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SUCCESS FACTORS FOR CORPORATE INNOVATION – THE CORE OF BUSINESS "VALUE CREATION"

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Abstract

Understanding the success factors for corporate innovation is essential for businesses to grow. This research focused on how the external (user) and internal (employee, process) sides can foster innovation. The results showed that including the user in the innovation process increases their willingness to pay. On the internal side, 15 challenges were uncovered for Test & Learn process adoption in CPG corporates. Additionally, innovative work behaviors are promoted by employee motivation, both intrinsic and extrinsic. Incentives are important, but companies should rather ensure employees enjoy their tasks and have the freedom to make mistakes when innovating in the workplace.

Keywords

#Coporate Innovation #Value Creation #Employees #Intrinsic Motivation #Task Enjoyment #Innovation Process #Iterative Learning #Incentives #Future of Work

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1. Motivation

Why Companies Are Big

Corporate innovation has been a major area of interest within the field of business for a long time (Burgelman and Sayles 1988). Understanding the complexity of value creation is essential for managers if companies want to exist (Prahalad and Ramaswamy 2004). “Companies exist to exploit the benefits of being big. They exist, in other words, to maximize efficiency at scale. The experience curve nicely represents this relationship: The bigger a company gets, the more experience it accumulates, and the more its performance - particularly cost performance - improves.” (Hagel III, Seely Brown, and Lang 2009). To exploit all the advantages, a company needs to fulfill a need for a product or a service for a user. Without this fulfillment, there will be no demand and, therefore, no company (Wagner 1891). Survival of the fittest has long been a question of great interest in various fields. Businesses need to adapt and innovate in order to survive (Claeys 2000).

Rapidly Changing Environment and Innovation as a Solution

Companies operate in a fast-paced and turbulent environment fueled by new technologies and ever-changing trends and behaviors (Rogers 2010). To react to these changes, top leaders need to constantly pay attention to the market to identify opportunities for innovation, keep up with trends, and forecast challenges that might be ahead. This is a creative process that requires a strong vision (Zorrinho, Serrano, and Lacerda 2003). Understanding and adapting the process of innovation has lately been a central concern of management researchers (Salaman and Storey 2002). Innovation allows companies to stay competitive and plays a vital role in economic growth (Kylliäinen 2019). Because CEOs recognize the power of innovation in boosting a company’s competitive advantage, they have lately been increasing their efforts and investments (BCG 2021). Highly successful and valuable firms such as Apple (founded 1976),

Alphabet (1998), Amazon (1994), Microsoft (1975), and Tesla (2003) are considered the most innovative companies, according to Boston Consulting Group's (BCG) annual report of the most innovative companies of 2021 (Interbrand 2021). In addition, these companies are all under 50 years old. This may indicate that these companies have gained competitive advantages by defining the innovation process as one of their CEO's top strategic priorities. Moreover, they have ensured this goal by investing heavily in the innovation of the company's structures and its people, enabling a well-aligned innovation system that can transform the company's good intentions and its people into added value (BCG 2021).

Work Approach of Companies' Employees

The management of a company needs to act as team coaches in order to maximize the potential and lead the organization, using resources at the right time (Zorrinho, Serrano, and Lacerda 2003). However, employers cannot assume that their employees are always motivated to innovate or simply work, as relatively few people find their jobs interesting enough to devote all their efforts without getting paid or receiving other rewards in return (Fischer, Malycha, and Schafmann 2019). Hence, the question arises about how much employee motivation should be intrinsic and extrinsic. Generally speaking, motivation is seen as "the heart of organizational behavior" (Gagné 2014), as employee motivation significantly impacts their performance and productivity. Additionally, motivation is able to guide the direction, intensity, and persistence of employees' work (Byron and Khazanchi 2012). Thus, it is worth taking a deeper consideration for a company's innovation processes.

Human behavior has been widely studied. Recent evidence suggests that some human behaviors are characterized by particular traits, including flexibility, adaptability, integration, collaboration, and the need to create (Hartjes 2010). Adaptability and flexibility lead to efficiency by optimizing resources (Budhwar and Patel 2018). Effectiveness is achieved when

companies have the ability to reinvent themselves and change their environment to build the future. For this purpose, a company must be able to learn from change. Therefore, a company capable of learning can create and pass on knowledge to change its behavior.

Differentiating Startups and Corporates

It has been shown that startups are being experts at leveraging new technologies to disrupt old business models. They are, therefore, often a source of inspiration to corporates when it comes to innovation (Kohler 2016).

There are many definitions of the term "startup", each highlighting a different aspect. According to Chesbrough and Tucci, startups are companies that focus on a single project rather than many (2020). Another perspective is that startups are companies that focus on finding a scalable business model (exploration) rather than exploiting a scaled business model (exploitation) (March, 1991). Interestingly, Ries defines a startup as an organization operating under extreme uncertainty (2011), specifically including corporate innovation efforts. However, though they may both operate under extreme uncertainty in parts of the business, there are clear differences between young, small companies and corporates. A global McKinsey study across various industries found that 94% of senior executives say that people and corporate culture are the most important drivers of innovation (Barsh et al., 2008). Therefore, even though Ries' definition of a startup may include teams within large organizations, it is crucial to consider the different work environments. Corporates and startups exhibit major differences in the areas of accountability, processes, culture, and people (startup way citation). These differences are crucial to understanding why innovation is more challenging for corporates.

What Startups Taught Us About Innovation (Frameworks for Human-Centricity)

Designing a product or service that meets the users' needs may be a challenge. CBInsights has compiled what they consider the 160 biggest innovation flops of all time. The list contains many industries from tech software and hardware, consumer packaged goods, fast food, and electronics. Examples from the list include Kitchen Entrees, Colgate (1982), the New Coke, Coca-Cola (1985), or Juicero (2009), and many more (CBInsights 2020).

Over the last century, interest in better designing solutions for users, known as "human centricity", has increased greatly (GoogleTrends 2021). It was acknowledged that users have difficulty communicating the information on how to solve a problem (sticky information's) (E. Von Hippel 1994). It is crucial to overcome these specify since users are generating more innovations in some industries than companies (E.A. Von Hippel 1977). There are numerous approaches to overcoming this challenge: Design Thinking, Scrum, and Lean, to name just a few well-known ones. For example, in 2003, Stanford University founded the d-school to foster design thinking (Stanford 2003). The core concept of design thinking is human-centricity (T. Brown 2021). The well-known framework of scrum aims to create value through adaptive solutions for complex problems. The goal here is to use the user's information to develop a more valuable product/service (Schwaber and Sutherland 2011). Lean management is focused on eliminating waste. This can be achieved through business experimentation or Test & Learn (T&L) in an innovation context.

In recent years, companies have increasingly been interested in organizational transformations and being agile (meaning quick adaptation, not the Agile method). "Although more than 70 percent of companies report that agile transformation is a top priority, we haven't seen the extent of agile adoption among operators that this level of interest would suggest." (Esbensen et al. 2019). McKinsey also found that agile companies are 50 percent more likely to outperform

their competitors financially. As well as “win four of their core battles: faster time to market, higher customer satisfaction, significant productivity improvements, and a transformed employee experience that improves talent attraction and retention.” (Esbensen et al. 2019). Being agile and therefore value-focused (McKinsey 2019) “leads to the success in competition. “ (Rezapour-Nasrabad 2018)

Aim of This Paper & Research Questions

This paper's (primary) aim is to contribute to understanding some of the success factors for organizational innovation. The thesis is divided into four distinct sections to answer the overarching research question: ***What factors lead to the success of corporate innovation?*** The four sections will dive into understanding these success factors on the customer and corporate levels. The customer side is examined in terms of value creation. The corporate side will be further split into a holistic view as well as two deep dives.

The first section will analyze the core of business "value creation". It has previously been observed that including the user in the design process positively impacts the willingness to pay (WTP) (Franke and Piller 2004). This study researched the willingness to pay for a heterogeny market - watches. The authors highlighted in the discussion for further research “it would be worth investigating whether the findings drawn from our study also apply to other industries, such as automobiles, computers, clothing, footwear…” (Franke and Piller 2004). The footwear market offers an excellent opportunity to replicate this study. Therefore, the question in this section will be: ***How much value will the process of self-design actually create?***

The other three sections point to the corporate side of innovation. The second section promotes a holistic view of the corporate side, diving into iterative validation processes (test & learn processes), specifically in what ways these are difficult to adopt in a consumer packaged goods (CPG) corporate setting. Challenges are identified from the literature for corporates in general

and then investigated in a CPG context through qualitative analysis, where the considered question is: ***What are the challenges and success factors when implementing Test & Learn processes in consumer packaged goods corporates?***

Following, this paper also provides special attention to analyzing the most prominent factors, such as intrinsic and extrinsic motivation, and understanding both of its importance for firms when it comes to fostering innovation processes.

Intrinsic Motivation (IM) is the act of doing something for its own sake and for the sheer enjoyment of the task itself, without getting any obvious external rewards (Legg 2019). Its importance in innovation has been discussed since intrinsically motivated employees tend to invest much effort in their jobs. Also, the most innovative countries in Europe are devoting a special focus on their people. Thus, this section aims to understand: ***How are some Portuguese companies intrinsically motivating their employees to innovate in the workplace?*** And exploit its importance in the corporate world.

The final section aims to further explore the possible link between the employee's alignment with the company's objectives, vision, and strategy and the current level of innovation in the company. Issues regarding the separation between board and employees were already considered (Drucker 1988). At that time, there was already a need to talk about an organization based on a horizontal information flow rather than a traditional vertical flow. Therefore, the final section aims to understand: ***Are workers getting the right incentives from leaders when it comes to driving innovation?***

2. State of the Art and Literature Review

Innovation

In the following paragraphs, we will define the term innovation. A considerable amount of literature has been published on the subject. The word innovation has its origin in Latin and means “something new”. The quality of this novelty is not defined (Merriam-Webster 2021). Schumpeter sees innovation as an engine of economic change. The essence of innovation is the enforcement of new combinations. Here, existing/new purposes and means can be combined to create something new. Moreover, he understands innovation as a qualitative improvement over the previous version ("Innovation und Innovationsprozess" 2007). However, innovation is more than invention or inspiration. It is hard work promoted by the motors of communication, collaboration, and trust (Drucker 2002). Innovation must be accepted by internal and external customers. Hauschildt used four dimensions to categorize innovation further.

- Content dimension: What is new?
- Subjective dimension: For whom is it new?
- Processual dimension: where does innovation begin, where does it end?
- Normative dimension: Is new synonymous with successful?

("Innovation und Innovationsprozess" 2007)

Several studies have begun to examine innovation in more detail. These studies look at different stages of innovation and the innovation process. Several systematic reviews of the level of innovation have been undertaken. In 1999, Rycroft and Kash defined **two types of innovation** - incremental and radical. Incremental innovations are characterized by a lower level of improvement and a higher certainty of the outcome. Here, known technologies, products, and services are further developed. An example of incremental innovation is a minor bug fix in a computer update. On the other hand, radical innovation is defined as being fundamentally new

and having a high level of uncertainty. A well-known example of radical innovation is the CD and its predecessor, the cassette. It must be emphasized that the author mentions that there can be other levels between incremental and radical innovation (Rycroft and Kash 1999).

In 2005, Hauschildt defined four different **levels of innovation**: incremental, means-centered, purpose-centered, and breakthrough (Hauschildt 2005). Incremental innovations are defined similarly to Rycroft and Kash's definition. The innovation focuses on minor improvements to an existing purpose using existing methods. A means-centered innovation is a new means of accomplishing an existing or new purpose. Here, companies often find a new way to meet the same need – different versions of chairs are examples. A purpose-centered innovation is an innovation that serves a new purpose. Here, existing products are used differently - Botox is one example. Botulinum toxin was initially used to treat strabismus. As a side effect, it was acknowledged that wrinkles decreased after the injection (Saleh 2019). The fourth innovation mentioned is the breakthrough innovation. This is where complicated new means and purposes are fulfilled.

Two different approaches have been used to describe the innovation process – technology push and market pull. Technology Push is a linear model that describes that innovation starts with technology (idea push) - with a technology idea brought to market. The producers believe they have enough information about the user to offer a product to the public (TheOpenUniversity 2021b). The Walkman technology is a successful example. The co-founder (Masaru Ibuka) used a portable stereo tape recorder for traveling. However, he had the pain point that traveling with such a large and heavy product was cumbersome. As a result, he assigned an engineer to develop a lightweight version with two over-ear headphones - the Walkman was born (TheDesignHistory 2021).

Figure 1: Technology push (TheOpenUniversity 2021b)

The alternative approach to the technology push is the market pull. This model describes a strong market need, which is then to be fulfilled. First, the market is researched and analyzed, and the needs are written down. Second, these needs are compared to existing products and processes to determine if they are met. For example, the innovation towards digital cameras was a market pull innovation. Photographers felt the need to view photos faster and shorten the lengthy process of film development (TheOpenUniversity 2021a).

