group, the world's largest political-risk consultancy, released a white paper analyzing the important and overly complicated political dimensions underlying 5G. In this document, the publisher depicts the skepticism of the countries within the American sphere of influence and the crucial dilemmas third countries are facing. [15] Figure B.1 provides an estimated representation of countries considering imposing restrictions. The US associates seem to share a common understanding of the Chinese ambitions, but the issue presents tremendous complexity. Local governments are forced to contend with significant pressure from all sides. On the one hand, there are substantial intelligence considerations amid this US-China trade war. On the other, there is a probability of Chinese retaliation. Small economies, in particular, might be more prone to succumb to the fear of trade sanctions. Additionally, there are imperative industry demands. For the past decade, Chinese manufactures and especially Huawei, have gained a significant foothold in western markets by providing a considerably cheaper and adequately reliable alternative. Given also the fact that the Chinese have been spearheading the technological developments of 5G since the early stages, Huawei seems the default choice for most EU networks. Actually, according to the warnings of notable telecommunication providers, the exclusion of Huawei will be a major setback in the 5G roll-out that will result in years of delay and billions of additional costs. [15] [16]

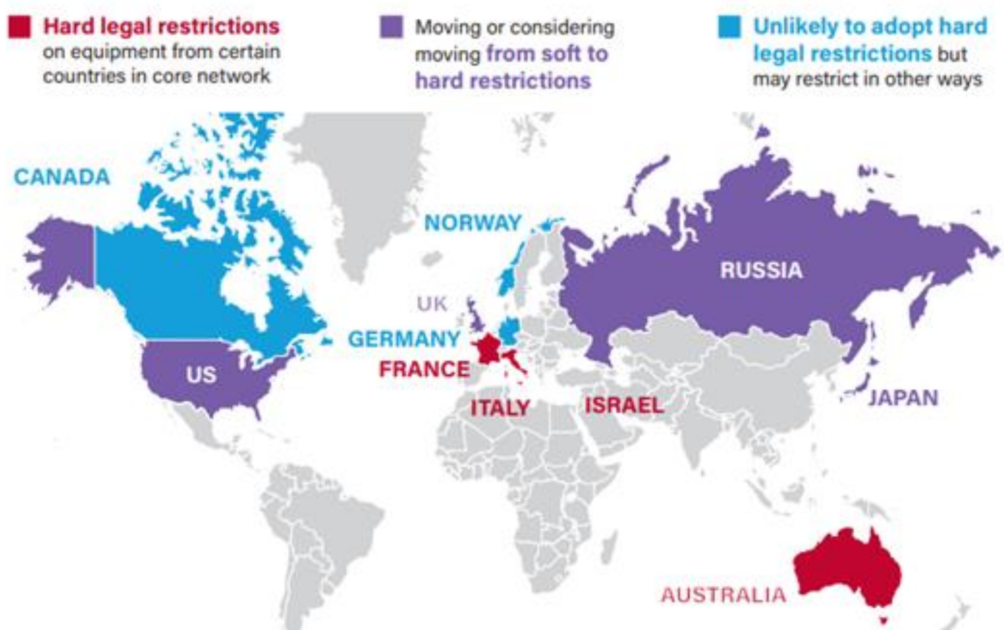

Figure B.1 *Number of countries considering restrictions*

Source: *"Eurasia Group White Paper: The Geopolitics of 5G" – P. Triolo, K. Allison Eurasia Group (2018)*

Australia, Japan, and New Zealand have already expressed the will to support the US initiative and ban Huawei from accessing their 5G networks. Other western countries, and predominantly Germany, remain reluctant to engage head-on against Chinese interests and search for ways to minimize the risk. Even the UK, member of the “Five Eye” intelligence alliance and part of the US affiliates’ inner circle, is following a more timid course of action than anticipated. At the time being, countries like the UK and Germany have resulted in restricting the use of Chinese equipment exclusively on the core network of national 5G implementations. These decisions have sparkled unrest from anti-Huawei voices, even within the governing parties, and further development might unravel in the future. [16]

Up to a point, industries were addressing the construction of the next-generation telecommunication network as a simple procurement arrangement. However, the tables have turned. With the impending disruption of global supply chains, telecommunication providers find themselves entangled in an enormous geopolitical web. Countries will be facing a series of tough decisions on whether they should opt for the more cost-effective Chinese products or cave into the pressure from the US and its allies. Companies are bound to strategize, reevaluate, and adapt in this highly volatile environment where decisions in the geopolitical chessboard can quickly overturn years of planning.

Economic Forces

Debt Crisis & Economic Factors

Stat-sheets have demonstrated that the Greek debt crisis lasted longer and affected Greece deeper than most other nations of the Eurozone. This prolonged recession has resulted in negative adjustments in most economic indexes. Financial figures that measure economic activity, economic welfare, and living standards, set the stage where the company will have to operate. Prominent factors that affect the company’s potential profitability are related to the citizens’ financial well-being. Mobile communication services have always enjoyed a massive penetration to the Greek market. [17] Nevertheless, mobile phones have become a commodity that is expected to be affordable despite the constant need for investments from the providers. With the latest economic developments, the already narrow profit margin is profoundly affected by the average income of Greek households. The statistical data are outstanding. Greece is the only EU country with a lower minimum wage in 2020 than in 2010. [18]

Although Greece's Gross Domestic Product (GDP) per capita is in a slightly upward trend, it remains significantly low, even lower than the relevant amount during the first year in the Monetary Union in 2001. [19] Moreover, the GDP per capita in Purchasing Power Standards (PPS) index, which represents the volume of GDP compared with the EU average, is in a slow but steady decline. This development illustrates the purchasing power disparity within the union. [20] Another essential indicator of welfare is the unemployment rate. After reaching an all-time high in 2013 (27.5%), the annual unemployment rate has been reduced to 16.6%. Despite being noticeably decreased, the unemployment rate in 2019 is still significantly higher than in the pre-crisis numbers, particularly in youth, where it is just shy of 40%. It is worth noting that the Greek unemployment rate has matured at a much slower pace than that of the other crisis-affected economies of the south. [21]

Additional economic forces that should be taken into account are those that reflect the Greek market's attractiveness. Capital controls, referendums, and bailouts suggested a vulnerable banking system. Amid recession, while the Greek banking sector was facing severe liquidity deficiencies, the country's deposit outflow continued. The post-crisis aftereffect is a weak economic environment that is still struggling to attract investments.

Monetary Union

Assuredly, an outcome that was profoundly affecting the entire EU was the shift in Euro (EUR) exchange rates. Since its introduction at the start of the millennia, Euro has been established in the monetary elite, second only to the United States Dollar (USD). In fact, EUR has been traded above the USD as early as 2002, reaching a peak of 1.60$ US by the end of 2008 and the global financial crisis. However, EUR has been pressured, and the last few years has sunk to around 1.10$ US. Being a de profundis technologically driven sector, the mobile communication industry is forced to rely on the provision of most equipment from vendors overseas. The effect of these unfavorable developments in the currency exchange rates should be taken into consideration in Capex & Opex planning. [22]

Nonetheless, there are encouraging signs of improvement. Interest rates, which had surpassed 5% in 2012, declined by the end of 2019 to 0.35%. For three consecutive years, the nation's primary fiscal balance as a share of GDP had a surplus of 3.8% or more (4.1% in 2018). Those margins were considerably higher than those of the other crisis-affected European countries, primarily those of Spain and Italy. Finally, the International Monetary Fund (IMF) forecasts show a 2.2% economic growth for 2020, followed by a 1.6% for 2021. A slow but steady financial recovery. [23][24]

Sociocultural Forces

Digitization & Social Networks

The digital era is upon us. The integration of the internet in our daily life has dramatically transformed contemporary societies. Studies have shown a rapid increase in internet service penetration in the European market. As of 2018, 89% of households in the EU have broadband internet access, while 76% of all individuals between 16 and 74 years old are reportedly accessing the internet daily. Nonetheless, the most significant development regards mobile communications, where mobile internet use via portable computers and handheld devices, has skyrocketed. In Greece alone, the percentage of individuals using the internet away from their residence has been doubled in just five years. [25]

Advancements in broadband connections, new-age software applications, and especially the introduction of social networks have shaped anew the desires, the expectations, and overall the behavior of consumers. The emergence of this social media culture forced a business paradigm shift in which enterprises had to adapt. Companies have increasingly embraced the decrees of the new era and are gradually integrating social media in the way they operate. In 2019 51% of EU enterprises (53% in Greece) utilized social networks, a 23% increase since 2013. Their most common purpose is in marketing to develop the company's public image or promote products and in customer relationships to establish a communication platform with consumers for opinions, questions, and requests. [26]

Consumer opinion is a crucial factor for all businesses and has been empowered by the vast reach of social media. For better and for worst, a consumer's voice can now reach a wider audience, while at the same time, the number of consumers raising opinions has been increased. This condition creates a considerable opportunity for corporations to reach out to their customers, attracting, retaining, or even consulting them. Nevertheless, it also generates a substantial threat since the impact of complaints, misinformed comments, and accusations cannot be easily contained. This inherent risk is amplified by modern electronic media that often operate with a click-bait mentality and republish unfounded (and sometimes anonymous) comments from social platforms, without conducting any research to verify the claims before producing a column. At this point, it is important to recapitulate the Social Proof effect. The psychological term discussed in Chapter 0 depicts the human tendency to abide by the behavior of a larger group and influences the public sentiment towards the company.

Impact of Tourism

Another critical factor for enterprises is their consumer base. In addition to traditional demographics such as birthrates, population growth, and age distribution, there is an unusual aspect that has to be put into consideration, the impact of tourism. The tourist industry is an integral part of the Greek market, with millions of tourists arriving in Greece every year. The distortion of mobile users' population within the country is so high that it is widely affecting the design, the development, and the operation of mobile networks. In contrast with other prominent EU tourist attractions, the intricate part of the Greek tourist industry is the seasonality. The annual tourist arrival statistics are not a flat line but represent a significant boom in the Q3 of each year. The so-called high season accounts for more than 60% of the annual accommodations. Mobile service providers are forced to build networks capable of facilitating the needs of such a plethora of summer users. At the same time, for the better part of the year, the seasonal resources remain unused and fail to produce viable returns on investments. [27][28]

The above concern has been intensified by the latest regulation of the EU for roaming services. One might expect the Greek mobile communications industry to be at the better end of the RLAH regulation mentioned above. After all, Greece sits at the 5th place of most visited EU countries by EU citizens. Furthermore, the inbound to outbound tourism figures are typically in a 3-to-1 ratio. However, profit margins are undercut by the effect of resource consumption by roamers. Post the introduction of RLAH, the sheer volume increase in data usage is unparalleled. According to the European Commission, the use of roaming data in summer 2018 was twelve times higher than that of 2016. This alteration generates anxiety for the potential loss of revenue, further straining the industry's profitability. [29][30][3]

Technological Forces

Perpetual Modernization

The mobile data consumption goes beyond the spark from the European roaming regulation. The exponential increase in data traffic in mobile communication networks has become the new norm. The data experience for mobile users was widely introduced by the 3rd Generation telecommunication standard (UMTS). The data speeds provided at the time gave consumers the first real taste of the internet on-the-go. Since then, there have been significant developments that shapeshifted user demand nowadays. Mobile devices have evolved into handheld all-in-one machines that are the extension of our arm in our everyday life. Countless applications provide an enormous variety of content. This evolution has been fueled by the development and growth of 4th Generation (LTE) networks. According to benchmarks, the 4G availability in most EU nations is upwards of 80%. [31]

Nevertheless, the growing demand for data services is progressing at a rate that surpasses the network capabilities. Mobile communication providers have aggressively invested in network modernization, but the increase in traffic volumes is immense. According to the Hellenic Telecommunications & Post Commission (EETT), the data traffic of the first semester of 2019 was six times higher than that in the same period of 2015. The upward trend is so significant that the annual percentage increase for 2017 was 83%, and another 71% the year after that. Providers worldwide are employing carrier aggregation (CA), Low Band 4G (LTE-LB), Voice over LTE (VoLTE), and massive roll-outs of new 4G stations to meet demand. At the same time, along with the Radio Access Network (RAN) advances, Capex must be allocated to the transmission network that carries the traffic to minimize the risk of congestions. [32]

3G technology can be considered more or less obsolete. Most 4G applications have yet to reach their nominal capacity. Even though the protocol suggests speeds of 50 Mbps for download speeds, South Korea is the only country that has managed to produce benchmarks of that value. While the average scores span from 10 to 20 Mbps, there is vast room for optimization. With most 4G networks currently working at less than 50% of their potential, this generation of mobile communications remains relevant. We could argue that it holds strong commercial sense to exhaust the capabilities of LTE. However, 5G is knocking on our doors. [31]

5G Specifics

The upcoming generation of telecommunications is history in the making, which promises to revolutionize our societies. The 3rd Generation Partnership Project (3GPP), the global initiative for mobile telephony standards behind GSM, UMTS & LTE development, has laid the groundwork for the 5G NR (New Radio). Beginning with the release-15 in late 2017, 3GPP is setting the next generation's premises, which will bring significant improvements in three crucial domains: speed, latency, and the number of devices. These three areas have been registered in three distinct use cases. The Enhanced Mobile Broadband (eMBB) is expected to increase capacity tenfold and provide higher volumes of data. The Ultra-Reliable and Low Latency Communication (URLLC) use case envisions achieving near-zero latency (down to 1mss) in mobile communications. Finally, the Massive Machine-Type Communication (mMTC) is promising to accommodate ten times more connected devices. [33]

These expectations show that 5G will be less of a step and more of a leap in the future. When fully rolled-out, this new era is expected to disrupt many industries. Still, it is already profoundly affecting the strategies of mobile communication providers and their affiliates, who need to plan ahead. The two upgrade paths provided by 5G NR are the standalone (SA) and the non-standalone (NSA) mode. The former refers to the development of an E2E, fully independent 5G network, whereas NSA describes the deployment of the 5G NR on top of a preexisting 4G network to utilize its core functions. Both approaches have considerable advantages, especially at this initial stage of 5G technology. SA seems to have significant long-term benefits when fully deployed since it can provide excellent coverage with better latency. It can also accommodate all current use cases in contrast with its counterpart (only eMBB) and seems more assessable to future use cases. On the other hand, NSA utilizing the entities of the LTE network is expected to be less Capex hungry and to take less deployment time. [34]

The Next Industrial Revolution

The progression of 5G networks from theory to deployment, the impending 4th industrial revolution (industry 4.0), and all of the technological advancements that accompany them are reshaping existing markets and give birth to new ones. Mobile communication providers are at a pivotal point, and their business models need to adapt. On the B2B solutions front, there is a vast area of exploitation with the rise of the Internet of Things (IoT) applications. IoT, also coined as the Industrial Internet, is considered one of the most vital technologies for the future we have envisioned and is an essential pillar to the Industry 4.0 schema. This new network structure of machine-to-machine interaction is profiting by both mMTC and URLLC use cases. Via mMTC, 5G NR can provide the framework for the wireless interconnection of thousands of IoT devices. This service is paramount for an industrial setting of a fully automated production line. Another prime example is the IoT implementation in agriculture, where a network of sensors and smart devices can be allocated through fields and plantations, massively utilizing the wireless capabilities of 5G NR. [35]

In addition to the mMTC, URLLC provides significant value to latency-critical use cases. For instance, the low latency 5G network can assist in disaster prevention circumstances. Real-time monitoring and gathering crucial data can lead to avoiding or mitigating risks from natural causes to power grids, transmission lines, and other types of infrastructure. Finally, the promise of near-zero latency can be the gateway for the development of several medical applications that are intolerant to delays such as remote-controlled operating devices. We would like to suggest another B2B opportunity that can be pursued in the future, and that is the deployment of semiprivate RANs. Large scale industry complexes, airports, or shipyards may take an interest in installing an extended Radio Access Network in their premises that will predominantly facilitate the demands of their personnel and machinery. This implementation can be under a commercial arrangement with a service-level agreement (SLA) around throughput and latency performance. This application can also be expressed by agreements with municipalities for the development of Smart-Cities.

