THE VALUE CREATION WHEEL – A META-FRAMEWORK TO CREATE VALUE FOR AVANTGARDE, DEIMOS ENGENHARIA, NEXTGEOSS, AND PANGAEA.

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The Value Creation Wheel – A Meta-Framework to Create Value for Avantgarde,

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Abstract

In today's rapidly changing environments, companies face emerging challenges in creating value for their firm, shareholders, and stakeholders. In order to stay innovative, this work introduces the application of the Value Creation Wheel (VCW), a meta-framework that creates value for organizations facing challenges to stay competitive in local and global markets. This work is concerned with the concept of value and value creation that leads to an explanation of the VCW and a comparison with other frameworks. Four case studies illustrate how the VCW was applied to successfully deal with real challenges firms face in different industries: 1) Pangaea's challenge to define and target a market, 2) Avantgarde's challenge to innovate brand experiences to acquire multinational clients, 3) NextGEOSS' challenge to define a marketing strategy to attract new users to the platform, and 4) Deimos Engenharia's challenge to define a high potential market to expand a service.

Keywords: Value Creation, Innovation, Paradox of Choice, Co-Creation, and Value Creation Wheel.

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List of Abbreviations

3Ms .... Manpower, Minute, Money

7Ps...................................Product, Place, Price, Promotion, Process, People, Physical Evidence

BCG .... Boston Consulting Group

IoT...Internet of Things

KDM .... Key Decision Maker

KPI...Key Performance Indicator

n.d...no date

PESTEL .... Political, Economic, Social, Technological, Environmental, Legal

SWOT ....Strengths, Weaknesses, Opportunities, Treats

TIAGO ....Tap, Induce, Ground, Operate

TOWS ....Treats, Opportunities, Weaknesses, Strengths

VCF.. Value Creation Funnel

VCW ....Value Creation Wheel

VRIN.. valuable, rare, costly to imitate, non-substitutable

Introduction

There are innumerous business conferences, TED talks, digital transformation summits, blogs, business magazines, and scientific papers addressing the innovation topic. Innovation has become the buzzword of the decade in business and education (O'Bryan, 2013). Today, it has been used so often, it might cause eye-rolling and an "I heard that before" attitude, yet most people do not understand its right terms. The push for innovation is based on our understanding that human advancements increasing rely on technology that shrinks the world and lays the foundation of a global competition (O'Bryan, 2013). We live in a rapidly and ever-changing world, where we have to come up with new ideas, products, and services that add value all the time. But what is innovation? And how does it create value for firms?

The theoretical background of innovation leads to the paper's main topic of value creation. On the one hand, the work is concerned with the concept of value and value creation to get a deep understanding about different frameworks used in the business world. On the other hand, the paper explains the *Value Creation Wheel (VCW)* as a meta-framework that creates value for organizations and individuals on a global and local scale (Lages et al., 2018). This work includes four case studies, where the *VCW* is applied by four master students to create value for companies from different industries.

1. From Innovation to Value Creation

Marc Cohen, US patent attorney representing startups and Fortune 500s, talked about innovation at TEDxBGU, distinguishing between inventions being something that is distinctive, different, and new in the market, whereas innovations change, renew, or alter something from an opportunity point of view to create value (Cohen, 2013). Therefore, Cohen (2013) states that innovation is value creation – a performance of actions to increase the value of a product or service. He goes even one step further: Value creation involves many people

with different roles that are able to innovate different paths from the initial invention to the commercial success (Cohen, 2013). But in order to innovate, the world needs people that possess a series of thinking and behavioral traits in order to discover and develop ideas and solutions that will result in positive changes not only in their perspective fields, but also in their daily lives (O'Bryan, 2013). The *Value Creation Wheel (VCW)* is a meta framework that helps organizations and individuals to create value based on any kind of challenge by discovering, creating, validating, capturing, and consolidating value (Lages, 2016; Lages et al., 2018). Accordingly, the *VCW* can be understood as a value creation framework that innovates in our rapidly changing world. But in order to introduce the *VCW*, the term "value" needs to be defined. And most importantly, other concepts of value creation need to be explained in order to derive to the essence of the *VCW*.

2. A Theoretical View on Value Creation

Although, the term "value" is shared in different contexts, this work aims to gain a deeper comprehension about value and different concepts of value creation from a theoretical view in the field of business and economics. Hence, the following chapters provide a definition of the term "value" and discuss value creation, value co-creation, and the management of trade-offs and market paradoxical tensions.

2.1. The Concept of Value

Due to its perceived importance across all industries and businesses, the concept of value has been long studied and defined in several ways over time within the strategic management and stakeholder literature (Windsor, 2017). Already in 1776, Adam Smith presented his vision about value by defining it as the paradox between the "utility of some particular object", which he named *value in use*, and the "power of purchasing other goods which the possession

of that object conveys", called *value in exchange*. Accordingly, the main differentiator of value between two objects is its relative scarcity: the more abundant one object, the lower its value (Smith, 2007).

Two centuries later, Michael Porter (1985) developed a concept of value from a different point of view, defining it as the amount "buyers are willing to pay for a product or service" that a firm provides. Based on Porter's vision, Kotler and Keller (2012) went one step further and explored the reasoning behind the value that clients are willing to pay for an object. They created the concept of the *Customer Value Triad*, which defines value as a combination of quality, service, and price. Accordingly, the customer's perception of value is positively correlated to quality and services, yet negatively correlated with price.

2.2. The Concept of Value Creation

Beyond understanding the concept of value, it is crucial that companies know how to create value to maximize its profits. On the one hand, Schumpeter (1934) states that a firm is able to create value through innovation. According to the *Schumpeterian innovation*, technological change is fundamental to value creation, as different combinations of resources lead to the emergence of new products and processes. On the other hand, Michael Porter (1985) took the competitive environment companies are subject to into consideration, and suggests that firms should use its resources and capabilities to accomplish competitive advantage in order to be able to create superior value to its customers. Porter explains that superior value can be achieved through strategies of differentiation or cost advantage (Porter, 1985). As a result, Porter (1985) created the *Value Chain Framework* to identify and analyze the origins of competitive advantage and subsequent value creation process. The framework divides a firm's activities into *primary activities* (Inbound Logistics, Operations, Outbound Logistics, Marketing & Sales, and Services) and *secondary activities* (Firms Infrastructure, Human

Resources Management, Technology Development, and Procurement). While *primary activities* have a direct impact on value creation, *secondary activities* affect value only through their impact on the performance of all *primary activities* (Amit & Zott, 2001).

Embracing the concept and importance of competitive advantage in order to create value for firms, Barney (1991) developed the *Resource-based View Theory*, after comprehending the close relationship between a sustainable competitive advantage and the characteristics of resources a firm possesses. According to the theory, a firm is viewed as a bundle of resources and its ability to combine them in order to exploit market opportunities (Taher, 2012). In order to create value, resources must be valuable, rare, costly to imitate, and non-substitutable as Barney states in his *VRIN framework*. Aside from Barney's view on achieving competitive advantage, Dyer and Singh (1998) understood that the "firm's critical resources may extend beyond firm's boundaries". The authors suggest that developing relationships and promoting the network between firms is fundamental to achieve a sustainable competitive advantage, ultimately, to create superior value.

All in all, many authors in the field of economics have a distinctive, yet aligned view on value creation. However, after analysing different visions and frameworks, the paper defines the concept of value creation as the increase in net-benefits for participants in any transaction or exchange based on their specific needs (Jones et al, 2016). It is about the value that each individual party perceives. Therefore, value creation should be based on individual needs, backgrounds, and market segments in order to achieve competitive advantage.

2.3. The Concept of Value Co-Creation

In recent years, another element has been evaluated in the concept of value creation: Customers. Amit and Zott (2001) emphasize that customers also play a critical role in the value creation process. In fact, the meaning of value and the process of value creation have

been shifting from a traditional product or firm-centric view to a personalized consumer experience (Prahalad & Ramaswamy, 2004). However in the past, interactions between companies and customers have not been seen as a source of value creation from a traditional, company-centric point of view (Normann & Ramirez, 1993), with a one-sided communication from the company to the customer (Prahalad & Ramaswamy, 2004). Nevertheless, technological innovations and the Internet of Things (IoT) have enabled a more demanding and highly informed consumer since the beginning of the century. Today, consumers are more connected, empowered, informed, and active, which builds the foundation of a consumer-to-consumer communication as an alternative source of information (Prahalad & Ramaswamy, 2004). Moreover, consumers want to respond to companies and their brand messages, leading to a two-sided conversation between consumers and firms (Kapler, 2017). By encouraging an ongoing dialogue with consumers, companies have the opportunity to act based on consumer preferences which can ultimately result in greater engagement, trust and loyalty in a brand to build a relationship, and therefore, to increase transactions (Kapler, 2017).

As a consequence, the concept of co-creation of value emerges as the "joint creation of value by the company and the customer" (Prahalad & Ramaswamy, 2004), which is ultimately related to the communication and information technologies that facilitate the connection between the two parties (Vargo et al, 2008). Based on this perspective, Vargo & Lusch (2004) presented the *Service-Dominant Logic*, a theory with the core idea that that all organizations function on a service exchange basis. Therefore, this paper takes into account that "value is always co-created" (Vargo & Akaka, 2009), and "the customer is always a co-creator of value" (Vargo & Lusch, 2012).

Although customers must be included in the value creation process, it is also crucial to consider stakeholders as the leading representatives of one company. In fact, employees as stakeholders have the power to either destroy or enhance the success of a firm (Aaker, 2004),

as they are the ones to interact directly with the customers (Roper & Davies, 2007). All in all, the path to success seems to converge on the adoption of a multi-stakeholder orientation (Riley & Chernatony, 2000), taking into consideration all the actors involved and interacting among each other (Jaakkola & Hakanen, 2013), and assuming an ever continuous and dynamic process (Ballantine & Aitken, 2007).

2.4. Managing Trade-Offs and Market Paradoxical Tensions

Besides illustrating value and value creation, this paper aims to have a look at managing trade-offs and market paradoxical tensions as a crucial basis for firms to foster growth and create value. As organizations face increasingly global, dynamic, and competitive markets, having the capability to manage paradoxical tensions has become a key factor to succeed (Smith & Lewis, 2011). A paradox is "an idea involving two opposite thoughts or propositions which, however, contradictory, are necessary to convey a more imposing (...) insight into truth, then either factor can muster in its own right" (Slaatte, 1968: p. 9). Paradoxes have been the subject of countless research studies that aim to foster insights regarding how this phenomenon impacts an organization's performance at many different levels (Cameron, 1986). Lewis's (2000) paper of "Exploring Paradox: Toward a more comprehensive guide" provides a very interesting approach regarding this topic. By analysing and comparing different studies on this matter, the author describes paradoxes as "some 'thing' that is constructed by individuals, when oppositional tendencies are brought into recognizable proximity through reflection or interaction" (Lewis, 2000; Lewis et al., 2014). Indeed, organizations have been recognizing the paradoxical tensions as an extremely important part of the "complexity, diversity, and ambiguity of the organization's' life". Despite acknowledging and disclosing paradoxes, Lewis defends that it is fundamental to understand how they can be used as an opportunity to grow rather than a barrier to innovate.

Accordingly, paradoxes should be used as frameworks to identify the nature of the underlying paradoxical tensions in order to break their reinforcing cycles and, finally, learn how to explore them to foster organizational growth. Paradoxes may emerge at the very core of the organization's strategy. Many believe that in order to be able to capture the best growth opportunities in nowadays' business environment, companies need frameworks that allow them to integrate both rapid cycles of experimentation and the capability to develop and execute long-term solutions. Nevertheless, this represents a major challenge for organizations, due to the paradoxical tension between strategy focus and flexibility (Bingham et al, 2014). Traditional frameworks are not prepared to address this type of paradoxes, as they seem to polarize this interpretation, dealing with them as a trade-off instead of breaking through the paradox (Lages, 2016).

Another source of paradox for organizations is related with the *paradox of choice*. Schwartz (2004) describes the *paradox of choice* as a consequence of the freedom of choice in a world where the amount of possible choices is tremendous. The *paradox of choice* contradicts the popular assumption that having more choices is necessarily and intrinsically more motivating than having fewer. When analysing this paradox at the organizational level, it is possible to conclude that managers often fall into this trap. For example, to select a market segment or even a market orientation, decision-makers often feel overwhelmed with the amount of possibilities (Lages, 2016). According to Schwartz (2004), the *paradox of choice* leads to two main consequences: paralyzation of the decision-making process and increased opportunity costs. The reason of having too much choice results in paralyzation rather than liberalization and is related to the fact that people tend to avoid choices, when they become a difficult task. In fact, other authors have shown that people do prefer to avoid trade-offs, specially when they are highly complex and challenging (Luce et al, 1999). These emotional trade-offs affect the decision-makers' capability to develop solid strategies, which may have a negative impact

on the organization's performance. Other examples of paradoxes are the *local and/or global and local (glocal) paradox*, and the *paradox of technology-push and/or market-pull*. Both challenges are the result of a growing global market in a today's world, in which external forces such as technologies are constantly changing. Traditional tools are not being able to provide solutions for a sustained organizational performance in this new competitive environment (Lages, 2016).

3. The Value Creation Wheel

Up to this point, this work defined the importance of value creation and dealing with complex paradoxes companies face today. In order to solve paradoxes and create value, the following chapters introduce the concept of the *Value Creation Wheel (VCW)* and how it is different compared to other value creation frameworks.

3.1. Contextualization of the Value Creation Wheel

For over 20 years, Lages (2016) has developed the The *Value Creation Wheel (VCW)* – a problem-solving meta-framework that can be applied within multiple contexts, industries and countries. Its applications go from top priority and complex organizational problems to individual dilemmas (Lages, 2016). Since the *VCW* is a meta-framework, it entails the integration of multiple frameworks and tools to structure, define, and contextualize the problem in any field of study (Lages et al., 2018).

In order to unleash the full potential of the *VCW*, it is fundamental to involve key decision maker(s) (KDM) in the value creation process. Besides the KDM(s)' deep knowledge about the company and industry, they have the power to allocate the right resources and add their personal perspective about the challenge itself (Lages, 2016). Furthermore, the *VCW* is a dynamic, "flexible stage-gate" framework, constituted of five different phases, allowing to

isolate, as well as integrate different phases throughout the value creation process (Lages, 2016). Since the *VCW* is concerned with organizational problems and individual dilemmas, this work focuses on organizational challenges companies face today.

3.2. The Value Creation Wheel's TIAGO Framework

In order to understand the practical view on the *VCW*, the *TIAGO practical framework* needs to be illustrated, which explains each phase throughout the value creation process.

Figure 1 \ The Value Creation Wheel (VCW)

Source: Lages, L. F. (2016). VCW-Value Creation Wheel: Innovation, Technology, Business, and Society. *Journal of Business Research, 69*(11): 4849-4855.

The first phase (1) – ***TAP*** – discovers value. In this initial step, the context and background must be clarified in order to gain a deep understanding about the industry, market segments, and the company with its products, services, and internal structures. Moreover, the research question must be precisely defined to ensure that the VCW team and the KDM(s) have the same understanding about the main challenge (Lages, 2016). In order to kick-start the project, key performance indicators (KPIs) and resources in manpower, minute, and money *(3Ms)* have to be determined. These are to be defined upfront with the involvement of the KDM(s), since KPIs work as a compass to find right path to meet strategic goals is being undertaken

(Petaschnick, 2017). The kick-off meeting in the first phase builds the foundation for the VCW team, KDM(s), and all other stakeholders to create value throughout the next phases of the framework.

The following phase (2) – *Induce* – aims to induce ideas/solutions (2a) and filters/criteria (2b). Previously defined internal and external stakeholders with different backgrounds should be involved in order to generate a diverse range of unbiased ideas (Lages et al., 2018). The VCW team is encouraged to make use of *Brainwriting* and *Brainstorming* with respective stakeholders to ensure a generation of as many ideas as possible that will be evaluated afterwards. In this phase, stakeholders should range from innovators to laggards *(diffusion of innovations theory)*, as they have different needs and expectations of new products, and generally come-up with a different set of ideas (Jahanmir & Lages, 2015). Angel's to devil's advocates should also be incorporated because they have common different perceptions about why the company can fail according to the solutions proposed (Lages, 2016).

Phase three (3) – *Analyse* – validates the value previously generated in the second phase by involving the KDM(s). The KDM(s) identify and analyse the solutions (3a) and filters/criteria (3b) that the VCW team presents by applying the *Poker Method* – a tool that efficiently allows to validate, refine, multiply, or eliminate ideas and filters (Lages et al., 2018). In addition to the evaluation and selection of solutions and filters/criteria, the KDM(s) rank the filters/criteria (3c) based on their perspective, which filters are most relevant.

The fourth phase (4) – *Ground* – captures value and entails two steps. In the first step (4a), the *Value Creation Funnel (VCF)* narrows down all criteria/filters ranked by the KDM(s) in an order of importance and allocates all selected ideas/solutions that suit to the proposed criteria/filters. The funnel allows the *VCW* to identify the best possible solutions that serve all ranked filters/criteria, which are further elaborated in a concept/prototype in the second step (4b) of the fourth phase (Lages, 2016).

Finally, the fifth phase (5) – **Operate** – aims to consolidate value. By developing a business model, the final solutions in the concept/prototype can be implemented in the context of respective resources allocated by manpower, money, and minute *(3Ms)*. Once the business model and resources are presented to the KDM(s), they decide whether the project is a "Go", "No Go", or "Check" – meaning that the KDM(s) have to make the decision if the project was able to create value to their firm. By evaluating the KPIs and reviewing each stage of the *VCW*, both parties gain a better understanding, whether the project is a success. In conclusion, managerial implications with next challenges and the identification of potential partners need to be determined in order to continue with the project (Lages, 2017).

3.3. Methodology in the Context of the Value Creation Wheel

At its core, the *VCW* relies upon the gathering of input from external sources and the collaboration of several stakeholders with or without experience in the field of the study, in order to create value at each step of the framework (Ranjan & Read, 2014). Subsequently, the *VCW* implies to gather "one million ideas" and "one million filters" based on the input of external stakeholders and sources, which derives from the idea of: the more ideas and filters, the better. By doing so, the probability of having the best idea is greater, when the pool of ideas is bigger. In order to gather as many ideas and filters as possible, the *VCW* allows to make use of several tools and frameworks that can be applied throughout the *VCW cycle* in order to create value in every phase. This paper introduces several specific tools and frameworks besides traditional surveys and interviews as a source for qualitative and quantitative insights, which are also present along the *VCW* (Lages, 2016).

In phase 1, the initial stage of the *VCW*, it is crucial that the problem or challenge is well defined. The initial problem or challenge should not be a consequence of a deeper issue, but

the issue itself. Hence, the VCW team and KDM(s) should get to the root of the problem or challenge to solve it. In order to do so, the *5 Whys* can be applied – a general tool to simply define the deeper issue by asking "why" five times in a row to consecutive answers (Serrat, 2010). For example, if a store manager defines "low sales amount" as the main problem, the first "why" leads to the answer that customers do not buy products in-store. The second "why" can reveal the fact that customers do not receive any support by the store's salespeople. But why do not customer receive enough support? Because salespeople are not motivated enough to provide assistance. Thus, the fourth and fifth why can reveal the real issue of low sales amount: Salespeople work too many shifts because the store is understaffed. Hence, the initial monetary problem turned out to be a practical problem.

In order to fully understand the competitive environment of an industry and the company itself, a diagnostic about the company's internal and the industry's external environment needs to be conducted. The internal analysis is concerned with the inherent characteristics of the company, namely its resources, capabilities, history, procedures, and culture. If an internal company analysis is compared with a car, the automobile's analysis would reveal how the engine is build, what kind of components are necessary, and how the engine runs. However, the internal analysis depends on the type of company and industry it competes in. Therefore, the elements analysed can vary among different projects. Nevertheless, the company's marketing mix allows to grasp a detailed overview of a company's structure. Thus, the internal analysis can have a deeper look at the *7Ps Marketing Mix* of a company, which reveals strategies of the respective *product* or *service* (quality, technology, design, features,…), *price* (list prices, discounts, allowances,...), *place* (trade channels, sales support, transport,...), *promotion* (advertising, public relations,...), the company's *people* (employees, culture, customer service,...), *process* (service delivery, response time,...), and *physical evidence* (physical attributes, ambience,...) (Khan, 2014).

Moreover, a *SWOT Analysis* is a popular tool to analyse the internal strengths and weaknesses of a company, as well as the external opportunities and the threats of the industry it competes in (Salmi & Hasnan, 2015). Once these four elements have been revealed, a *TOWS Analysis* can be performed. The *TOWS Analysis*, can be seen as the next step of the *SWOT Analysis*, crossing *Strengths (S)* with *Opportunities (O)* and *Threats (T)* as well as *Weaknesses (W)* with *Opportunities (O)* and *Threats (T)* (Salmi & Hasnan, 2015). The framework helps to understand possible generic strategies to maximize opportunities with the company's strengths *(SO)*, to use strengths to minimize threats *(ST)*, to minimize weaknesses by leveraging on opportunities *(WO)*, and to minimize weaknesses by avoiding threats *(WT)* (Salmi & Hasnan, 2015). Yet in order to reveal opportunities and threats, which are crucial to perform a *SWOT* and *TOWS Analysis*, other frameworks can be applied, namely a *PESTEL Analysis* and *Porter's Five Forces*.

The *PESTEL Analysis* identifies external factors that affect the company, namely political, economic, social, technological, environmental and legal factors (Free Management Books, 2013). The political factor is concerned with employment laws, consumer protection laws, trade restrictions and reforms, among others, whereas the economic factor examines inflation rate fluctuations, taxes, interest rate changes, trade regulations, among others. In order to reveal demographic distributions, income statistics, employment levels, and other information related to population, the analysis should include the social factor. Moreover, the technological factor is related to changes in manufacture, technology, and infrastructure among others, as well as innovations in these areas that can affect the company directly or through competition. Last but not least, the environmental factor deals with issues of environmental protection, relating to weather, climate, and geographical location. Finally, the legal factor involves the impact of national and international laws that impact the company with global regulations and safety compliance among others. However, one must say that the

PESTEL Analysis depends on the market segment the project is concerned with. Otherwise, the analysis does not expose evident facts as a basis to reveal opportunities and threats.

