



Implementation of Behavioral Design in Startups

A Catalyst for Customer Engagement, Sales Optimization,
and Enhanced User Experience

Master Thesis

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Statement of Authorship

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III

Abstract

This thesis explores the application of Behavioral Design as a catalyst effect for business innovation in startups. Focusing on the interconnected dynamics of customer engagement, sales optimization, and user experience, the research will investigate the key success factors and challenges associated with incorporating Behavioral Design methodology. Drawing upon theories from behavioral economics, design, and psychology, the study explores how startups leverage insights into human behavior to design more effective products, services, and teams.

Through a qualitative approach encompassing two in-depth interviews and various case studies, the thesis examines the strategies, challenges, and impact of Behavioral Design interventions in startup contexts, particularly within technology-driven sectors. The findings contribute to both academic knowledge and practical insights, facilitating the integration of Behavioral Design into startup operations and offering actionable recommendations for actual and future entrepreneurs and managers.

By bridging theory and practice, this research advances the understanding of how startups can use behavioral insights to drive business success in dynamic and competitive markets.

Keywords: Behavioral Design, Business Innovation, Startups, Catalyst Effect, Human Behavior.

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List of Abbreviations

AI: Artificial Intelligence

AIDA: Attention, Interest, Desire, Action

BDP: Behavioral Design Practices

CBO: Chief Behavioral Officer

CEO: Chief Executive Officer

e.g.: Example

EU: European Union

GEM: Global Entrepreneurship Monitor

IBM: International Business Machines Corporation

IPO: Initial Public Offering

KPIs: Key Performance Indicators

MIT: Massachusetts Institute of Technology

NPS: Net Promoter Score

OCR: Optical Character Recognition

SaaS: Software-as-a-Service

SDGs: Sustainable Development Goals

SMEs: Small and Medium-sized Enterprises

SWAC: Spark, Want, Again, Can

TEA: Total Early-stage entrepreneurial Activity

UN: United Nations

UX: User Experience

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1. Introduction and Situational Analysis

The integration of principles of Behavioral Sciences with Design Thinking has given rise to the burgeoning field known as Behavioral Design to influence user behavior in desired ways. This interdisciplinary approach draws from psychology, cognitive science, and user experience design to create solutions that are not only user-centric but also behaviorally effective (Norman, 2013). The application of Behavioral Design in startups offers a unique opportunity to use scientific insights to enhance user engagement, improve product usability, and ultimately achieve business goals (Eyal, 2014).

Due to limited resources and rapid iteration cycles, startups often face significant challenges in understanding and influencing user behavior. Traditional design approaches may not fully address the subtle ways in which users interact with products and services. Consequently, startups need to adopt Behavioral Design methodologies to better align their offerings with user needs and behaviors (Wendel, 2013).

The startup ecosystem is characterized by rapid innovation, lean methodologies, and a strong focus on user-centered design. In recent years, there has been a growing recognition of the importance of understanding user behavior as a critical component of product success.

Startups are increasingly turning to data-driven approaches and user research to inform their design decisions (Ries, 2011). Despite this shift, many startups still struggle to systematically incorporate behavioral insights into their design processes (Brown, 2009).

Behavioral Design leverages concepts such as nudges, cognitive biases, and habit formation to shape user behavior in predictable ways. Techniques such as choice architecture, feedback loops, and social proof are commonly used to enhance user engagement and retention. In the context of startups, these techniques can be particularly valuable in driving user adoption and fostering long-term loyalty (Thaler & Sunstein, 2008).

While the potential benefits of Behavioral Design are well-documented, startups face several challenges in implementation. Limited resources, time constraints, and a lack of expertise in behavioral science can hinder the effective integration of Behavioral Design principles. Moreover, the fast-paced nature of startups often necessitates quick iterations, which can conflict with the time-intensive process of behavioral research and testing (Lockton, Harrison, & Stanton, 2010).

Despite these challenges, startups are uniquely positioned to benefit from Behavioral Design due to their agility and innovative culture. By adopting a Behavioral Design approach, startups can differentiate themselves in competitive markets, create more user-friendly products, and build stronger relationships with their customers. Additionally, the increasing availability of Behavioral Design tools and resources provides startups with the means to incorporate these principles more readily into their workflows (Gourville, 2006).

1.1. Context of the Problem

According to the publication by the Statista Research Department (2023), “The European startup scene heated up in recent years, reaching approximately 8,400 recorded investments in different cities across the continent. London, Paris, Berlin, and Stockholm were particularly popular places for startup investment rounds”.

Total number of investments in startups in Europe from 2017 to 2022

Number of investments in startups in Europe 2017-2022

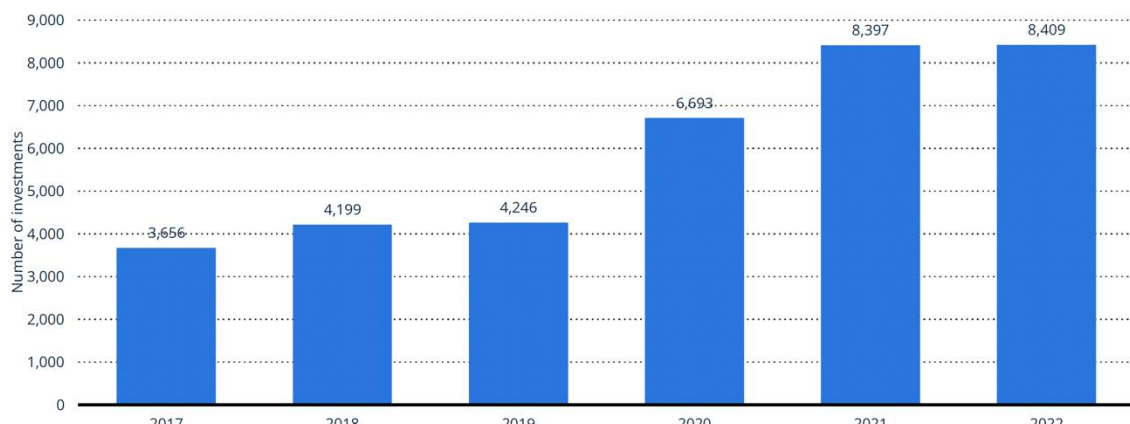


Figure 1. Total Number of Investments in Startups in Europe from 2017 to 2022

(Statista Research Department, 2023).