A straightforward product in B2C services is bandwidth, where the rapid increase in demand for data consumption is a given. In addition to that, there is a definite shift in mobile traffic towards video format. This trend is expected to continue steadily in the years to come. The Swedish telecommunication giant Ericsson (E//) in its quarterly Mobility Report is forecasting that by 2025, 76% of mobile traffic will be video related with around 30% annual increase up to that point. Figure B.2 gives an estimate of the anticipated rise in data volumes in total and per category. With this expected data traffic growth and the eMBB bandwidth on the way, the whole ecosystem is already evolving. The screens of handheld devices are getting larger and acquiring high-resolution capabilities. Video content creation is improving and expanding into areas like social media, news media, and advertisement. The market penetration is exceeding the early adopters and becomes a noteworthy segment of consumers. [36]

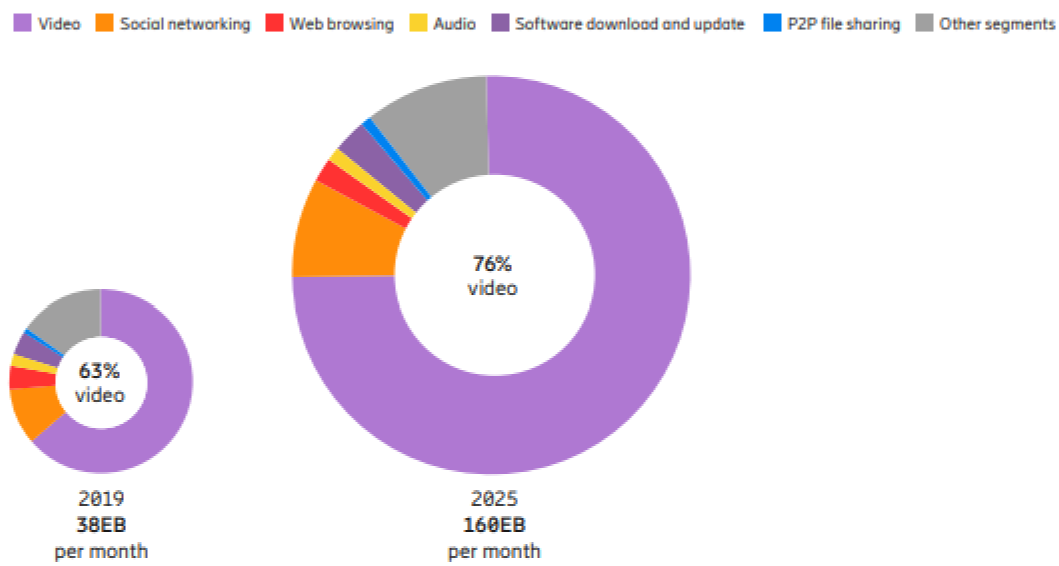

Figure B.2 *Mobile traffic by application category per month*

Source: *"Ericsson Mobility Report November 2019" – F. Jejdling (2019)*

Moreover, by combining the eMBB capacity with the URLLC near-zero latency, we can see significant advancements in Virtual Reality (VR), Augmented Reality (AR) services, and on-the-go streaming. The Mobile Gaming industry and Massive Multiplayer Online games (MMO), in particular, can highly benefit from 5G NR and skyrocket consumer demand. Nevertheless, other traditional segments of mobile traffic will also gain more importance. The revolution of wearables is ongoing. The healthcare industry will continue to capitalize on the use of smart interconnected devices, which will transcend the archaic Bluetooth or Wi-Fi connections and embrace the IoT mantra. Providers have the opportunity to redefine their value proposition through mobile service packages and address this evolving consumer need.

Another remarkable focal point for the years to come will be B2B2C. The incredible attributes of 5G NR will give birth to new and exciting products from a great variety of industries. On top of entertaining mobile users, VR and AR can be beneficial to another customer base, that of enterprises. Corporations in real-estate, museums, conference/ event planners can utilize AR to enhance their visitors' experience. Retailers can better assist the shopping needs of their customers by using Smart-Home devices to simplify orders, by fully automating the delivery process or even by developing VR shopping conveniences. Amidst all those propositions, mobile communication providers have the unique opportunity to profit by being the intermediary of those B2C relationships. By providing this technologically advanced network as the platform of the service consumed by the end customer, providers should see significant growth in their business.

Yet, perhaps the most fundamental example of how 5G will transform the significance of mobile communications in modern society is the Intelligent Transport System (ITS). According to the EU directive 2010/40/EU, ITS is an advanced application that applies communication technologies in road transport, providing safety, coordination, and “smarter” use of transport networks. TESLA has become a staple in the innovation of self-driven cars. However, the standards body of the Society of Automotive Engineers (SAE International) has categorized the TESLA as an SAE Level 2 System. In this scale of automation levels, SAE level 2 corresponds to partial automation, where the automated systems execute a series of actions but expect the human driver to monitor the dynamic driving environment and act as a fallback. [37]

The SAE scale can reach level 5, where the automated driving system can fulfill all tasks of driving. This Full-Automation level can be achieved by utilizing all three aspects of 5G NR. Figure B.3 breaks down the cellular dependency of automotive services. As expected, the zero-latency of URLLC is detrimental to the reliable operation of a real-time driving system. The eMBB provides the broadband platform with the necessary bandwidth for data transfer, and the massive IoT of mMTC can facilitate the connectivity needs of the high amounts of vehicles expected in an urban environment. This development will not only change our everyday life but will significantly disrupt a series of industries, from taxi services to insurance companies. It will be interesting to see the reforms provoked to the transportation sector and logistics, the backbone of global supply chains.

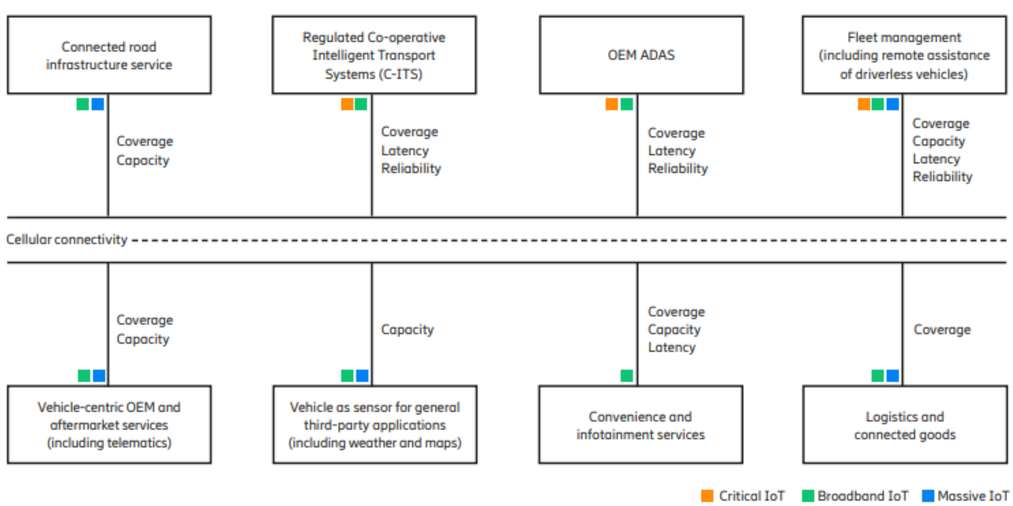

Figure B.3 *Automotive and road transport services that require cellular connectivity*

Source: "Ericsson Mobility Report November 2019" – F. Jejdling (2019)

Slicing Function & Specialized Networks

In whatever business model they adopt, providers can benefit from the vital characteristic of slicing. Network slicing is a fundamental function of 5G NR and refers to an architectural concept that allows several virtual networks (slices) to operate over shared physical infrastructure. The idea evolved from the RAN sharing for LTE and is enabled by Software-Defined Networking (SDN) and Network Function Virtualization (NFV) technologies that virtualize network elements and their functions. These logical slices are End-to-End mutually isolated networks with distinct management controls, running over shared resources. The software-based deployment of slices is flexible, scalable, and programmable on demand. Figure B.4 gives a representation of a physical underlying network, accommodating several diverse use cases. [38]

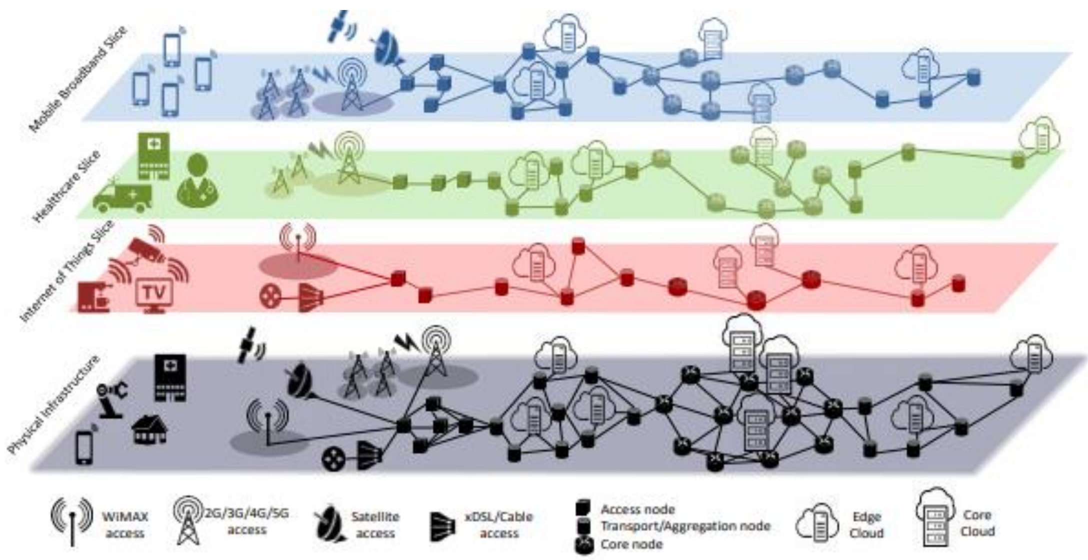

***Figure B.4** 5G network slices running over a common network. Each slice is independently managed and addresses a particular use case.*
***Source:** "Network Slicing for 5G with SDN/NFV: Concepts, Architectures and Challenges" – J. Ordonez-Lucena, P. Ameigeiras, D. Lopez, J.J. Ramos-Munoz, J. Lorca, J. Folgueira (2017)*

This innovative service-oriented approach will change the business landscape of mobile communications. The 5G NR design can simultaneously accommodate diverse requirements by distinct sectors like healthcare, logistics, and ITS. Additionally, with SDN and NFV, the resulting logical network is highly programmable and can dynamically adjust to the actual needs. Thus, improving the utilization of resources and elevating the network productivity. By employing network slicing, corporations can escape the industry's conventional business model of a baseline connectivity provider and will be able to target market niches by providing slices tailored to the specific needs of that segment. [39]

On top of the basic connectivity service, providers can explore the commercial value of solutions with differentiated features regarding latency, bandwidth, and massive IoT. They can also pursue penetration in vertical markets and seek out partnerships with other players of the ecosystem. The deployment of the physical network requires immense expenses. With network slicing, providers are incentivized to lease out resources for the creation of a logical network managed by a Mobile Virtual Network Operator (MVNO). With this agreement, providers retain the network ownership improving the return of the investment for the infrastructure. The network owner and multiple MVNOs can operate on different slices of the same network without engaging in direct competition as long as each of them targets a specific market niche. Another promising alternative is the integration of 3rd party services in the value proposition of the provider. This collaboration can enrich the provider's capabilities with applications of external partners and produce compelling software solutions. It can also lead to arrangements with content creators that can generate new pricing models for specified QoS products that differ from the typical data consumption charges. [40]

Ecological Forces

Climate Change & Environmental Policies

The vast majority of the scientific community regards climate change and its primary benefactor global warming as one of the gravest threats facing humanity. Global warming might be vaguely viewed as a natural phenomenon, but it grew out of proportion due to human activities, especially after the 1st industrial revolution. In fact, by 2017, human endeavors have resulted in a 1.0°C increase compared to the pre-industrial levels. At the current trend, the relevant number is expected to surpass 1.5°C between 2030 and 2052. [41] The outcomes of this extreme rise in the planet's temperature will persist for centuries, causing long-term alterations to the global climate, and affecting ecosystems and human society. The impact has already been recorded. With extreme weather phenomena intensified both in frequency and in magnitude, the studies of abrupt changes in ecological systems (ACES) are developing into a scientific field in its own right. Droughts and forest fires are increasing, rising tree mortality, and handicapping forest carbon uptake. Severe snowstorms and unprecedented heat waves are damaging infrastructure and result in unexpected human casualties. The instability of weather events and the change in precipitation patterns are affecting crops. Arctic glaciers are melting, and the impending sea-level rise will threaten human societies worldwide, especially those developed across coastal lines. Some of those impacts can be proven irreversible since they can result in the loss of entire ecosystems. [42] [43]

For years, scientists, activists, even policymakers have been calling for conjoint efforts to avoid the grim future and achieve a sustainable solution to this global issue. Under the auspices of the United Nations Framework Convention on Climate Change (UNFCCC), a series of diplomatic processes have taken place, with most outstanding the so-called Paris Agreement of 2016. In this international convention, the Conference of the Parties (COP) managed to produce a balanced and comprehensive policy agreement on climate. The Paris Agreement was widely accepted at the time of the settlements. All 195 parties, representing 97% of global greenhouse gas emissions, have ratified the document. The only notable exceptions were Iran and Turkey. The agreement received laudatory remarks from all sides for being fair yet ambitious and is still regarded as a tremendous collective achievement. The deal's long-term goal is to restrain global warming to well below 2.0°C compared to the pre-industrial levels and to actively seek ways that the increase will not exceed 1.5°C. The Paris Agreement was not restrictive on the course of actions that will mitigate the issue and did not establish a specific emission target. Instead, each country remained free to determine its action plan and set its emission targets. The caveat was that the new objectives should be way below any previous ones and that the country would provide regular reports on the developments of their actions. [44]

The finalizing of the agreement produced a wave of optimism worldwide. Finally, the global community seemed to set aside irreconcilable differences to accomplish key objectives multilaterally. Still, the effect proved short-lived. Months after the presidential inauguration, the Trump administration announced the decision to withdraw from the agreement. This intention, which was already part of Trump's 2016 election campaign, could not take immediate effect due to the signed document's specifics. The earliest the US can effectively pull out of the agreement is in November of 2020, coinciding with the 2020 US elections.