Figure 2: Market pull (TheOpenUniversity 2021a)

It is difficult for a company to decide when to continue with an existing product and innovate in a sustaining way and when to invest in disruptive innovations. Christensen has helped to create an explanatory model for understanding the innovation dilemma. The Harvard professor describes that successful companies can fail in the process of performing disruptive innovation. He defines **two types of innovation** – sustaining and disruptive (Christensen 2013). Sustained innovations are defined by optimizing the product's performance through feedback from its best and most prominent customers. Typically, products are faster and perform better after sustaining innovation. In contrast, there is disruptive innovation. The performance of disruptive innovation is lower than its predecessor in its old key performance characteristics. Disruptive innovation starts in a niche market and is often not promoted by large companies. The innovation dilemma is that a company must decide whether to continue with a sustainable innovation to meet current customer needs and succeed in the short term or follow a disruptive innovation and meet future customer needs by committing valuable resources to a new market

with unproven opportunities. Future customers may not care about a product's current key drivers. Christensen cites smartphones and SLR cameras as examples. In terms of performance factor “image quality”, a smartphone could not compete with an SLR camera today. Nevertheless, many users use the smartphone as a camera because nowadays, the image quality is sufficient, and the convenience factor is defined as a new performance factor. As one of the key insights, Christensen recommends that large companies actively listen to their customers to continue their sustainable innovation successfully. These companies should monitor niche markets and identify potential disruptive innovations. In addition, Christensen emphasized that startups should not worry due to their small workforce size as long as they can quickly improve the performance of their product, which affects their major competitors.

Understanding the User

The following section describes user innovation. Previous studies have attempted to evaluate the impact of innovations regarding new products. Understanding the user has proven to be almost indispensable to developing a successful product (Achilladelis et al. 1971; Rothwell 1974).

In past years, there has been an increasing amount of literature on the topic of user innovation. It was discovered that many products and services were developed or refined by users. This was discovered by observing how people used existing products on the market to adapt them for their needs (Bogers 2010; Morrison, Roberts, and Von Hippel 2000; Nambisan, Agarwal, and Tanniru 1999; Berthon et al. 2007; E. Von Hippel 1986).

A great deal of previous research into user innovation has focused on lead users (E. Von Hippel 1986) as well as creative consumers (Pierre 2007; Berthon et al. 2007). “Lead users are defined with two characteristics. (1) Lead users face needs that will be general in a marketplace - but face them months or years before the bulk of that marketplace encounters them, and (2) Lead

users are positioned to benefit significantly by obtaining a solution to those needs." (E. Von Hippel 1986). Secondly, creative consumers are an "individual or group who adapt, modify, or transform a proprietary offering" (Berthon et al. 2007; Leminen, Westerlund, and Nyström 2014).

After 2003, the term "free revealing" received more attention (Harhoff, Henkel, and Von Hippel 2003). The research team found that "end users often develop important product and process innovations" (Harhoff, Henkel, and Von Hippel) and that, contrary to common belief, users often make details of their innovations freely available to other users and manufacturers. Therefore, the knowledge gained by users becomes a public good - open-source code is an example of this. The authors explain that innovation insights are often free, yet manufacturers and users must cooperate or adopt to get the information. To better understand users, the authors looked at the incentives for users to share their innovations freely. The positive effects are: (1) positive reputation, (2) enjoyment of innovation and learning, (3) innovators think they have not generated anything new, (4) altruism, (5) "increase in diffusion through a range of effects: network effects, reputation gains, and related innovations induced and disclosed by other users," and (6) creating a permanent source of benefits for the innovator by becoming the industry standard. The positive effects contrast with the negative effects - often related to free-riding: (1) When individual competition is intense, free-riding can lead to the loss of competitive advantage. (2) When individual competition is low, the geographical separation of the markets means that there is no interaction between the users involved, and thus few positive incentives can be stimulated.

Having gained the insight that innovators reveal their innovations freely, it is reasonable to look at the information transfer between users and users as well as users and manufacturers. Interaction becomes the focus of value creation as markets increasingly shift to experience. Key

factors for value creation are dialog, access, transparency, and understanding risk benefits (Prahalad and Ramaswamy 2004).

What follows is a brief review of some limitation problems for user innovation. A translation problem of the need for new products/services has been extensively studied. The level of heterogeneity of the group of needs as well as sticky information has been investigated. “A good whose individual units of measure exhibit certain differences from the point of view of the demanders. These may be factual (e.g., different varieties, presentation, functions, or qualities) or based on extraneous preferences (e.g., personal, spatial, or temporal)." (Kortmann 2014). “Consumers' desires and needs are becoming increasingly heterogeneous” (Esch and Köhler 2016). “To solve a problem, needed information and problem-solving capabilities must be brought together. Often the information used in technical problem solving is costly to acquire, transfer and use in a new location is, in our terms, “sticky”.”(E. Von Hippel 1994)

In addition to the complex process of gaining insights from users and determining the right audience, a company may have difficulty processing these insights. In everyday business, various socio-psychological barriers can arise that make collaboration difficult. Those are the theories of perception, cognitive dissonance, reactance, control, self-esteem protection, self-esteem enhancement, social identity, group thinking, and learned carelessness (Frey and Frank 2001).

Let us now consider how value creation can be better understood. Research has been conducted to measure how much value is created when users design their own product (Franke and Piller 2004). The authors used willingness to pay as a measurement tool. In 1991, the researcher “identified five consumer values - “functional”, “social”, “emotional”, “epistemic” and “conditional” - which could influence consumer purchase and choice behavior. “ (Sheth, Newman, and Gross 1991). However, because a product is a complex bundle of value

satisfactions (Levitt 1980), this paper does not examine what influences user involvement but focuses on the raw value added as measured by willingness to pay.

The Innovation Process

Different perspectives on the innovation process will be discussed in the section below. In 1935 Schumpeter said, "it is … the producer who as a rule initiates economic change, and consumers are educated by him if necessary" (Schumpeter). Von Hippel proposed redesigning the traditionally viewed producer innovation and diffusion paradigm in his book "Free Innovation" (E. Von Hippel 2016). The proposal can be seen below. Here, an iteration loop should be introduced between the paradigm of producer and free innovation. Furthermore, as can be seen, Von Hippel proposes that users should be included in the exploration phase (market research and R&D) more deeply to develop more potent, need-fitting products.

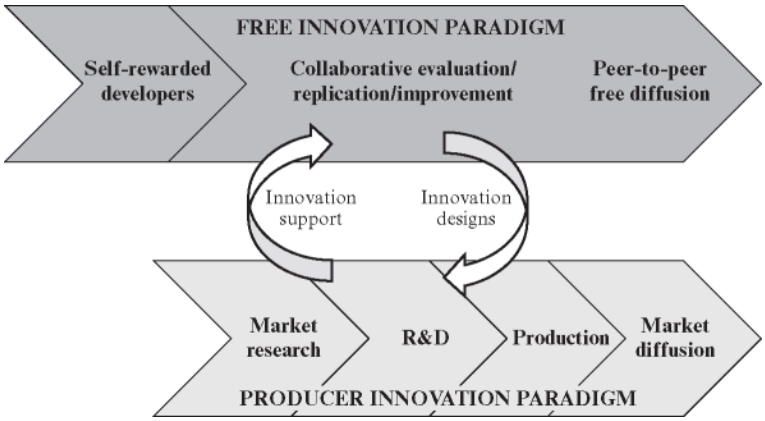

Figure 3: Innovation Process (E. Von Hippel 2016)

Von Hippel explained that paid employees perform the producer innovation paradigm and see it as their task to find a solution on their own. It could be interpreted as a reason for the missing user inclusion in the producer innovation paradigm. Moreover, since department thinking has been present, users were seldom included in the innovation process (E. Von Hippel 2020).

Similar to Von Hippel's concept of reframing the innovation process is the concept of co-creation. Co-creation is based on joint value creation and includes transparency, dialogue, access, and risk-benefit. Both parties jointly define and solve the problem. Co-creation activities occur in an experimental environment where customers can actively engage in dialogue and co-create personalized experiences (Prahalad and Ramaswamy 2004).

To better understand where a user can be involved in the innovation process, Rocheska created the following holistic overview of the innovation process (Rocheska 2014).

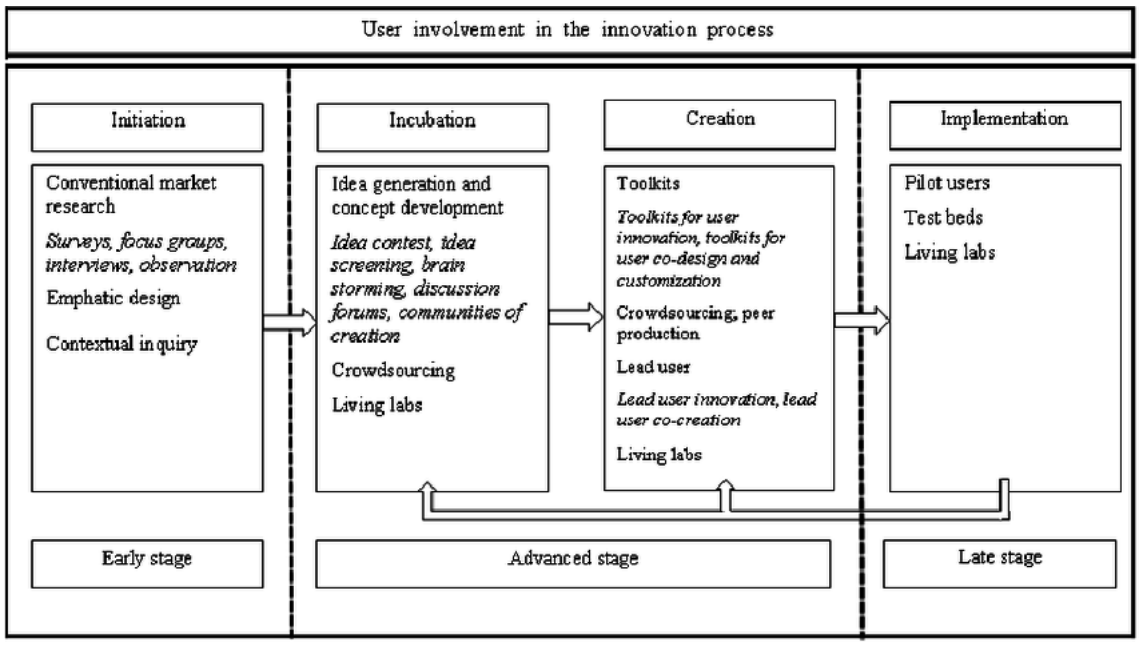

Figure 4: User involvement in the innovation process (Rocheska 2014)

This graphic could be advanced by adding the method of Design Thinking, which is divided into two spaces, the problem space (exploration phase) and the solution space. Design Thinking is human-centered. The user designs their own solution. During this process, the designer uses the three core principles of ideation, inspiration, and implementation (T. Brown 2021). As an active Design Thinking user, IBM reveals the following result after applying the framework. "Forrester concluded that IBM's Design Thinking practice has the following three-year

financial impact: $48.4 million in benefits versus costs of $12 million, resulting in a net present value (NPV) of $36.3 million and an ROI of 301%" (B. Brown 2018).

The toolkit method will play a vital role in this thesis as it will be a part of the empirical research. A toolkit design interface allows the user to experiment with the outcome through feedback. As a result, a product with the highest need satisfaction is created in an iterative process (E. Von Hippel and Katz 2002). The core concept of the toolkit is to actively involve the customer in product development (Franke and Piller 2004). Previous studies have been concerned with mass individualization and the user cost of active participation versus the benefits of receiving an individualized product (Agrawal, Kumaresh, and Mercer 2001; Zipkin 2001).

Including the user may be divided into two subgroups - a more active and a more passive one. The more active approach places the user at the center of development. Here, the user creates a solution themselves with the guidance of a company. The passive approach can be defined by a more limited user contribution to product development through observation, interviews, and testing. Methods with a more passive approach are Scrum and Lean. Passive approaches follow certain types of principles to develop a product. For example, scrum is based on three principles: transparency, inspection, and adaptation (Schwaber and Sutherland 2011). Lean is also based on three principles: Build, measure, and learn (Reis 2011). Both frameworks indicate that the product is tested and adapted in iteration cycles.