In order to comprehend the competitive environment of a company, *Porter's Five Forces* can be applied. (Porter, 2008) developed a model that reveals main forces in an industry, being *Threat of New Entrants, Bargaining Power of Buyers, Threat of Substitute Products or Services, Bargaining Power of Suppliers,* and *Rivalry Among Existing Competitors*. These five elements are believed forces that shape an industry competition (Porter, 2008). Each of the forces need to be developed and analyzed in accordance of the influencing factor a company deals with, meaning that these factors have the capability to shape the market, its competitive reality, and its attractiveness (Porter, 2008). Therefore, *Porter's Five Forces* provide a deep understanding of the industry and market segments as well as a full comprehension on how companies should interact with other forces, which helps to define the deeper issue company's face in their respective competitive environment.

In the second phase of the VCW, it is vital that as many ideas and filters as possible are collected. *Brainstorming* is a popular tool to generate ideas. Developed in the 1950's by the advertising executive Alex Osborn (Sekhar & Lidiya 2012), the tool implies that unfiltered and plentiful ideas are generated by groups of people without being subject to scrutiny or criticism. But several studies over the last decades state otherwise (Litchfield, 2008). In theory, a group of people can generate unfiltered ideas, but in reality, people tend to filter their ideas before presenting them to a group of people. In fact, people tend to confirm and converge ideas from the very beginning of a brainstorming session, which leads to restricted and biased ideas. Eventually, this technique is considered to be more useful as an integration of the whole idea generation process, meaning that people individually create ideas at first, and afterwards, discuss their ideas in a group (Litchfield, 2008).

In regards to this, *Brainwriting* is a promising tool that enables participants to write down all of their thoughts for one particular topic, generating ideas that are not filtered or restricted due to fear of judgement or replication of thoughts. There is no "right" or "wrong". Participants are encouraged to take a piece of paper and write down every idea they come up with, as outlandish as they might seem, without discussing them as a group (McCaffrey, 2014). Only when all ideas are pooled together, the best ideas will be selected and further developed as a group, which allows to discuss anonymous ideas with an open mind.

In order to asses generated ideas and filters, Lages and Hartmann (2015) developed the *Poker Method* – a tool that consists of different possibilities to evaluate ideas and filters: *Inform, Review, Keep, Multiply* and *Kill*. Usually, the *Poker Method* is applied in the third phase of the *VCW* to refine presented ideas and filters in a critical way, yet the tool is also applicable all over the *TIAGO framework* to go back and forth between phases in order to include the judgement of individuals from different backgrounds and areas of expertise to create value along the *VCW* (Lages, 2015; Lages et al., 2018). In other words: "The Poker Method consists in informing and discussing the emerging ideas with people with different know-how and expertise in order to validate, refine, multiply, and/or eliminate existing ideas" (Deimos Case, 2017). The *Poker Method's Inform* category is a precursor to correctly allocate the subject to the correct choice, meaning that the solution/filter will be communicated, assessed and selected to a category it will be it best assigned. If an idea or filter falls into the *Review* category, the idea or filter is a right choice, but not clearly valid or non-applicable and to be eliminated, if the idea or solution is not reviewed properly (Lages, 2015). The *Keep* category allocates all ideas and filters that seem to be adequate or applicable within the context of the problem (Lages, 2015). *Multiply* is the choice, when for example, an idea can be divided into more than one idea in order to be more specific and to target one well defined aspect of the problem (Lages, 2015). Finally, the *Kill* category provides the choice to eliminate an idea or

filter, if it is not understandable and cannot be revised being discarded from the pool of ideas or filters (Lages, 2015).

Besides evaluating ideas and filters, filters need to be ranked in the *Value Creation Funnel (VCF)*, a tool created for the fourth phase of the *VCW*, which need to be crossed with selected ideas in order to reach the best possible solution for the initial problem (Lages, 2016). The filters are ranked based on importance, hence, all ranked filters are vital to successfully find the best solutions (Lages, 2016). At the top of the funnel, the most important filter determines from the start which ideas can pass through the funnel. If an idea does not fulfill this criteria and all following criteria along the funnel, it cannot be considered as a final solution. Ultimately, ideas will be filtered along the funnel, and the idea(s) that reach the furthest will be the solution to be implemented (Lages, 2016). Since the *VCW* is an adaptive and "flexible stage-gate" (Lages, 2016) model, the *VCF* is considered as a flexible tool that takes into account "the human factor, emotions, ideas, solutions and strategic filters that sometimes are intangible" (Lages, 2016). Once final solutions have been defined by applying the *VCF*, other ideas that did not pass through the funnel shall be stored for problems that might occur in the future.

At the fifth stage of the *VCW*, business models provide a necessary plan to implement all final solutions in order to consolidate the value created. The selected business model at this final stage may differ according to the scope of the challenge that the *VCW* aims to solve. For instance, the *Business Model Canvas* is a promising tool that illustrates nine elements of a business in one page, allowing to grasp a better notion of the entire business and all its nuances (Blank, 2013). *Key partners, key activities, key resources, value propositions, customer relationships, channels, customer segments, cost structure,* and *revenue streams* are

the building blocks of the business model, which provide a full impression of a company in all aspects and all necessary information (Blank, 2013). Another important tool is the *Strategic Marketing Plan*, that allows to consolidate strategic decisions and coordinate all selling activities in order to maximize profits (Drummond et al., 1998). In conclusion, it is important to identify resources necessary to implement the final solutions and to prepare an execution plan. The *3Ms* (Money, Minute, Men) provides a good umbrella to allocate resources in order to structure an implementation plan (Lages, 2016).

3.4. Comparison with other Value Creation Frameworks

Today, several different frameworks are available to solve complex organizational and individual problems that create value for themselves or for their respective firm. The *GE-McKinsey Matrix* (Amatulli, Caputo & Guido, 2011), the *Ansoff Matrix* (Ansoff, 1957), the *Stage-Gate Product Innovation Process* (Cooper, 2008) or the *BCG Matrix* (Reeves et al, 2014) are popular examples. However, the *VCW* comes with less limitations in terms of adequacy of the type of problem to be solved as well as in terms of the outcome. As Lages (2016) states, the *VCW* works "outside the box", "in-the box" and "no box" at all. The *GE-McKinsey Matrix* focuses on industry attractiveness and competitive strength of business units in order to prioritize investments (Amatulli, Caputo & Guido, 2011), whereas the *Ansoff Matrix* focuses towards the strategic growth of companies (Ansoff, 1957). Furthermore, the *Stage-Gate Product Innovation Process* intend to create certain points along a project for managers to check if everything is in line with the plan and if the strategy is still adequate (Cooper, 2008). Finally, the *BCG Matrix* aims to help companies in their decision process which markets and and businesses to invest in based on relative market share and the market attractiveness (Reeves et al., 2014).

While examining the focus of each framework, it is evident that all of them have certain boundaries within they can and/or should be applied. Otherwise they would not be useful for companies to solve certain challenges. On the contrary, the *VCW* has been developed in order to create value and generate solutions for any kind of problem that companies face in any industry from small and simple to large and intricate (Lages, 2016). In addition to that, the listed frameworks above have a linear approach, whereas the *VCW* is a circular stage-gate model that allows companies and individuals to move back and forth along the phases of the framework (Lages, 2016). Therefore, the *VCW* consists of a much higher degree of flexibility in order to create value than any other problem-solving framework. All in all, the *VCW* convinces with one final characteristic that truly stands out: It does not depend on trade-offs and captures the input from several stakeholders, which provides a wide range of solutions for any field of expertise. As a result, the *VCW* accepts any type of problem that can be solved by applying the framework.

Final Remarks

As the Greek philosopher Heraclitus once said: "There is nothing permanent except change". You cannot stop change, but embrace it. In order to stay innovative in our ever-changing world, companies need to create value for their firm and respective stakeholders. The *Value Creation Wheel* is a promising tool to create value in today's rapidly changing and global business environments. It not only concedes to integrate other frameworks, but also includes different stakeholders and the company's KDM(s) in a co-creation value generation process. But most importantly, it allows to go back and forth along the *VCW* cycle in order to generate the best possible outcome for a specific challenge. With this flexibility in its core, the *VCW* enables value creation, and therefore, innovation processes for organizations, where they need to face complex paradoxical tensions with greater agility, dynamic, and accuracy.

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Case Study One

The Value Creation Wheel Applied to an Artisanal Book Publishing Company: Pangaea and the problem of targeting.

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Abstract

This case study illustrates the development process of the application of the Value Creation Wheel (VCW), a value creation meta-framework, to a small start-up company in the artisanal/ luxury book publishing micro-industry, Pangaea. The main purpose of the project, was to find the best solution for the needs of the founders of Pangaea, as such, the research question formulated was: "How to better define and have contact with the target market?". The project involved the input and feedback of the founders of the company and other external stakeholders, in order to tap into a diverse pool of knowledge.

Keywords: Value Creation Wheel, Pangaea, Target Market, and Direct-selling.

The Value Creation Wheel Applied to an Artisanal Book Publishing Company: Pangaea and the problem of targeting

Over the first year of business of Pangaea, 2016, Alexandra and Lino Santos, the founders of the company, found themselves wondering why a product, that made so much sense for them to be created, was selling so poorly. The company was starting out and had no employees, so, the access to different points of view and ideas was very limited. The founders, having a very broad understanding of their target market, found themselves with the challenge of narrowing their target *audience.* At the same time, the company, having pressure to sell the books stocked-away, needed to create direct-sales opportunities. This was when the VCW team, stepped in and applied the methodology, to help Pangaea find the solution best fitted for their needs and resources.

Company Overview

Founded in August, 2016, Pangaea was the creation of a husband and wife team, Lino Santos and Alexandra Santos. Both professors at IADE Creative University in Lisbon, Portugal. Alexandra's family has roots in the book industry, being that her grandparents started into the business by selling older books and this continued along the generations. Eventually, as a young child, Alexandra found herself frequently spending time in her uncle's bookstore, surrounded by books, which was the igniting factor in the eventual love for literature.

The market didn't offer these hand-crafted portuguese books they wanted, so after careful consideration, the couple decided that, if the market didn't have the supply for their demand, they would have to create the books themselves.

The founders decided to start the catalog with a famous portuguese book, *Mensagem*, by Fernando Pessoa. Two editions were created, the Artist Edition and the Limited Edition, both priced above average if looking at the industry of books, but since they are also to be

considered art pieces, this made more sense because of the added value. The Artist Edition was priced at 875.00€ and the Limited Edition at 515.00€, differing in the quality of the materials and the illustrations in each of them.

The process undertaken and carefully studied, consisted of a highly manual labor. The concept was described as *fine printing*, using papyrus parchment or high quality paper. These materials insured the durability of these books, which was the intention. The books were created, with the intention of being treasured possessions that were passed on, from generation to generation. The printing process itself, consisted of manually composing iron movable characters, to form words and sentences. Since the process wasn´t mechanized, there was the need for careful proof reading to assess if the quality was ready for printing and to check whether the grammar was correct, only then was the actual printing done by filling the characters with ink and manually pressed on the chosen paper. Finally, at the end of the process, each page had to dry and was accommodated to endure humidity and changes in temperature. When all the pages were printed and dry, they were sent to be bound, hand sowing the final book.

Being the pioneer in this micro-industry in Portugal, Pangaea had the advantage of cornering the market, before anyone else had the opportunity to do so.

Methods

In June 2017, the VCW team was presented with the VCW Framework (Exhibit 1) by their work project advisor, Luís Lages. The framework was presented as a tool to solve almost all problems, from small to big. The VCW would be the basis for the team's thesis, having to test the framework with a real life problem, specifically within a company, taking the process from the initial stage of problem formulation to a possible final solution.

VCW Phase 1 – Discover/ Tap

Two weeks after the presentation of the VCW, during a phone conversation, the team and Professor Luís Lages agreed on which company they would work with, which was Pangaea, a company familiar to Luís Lages. The main factor that attracted the team's attention to this company, was that it was a start-up with an interesting product and a luxury industry appeal. The following week, the team met with the founders of the company, Alexandra and Lino Santos at Popolo, a restaurant in Lisbon. The meeting served as general discussion on what was the company, how did it start, how it operated, and ultimately what were the hardships it was feeling. A number of small issues were discussed, from the expenditures on the manufacturing process, the presentation of the end product to the question on whether the illustrations were necessary in the books. Ultimately, the most crucial problem they agreed on, was the lack of knowledge of the target consumer and how to have contact with it. After a mutual agreement was signed by both parties, the team could start applying the VCW framework to this defined problem.

Once the problem was defined, it was crucial to understand the reality of the company itself. Seeing that the company was turning one-year-old at the beginning of the project, the team knew the sales of the books wouldn't be very high, especially because the premise was that the company had an issue in sales that needed solving, and these suspicions were confirmed when they were informed that thus far the company had sold ten books. An interesting piece of information was that, the company was in some ways modeled after two other companies abroad, Arion Press in the United States and Folio Society in the United Kingdom.

In order to further understand the reality of the company, the team, took advantage of the fact that VCW was a meta-framework, by using some other tools, such as Porter's Five Forces model, the SWOT and TOWS analysis and the seven Ps of the Marketing Mix (In the Appendix).

When the team moved into the SWOT analysis (Exhibit 2), their main goal was to understand the company itself and its potential in the market, given its characteristics.

As for the strengths of the company, the company presented a lean and flexible structure because it was a small business with no employees and so, any decisions on the strategy could be easily implemented. In accordance with the lean structure, the company also had a small number of stakeholders, with no employees, not a lot of partnerships and a small consumer base, just to name a few, so again, the founders had more freedom in their decision making, with having to be concerned with the effects on many stakeholders. The last main strength for Pangaea was the fact that, it had a unique offering.

Moving on to the weaknesses of the company, the team and the key stakeholders knew that the lack of business or sales was the main weakness, because without moving stock, it was impossible for the company to expand and perhaps better adapt the books to the target market, seeing as their capital as tied up in stock. Linked to this weakness was the small budget the company had, that would hinder their research and development activities, making this project tackle that aspect. Finally, the lack of reputation and marketing efforts, did not help on pushing sales up, especially without the right targeting of the efforts.

Concerning the opportunities, the potential of the untapped market that came from the unique offering, allied to the macro-trends in the market, presented an enticing market to explore. The macro-trends were namely, greater appreciation for unique, exclusive items that would make the holder of them stand out (Bain & Company, 2017) and the fact that Portugal was becoming a more popular tourist destination and was gaining more awareness and value in the world, expanding that value to portuguese products (World Tourism Organization, 2017).

VCW Phase 2 – Create/ Induce

Moving to the second phase of the VCW, namely, phase 2a of the Value Creation Wheel, the team had to collect ideas and solutions from various sources, in order to create a bank of ideas. During a meeting, Professor Luís Lages and the team agreed to use one of the professor's classes of New Product Development at Nova Sbe as a workshop to gather a large amount of ideas. During the class, Alexandra, one of the founders of the company gave a brief explanation on the company, which was followed by the team asking the class on ideas for ideas and solutions for the formulated problem. At the end of the session, the class of 45 students resulted in 82 different ideas/ solutions. The team then decided, to create an online survey which resulted in 23 other unique ideas, and 16 other solutions resulted from 5 interviews. The team's research resulted in 30 different solutions and finally, the Key Decision Makers suggested 3 solutions. Reaching a bank of 156 different ideas/ solutions.

The phase 2b of the Value Creation Wheel was the gathering of filters, that were deemed important for the project and that would prioritize the solutions received in terms of relevancy and efficacy to the key stakeholders of the company, which were the founders of the company. The team decided to create a second brainwriting session at first, asking the 20 participants, in their opinion, what were the relevant filters. This session resulted in 42 initial filters, that after analysis, in terms of looking for overlapping ideas of filters, resulted in 19 different filters. Considering the low number of different filters, the team then decided to perform an online survey that resulted in 17 different filters and 3 individual interviews that resulted in 4 other filters. Finally, after a meeting with Professor Lages, feeling like maybe not all the bases were covered, the team was advised to search for themselves, what other filters could there be, defining 3 other filters and the Key Decision Makers suggested 3 additional filters. Reaching a total of 46 different filters to then allocate according to the Poker Method.

VCW Phase 3 – Validate/ Analyze

After gathering the bank of ideas and filters, of phase 2, meaning, when the VCW team found themselves receiving no new ideas or filters, but just repeated ones, they closed the search for more. Once the bank of ideas and filters were final, the following step was to have different subjects from different backgrounds, streamlining the lists, according to their own understandings. Where, once again, value was being added to the project by having collaboration from outside Pangaea. The VCW team organized two separate sessions in two consecutive weeks, where volunteers used the Poker Method to allocate the ideas and filters (in both sessions, three different groups of 3 people tackled both solutions and filters, one afternoon at a time).

When the solutions and filters were segmented in lists, by the use of the Poker Method, the VCW team scheduled a meeting with the founders of Pangaea, in order to review all solutions and filters and finalize the lists for the fourth phase and to rank the filters. Prior to this, and in order to have a better preparation and speed to the meeting and for the rest of the project, all solutions (including the ones under Review) were held against each filter (even the ones under review), to search for validity. During the meeting, all solutions and filters were analyzed and selected, and the filters were ranked in terms of importance. At the end of the meeting, there were 37 solutions (In the Appendix) and 7 ranked filters (Exhibit 3).

When the meeting took place, the VCW team was able to finalize the list of solutions and filters and immediately reach the best solutions, by checking, which ones were able to move through the most filters in real time with the founders of the company.

VCW Phase 4 – Capture/ Ground

The fourth phase of the VCW, was divided in to sub-stages, the Value Creation Funnel (phase 4a) and the concept/ prototype (phase 4b).

With the funnel realized to completion (Exhibit 3), only two of the solutions made it all the way through the filters: "Invite very diverse people to the production site and hear their thoughts and interest in the book. Make a workshop on the printing and gather the information again to see if the people feel different when they know how the books are made." and "Gather focus groups of different types of individuals and introduce the discussion of: Would you buy "Mensagem" from Pangaea rather than a mass copy? Why?". After discussing the two final solutions, the VCW team and the key decision makers, reached the decision to combine and adapt both of them into the final prototype, because they were very connected.

Reaching the concept/ prototype stage, the team decided to use both ideas tailoring them to the needs of the company, meaning, creating printing workshops at their production site, crafting the desired contact with possible customers and at the same time learn about these participants and what led them to Pangaea and to the books. The project basically was set on, hiring a masters' student from marketing or management temporarily and part-time, to contact and book participants for the pre-set dates for 8 workshops, with a maximum of 10 participants per workshop. The contact was to be made, through Pangaea's Facebook page, Instagram account and to the people responsible for book clubs in Portugal. In the workshops, the participants were to be welcomed, presented with information about the company and the two editions of "Mensagem" and guided through the printing process creating a booklet for themselves to take home as a souvenir along with Pangaea's business card. After the workshop, there would be a small goodbye cocktail, giving the chance for the founders of the company to create connections with the participants, that could result in immediate or at least future direct sales. (Details in the 3M's: Exhibit 4).

VCW Phase 5 – Consolidate/ Operate

Developing a business model (In the Appendix), in the final stage of the VCW, the team created the company's business model canvas, with the implementation of the solution found.

 The first aspect addressed were the key partners, which in the case of Pangaea were the binders that hand bind each book, being that this was a key partner because there were few suppliers for this service. Illustrators were also a key partner because, the books had illustrations within and the partnership with the artists was also key and valuable. The final major key partner were the types suppliers, again because there were few suppliers for these types that Pangaea used in its printing. Namely, the key partners were: for the individual types, Rainer Gerstenberg, a German smelting company, operating in Frankfurt am Main; The illustrations and watercolors were from Carlos Torres, a portuguese artist. The artisanal binding was done by Invicta Livro in Portugal and the twenty-four caret gold engravings were also done by Invicta Livro in Portugal.

The second aspect were the key activities, meaning, the vital and most important activities, for the operation of the business. These activities, for Pangaea were, the printing of the books which was one of the most important aspects for the product to deliver the quality expected in the value proposition. The quality assessment was the second key activity, because when offering a luxury piece, it was crucial that each product was subject to a checklist of quality aspects that ensured it was up to standard. The following key activity was sales, because this was a niche brand catering to a small market, with a quite expensive product line, it was very important to highly invest on directed selling in order to incentivize new orders getting fulfilled and finally, related to sales was the after sales assistance and follow up service, because this was a luxury brand essentially, the added services that back-up the price needed to be present, making the buyer a valued consumer and "friend" of the brand.

Looking over the key resources, which were the fundamental assets the company needed in order to deliver its value, the major ones were, the cast iron types of the letters, because they are not common to find, and the know-how of the entire printing process.

Moving forward in the business model canvas, the value proposition for Pangaea was the delivery of luxury books, that offered not only the utilitarian aspect of literature but also an art piece, relying on the traditional definition of luxury, which stood on luxury as rarity and using precious materials (Wiedmann, K. P., Hennigs, N. & Siebels, A., 2007). Another point was the fact that the company delivered portuguese history in a special way, also fulfilling the consumers' need for some indulgence and beauty, in a utilitarian way.

In terms of the customer relationship, the company needed a close relationship with its customers, brushing on the personal even, so that each one felt special, part of the family which would justify the investment made with each purchase. In addition, the workshops created from the VCW solution, would allow the company to have constant contact with potential customers, learning from them and nurturing the relationship.

As for the distribution channels, in the short term, it made sense for the company to keep their focus on direct selling, seeing as the connection with the customer was the basis of the business model and the VCW project reinforced this idea. The usefulness of the company's website was more directed towards communication, although having the capabilities to fulfill sales, but this would be reserved for the long term with higher awareness.