The implications of this decision are devastating. First and foremost, this development diminishes the most crucial characteristic of the Paris Agreement, its universality. In contrast with previous diplomatic efforts like the lackluster Kyoto Protocol, Paris succeeded in bringing to terms parties from both developed and developing countries. Furthermore, the US departure creates a significant vacuum in leadership. The Paris Agreement was formulated in a bottom-up principle that requires powerhouses that lead by example and drive lesser players to comply. With the US out of the picture, the international community pressures China to assume the global climate leadership role. Additionally, the absence of the US will undercut the funding necessary for the implementation of the treaty. The Paris Agreement has adopted the decree of common but differentiated responsibility, which has developed countries providing climate financial support to the developing ones. The US was a top contributor to the Global Environmental Facility with 21% of shares. Finally, backing out allows the US to free roam. During his presidential tenure, Trump, a vocal proponent of fossil fuel usage, has negated most of the Obama-era environmental agenda, rolling back a series of climate change policies. As a result, the long-term goal of below 2.0°C global warming becomes less attainable and significantly more expensive for the rest parties. [45]

This introversion of the US under the Trump rule has become a thorn in global climate objectives. World leaders, international organizations, bipartisan representatives, and other prominent public figures have expressed their disappointment and concern. At the same time, the international community seeks the way forward in a time of urgency. The next critical step will be the 2021 United Nations Climate Change Conference (COP26). The summit will be held in Glasgow under the presidency of the UK government. The convention was initially scheduled to take place in 2020. Yet, due to the developments with COVID19, UNFCCC had to push the date back to November of 2021. Despite the Trump announcement, most remaining parties have reaffirmed their pledge on the Paris Agreement. However, this remains to be seen during urgent times that demand the strengthening of international cooperation. The Glasgow conference should be a pivotal moment in the future of climate change. [45][46]

Environmental Impact & Sustainability

The impact of climate change on telecommunication companies might go under the radar, but in fact, it directly affects their operation. For instance, telecom equipment is known to produce a significant thermal load. This particularity makes it relatively susceptible to high temperatures and needs constant cooling. With global warming raising average temperatures worldwide and causing intense heat waves, the operation of said equipment becomes more demanding and expensive. This fact becomes more of an issue in south European countries. Also, the acute changes in microclimates have resulted in unusual, yet increasingly frequent phenomena. Phenomena that tent to have short duration but very high intensity.

A temperate climate country such as Greece is encountering harsh snowstorms, which bring a notable shift in OpEx needs. Companies are more regularly forced to employ emergency tactics, such as snow removal vehicles, land trucks, and even snowmobiles. Dry thunderstorm events, thunderstorms without precipitation, are becoming more common. In addition to being a typical cause of forest fires, the electrical discharge caused by lightings is so fierce that it can destroy electrical equipment. Despite lighting rods and other precautions, the intensity of those events is so high that telecommunication stations in high-altitude areas are very exposed. Consequently, the results are damages to infrastructure, network unavailabilities, and additional costs.

Global warming has been directly linked to the emissions of greenhouse gasses (GHG) by human activities. Regarding direct emissions from fossil fuel use, the telecommunication sector is not among the GHG heavy industries, yet it has excessive demands for energy consumption.

Whether produced on-site or purchased from a power provider, electricity has a significant carbon footprint, especially in countries where fossil fuel remains the predominant source for power production. Companies need to invest in the sustainability of their networks, meet ethical and social criteria, cut costs, and avoid future disturbances.

The multinational telecommunications company MTN Group, for example, is filing annual sustainability reports for almost a decade. They aspire to align their activities with the UN Sustainability Development Goals (SDGs), a list of 17 objectives adopted by the UN in 2015 as part of the agenda for Sustainable Development in developed and developing countries. MTN Group has heavily focused on combating climate change (Goal 13) by embracing affordable, reliable, and sustainable energy (Goal 7) sources. [47]

According to their estimates, the primary contributor to their GHG footprint is the actual network infrastructure that facilitates service delivery. Base stations require enormous amounts of energy to operate on a 24/7 basis. According to Figure B.5, they account for around 72% of MTN's GHG emissions. Stations placed in remote locations outside the power grid are usually powered by diesel generators, which exacerbate the issue. It is also necessary not to overlook the GHG impact of data centers, core switches, and remote hubs. The energy consumption of such facilities is noteworthy. The technological advancements in cloud computing and cyber-security, as well as the ever-increasing demand for data storage, led to the creation of large complexes. Naturally, the approaching development of NSA and SA 5G networks will further expand their utilization. [48][49]

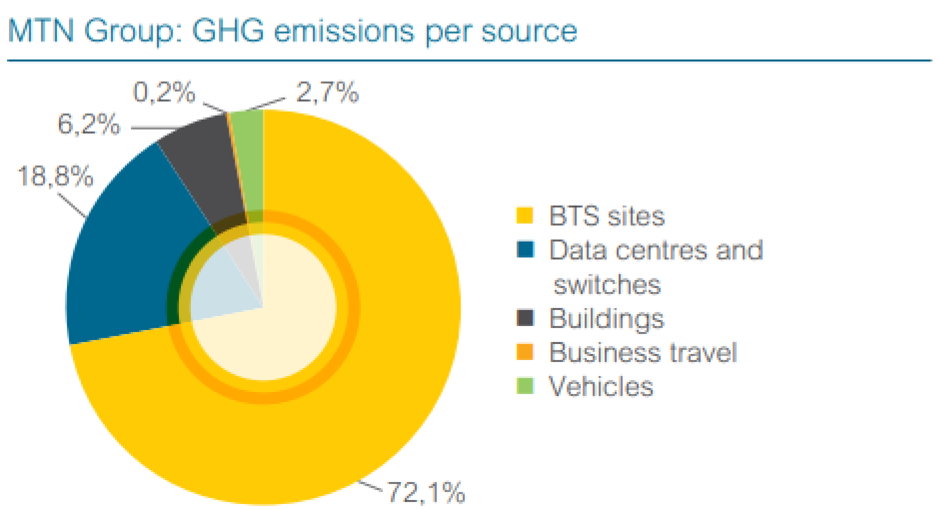

Figure B.5 *GHG emissions per source of the MTN Group*

Source: *MTN Group Limited "Annual Sustainability Report 2015"*

MTN Group is reportedly taking several steps towards this direction. Their energy management strategy is mainly concentrated on efficiency and decreased energy consumption.

The company searches for optimization practices that will raise the energy performance of its activities. One such practice is the attempt to minimize the use of diesel. In search of alternative energy sources, MTN incorporates the use of solar panels, wind turbines, bio-fuel, and gas. It also aspires to improve network and data center effectiveness by modernizing the standby power modules, by installing new age material battery backups, and by employing smart cooling systems like Chillers and Free-Cooling devices. [48][49] Figure B.6 gives the aggregated positive impacts of the MTN Group actions, as depicted in the 2013 annual report.

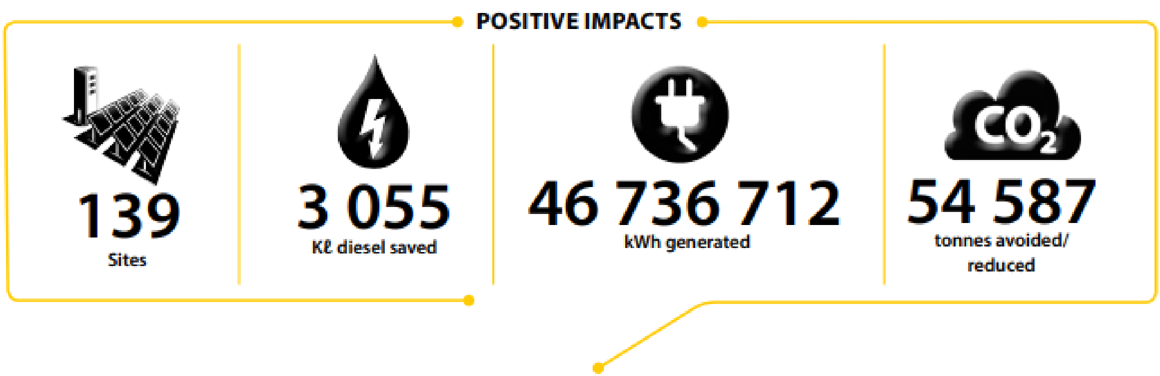

Figure B.6 *Positive impacts of the MTN Group initiatives*

Source: *MTN Group Limited "Annual Sustainability Report 2013"*

Task Environment / Porter's Approach to Industry Analysis

In general, the company operates within the Greek telecommunications industry. However, the particularities of Victus Networks are rather uncommon. Since its creation, the company's sole objective is to facilitate the needs of its shareholders, two prominent players in the telecoms market. Victus' task environment is inextricably linked yet considerably differentiated from the traditional mobile telecommunications industry. To better portray and analyze the situation, we are going to regard Victus as part of a Mobile Network Providers' industry. This distinguished industry presents some unique circumstances, but still shares many of the same pathogenies and key characteristics with mobile telecommunications. We acknowledge that the concerning issues, the sustainability, and overall welfare of one industry can be carried over to the other, and will contribute valuable insights to the below analysis.

Industry Competition (Medium)

Mobile Network Providers (MNPs) market is an offshoot of mobile communications providers' (also referred to as Mobile Network Operators - MNOs) activities. The technical aspect of designing and operating a telecommunications network is an integral part of these companies, and MNOs tend to retain those activities within the organization. Particularly in the Greek industry, before the creation of Victus, the only scope of work that had been outsourced was some field maintenance activities and various CRM functions. Thus far, the competition in the mobile network providers' industry is practically nonexistent, with Victus Networks being the only company in Greece that offers such services. Nevertheless, the emergence of 5G might bring significant changes. The functionalities of 5G network slicing, as described in the Technologic Forces of the STEEP Analysis, might entice new players to compete within this niche market. The slicing of a cellular network into individual virtual networks dedicated to specific use cases makes a series of new business models feasible. When this comes to fruition, the existence of Virtual MNOs (MVNOs) will create a substantial demand for the provision of physical networks, making entering the MNPs industry more attractive.

As described earlier, the mobile network providers' task environment has a close relationship with that of MNOs, which is a very competitive industry, with high fixed costs, low growth rate, and substantial exit barriers. For most of its history, the Greek market of mobile communications is distributed between only three companies. Cosmote, Vodafone Greece, and Wind Hellas. The latest exception was in 2014, when Cyta Hellas, a fixed network operator up to that point, decided to enter the market as an MVNO over the Vodafone network infrastructure. The venture proved short-lived and ended in 2018, with the acquisition of Cyta Hellas (fixed and mobile network) from Vodafone Hellas. In those four years, the MVNO managed to claim a less than 5% market share. Despite the small number of competitors, the industry is fairly saturated with significantly pressured profit margins. [50] Figure B.7 depicts the market share fluctuation over a decade.

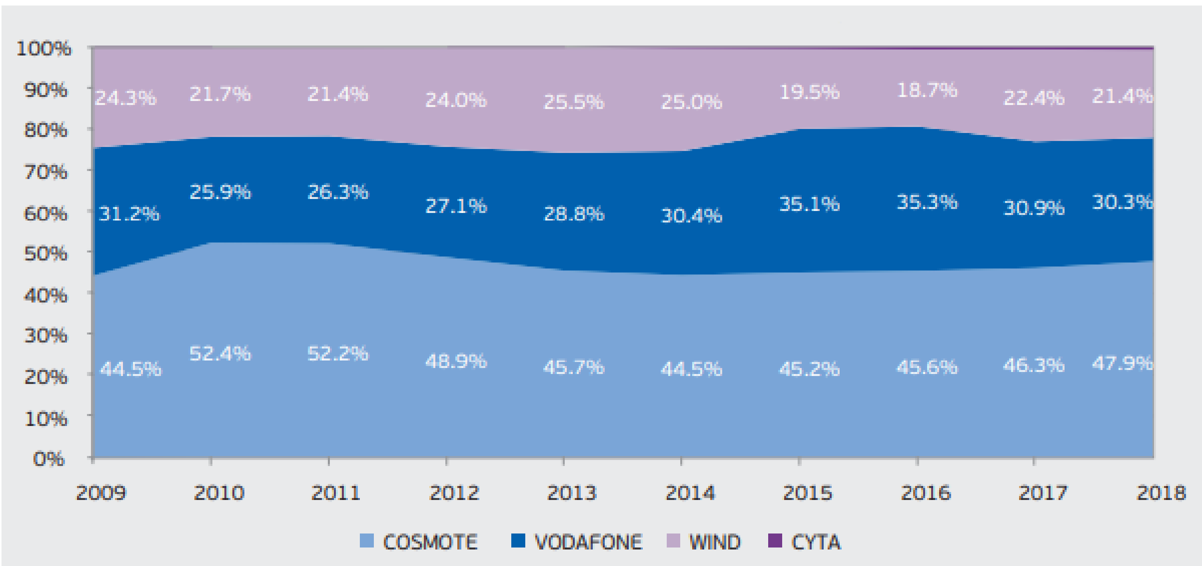

Figure B.7 *Mobile providers' market shares based on registered connections*

Source: *EETT "Market Review of Electronic Communications & Postal Services 2018"*

The introduction of mobile communications in the Greek market had a remarkable outcome. For fifteen years, the industry experienced an outstanding growth rate that surpassed the EU averages, reaching a peak of 138%. For that period, the sector produced a formidable average revenue per user (ARPU) and contributed around 9% of the national economic growth. By 2009, the penetration of registered connections to the Greek population was over 180%, and the sector was well-established as one of the most dynamic forces of the Greek economy. [50][51][52] However, the golden days came to an end. After 2008 the industry began to show signs of maturity. The number of active mobile connections has seen little fluctuation over the last decade. In the following years, the Greek debt crisis delivered a significant blow to GDP per capita, and the overall turnover of the sector plunged. [50] Figures 1.8 and 1.9 are graphic displays of the rapid fall in total customer subscriptions and industry revenue.