Framework to Foster Innovation (The Lean Startup Method)

As the name suggests, the Lean Startup Method is closely related to Krafcik's abstraction of the Toyota Production System (TPS) (1988), where he coined the term "lean". The word has its roots in the goal of reducing waste by learning to separate the activities that create value for the customer from those that do not and eliminating the latter (Eric Ries and Euchner 2013). According to Bortolini et al. (2018), the Toyota Production Support Center states four principles

to achieve this: (1) creating the product the customer wants when they want it and in the right amount, (2) people are the key resource, (3) continuous improvement while engaging everyone, and (4) focus on operation. While Toyota successfully applied these principles to automotive manufacturing, Ries transferred them into a broader business context, specifically innovation (Eric Ries and Euchner 2013). The key difference is that in the context of innovation, it is often not clear who the customer is or what they want. Therefore, forming hypotheses about the assumptions that underlie a business idea is at the core of the LSM. As Ries phrases it, the method exists "not just to build a product efficiently, but to discover efficiently what the right product to build is" (2011). According to Ries, there are two main hypotheses: The value hypothesis, which aims to validate that customers find the product valuable, and the growth hypothesis, which aims to validate that, given there is one customer who finds the product valuable, the entrepreneur can find more. If these two hypotheses are proven correct, this mitigates the main risks of the idea and the business model around it follows. All hypotheses are tested in a so-called Build-Measure-Learn cycle, starting with those that are imperative for the idea to work.

The key tool for the Build phase of the cycle are minimum viable products (MVPs). The MVP serves the purpose of validating the formed hypotheses as quickly as possible. Ries' definition of an MVP includes every tool that allows validating hypotheses about the idea. It is not necessary to even build a functioning product for many hypothesis tests. Testing customers' interest by, for example, having them sign up for the release of a software is much faster and cheaper than developing said software beforehand – and potentially realizing nobody will buy it. Once the MVP is built, the Measure phase starts. Hypotheses are tested through the MVP; data is collected and analyzed. Based on the results, a decision must be made in the Learn phase whether to Persevere, Pivot, or Perish (discontinue). If the hypothesis was validated, the entrepreneur would Persevere, meaning they would continue with the next hypothesis or

continue to scale the venture if all hypotheses have been tested. If the hypothesis was falsified, the entrepreneur would use either Pivot, adjusting the MVP and continuing to test the hypothesis, or Perish, accepting that the hypothesis was falsified and ending the project.

Differences in Management of Startups vs. Corporates

As mentioned in the introduction, understanding differences in the working environment and management of startups and corporates is crucial to understanding why corporates face challenges in innovation. In The Startup Way (2017, 102 ff.), Ries proposes a framework under the same name that differentiates management in startups from established companies (Figure 6). He compares the two structures using a pyramid model (Figure 5).

Figure 5: The Management Pyramid

The Accountability layer includes which behaviors are rewarded and punished; it describes what employees are held accountable for. Typical measures of Accountability in established companies include ROI or cost reductions. In startups, other measures like funding and future absolute cash flow are more important. The next layer is called Process and builds on Accountability. Based on which behaviors are rewarded, employees develop tools and tactics to achieve their goals. In large organizations, processes usually aim at efficiency, using standardization and economies of scale. In startups, processes are more iterative and focus on the speed of learning. Culture tops the Process layer. Culture builds over time based on what employees believe is possible. Ries describes company culture as “the muscle memory of the organization”, meaning that it is based on past behavior rather than aspirations. An important difference between corporates and startups in this layer is their attitude towards failure; startups embrace it while corporates do not. The top layer of the pyramid are People as the most important resource a company has. The company culture determines which kinds of people it

attracts. A traditional corporate structure is home to experts and optimizers, while startups attract entrepreneurial types who want to work cross-functionally. The pyramid structure of the layers is crucial as harmful incentives can trickle through the whole organization.

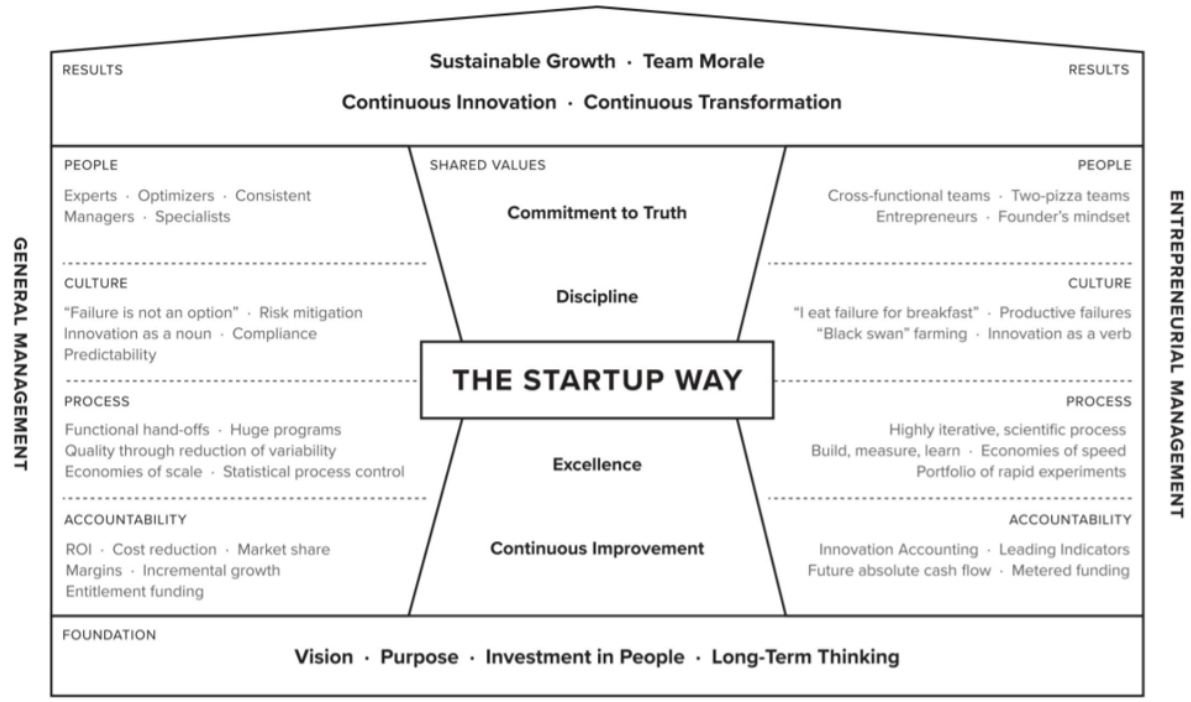

Figure 6: The Startup Way

State of Implementation & Challenges in Large Companies

The implementation of the Lean Startup Method in established companies has been researched ever since the method first generated attention in 2011. It becomes clear from the literature that large companies face additional challenges to those of startups when innovating. Chesbrough and Tucci summarize this as follows: "A startup fights a battle in the market. A corporate venture fights a battle on two fronts: in the market like any startup; and a second internal fight inside the corporation to access the necessary internal resources to wage the external battle".

In line with the finding of the McKinsey study mentioned above, the challenges that emerge from the literature can be categorized into the four layers of Ries' pyramid framework. Naturally, many challenges are categorized into the lower levels of the pyramid as these are the

foundation for the upper ones, meaning that, for example, the challenge to hire the right people in the top layer of the pyramid is a result of many of the underlying challenges.

The challenges in the Accountability layer can be further categorized into three sub-categories: Incentive structure, ROI focus, and Threats to the performance engine. In the first sub-category, Eesley & Longenecker found that one barrier to entrepreneurial behavior in large organizations is that companies fail to promote it. They do not push risk-taking, thinking about new ideas and opportunities, and making mistakes (2006). Furthermore, established companies tend to focus on delivering projects on time and on a budget (Humble, Molesky, and O'Reilly 2020), which does not facilitate adopting an iterative process to product development. The second sub-category centers around the fact that success is usually measured by the bottom line in established organizations. This impacts project funding, where projects with a higher expected ROI are prioritized (Eric Ries and Euchner 2013). Additionally, profitability pressure in large organizations is higher than in startups and not aligned with the uncertain long-term payoff of innovation efforts (E Ries 2017). In the last sub-category, there are two different kinds of threats to the performance engine. The first one concerns the innovation process, where employees have opportunity costs of supporting it (Chesbrough and Tucci 2020). Whether a sales manager worried about customers buying less if they know a new product is coming and therefore not granting the innovation team access or a product manager who has other projects to complete, there are many trade-offs to consider in an established company that a startup does not face. The other challenge concerns the business model that is being developed. If managers are focused on alignment with the current business model (i.e., minimal cannibalization), disruptive innovation may be prevented (Chesbrough and Rosenbloom 2002).

The second layer of the pyramid concerns the process challenges. The process starts with idea generation. A key issue in established organizations, according to Blank & Euchner, is that the idea funnel of corporates is much smaller than that of a VC (2018). While VCs choose one of

the thousands of startups all focused on their one idea, corporates usually do not have access to this kind of pool. Further sub-categories of the process challenges include MVP testing, integration with the company, and organizational complexity. When it comes to testing an MVP, there are several challenges corporate innovators face. First, it may be challenging to build an MVP that allows the user to experience the benefit tested that is also cost-effective (Casselman 2014), especially concerning consumer packaged goods (CPG) products. Additionally, there may be regulatory issues with unfinished products where large companies face more scrutiny than startups (Blank and Euchner 2018). Further challenges arise in the integration with the existing company. While corporate innovators have access to resources and expertise in their company, the different ways of working make cooperation complex. An established physical goods company likely already has an optimized production process and a purchasing department controlling this process, which could delay MVP development (Chesbrough and Tucci 2020). For experimentation, however, the metrics are different with speed being more important than quality standards. Similarly, the marketing department may consider showing customers unfinished products a brand risk (Blank and Euchner 2018). There may further be barriers between the customer-facing functions and the innovation team as the former may be worried about the latter disclosing confidential information or damaging the brand (Karlsson and Nordström 2012). Lastly, with regard to organizational complexity, team size can be a challenge on two levels. First, the team cooperating within the innovation process is likely larger than in a startup and may additionally be geographically dispersed, meaning slower communication which hinders the speed of experimentation (Karlsson and Nordström 2012). On a second level, decision-making teams are also larger, meaning there are more people to convince and more people who may stop the process if they are not convinced (Chesbrough and Tucci 2020).

On the company culture level, there are challenges with politics and tolerance for failure. A low tolerance for failure is the norm in large organizations (E Ries 2017). This is a direct consequence of the failure to incentivize risk-taking discussed in the accountability section. Regarding politics, experimentation can threaten the decision-making authority of executives, which may lead them to resist the process (Hampel, Perkmann, and Phillips 2020). In addition, unhealthy politics may lead to infighting and a lack of cooperation (Eesley and Longenecker 2006). These politics could result from individual incentive structures and organizational complexity discussed in the accountability and process layers.

On the people level, there are two main challenges. The first is that, based on the company culture of a large corporation, it is challenging to attract the right people for an innovation team using T&L processes (Hampel, Perkmann, and Phillips 2020). This is a major challenge resulting from all previously mentioned challenges; innovators may avoid these challenges by working in a startup. The second challenge regarding people is that the CEO of a large organization functions as a steward, overseeing many projects, as opposed to a startup CEO who spends all her time searching for a scalable business model. This leaves the ownership of innovation to a manager who will likely not own it the same way a startup CEO does (Chesbrough and Tucci 2020).

The Present State of Innovation in Portugal

The challenges of establishing a structured process for innovation are not only influenced by company size. In 2001, the European Commission released a strategic tool called the "European Innovation Scoreboard" (EIS). This tool provides a comparative analysis of the innovation performance between EU countries and other European countries. The European Innovation Scoreboard assesses the strengths and weaknesses of the EU country's innovation system and helps them identify areas they need to address by supporting the development of policies that

boost innovation. In the last ten years, Portugal has been classified as a “Moderate Innovator”, and in 2020, it was the first time that Portugal was allocated in the group of “Strong Innovators” (Silva 2021). This happened because of the improvement in the innovation capacity of companies, Research and Development entities, and most of the actors in the National Innovation System. Portugal was also considered a Strong Innovator for being the leader in the dimension "innovation in small and medium-sized enterprises (SMEs)", having indicators expressing the percentage of SMEs with a product, process, marketing, and organizational innovation and the percentage of innovative SMEs collaborating with other SMEs.

Unfortunately, this year Portugal was again classified as a “Moderate Innovator” by the EIS, dropping position and becoming below the European Union (EU) average in its innovation performance (Costa, Rocha, and Madeira 2021). This might have several underlying factors. Portugal reported below-average shares of in-house business process innovators and innovators who did not develop innovation themselves. It further showed below-average scores on climate change-related indicators. According to the European Commission's latest European Innovation Scoreboard, the innovation performance of the other European Union Member States continues to progress, and the strongest innovators seem to be geographically concentrated in Northern and Western Europe. Sweden is the EU 2021 innovation leader, followed by Denmark, Finland, and Belgium.