The Customer segments were broad, in the sense that, they were defined by: individuals with a love for literature or for art, maybe even book collectors, which would give the direction to target individuals for the workshops, yet the information received in the workshops would help to get to better know the target. In the long term, the product would also be targeted towards companies and political entities as formal presents.

The Cost structure, or the main allocation of financial resources was towards the manufacture of the merchandise itself. The cost of the different materials, the cost of binding and engraving, the cost of the illustrations by the artist, the cost of post sale assistance service and the cost allocated towards the workshops created (both for the hire and the activities conducted).

The Revenue Stream portion was constituted by one source only, which was the direct product sales, in the short term, which in the long term could be joined by the revenue stream from online sales of the books.

The project implementation plan, was determined with the use of the **3 M's** (Exhibit 4): Money, Men and Minute. Which was the planning of the solution in terms of the necessary budget, the necessary manpower and allocation of tasks and the timeline of the different stages of implementation. The "money" segment, divided the budget for the project between the cost of the temporary hire of a master student for support in a more cost efficient manner and the cost of the workshops. The "men" segment, was divided between the responsibilities of the key decision makers and of the temporary hire, because the company did not have any employees. Finally, the "minute" segment describes the timeline the team created for the steps necessary for the project.

Decision time

On December 14, 2017, the VCW team had the final meeting with the Key Decision Makers for Pangaea. The discussion topic for this meeting was the possibility of the implementation of the prototype from phase 4, the 3M's from phase 5 and the Business Model. After the presentation, the KDM were very satisfied with the prototype, having only a suggestion which lead to a modification of the implementation timeline. The modification, was the addition of

two monthly workshops at the beginning. Ultimately, the KDM decided to go ahead with the solution that resulted from the VCW.

Exhibits

Exhibit 1 \ The Value Creation Wheel (VCW)
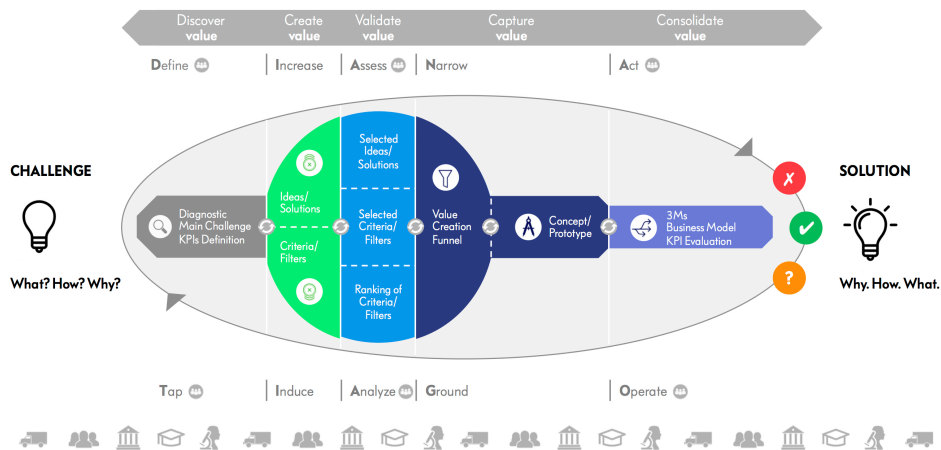
Source: Lages, L. F. (2016). VCW-Value Creation Wheel: Innovation, Technology, Business, and Society. *Journal of Business Research, 69*(11): 4849-4855.

Exhibit 2 \ SWOT Analysis

Strengths:	Weaknesses:
- Lean, flexible structure - Few stakeholders - Unique offering	- Lack of business know-how - Small budget - Lack of reputation
Opportunities:	Threats:
- Untapped market - Greater appreciation for unique, exclusive items - Portugal becoming a popular destination	- Threat of replication - Competition with better resources - Trend fluctuation (Portugal to the world)

Source: Developed by the VCW team.

Exhibit 3 \ The Value Creation Funnel for Pangaea

	37 solutions
Filter #1. Within the Budget Set .	33 solutions
Filter #2. Company has access to necessary tools/ people/ know-how to achieve results.	26 solutions
Filter #3. The team has the time to implement the activity.	21 solutions
Filter #4. Creates sale opportunities.	17 solutions
Filter #5. Takes into consideration the needs of the target.	7 solutions
Filter #6. Considers vary different types of consumers (Age, gender, age segment, field of interest)/ Diverse sample.	2 solutions
Filter #7. Considers non-portuguese speaking consumers.	2 solutions

Source: Developed by the VCW team.

Exhibit 4 \ 3Ms

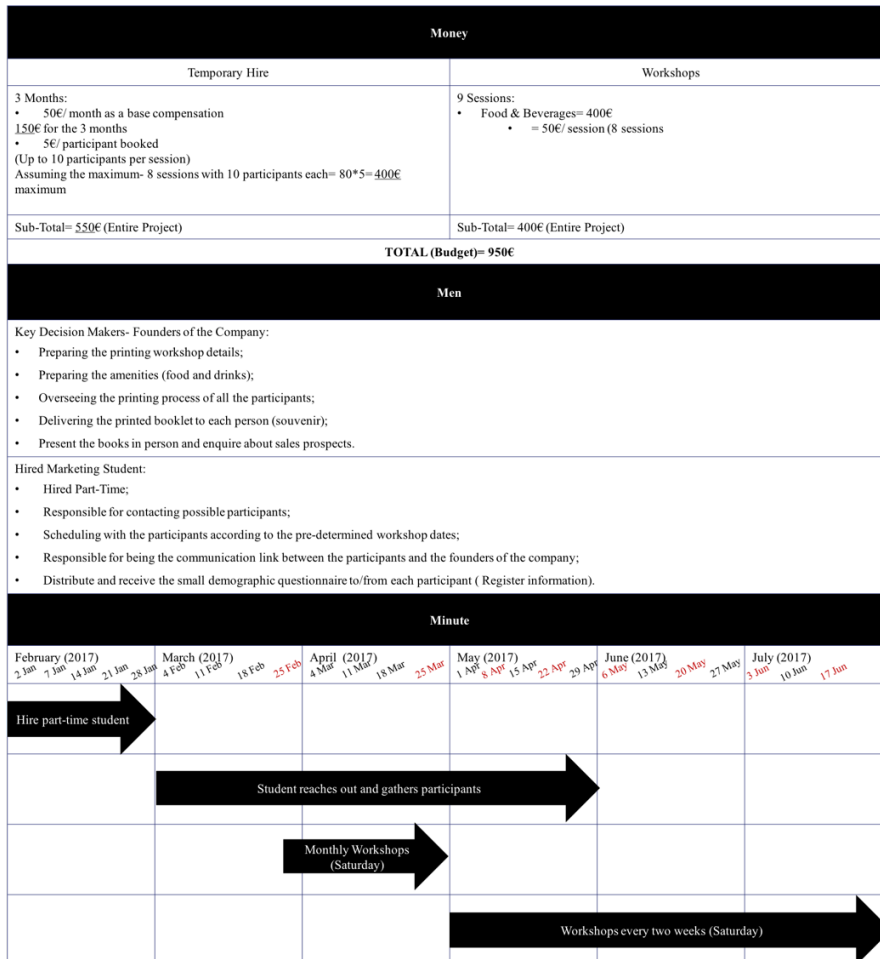| Money	
Temporary Hire	Workshops
3 Months: • 50€/ month as a base compensation 150€ for the 3 months • 5€/ participant booked (Up to 10 participants per session) Assuming the maximum- 8 sessions with 10 participants each= 80*5= 400€ maximum	9 Sessions: • Food & Beverages= 400€ • = 50€/ session (8 sessions
Sub-Total= 550€ (Entire Project)	Sub-Total= 400€ (Entire Project)
TOTAL (Budget)= 950€	

Men
Key Decision Makers- Founders of the Company: • Preparing the printing workshop details; • Preparing the amenities (food and drinks); • Overseeing the printing process of all the participants; • Delivering the printed booklet to each person (souvenir); • Present the books in person and enquire about sales prospects.
Hired Marketing Student: • Hired Part-Time; • Responsible for contacting possible participants; • Scheduling with the participants according to the pre-determined workshop dates; • Responsible for being the communication link between the participants and the founders of the company; • Distribute and receive the small demographic questionnaire to/from each participant (Register information).

Minute

February (2017)	March (2017)	April (2017)	May (2017)	June (2017)	July (2017)
2 Jan 7 Jan 14 Jan 21 Jan 28 Jan	4 Feb 11 Feb 18 Feb 25 Feb	4 Mar 11 Mar 18 Mar 25 Mar	1 Apr 8 Apr 15 Apr 22 Apr 29 Apr	6 May 13 May 20 May 27 May	3 Jun 10 Jun 17 Jun
Hire part-time student					
	Student reaches out and gathers participants				
		Monthly Workshops (Saturday)			
			Workshops every two weeks (Saturday)		

Source: Developed by the VCW team.

Teaching Note

Case Synopsis

This case describes the real life application, of the Value Creation Wheel (VCW) to Pangaea, a luxury book company, in order to tackle a rooted problem in the company. The case goes through the discovery of the lack of information and contact with the target market, that the company was going through, serving a niche market, that had to be well defined.

The case starts with an overview of the company and its history, the resources it has and the reality of the founders of the company, explaining the reasoning behind the beginning of the company.

After the introduction into the founders, the company and the product, it is explained, how the Value Creation Wheel, developed by professor Luís Filipe Lages, was used in the project for Pangaea. Starting with phase 1, **Tap**, where the team analyzed the market and the company, and found the root problem to be tackled along side the Key Decision Makers of Pangaea (the founders, Alexandra and Lino Santos). The following phase is the **Induce**, in which the team involved several stakeholders to provide ideas and filters to solve the problem, adding their own research. The third stage, **Analyze,** describes the involvement of the KDM to select the right ideas and filters and rank the filters. Afterwards, in the **Ground** phase, the Value Creation Funnel was used to reach the optimal solutions and the prototype of implementation was created. Finally, the last phase, **Operate,** the new business model is developed and the required resources are explained.

The end of the case study is the presentation to the Key Decision Makers of the solution implementation plan and resources, for the decision on whether to go, no-go or hold-off.

Learning Objectives

- To understand how the Value Creation Wheel can be applied to a problem and how useful it is to have several stakeholders provide insights and value;

- To understand how different frameworks and tools can be integrated into the Value Creation Wheel;

- To compare a non traditional solution with a very traditional problem, companies have and understand how it can solve it.

Discussion Questions

1. How did the VCW create value for Pangaea, at each phase of the wheel?

2. How attractive is it, for Pangaea, to be in the luxury book industry? Answer by applying Porter's Five Forces Model to Pangaea's Industry.

3. Develop a TOWS analysis, crafting strategies according to the SWOT analysis created for the case.

4. Should the Key Decision Makers decide to go, no-go or place the implementation of the project on hold?

Recommended Readings

Lages, L. F. (2016). VCW—Value Creation Wheel: Innovation, technology, business, and society. *Journal of Business Research*, 69(11), 4849-4855.

Porter, M. E. (2008). The Five Competitive Forces That Shape Strategy. *Harvard Business Review* 86 (1), 78–93.

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Discussion Notes

1. How did the VCW create value for Pangaea, at each phase of the cycle?

Tap Phase: Seeing as the VCW team performed some internal and external analysis and reached the root problem that Pangaea had, this created value, in the sense of providing information the company maybe did not possess in a written-out, analytical manner.
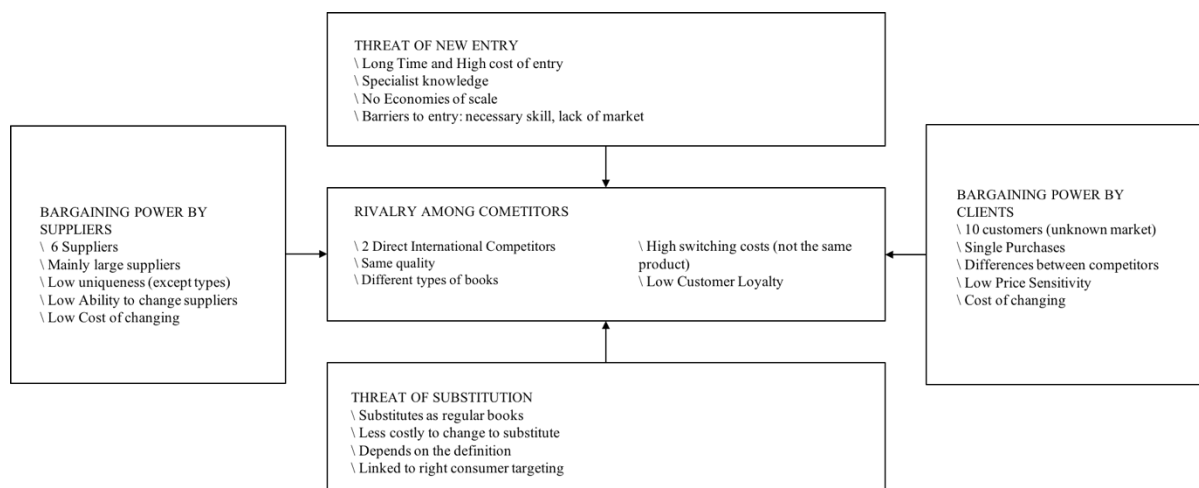
Induce Phase: This phase is the one where multiple internal and external stakeholders provide ideas and filters to solve the company, so the value creation is quite clear.

Analyze Phase: This phase is where the team and the key decision makers both, create value by reviewing all the data and create a dialogue and reasoning for what is best for the company.

Ground Phase: Value is created by the team, by reaching the optimal solution and creating an implementation plan for the company.

Operate Phase: In the last phase, the team develops the new business model and the 3 M's for the company, creating value.

2. How attractive is it, for Pangaea, to be in the luxury book industry? Answer by applying Porter's Five Forces Model to Pangaea's Industry.

THREAT OF NEW ENTRY
\ Long Time and High cost of entry
\ Specialist knowledge
\ No Economies of scale
\ Barriers to entry: necessary skill, lack of market

BARGAINING POWER BY SUPPLIERS
\ 6 Suppliers
\ Mainly large suppliers
\ Low uniqueness (except types)
\ Low Ability to change suppliers
\ Low Cost of changing

RIVALRY AMONG COMETITORS
\ 2 Direct International Competitors
\ Same quality
\ Different types of books

\ High switching costs (not the same product)
\ Low Customer Loyalty

BARGAINING POWER BY CLIENTS
\ 10 customers (unknown market)
\ Single Purchases
\ Differences between competitors
\ Low Price Sensitivity
\ Cost of changing

THREAT OF SUBSTITUTION
\ Substitutes as regular books
\ Less costly to change to substitute
\ Depends on the definition
\ Linked to right consumer targeting

Overall, it is attractive for the company to be in the Industry, because the balance of power is leaning more towards the low side overall, when using Porter's Five Forces.

3. Develop a TOWS analysis, crafting strategies according to the SWOT analysis crafted for the case.

	Opportunities - Untapped market - Greater appreciation for unique, exclusive items - Portugal becoming a popular destination	Threats - **Threat of replication** - **Competition with better resources** - **Trend fluctuation (Portugal to the world)**
Strengths - Lean, flexible structure - Few stakeholders - Unique offering	• Sell the book as the unique item that represents portuguese culture for tourists; • Build contact base slowly for possible consumers, adapting the approach through experience for optimal strategy.	• Push the products pretty hard right now while Portugal is an attractive and enticing country; • Stick with portuguese literature to avoid replication from foreign possible competitors (present as a portuguese product).
Weaknesses - Lack of business know-how - Small budget - Lack of reputation	• Understand the needs and wants of possible consumers without the worry of close competitors; • Present the brand as the first to offer this product, gaining reputation.	• Build awareness with portuguese consumers, which are not affected by Portugal being a trendy destination; • Hire experienced marketing manager before other new entrant replicates the product .

4. Should the Key Decision Makers decide to go, no-go or place the implementation of the project on hold?

This is a subjective question, so the argument over their decision is the important part in the evaluation process, which would be advised for an in-class discussion. Examples on the reasoning for each of the three options:

Option A: Go for implementation

The company would be able to: gather information on who is more inclined into buying the book, noting the demographic details of the target, being able to better allocate resources and communications. At the same time, Pangaea would create the opportunity to get in contact

with the target market, creating opportunities for personal selling and create contacts with potential consumers.

Option B: No-Go for Implementation

The company wouldn't be able to have enough people to attend the sessions, and the probability of creating sale opportunities would be too small to justify the budget dispensed for the project. The information gathered would be skewed by the fact that, these potential consumers were involved in a fun activity, so the feedback could be positive but wouldn't necessarily translate into creating sale opportunities.

Option C: Hold-off on the project

The company should wait and perform a second VCW cycle for the problem of how to gather people for the workshops. This way, the implementation of this project would be fully optimized, either keeping the solution presented, if it was actually the best option or if not, the best one could be used.

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Case Study Two

Avantgarde: Innovating Brand Experiences to Acquire Multinational Clients, applying the Value Creation Wheel.

Author: Patricia Stangner \ 27341

Abstract

The founder and CEO of Avantgarde, a global creative brand experience agency based in Germany, had a strong vision: To develop "brand platforms" for multinational clients. But neither a clear brand positioning existed to create "brand platforms", nor ideas how to sell the offer to multinational corporations. In order to take on these challenges and create value for Avantgarde, the CEO relied on the Value Creation Wheel (VCW) team. By applying the VCW, the team was able to identify the best ideas to adapt Avantgarde's brand positioning and to make it come alive in a strategic marketing plan in order to acquire multinational clients. After the final presentation, the project clarified that the concept of a Consumer Experience Ecosystem sets the fundamental basis to foster growth for Avantgarde in the future.

Keywords: Brand Positioning, Client Acquisition, Brand Experience, Consumer Experience, and Value Creation Wheel.

It's Super Bowl time!

February 5, 2017. It was around midnight, when Martin Schnaack arrived home from the office, opened a well-earned beer, took a seat on his couch, and turned on Fox channel on his MacBook. It was Super bowl time, but the founder and CEO of the brand experience agency called Avantgarde was not interested in sports. He was interested in the halftime, where multinational corporations spend five million US dollars on a single 30-second commercial (Statista, 2017). The Budweiser spot delivered good storytelling, Schnaack noted. And Coca Cola proofed once more that the brand unites people by sharing happiness, he thought while taking a sip. But he couldn't stop wondering: How come that all of these multinational brands spend millions of dollars on traditional advertising, where the brand message is being told, but people cannot truly experience it? He went one step further: Why does Coca Cola continue to sponsor the FIFA world cup, but never create its own football world cup? In such a rapidly changing industry, Schnaack couldn't believe that marketing budgets still relied on traditional advertising mainly. Sure, digital marketing was on the rise. And yes, the Super Bowl accounted for over 100 million viewers worldwide (Nielsen, 2017). It is easy to tell a story with the right message in a commercial, but to make a story come alive that people can experience first hand – THAT is the challenge, Schnaack figured. But too often, brands do not deliver good brand experiences, or worse, they do not deliver a relevant brand experience at all. Don't they understand that people crave for live experiences that are meaningful to them, the CEO asked himself.

But then he had an idea. What if Avantgarde supported multinational clients in creating live experiences that their brands would not sponsor? Large-scale happenings multinationals can implement all over the world with experiences that are more meaningful and relevant in people's lives. So-called "brand platforms" that create life-long memories people are willing

to share with their friends and family. Schnaack knew that this might be a promising way for Avantgarde to grow in the future. The question was: Where does he need to start?

About Avantgarde

Avantgarde is an owner-managed, creative brand experience agency founded by Martin Schnaack in 1985 in Munich, Germany. Over the years, Avantgarde launched 13 offices in eleven countries and prospered to 500 employees worldwide (Avantgarde, n.d.). The agency's mission is to turn consumers into fans by building creative and engaging brand experiences, from the creative concept development to the implementation of any type of event, conference, guerilla activation, digital campaign, and promotion mainly for brands in the automotive and tobacco industry, such as Mercedes and Philip Morris. So instead of offering traditional advertising, Avantgarde specializes on experiential marketing and brand experiences. Traditional media advertising in Germany has been stagnating to decreasing growth, but the market shows increasing growth indices for digital and other advertising measures (Arrigo, 2016), with a healthy growth in experiential marketing (Passport Country Report, 2017). No matter which experiential measures are used that break traditional marketing silos, Avantgarde offers high-quality brand experience concepts with in-house creative, design, architecture, digital, trend scouting, consultancy, project management, and production units – with success. In 2016, Avantgarde was awarded the biggest brand experience agency (Amirkhizi, 2016) and global agency of the year (C&IT AWARDS, 2017). But in the highly competitive market of the creative agency industry, Martin Schnaack felt that this was not enough. Although, Avantgarde has been constantly growing over the years, the agency is highly dependent on its existing clients today that determine its success with car launch events and single cigarette promotions. These "cash cows" provide today's revenue streams, however, Avantgarde needs to reinvest its turnover in order to deploy new ways of

brand communications and target clients with large marketing budgets in order to grow faster, bigger, and stronger. But most importantly, Avantgarde needs to stay ahead of the fierce competition and address new opportunities within the experiential marketing sector.

Avantgarde and the VCW Team

Martin Schnaack believed that "brand platform" concepts have the opportunity to create new value for Avantgarde and multinational brands. Take Red Bull: By inventing extreme sports that fit to the core product of energy drinks, the multinational company created its own worldwide events full of live experiences, where consumers can dip into the world of Red Bull. But there was no new business team that could have taken on the challenge. And the creative departments were too busy focusing on new pitches coming in. That's when Schnaack decided to hire an external team that specializes in value creation: The Value Creation Wheel (VCW) team. One member of the VCW team has been a former employee at Avantgarde for three years, now applying the Value Creation Wheel (VCW) – a meta-framework with the ability to solve challenges in order to create value for companies and individuals within multiple contexts, industries, and countries (Lages, 2016) (refer to Exhibit 1 for a description of the VCW). After an initial phone call with the VCW team, the team was invited to work on the project for six months to make the CEO's vision come alive.