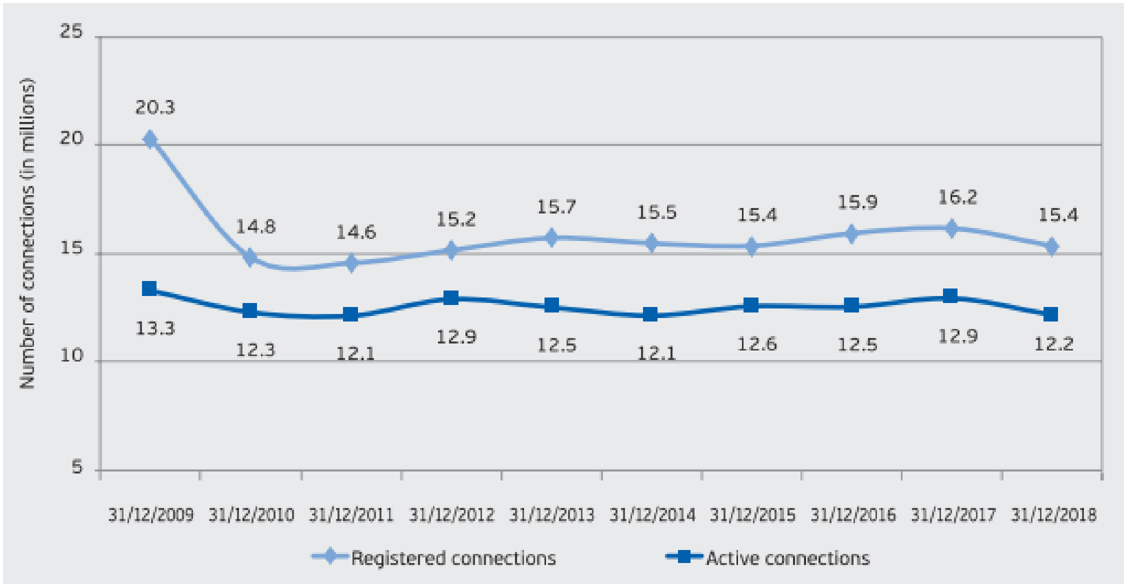

Figure B.8 *Connections/ subscriptions of mobile telephony*

Source: *EETT "Market Review of Electronic Communications & Postal Services 2018"*

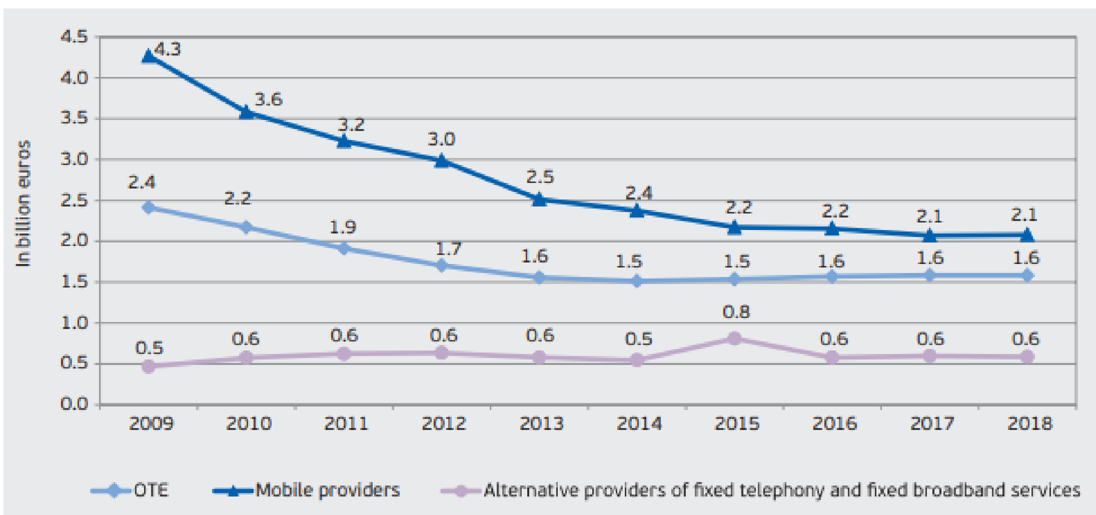

Figure B.9 *OTE's, Mobile providers' and alternative providers' turnovers*

Source: *EETT "Market Review of Electronic Communications & Postal Services 2018"*

The halt on market growth, the decline in user penetration, and the pressure on the sector's profitability further stiffened the competition. Seeking alternative ways to compete, MNOs engaged in a price war. The conflict limited the overall revenue per connection. Figure B.10 shows this significant drop over the last years. GSM and UMTS did not present a significant difference in the end product, mainly network availability and call quality. The deployment of LTE and the rise of data usage brought forward additional diversity factors such as 4G coverage, bandwidth, Carrier Aggregation, and VoLTE. Nevertheless, mobile services tend to be considered a commodity by consumers, which makes them sensitive to price change. According to a survey, when asked about the factors they consider most important when selecting a mobile telephony provider, 85% of the consumers replied good prices and special offers. As a result, in 2011, the prices for the Greek market's mobile services were the lowest in the EU. [52]

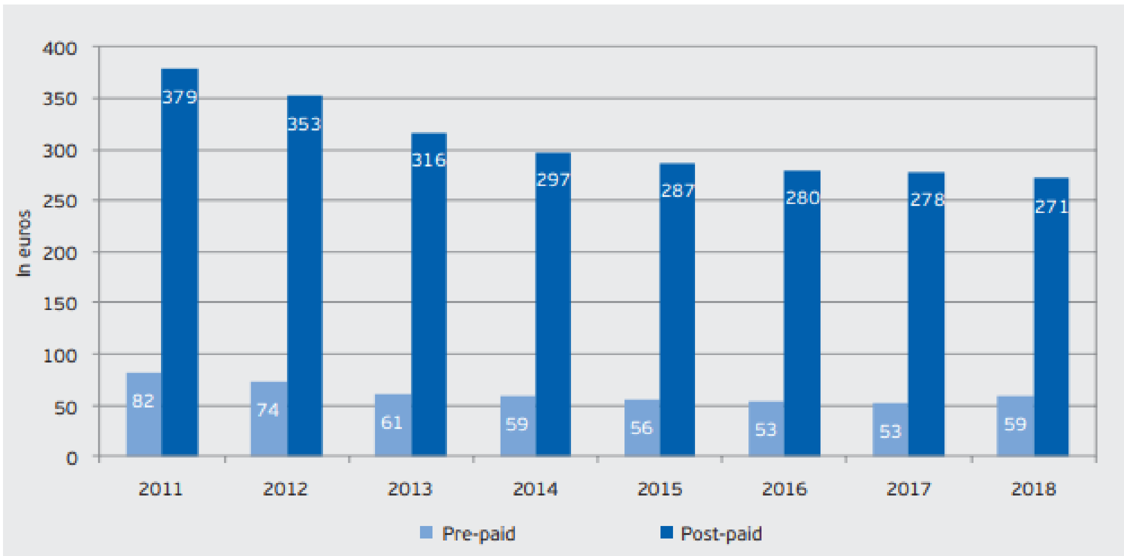

Figure B.10 *Average annual revenue per mobile telephony connection*

Source: *EETT "Market Review of Electronic Communications & Postal Services 2018"*

Moreover, developing and operating a mobile network comes with a high fixed cost and demands a considerable amount of investment. MNPs and MNOs are forced to continually dedicate immense volumes of CapEx and OpEx in network infrastructure to stay technologically relevant. This level of expenditure, along with the narrow possibilities of liquidation, because mobile assets are highly industry-specific, creates notable exit barriers. The usual exit strategy for most struggling companies is to be acquired by a rival.

Threat of New Entrants (Low)

The Task environment of Victus Networks presents several sizeable entry barriers for potential new rivals. Firstly, aspiring newcomers are extremely discouraged by the tremendous capital requirements. Companies within the sector design, deploy, and operate a network infrastructure that has to extend throughout the nation. This physical network is a fundamental asset and a common denominator to all of their endeavors. In the Victus case, the company was alleviated from some expenses since the two parents bequeathed to it the managing rights to their existing networks. However, for most new entrants, developing something of this scale can demand a vast amount of funds.

Another significant drawback for those who hope to compete within the mobile communication industry is the spectrum. The electromagnetic spectrum is the scarcest resource in the world of wireless communications. There is only a finite supply of radio frequencies in the physical world, and each country recognizes them as public property, restricting their use within its sovereignty. The state has mapped and allocated all existing wavelengths to distinct applications. This classification had specific frequency ranges retained under government control, released some for public use (e.g., WiFi, Bluetooth, amateur radio), and reserved others for future assignments.

Most importantly, particular radio frequency zones have been made available for commercial use via auctions. After settling the bids, the companies awarded the zones, rent them for multiyear exploitation, gaining exclusivity. These use permits come at multimillion fees. However, even if a new company aims to become an autonomous competitor and decides to go forth with the investment, there is the issue of availability. Thus far, almost all auctioned radio frequencies (for GSM, UMTS, and LTE) have been distributed among the industry's current players, with usage rights that expire in 2035.

Furthermore, the MNO market consists of traditional and well-established organizations that have been active for decades. Due to the intense internal competition, their brands have become synonyms to the industry after years of investments in marketing and advertising. With the perceived product differentiation by the end customer being minimal, new contenders should be ready to invest heavily in promotion, hoping to become distinguishable and gain a foothold in the market.

An additional impediment that should not be ignored regards government policies. As depicted in the Political Forces of the STEEP Analysis, the current licensing landscape is complicated and time-consuming. A new entrant without any prior practical experience should overcome the challenges of a very demanding legislative framework. Telecommunications is a strictly regulated sector, overseen by a national regulatory authority and competition committee, the Hellenic Telecommunications and Post Commission (EETT). This administrative authority monitors and supervises the market. EETT has the power to post terms, affirms or declines MNO actions, and even imposes penalties.

Finally, a newcomer should take into account termination charges. The termination rate is a fundamental component of cost for voice services, which refers to the outbound calls from the network of one provider (origination) to that of another provider (termination). In cellular communications, this forwarding of calls outside an MNO's network raises fees attributed to the MNO in the receiving end. This additional operating cost is interlinked with the market share of the MNO. A new company that has just entered the market will have to compensate its competitors for the majority of its voice traffic.

Threat of Substitute Products (Low)

For MNPs, the threat of substitute products is rather insignificant. Objectively, the value offered by Radio Access Networks (RAN) cannot be easily replicated, since it addresses a highly specific market need, connectivity on-the-go. The only moderately close alternative would be the products produced by fixed networks. This industry offers voice and data services over landlines to commercial customers. These services can even provide wireless connectivity by employing hotspots at the edges of the fixed network. However, the assets of MNPs are widespread throughout the nation, while fixed infrastructure is mainly located in high population density areas. This difference gives RAN an essential advantage in geographical and population coverage.

It is important to note that mobile and fixed communications are much correlated. From a technical standpoint, both networks employ similar technologies, architectures, and protocols. The mobile infrastructure uses a vast amount of fiber optic connections in the backbone network, and with the constant need for increased capacity and decreased latency, it has pushed the fiber optics application closer to the edges. In the past few years, in particular, MNOs and MNPs are deploying Fiber to the Site (FTTS) solutions for urban stations. At the same time, fixed networks have resulted in microwave links for cases where landlines were not feasible or demanded considerable expenses.

With this high level of network integration, the only significant differentiation is in business use cases. Given the stiff competition and limited profits mentioned above, MNOs recognized the synergies between the mobile and fixed networks as an opportunity for growth. Via acquisitions, consolidations, and other business strategies, all three MNOs of the Greek market have entered the industry of fixed network operators. Under this light, fixed communications are more of a complementary field than a substitute. It should be noted that the alternative of mobile satellite connections is focusing on an expensive niche and, at this point, cannot be regarded as a valid substitute.

Bargaining Power of Suppliers (High)

To better assess the power of suppliers, we will analyze them in separate groups. Perhaps the most prominent supplier group is the hardware manufacturers that produce, install, and support telecommunication equipment. This category mainly consists of multibillion international companies such as Huawei, Ericsson, and Nokia. These titans are very influential in their relationships with MNPs. Years of competition in the manufacturing industry have led to an elite group of enterprises that offer solutions in all aspects of a mobile network and consequently dominate the market. Especially in new-age technologies, the alternatives are limited (e.g., the small number of companies participating in the development of 5G standards).

Manufacturers' strong position is further enhanced by the lack of interoperability in some parts of the network. For example, RAN can be product agnostic towards the core components that route its traffic, but not within itself. If an MNO deploys the radio equipment of a specific manufacturer, it is mandatory to accompany it with the relevant network controllers at the back-end. Without proper planning, a lock-in risk is present. It is custom for most MNOs to divide their network elements over multiple manufacturers, to reduce their dependence on the suppliers. This practice goes against the merits of economies of scale but secures a better bargaining position for the MNO.

Another weakening factor of the MNO's position is the tremendous switching cost. Similarly to deploying a mobile network, acquiring and installing telecommunication hardware demands enormous funds. Post investment, the swap to another supplier signifies activities that are not unlike the redeployment of a new network, with the uninstalled equipment usually being scrapped. Dealing with the hardware manufacturers' supplier group is a long-term commitment and can be considered part of an MNO's strategic plan. Typically, most supplier switches occur during modernization designs or transition projects to new technologies like the first introduction of 4G. As discussed in the Political Forces of the STEEP Analysis, MNOs might be forced to swap part of their network equipment soon, due to geopolitical reasons. Nevertheless, MNOs are highly dependent on their relationship with their hardware providers, which is considerably more like a collaboration than a typical transaction.

A different supplier group is that of field maintenance providers (FM). These corporations provide the primary workforce for corrective and preventing maintenance and a series of other field activities. In yesteryears, this scope was administered within the MNO organization. Over time, companies emerged that could provide these activities as a service. MNOs decided to adopt the new business model and outsourced these operations to the FM sector.

Consequently, the relevant industry was established. Initially, the industry consisted of a few players with minimum competition. At that point, the bargaining power of FM providers was rather significant due to the lack of alternatives. In the past few years, new and ambitious entrants appeared in the market, reviving the competition and strengthening the position of MNOs.

We should note that both FM and hardware suppliers could, in theory, attempt a vertical integration forward and develop into some type of MNP. Yet, the probability of such an action seems rather low. As we examined earlier, there are significant entry barriers to the industry. The giants of the manufacturing sector have all the means to facilitate such a move. Still, the expected turnover might seem remarkably unattractive in comparison to other of their ventures. FM providers might be keener on the idea. However, it will be rather unlikely to amass the necessary funds.

A worth mentioning supplier group is that of site location owners. The mobile networks consist of a series of mobile stations spread across the country to provide the maximum possible coverage. These physical assets are rarely housed in locations owned by MNOs. On most occasions, individuals or third parties accommodate the MNO equipment on their premises for a fee. The location owners supply a vital resource for network deployment that can be extremely rare at times.

Finding an ideal location that fits all the necessary conditions is not an easy task. This issue is intensified by the numerous difficulties in obtaining the required licenses. On a crude estimate, MNOs will need to survey more than a hundred available locations to reach a shortlist of approximately ten candidates. Usually, in around three out of those ten cases, MNOs will proceed with the arrangements for a short time lease with the owner. Next, MNOs will commence the processes to acquire the mandatory permits for those locations. Eventually, after several difficulties and setbacks, MNOs might achieve to receive the license for one of those positions. Then, they will proceed with a long time lease of the specific location, drop the contracts on the remaining, and finally begin the site deployment. This uncertain 1% success rate underlines the importance of obtained site locations.

This near-unique status of some site locations gives proprietors significant bargaining potential, with MNOs investing excessive amounts of time, effort, and funds to retain existing sites. Here, we should again highlight the effects of Victus ventures. By exercising the network sharing activities, Victus found opportunities to combine two previous individual locations of its parents into a single one, and in the process, gaining some negotiating power.

Bargaining Power of Buyers (High)

The sector of MNPs, as we defined it earlier, is a branch of the MNO activities that focuses on the technical aspects of a mobile communications network, mainly the network implementation, operation, and maintenance. Admittedly, in most cases, MNOs maintain this function within their organization as part of their Technical Division. Still, there are cases, like Victus, where MNOs bestow this scope upon an MNP. Additionally, companies can assume the role of an MVNO. MVNO companies would lease a mobile communication network by an MNP as a service, while focusing on other core functions such as retail sales, marketing, CRM, and finance. These two cases constitute the list of potential buyers for MNP products and services.

It is evident that MNPs target a very niche market. Traditionally, there is a small number of competing MNOs. Also, in the current state of the Greek market, MVNOs are virtually nonexistent. As proposed in the assessment of existing competition, this situation might shift considerably with the introduction of 5G, where the slicing functionality of 5G is expected to generate new clientele for MNPs. Nevertheless, even in this instance, the number of potential customers will remain significantly limited. Also, the industry specifics dictate that buyers purchase large proportions of the provided services. From a business standpoint, it is reasonable to obtain the benefits of an entire mobile network and not partial services or sub products. Again, the deployment of 5G will make feasible several new business cases of smaller amounts, but even those relationships should remain predominately large scale affairs.