Learnings From Top Peer Countries

In Sweden, “*Innovation begins with the human being. Human beings have ideas and develop knowledge. Human beings use their knowledge, skills, and experience in new solutions in their businesses, in their workplaces, in their spare time or as consumers*” - states Annie Lööf, a Swedish politician, lawyer, and minister for enterprise (Minister of Enterprise 2020). Sweden developed an innovation strategy to be strengthened over time and guarantee they will keep

taking the lead in the next few years. Through a broad conversation with important stakeholders, the country wants to tackle global challenges - because no society alone can do it - boost competitiveness, build more jobs, and deliver public services more efficiently. Their strategy is then based on three main principles: 1. giving their citizens the best possible conditions to innovate; 2. focusing on people, on businesses and organizations that work along with innovation; 3. implementing the strategy based on a holistic view together with all countries. By following these principles, Sweden will keep developing sustainable and innovative solutions for problems and increase competition between countries to attract talent and organizations. Highlighted in their strategy are the immense investment in Human Capital and their education. The Swedish Educational System holds a crucial role in developing creativity and motivation in its citizens. The country also focuses on leadership to encourage innovation because by having "the best possible conditions for innovation", citizens will have the "capacity, willingness, and conditions" to contribute to it. This represents a great starting point for the development of this work: understanding how the investment in people and their motivation can contribute to innovation (Zamkova 2020).

To analyze another strong innovator, let us look at Belgium's strategy. This year, its Scoreboard will be based on indicators that include digitization and environmental sustainability metrics, in line with the EU's priorities. In addition, Deloitte in Brussels will be developing a specific focus on people: "*we keep on building our simply irresistible organization, even in these unprecedented times. Our values remain our compass, and we took a people-first approach focusing on physical and mental well-being*" (Diels 2021). The company developed "Delight Learning", a personalized learning platform that guarantees their people's personal development, well-being, and professional growth inside the workplace. The company's initiative was an extremely intelligent way to encourage employee motivation in the workplace. Through this platform, employees have access to courses and programs that cover a wide range

of topics, ensuring they have the right tools to explore, learn, and grow, driving the company's success (Deloitte 2021b).

After analyzing examples of the most innovative countries in Europe, we can understand that people and motivation are fundamental properties of innovation inside a company/organization. The focus on people and employee motivation might have been crucial factors that were missing in Portugal's firms, leading the country to drop several positions in the innovation ranking, together with other factors. Organizational cultures that value people, their creativity and their passions, will surely be innovation leaders, even though Generations' needs may diverge. Even from the perspective of a private company, the people-centered approach certainly leads to success. For example, in the 1980s, British Airways underwent a culture reshaping, sending almost all of its personnel through its "Putting People First" training program. This shift aimed to instill a new culture that would value people's needs more, which in turn would allow major process innovations and a redefinition of "*passenger expectations about service quality*." The result of this process was a "*more innovative environment*" (Moon 2014).

Millennials

Millennials mostly prefer the freedom to perform a meaningful work and obtain a better work-life balance. They are interested in having a sense of belonging and to being emotionally devoted to communities. (Moon 2014) claims the importance of "mentoring to foster teamwork, improve staff motivation, and increase employee competency levels". Mentoring builds trust, and as millennials value connection, that cannot be attained without trust.

By having been raised along with dominant firms like Apple, the Millennials acknowledge constant updates and the regular release of new/improved products and services to be the pattern. In addition, this group is surrounded by an environment where advanced technologies

and social media platforms are dominant. Thus, they have specific exigencies to be kept motivated. As a result, organizations are chasing innovation and innovators while balancing diverse generational needs since the culture of an organization and its environment can function as a nurturer of innovation (Auernhammer and Hall 2014), but can also repress it.

(MacPherson 2021) express that Millennials are *"willing to take a lateral career move to gain beneficial work experience, are willing to travel frequently for work, prioritize intrinsic job satisfaction over the bottom line, value making a difference over professional recognition, and rate a positive work environment overpay"*. Wikipedia is the confirmation of what this generation values: a ton of common knowledge that is instantaneously accessible to everyone. The opposite are older generations that favor other aspects such as security at their jobs, benefits – financial or non-financial, and prestige. Boomers, for example, are often characterized by a lack of trust (Moon 2014).

Through this type of behavior from Millennials, we can lean towards intrinsic motivation factors as being more important to individuals' personal and professional development since what they value is often less materialized but more connected to psychological needs – which will be defined later in this paper.

Failing to address employees' needs and requirements can have a tough impact on firms, such as losing out on the best talent. According to a recent report by Deloitte: "*44% percent of Millennials say, if given the choice, they would like to leave their current employers in the next two years. A perceived lack of leadership-skill development and feelings of being overlooked are compounded by larger issues around work/life balance, the desire for flexibility and a conflict of values."(Deloitte 2021a)*

Despite this aside focus on the Millennial era's needs, all generations need to be motivated, both intrinsically and extrinsically, because we do not have just millennials performing in the workplace, but individuals from all age ranges need to be understood and valued. That was one of the reasons why this study did not focus just on the Millennial era, but also because it would be hard to control the age range of the survey respondents - further described in this paper.

Motivational Theories

The dictionary defines motivation as "*enthusiasm for doing something*". Furthermore, as previously stated, there are two types of motivation. **Intrinsic motivational factors** are related to the self and give one the pleasure and inherent satisfaction of performing a specific activity (Deci 1975). These factors tend to be important to the individual as aligned with their beliefs. For example, some intrinsic motivational factors are recognition, enjoyment, and ideological reasons (Fischer, Malycha, and Schafmann 2019). **Extrinsic motivation factors** are external, from the outside, and are generally focused on goal-driven aspects such as financial reward, job title, external benefits, and organizational stature (R.M. Ryan and Deci 2000). These factors are related to a vision of power and success from one's outside environment and tend to be the factors that drive older generations. There are many different theories and strategies that aim to understand motivation, such as Abraham Maslow's Human Motivation theory, which is still used as a benchmark for the development of other motivational theories. Maslow was an American psychologist that created a model - later structured into a hierarchy pyramid - based on human needs (Swaim 2020). The pyramid

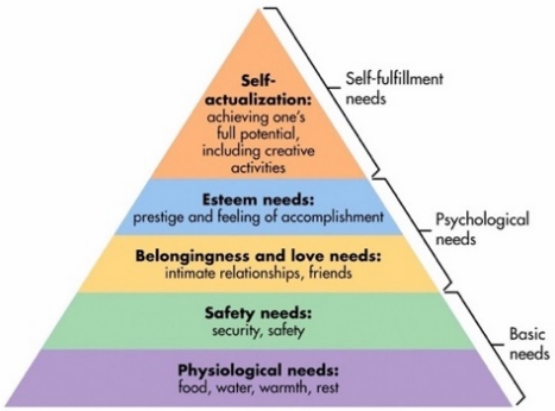

Figure 7: Maslow's Hierarchy of Needs

was composed of five key factors: (1) Physiological Needs; (2) Safety Needs; (3) Love Needs; (4) Esteem Needs; (5) The Need for Self-Actualization (Maslow and Lewis 1987).

The lower level of the pyramid reflects physiological needs, such as water, food, and warmth, among others. Each time a layer, or a level of needs, is fulfilled, "t*he next prepotent 'higher' need emerges",* moving upward in the pyramid until they reach the highest and most challenging level to obtain: self-actualization. Translating into the language of motivation, the lower levels of the pyramid (physiological needs, safety needs) (Clark 2020) are more driven by extrinsic motivation factors, while the higher levels of the pyramid are more related to intrinsic motivation factors.

Following Maslow's pyramid and as an extension to this one, another theory was developed by the American psychologist Frederick Herzberg. He conducted a study called the "Two Factor Theory" because, in his view, there were two factors impacting motivation: 1. motivational factors, such as achievement, recognition, responsibility, the work itself, among others; 2. hygiene factors, which are for example a company's policies, the supervision, relationships, work conditions between others (MacPherson 2021). His experiment claimed that employees' satisfaction was linked to motivational factors, and dissatisfaction was linked to hygiene factors (Stello 2011). The motivational factors correlate with the higher level of Maslow's pyramid, and thus, are more related to intrinsic motivation, while the hygiene factors correlate with Maslow's lower-level needs, thus are more connected to extrinsic motivators. The two factors work independently of each other.

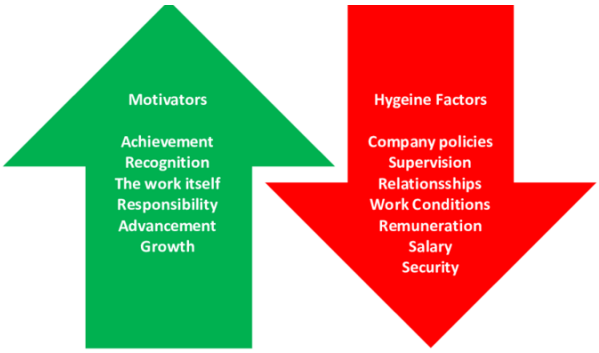

Figure 8: Two factor theory

While some researchers, like Herzberg (1966), argue that intrinsic motivation (motivational factors) and extrinsic motivation (hygiene factors) are constructs that work independently of each other, authors like Amabile (1993) state that intrinsic and extrinsic motivation can be related and influence each other (Fischer, Malycha, and Schafmann 2019). The ideal scenario would be attaining the right balance of intrinsic and extrinsic factors to motivate employees. A theory that explains deeper the internal and external motivation types and the possible dependency between each other in more detail is the **Self-Determination Theory (SDT).** Developed by the psychologists Edward Deci and Richard Ryan, this theory addresses the link between motivation and performance (R. Ryan 2009). Specifically, SDT proposes that human behaviors – for example, their creative and innovative performance - are heavily affected by the underlying motivation and are triggered by one's individual motives and specific needs, which will be specified in the following (Fischer, Malycha, and Schafmann 2019).

Some fundamental assumptions of the theory are (1) The need for growth drives behavior; (2) Autonomous motivation is important (co-action between extrinsic forces and intrinsic needs of human beings). According to the authors, one's motivation can vary along a continuum of two subparts: the "autonomous motivation" and the "controlled motivation" (O'Hara 2017).

The authors also believed that there are some basic psychological needs that people are driven by, and that personal well-being is a direct consequence of the satisfaction of these needs. Those basic psychological needs are autonomy, competence, and relatedness (Lopez-Garrido 2017).

In early 2009, the Gallup Institute published a study on motivation in German companies (GallupInstitute 2009). The results stated that approximately 90% of employees did not consider themselves as owing anything to their employer, and the work developed in the workplace was strictly limited to following rules and completing the tasks pre-defined by the management and the superiors. Furthermore, 5% of all the employees were classified as being "completely demotivated". The good news is that some German companies have been working on employee engagement and have been achieving significantly higher levels of their performance (Nink and Schumann 2018).

Developing Intrinsic Motivation

"*Motivation is what energizes, directs and sustains a behavior*" (Steers and Porter,1991)

There is an old saying by John Heywood that "you can lead a horse to the water, but you cannot make it drink". Individuals will only do what they want to do or are otherwise motivated to do (Ganta 2014).

Employees are able to develop innovative behaviors in the workplace whenever they are offered the chance to develop their own methods of developing the work and develop different and unique solutions to problems. Innovative work behavior is not conceivable if leaders do not support it. Thus, leaders have an essential role in encouraging those innovative behaviors among their collaborators and allowing the right conditions to do so. Inclusive Leadership (IL) would be an effective way to provide employees with an environment where they feel tempted and comfortable innovating, thus motivated. The concept was first introduced by Nembhard

and Edmondson (2006) and exhibits the unique characteristics of "acceptance, belongingness, uniqueness, and inclusiveness" (Siyal et al. 2021). Inclusive leadership accentuates the act of accepting employees by who they are, allowing them to contribute with their unique ideas, and inspiring them to participate in either organizational or non-organizational activities. When the leaders are supportive of their employee's new ideas, it enhances their motivation and consequently their innovation capabilities (Siyal et al. 2021). Prior studies suggest that leader's behaviors greatly contribute to employee's feelings of psychological safety (Nembhard and Edmondson 2006) – a psychological state that endorses innovative work behavior. According to Edmonson (1999), if the leaders are supportive, promote the development of their employees, and do not have overcritical responses to situations, the followers and subordinates will perceive their work environment as a safe setting. Inclusive leadership also foments creativity, an important principle of intrinsic motivation that enables employees to strive for innovation and find alternative solutions to tackle challenges (Hauser 2014).

Another approach is Hackman and Oldham's **Job Characteristics Model**. The model states that one's task is itself a source of motivation. The authors identified five aspects of work that can guide performance and then contribute to making the role a source of motivation (Ali et al. 2014): (1) **Variety:** Skills that the task requires from the employee. The more skills required, the more likely the employee will be satisfied with the job. (2) **Identity:** A clearly defined beginning, middle, and end of a task. The work must have an identifiable principle and purpose. As a result, it allows the worker to identify with what has been produced. (3) **Meaning:** The task requires meaning for the individual. The extent to which the task has an impact on the lives of others, and the greater the impact, the greater the meaning of work. (4) **Autonomy**: It states how much independence the individual has in planning his performance. The extent to which the work provides freedom and allows the employee to determine its needed procedures. (5) **Feedback:** One of the most important characteristics is feedback since it refers to the

information received afterwards about one's progress in performing his job, and the level of performance achieved. This model would be an effective way to promote intrinsic motivation in the workplace, as the authors argue that entrepreneurs and employees tend to have higher internal motivation when they enjoy the freedom and autonomy of their work.