Phase One \ Kick-Off Meeting with the CEO to Tap Value

In July 2017, the VCW team met with Schnaack, the Key Decision Maker (KDM) of the project. In this kick-off meeting, the VCW team presented a diagnostic about Avantgarde's internal environment and the creative agency industry's external environment to reveal strengths and weaknesses, as well as opportunities and threats. Appendix 10 contains the diagnostic, where the VCW team matched strengths and weaknesses and opportunities and

threats to identify strategic choices that build a foundation to define the main challenge of the project (Mind Tools, n.d.). The diagnostic provided detailed insights about the highly competitive creative agency industry, where each player in the market needs to respond to increasing client demands due to high consumer expectations. Although this might be considered as a threat, it is also an opportunity to leverage on rapidly evolving trends in digital and experiential marketing. Thereupon, the VCW team understood that Avantgarde's differentiated and high-quality offer could build on market opportunities by investing in innovative brand experiences with an adapted brand positioning, as well as minimize threats by acquiring and retaining clients. The KDM confirmed the VCW team's diagnostic and explained Avantgarde's paradox of global and local needs: The agency's management board demands short-term, monetary goals besides long-term objectives for all units in the headquarters and branches worldwide. These short-term goals are far easier and faster to achieve with the execution of an event or promotion for existing clients rather than investing time and money into new client acquisition. As a result, clients mainly contact the agency for events and promotions. Thus, the VCW team pointed out a gap between the CEO's vision for Avantgarde being a brand experience agency beyond conventional event and promotion business and all units that feel the need to primarily execute events and promotions. Moreover, Avantgarde needed to overcome the paradox of market pull or technology push: In the highly competitive creative agency industry, Avantgarde needs to re-design existing brand experience concepts based on their in-house expertise and create innovate solutions for clients in order to be ahead of the fierce competition. Nevertheless, these solutions need to respond to market and client needs. In order to solve the paradoxes, the VCW team and KDM agreed on two main challenges that need to be addressed in the following months: First, how can Avantgarde's brand positioning be adapted? Second, how can the brand positioning come alive to acquire multinational clients? Thereafter, the VCW team and KDM agreed on key

performance indicators (KPIs) and resources (3Ms, being Manpower, Minute, and Money) to start the project and measure its success (refer to Appendix 11 for a description of the KPIs).

Phase Two \ Conducting Research to Induce Ideas and Criteria

After the kick-off meeting, the VCW team conducted primary, qualitative research in order to induce at least 50 ideas and 20 criteria per challenge. At first, the VCW team was able to assemble a sample of 35 stakeholders with various backgrounds and organized focus group brainwriting sessions with them to generate ideas and criteria for both challenges. Two focus group sessions with students, online marketing managers, and brand managers have been carried out, followed by another two brainwriting sessions with Avantgarde employees from the creative, design, consultancy, and digital units that the VCW team gathered together at Avantgarde's headquarters in Munich. But the VCW team felt that this was not enough. They needed to get hands-on ideas and criteria from a client's perspective and other agencies, when it comes to client acquisition. What do multinational corporations expect from agencies? And what do other agencies with multinational accounts do to excite them? Hence, semi-structured interviews have been conducted with five new business/account managers (including Florian von Hornstein, Partner and CEO at Serviceplan, and Tim Welsh, Senior Vice President New Business at BBDO) and with five senior brand/marketing managers (including Hermann Gottwald, former Chief Executive at Nestlé Waters and former CEO at Coca Cola and Pepsi Germany). All interviewees stated the same message: Cold calls don't do the trick. In a highly competitive market, Avantgarde needs to think outside-of-the-box and take several actions in order to truly impress clients. Avantgarde wants to be considered for a creative pitch? Show them your creativity! Avantgarde wants clients to trust the agency? Show them the people behind your operation! But the VCW team did not stop there. They carried out secondary research based on market reports, internal Avantgarde documents, competitor websites, online

blogs, and magazines to find more ideas to adapt the brand positioning. Furthermore, all ideas and criteria have been evaluated with five-selected Avantgarde employees by applying the Poker Method – a tool to assess generated ideas and filters in a critical way (Lages, 2015). Overall, the VCW team decided on 240 ideas and 43 criteria to adapt the brand positioning and 75 ideas and 42 criteria to acquire multinational clients (refer to Appendix 12 for a description of the ideas and criteria).

Phase Three \ Mid-term Meeting with the CEO to Analyze Ideas and Criteria

At the end of October 2017, the VCW team was invited to Avantgarde's headquarters. After analyzing and evaluating all ideas and criteria by Schnaack making use of the Poker Method, the KDM was very satisfied with the output the VCW team elaborated. In the end, he selected 73 ideas for the brand positioning that should serve five, "must have"-ranked criteria, namely defining the target audience, describing Avantgarde, its offer, and "proof points" that make the agency truly unique. Moreover, Schnaack explained that Avantgarde's brand positioning should be compelling and convincing, unique and different, and convey a clear message. But most importantly, the VCW team convinced Schnaack to change his vision of offering "brand platforms" to "CX Ecosystems". Consequently, the KDM asked for a detailed explanation of CX Ecosystems as a true selling point for Avantgarde to acquire multinational clients, which the team carried out in the following phase of the VCW.

As for client acquisition, the KDM selected 49 ideas and eight criteria. "It is most important for me that we are able to excite the client with relevant measures" Schnaack explained. Nonetheless, every client acquisition has its financial limits. Consequently, Schnaack decided on additional criteria for the client acquisition that should be exciting and relevant yet at the same time yield clear performance results for Avantgarde.

Phase Four \ Developing Concepts to Ground the best Solutions

After meeting with the KDM, the VCW team allocated the selected ideas to the ranked criteria in the Value Creation Funnel (VCF) – one for the brand positioning and one for the client acquisition – in order to find the best ideas that serve all ranked criteria along the funnel (Lages, 2016) (please refer to Exhibit 2 and 3 for a description of the two VCFs). The team realized that there neither one single idea exist to successfully adapt the brand positioning, nor to acquire multinational clients. Many elements determine a holistic brand positioning statement with many "proof points" that Avantgarde has to offer. Moreover, the VCW team pointed out that clients would not be convinced by one single measure. Client acquisition is a process throughout the customer decision journey and Avantgarde needs to add value at every single stage of the journey. After confirming their insights with Schnaack, the VCW team preceded developing two concepts for both brand positioning and client acquisition.

Creating the Brand Positioning Statement

The VCW team decided to create a brand positioning statement with the final solutions based on Keller's customer-equity model. Keller (2013) has not only been a pioneer in strategic brand management, but he also developed a tool that ensures "a proper location" in the minds of a target group in order to let them think about Avantgarde's service product in the "right" or desired way. It is the heart of every marketing strategy, designing Avantgarde's offer and image in a brand positioning statement that occupies a distinct and valued place in the target customer's minds (Keller, 2013). Thus, the brand positioning statement builds the foundation for any marketing activities, and in that event, Avantgarde's client acquisition. Keller divides the brand positioning statement into four different segments: *Target Group* (Who is the target group?), *Frame of Reference* (What is Avantgarde?), *Points of Difference* (What is the offer that makes Avantgarde truly unique?), and *Reasons to Believe* (What are the "proof points" of

the unique offer?). Therefore, the VCW team adapted Avantgarde's brand positioning to the following:

> To global brand and marketing management directors at headquarters of multinational corporations with strong global brands *(Target Group),* Avantgarde is a global, creative, and independent brand experience agency based in Germany *(Frame of Reference),* that creates fans for brands by offering consumer-centric, holistic, and interconnected CX Ecosystems that turn brands into experiences *(Points of Difference),* due to its worldwide brand experience leadership since 1985, specialized expertise with in-house Trendbüro[1], SMS[2], Architecture, Sponsoring, Creative, Design, Consultancy, and Project Management under one roof in Munich's upcoming, creative, and culture hub "Werksviertel", international network with 13 offices in 11 countries, over 500 experts worldwide, awards won, Avantgarde's pioneering technology tools, and the integration of all kinds of actions in custom-made concepts that are measurable to increase a brand's value and ROI *(Reasons to Believe).*

But what is a CX Ecosystem? And how can it create value for both Avantgarde and multinational clients?

The CX Ecosystem – Turning Brands into Experiences

The VCW team suggested that Avantgarde should encourage brands to take ownership of the consumer experience in order to create powerful touchpoints in people's lives. So instead of focusing on commercials, doing sponsoring or single promotions at events, brands have the opportunity to own an event, where the whole experience is transformed into a brand's property. The VCW team realized that marketing silos fragment the consumer experience, whereas ecosystems connect all elements in one holistic and seamless consumer experience that delivers value (Hagen, 2013). Per definition, an ecosystem is a system or group of interconnected elements formed by the interaction of a community with their environment (Boiter, 2016) – no matter which elements, channels, and measures are used. Martin Schnaack was convinced that no real barriers exist between all types of physical or digital brand communications, channels, design, architecture, sports, art, and music. He believed in holistic

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[1] Trendbüro = Research and trend scouting unit
[2] SMS = Digital unit

and pioneering concepts, where all kinds of elements are integrated that are measurable to increase a brand's value and ROI. As a result, ecosystems provide a promising tool to connect different elements into one holistic and consumer-centric brand experience that a brand owns – and doesn't sponsor.

Therefore, the VCW team recommended Avantgarde to create consumer-centric, holistic, and interconnected Consumer Experience (CX) Ecosystems that turn brands into experiences. The CX Ecosystem derives from the natural world: It is a community of living organisms that interacts with each other and their shared environment, and competes and collaborates simultaneously (Kelly, 2015). It provides a cross-functional view to design experiences in an adaptive network of interdependent entities by creating and capturing value for themselves through collaboration and coordination, while unleashing powerful network effects that often yield in strong returns (Kelly, 2015). Hence, Avantgarde should look beyond a brand's industry and create holistic experiences with a lifestyle-focused approach that revolve around consumer's interests and involve respective stakeholders. This way, brands have the opportunity to develop deeper and long-lasting relationships with consumers. As a consequence, consumers become fans of the brand – the world's best advertisers.

But how should Avantgarde build a CX Ecosystem? First of all, a good ecosystem gains its sustenance from consumers (Moore, 2016). Therefore, Avantgarde needs to put the consumer first and in the heart of the CX Ecosystem. But instead of clustering target audiences into demographical stereotypes, the VCW team suggested thinking of consumers as an individual and finding out their passions and lifestyle they want to embrace (Millennial Rules Metro Mailonline, 2016). Secondly, a holistic consumer experience must be designed in a way that requires a look at the whole ecosystem in which the experience will materialize (Deane, 2017). Therefore, Avantgarde needs to create ideas that revolve around consumer insights and

connect all components in the CX Ecosystem that develop an experience with physical spaces, applications, people, processes, among others. Furthermore, the VCW team realized that these components must promise a lifestyle people can identify themselves with, inspire people to reach out for products, and offer content that consumers love to engage with. Lastly, the interconnection of stakeholders guarantees a good consumer experience – an orchestra of talents, capabilities, innovation, co-creation, and governance that is collaborative, solution-focused, and able to scale fast (Heald & Ref, 2015). Avantgarde connects and coordinates stakeholders such as consumers, Avantgarde's and client's employees, suppliers, complementary agencies, as well as distributors, trade associations, investors, competitors, governments, society, partners, and other stakeholders in the CX Ecosystem network. Exhibit 4 illustrates the CX Ecosystem with all three dedicated steps that create a consumer-centric, holistic, and interconnected consumer experience.

Developing a Client Acquisition Concept

The VCW team identified that the client's decision process is a circular journey with four central phases: the initial consideration stage, the active evaluation stage, and purchase and post-purchase stages (Court, Elzinga, Mulder & Vetvik, 2009) (refer to Exhibit 5 for a description of the client decision journey and an overview of the client acquisition concept). However, the VCW team realized that Avantgarde is not in multinational client's consideration set, when it comes to developing innovative and large-scale brand experiences. In order for clients to evaluate and select Avantgarde, the agency needs to disrupt the consideration stage and make clients evaluate its offer. Hence, the VCW team examined that Avantgarde needs to primarily increase brand awareness and brand image during the consideration stage. For this purpose, popular marketing, advertising, or branding blogs, industry (speaker) events, as well as award shows and rankings in the field of marketing and

consumer experience provide promising tools for Avantgarde to get on the radar of multinational clients. Therefore, the VCW team researched eleven blogs to release press releases and guest articles by the CEO, five impactful award shows and rankings Avantgarde should invest in, and twelve industry events the CEO can participate in (refer to Appendix 13 for a description of blogs, industry events, and award shows/rankings). However, the team pointed out that a new business team structure is crucial to get in contact with multinational clients. Since Avantgarde's business is dynamic and project related, Appendix 14 illustrates a team structure that is divided into projects managed simultaneously by respective senior managers that are responsible for client contacts and developing CX Ecosystems with selected units and stakeholders. Furthermore, the VCW team suggested making use of LinkedIn as the preferred social media platform to get in contact with potential new clients from all over the world. Appendix 15 provides an overview of the platform's tools the team suggested for Avantgarde. Beyond LinkedIn, the VCW team recommended to re-design Avantgarde's website and include the CX Ecosystem concept, past CX Ecosystem projects, and client statements in order for clients to consider Avantgarde. Additionally, an emotional image film about CX Ecosystems, Avantgarde, and its team add value to the website and make Avantgarde's brand positioning come alive (refer to Appendix 16 for a detailed storyboard). After an initial contact has been made, Avantgarde can make use of small gifts that are not only fun, but advertise Avantgarde in a creative way on a client's office desk: Four dices with well-known marketing terms on every side create a nearly "proper briefing" once they are rolled (e.g. "Develop a unicorn fight event on Mars"). At the same time, an Avantgarde "cookbook" tells a story about Avantgarde, CX Ecosystems, and the efficient pitch process from "a pinch of Drama Baby!" to a "preparation time of two weeks" (refer to Appendix 17 for detailed moods of the dice and book ideas). However, in order to make the brand positioning truly come alive, the VCW team developed The Studio X Munich: A conference

by Avantgarde, where brands and culture come together from all over the world in one studio environment to connect business with creativity, brands with experiences, and networking with masterclasses. Appendix 18 provides a description of the yearly event, where international guests meet at Avantgarde's studio loft Hoch5. Beyond the Studio X Munich, the VCW team recommended to invite clients to the Avantgarde headquarters for chemistry meetings in order to provide the opportunity to experience the agency first-hand, the people behind the operation, and all creative processes.

In the evaluation stage of the decision journey, Avantgarde needs to generate brand interest. The VCW team pointed out that it is crucial for Avantgarde to provide a presentation that explains the CX Ecosystem with an emotional story and compelling facts. But the presentation should also include a true Avantgarde manifesto with a clear "Problem > Solution > Vision/Mission > Why? > Outcomes" structure based on industry, market, and brand insights, as well as current trends. Accordingly, the VCW team elaborated a "Hot-Problem-Barometer" to reveal brand problems as a basis to introduce CX Ecosystems as the solution (refer to Appendix 19 for an overview of the manifesto and Avantgarde's corporate presentation slides). Moreover, the team suggested posting fun and exciting "behind the scenes" Instagram stories about Avantgarde employees at work during the pitch process to bring the people behind the project closer to its respective clients.

Lastly, Avantgarde should build brand preference in order to close the deal (buying stage of journey). Since CX Ecosystems require high investments, Avantgarde needs to submit a compelling financial proposal and a carefully elaborated implementation plan. But in order to truly convince multinational clients that their investment in CX Ecosystems pays off, Avantgarde must present measurement methods to evaluate the success of all actions. Appendix 20 provides a description of the evaluation, implementation and financial plan.

Phase Five \ Operating the Concepts in a Strategic Marketing Plan

After finalizing the two concepts, the VCW team decided on elaborating a strategic marketing plan with five steps that include the brand positioning and client acquisition (Egan & Thomas, 1998) (refer to Exhibit 6 for an overview and to Appendix 21 for a detailed description of each step of the strategic marketing plan). The first step reveals the internal and external diagnostic that the VCW team already elaborated during phase one of the VCW. Based on this, the team stated Avantgarde's vision, mission, marketing objectives and strategy to describe Avantgarde's strategic direction. The VCW team set objectives to increase Avantgarde's market share by developing new product services for current markets, besides increasing sales and establishing a clear market position. Moreover, the VCW team composed a differentiation strategy based on Porter's Three Generic Strategies to create a unique and desirable service product that is different from its competitors to achieve a competitive advantage in the market (Wilson, Gilligan & Pearson, 1992). According to that, it is crucial for Avantgarde to emphasize on good research and development, innovation, a high degree of flexibility, and effective sales and marketing with service excellence for clients to understand the benefits of Avantgarde's CX Ecosystems. Although Schnaack proposed to target multinational clients in general, the VCW team suggested to create Client IDs with a combination of both segmentation and personalization that give clients "a face" in order to target each client in a personal way. Step two concludes with the brand positioning that lays the foundation for the 7Ps marketing mix including the client acquisition concept in step three. Step four provides an implementation plan in order to execute the marketing plan. The VCW team made clear that the adapted brand positioning and new client acquisition concept should be implemented within a three-month timeframe. Moreover, the VCW team understood that all marketing activities should be constantly reviewed, evaluated, and adjusted. The team identified eight indicators that ensure the success of the agency's business

in the fifth step, including client conversion rate, timeframe per acquired client, profit margin, sales revenue per client, return on investment, market share, client satisfaction, and competitor response. After designing the strategic marketing plan, the VCW team analyzed the resources required to implement the project based on the Manpower, Minute, and Money (3Ms, refer to Appendix 23 for a detailed description). Since a new business unit had not been implemented yet, the VCW team listed necessary human resources that collaborate with internal and external stakeholders, which are involved in the CX Ecosystem. In addition to that, a calendar from January 2017 to March 2019 provides an overview of to-dos with quarterly milestones, industry events, and award shows. To sum up, the VCW team elaborated a cost estimation for the first year of implementation.

Go or No Go?

Martin Schnaack awaited the VCW team inside Avantgarde headquarters' conference room. After the VCW team presented the final project phases, the KDM was convinced that they solved both paradoxes. Schnaack felt that the team was able to close the gap between his vision and the unit's need to primarily execute events and promotions. Therefore, he did not consider it as a conflict to both acquire multinational clients and continue pursuing Avantgarde's daily business. Moreover, the VCW team convinced Schnaack to develop CX Ecosystems in the future. However, the KDM mentioned that the crucial next step must be to create a detailed budget and an adaptation of the timeframe. After discussing the issues, both parties agreed on extending the timeframe to April 2018 and to assign one VCW team member to develop a detailed budget at the beginning of January 2018. After analyzing the project's key performance indicators, the VCW team and KDM confirmed the success of the project that has the opportunity to foster growth for Avantgarde in the future.

Exhibits

Exhibit 1 \ The Value Creation Wheel (VCW)
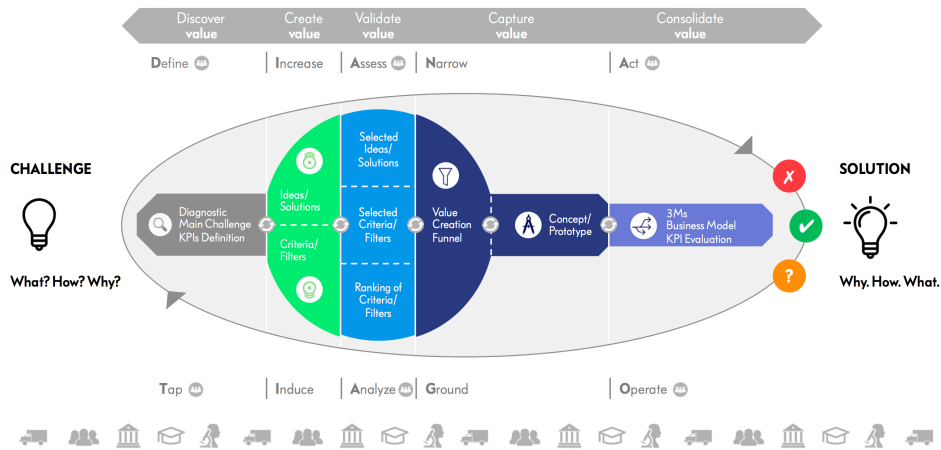
Source: Lages, L. F. (2016). VCW-Value Creation Wheel: Innovation, Technology, Business, and Society. *Journal of Business Research, 69*(11): 4849-4855.

Exhibit 2 \ The Value Creation Funnel (VCF) to adapt the Brand Positioning
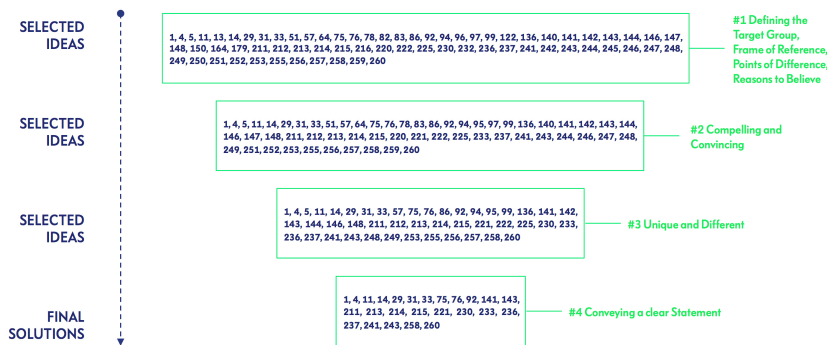
Source: Developed by the VCW team.

Exhibit 3 \ The Value Creation Funnel (VCF) to acquire Multinational Clients
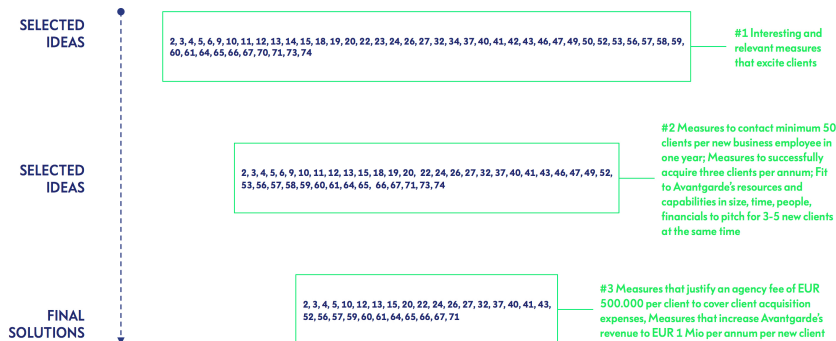
Source: Developed by the VCW team.