A small number of large size buyers gives significantly high bargaining power to the customers. Besides, other lesser factors further enhance this effect. For example, consumers of the MNP products tend to be well informed. MNOs should have a deep understanding of the MNP functions by previously managing this specific field. Thus, MNOs can accurately evaluate the quality, quantity, and operational costs of MNP services, which provide an undisputed foundation to their demands.

Though MNOs compete in a low-profit industry, the switching costs from one network provider to another might require sizeable funds. Also, it might impact the end product and the end customer experience, which favors the MNPs. Nevertheless, small profit margins raise their cost sensitivity. MNOs might not be able to easily transition into another competitor but can still push for cost efficiencies or even search for alternative business models. We should always take into account the MNO capability to vertically integrate backward. Although this course of action is not anticipated, MNOs can undoubtedly explore this option if it appears to be a profitable alternative.

Relative Power of Other Stakeholders (High)

The sixth force of the Porter model was added to portray the potential influence exerted by other groups and entities, directly or indirectly impacting the industry. A significant contributor in this sense is the Greek government and its affiliates. As already highlighted, the mobile communication sector is strictly governed and under close surveillance by EETT. However, other state institutions profoundly affect the industry, as well. Before the formulation of Victus, this critical strategic move had to be sanctioned by the Greek competition committee. The Ministry of Finance has imposed additional taxes on mobile connections, directly affecting the sector's profitability. Following the passing of GDPR, the Hellenic Data Protection Authority has forced a series of reforms, not only on MNOs but the entire ecosystem. A few years back, post some tragic events where natural disasters caused the loss of many human lives, the government issued a mandate calling MNOs to provide a technical solution for the operation of a nationwide push notification warning system.

Another noteworthy section of spokesperson entities is that of public groups and local communities. In this category, we can find highly organized independent agencies, environmental associations, social activists, or even residents' coordinated efforts. There is the precedence of consumer protection agencies taking MNOs to court demanding compensation. On occasion, homeowners have had varying reactions towards nearby base stations, from remarkably hostile to amiable and inviting. Several environmental and citizens' associations have expressed concerns for the risks of electromagnetic fields (EMF), while scientific circles have performed EMF measurements and gave relevant lectures.

A rather significant sixth force is the industry's employees. The Greek mobile communication sector employs thousands of workers in total, and traditionally, companies are operating in a highly unionized environment. All three MNOs have had labor union delegates for years. Since the early days of Victus Networks, the Victus workers' association was founded. Surprisingly, the JV creation led to the formulation of another "unified" union that is active in all three companies, the two parents and the child. Also, there is a sectoral union that operates throughout the industry.

These unions have acted as the collective voice for employers, pushing their agenda and influencing the companies. The conflicts between management and union representatives are not uncommon. There have been numerous occasions where union members performed demonstrations, issued press releases, or even entered a strike. Nonetheless, the last few years offered a change of scenery. A series of lax legislation in labor laws, and the gradual expiration of the existing employment contracts between the organizations and unions, provided MNOs with a strong negotiating position. Nowadays, unions' interventionism is significantly reduced, posing moderate concerns to the business of the sector, with union emissaries trying to maintain *acquis* instead of making claims.

Finally, we should acknowledge cases of complementors. The mobile sector has several accompanying industries that add value to its operations. A straightforward complementing product to that of MNOs is the mobile phone, which acts as the medium that delivers the cellular service to the end customer. The manufacturers of those devices have provided rapid technological developments, which has skyrocket their popularity. The same principle applies to mobile application developers and content creators. A summary of consumers' desires could be *exciting new apps and quality media content on new-age smartphones with enhanced capabilities, over fast and reliable networks*. Evidently, these industries go hand-in-hand, complementing, enabling, and challenging each other.

Similar patterns follow fixed communication services and cable TV. As mentioned above, fixed and mobile technologies are significantly converged, and MNOs have already made a horizontal integration into fixed network operators. Sequentially, cable TV can be considered just another fixed network service, along with voice and internet. Granted the necessary commercial agreements with content creators, the spin-off into a content provider can be an easy task. Indeed, all three MNOs have acquired TV content bouquets and have ventured into cable TV, offering triple-play bundles (i.e., mobile, landline, and TV). Commercial successes in any of those sectors can carry over to the others as part of the combined package, as customers drawn by one service are incentivized to subscribe in all three.

Organizational Analysis

Victus Networks SA was established in February of 2014. The board of directors consists of 7 members that have been periodically altered. However, both parent companies have always retained an evenly strong representation throughout the JV's operation. The strong relationship between parents and child is emphasized by the fact that both CEO and CTO of Vodafone Greece and their counterparts of Wind Hellas are permanent members of the board, alternating roles in the president and vice president positions. [53] Servicing CEO of Victus is Mr. D. Grigoratos, which succeeded Mr. N. Babalis in July of 2017. We should note that both have had a strong background in upper management echelons of the parent companies, before their ascension. Understandably, both shareholders are paying close attention to their investment as well as their competitor.

Structure

Victus is a fundamentally technical company that more closely resembles a medium-size domestic firm. Its employees are highly specialized in distinct fields, while the primary activities are rather narrow-scoped. To accommodate these characteristics more appropriately, the JV is organized in a functional structure (as seeing in Figure B.11). [54] The company's core activities are distributed into three departments, each concerning a distinct stage of a mobile network's management. These operational pillars are Design & Engineering, Deployment, and Operations & Maintenance. Also, the organization is supplemented by some support functions, typical to most enterprises.

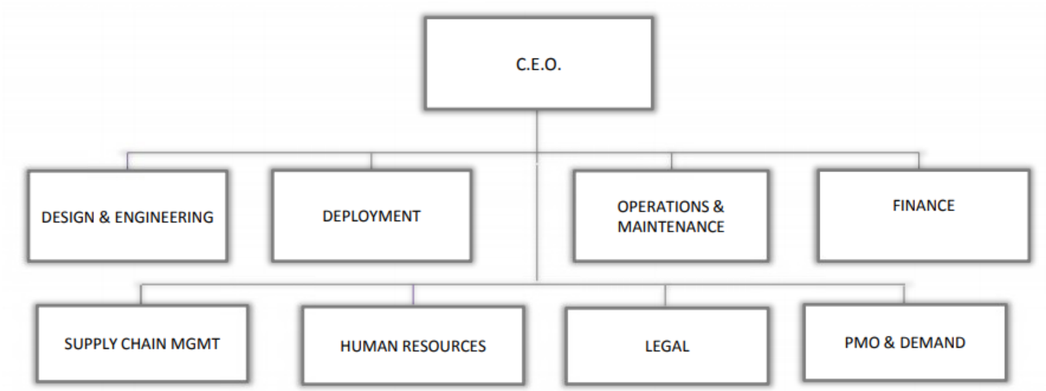

Figure B.11 *Victus High Level Organizational Chart*

Source: *Victus "Newcomer Briefing Pack" 2019*

We should note that the complexity of almost all Victus' operations is enhanced by the JV's dual-purpose, servicing the needs of its two parent companies. As we will see below, this complicated background presents both organizational and technical considerations.

Design & Engineering

The first step in most complex actions is planning. The Network Design & Engineering (D&E) department of Victus is primarily responsible for designing the essentials of each parent's standalone mobile network, as well as the shared network (MORAN). These schemes demand a series of technical activities with significant specialization. The architecture of RAN deals with the connection of user devices to base stations and up to the core network. Mandatory for the successful operation of RAN is an underlying network that facilitates the communication of its elements. This secondary infrastructure is described as a Backhaul Transport network. The implementations of these two systems go hand in hand but require very distinct skill sets. Design engineers also engage in frequency utilization, coverage planning, detailed performance reviews, and network optimization. A vital task that emerged with the expansion of LTE usage was the frequency re-farming. As it happens, 2G and 4G are capable of operating over the same spectrum. With the increasing demand for data services, MNOs are aggressively repurposing spectrum used for GSM into LTE coverage.

Finally, Design & Engineering department comprises the majority of Victus' R&D activities. As already presented, the mobile communications sector heavily depends on the H/W provided by global suppliers, with almost all technological advancements being achieved on an international level. It would be unwise for Victus to allocate resources for extended R&D pursuits. Thus, there is not a designated R&D department. However, the company's vision dictates that the JV will be a creative leader who provides top quality networks. To achieve that, Victus has spread across the relevant D&E teams, responsibilities regarding running pilots, testing prototypes, producing documentation, and defining specifications. Many of those projects are executed in a supplementary manner with the respective H/W manufacturers.

The D&E is a very demanding function with a critical role in achieving the company's objectives. To address its needs, the D&E department is staffed by engineers who have a deep understanding of their field of expertise. These professionals are divided into teams that have highly specific areas of responsibility. There are separate teams for seemingly similar aspects of RAN and Transport technologies (e.g., RAN Planning & Design, and MW & Access Design). [54] The frictionless collaboration between teams to meet objectives and timelines is paramount. Above all, D&E has to be equipped with personnel who possesses knowledge and creativity in finding the optimal solution to the given circumstances. After all, the quality of the design is much reflected in the quality of the end service.

Deployment

The second fundamental department of Victus is Network Deployment (NDO). Its main objective is executing the plans produced by Design & Engineering, and implementing the required modifications in the physical network. A typical timeline of introducing a new site usually begins with acquiring the physical location and issuing the mandatory permits. Then, follow a series of actions for the site's construction and the installation of the associated infrastructure equipment. After the site goes live, the continuous effort of retaining it commences. These necessary steps have determined the formulation of NDO's divisions.

Sites Acquisition & Licensing is responsible for the initial stages of the site's lifecycle. We came upon the subject of site acquisition when analyzing the bargaining power of suppliers, as well as the exhausting legislative framework of site licensing, during the study of external political forces. It is a long, complex, and not always fruit-bearing operation. Sites Retention has the liaison role between the company and the location owners, which is very demanding, given the volumes of the network's physical locations. Sites Construction arranges and oversees physical labor activities required for the RAN, Backhauling Transport, and Fiber Optics implementation. In general, its internal teams execute civil and technical works and deploy passive and active equipment. However, the division carries a wide range of responsibilities as construction works constitute a rather broad field of activities in telecoms. For example, it requires a whole different type of machinery and appropriate workforce to deploy fiber optics than to build a tower mast or to restore the condition of roads that give access to remote sites. Lastly, the Sites Energy division manages the planning and deployment of power supplies, battery backups, and cooling systems that support the site's operation. [54]

This critical function of the JV presents the most skill diversity amongst its people. Its construction units employ professionals with a wide range of engineering backgrounds, such as civil, electrical, geotechnical, and power engineers. On the other hand, teams that handle acquisitions need strong negotiating expertise, licensing positions demand a great understanding of legal processes, and retention employees who act as mediators require CRM skills. In contrast to the former department, which has a purely telecommunicational character, the Network Deployment offers services that can be found in several other industries. It might even be possible to purchase several of those activities as a service, primarily from construction companies. Nonetheless, the criticality of this scope is very high, and the top quality of the result is paramount. MNOs tend to retain the majority of those activities in-house to secure precision and the appropriate attention to detail.

Operations & Maintenance

The remaining pillar of Victus is the Operations & Maintenance (O&M) department. In general, first, you plan, then you execute, and then you operate. The JV's functional structure works in a similar fashion, but the physical network's extensive infrastructure also raises the necessity to maintain it. O&M's primary responsibility is catering to the network's everyday needs on a 24/7 basis. To achieve its operational objectives, O&M engages in a series of corrective and preventive maintenance activities and follows critical processes such as incident management, problem management, change management, and partner management actions.

The department is mainly structured in 1st and 2nd level support groups. The most distinguished of the latter are Transport Network Operations (TNO) and Radio Network Operations (RNO). These two teams act as a Tier 2 expertise for O&M and fulfill similar roles in their respective fields. TNO and RNO support the incident management process by servicing as escalation points and providing high-level troubleshooting. They also participate in change management projects by executing D&E's work orders and implementing updates, upgrades, expansions, and reconfigurations. [54]

The 1st level activities have been consolidated under the First Line Operations division, which effectively is the Network Operations Center (NOC) of the company. NOC is the JV's vanguard that surveils and manages the entirety of the standalone and shared mobile network, around the clock. In its current state, NOC has several subgroups but mainly consists of Front Office and Back Office operations. [54] The front end is in charge of monitoring and Tier 1 troubleshooting, but most importantly, it controls the incident management process. It is the Victus predicament that it operates under two shareholders that engage in intense competition amongst them. The child, to secure a good relationship between the parents, must ensure the unobstructed and unbiased flow of information. The JV designed an Incident Management process with strict rules and challenging reaction times. This way, the two competitors can have a real-time understanding of their network's status, which, in turn, serves as a reassuring measure of the JV's proper operation.

Contrary to D&E and NDO, which aim to meet deadlines, O&M has a ceaseless operational model to match the demands of a 24/7 working network. Its employees work around the clock to address any emerging issue, secure the service delivery, and safeguard the customer experience. To succeed in this time-sensitive ecosystem, O&M has been equipped with professionals with strong technical backgrounds. The highest level of expertise of those involved minimizes the actual resolution times. O&M engineers need to possess diligence, heightened problem-solving skills, and be able to operate under pressure.

Supporting Functions

Finance

To finance its activities, the company depends on its two only clients, the shareholders. This supporting function coordinates and controls the annual and interim budgets. It also manages the company's cash flows and liquidity. Finally, it executes purchase orders and handles everyday transactional accounting.

Supply Chain

The sector of MNPs does not rely heavily on the procurement of raw materials. Still, the JV has two basic categories of suppliers that are managed by the Supply Chain department. On the one hand, we have manufacturers who provide the telecommunication equipment, and on the other, field service providers. Both types of contracts constitute multimillion agreements. Also, there are additional supplies, such as IT services and system tools. To better support the company's three core functions, Supply Chain employs dedicated personnel for each one. These employees work closely with the respective department's management to promptly and efficiently facilitate their needs.

Human Resource Management

Typically, the Human Resources (HR) department is responsible for recruiting, training, and developing the company workforce. Its regular activities consist of analyzing requirements for positions, setting selection mechanisms for recruits, and assisting the growth of employees. As mentioned before, Victus takes pride in its personnel, and HR's main objectives are motivating, engaging, enabling, and retaining them. However, even though HR is supplementing the operation of the core functions, it holds a crucial role in creating and empowering the JV by developing the corporate culture and embedding the company values. For this reason, we will revisit the HR activities in more detail when analyzing the corporate culture and its significance in Victus' case.

Legal

Being an MNP, Victus takes part in several contractual agreements with various counterparts and substantial fees. However, the JV's Legal department holds another position, of higher significance. The creation of a joint venture between competitors comes with important legal implications, even more so, when the industry in question consists of only three players. We will take a more in-depth approach to these factors below while discussing the legal framework.

PMO & Demand

This department is a recent and valuable addition to the company's support functions. The need for its formation appeared as the company scope expanded, and Victus became the center point of more projects commissioned by MNOs. The primary objectives of PMO are to streamline the incoming demands and to coordinate special projects. The team assists in the distribution of the workforce and secures the achievement of milestones. Though, most importantly, it ensures a balanced resource allocation and keeps the mandatory equilibrium between the services provided to each parent.