To conclude, intrinsic motivation affects employees' innovative work behaviors by influencing their likelihood of exploring alternative and potentially more innovative solutions. Also, internal motivation and a higher willingness to work will be generated if leaders provide employees with support, decision ability, and opportunity to initiate, control, and carry out their tasks without excessive supervision. Employees intrinsically motivated in their work tend to invest much effort in their jobs (Shkoler and Kimura 2020). Additionally, the enjoyment of the task can be considered a form of intrinsic motivation that fosters employee performance. Not forgetting extrinsic incentives, sometimes these can be perceived as counterproductive compared to intrinsic motivation factors because they may lead to lower levels of quality-weighted efforts. However, it is tough to imagine an employment situation without extrinsic incentives (Kreps 1997). In much employment situations where intrinsic motivation is accurately high, the employee normally desires continued employment and other benefits.

Alignment

A considerable amount of research was already developed regarding the effects of aligning employees' goals with company goals. Employee alignment is a synergy between the company's and employees' goals (Singh and Woo 2009). Most of the existing literature on employee alignment focuses on the concept of LOS (line of sight): "an employee's understanding of the organization's objectives and what actions are necessary to contribute to those goals". Two benefits emerge when employees understand the company's goals (Boswell and Colvin 2006). First, if employees recognize the company's goals, they can improve the

business performance rather than hurting it by focusing on less important goals. Secondly, if employees understand how their work contributes to the company's goals, they can relate the company's success to their own success. Boswell and Colvin state that resources must be valuable, rare, and able to influence business performance to achieve competitive advantage. Hence, if employees are aware of and understand the company's goals, they will become a competitive advantage. In addition, personal trust in the company's goals makes employees more ready to help in achieving them (Boswell and Colvin 2006).

The second focus in the current literature on employee alignment with company goals is the challenge of determining the accuracy of each employee's contribution to the goals as defined by (Boswell and Colvin 2006). This challenge is especially relevant when goals are determined top-down (from top managers to team members) and are not accurate projections of daily tasks.

In a study conducted by George LaRocque at HRWins (2019) before the Covid-19 pandemic, CEOs had already ranked HR issues as business priorities, often appearing first in the list than attracting customers or even R&D (LaRocque 2019). Furthermore, as organizations pass through the depression of Covid, it stands out the need to align the company's environment and goals with people's professional needs so that workers' motivation is promoted (Bersin 2020).

Managers increasingly perceive that culture and alignment are the drivers that improve business performance instead of seeing employee engagement as a secondary matter (Vose and Hurty 2017). The idea is to look back to what has been done and combine what worked until now as a mixture of leadership, teamwork, and the business environment to focus on people and interaction.

Actions that are not contributing to the company's goals must be substituted by activities that are. Hence, resources and management capabilities should be allocated by engagement (Boswell and Colvin 2006).

Communicating with Employees

Research shows that most leaders are aware of the company's strategy and goals but fail to transmit them to employees (Shekari and Nikooparvar 2012). Another obstacle to the correct understanding of goals is that they are determined by top management and might not relate directly to the daily tasks of the work floor employees (Chong and Darmawan 2011). Hence, communication is crucial for establishing connections between employees' jobs and the company's goals. To achieve this, managers of each department must explain the company goals and provide regular analysis of the strategies and tactics used to achieve both goals, such that they become more visible and understandable for the whole workforce. In addition, all levels of management should participate in the business strategy development such that employees and the strategy are aligned (Chong and Darmawan 2011).

Still, from a perspective of communication between leaders and workers, it is known that companies that are great in engaging their employees obtain noticeably larger revenues, profits, retention and perform greater across the organization (Shekari and Nikooparvar 2012).

The well-being of employees and the company is highly dependent on the ability to listen to employees during a crisis. A crisis affects the employee experience and magnifies the difficulty that leaders have to measure it negatively, affecting the entire existing feedback chain, as it is happening during the Covid-19 crisis (Bersin 2020).

The connection between engagement, alignment, and innovation occurs in the sense that employees who are hardly engaged create larger value to the company and face greater quality of life at work. When companies prioritize to think about what drives their employees, they will also make more effective and informed decisions (Budhwar and Patel 2018). Communication is frequently considered the top driver of engagement. A selection of touchpoints (satisfaction, integration, success, recognition, engagement) builds the employee experience and can provide

a clear picture of how employees build their improvement path, yet these are complex features to measure (Vose and Hurty 2017). Employees' engagement can measure the company's health and reveal actionable steps to improve the overall employee experience while indicating the level of enthusiasm and connection toward the organization.

Another study from HRWins about "Managers' engagement on people issues" indicated that 51% of the leaders only spend 3 hours or less on employee-related issues (hiring, performance, feedback, and more), and 37% of them spend one hour or less. Again, there are worrying results since if managers do not make efforts to strengthen communication with their employees in order to get to know them and become aware of their difficulties, it will not be possible to align incentives (LaRocque 2019b).

To understand the messages and incentives that employees need, before boosting engagement with incentives or compensation strategies, leaders must employ effective communication with their workers (Cronquist, Johansson, and Kjellin 2006).

Innovation, communication, and concrete incentives have more and more contact points, meaning that innovation has become a survival problem (Goryachev 2018). Leaders consider that if we look to the current top-five companies in each industry, only two of them will exist in the next five years. Additionally, Goryachev reveals that companies have been thinking about digitization, automation, and engaging people in the long term. However, 70% of companies are preparing to be more technological, but it is expected that only 30% of them will be successful (Goryachev 2018).

Communication between leaders and employees is increasingly referred to as a crucial factor. This aspect creates a connection to all the other innovation drivers. In the century of digital transformation, with a constant change of knowledge taken for granted and the breakneck pace of changes in the industrial environment, we face complex dynamics that make communication

important and a unique vehicle for innovation to happen. Indeed, regarding innovation, communication creates the bridge from failure to success (Cronquist, Johansson, and Kjellin 2006).

Chris Anderson indicated that “Every meaningful element of human progress has happened only because humans have shared ideas and then collaborated to turn those ideas into reality, TED talk curator (Anderson 2016). From the first time our ancestors teamed up to take down a mammoth to Neil Armstrong’s first step onto the moon, people have turned spoken words into astonishing shared achievements.” (Anderson 2016).

The company’s key messages must be conveyed in accessible, engaging, and effective communication models to understand the message. All parts of the organization must be involved in the company’s communication strategy to the employees to contemplate each employee's contribution to its objectives and innovation ideas (Anderson 2016). Team sports have shown that individuals communicate openly, challenge each other, and present feasible solutions, not just experiments to be tested (Goryachev 2018).

Incentives to Drive Innovation

As mentioned before, intrinsic motivation is crucial in developing employees' performance since they tend to invest much effort in their tasks when intrinsically motivated. However, incentives – which reflect a form of extrinsic motivation - are also essential to innovation since roles are demanding, costly, and critical for the whole development process such that the actual output becomes a valuable attribute (Clancy and Moschini 2013). How incentives are organized to achieve efficiency and motivation is a determining factor of whether objectives are achieved (Clancy and Moschini 2013). Implementing a culture that encourages experimentation and accepts making mistakes in a company is not easy. Managers must foster a culture that accepts short-term error and failure in order to recognize good long-term results (Barsh, Capozzi, and

Davidson 2008). As established above, culture roots in processes, which root in accountability. Therefore, incentives are crucial to creating an innovative culture.

It has been found that performance-based compensation systems serve to reward immediate results and punish failures, causing workers to be unwilling to try new things that can lead to future gains. For a company to drive innovation, it must create incentives that encourage workers to take risks and discover new and even more efficient processes. The process should tolerate failure initially, provide regular feedback, and measure performance over time (Manso 2017). Several studies report the relationship that pay-for-performance schemes enhance productivity (Manso 2017). Moreover, several field experiences show that workers who perform routine and simple tasks are more attentive to financial incentives and also try to outperform themselves (Foster and Rosenzweig 1994). It is also relevant to mention that a good performance also needs creativity and disruptive thinking. Here a tension with incentives may appear. Creative and diversified tasks require another incentive scheme (Manso 2017). As our routine, repetitive tasks are increasingly automated, in contrast, experimental tasks that require adaptability. Thus, it is essential to consider what type of work profile we have in front of us when defining the incentives (Dickinson 1999).

Fresia Jackson (Culture Amp People Scientist) suggested that engaged workers take initiatives without being asked, feel energized by their actions, and keep a positive position. In this sense, employees are more open to experimenting and creating a new project, increasing the company's innovative character (HRWins and Culture Amp 2020).

Innovation Metrics (Incentives)

In a recent study presented by Culture Amp in partnership with HRWins, it was shown that the most relevant indicators to compute the ROI of engagement in a company are the number of employees, average annual compensation (per employee), annual turnover rate, company's

annual revenue, and the indication of if it is a private or public company (HRWins and Culture Amp 2020). Combined with previous industry research, these categories allow understanding the impacts of employee engagement on the company's success. Following this calculation, managers can understand the cultural impact on turnover of employees and how performance-based systems affect productivity and reduce absenteeism costs (HRWins and Culture Amp 2020).

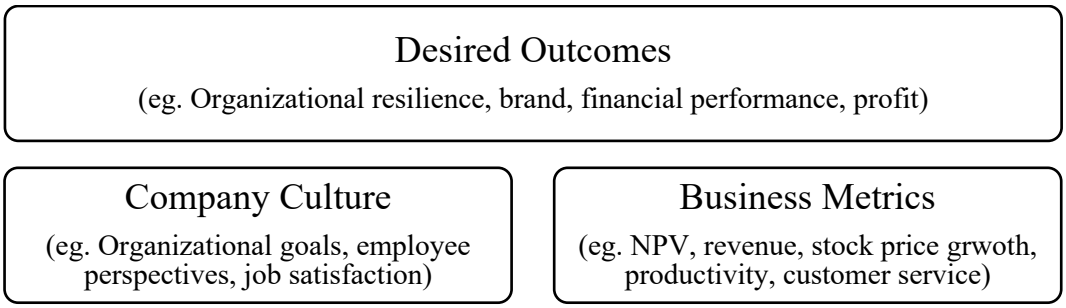

Figure 9: culture and metrics alignment for business outcomes

Managers who can motivate and support their subordinates by empowering them to do their best are those with more impact in promoting the company's innovative character (Shekari and Nikooparvar 2012). HR policies must therefore include rewards and recognitions that promote innovation, as it enables an environment that rewards success and allows autonomy to test new ideas. Servant leadership is crucial in mediating the relationship between management initiatives and employees' creativity (Burns and Stalker 1961). It is important to attend to employees' needs, such that alignment in what the leaders look for and what employees are able to provide exists.

Innovation is not only a complex topic to define, as it is also hard to measure with accurate metrics considering the subjective nature of innovation surveys (Burns and Stalker 1961). Over the years, innovation measurement was based on inputs, outcomes, and activities. It started with a concrete list of quantifiable innovation inputs, such as R&D and technological equipment. However, how we measure innovation evolved to a framework provided by the Oslo manual

(Cirera and Muzi 2016). This framework measures innovations' results as new products or number of patents and includes the improvements made throughout the process (OECD and Statistical Office of the European Communities 1995). More recently, other indicators have emerged in the OECD STI scorecard, incorporating both inputs and outputs of innovation to ease benchmarking across countries (OECD 2015).

Furthermore, scholars of the subject have tried to direct innovation metrics towards knowledge of capital assets instead of just focusing on inputs and outputs of innovation. The idea is to use information from different sources to capture investments made in intangible assets (C. Corrado, Haltiwanger, and Sichel 2005; C. A. Corrado et al. 2012; Hulten and Hao 2012). However, much of the information needed to assess innovation cannot be collected through the current innovation questionnaires. Also, measuring assets is not the same as measuring outcomes (Cirera and Muzi 2016).

3. Research Questions: Data Collection & Analysis

a. The Core of Business "Value Creation"

The section that follows briefly describes the method used in the experiment about value creation.

Method

One of the most well-known tools for assessing value creation is the willingness to pay - Humankind exchanges value with money. Measuring the willingness to pay represents a challenge in the past researchers used, for example, auctions (Krishna 2009; Myerson 1981). Here the concern is the influence of other bidders, as the authors say. As the inspiration study uses the contingent valuation method (CVM), where the users are asked directly how much

they would be willing to pay for a product or service (Carson and Mitchell 1993; Franke and Piller 2004). We as a group will also continue this method.

As a limiting factor, it should be noted that WTP is slightly overestimated, while users who actually spend money are about 15-20 % less willing to pay (Franke and Von Hippel 2003). Due to limited resources, we will not be able to conduct this research with brands and learn how many participants would buy a product and how much they would actually spend. Also, the toolkit we will be using will limit users in developing innovations. We can only guess what it would be like with a more open toolkit solution.