Exhibit 4 \ The CX Ecosystem Framework
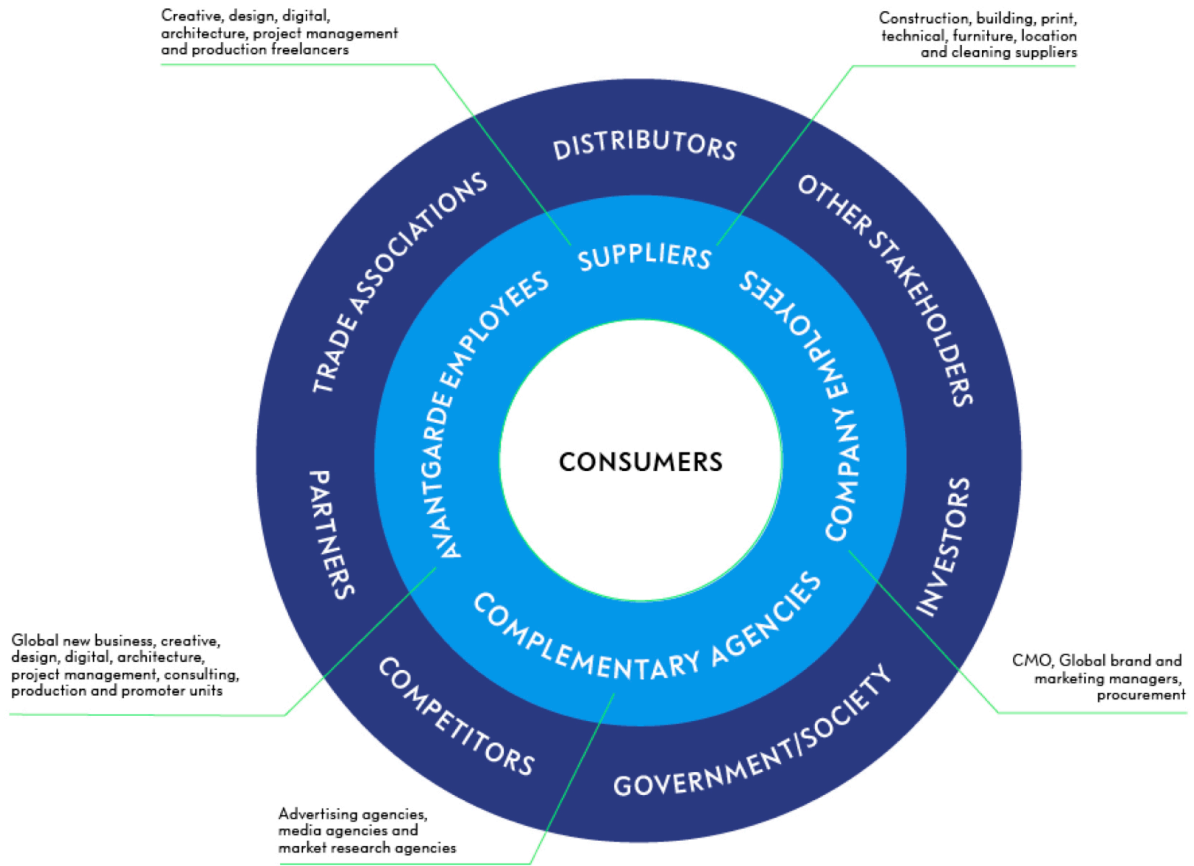
Source: Developed by the VCW team.

Source: Developed by the VCW team.

Exhibit 5 \ The Client Decision Journey and Client Acquisition Concept

BRAND AWARENESS*** BRAND IMAGE**

BRAND AWARENESS** BRAND IMAGE*** BRAND INTEREST***

#1 CONSIDER

1. Clients consider an initial set of agencies

#2 EVALUATE

2. Clients subtract agencies as they evaluate

#4 BOND

4. Clients bond with an agency and do not cycle through the consideration and evaluation stages

Advocate

Enjoy

BRAND PREFERENCE*** BRAND PURCHASE***

#3 BUY

3. Clients select an agency at the moment of purchase

*** Strong Focus
** Medium Focus

BRAND AWARENESS. Increase Avantgarde's brand awareness among multi-national corporations in order to get shortlisted for a pitch.
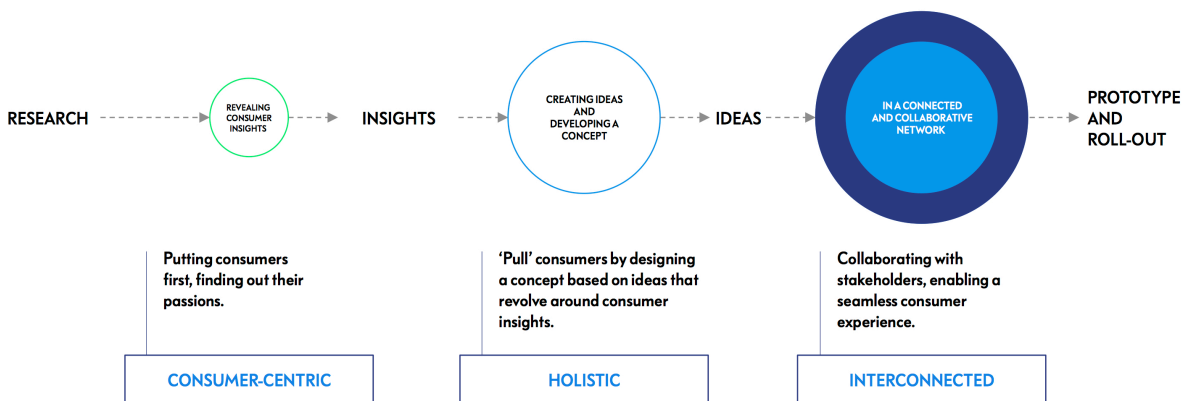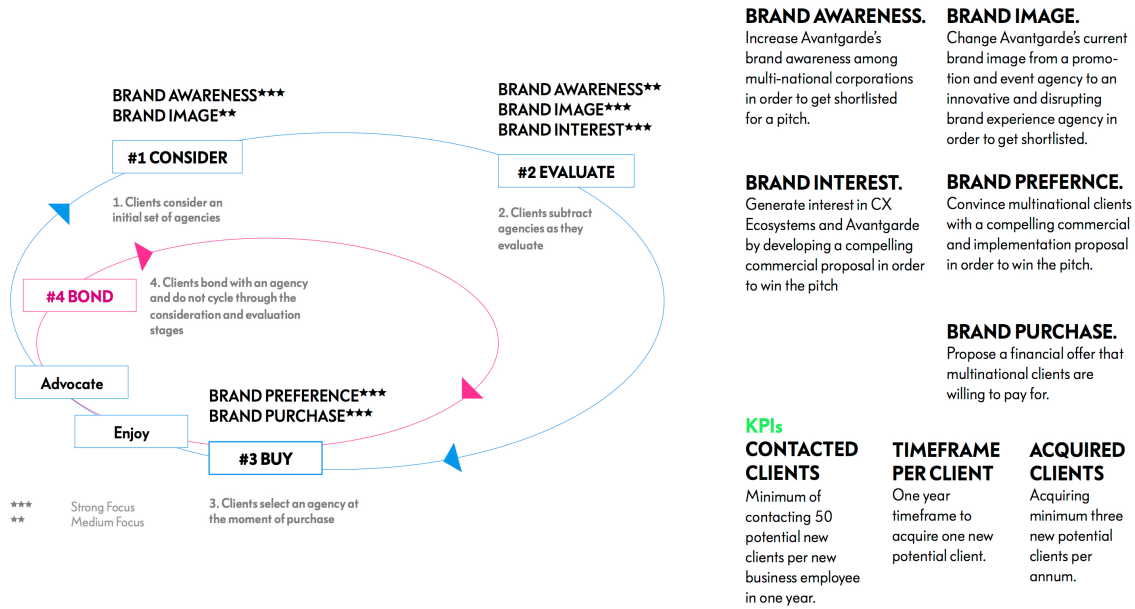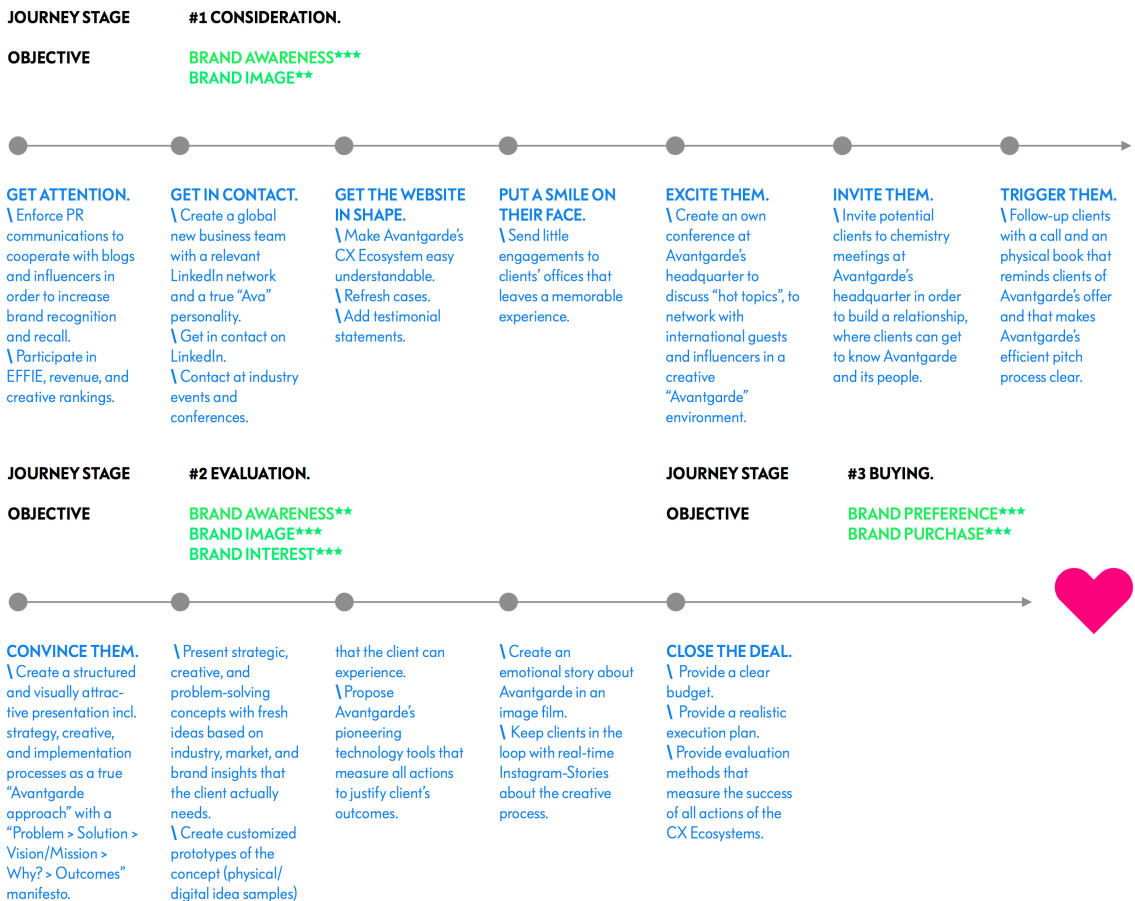
BRAND IMAGE. Change Avantgarde's current brand image from a promotion and event agency to an innovative and disrupting brand experience agency in order to get shortlisted.

BRAND INTEREST. Generate interest in CX Ecosystems and Avantgarde by developing a compelling commercial proposal in order to win the pitch

BRAND PREFERNCE. Convince multinational clients with a compelling commercial and implementation proposal in order to win the pitch.

BRAND PURCHASE. Propose a financial offer that multinational clients are willing to pay for.

KPIs

CONTACTED CLIENTS Minimum of contacting 50 potential new clients per new business employee in one year.

TIMEFRAME PER CLIENT One year timeframe to acquire one new potential client.

ACQUIRED CLIENTS Acquiring minimum three new potential clients per annum.

Source: Developed by the VCW team.
Reference: Court, D., Elzinga, D., Mulder, S., & Vetvik, O. J. (2009). The consumer decision journey. *McKinsey Quarterly Marketing and Sales Practice 3,* 3-11.

JOURNEY STAGE #1 CONSIDERATION.

OBJECTIVE BRAND AWARENESS*** BRAND IMAGE**

GET ATTENTION. \ Enforce PR communications to cooperate with blogs and influencers in order to increase brand recognition and recall. \ Participate in EFFIE, revenue, and creative rankings.

GET IN CONTACT. \ Create a global new business team with a relevant LinkedIn network and a true "Ava" personality. \ Get in contact on LinkedIn. \ Contact at industry events and conferences.

GET THE WEBSITE IN SHAPE. \ Make Avantgarde's CX Ecosystem easy understandable. \ Refresh cases. \ Add testimonial statements.

PUT A SMILE ON THEIR FACE. \ Send little engagements to clients' offices that leaves a memorable experience.

EXCITE THEM. \ Create an own conference at Avantgarde's headquarter to discuss "hot topics", to network with international guests and influencers in a creative "Avantgarde" environment.

INVITE THEM. \ Invite potential clients to chemistry meetings at Avantgarde's headquarter in order to build a relationship, where clients can get to know Avantgarde and its people.

TRIGGER THEM. \ Follow-up clients with a call and an physical book that reminds clients of Avantgarde's offer and that makes Avantgarde's efficient pitch process clear.

JOURNEY STAGE #2 EVALUATION.

OBJECTIVE BRAND AWARENESS** BRAND IMAGE*** BRAND INTEREST***

JOURNEY STAGE #3 BUYING.

OBJECTIVE BRAND PREFERENCE*** BRAND PURCHASE***

CONVINCE THEM. \ Create a structured and visually attractive presentation incl. strategy, creative, and implementation processes as a true "Avantgarde approach" with a "Problem > Solution > Vision/Mission > Why? > Outcomes" manifesto.

\ Present strategic, creative, and problem-solving concepts with fresh ideas based on industry, market, and brand insights that the client actually needs. \ Create customized prototypes of the concept (physical/digital idea samples)

that the client can experience. \ Propose Avantgarde's pioneering technology tools that measure all actions to justify client's outcomes.

\ Create an emotional story about Avantgarde in an image film. \ Keep clients in the loop with real-time Instagram-Stories about the creative process.

CLOSE THE DEAL. \ Provide a clear budget. \ Provide a realistic execution plan. \ Provide evaluation methods that measure the success of all actions of the CX Ecosystems.

Source: Developed by the VCW team.

Exhibit 6 \ The Strategic Marketing Plan

STEP ONE. ---->	STEP TWO. ---------------------------->		STEP THREE.---->	STEP FOUR. ---->	STEP FIVE.
Where are we now?	Where do we want to be?		How do we get there?	What do we have to do?	How can we measure?

INTERNAL DIAGNOSTIC	VISION	OBJECTIVES	POSITIONING	MARKETING MIX	IMPLEMENTATION	EVALUATION
EXTERNAL DIAGNOSTIC	MISSION	STRATEGY	SEGMENTATION	ACQUISITION PLAN		
			TARGETING			

Source: Developed by the VCW team.
Reference: Egan, C., & Thomas, M. J. (1998). *Strategic Marketing, A practical guide for designing and implementing effective marketing strategies.* Oxford, England: Reed Educational and Professional Publishing.

Teaching Note

Case Synopsis

The case introduces Avantgarde as the biggest brand experience agency in the world. But in a highly competitive industry, Avantgarde needs to innovate existing brand experience concepts to acquire multinational clients outside the existing client portfolio. In order to address these challenges, a team was hired to apply the Value Creation Wheel (VCW). The case describes how the VCW team solved two paradoxes the Avantgarde faced and created value for the agency by adapting the brand positioning as a basis to acquire multinational clients. Firstly, the case describes the CEO's vision, followed by a brief introduction about Avantgarde and the advertising market. Secondly, the case illustrates the kick-off meeting with the CEO in the first phase of the VCW, **Tap**, where the VCW team presented an internal and external diagnostic to define the main challenges, KPIs, and resources. In the second phase, **Induce**, ideas and criteria have been collected, evaluated, and refined, which have been presented to the KDM in phase three, **Analyze**, who selected the best ideas and ranked the criteria. The fourth phase, **Ground**, identified the best solutions based on the ranked criteria and provided two concepts that were embedded in a strategic marketing plan in phase five, **Operate**, which includes allocated resources and a KPI evaluation by the VCW team and KDM.

Learning Objectives

The case is designed to stimulate discussion in the field of Strategic Marketing, B2B Marketing, Brand Experiences, Innovation, and Value Creation at the masters, MBA, and executive education levels. Although teaching objectives might vary depending on the specific course, the case addresses:

- To apply the VCW framework to understand and solve paradoxes;
- To evaluate traditional advertising versus experiential brand experience concepts;

- To discuss value creation in the context of strategic marketing;

- To innovate brand experiences and create consumer experience ecosystems;

- To develop a concept to acquire multinational clients.

Recommended Readings

Lages, L. F. (2016). VCW-Value Creation Wheel: Innovation, Technology, Business, and Society. *Journal of Business Research, 69*(11): 4849-4855.

Discussion Questions

1. How did the VCW team address and solve Avantgarde's two paradoxes?

2. How can CX Ecosystems create value for multinational brands? Address the topic by defining the CX Ecosystem and explaining the main benefits in comparison to event sponsoring and event promotions.

3. To what extend do all client acquisition measures make the brand positioning come alive?

Discussion Notes

1. How did the VCW team address and solve Avantgarde's two paradoxes?

The VCW is a dynamic and "flexible, stage-gate model" with five phases that allow the VCW team to induce unbiased solutions for Avantgarde to overcome paradoxes (Lages, Fonseca & Paulino, 2018). By applying the VCW framework, the VCW team was able to collect a broad selection of ideas and criteria from stakeholders with various backgrounds paired with secondary research in phase two that have been narrowed down to the best solutions with the highest potential based on the KDM's feedback in phase three. Thus, the VCW team was able to create a brand positioning statement describing Avantgarde's unique offer that addresses

multinational clients' needs and a client acquisition concept based on two Value Creation Funnels (VCFs) in phase four. Subsequently, the concept of CX Ecosystems is based on Avantgarde's in-house capabilities and resources to innovate existing brand experience concepts. But most importantly, the VCW stated convincing arguments for CX Ecosystems that respond to the market and client needs. Therefore, the VCW team was able to overcome the paradox of market pull vs. technology push and to create value for both Avantgarde and multinational clients. Furthermore, the VCW team overcame the paradox of global and local needs by designing a client acquisition concept that allows Avantgarde's global and domestic units to maintain its daily business, yet to acquire multinational clients with a dedicated new business unit on a project-basis. All in all in phase five, a strategic marketing plan gives a strategic direction for Avantgarde to implement the brand positioning and client acquisition concept.

2. **How can CX Ecosystems create value for multinational brands? Address the topic by defining the CX Ecosystem and explaining the main benefits in comparison to event sponsoring and event promotions.**

The CX Ecosystem is a framework that turns brands into experiences. It connects different elements into holistic and consumer-centric experiences formed by the interaction of selected, interdependent stakeholders in their shared environment. The consumer-centric, holistic, and interconnected concept allows brands to own the experience instead of sponsoring the experience. Today, consumers become more and more resistant to brand messages that they cannot experience first-hand. Event sponsoring only conveys the brand message to a large audience, but does not deliver on a brand experience that people crave for today. Moreover, both sponsoring and promotions are highly dependent on the event that they collaborate with. In addition to that, event promotions target a rather limited audience with small consumer

engagements that are not impactful enough to share on social media. Conversely, CX Ecosystems provide the opportunity to develop large-scale experiences that multinational brands can implement independently from an existing event in different markets to a global target audience. Not to mention, CX Ecosystems are able to create more meaningful experiences. The framework puts consumers first and creates a holistic and lifestyle-oriented concept based on the collaboration of different stakeholders that revolves around consumer insights. The more meaningful the experience, more consumers will share the experience on social media. Thus, CX Ecosystems turn consumers into fans that create higher word-of-mouth (WOM) for multinational brands than sponsoring and single promotions. Lastly, the VCW team elaborated that all elements in the CX Ecosystem are measurable. As a consequence, CX Ecosystems not only boost WOM, but also have the opportunity to increase a brand's value and ROI.

3. To what extend do all client acquisition measures make the brand positioning come alive?

The brand positioning statement lays the foundation for the client acquisition concept. Several measures increase awareness for the brand positioning such as PR communications, LinkedIn advertisements and organic content, participating in industry events and award shows, sending engaging gifts, and revamping the website. Furthermore, the financial and implementation plan, as well as the measurement methods support the brand positioning and Avantgarde's unique offer. However, the Studio X Munich, the Avantgarde cookbook, the emotional image film, chemistry meetings at the headquarters, and not to mention the pitch presentation in-person with customized prototypes of the creative concept and fun Instagram-Stories make the brand positioning truly come alive by leveraging on Avantgarde's expertise: Exciting people with meaningful experiences to turn them into fans.

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Case Study Three

NextGEOSS: How to attract New Users to the Platform, applying the Value Creation Wheel.

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Abstract

The following case study describes how the Value Creation Wheel (VCW) was applied to develop a marketing strategy for NextGEOSS, a web-based IT platform related to Earth Observation data. The VCW team worked closely with the Key Decision Makers of the project, to define the value proposition for NextGEOSS, identify the current research community with the highest potential for the platform and, finally, adapt the marketing mix and design a campaign to create brand awareness and attract users to the platform. This case study illustrates the challenge of the paradox of choice when bringing new technologies to the market.