Culture

Arguably the most crucial factor in the course of Victus' history was developing an individual company culture. Much like in mergers and acquisitions, the creation of the JV raised the issue of corporate culture clash. The company was comprised of 300 professionals transferred by the adjacent shareholders' units. These professionals who possessed excellent skills and multiyear experience in their fields, in most cases, had long tenures in the parent companies. Understandably, they had been imbued in the parent company culture.

Most importantly, under the respective wings of Vodafone Greece and Wind Hellas, the then MNO employees were groomed to feel pride for being a part of that company. At the same time, with the two shareholders engaging in a relentless competition, they might have developed antagonizing demeanor towards the other MNO. Last but not least, the creation of the JV was met with mixed responses. Despite the explicit assurances from both shareholders, unions had expressed vivid concerns, and there was an underlying uncertainty. It could have been the case that some of the transferred personnel were negatively predisposed. We should expect that those sentiments were carried over to the new venture. It was paramount to the new company's existence to disassociate its workers from their former employers and induct them into a common framework. This fresh point of view would unify and re-motivate the incoming personnel.

In some sense, consolidating the previous teams into a new schema under the umbrella of Victus presents similar issues with concurrent engineering. Previously isolated groups with distinct working styles needed to tear down the walls of their individual disciplines and combine their knowledge and efforts to provide the necessary synergies. After all, for a business model that thrives on synergies, retaining separate units was a considerable weakness.

One Company One Identity

One of the top management's and HR's prime concerns was managing the two different cultures. Typically, even subtle differences should be wisely handled because they can lead to significant internal conflict. Still, in the Victus case, that held even higher importance. With Vodafone Greece being a subsidiary of a global conglomerate and Wind Hellas being a mostly local enterprise that had relatively recently changed ownership, the culture gap was considerable.

Cultural integration was naturally, the method of choice. Assimilation and deculturation methods go against the JV's fundamental principle of maintaining balance. Such an attempt could disrupt the trust of this triadic relationship and prove detrimental to the company. Also, it would likely face ample resistance from the staff. As of the separation method, it goes against the JV's fundamental objective of creating synergies. Thus, the initial aim of the JV was to create a unique company culture that would unify the employees, promote collaboration, and support the consolidated functional structure. The embodiment of this intention was the campaign "One Company One Identity".

The general strategy was to create a cultural mesh that would synthesize the preexisting dissimilar cultures into a new one. The formulated outcome had to be familiar enough to be adopted across the board and adequately unique to differentiate it from its parents. However, even more than the culture itself, the vital task was to achieve cultural intensity combined with cultural integration. Possessing those two attributes grants the capacity to have strong beliefs shared amongst all employees. Mainly, the necessity was to shed the ex-Vodafone and ex-Wind labels and fully become members of the Victus organization. This accomplishment would be the building block for any future cultural shift or tweak.

The campaign was led by HR and was backed by the entire management team. It lasted actively for the better part of two years. During that time, it involved all functions and personnel, with the "One Company One Identity" motto making its way into everyday discussions. We could argue that the company's rebranding in 2017 officially signified this project's successful conclusion.

Figure B.12 *Victus' old (left) and new (right) company logos*

Source: *Victus LinkedIn page (https://www.linkedin.com/company/victus-networks)*

In Figure B.12, we can see the initial (left) and current (right) logos of Victus Networks. Admittedly, the initial logo was cleverly designed to incorporate its originators' duality, using their distinctive brand coloring (i.e., red for Vodafone and blue for Wind). Likewise, the new logo is well crafted, promoting the profile of a Top-Quality-Networks provider and representing the company's individuality.

Company Values

In 2017, along with the rebranding, Victus redefined its company values to reflect its vision statement better. With the "One Company One Identity" under their belt, the management and HR kick started the "The Victus Way" project. The heart of this program is the four characteristic values shown in Figure B.13. [54] Taking a closer look, we can recognize the incorporation of critical points from the vision statement and essential aspects of the JV's character to the conception of corporate values.

Figure B.13 *The Victus Way*

Source: *Victus official web page (https://www.victus.gr/life-victus/)*

In almost all values (i.e., Shine, Lead, Collaborate), we can find distinct remarks for the togetherness of employees. These come as a natural sequence to the application of the "One Company One Identity" program. The members of Victus are invited to *combine their expertise* (Shine), by building *high performing teams* (Lead), putting *their heads together to solve common issues* (Collaborate). Here we have the apparent dual purpose of unifying the staff under the Victus' identity and promoting the vital internal cooperation. These qualities, in turn, will be the medium for achieving the JV's primary goal of creating synergies. The focus on teamwork is so strong that the last value is dedicated to collaboration.

Another focus point regards the provision of Top Quality Networks, by *driving quality and setting high standards* (Achieve), and *growing talents and skills* (Lead). Again, the commitment to results is so evident that a separate value section concentrates on achievements. Also, there is an affiliation to the company's self-image as a Creative Leader with a segment devoted to leading, by exhibiting an *entrepreneurial spirit and innovation* (Lead). Lastly, there is a powerful message on trust, the cornerstone of a working relationship between the parents and the child. Within the value statements, we encounter the ethical standards of transparency (twice, both in Lead and Collaborate), integrity, responsibility, respect, and honest interactions.

Employer's Brand

As stated earlier in this document, Victus is a non-marketable company without a commercial brand. Its activities and achievements are reflected in its shareholders' brands, leaving the general public oblivious to its ventures. Nonetheless, HR has embarked on a mission to generate brand awareness by making Victus a reputable company label as an employer. This "Employer's Brand" campaign corresponds with the JV's position and its strategic goals. The continuously expanding scope of Victus signifies its growth, and growing businesses tend to invest in training, developing and promoting their existing personnel, as well as hiring newcomers. Also, Victus aims to lead innovation and produce quality hi-tech products, an aspiration that demands a quality employee base.

To entice prospects and become the place-to-be for any fresh talent, trying to find their future career steps, Victus is engaging in a series of activities. Some of them are participating in esteemed conferences, holding a dynamic presence in job fairs and career days, and collaborating with universities for organizing events, and presentations. These actions provide the opportunity to introduce Victus to potential employees and establish close relationships with the academic community and career offices. The company seeks to gain exposure to a targeted audience of mostly MSC & BSC students of Electrical Engineering and relevant faculties and carry out interviews with highly qualified profile candidates. The JV is willing to provide internship opportunities and develop joint projects with universities for student participation. In the same spirit, the company has revamped its official site and elevated its internet presence by participating in social media (i.e., LinkedIn and Facebook).

Safety Culture

The MNP industry is in a unique position regarding Health and Safety (H&S) issues. Naturally, construction activities carry a heavy load of H&S considerations. Still, H&S practices find application in all company activities. For example, on-site actions often include works on high voltage electrical equipment or at height. The RAN and Transport networks, in particular, require a series of outdoor activities that can be executed solely from specialized aerial technicians (i.e., tower woks). Victus goes beyond national legislation and international standards by investing significant resources in developing a strict 360 degrees safety culture. The JV has even stretched the field of application to include all activities, all employees, and all collaborators.

The company has adopted several good practices and incorporated them into the Victus safety culture, such as creating a designated H&S team and appointing a full-time security manager. The JV generates an annual H&S plan, which includes the conduction of safety seminars and emergency drills. Also, H&S volunteers have been selected to cover all the locations and offices with the physical presence of Victus employees. These staff members have been trained in CPR, fire safety methods, and evacuation protocols. However, a robust safety culture needs to be holistic in approach. Figure B.14 illustrates the *7 Absolut Rules*. [1] All company members are expected to demonstrate this etiquette in their everyday lives.

Figure B.14 *7 Absolut Rules*

Source: *Victus official web page (https://www.victus.gr/health-and-safety-at-the-core/) & Author's research*

The company elected to adopt proactive "Zero-Incident" policies and instill the same principles in the entire ecosystem. For this reason, the JV's vendors are contractually obligated to abide by the company's decrees. Also, the H&S team has established the practice of Safety Passports (SP), a type of certification that all field personnel, internal and external, had to carry during all activities. The SP is issued as verification to the certified knowledge and training and has to be regularly renewed.

Last but not least, in 2018, the company received the Occupational Health and Safety Assessment Series (OHSAS 18001) certification, an international standard for occupational health and safety management.

EMF Lab

We should make a special note to a pinnacle of the Victus H&S activities, the Radiofrequency Electromagnetic Radiation and Noise Measurements Laboratory. The usage of EMF raised significant H&S concerns and licensing issues. The safety and transparency of operations are of utmost importance for a mobile communications provider. This Accredited RF & Noise Lab follows international technical standards and legislative requirements to support this effort by executing periodical and ad-hoc frequency measurements.

Social Responsibility

Past voices in the business world used to view securing profitability as the means of giving back to the community (Friedman, 1970). The current views argue that corporations hold responsibilities that go beyond economic and legal. They even go as far as considering giving back to the community as a means of maintaining profits. Victus is an enterprise that does not target the open market, whose revenue derives wholly from its two shareholders. However, despite the lack of a commercial brand, the JV has embraced the duty of making a difference. After all, failing to fulfill ethical and discretional obligations by addressing the company's social responsibilities can lead to new government regulations (Carroll, 1991).

In the social front, Victus is considerably more active than what we might expect from a company of its size. For some years now, the JV is taking a series of relative actions to impact local communities. Over time, HR and staff have created a network of volunteers with a scope of activities that keeps on expanding. Nowadays, this HR's initiative has developed into a Victus staple. By 2019, around 60% of the company's employees have volunteered in at least one of the activities, while 95% of the personnel have expressed the desire to participate in future ones.

The JV still takes traditional steps such as making contributions to charitable organizations, but its primary focus is the growth of a dynamic movement based on its people. The company acts in acknowledgment of the UN's 17 objectives for Sustainable Development, planning activities that are tailored to match them. Some indicative actions are organizing social kitchens, arranging events for children and the elderly, supporting hosting homes, and providing sanitary kits for the homeless. Also, twice a year, voluntary blood donation events take place on the company's premises, with the Victus blood bank being accessible to anyone in need. The accumulated efforts of Victus volunteerism have targeted the UN goals shown in Figure B.15.

Figure B.15 *The UN Goals targeted by the Victus volunteerism*

Source: *United Nations Department of Economic and Social Affairs: Sustainable Development "The 17 Goals" & Author's research*

The concept of volunteering has become part of the company's backbone. At the start of each year, HR produces the annual action plan for social contribution. It has also become a tradition to conduct mini-surveys to receive feedback from employees on how they feel about the volunteering plan and what they want to see next.

We could argue that promoting the JV's social profile, is not the primary goal of these discretional actions, but a very welcomed byproduct of the endeavors. The most significant point is nurturing the feelings of inclusion, participation, and contribution to its people. By endorsing these activities, the company cultivates a level of teamwork that goes beyond the organizational chart. All the while, it inspires pride and fosters a culture of giving.

Regarding ethical responsibilities, operating under any contemporary ethical standards and social beliefs should be in the JV's fabric. Not being a traditional commercial brand, the company's presence is relatively shielded from the public eye. Yet, its daily activities keep it in close encounters with the general population, especially in the urban environment. Ultimately, Victus Networks is the child of its parents. Any potential misstep would reflect poorly on the shareholders' public image, and bad news travels fast.

Resource-Based Approach

In principle, creating a JV is a strategic move that combines skills and resources from the shareholders to formulate a more potent force in an industry. In cooperative partnerships, companies tend to exchange specialized resources and unique talents to reduce the environmental impact on the business and obtain mutual benefits, in an attempt to increase their competitive advantage over rivals (Bucklin and Sengupta, 1993). However, in the Coopetition of a JV between competitors, the involved parties are less likely to share valuable capabilities and core competencies with their opponent, especially intangible assets that are usually harder to imitate. In this triadic relationship, companies like Victus have to manage the given resources and create the JV's own capabilities. The goal is to develop them into distinct competencies and increase the collective competitive advantage.

Resources & Capabilities

Tangible Assets

Victus has undertaken the management of its parents' RAN and Transport networks. After years of operation and network modernization, the resulting standalone and shared infrastructures have accumulated over 22.000 2G, 3G, and 4G base stations nationwide, spread across around 7.000 physical locations and supported by over 8.150 microwave links. Additionally, Victus teams are responsible for an optical fiber transport network that surpasses 7.500km in length. [1] The JV also inherited the parents' Emergency Portable Generator (EPG) fleet, transportable machinery that can be dispatched in cases of power failure, to power base stations.

From a financial standpoint, the two shareholders created a shared capital of 2.5 million euros. In the first year of its operation, the JV reported total assets of just below 12 million, with the fixed capital being around 2 million and the remaining 9.75 million in current assets. Almost every year of its operation, the company has presented a significant increase in financial assets. By 2017, the JV had more than doubled its current assets, while in 2019, the year of the scope expansion mentioned above, the fixed assets saw an almost 30 million raise. Figure B.16 exhibits the fluctuation of those indexes, according to the company's annual balance sheets.

	2014	**2015**	**2016**	**2017**	**2018**	**2019**
Fixed Capital	1,956,318	2,844,053	3,243,433	2,979,392	2,756,606	31,907,274
Current Assets	9,751,782	15,236,474	19,514,836	22,313,312	21,401,934	23,879,303
Total Assets	11,708,101	18,080,528	22,758,270	25,292,704	24,158,540	55,786,577
Foreign Capital	10,242,921	16,019,732	20,514,059	22,532,229	20,869,973	52,951,439
Shared Capital	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000
Equity	1,465,179	2,060,796	2,244,211	2,760,475	3,288,568	2,835,738
Turnover	24,353,669	40,629,922	48,002,006	56,295,954	57,258,636	58,678,510
	2014	2015	2016	2017	2018	2019

Figure B.16 *Financial Indexes According to Annual Balance Sheets (in million euros)*

Source: *Victus official web page (https://www.victus.gr/about/) & Author's research*

Intangible Assets

Technological advancements in telecommunications are almost exclusively achieved on an international level by equipment manufacturing giants and global initiatives (e.g., 3GPP). Thus, businesses in the MNO and MNP industry are not R&D dependent, and they are usually not the proprietors of copyrights or patents. However, they do hold several product licenses and operating licenses, such as the limited-life right for spectrum use.

Perhaps the most characteristic intangible asset of telecoms is the spectrum. This unique resource is imperative to all services of mobile communications. Victus controls segments of 5 to 25MHz in six different frequency zones. The majority of these assets operate in a Frequency-Division Duplex (FDD) method, where the uplink and downlink differ slightly in frequency. Also, there is a small portion used with a Time-Division Duplex (TDD). The actual spectrum ownership (i.e., right of use) belongs to the two parents. However, the JV has the ultimate authority to design, implement, and operate RAN and Transport networks within these frequency domains. Details about the frequency allocation can be found in Figure B.17. We should note that the frequencies are not interchangeable assets. Each level of the spectrum has different properties and has been awarded to a single owner. So, despite the collaboration of the two shareholders for creating a shared mobile network, the spectrum remains a unique property for individual use. After all, the spectrum is a rare and valuable resource that acts as a competitive factor. For example, Cosmote has invested considerable funds in acquiring significant volumes and better frequency levels in most spectrum tiers. These prime resources are one of its distinctive competencies.