The advantage of the WTP approach is that we can have comparability of three variants. Possible differences could be identified by comparing the self-design with the standard and best-selling user designs. Since the actual WTP should be 15-20% lower, it is adopted equally for the standard, the best-selling user design, and self-design product.

Subjects

Let us now turn to the subjects of this experiment. It should be noted that a pre-workshop, the main experiment, and two post-surveys were carried out here.

The participants for the pre-workshop (Best-Selling User Design) were recruited from the network of one of the authors. The cohort consisted of 5 men and 5 women. All 10 participants were between 20-29 years old. Nationalities were diverse, including Brazil (1), Germany (5), Italy (2), and Mexico (2). They also had different professions - psychologist (1), designer (1), architect (2), gastronome (1), and economist (5).

Participants for the main experiment were recruited from NOVA SBE. NOVA SBE is a business school based in Lisbon. Therefore, the cohort consists of international students. However, since the country has different gross income averages (Portugal 1.871€, Germany 3994€), the average WTP per country may differ (Gehalt.de 2021; novobanco 2021).

Two interviews were conducted after the main experiment to gain deeper insight and link the results to practice. The first interview was with a consultant from Accenture. The interviewee specializes in building innovation projects (growth) by using technology to create value for their clients. The second was conducted with a chief executive from launchlabs. He helped build up the D-school in Germany and was the director for the executive program for several years. In addition, he is now an angel investor. Both companies have several years of experience in the field of innovation.

Of the initial cohort of 123 students, 73 were female and 50 males. The participants are coming mainly out of Europe. The majority (80) are from Portugal, followed by Germany (19), then Italy (9), and the minority form all over the world (15). 94 participants were between 20 and 29 years old. In addition, 28 participants were between 0 and 19, and 1 participant was between 30 and 39. Participants were only included in the analysis if they were students.

Experiment

This section aims to describe how the study was conducted. Before conducting the empirical study, we had to create a user design defined as the best-selling user design. For this purpose, we conducted a small workshop. After a short welcome, the participants were introduced to the toolkit by NIKE. Then each group member designed a shoe that met their needs and that they wanted to buy. As a result, ten designs were created. Afterward, a vote took place with the question, "Which design are you willing to pay the most money for?" Each of the participants had two votes. Two votes were chosen so that each designer could vote for more than their own design. Designer 3's shoe received 5 out of 20 votes. Designs 2 and 7 received 3 votes. Design 6, 8, and 9 received 2 votes. Designs 1,5,10 received 1 vote. Design 4 received 0 votes. Below the winning design can be seen.

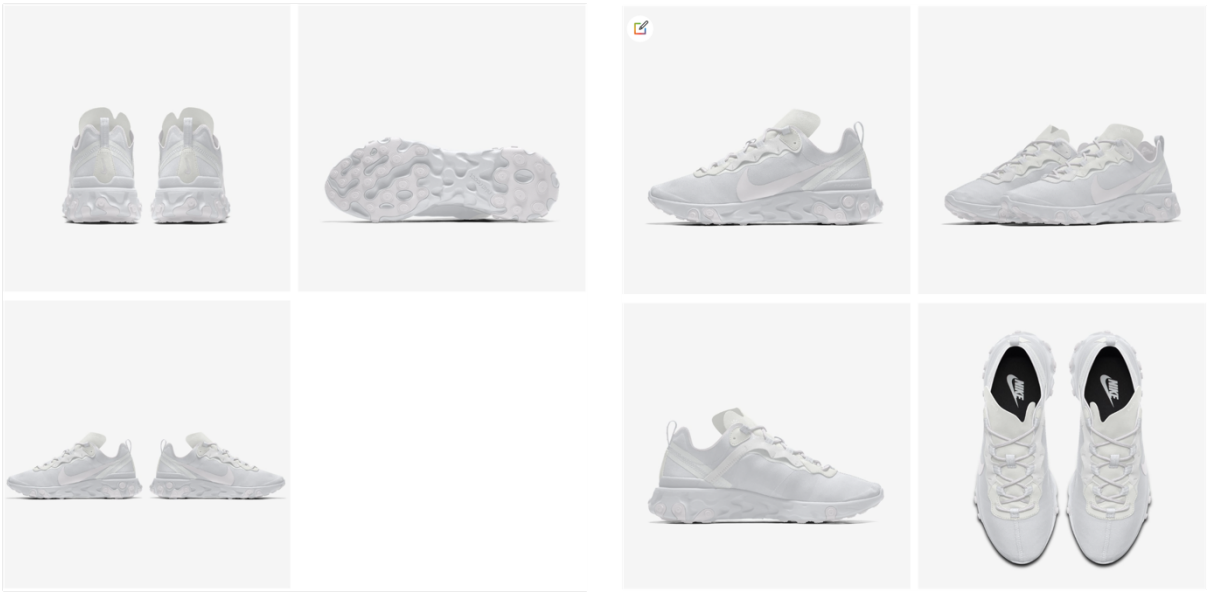

Figure 10: "best-selling user design" from pre-workshop

For the main experiment, the following approach was taken to collect data. The subjects were approached directly by one of the authors. Remarkably, the acceptance rate was 90,05% when the author asked the subjects, "Would you like to design a shoe? By the way, this is a survey for my master's thesis." (115/127 people ask), while the acceptance rate was 40% when the authors asked, "I am doing my Master's, could you answer my survey" (8/20 people ask). It was observed that people enjoyed designing products. Comments from participants were as follows: One woman to another, "Join me in designing, you will love it, and it is fun." (Portuguese woman between 20-29 years old). The author stood at a speaking distance next to the participants during the survey and offered support if they needed help with the survey/toolkit.

At the beginning of the experiment, participants were asked to scan the QR code, which was directly linked to the survey. Prior to the core of the experiment, the participants were asked about their socio-demographic characteristics - age, nationality, and gender. In addition to the socio-demographic characteristics, the subjects were asked if they (1) needed new shoes (trainers) and (2) how they would describe their style. Immediately afterward, the core of the experiment began. Here the subjects needed to click on the external like, which brought them

to the Nike ID website where they could find the toolkit. Then the facilitator briefly explained the tool and its function. Once the participants were familiar with the tool, they had 5 minutes to design their own solution. Following the self-design, the willingness-to-pay assessment was conducted and how the participants were satisfied with the tool to design the shoe. In round two, the "best-selling user design" was presented to the subjects as design "a". Again, the participants had to name their willingness-to-pay price. After completing round two, the participants moved on to round three. Here, the participants had to state their willingness to pay for the standard version (design "b"). This version was shown on the website as an inspiration for self-design. Customers of NIKE also have the option to buy this item directly. After completing all three rounds, the participants were introduced to the inspiration study (Franke and Piller 2004), and possible key takeaways were presented.

In order to investigate the impact of raw value creation as measured by willingness to pay, framing was avoided. Therefore, the subjects were presented with the designs of the best-selling user design and the standard design as designs "a" and "b". In addition, a price was visible on the website, which could anchor the subjects. "The psychology literature has demonstrated how numbers can influence decision making. The mechanism known as anchoring describes how random starting points systematically influence people's estimations. More specifically, people often form estimates based on an initial anchor, which may be irrelevant to the decision, and they adjust from there to yield their final answer. "(Nunes and Boatwright 2004). Therefore, to minimize the effect, an uncommon foreign currency was used (South African Rand).

In order not to anchor the participants' willingness to pay, the survey was designed with open response fields. Despite that, it has to be mentioned that some of the directly addressed subjects were groups, and it happened that they talked about their willingness to pay. Interestingly, they mentioned different ranges.

After the main experiment had been carried out, the experiment results were presented and discussed with the experts. Those interviews aimed to displace a general view, how users are involved in the design process, the advantages, disadvantages, and an outlook for the future.

All analyses were carried out using SPSS, version 27. The authors started by analyzing the research question. Further tests were then carried out to check whether the significance levels were reached between the variables.

The responses relating to „style" were subjective and therefore susceptible to bias.

Experiment Results

In the following pages, the results are displayed. The purpose of this experiment was to analyze how much value self-design is creating. If we now turn to figure 11, it presents an overview of the three models and the average willingness to pay per model. The average illustrates that the self-designed model achieved the highest willingness to pay with 102,84€. The best-selling user design achieved the second-highest value, created in a pre-experiment workshop with 71,46€. The standard design shoe reached the third-highest and thus the last position with 61,20€.

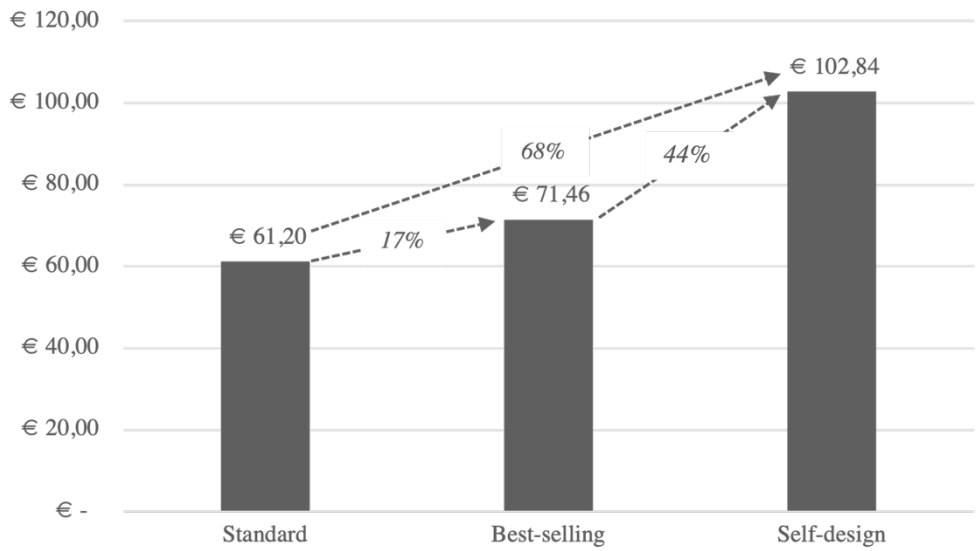

Figure 11: Willingness to pay

What stands out in this table is the difference between the willingness to pay for the self-design and the other two designs. The subjects would be willing to pay 68% more for the self-design than for the standard design. The self-design performed 44% better than the best-selling user design. The user design scored 17% higher than the standard design.

Further analysis shows a significant correlation between the users' need for shoes and the statement's agreement with being satisfied by the toolkit. The significance was $p<0.001$ after performing the K-S test. The average of users needing a shoe agreed with the statement with a mean of 3.69. If the answer to the need question was neutral, the mean agreement with the statement was 3.61. If users did not need shoes, they rated satisfaction at 3.65.

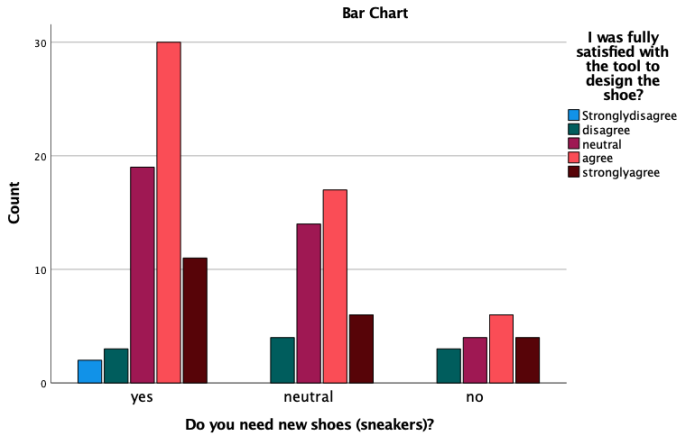

Figure 12: Was I fully satisfied with the tool to design the shoe?

Interestingly, the mean value for the need for a shoe and the willingness to pay does not differ broadly between the different designs. The self-designed shoe has a maximum difference of 4.05€. The best-selling user design is a maximum of 3.82€. The standard design has a maximum difference of 4.53€.

No significance could be found after conducting an independent t-test for the variables gender and willingness to pay for self-design ($p=0.711$). What stands out are the standard deviations with 40.06€ for women with a mean of 98.80€ and SD with 38.18€ with a mean of 108.58€.

Looking at the data and trying to identify the larger SD difference in willingness to pay, one reason could be the difference in the origin of the subjects, which could influence the willingness to pay. Therefore, we ran a MANOVA test and found no significance. (p=0.95). However, given the small sample size in some countries, this test has limitations. It could be different with a larger sample.

Further tests were conducted to determine possible influences on willingness to pay. When comparing style and willingness to pay, no significance was found after performing a MANOVA (p=0.62). It should be noted that the predominant style was classic (83), followed by individual (20), I do not have a style (14), and some minorities (6).

Interview Results

(1) During the interviews, the first question asked was **how users are involved**.

(Accenture) involves users through co-creation. As a service company, they either work for the clients or with the client for the user. Depending on the project, the level of involvement varies.