Keywords: Value Creation Wheel, Innovation, Paradox of Choice, and Marketing Strategy.

NextGEOSS: How to attract New Users to the Platform, applying the Value Creation Wheel.

On a sunny day of September 2017, NextGEOSS's executive board members were discussing the future of NextGEOSS, taking into consideration a recent market study developed during the summer. NextGEOSS, a web-based IT platform related to Earth Observation data, is the biggest project from Deimos Engenharia portfolio, and its represented to all partners involved a promising opportunity to stimulate innovation in the Earth Observation Industry. However, has a recent and sophisticated technology, the executive board members were not being able to define a clear marketing strategy to attract users to the platform. Nuno Catarino, Head of Data System Division at Deimos and NextGEOSS' project coordinator, was committed to overcoming this limitation and proposed the use of the Value Creation Wheel (see Exhibit 1 - VCW). Catarino had previously worked with the VCW in the scope of other Deimos Engenharia projects. Being aware of the complexity of the challenge ahead, he believed that the innovative tool could bring value, by involving different stakeholders in the co-creation of value, and allowing the executive board members to be part of the decision-making process during the five phases of the VCW. The executive board appointed nine members of the consortium to act as the Key Decision Makers (KDM) in the VCW project (See Exhibit 2: KDM & Relevant Stakeholders).

Company & Project Overview

Deimos Engenharia (Deimos), a leading Portuguese Space Engineering company, was founded in 2002, as a technology branch of Elecnor Group. Deimos, with headquarters located in Lisbon, delivers technological solutions to the Space sector, such as operational software systems and advanced design solutions. Since 2012, Deimos net profits were

growing steadily, has the company was considered a key partner in the most innovative research projects.

In early 2016, the European Commission (EC) issued a public Horizon 2020 (H2020) tender to tackle the massive fragmentation of the existing data collected from Earth Observation, with the aim to stimulate the industry growth. In collaboration with 26 partners, Deimos was responsible for carrying out the winning project, NextGEOSS. The consortium, composed of leading European companies and institutions from 13 different countries, received a 10 Million € fund to implement the project, in the course of the next three years. The team was organized in eight work packages (WP), each one in control of a specific core activity of the project (see Exhibit 3 – NextGEOSS Governance Structure). Deimos was leading the consortium, being therefore responsible the Project Management and Coordination WP.

NextGEOSS provided a centralized data hub that aggregated the biggest European Data centers in one single catalog. The data hub was connected to a cloud platform that provided ICT (Information and Communication Technologies) resources, and customized service support, for developers interested in creating applications using this data.

Kick off Meeting: NextGEOSS VCW Project

In September, the VCW team met the KDM on a kick off meeting to have a first introduction to NextGEOSS project. Moreover, they discussed how the VCW could be used to address NextGEOSS' challenges. The project already foreseen the development of 10 services using the data and cloud resources available on the platform, as such the EC budget already included these activities. However, to guarantee the sustainability of the project after the three-years funding, it was important to attract users interested in paying for NextGEOSS' service, being critical the need to design an effective marketing strategy to achieve this goal. During the meeting, the VCW team realized that the root of the problem started at the very

core of NextGEOSS's strategy: there was no clear value proposition for the project. Many platforms were offering different solutions, yet to solve the same issues that NextGEOSS aimed to address, and it was not clear why users should select NextGEOSS. Moreover, NextGEOSS was trying to reach the maximum market segments possible, which resulted in a lack of focus when defining marketing strategies. The VCW team realized that to be able to set an effective marketing strategy, first it was important to define the scope of NextGEOSS value proposition, and then select a target, so it would be possible to address specific market needs. After the kick-off meeting, the KDM were very optimistic about the methodology and the project itself, "*I am very happy to hear this (…). The people working in the user engagement activities have been discussing how we could formulate the value proposition*", said Bente Lilja Bye (Communication, Dissemination and Assessment WP Leader).

Phase 1 – Discovering Value (TAP): Market Space & NextGEOSS

It was about time to start the project, and the VCW team was excited with the opportunity to work on NextGEOSS. The KDM agreed that the primary research question should be: "Which community to target, in order to attract users to the platform?". However, to be able to answer that question, the diagnostic phase should include a partial VCW to reach a concept (phase four of the VCW) for NextGEOSS' value proposition. The VCW team started by analyzing the external and internal context of NextGEOSS, to understand what are the trends affecting the market, through a research in market reports and internal documents, and interviews to internal and external stakeholders (see Appendix 23 – Industry Value Chain; Appendix 24 – Porter 5 forces; Appendix 25 – PESTEL Analysis; Appendix 26 – Competitors Analysis).

Exploring the Earth Observation Services Industry rapid evolution

EO denotes the use of remote sensing technologies to monitor land, marine, and atmosphere. NextGEOSS operates in the European EO Services industry, which is valued around 2.4 € billion, and expected to evolve rapidly over the coming years. Traditionally, the EO Services industry has been composed of 2 main segments: the midstream segment, operators that sell or provide data, and the downstream segment, companies offering value-added value services. Accordingly, NextGEOSS is positioning itself as an innovative player in the midstream segment, by providing a centralized hub for EO data, where players in the downstream segment can connect to access data and deploy EO-based applications. The EO Services cover a wide range of applications, from different market segments such as such as agriculture (E.g., Precision Farming), renewable energies (E.g., Solar and wind energy production forecasting), among many others. The major trends affecting the EO service industry are mostly political, through strong governmental influence under institutional funding, and technological, with the most recent digital revolution enabling the emergence of new services such as cloud computing platforms. Moreover, the introduction of the Copernicus programme, an initiative that provides public and free data from the European Sentinel Satellites, have been disrupting the industry, by reducing the costs to access EO data.

Learning about NextGEOSS Service

To gain meaningful insights regarding the technology behind NextGEOSS service (See Exhibit 4 - NextGEOSS Service), the VCW team schedule a meeting with Nuno Almeida (Project Manager at Deimos and WP Task Leader). Almeida explained how NextGEOSS technology worked, and why it could be used to disrupt the EO industry. Different European satellites and other remote sensing technologies are sending massive amounts of data to various data centers. Moreover, this information is being shared using different types of dissemination. NextGEOSS provides a centralized data hub, a unique access point the diverse

European range of EO data, using an open and standards type of dissemination. NextGEOSS consortium is composed by leading companies from different market segments, and that allowed them to cover a Data Hub with a wide range of thematic areas. Moreover, the data hub is connected to a cloud platform that allows developers to create their applications using the available data. This was very important since these massive amounts of EO data need to be processed and made available to become exploitable. The platform also provides data analytics capabilities, so users can manage information and extract knowledge.

According to NextGEOSS internal documents, competition is mainly based on cloud data storage and processing power, and domain expertise. The EC is investing in several initiatives to promote a competitive environment in the EO industry, including platforms with similar goals to NextGEOSS, which represents a threat to the project sustainability. A recent trend of global IT players, like Google and Amazon, entering the market was also perceived as a threat.

Applying the VCW to define NextGEOSS' Value proposition

Defining NextGEOSS' value proposition was considered a vital part of the diagnostic phase, since it is a core element of the technology strategy. The VCW team realized that NextGEOSS executive board members had fallen into the paradox of choice trap. With so many ways to highlight the value of NextGEOSS, technical and strategic, the board was not able to select the most relevant ones to increase the perceived value of the platform to potential users. Since the VCW is the perfect tool to address this type of paradoxes, the team decided to use it to solve this problem. Accordingly, the team started immediately to induce ideas and filters, through primary and secondary data, such as interviews, brainwriting, and research through internal documents. In the end, the VCW team was able to collect 62 ideas and 42. Then, the VCW applied the Poker Method with Nuno Catarino and Vânia Fonseca, to analyze all the ideas and filters (see Appendix 27 - VCW 1: Final Ideas and Filters). The

selected filters were sent to the board, to be ranked on a scale from 1-5, (1 - not relevant; 2- less relevant; 3 - neutral; 4 - relevant; 5 - crucial), according to its importance for NextGEOSS. Finally, the VCW team was able to build a Value Creation Funnel (VCF) for NextGEOSS' value proposition, as illustrated in Figure 1:

Figure 1 \ Value Creation Funnel applied to VCW 1

50 Ideas — **#1** Characteristics that reflect usability of NextGEOSS
41 Ideas — **#2** Characteristics that reflect functionality of NextGEOSS
37 Ideas — **#3** Alignment with NextGEOSS strategic orientation
34 Ideas — **#4** Promotes innovation towards decision makers
22 Ideas — **#5** What is NextGEOSS point of difference
8 Ideas — **#6** High degree of proximity to the communities of practice
6 Ideas — **#7** Relevant to the Group of Earth Observations (GEO)
4 Ideas — **4 Final Ideas**

Source: Developed by the VCW Team

Due to the technical nature of some of the solutions and filters involved in this VCF, the VCW team involved internal stakeholders to apply the filters. For instance, to apply filter 1, "Characteristics that reflect usability of NextGEOSS," the team interviewed Almeida, while to apply filter 2, "Alignment with NextGEOSS Strategic Orientation," the team interviewed Lilja Bye. The value creation funnel originated four main characteristics that together increase the perceived value of NextGEOSS platform, which is illustrated in Figure 2:

Figure 2 \ Final Solutions from VCW 1

Final Ideas	Description
1.	It helps users who want to get global EO related data and information for thematic areas by providing **advanced discovery tools** to exploit the Data Hub
2.	It provides an **EO platform tailored to the user's specific needs** by developing solutions with the communities, for the communities (open resources & processes)
3.	It helps users who want to efficiently deliver and find fit-for-purpose GEOSS data and information by integrating a **user feedback mechanism** in the data hub
4.	It supports users who want to build applications to achieve the **Sustainable Development Goals**[3] (from United Nations) by focusing on solutions aligned with this mission

Source: Developed by the VCW Team

The team realized that while competitors were focusing on the cloud data storage and processing power aspects, NextGEOSS could create a new marketplace by focusing on these issues. Catarino and Lija Bye were extremely satisfied with the result obtained. Lija Bye designed a billboard with these four messages (see Appendix 28 – NextGEOSS Poster), and Nuno presented them on Group Of Earth Observation (GEO) Week 2017, in Washington, one of the main events for the EO community at a global level, counting with 700 participants. When confronted with the results, NextGEOSS board of KDM was surprised with the impact that the VCW was already having at such an early stage of the project. The VCW team felt they could finally proceed and implement the VCW to identify the target with more potential for NextGEOSS.

Phase 2 – Create Value: Collecting Solutions and Filters to identify the target community for NextGEOSS

As mentioned during the previous phase, the EO downstream market is not demand-driven yet. Entities who are interested in exploring and bring new services to the market, depend highly on the available funding programs. Accordingly, the VCW team decided to use current

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[3] The Sustainable Development Goals (SDGs) are a set of 17 global goals, established by the United Nations, to be achieved in 2030. EO-based service applications may contribute to the achievement several of these goals, such as climate action, by enabling increased Earth monitoring capacity.

projects/initiatives promoting the development of new services, to select the target market. The first step was to generate ideas of existing R&D projects, from which developers could use NextGEOSS resources to build or improve applications, as illustrated in Figure 3:

Figure 3 \ Examples of R&D projects promoting EO-based services

Project	Project Coordinator
Rotterdam Ground Water Level	European Commission
Access to Raw Materials (ARM)	GEO CRADLE

Source: Developed by the VCW Team

The VCW team sent a survey to 26 collaborators NextGEOSS to collect primary data. Moreover, the VCW team interviewed Marie-Françoise Voidrot (WP Task Leader), who was responsible for creating a list of entities for engagement and networking purposes, for NextGEOSS. Françoise explained that the selection was based on previous investments from the EC and current red flags initiatives selected by the GEO community. By doing extensive research about the institutions in this list, the team was able to identify more solutions to add on the pull the of ideas for the VCW. The next step was the generation of filters. Apart from the surveys sent, the team organized a brainstorming session at Deimos, with five industry experts. Also, the VCW team involved external stakeholders, to guarantee a large variety in the filters generation. The VCW team prepared brainwriting sessions with Management master students from Nova School of Business and Economics, and Environment Engineer's master students Nova Faculty of Science and Technology. In the end, the team presented the project to an International Marketing class to collect suggestions. In the end, the VCW team was able to gather 93 ideas and 156 filters.

Phase 3 - Validate Value: Feedback from NextGEOSS Board of Directors

After collecting all the ideas and filters, it was essential to apply the poker method to ensure the use of valid ideas and filters for the VCF. The VCW team schedule a meeting with Nuno Grosso, to apply the poker method for the ideas. Due to his leading role in the Business Opportunities and Services WP, Grosso was considered the stakeholder with more knowledge to validate whether the suggested R&D projects could be integrated into NextGEOSS platform, taking in consideration the available resources. Then, to analyze the filters, the VCW team applied the Poker Method with Catarino and Fonseca. Catarino considered that the filters collected were very interesting and that the team was ready to proceed to the next step (See Appendix 29- VCW 2: Final Ideas and Filters). Accordingly, the filters were sent to the board of KDM who ranked them, in a scale from 1 to 5 points. To facilitate the rank of the filters, the VCW team grouped them in 3 main categories: Funding, Market & Macro Trends, and Attractiveness, as illustrated in Figure 4:

Figure 4 \ Categorization of Induced Filters

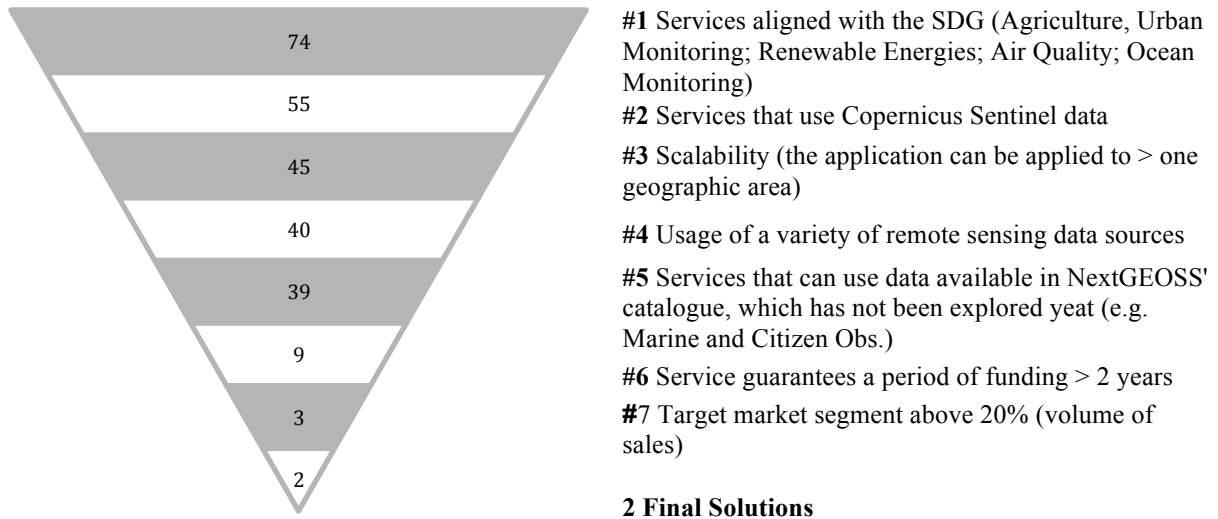| Categories	Examples
Funding	E.g., "*Funded by ESA*" and "*Existing financing support from the EU to the industry associated*"
Market & Macro Trends	E.g., "*Forecast industry growth of the target Market*" and "*Activities targeting the Agriculture Sector*"
Attractiveness (Strategic and Technical fit, Maturity and Timing)	E.g., "*Service is replicable for other sensors (not dependent on a specific mission or in-situ source)*" and "Initiative *that bring a new service which does not exist yet in NextGEOSS portfolio*"

Source: Developed by the VCW Team

Phase 4 – Capture Value: Select a target for NextGEOSS platform

In this stage, the team built the VCF based on the inputs from the previous phase. The filters were applied, until the team was able to reach a group of R&D projects similar in terms of

target market and sub-sector specific needs. In total, 7 filters were applied, as illustrated in Figure 5:

Figure 5 \ Value Creation Funnel (VCF) applied to VCW 2

#1 Services aligned with the SDG (Agriculture, Urban Monitoring; Renewable Energies; Air Quality; Ocean Monitoring)

#2 Services that use Copernicus Sentinel data

#3 Scalability (the application can be applied to > one geographic area)

#4 Usage of a variety of remote sensing data sources

#5 Services that can use data available in NextGEOSS' catalogue, which has not been explored yeat (e.g. Marine and Citizen Obs.)

#6 Service guarantees a period of funding > 2 years

#7 Target market segment above 20% (volume of sales)

2 Final Solutions

Source: Developed by the VCW Team

Concept: Target the Marine community focused on Managing Marine Ecosystems R&D projects, in order to attract new users to NextGEOSS platform

The ultimate solutions were two R&D projects, in the scope of Ocean Monitoring from Managing Marine Ecosystems sub-sector: 1) Ocean biotic and abiotic parameters, climatological information and historical statistics, and 2) Regular monitoring of Marine Protected Areas (MPAs). Both research projects are part of Marine-EO project. The projects enabled the VCW team to characterize a target of the research community with the highest potential for NextGEOSS - in this case the marine community. Moreover, this two R&D projects were identified as opportunities for 2018. Accordingly, they were used to define the marketing strategy, and leverage the marketing campaign for NextGEOSS. The goal is to convince bidders applying for this public tender, to use NextGEOSS' resources to build their

service proposals. Catarino and Grosso seemed very satisfied with the solution found. The VCW team tried to contact Marine - EO to get further insights regarding the type of generic profile of entities that the project was targeting, and what are the main challenges that these entities face to meet Marine-EO requirements. However, since it is a public tender, and Marine-EO representatives decided not to share this information. Due to time constraints, the VCW team decided then to do an internal brainstorming with Nuno Grosso and Nuno Catarino, to understand what are the specific needs of bidders applying to this type of initiatives, and understand how NextGEOSS can help them (See Appendix 30 - Market Opportunity Assessment). The team was able to identify different ways of how NextGEOSS can address the community specific needs, such as the fact that these bidders are focused on open standards, and need tools to explore Copernicus Marine services easily. Moreover, the team also assessed what would be the barriers for users, such as the need to access to near real-time data (NRT) and very high - resolution data, to prepare ways to overcome it, stressing the platform flexibility in integrating new data sources and commercial data (E.g., Deimos 2).

VCW Phase 5 – Consolidate Value: Marketing Plan, Recommended Campaign and Implementation

It was now time to consolidate value, by designing a marketing plan to capture the market opportunity identified. Taking into consideration the situation analysis performed during the diagnostic phase, followed by the segmentation and target selection in phase two and three, the VCW team defined the following the value proposition statement: "For IT developers who want to bring to the market disruptive service applications for Ocean Monitoring, using Earth observation data, NextGEOSS is a platform tailored to the user specific needs, that provides advanced discovery tools for marine related data. Unlike other competitors, NextGEOSS

focus on supporting the Sustainable Development Goals". Accordingly, the team proceeded to the adaptation of the Marketing Mix - Product, Price, Distribution, and Promotion - to meet the target specific needs. (See Appendix 31 - Adapted Marketing Mix).

The VCW team acknowledged that giving the early stage of the project, a pricing penetration strategy was a critical step. The VCW team suggested a pricing strategy for market penetration, by providing a special package with a discount for research activities aligned with the Sustainable Development Goals.

Another important step to take in consideration was the promotion. To build awareness and attract the marine community to NextGEOSS service, the promotion needed to include a marketing campaign with the goal to create awareness, motivate this research community to find out more about NextGEOSS, and finally, convince them to subscribe the service. Thus, it was essential to answer an important question "How to engage with the target market?". The team realized that due to the lack of marketing strategy, NextGEOSS promotions had been based on punctual and spontaneous campaigns. However, to be effective, it was critical to design an Integrated Communication Campaign. With this in mind, the VCW team organized a brainstorming session with Lilja Bye and Fonseca, to understand how to use NextGEOSS current communication channels to engage with the target community. Finally, the VCW team proposed an Integrated Marketing Communication Campaign with two initiatives: 1) "Discover how you can innovate your Marine Services with NextGEOSS," and 2) "Join NextGEOSS network, and explore ideas for your Marine Services!" (See Appendix 32 - Marine Campaign 6 M's Framework). The first initiative focused on the educational aspect, for instance with free demos to show case how the platform works. The second imitative focused on creating awareness and bring the Marine community close to NextGEOSS, with activities such as attendance at events. Finally, the team planned the 3Ms needed to implement the Integrated Marketing Campaign: Man, Minute and Money (See Appendix 33 –

Implementation Plan). In the end, the campaign key performance indicators will be evaluated, to measure the success of the campaigns and make strategic marketing adjustments.

Final Meeting

The final meeting took place on the 21st of December 2017, in which the final results of the project were presented. The final report surpassed the KDM expectations, *"I find it an extremely interesting approach, and the results are actually quite surprising"*, said Geoff Sawyer (NextGEOSS General Assembly Member, EARSC). Since the data hub was going to be populated with the marine data, and NextGEOSS had yet no marine service applications being developed, it made sense to the board that the focus of the marketing efforts during the following six months were on the marine community. However, Hervé Caumont (WP Task Leader) showed some concern that it might too early to start a campaign for the marine service, due to the readiness level of the Marine Data Hub. Accordingly, there were some discussions between the KDM to see it they would be able to overcome this limitations by January 2018, and proceed with the campaign anyway. Moreover, the VCW team presented the results to Euroconsult, who is responsible for the sustainability and business innovation reports of NextGEOSS, and Simon Scerri (WP Task Leader) was very impressed with the methodology: "You collected very interesting inputs (in the generation of filters and ideas) that may be used in further initiatives in other stages of NextGEOSS project". By the end of the meeting, the following questions remained: Should NextGEOSS allocate its marketing effort to engage with the Marine community? Should it keep a broad communication approach? NextGEOSS had a board meeting scheduled for the January 4th , and the KDM were invited in order to access the VCW project report and reach a final decision regarding the marketing campaigns.