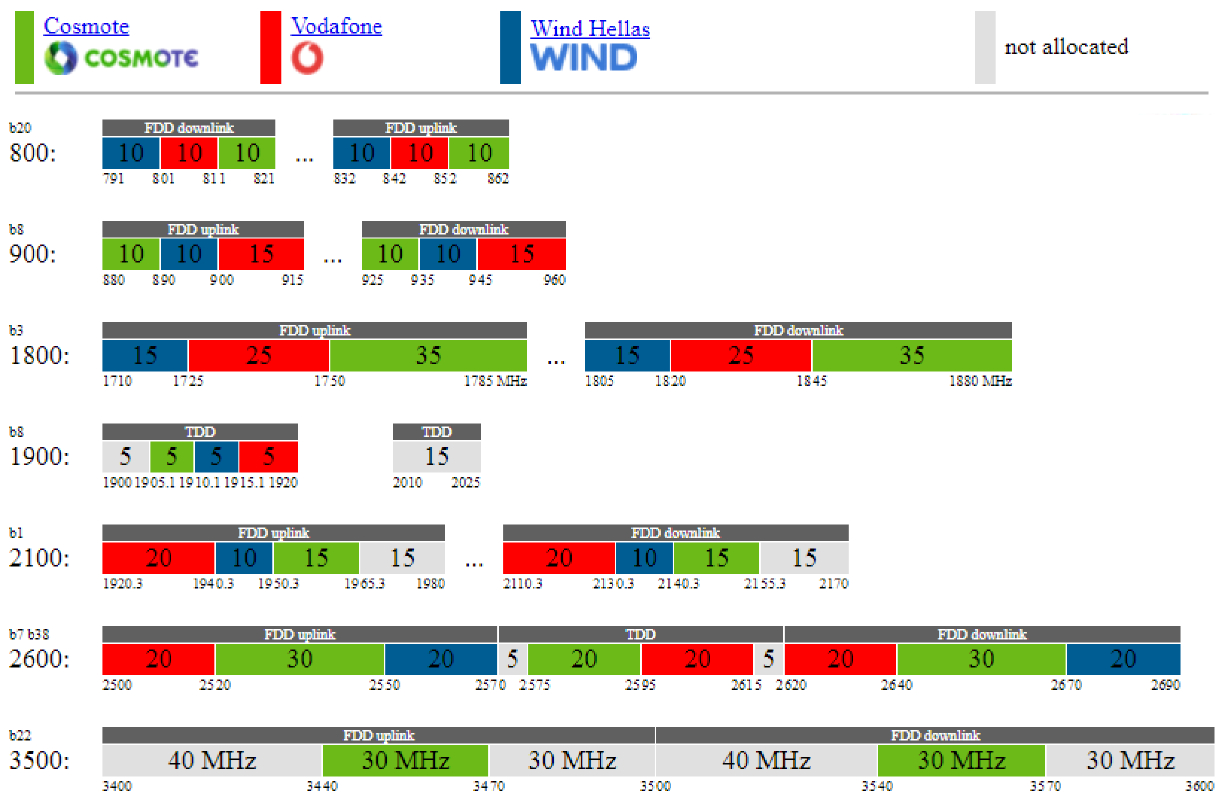

Figure B.17 *Frequencies ITU Region 1: Greece 2G, 3G and 4G Frequencies*

Source: *SpectrumMonitoring (https://www.spectrummonitoring.com/frequencies/#Greece/)*

Perhaps the most characteristic intangible asset of Victus is its corporate culture. As mentioned above, the formulation of the Victus way was a necessary step for its establishment, to avoid internal conflict and unify its people. Beyond that, the company culture is a unique and valuable resource that finds application in all activities. It is an essential vehicle for creating value by instilling the desired principles in all employees and promoting the firm's strategic objectives.

Human Capital

For many business leaders, a firm's greatest assets are not tangible but invisible, like the accumulated knowledge, experience, and innovation capacity (Itami, 1987), with an estimated 75% of a company's market value deriving from its intangible assets. [55] Managing human capital is especially important since it is the company's people that embody these invisible assets. [56]

Victus is all about the people. The creation of the JV required the transfer of 170 ex-Vodafone and 130 ex-Wind employees. The majority of those professionals were engineers with multiyear experience in their respective fields. This already very specialized and competent workforce has spent six years working together in the Victus environment, cultivating new technical skills and gaining hands-on experience in new technologies and shared networks' operations. The original personnel has been supplemented with selected additions from the labor market, primarily young talents attracted from the Employer's Brand project or highly experienced professionals for the insourced scope of work.

Finally, a significant human resource for the company is the Victus management team. In the first years of its operations, the JV staffed upper and lower management positions with a combination of ex-Vodafone and ex-Wind professionals with experience in similar roles at the parent companies, all with strong technical backgrounds and in-depth knowledge of their field. In the following years, through talent development, Victus employees risen organically through the company ranks to fulfill management roles. This collection of human assets is a beneficial blend of previous and new cultures, experiences, enthusiasm, and motivation.

Competencies & VRIO Framework

Through its processes, the company has combined tangible, intangible, and human resources to develop capabilities, and then integrate them across function to produce competencies. The most significant of those competencies will be analyzed using the resource-based approach's VRIO framework to assess the existence of competitive advantages.

Spectrum Utilization

As outlined before, the electromagnetic spectrum is the industry's most *valuable* resource. It is limited, in a literal sense, since there is only a finite supply of frequencies in the physical world. Yet, it is not *rare* from a business perspective, because all competitors should have some access to it to operate. Companies gain the right to use predefined frequency zones by auction in multiyear leases, where they invest significant funds to acquire. Besides the legal implications, from a technical standpoint is not feasible for a rival to *imitate* the company's spectrum. Transmitting in a frequency zone reserved from another company will only result in interference, deteriorating both services. There are, however, different spectrum tiers.

Organizationally, Victus has combined the design and development capabilities of two of its primary functions, D&E and NDO, to optimize the given spectrum's utilization. These departments have RAN and Transport teams that have developed the skills to exploit this unique resource and create a cross-functional competency. However, the shareholder's rival in the MNO industry has obtained the rights of a better quality spectrum, retaining a competitive advantage.

MORAN Know-How

The shared network is the backbone of the Victus' activities and its *value* proposition's main selling point. The JV has the *unique* status of being the first and only shared network provider in the Greek market. Structurally, the company has been *organized* top-down to better address the MORAN needs. All of its central departments have coordinated their internal capabilities to provide the shareholders with MORAN services. D&E, in particular, has developed a MORAN proficiency unparalleled to the Greek industry, which constitutes the company's primary capability. All the while, even support functions (e.g., Supply Chain, Legal, and PMO) revolve heavily around MORAN's specifications.

Aspiring rivals will need to invest a significant amount of time and resources in order to compete with this level of expertise, with the only substantial *imitation* threat being talent-drain. Yet, even that might not be enough. The JV's MORAN know-how transcends technical perspectives and has been developed into a core and distinct competency. This competitive advantage sets Victus apart from any potential adversary, especially within the forthcoming 5G evolution.

O&M's Resilience

We should make a special note of a cultural competency that has become a staple for the JV’s third primary function. The O&M's resilience is the department's main characteristic, which coincides with the Victus way (i.e., shine value). The Operations department is employed on a 24/7 basis to maintain the network's availability at expected levels. To meet these demanding objectives, O&M is *organized* in a flexible, consolidated structure, and has implemented specific policies, processes, and tools.

However, the determining factor is its people. The O&M personnel has been nurtured to exhibit the alertness and agility necessary to address real-time emergencies (e.g., from extended failures to natural disasters). After all, telecommunications is a social service, especially for those in need. The O&M employees were proven capable of carrying this sense of duty and performing well under pressure. These are vital qualities that carry over to everyday activities. This intangible asset has been cultivated over the years and is hard to *imitate*.

It has already presented considerable *value* in the JV's activities, playing a role in the Victus success story. It can also be regarded as a useful resource for undertaking further projects. We should acknowledge that these traits are not uncommon for a typical operations department in the industry. Nevertheless, in the Victus case, its resilience culture exhibits notable *rareness* due to the broad scope and the limited workforce, and it can be developed into a distinct competency.

Value Chain

Industry Value Chain

Victus Networks is an MNP that provides services to its two parents, which they use to compete in the Greek mobile market. Naturally, this close relationship with the shareholders makes the JV an active part of the industry's value chain. MNOs have outsourced most of their technical activities to their child, and they retained the activities closer to the customer. As a result, MNOs remain in the downstream of the value chain with the JV in a midstream position. Figure B.18 displays this association

Figure B.18 *Mobile Communication Industry's Value Chain*

Corporate Value Chain

To analyze the internal value chain of Victus, we first need to consider the value chains of its shareholders. Vodafone and Wind produce competing products in the mobile communications industry. Regardless of the type of service, the products' value chains follow the basic principles of Porter's analysis. Figure B.19 illustrates a typical example of this value chain analysis.

The way a company organizes and interlinks primary and supporting activities is somewhat of a unique trait. Additionally, different companies or different products within a company present their distinct competencies in various areas of the value chain diagram. Vodafone, for example, has inherited a robust structure with policies and tactics that derive from the global group. On the other hand, under its cost leadership strategies, Wind has developed slim forms with a limited workforce. From a more abstract view and despite some differences, we can assume that the first three primary activities (inbound logistics, operations, and outbound logistics) present some similarities. Arguably, the two firms' most significant diversification factors originate from marketing, sales, and aftersales activities.

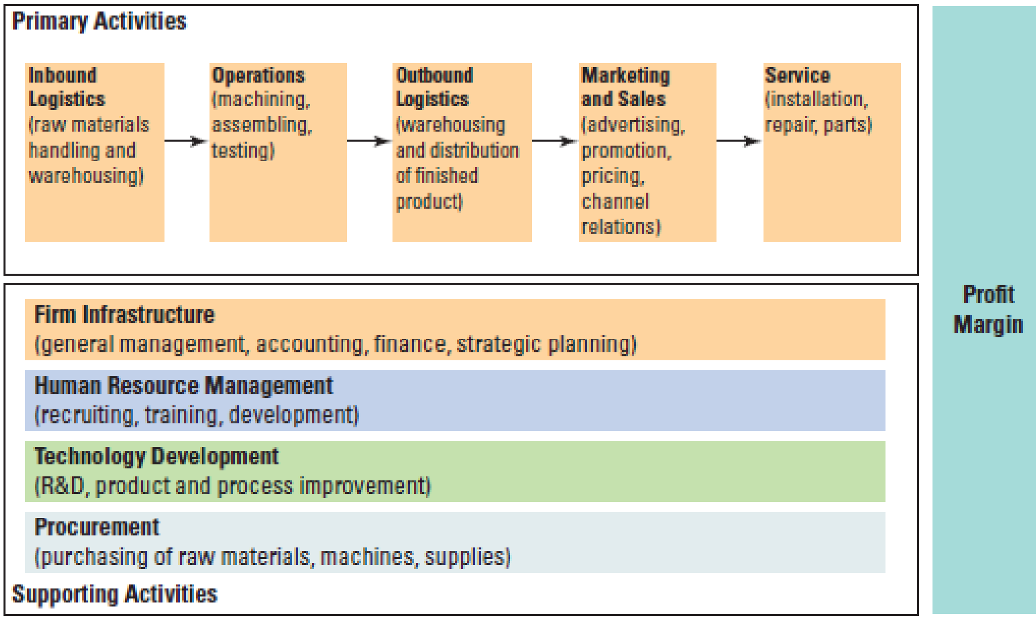

Figure B.19 *A Corporation's Value Chain*

Source: *"Strategic Management and Business Policy – Globalization, Innovation and Sustainability" 15th ed. – T.L. Wheelen et al. p.173*

Before the creation of Victus, each shareholder had products with distinct value chains. After the JV's formulation, the two parents outsourced part of their primary activities that presented similarities. Thus, we can view the conception of Victus as a means of streamlining the linkages between input, operation, and output activities, a strategic move to form synergies between two similar products and creating economies of scale.

Due to the Victus position, the company's internal value chain has some specific features. For starters, with its only customers being its shareholders, the JV does not need to employ marketing or sales activities. Moreover, the MNP industry produces services where outbound logistics are limited. The company's primary activities derive from the fundamental functions of design (D&E), deploy (NDO), and operate (O&M). Finally, the value chain analysis's secondary activities should include significant support functions that interact with the entire enterprise, like PMO and Legal. Examining this value chain analysis, we can find activities that display core and distinct competencies (i.e., D&E and O&M). The company's purpose is to add value by utilizing new technologies and building top-quality networks. It also searches synergies between the various functions and activities to exploit economies of scope and generate margin from cost cut.

Figure B.20 demonstrates the Victus value chain with the internal linkages between the primary activities. The activities of all three primary functions draw resources from the inbound services. For instance, D&E gains access to spectrum, software licenses, and new telco equipment for its R&D Lab. O&M utilizes field maintenance and spare part services, while NDO receives infrastructure materials, equipment from manufacturers, and contractors' services.

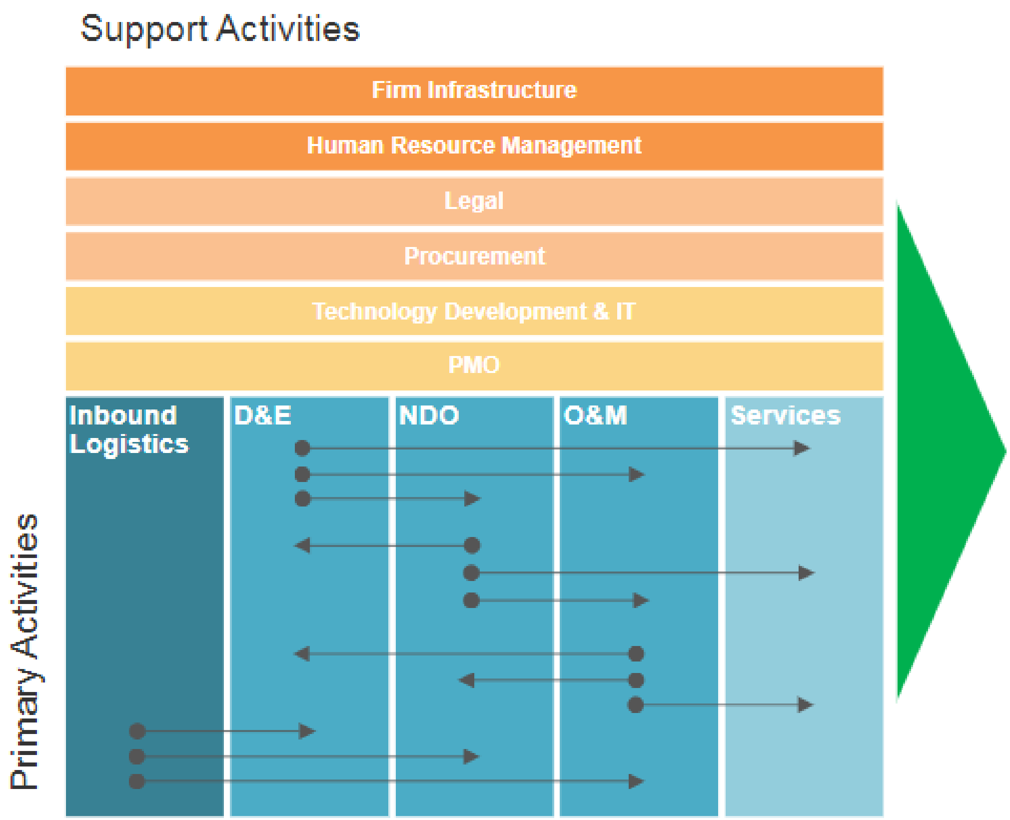

Figure B.20 *Victus Value Chain Analysis & Linkages*

We can also see the well-discussed linear flow where the D&E's RAN design projects activate the implementation activities of NDO, which in turn pass on the outputs to O&M. However, it should be noted that there are several bidirectional relationships. For example, O&M can trigger NDO for cases of reconstruction works or might escalate to D&E issues experienced in the live network that may require redesigning. Also, NDO supplies D&E with site licenses and provides feedback on constructional limitations, while D&E bestows upon O&M the execution of work orders.