(launchlabs) offers workshops for its clients. Here the users are involved. Before the collaboration begins, expectation management is carried out. Afterward, the service is delivered in co-creation.

(2) Next, the second question addressed the **benefits of involving** the customer in the solution process. Numerous advantages were given.

(Accenture) By involving users and, in this case, clients' **ownership** may be created for a product. In addition, this ownership may help to promote projects within a larger company. The Endowment effect was highlighted in this context (Bischoff 2008) - Human's value goods they possess higher vs. goods they do not possess. Another advantage mentioned was that involving users creates **information symmetry between all stakeholders**. Furthermore, **iteration loops**

are possible by collaborating directly with the user, minimizing risk. There are two types of iteration loops, (1) direct, here the user uses a trial-and-error method to optimize need satisfaction, and (2) indirect, here the user participates less actively in the design but provides more information about the problem space through, e.g., interviews.

(launchlabs) One of the main benefits of involving the user for clients is **minimizing risk,** as stated in the literature (Prahalad and Ramaswamy 2004). However, several factors such as the degree of innovation, the level of awareness of a product, and the brand image have to be considered. Notably, the risk is minimized through multiple iteration loops, which both interviewees agreed on. With each iteration, the risk becomes reduced. A further advantage is that **users with a stronger need will provide more information** on what problems need to be solved. On the other hand, average users may not produce innovation. The interviewee referred to the lead-user method. In doing so, he mentioned an example of how people cross super-wide roads. Old people would be defined as the lead user group with the greatest pain when crossing. By solving the problems here, the others will also benefit. Another advantage is the **creation of a user base.** Crowdfunding could be mentioned as an example. Here, the first customers are also the first users. In this case, mainly the supporters will post their creations on social media and thus **promote the brands' products**. The next advantage is that **users feel valued**. For them, it is **the feeling of being listened to and noticed.** The interviewee observed that users, especially employees**, perceive a purpose of what they are doing, being valued and a fun factor**, which supports the flow theory (Hektner and Csikszentmihalyi 1996).

(3) Afterward, the third question asked about the **disadvantages** of involving the customer in the solution development process. The answers here vary between the experts.

(Accenture) named two disadvantages. Accenture has seen two disadvantages: First, **a user is only one person and cannot represent the entire user base**. As a company, the task here is

to evaluate the position of one user (e.g., lead user) and to steer against it to get an overview of the whole market. Therefore, the combination of one user and data creates strong proof for hypotheses. The second disadvantage seen by Accenture is that it **can be overwhelming for a user to be intensely involved in the design process.**

(launchlabs) does not see a disadvantage. He sees challenges. For him, it is more a question about how to include the user. After describing the disadvantage to the launchlabs expert, he mentioned that only including one user is uncommon. However, if the challenges are not addressed adequately, disadvantages could occur. For example, challenges could occur when disruptive innovation is tested, and the average user is asked. It would be disadvantageous to ask the users what they want. The interviewee referred to the well-known Henry Ford example where people answered that they wanted faster horses when asked about the future of mobility. Users are good at describing problems, needs, situations, and how they feel. An example could illustrate with the topic of mobility: a user could describe how they feel at midnight in a small village when the bus does not come for one hour.

(4) Then the fourth question focused on the **success factors.** Both interview partners agreed that **understanding the user is the key success factor** and that design research provides qualified guidance.

(Accenture) named **expectation management and clear, transparent communication at eye level about the next steps, as well as creating ownership** for the user as a success factor. Also, every client has a different starting point, and the role of the consultant is to adapt to the level; some still use fax computers, others AI technology.

(launchlabs) The communication of the importance of the exploration space*, since many users are too solution-focused.* Potential clients approaching launchlabs are mostly experienced, while the team around the initiator tends to be less so. Especially, heads of

departments are often too focused on solutions. Often teams want to start with a solution-oriented approach and minimize or skip the exploration phase. The focus on the solution rather than exploration was also observed in his time during the D-School. With a greater focus on the explorative phase, more knowledge about the user may be gained, which could be used later, e.g., in marketing. Albert Einstein sums it up very well. "If I had an hour to solve a problem, I would spend 55 minutes thinking about the problem and 5 minutes thinking about solutions." **To perform design research successfully.** A good comparison can be made between design research and one television production. Each task can be performed excellently. However, if one of the steps is not well performed, the outcome will not be great. A further success factor was defined by **setting the incentives correctly.** When working human-centered, it must be emphasized that the external incentive should not be greater than the internal incentive. If the external incentive is greater than the internal one, the company will attract people driven by the incentives and not by the value creation. Also, it was recommended as a success factor **not to take the responses from users as they are given and to dive deeper.** For example, a coat could satisfy two needs: warmness and style. It is essential to find the core need - perhaps warmness may not be the core need; a coat may be used due to its style.

(5) Finally, the last question of the interview covered the **future**.

(Accenture) The Accenture experts see that the human factor will play a more significant role in the future. Understanding how people can be aligned and motivate forwards the fulfilling of needs. In addition, working agile is not complex. It is about the work approach for the people. Therefore, the cultural change towards agility will become present in the future. Traditional corporate structures need to be rethought. The idea of failure should be revised. Failure belongs to being successful. Also, companies need to be proactive instead of reactive. Innovation is driven by small project groups that follow a strong impulse. The company's role should be that of a facilitator, providing resources to users to develop solutions.

(launchlabs) The launchlabs expert pointed out the presents of the most valuable brands like Apple (Interbrand 2021). He questions how a company can be more valuable while not providing the newest technology. As an example, Huawei provides newer technology. The interviewee answered that Apple focuses on user experience and therefore adds more value. As a result, Apple charges a premium price for its product. This means that customers are more willing to pay for them if the user's needs are satisfied.

Discussing Findings

The next part discusses the results of the study. Previous studies have shown the importance of understanding the user in developing a successful product. One of the aims of this study was to use data to show the outcomes of actively involving the user in the design process. The results of this study show that actively involving the user in the design process produces a higher willingness to pay by the user. So, the best-selling user design generates a higher willingness to pay compared to the standard products. This result was also reported by (Franke and Piller 2004). Here the authors analyzed the value creation for watches. An increase in willingness to pay may also be present for other product categories. The interviews support this result. However, they pointed out that many factors need to be performed greatly to generate the result. The results are interesting to those who create a product or service for others. These findings could help develop a better understanding of the user and help companies survive. A primary strength of the present study is that the value-added could be measured directly and be qualified with numbers and the quality of the interviewee.

This study has been unable to demonstrate if ownership influenced the willingness to pay. However, several studies and the experts suggest that ownership influences willingness to pay - endowment effect (Bischoff 2008) or pride of authorship (Dabholkar and Bagozzi 2002). Furthermore, the Ikea effect even indicates that users place a disproportionately high value on

products that they have co-created (Norton, Mochon, and Ariely 2012). Despite being actively influenced in valuing their own design, the best-selling user design was valued higher than the standard design. This could indicate that users may design more suitable products for their needs than manufacturers, supporting the user innovation theory (E.A. Von Hippel 1977). The psychological factor of attention may also influence the WTP. The experts emphasized a promotional effect by involving the user, who proudly shares their creation with their network of friends and family via social media, thus giving the product more credibility and value (Forbes 2013). Moreover, the interviews have shown that people feel valued and noticed, which was also noted by the authors by conducting the main experiment, which may be supported by (Maslow and Lewis 1987) psychology needs (belonging and need of love) as well as self-fulfilling needs (archiving one's full potential, including creative activities). During data collection and interviews, the flow effect mentioned in (Franke and Piller 2004) by (Hektner and Csikszentmihalyi 1996) was also observed as well as that the subjects had fun and enjoyed being creative.

During the interviews, iteration cycles were a topic of conversation, and that they would minimize risks. Von Hippel shows them in his proposal for the innovation process. Von Hippel's iteration cycles refer to the exploration phase (market research and R&D). The experts emphasized that they often have to remind managers of the importance of the exploration phase. Since managers often think in solution-oriented terms instead of exploring the problem space.

Next, some critical weaknesses must be considered. With a small sample size of qualitative interviews (2) and quantitative surveys (123), caution must be applied, as the findings might not be qualified for generalization. Next, the survey was answered mainly by a dominant group of students. Moreover, these students were recruited from the Nova SBE campus, which might indicate that they study business-related topics. Therefore, different groups with greater diversity might respond differently. Also, the most popular design was defined by ten

individuals. However, a diverse group of interest was present here, as art, food, and business fields were represented. The result might have been different if the sample size had been larger, or even more iteration cycles were conducted.

Finally, several questions remain unanswered at present. Further investigations are needed to confirm whether the WTP is increased for self-design in other markets. It would also be interesting to analyze how the effect would be if different levels (incremental and disruptive) of innovation were tested. Further, this experiment showed that a group design generated more value for a possible user than the presented standard design. As a result, it would be worthwhile to investigate what creates more value, an initial self-design used by the masses or a direct mass design. Since our experiment and Franke's showed that the best-selling user design created more value than the standard design.

4. Conclusion

Findings from the different research approaches in our work are mostly aligned. The first experiment proved the value of user engagement in the innovation process. This is especially important when connected to the second part, where companies strive towards more and earlier user engagement to validate their efforts. One of the most important findings of this joint work, proven with the last three research approaches, is that intrinsic motivation is crucial for corporate innovation.

After a detailed look at the factors underlying intrinsic motivation, the last three parts show that the freedom to create and make mistakes is crucial for business innovation (or T&L processes in the case of the second part). The third and fourth parts establish that leadership by example is important for an innovative culture. This is interesting because it goes one step further than part two (T&L), in which merely top management support was considered. Further research should be conducted into the difference between these two findings. The last two parts (Intrinsic

Motivation, Incentives) further agree that when workers identify themselves with the tasks and mission of the company, their motivation, productivity, and collaboration is much more evident, underlining the importance of this factor. An interesting controversy arises when comparing the second (T&L) with the last part (Incentives). In the second part (T&L), companies largely agreed that one challenge when implementing innovative T&L processes is that companies fail to incentivize innovative behavior. However, a key finding of the fourth part (Incentives) was that the power of financial incentives to foster innovation is overestimated. This suggests that further research is necessary into the ideal type and amount of incentives for fostering innovation. One conclusion may be that financial incentives are merely a hygiene factor, meaning they must be sufficient, but their incremental value diminishes. This point may also be connected to having sufficient human resources so that employees are not forced to prioritize according to their incentives to the point where they are not innovative anymore even though they would like to be. Findings of both the second and fourth parts (T&L, Incentives) support this theory as in both cases, sufficient resources were identified as crucial. In conclusion, the joint work showed many critical success factors for successful corporate innovation. The topic is highly complex, as proven by the various research approaches in the paper. The first part (Value Creation) shows that it is important to not just look for innovation within the boundaries of the corporation. The second part (T&L) shows that, even when staying within the boundaries of the corporation, there is a wide array of challenges and success factors in different layers. The last two parts (Intrinsic Motivation, Incentives) show that, even when focusing on one or a few of these challenges, there is a great depth to them. The value of this paper is thus that success factors were evaluated from different perspectives to allow for further discussion of the topic with the necessary breadth and depth.