Exhibits

Exhibit 1 \ The Value Creation Wheel (VCW)
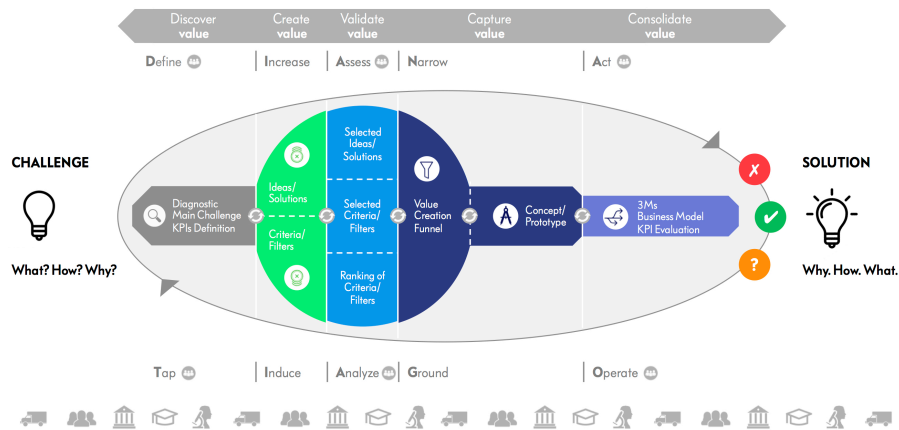
Source: Lages, L. F. (2016). VCW-Value Creation Wheel: Innovation, Technology, Business, and Society. *Journal of Business Research, 69*(11): 4849-4855.

Exhibit 2 \ Board of Key Decision Makers (KDM) & Relevant Stakeholders

Name	Role in NextGEOSS Project	Company/Organization
Key Decision Makers		
Nuno Catarino	WP 1 Leader - Project Management and Coordination	Deimos Engenharia
Bente Lija Bye	WP 8 Leader – Communication, Dissemination and Assessment	Bente Lilja Bye (BLB)
Gunter Schreier	General Assembly Member	German Aerospace Center (DLR)
Geoff Sawyer	General Assembly Member	European Association of Remote Sensing Companies (EARSC)
Erwin Goor	WP 6 Leader - Innovative Research Pilots	VITO - Flemish Institute for Technological Research NV
Bart De Lathouwer	WP 4 Leader - Synergies and Engagement of Communities	Open Geospatial Consortium (OGC)
Wolfgang Ksoll	WP 2 Leader – Data Hub	Viderum Ltd.
Hervé Caumont	WP 5 – Task Leader User Integration Support	Terradue Srl
Relevant Stakeholders involved		
Vânia Fonseca	Part of the Management and Technical Coordination team of NextGEOSS	Deimos Engenharia
Nuno Grosso	WP 7 - Business Opportunities and Services	Deimos Engenharia
Nuno Almeida	WP Task Leader in the scope of the Data Hub and User Integration Support	Deimos Engenharia
Marie-Françoise	WP Task Leader in the scope of Communication, Dissemination and Assessment	Open Geospatial Consortium (OGC)
Simon Scerri	WP Task Leader in the scope of Communication, Dissemination and Assessment	Euroconsultant

Subtitle: WP – Work Package
Source: Developed by the VCW Team.

Exhibit 3 \ NextGEOSS Governance Structure
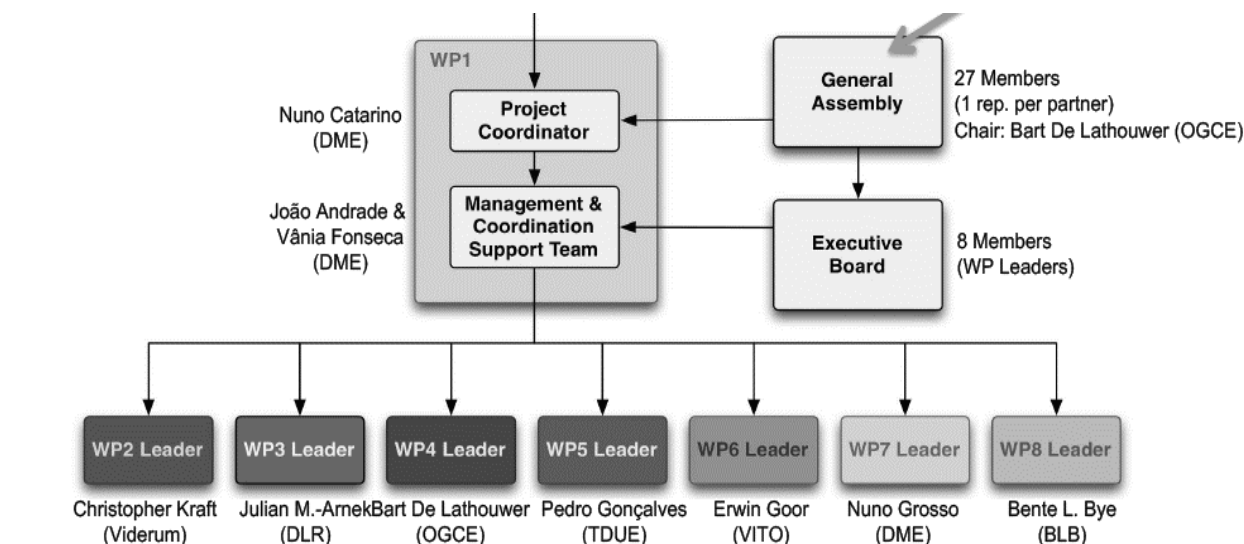
Subtitle:

WP 1 - Project Management and Coordination	WP 5 - User Integration Support
WP 2 - Data Hub	WP 6 - Innovative Research Pilots
WP 3 - Data Federation and Uptake	WP 7- Business Opportunities and Services
WP 4 - Synergies and Engagement of Communities	WP 8 - Communication, Dissemination and Assessment

Observation: NextGEOSS Team is divided in 8 Work Packages (WP). Each WP has one WP Leader, and several WP Task Leaders who are responsible for managing specific tasks.
Source: NextGEOSS Internal Documents.

Exhibit 4 \ NextGEOSS Website & Data Hub

NextGEOSS Website:
Centralized open & public datahub, that connects the biggest European Data centers in one single catalogue. The data catalogue (CKAN Management system), includes user friendly tools for data discovery and exploitation.

Data Hub Catalog Structure (2017):

Agriculture and Food Security
Biodiversity
Land
Energy
Space and Security
Cold Regions

Air Pollution
Atmosphere
Marine
Territorial Planning
Smart Cities
Urban Growth

Teaching Note

Case Synopsis

This case study illustrates how the Value Creation Wheel (VCW) was applied to address a challenge in the scope of NextGEOSS, a web-based IT platform related to Earth Observation data. The VCW team was hired by the executive board members to help them to develop a marketing strategy in order to attract new users to the platform.

The case study starts with a brief context about the project and the main challenges ahead, followed by the implementation of the VCW. In the first phase, **tap**, the VCW team performed an internal and external diagnostic of NextGEOSS. The team also used this phase to find NextGEOSS' value proposition. Then, in the **induce** phase, the VCW team induced ideas for solutions and filters to identify a target community to attract users to NextGEOSS platform. In the third phase, **analyze**, the VCW team analyzed the solutions and filters collected to validate them. The team moved to the fourth stage, **ground**, in which the optimal solutions were identified. Finally, in the operate phase, the VCW designed a marketing plan to implement the final solution.

Learning Objectives

This case study promotes the discussion of marketing strategies, when it comes to select market segments in today's dynamics business environment. The case is designed for courses in the scope of Marketing Management, International Marketing, and Business Strategy. Depending on the course, teaching objectives will be adjusted:

- To show case how to apply the five phases of the VCW in a real-life context;
    - To acknowledge how the VCW simplifies and allows to explore the challenge of the paradox of choice at the organizations level, in today's dynamics global markets;

- To acknowledge that the VCW is an agile tool that allows to The VCW is a meta-framework which is simultaneously structured and agile, allowing to provide customize solutions;

- To show how the VCW can be used to define marketing strategies.

Discussion Questions

1. How did the VCW allowed to challenge paradoxes and trade-offs, and to what extend that brought value to NextGEOSS? How do you consider that the VCW impacted NextGEOSS in the long run?

2. Which strengths, weakness, opportunities and threats can you identify for NextGEOSS? How they can be monetized and improved? Please perform a TOWS analysis to address this question.

3. Which communication mix elements do you consider to be more relevant to integrate NextGEOSS communication campaign for the final solution? Please explain how they can be used in the scope of both initiatives proposed in the case study.

Recommended Readings

Lages, L.F. (2016). VCW – Value Creation Wheel: Innovation, Technology, business and society. Journal of Business Research, DOI: 10.1016/j.jnusres.2016.04.042

Kotler, P; Keller, K,L; Ang, S,H; Tan, C,T; Leong, S,M. (2017). *Marketing Management.* Pearson.

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Discussion Notes

1. How did the VCW allow to challenge paradoxes and trade-offs, and to what extend that added value to NextGEOSS? How do you consider that the VCW impacted NextGEOSS in the long run?

NextGEOSS was developed in the scope of a European Commission (EC) public tender. Thus, a heavy focus was put on the technical aspects of the platform to meet the public tender requirements, resulting in a lack of business orientation approach needed to bring the service to the market successfully. NextGEOSS aims to create a new marketplace, by enhancing developer's capability to bring a new service to the market with a centralized data hub and cloud platform tools. However, with so many ways to highlight the value of NextGEOSS, technical and strategic, the Board of Directors was facing a paradox of choice regarding what of these allow to enhance NextGEOSS positioning in the market. The VCW allowed them to select the most relevant competitive factors, by focusing on the four characteristics that had been ignored by the competition: the advanced discovering tools, the user feedback mechanism tools, user feedback mechanism, and the support of the development of new services to tackle the sustainable development goals. Finally, the methodology allowed to solve the paradox of choice regarding the selection of a market segment. The VCW provided an innovative way to capture a market opportunity, by selecting a target market based on current R&D projects compatible with NextGEOSS value proposition. That had not been possible using other traditional tools.

The VCW provided a methodology to structure the core of NextGEOSS strategy. Both Value Creation Funnels (VCF) may be continuously used as the technology evolves, and new projects and initiatives emerge in the market. Accordingly, the VCW provided not only a solution that allow rapid experimenting, but also the capacity to build long-term solutions,

which is considered a critical success factor to capture growth opportunities in today's global dynamics markets.

2. Which are the strengths, weakness, opportunities and threats can you identify for NextGEOSS? How they can be monetized and improved? Please perform a TOWS analysis for NextGEOSS.

For this question, the instructor might suggest students to read Watkins, M. (2007). From SWOT to TOWS: Answering a Reader's Strategy Question. Harvard Business Review.

External /Internal	External Opportunities	External Threats
	1. EO Big Data is becoming recognized as an important resource to tackle current challenges (i.e. Growing interest in the SDG); 2. Growing industry due to initiatives promoting open data policies, such as the Copernicus (increasing the # of applications on different sectors); 3. Emergence of R&D projects focused on the use of open standards.	1. Global IT players like Google and Amazon, experienced in Data Analytics and cloud computing, are penetrating into the EO market; 2. Competition is increasing with EU funding various programs with similar objectives to promote competition; 3. EO-based innovations are not reaching their potential visibility in the downstream market, due to the lack of knowledge regarding the market specific needs.
Internal Strengths 1. Unique single-entry point to a wide range o EO data sources, with access to federated cloud resources; 2. Data Hub of Open Standards (OGC standards); 3. Know-how (Earth Observation Industry Expertise) and network of partners w/ strong reputation; 4. NextGEOSS current users may be used as champion users to lead adopters in the community; 5. NextGEOSS consortium includes entities with expertise in different market segments.	**"Maxi-maxi Strategy"** 2. Use NextGEOSS solid network to establish strategic partnerships with entities, promoting public R&D tenders; 3. Use NextGEOSS partners expertise to tailor the platform to the different community's needs, across the different market segments; 4. Take advantage of NextGEOSS' data coverage and OGC standards to enhance R&D activities and promote open standards.	**"Maxi-Mini Strategy"** 1. Use EO expertise to provide higher added value when compared to the global large IT players; 2. Promote NextGEOSS as a unique single-entry point to EO resources to create brand awareness and loyalty among potential users. 3. Collaborate with current pilots to help them develop relationship with the end users, and use it as an example to showcase potential pilots how they can improve their visibility in the market, and engage with end users; 4. Use the network of collaborators to differentiate amongst competitors.
Internal Weakness 1. Lack of business orientation 2. Lack of alignment between the partners regarding a marketing strategy	**"Mini-Maxi Strategy"** 1. 1. Promote NextGEOSS as a data hub of reference to upcoming initiatives and applications to tackle current challenges	**"Mini-Mini Strategy"** 1. Use the expertise in EO to build competitive advantage and to differentiate from the global large IT players, which have a stronger

| 3. Low brand awareness
4. Managing challenges (such as the paradox of choice) due to the size of the consortium
5. EC budget limitations | 2. Align the communication and business strategies to the needs and trends of the market, and current funding initiatives;
3. Partner with big commercial companies, other than EU institutions, to whom both could win with know-how from each other;
5. Develop promotion initiatives and define key metrics to evaluate engagement of new users. | commercial approach;
2. Avoid competing with the same competitive factors as other EU funding programs;
3. Target research projects, rather than commercial services. |

3. Which communication mix elements do you consider to be more relevant to integrate NextGEOSS communication campaign for the final solution? Please explain how they can be used in the scope of both initiatives proposed in the case study.

For this question, the instructor might suggest students to read: Kotler, P; Keller, K,L; Ang, S,H; Tan, C,T; Leong, S,M. (2017). *Marketing Management.* Pearson. P. 478.

Initiative 1 – "Discover how you can innovate your Marine Services with NextGEOSS!"	
Interactive Marketing	Organize webinars with relevant content for the community, including a "How-to-use" guide for Marine Data Hub catalogue and NextGEOSS platform. Use it to highlight NextGEOSS benefits for the community.
Sales Promotion	Provide customized demos as incentives to experiment the service. Viewers should have the opportunity rate and provide feedback about the demo, to get feedback on how to improve the costumer and induce positive Worth of Mouth (WOM).
Email Marketing	Send promotional mails in database can useful for this campaign, to create awareness (pre-launch) and inform detailed information about the service and invite them for the other campaign activities.
Personal Selling	Personal selling may be carried out by a selling team who in advance should have been trained to be familiar with the NextGEOSS Marine service (dealership launch material, conferences) and its advantages and how to overcome objections. Personal selling will also be of major importance when targeting the corporate buying segment, because these users make a big investment, they expect to be given personalized offers. Moreover, it allows to get direct feedback regarding the potential customers concerns about the service, and make improvements if necessary.
Initiative 2 – "Join NextGEOSS Network, and explore ideas for your Marine Services!"	
Word - of - mouth Marketing	Induce positive word-of-mouth. For instance, NextGEOSS may create a LinkedIn group and invite all partners and contacts from NextGEOSS data base. Invite strategic players in marine environment and climate change community, to discuss relevant topics such as the marine environment and climate change.
Public Relations	Attendance at Marine related public events to represent NextGEOSS. Use the events for Networking and promotional purposes. Organize events

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Case Study Four

The Value Creation Wheel applied to Deimos Engenharia: Market Selection and Internationalization of Ground Stations.

Author: Sara Soares \ 20767

Abstract

The case study describes the practical application of the *Value Creation Wheel* (*VCW*) framework at Deimos Engenharia (DME), a space engineering company. The *VCW* team was hired to find a solution for the research question: "Which geographic market has the highest potential to place one Ground Station?". The analysis performed revealed that the Kingdom of Bahrain is the most suitable market on which to expand the company's ground segment operations, and a business model was developed to prepare the company for a possible entry in the proposed country. The case concludes with the Board discussing the viability of the project.

Keywords: Market Selection, Internationalization, Value Creation Wheel, and Ground Stations.

On December 21, Carlos Fernandez, Vice President of Global Ground Stations of UrtheCast, and Elsa Alexandrino, Business Developer of Deimos Engenharia (DME), assisted the final presentation of the *Value Creation Wheel* team (*VCW* team). Fernandez & Alexandrino needed to decide what country should the companies target to sell one more Ground Station (GS), which would allow direct access to the Deimos-2 Satellite, and grant the sustainability of the Ground Segment. As there were too many countries to consider initially, both decided to rely on the *VCW* methodology to overcome the evidenced "paradox choice", and hired the *VCW* team to develop the project.

Company overview

From the Elecnor Group to Deimos Engenharia

Deimos Engenharia is part of Elecnor Group, a global company present in more than 50 countries, operating in the infrastructure, renewable energy, and technology sectors. Elecnor Deimos, the technology branch of Elecnor Group, was founded in 2001 and is specialized in engineering, designing and developing solutions, and integrating systems in the aerospace, information systems and telecommunications network sectors. Within the aerospace industry, the group is present in Spain (Deimos Space & Deimos Castilla-La Mancha), Romania (Deimos Space Romania), UK (Deimos Space UK) and Portugal (Deimos Engenharia).

The Portuguese subsidiary - Deimos Engenharia (DME) - was founded in 2002, after Portugal became a member of the European Space Agency (ESA). The strategic move was made to exploit the business opportunities and resources that ESA made available to the Portuguese space companies. Currently, the company aggregates three main divisions: Ground Systems, Global Navigation Satellite System (GNSS) Systems, and Flight Systems. Moreover, it is involved in countless projects from satellite consulting to space applications, mainly co-funded by the European Commission. Its main customers are public institutions, such as the

European Space Agency and the European Organisation for the Exploitation of Meteorological Satellites. Since its establishment in 2002, DME has been growing and is today a highly recognized company within the European space industry.

From UrtheCast to Deimos Imaging

UrtheCast is a Canadian company, founded in 2004, which operates in the space industry, and is one of the companies of reference in the aerospatial global landscape. Its key activities include ground segment operations, software development, and the design of geographic information systems. In 2015, UrtheCast and Deimos Space (Spain) announced a strategic partnership, which resulted in the sale of Deimos Imaging (DMI) to UrtheCast. Deimos Imaging is a former division of Deimos Space, which owns and operates two satellites (Deimos-1 and Deimos-2). With the purchase, UrtheCast took control over both satellites, building the pathway to accomplish its ambition of becoming a lower-cost alternative of Earth Observation (EO) services compared to the market leaders. Nonetheless, the strategic partnership also acknowledged Elecnor Deimos as the provider of ground systems, not only for both Deimos satellites but also to the future projected UrtheCast's satellite constellation.

Kick Off Meeting

At the end of July 2017, the first meeting between DME and *VCW* team took place, where both Alexandrino and Vânia Fonseca, the Innovation Manager at DME, were present. During the meeting, the team presented the *VCW* methodology, while Alexandrino explained the ground stations' functioning and purpose, and the challenge of the company. In fact, Alexandrino had a clear idea of what was the main problem the company had to overcome within the ground segment, as she stated: "We want to sell one ground station, as we already have the expertise and resources needed, including the access to UrtheCast Deimos' Satellites, but we do not know which country to target! (...) Ground stations are essentially a service to

governments, as they are majorly utilized for defence purposes". Nonetheless, Alexandrino and Fonseca knew that to objectively solve the problem in hands, and reach a valid solution, an extremely time-consuming analysis would have to be done, as well as business-related knowledge applied. Furthermore, both recognized that the company stakeholders are mainly highly specialized engineers, which lack business expertise. As so, the schedule for the project was established.

VCW Phase 1 - Discover Value (Tap)

By September 2017, the team had the final challenge well-defined, "Which geographic market has the highest potential to place one ground station?", and started applying the *VCW* framework. The first step to take was to understand the Context and Background to which the ground stations belong. The team performed an extensive internal and external analysis (See Appendix 34 - Competitor's Analysis), to gain practical insights and knowledge. Furthermore, to understand the complex functioning of GS and the respective marketplace, the team interviewed Alexandrino several times.

Understanding Ground Stations

GS is the infrastructure that connects the data collected by one satellite to the ground. It is composed of two elements: the Antenna and the Direct Receiving Station (DRS). The first component is responsible for acquiring the data coming from the satellite, whereas the second element is capable of download, process, distribute, archive and disseminate data, as from Deimos-1/Deimos-2. In fact, the main advantages of having one GS *in situ* is that it ensures immediate, secure and private access to satellite data in real-time. Each GS can only receive information within their visibility circle and area of interest. As DME is responsible for the Ground Systems of Deimos-1/Deimos-2 satellites, the company designs and establishes

customized Ground Stations (GS) for each client, in a specific location (generally at the client's site).

EO Data & Value Added Services' Market and DME Positioning

Earth Observation (EO) is the collection of information about the Earth's characteristics, through remote sensing technologies. The Earth Observation (EO) Industry is divided into three segments: the upstream, the midstream, and the downstream segment. The downstream segment includes all the players involved in exploiting EO data and delivering EO products and services to final clients. Within the segment, EO data and value-added services market is considered. As so, Ground Stations (GS), being an infrastructure that delivers EO satellite data, are part of this market, which has been growing consistently, reaching €2,75 billion in 2015.

Globally, North America had the most significant market share, accounting for 48% in 2015, and was also the region demanding the majority of EO data and services. On the other hand, EMEA[4] had 26%, followed by APAC[5] (21%), and finally Latin America (5%). Nonetheless, the tendency appears to be changing, as it is projected that North America's share falls to 41% in 2020, EMEA's rise to 29%, APAC to 24% and Latin America to 7%, in 2020.

The potential of EO data is transversally recognized, and it is utilized for both commercial purposes (governments and private companies), and R&D purposes. The government is the dominant client of the market, while the defence sector alone is responsible for over $1 billion in data sales, representing 36% of the market, and demands mainly very high-resolution data.