In the Victus case, the primary activity of services regards the procedures that maintain its customer's product value. All primary functions have strict SLAs and specific targets that correspond to their fields (e.g., network availability, site retention, new site roll-out). Additionally, a complaint management process has been established to address any incoming issue reported by the MNOs.

Center of Gravity

The main center of gravity for Victus is the Network Design & Engineering. The JV began as a shared network operator, with the two parents joining forces to merge their standalone networks. The designing teams are in charge of utilizing the available technologies and allocating the given spectrum, to facilitate these projects. The success of the initial objectives led to a steady expansion of the company's scope. Over the years, the sharing network has been extended to include sites in urban environments, major cities, and microsites. Most importantly, even though the shareholders had agreed to omit 4G from the Coopetition, the 4G technologies quickly became part of the MORAN. At the moment, we await developments on 5G.

However, we could argue that there is some focus shift towards O&M. In the early days of the company, O&M was mostly supplementing the activities of D&E and NDO. The creation of Victus NOC, for instance, was not part of the initial planning but emerged as a need within the first year of the company's life. Since then, the Victus Operations department has incorporated, piece by piece, the majority of the operational scope performed by the shareholder units. At the start of 2019, via a fundamental change in its operational model, O&M insourced a series of activities, formally provided by suppliers (i.e., field maintenance providers). Also, by the end of the same year, Victus has absorbed a large part of the parent's fixed operations. With its consolidated and agile formations, the department has found synergies that produced significant efficiencies and cost reductions. These developments have presented considerable benefits for both Vodafone Greece and Wind Hellas, bringing O&M to the forefront of Victus' value proposition.

Legal Framework & Compliance

The creation of a JV between competitors comes with demanding legal and compliance interests. This issue holds more significance when the resulting company operates in an industry closely related to that of its parents. In the Victus predicament, there are additional considerations due to the small number of competing firms in the Greek mobile communications market. Concerns of collusion and diminishing competition were expected, with the company being monitored by the relevant authorities as a subject of national and European competition laws. However, the JV needs to have the trust of the external environment and that of the two shareholders. When entering this Coopetition, the parents conceded part of their resources and capabilities, expecting to gain more value. This relationship brought them in close quarters with a competitor. They need to be assured that their investment and sensitive information are safeguarded from their rivals. The JV had to be well-equipped and well-prepared, to support its convection towards the controls and audits exercised by the two parents.

The Victus Legal department plays a critical role in the company's operations by overseeing policies, tactics, and procedures that secure legal and business objectives. Establishing the JV required to reach agreements between the shareholders, compose its articles of association (AoA), reserve the trademark, and coordinate the various stakeholders. Since the early days of the company's operation, it was imperative to create two separate information flows, one for each parent, with only company employees and some verified contractors permitted to access both of these sensitive data pools. Additionally, Victus Legal is regularly organizing training sessions in Anti-Bribery practices, information security, and GDPR awareness. Naturally, the department conducts internal audits in all of the above fields to ensure the application of the desired methods and the alignment with regulations and competition law.

GDPR Ready

The General Data Protection Regulation (GDPR) came officially into effect in May of 2018, setting a specific legal framework for enterprises that store, process, or transfer personal data. Victus, as an MNP, has significantly less exposure to consumer data than its MNO parents, something that created fewer legal obligations for the company. Nevertheless, the JV made the strategic decision to commit over and above the course of actions stated by the EU regulation. This choice coincides completely with its values for transparency and integrity and strengthens the overall culture of data protection.

As a result, the company assigned a Data Protection Officer (DPO) that reports directly to the CEO. DPO's primary responsibilities include supporting the composure of the Corporate Data Privacy Strategy, consulting the company and its employees on legal liabilities that may arise, and monitoring the internal compliance to the regulations. Also, DPO acts as the company's spokesperson on data protection issues and is the first communication point for the regulatory authorities, as well as the staff.

SWOT Analysis & SFAS Matrix

Strengths

- MORAN Know-How

As already described, the expertise in designing and implementing shared networks (MORAN) is Victus' distinct capability.

- Economies of Scale/Scope

The JV provides the ability to combine its parents' supply demands in bulk orders that produce economies of scale. Also, by finding synergies between the value chains of its shareholders, it creates economies of scope.

- Financial Security

The company is in a rare position of not having to produce substantial revenue since the JV's shareholders are also its only clients. The services delivered by Victus have the dual role of being the value proposition for its customers and its owners' profit equivalent. Thus, the business should secure funds to finance its operations, even if it is making a loss. Examining the annual balance sheets, we can indeed see it operating in near break-even margins.

- Cooperation with Huawei

Since day one, Victus has run an aggressive roll-out of modernized stations and microwave links for the needs of its parents' standalone and shared networks. In the majority of these activities, the company installed Huawei's RAN and Transport equipment. Over the years, this close collaboration has strengthened their relationship and streamlined the roll-out process. Any future roll-out activities (e.g., 5G sites) should enjoy the merits of this well-established cooperation. Additionally, the two companies have partnered up in several special projects, use case scenarios, and equipment testing.

- Good Name

Given the continually expanding scope of Victus activities, it is safe to assume that it has successfully fulfilled its role, gaining its shareholders' trust. This achievement could be a vehicle for further development.

- Culture

We have already analyzed the company's investment in developing its own culture and values. The merits of this achievement match its fundamental principles of collaborating and creating synergies. The Victus way of being reliable, resilient, and adaptive is a considerable intangible talent and one of the JV's strengths.

- Management Team

The achievements of Victus rely heavily on its people. An influential group among them is the company's management team. The upper management is credited with the strategy formulation that brought business gain, while lower management is responsible for successfully implementing it. Created by a blend of experienced ex-Vodafone and ex-Wind professionals and organically elevated Victus personnel, the Victus management team constitutes one of the JV's most significant human resources.

Weaknesses

- Limited Customer Base

At the end of the day, Victus is a company with only two customers.

- Fixed Learning Curve

Acquiring the fixed operations of its parents was a massive project with high significance for the company. The activities were insourced relatively recently, with companies performing the official transition within the Q3 of 2019. Understandably there is a learning curve that will stress the organization until the operation matures.

- Supplier Dependence

As described previously, the close relationship with Huawei has considerable benefits. However, it generates a significant weakness of over-relying on a single supplier. Arguably, Victus is facing a lock-in condition.

- Balance Restrictions

By default, Victus should never favor any of its parents. To secure its survival, the JV must maintain an absolute equilibrium in the value created. This condition may result in lost opportunities. Business plans that can produce significant growth but are not mutually beneficial in a 50-50 split can never come to fruition. Most probably, they will be scrapped before even being presented as possibilities to the shareholders.

- Strategic Dependence

Balance restrictions are a form of bottom-up limitations, where the child will constrain its actions before interacting with the parents. Still, there are considerable top-down restrains. The JV's board of directors is composed of members from the shareholders' upper management. The parents exercise their control and hold the decision making power for any strategy formulation. This condition is significantly limiting the company's freedom.

- Organizational Structure

The organizational structure was designed to address the company's needs and was arguably a good fit. However, during the six years of operating in a volatile environment, the JV has seen significant scope changes. The company has performed several tweaks in its structure to accommodate these changes. Most notably, the establishment of the PMO and Demand. Yet, debatably, some tweaks need to mature further or be readjusted, for the structure to be again a considerable strength. Moreover, with new disruptions expected from the emergence of 5G and potential shifts in MNO strategy, more radical changes might be considered.

Opportunities

- TV Value Chain

As previously described, the convergence of the telecommunication market and the overall competition has driven MNOs to compete in mobile, fixed, and TV services. Cable TV is another type of product provided by the shareholders, and the JV can evaluate its parents' value chains and find opportunities to create economies of scale. However, it should be noted that the internal activities for cable TV should be somewhat limited. In contrast to mobile and fixed communications, cable TV is mostly an external activity that MNOs buy as a service from content providers and cable TV solution providers.

- B2B Special Projects

The increasing use of data services for business purposes and NB-IoT developments are creating a new market niche. MNOs can target large industries like production lines, factory complexes, airports, or shipyards, which might see value in acquiring a (semi-private or fully-private) mobile network. These services will be able to facilitate the needs of personnel, visitors, or machinery.

- Huawei Sanction & Authorization

The Geopolitical warfare around 5G is still at large. The US demands the prohibition of the Chinese equipment, while most Western allies remain skeptical of the idea. We could argue that regardless of the outcome, both conditions present an opportunity for Victus. In case the Chinese products are permitted in the EU, the JV can take advantage of the excellent collaboration it has developed with Huawei and have a faster and more effective deployment of the new technologies. On the other hand, if the US efforts produce results, the EU or the Greek government might remove the Huawei products from domestic networks. The swap of old equipment into new will be an immense scope that will probably be carried out by Victus.

- 5G Slicing

The 5G architecture has the build-in concept of slices, where several mutually exclusive virtual networks run over a common physical infrastructure. Victus has already developed skills in managing its shareholders' distinct service needs over a shared physical network. The organization has experience meeting diverse targets, maintaining separate information flows, addressing different demands, and implementing standalone or special coverage projects. The transition to simultaneously supporting eMBB, URLLC, and mMTC use cases should be feasible.

- 5G Spectrum

By the end of 2020, the state will auction new frequency zones to support 5G services' deployment. The outcome of the auction might reshape the Greek mobile communication market. The MNO industry is suffering from low profits and stiff competition. However, the promised 5G features, and mostly the applications it can have in industries, should revitalize the sector. Given these expectations, Vodafone and Wind might seek to reposition themselves within the industry by investing in the new spectrum and aggressively deploying 5G sites. Whether its shareholders follow a moderate tactic or leap to the opportunity, both rivals are expected to gain 5G frequencies access. Victus should be in the one to undertake the relevant activities.

- 5G Sharing & Roll-Out

Following the outcome of the frequency auction and depending on the strategies formulated by the two parents, Victus can acquire the scope of implementing 5G sharing activities. The shareholders may eventually decide to omit the 5G sharing from the sharing agreement, similar to the 4G sharing in 2014. Still, the JV is expected to conduct the rollout of the 5G standalone networks of each parent.

- MVNO

A special note should be made for Mobile Virtual Network Operators (MVNOs). MVNOs are not a novel concept in the Greek market, which has produced mixed results. The latest attempt lasted four years and ended with the acquisition of the Cyta from Vodafone in 2018. Yet, with the upcoming developments in mobile technology, the industry is more attractive than ever. Victus expertise makes it the perfect candidate to offer MNP services to any new MVNO player. However, such a move would require a fundamental change. The JV should have the agreement of its shareholders to add more customers.

Threats

- Talent Retention

Victus has created a competent team of experts that is integral to its operations. In the past few years, telecoms' labor market has seen a resurgence, and getting talent drained might be possible that should be avoided.

- MNOs' Profit Margin

As described in the task environment analysis, the MNO industry has displayed saturation and low profits. If 5G does not deliver with the expected market boom, there might consequences.

- Incoming Competition due to 5G

In the case that 5G delivers on its promise and revolutionizes the telecommunication market, it would be safe to assume that newcomers will enter the MNP industry. Still, Victus will retain the first-mover advantages.

- MNO's Strategy Shifts

The constant threat to the JV's operations is its parents. Victus was created to serve its shareholders as part of their strategy. Even though the project has proven successful, we should always be reminded that this is a Coopetition. Each company follows the tactics that better suit its objectives. For the time being, both competitors seem to be content with their arrangements. This condition, however, can change. MNO's might decide to follow through with actions that will disrupt the triadic relationship between parents and child. For example, an MNO might find the vertical integration of re-insourcing the Victus activities into its organization as a better alternative. They can also decide to outsource part of the JV's scope to third parties seeking more value. Also, MNOs might perform mergers and acquisitions that will affect the JV's role. Wind Hellas, for instance, has switched several owners the past decade and is currently in the hands of a foreign investment group. On the contrary, Vodafone Greece is part of a global group with a foothold in various markets and long-term presence in the Greek industry. It might not be surprising for Wind to have another ownership change in the following years.

Strategic Factor Analysis

Internal Factor Analysis Summary (IFAS)

	Weight	Rating	Weighted score	Comments
Strengths				
MORAN Know-How	0.10	4.5	0.45	The company's distinct competency
Economies of Scale/Scope	0.12	5	0.6	The JV's main value proposition
Financial Security	0.06	5	0.3	An important stability factor
Cooperation with Huawei	0.01	4	0.04	Well-established cooperation
Good Name	0.08	4.8	0.384	A vehicle for further development
Culture	0.09	4.8	0.432	The vital Victus Way
Management Team	0.04	4	0.16	A significant human capital
	0.50		2.37	
Weaknesses				
Limited Customer Base	0.04	2	0.08	Shareholders only
Fixed Learning Curve	0.15	2.8	0.42	Newly absorbed function
Supplier Dependence	0.07	1	0.07	Locked-in with Huawei
Balance Restrictions	0.10	2.5	0.25	Do not disrupt the 50-50
Strategic Dependence	0.10	2	0.2	Shareholders decision making power
Organizational Structure	0.04	3	0.12	Tweaks need to mature or readjust
	0.50		1.14	
Total Score	**1.00**		**3.51**	

External Factor Analysis Summary (EFAS)

	Weight	Rating	Weighted score	Comments
Opportunities				
TV Value Chain	0.03	1	0.03	A product provided by both MNOs
B2B Special Projects	0.05	3	0.15	NB-IoT solution
Huawei Sanction & Authorization	0.01	2.5	0.025	Win-win situation
5G Slicing	0.05	2.5	0.125	Mostly eMBB applications
5G Spectrum	0.11	3	0.33	Expecting of aggressive investments
5G Sharing & Roll-Out	0.15	4	0.6	Sharing activities lead to cost savings
MVNO	0.10	2.5	0.25	Nice to have / Probably in the future
	0.50		1.51	
Threats				
Talent Retention	0.10	2	0.2	Victus is all about its people
MNOs' Profit Margin	0.15	3	0.45	5G should bring market growth
Incoming Competition due to 5G	0.05	5	0.25	Victus will be ahead of competition
MNO's Strategy Shifts	0.30	3	0.9	Constant threat
	0.50		1.60	
Total Score	**1**		**3.11**	

Strategic Factor Analysis Summary (SFAS)

	Weight	Rating	Weighted score	Short	Intermediate	Long
MORAN Know-How (S)	0.08	4.5	0.36			x
Economies of Scale/Scope (S)	0.10	5	0.5			x
Culture (S)	0.03	4.8	0.144			x
Fixed Learning Curve (W)	0.12	2.8	0.336	x	x	
Balance Restrictions (W)	0.06	2.5	0.15			x
Strategic Dependence (W)	0.06	2	0.12			x
5G Sharing & Roll-Out (O)	0.15	4	0.6	x	x	
MVNO (O)	0.05	2.5	0.125		x	x
MNOs' Profit Margin (T)	0.10	3	0.3		x	
MNO's Strategy Shifts (T)	0.25	3	0.75			x
Total Score	**1.00**		**3.39**			

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