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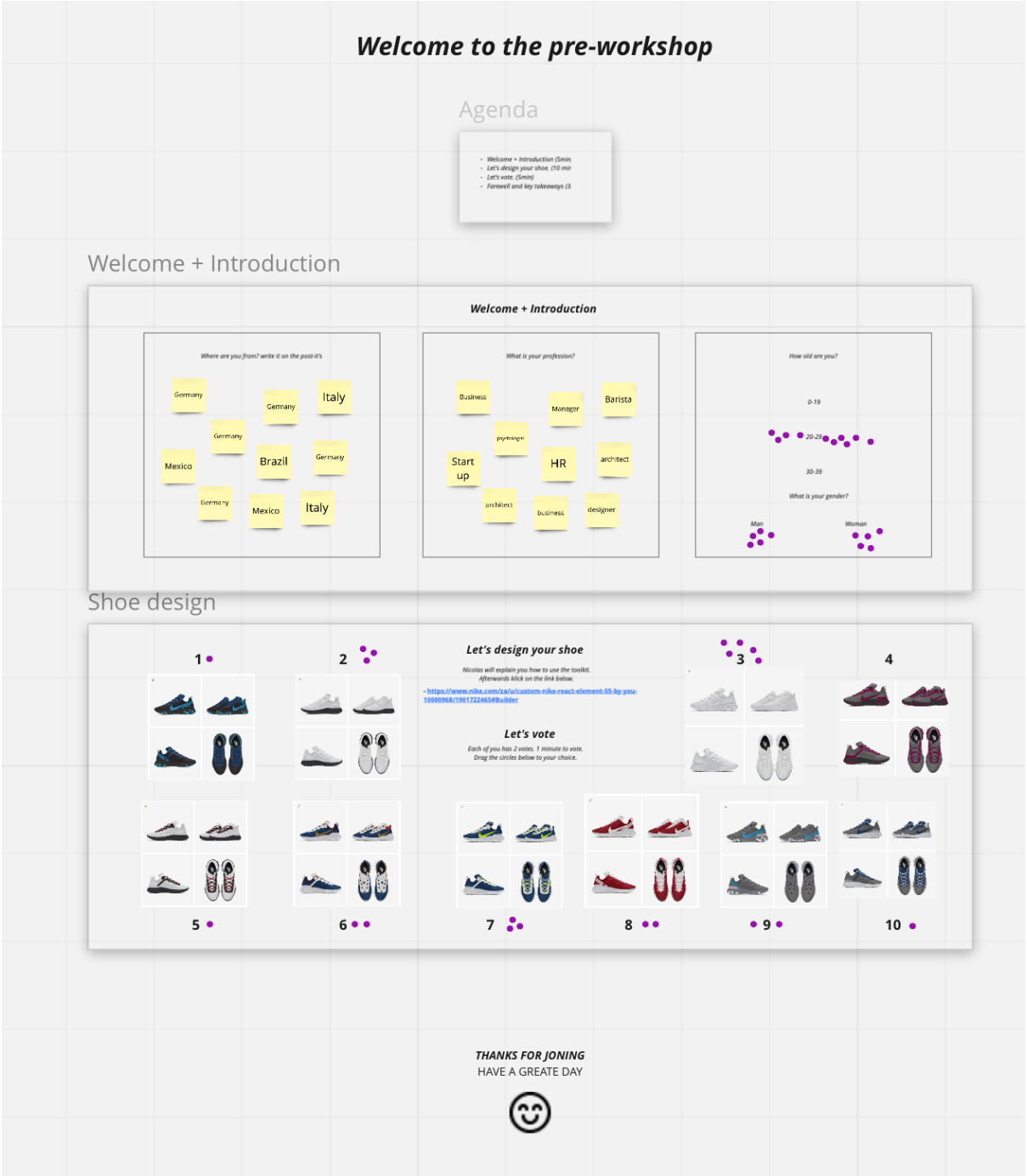
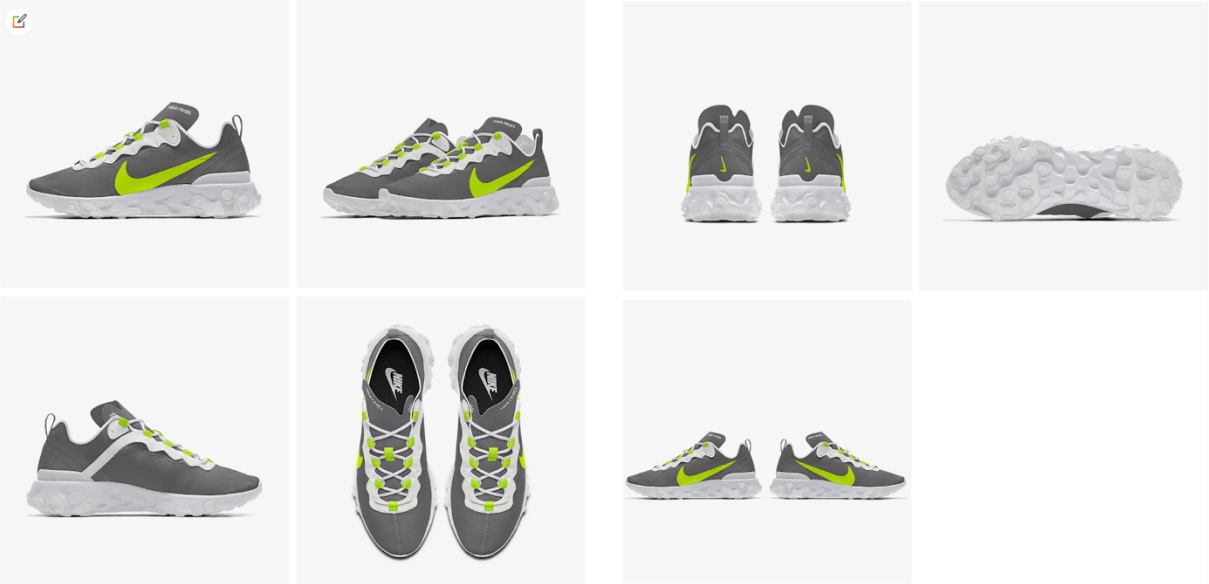
Figures

Appendix

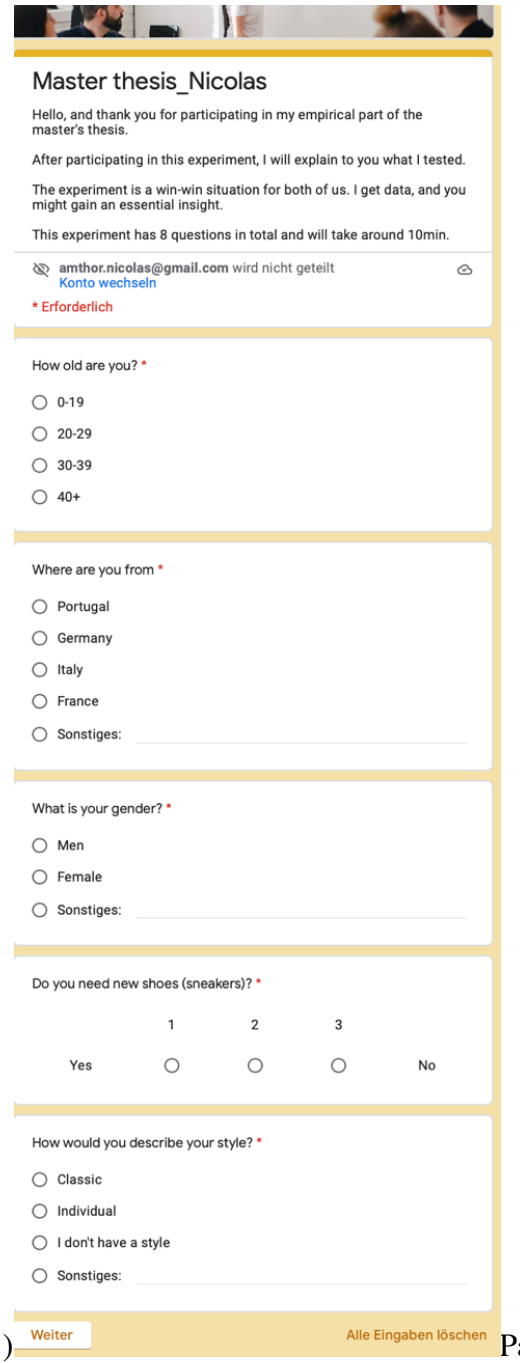
Appendix 1: Best-selling user design workshop (Value Creation)



Appendix 2: Standard shoe (value creation)



Appendix 3: Survey (Value Creation)



Master thesis_Nicolas

Hello, and thank you for participating in my empirical part of the master's thesis.

After participating in this experiment, I will explain to you what I tested.

The experiment is a win-win situation for both of us. I get data, and you might gain an essential insight.

This experiment has 8 questions in total and will take around 10min.

amthor.nicolas@gmail.com wird nicht geteilt
Konto wechseln

* Erforderlich

How old are you? *

- 0-19
- 20-29
- 30-39
- 40+

Where are you from *

- Portugal
- Germany
- Italy
- France
- Sonstiges:

What is your gender? *

- Men
- Female
- Sonstiges:

Do you need new shoes (sneakers)? *

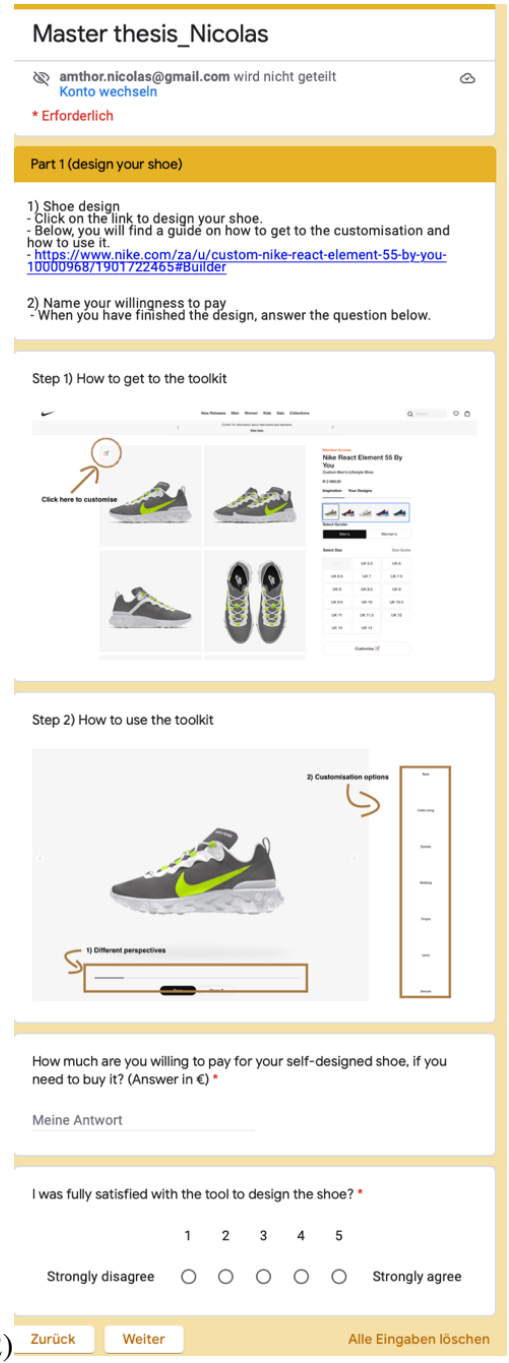
	1	2	3	
Yes	○	○	○	No

How would you describe your style? *

- Classic
- Individual
- I don't have a style
- Sonstiges:

Weiter Alle Eingaben löschen

Page 1)



Master thesis_Nicolas

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Konto wechseln

* Erforderlich

Part 1 (design your shoe)

1) Shoe design
- Click on the link to design your shoe.
- Below, you will find a guide on how to get to the customisation and how to use it.
- https://www.nike.com/za/u/custom-nike-react-element-55-by-you-10000968/1901722465#Builder

2) Name your willingness to pay
- When you have finished the design, answer the question below.

Step 1) How to get to the toolkit

Step 2) How to use the toolkit

How much are you willing to pay for your self-designed shoe, if you need to buy it? (Answer in €) *

Meine Antwort

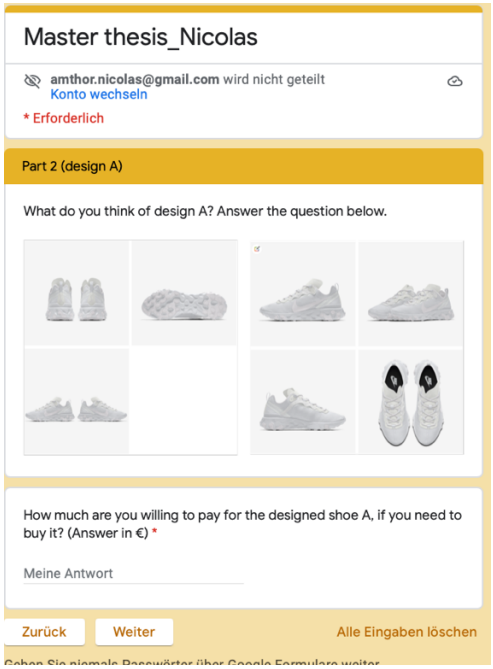
I was fully satisfied with the tool to design the shoe? *

	1	2	3	4	5	
Strongly disagree	○	○	○	○	○	Strongly agree

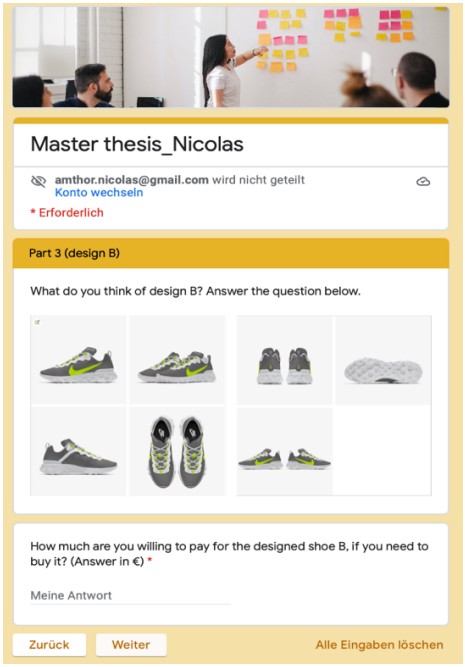
Zurück Weiter Alle Eingaben löschen

Page2)

Page 3)



Page 4)



Appendix 4: Interviews (Value Creation)

- First (Accenture)
- Second (launchlabs)
- Link to the interviews https://youtu.be/LlnP0SiuWqY