DME's GS provide access to UrtheCast Deimos-1 and Deimos-2. The second is a very-high-resolution satellite, producing imagery of 75 cm per pixel. Regarding the main competitors, Alexandrino appointed that the competitive advantage of the company is to be a lower-cost alternative of very-high resolution data of EO imagery.

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[4] Europe, the Middle East, and Africa
[5] Asia-Pacific

Market Trends

A positive projection is presented on a PWC report (2016), suggesting that the market size will reach €5,3 billion by 2020. Nonetheless, several trends were identified as potential *game changers* of the industry.

Firstly, it is clear that there is a growing tendency for open and free data access, which may jeopardize private data providers while accelerating application developers. In fact, this trend emerged with the appearance of publicly owned EO programmes, such as the Landsat programme and the Copernicus initiative, which aims to achieve high quality and autonomous EO capacity, promoting competitiveness and cost efficiency on the industry.

Another trend in the EO industry is the emergence of start-ups developing several constellations of nanosatellites. These are characterized as being a low-cost alternative to traditional satellites while providing a better service. In fact, large constellations enable a more powerful quality of the service delivered, as allows for near-real-time images, of *all* the planet's regions. The growth of these players is projected to cause the development of a mass market for very high-resolution imagery.

Last but not least, Unmanned Aircraft Systems, namely drones, are increasingly utilized, especially concerning emergency situations. In fact, compared to the traditional satellites, these instruments are very useful, fast to get to the local in real time, and are also able to provide very-high-resolution imagery, being considered substitutes of satellite data.

VCW Phase 2 - Create Value (Induce)

The second phase of the *VCW* was divided into two different stages. After the proper definition of the main challenge and context, it was time to move to the induction of the ideas.

Induce Solutions - Finding a list of countries

On September 11, the team reunited with the Key Decision Makers (KDM), Alexandrino and Fernandez, to figure out which countries should be considered for the project. As Deimos-2 Ground Stations do not have a limitation regarding geography, meaning the satellite can reach to every country in the world, all the countries recognized by the United Nations could be part of the pool of ideas. Nonetheless, the team promoted a brainstorming with the KDM, and both suggested that, according to their expertise, knowledge, and strategic vision, some countries should be excluded right away:

- Belonging to Central Asia, Eastern Asia, and Southern Asia, as Chinese suppliers have great influence on this area, and the competition is too fierce;

- Belonging to Northern Europe, Southern Europe, and Western Europe, as the company works closely to ESA, and is already familiar to the potential of these countries;

- Saudi Arabia and United Arab Emirates, as the first announced a joint venture to DigitalGlobe (direct competitor of DME), while the second is making significant investment to develop its space activities (including satellite and ground stations manufacturing);

- In which a Ground Station to receive data from Deimos satellites has already been installed.

Taking the above mentioned in consideration, the team came to a list of 114 countries, belonging to: Eastern Europe, Southeast Asia, Western Asia (Middle East), Middle Africa, Southern Africa, Western Africa, Northern Africa, Eastern Africa, Latin America and North America.

Table 1 \ List of Induced Ideas (114)

Countries				
Russian Federation	Algeria	Australia	Timor-Leste	Zimbabwe
Colombia	Namibia	Oman	Benin	Cameroon
Turkey	USA	Angola	El Salvador	Ethiopia
Botswana	Brazil	Chile	Lesotho	Mozambique
Iraq	Mauritania	Poland	Somalia	Suriname
Uruguay	Argentina	Azerbaijan	Eritrea	Belize
Bahrain	Bolivia	Brunei Darussalam	Liberia	Costa Rica
Canada	Congo, Rep.	Cuba	Sierra Leone	Guatemala
Ecuador	Egypt	Israel	Comoros	Panama
Jordan	Kuwait	Malaysia	Togo	Swaziland
Morocco	Myanmar	Peru	Burundi	Burkina Faso
Qatar	Singapore	Sudan	Ghana	Eq. Guinea
Ukraine	Armenia	Chad	Madagascar	Honduras
Cyprus	Gabon	Georgia	Cabo Verde	Senegal
Indonesia	Lebanon	Mali	Gambia	Tanzania
Mexico	Niger	Paraguay	Moldova	Rwanda
Romania	South Africa	South Sudan	W. B. and Gaza	Djibouti
Tunisia	Venezuela	Vietnam	Haiti	Syrian A. Rep.
Yemen, Rep.	Belarus	Bulgaria	Uganda	Seychelles
Cambodia	Cote d'Ivoire	Czech Republic	Dominican Rep.	Slovakia
D.R. of the Congo	Guinea	Guyana	Lao PDR	Zambia
Hungary	Kenya	Libya	Nicaragua	Guinea-Bissau
Nigeria	Philippines	Sao Tome and Principe	Central African Republic	

Source: United Nations, adapted by the VCW team.

Induce Filters - Finding relevant criteria to market selection

With all the solutions generated, it was time to find the criteria that would be relevant when choosing a country to export one ground station. A diverse range of stakeholders was invited to participate in the generation of filters, so the collected information would be unbiased and heterogeneous. The data was collected through workshops, online surveys, and interviews, in which all of them a *brainwriting* was requested (See Appendix 35: *Brainwriting* Template). Altogether, 60 stakeholders were involved, namely: 7 Deimos' stakeholders, three industry-related experts, 40 students of the master in management at Nova School of Business and Economics, nine engineers from different backgrounds, and 1 McKinsey consultant.

The collection of data led to the generation of 162 filters (See Appendix 36: List of Induced Filters (162)), which were organized into six different categories.

Table 2 \ Categorization of Filters

Categories	Examples
Business/Project Related	E.g., *"Time for implementation of ground station in each country"* and *"Reduced need of additional partners (e.g., intermediaries)"*
Demographic/Economic Environment	E.g., *"GDP/capita <USD 10.000"* and *"Countries belonging to economic blocks"*
Natural/Physical Environment	E.g., *"Natural disaster occurrence"* and *"Number of border countries"*
Political/Legal Environment	E.g., *"Corruption Level"* and *"Countries facing the same legal system as Portugal/Spain (Civil Law)"*
Social/Cultural Environment	E.g., *"Local human resources availability to work on a ground station"*; *"Cultural differences and mentality"*
Technological Environment	E.g., *"Countries with non-existing EO capacity"* and *"Countries with budget for research/innovation"*

Source: Developed by the VCW team.

VCW Phase 3 - Validate Value (Analyse)

At the beginning of October, the team reunited once again with the Board of the project to analyse all the information gathered in the previous step. At this stage, and taking into consideration the solutions (countries) were already defined, it was essential to understand which filters revealed to be relevant criteria to choose the country in where to place a GS. As so, the board was encouraged to play the *Poker Method* (Lages, 2015). The method allowed the KDM to refine the information by validating, reviewing, multiplying or eliminating the filters. Once this process was completed, the team arrived at a list of 51 potential filters. (See Appendix 35: List of Selected Filters (51))

Ranking

Time to perform the raking! The process was simple and clear: each one of the participants should rate the filters on a scale of 1 (Lowest potential) to 5 (Highest potential). The ultimate potential of each filter was determined by applying a weighted average to the final punctuation of each participant: Alexandrino and Fernandez shared 85% of the decision power, while Antonio Gutierrez, the responsible for the Ground Segment at DME, had 15%.

A total of 22 filters were classified as "High Potential"[6], while 23 were considered to be "Medium Potential"[7], and five rated as "Low Potential"[8]. (Appendix 37: Ranking of High Potential Filters (22))

Arriving at 22 "High Potential" filters, it was still necessary to apply the SMART goals system, which states that any criteria must be Specific, Measurable, Achievable, Realistic and Timely. As such, the board discussed together with the team the measures that would turn the filters into consistent ones, to correctly apply them in the next phase.

VCW Phase 4 - Capture Value (Ground)

Value Creation Funnel - Arriving the final destination

After the proper ranking in the previous phase, the VCW team performed the funnel that would lead to the final solution. The process was simple but demanded time and effort: to take all the 114 countries defined in phase two and to apply the High Potential filters, one by one, until the number of countries was reduced into one.
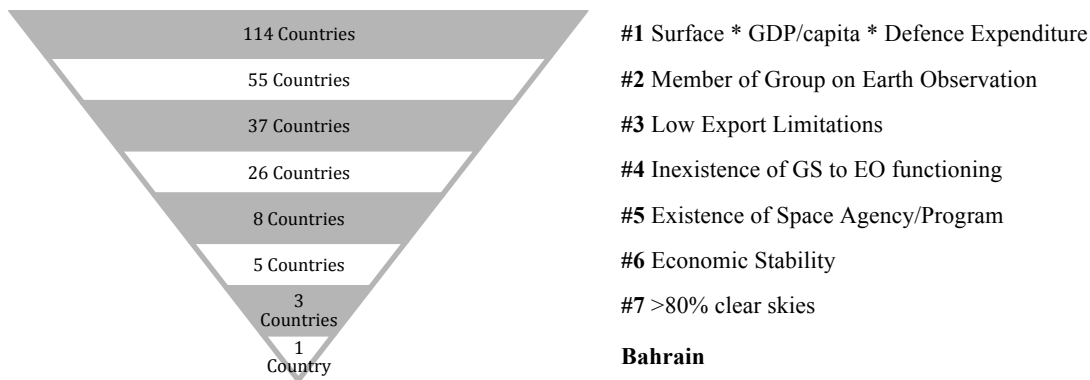
During this process, two of the filters chosen and classified as "High Potential" could not be applied, namely the third filter ("Volume of Earth Observation data requested by the country, per year > 300 000€") and the fifth filter ("Current use of satellite data from direct competitors"). The confidentiality demanded by the clients is one of the main specifications of this industry, especially when considering the ground stations' business is conducted mainly between private firms and governments (B2G context), in which satellite imagery is mostly used to Defence purposes.

To reach the final solution, only seven filters needed to be applied, which led to the Kingdom of Bahrain.

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[6] Belonging to the range [3,66; 5]
[7] Belonging to the range [2,33; 3,66[
[8] Belonging to the range [1; 2,33[

Figure 1 \ Value Creation Funnel (VCF)

Funnel	Criteria
114 Countries	**#1** Surface * GDP/capita * Defence Expenditure
55 Countries	**#2** Member of Group on Earth Observation
37 Countries	**#3** Low Export Limitations
26 Countries	**#4** Inexistence of GS to EO functioning
8 Countries	**#5** Existence of Space Agency/Program
5 Countries	**#6** Economic Stability
3 Countries	**#7** >80% clear skies
1 Country	**Bahrain**

Source: Developed by the VCW team.

Alexandrino and Fernandez said to be "very happy and intrigued to hear the final solution", as this was a country they have never considered before, and agreed the team should keep exploring if there were a real business opportunity there.

The Kingdom of Bahrain - Exploring the potential

Further research was conducted, not only to get to know Bahrain but also to find out about the industry attractiveness in the country. The Kingdom of Bahrain is situated in the Persian Gulf, in the Middle East, located between the Qatar peninsula and Saudi Arabia's northeastern coast. It is an archipelago of 33 islands (See Appendix 38: Bahrain's Map & Geography), with an arid climate, and predominantly clear skies over the year, an essential feature for optical satellites' clients, as cloudy weather influences the quality of the final imagery delivered to the client.

Regarding its government, the country is ruled by a Constitutional Monarchy, in which the king rules with the support of the other members of the government, generally part of the royal family. The most important ministerial posts within Bahrain's political context are the Ministry of Defence Ministry, the Ministry of Foreign Affairs, and the Ministry of the Interior.

According to the research handled by the team, there were two potential candidates to take in consideration when selling the direct access to the Deimos-2 Satellite: the Ministry of the

Interior, and the Ministry of Defence. The first mentioned is the responsible for monitoring emergency events and creating the respective emergency plans for the country. Nonetheless, according to the World Risk Index[9], which measures the risk of exposure to natural hazards and respective coping capacity, the country rates "very low".

On the contrary, the Ministry of Defence revealed to be a truly interesting target to focus on. In fact, the Bahraini government spends approximately 4,59% of its GDP on military purposes, making it one of the biggest spenders on defence in the world, in relative terms. (World Bank, 2016) Furthermore, the EO commercial data market is expected to grow 15% until 2022 in the Middle East, with a particular focus on Defence, which is expected to remain the most important and considerable application area. (Euroconsult, 2012)

Another critical fact to consider is the announced launching of the National Space Science Agency in 2014. The agency would be under the control of the Ministry of Defence, and one of its advertised goals was to establish infrastructure for earth observation, demonstrating a significant interest in this subject. So far, no activities on this topic were publicly disclaimed, nor partnerships announced. (See Appendix 39: PESTLE Analysis and Appendix 40: Porter's Five Forces)

The Prototype - Selling One Station to Bahrain

The Ministry of Defence demonstrated to be a strong candidate across all the indicators studied, through the application of the filters and further analysis, and did not show any evidence of having business with competitors. All these being said, it was time to derive a plan on how to sell the Ground Station to the target.

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[9] The index takes into account: Exposure to natural hazards, Susceptibility (Public Infrastructure, Nutrition, Poverty and Dependences, Economic capacity, and Income), Coping Capacity (Governments and Authorities, Medical Services, Economic Coverage), Adaptive Capacity (Education and Research, Gender Equality, Environmental Status/Ecosystem protection, Financing)

VCW Phase 5 - Consolidate Value (Operate)

      Developing an entry strategy

Approaching the government of the Kingdom of Bahrain can be challenging, as the country is geographically distant and very distinct in cultural terms. Nonetheless, the country's regulatory environment for business operations is friendly, ranking 66/190 in the Ease of Doing Business Index[10] (World Bank, 2017).

Acknowledging this, two options to approach Bahraini government were identified: either through a public tender or through the company's initiative. As the government did not have any public tender opened at the moment of the research, regarding Ground Stations/Earth Observation projects (Tender Board, 2017), the only way to reach the final target is through the initiative of the company. It is evident that this approach represents a significant challenge, not only due to the natural complexity of targeting a foreign government but also because of the importance and sensitivity that the Defence area poses to countries.

Moreover, due to the its complexity, GS' Promotion is done mostly through Direct Marketing, on which the initial contact and the following establishment of relations with the government are critical, as the creation of networks and long-term relationships with customers are fundamental for a successful promotion of this kind. Consequently, to get the product known, it is relevant to find a close point of contact to the government. The company should start by developing a relationship with governmental institutions within the country. Furthermore, the Economic Development Board of Bahrain (EDB) can also be a relevant facilitator for the project, as it is a public agency that works directly with the government, and seeks to promote foreign investment and the establishment of foreign business in the country. The first contact with each entity can be made directly to the offices, by phone or email.

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[10] The index is calculated according to the indicators: Starting a business; Dealing with licenses; Hiring and firing; Registering property; Getting credit; Protecting investors; Paying taxes; Trading; Enforcing contracts; Closing a business.

Lastly, to make all the critical elements of the project clear, the team developed a Business Model Canvas, as well as a preliminary 3M's Analysis to present to the board in the final meeting. (Appendix 41 - Business Model Canvas; Appendix 42 – Preliminary 3 M's Analysis)

The final meeting with the Board

The final meeting of the project took place on December 21, and the primary purposes were to present the final output of the project, receive feedback from the KDM, and validate the willingness of the company to pursue the given business model. Although the board members were already aware of the final solution, an interesting discussion about Bahrain was generated, regarding the analysis performed by the team in the country. As the board considered the Kingdom of Bahrain an attractive target to explore, it recognized that a further analysis should be done. Nevertheless, it acknowledged the importance of the VCW in the scope of the project. In fact, Alexandrino disclosed her thoughts on the framework, stating that she now had "a more clear and structured view of the market selection process".

Next steps

In order to accomplish a successful internationalization, the company must take into consideration several fundamental aspects: to ensure that no direct competitor supplies the same product, or a substitute, to the country; to validate the willingness of the government to consider the product offered; to design a fully customized business and technical proposal; and finally, to determine a realistic cost structure, revenue stream and timeline for the project. Nonetheless, the future for the internationalization of the Ground Segment's activities looked promising. Both members of the board showed the willingness to establish contact with the Bahrain's institutions, to explore potential business opportunities in the country. But did this mean the company will actually follow the VCW team recommendation? And would Bahrain

consider establishing a DME's Ground Station, and start exploring the capacities of Earth Observation to the country's defence? Only time will tell, and make clear the success of the VCW application.

Teaching Note

Case Synopsis

The case describes the practical application of the *Value Creation Wheel* (*VCW*) framework at Deimos Engenharia (DME). The company is highly technical and specialized in the development of space software systems. The *VCW* team was hired to select a new market where the company could export one of its services - Ground Stations - and design the respective internationalization plan.

After the describing the characteristics of the service and the company itself briefly, the framework was applied. In the first phase - Tap - the team developed an internal and external analysis, to assess both context and background of the firm and industry. In the second phase - Induce - the team collected several ideas and filters through the involvement of multiple stakeholders. In phase three - Analyse - the Board of the project selected the most relevant filters and ranked them according to their importance for the project. In the fourth phase - Ground - the team performed the Value Creation Funnel to arrive at the final solution and presents it briefly. In the last phase - Operate - the team developed an entry strategy and presented it to the Key Decision Makers (KDM). In the end, the Board decided to "Check" the final idea, and the case closes with the team's suggestions for the next steps to a successful internationalization.

Learning Objectives

The case study may be considered for discussion on courses such as International Business, Business Strategy, International Marketing, and Value Creation, at Masters and MBA levels.

The Learning Objectives may vary according to the subject taught, but the following may be considered:

- To assess and understand all the phases of the Value Creation Wheel framework, and how it is applied;

- To acknowledge how to select a market to internationalize a product, service, or technology;

- To understand the association between market selection and the paradox of choice faced by a company eager to move activities abroad;

- To recognize the relevance of involving external stakeholders in the process.

Discussion Questions

1. To what extent do you think the VCW framework and the VCW team added value to Deimos Engenharia?

2. Can you identify the main limitations of the application process of the VCW framework?

3. Assuming the company closes the deal with the Bahraini Ministry of Defence, what do you think are central risks the companies may face when exporting to such distant country?

Recommended Readings

Lages, L. F. (2016). VCW—Value Creation Wheel: Innovation, technology, business, and society. *Journal of Business Research*. DOI: 10.1016/j.jbusres.2016.04.042.

Discussion Questions

1. To what extent do you think the VCW framework added value to Deimos Engenharia?

This question requires a full understanding of the application process of the *VCW*, and how the framework impacted the company positively.

Deimos Engenharia is a highly technical and specialized company, focused on the development of new space systems. As the company members are mainly highly skilled engineers, the company lacks a business orientation and expertise. The introduction of the *VCW* into this project was essential to add structure, yet allowing for flexibility ("flexible stage-gate model"), and to arrive at a consistent solution, that will likely contribute to the sustainable growth of the Ground Segment, and consequently, of the company.

Aligned with the previous argument, DME also benefited from hiring the VCW team, as it provided an unbiased view of the project. The company was able to rely on the experience of the team, concerning business competence, market research ability, and analytical skills. Furthermore, the clear Paradox of Choice the company was facing regarding the selection of a market was overcome by the application of the framework, which allowed defining a focused solution, while maintaining the strategic view of the company. Here, the importance of the tools *Ranking* and *Value Creation Funnel* to the definition of the final solution may be highlighted.

Moreover, the involvement of external stakeholders allowed the generation of a varied, heterogeneous, and unbiased pool of ideas, which otherwise would remain technical and tendentious by the knowledge of the KDM and company staff.

2. Can you assert the main limitations of the application of the VCW to this project?

Firstly, it is necessary to take into consideration the specific characteristics of the industry in

which the project is being undertaken. As it is stated in the case, classified and private information are intrinsic characteristics of the aerospace industry. Although the market trends acknowledge an increase of free and open data, confidentiality is still required to address subjects like Defence and Board Monitoring (B2G). This being said, the limitations regarding the application of the framework were a consequence of both the lack of structured information regarding the market itself and the nonexistence of information regarding relevant topics that would allow delivering a more consistent analysis. On the one hand, the first phase of the *VCW* (Tap) implied a time-consuming market research, due to the specificity of the information, and its consequent low availability. On the second hand, the fourth phase (Ground) was profoundly affected by the lack of available information regarding direct competitors and governments. In fact, the two filters ranked as High Potential that were to be applied in third and fifth place could not be used, as they encompassed information that is not available upon research. Although the VCW defines a practical way to reach a consistent solution, if the established criteria cannot be applied in a specific order, the final solution may not be the most appropriated one.

Last but not least, the final phase (Operate) was also impacted by the difficulty in assessing information regarding such sensitive and specific subject, which may have limited the final deliverable regarding the Business Model and further recommendations.

3. Assuming the company closes the deal with the Bahraini Ministry of Defence, what do you think are central risks the companies may face when exporting to such distant country?

This question aims to ensure the reader can identify the risks the company may face when moving activities abroad. Accordingly, the country must be considered distant in both geographical and cultural terms, and from that four types of risk may arise.

On the first hand, DME is subject to Commercial Risks, which may result in the potential failure of the business in Bahrain, if the implementation and design of business strategies are inadequate. Furthermore, drivers of commercial risks include weak partners (especially in the case DME partners with a local facilitator), operational problems, competitive intensity (if any), and timing of entry.

On the second hand, the company is subject to Cross-Cultural Risks. Accordingly, different cultures and countries develop different negotiation patterns and decision styles, as well as ethical practices. As such, dealing with such different state may lead to failure in business, as all the previous mention may cause severe frictions and compromise the deal. Additionally, it is necessary to mention the Country Risks (Political and Legal). These may arise from Bahrain's social and political instability, as well as significant variations of inflation and poor economic management, and much bureaucracy necessary to start the business. Furthermore, the legal system of Portugal and Spain is rather different from the one in the Kingdom of Bahrain.

Lastly, Currency/Financial Risks should also be mentioned. As the countries do not share the same currency (Bahraini Dinar versus Euro) and these are significantly different, there are several risk drivers to which DME may be subject to, as currency exposure, foreign taxation (if applicable at the time of entry), and inflationary and transfer pricing.

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