Entrepreneurs in Europe are continually emerging and finding their identity. This optimistic outlook makes it more difficult for startups to gain a competitive advantage and succeed in a dynamic market. While every startup aspires to become a well-known brand, the road ahead will be anything but easy.

Startups can significantly enhance their prospects for success in dynamic market environments by harnessing the potential of Behavioral Design. This innovative discipline combines insights from behavioral science with a strategic and operational framework, enabling startups to gain a competitive advantage in the business landscape. By leveraging principles such as cognitive biases, decision-making heuristics, and user behavior patterns, startups can create products, services, and

experiences that resonate more effectively with their target audiences, ultimately leading to improved customer engagement and business performance. “Behavioral Design focuses on understanding and influencing human behavior to achieve desired outcomes, leveraging insights from psychology, cognitive science, and behavioral economics” (Lockton, Harrison, & Stanton, 2010). This approach is particularly relevant for startups, which often face unique challenges such as limited resources, the need for rapid growth, and the imperative to create impactful user experiences.

Behavioral Design is effective in various domains, including product development, marketing, and customer engagement. “For instance, startups can use nudges—subtle design elements that influence behavior without restricting options—to improve user onboarding processes or increase customer retention” (Thaler & Sunstein, 2008). By studying the possibility of applying these principles, startups can enhance their competitiveness, sustainability, and lifecycle in the market.

The relevance of Behavioral Design in startups is underscored by the increasing number of companies that are adopting these strategies to scale their operations and improve user interactions. “Studies have shown that companies leveraging behavioral insights can achieve significant improvements in customer satisfaction, conversion rates, and overall business performance” (Eyal, 2014; Duhigg, 2012). Despite its potential, the implementation of Behavioral Design in startups remains an under-explored area, with limited empirical research available.

This thesis definitively explores case studies of startups that have successfully implemented Behavioral Design principles. It will unquestionably provide comprehensive insights into how Behavioral Design can be integrated into startup operations, delivering practical insights for entrepreneurs and business leaders while contributing to the existing body of knowledge.

1.2. Research Question and Objectives

In today's startup landscape, integrating Behavioral Design strategically can empower new founders and existing managers to navigate market complexities, drive customer engagement, optimize sales processes, and enhance user experiences. According to Thaler and Sunstein (2008), "Behavioral Design, rooted in behavioral economics, provides a framework for understanding and influencing human behavior. It presents opportunities for startups to create products and services that deeply resonate with their target audience".

Despite the growing recognition of the potential benefits of Behavioral Design in startup contexts, there is a gap in understanding how startups can effectively integrate Behavioral Design principles into their operations to achieve sustainable growth and competitive advantage. Li et al. (2015) also emphasize "the need to elucidate Behavioral Design's practical relevance and applicability as a tool for startup founders and managers facing challenges in the dynamic and competitive market landscape". Therefore, this thesis aims to address the research question:

"How can startups integrate Behavioral Design to empower new startup founders and managers to drive customer engagement, optimize sales, and enhance user experience?"

Considering this research question, this thesis pretends to facilitate the link between the theory and the practice, offering invaluable insights and strategies for startups looking to understand and implement Behavioral Design as the new driver of growth and competitive advantage for their organizations.

Objectives

This master's thesis aims to explore the theory behind Behavioral Design and its application in startups. The goal is to provide decision-makers with practical insights to understand and engage customers, optimize sales, and enhance user experience through the implementation of Behavioral Design strategies.

This thesis will analyze the strategies employed by startups to comprehend customer behavior and offer actionable guidance. The objective is to provide future startup owners with a structured approach to building meaningful connections with their customers, ultimately enabling them to have a significant impact on their organization's scalability. Additionally, it aims to assist startups in overcoming challenges before launching their ideas to the market and during their initial operational years.

General Objective

To explore the foundations of Behavioral Design and its use in startups.

Specific Objectives

1. Investigate the effectiveness of different strategies utilized by startups to integrate behavioral insights into their organization.
2. Develop a comprehensive framework for managers within startups to implement and leverage Behavioral Design across their organizations, fostering customer engagement, sales optimization, and enhanced user experience.
3. Provide practical and tailored recommendations for startup owners, offering actionable insights on how to incorporate Behavioral Design into their organizations.

1.3. Significance

“Every organization—regardless of industry, mission or location—shares a common quest: they are all in the business of changing human behavior” (Soman, 2015).

Today, in the competitive startup landscape, startups are constantly seeking innovative strategies to distinguish themselves from their competitors and attract a loyal customer base. By applying Behavioral Design, startups can gain a competitive advantage by developing products and services that deeply resonate with their target audience. This resonance fosters increased customer satisfaction, builds loyalty, and drives overall growth.

The research findings hold significance in informing entrepreneurial education and training programs by underlining the necessity of integrating Behavioral Design insights into startup management and operations. According to Statista (2024), “46.10% of startups in Europe were in the startup stage, prompting concerns about the survival rate to reach the growth stage”. The primary objective of this thesis is to guide current startup managers and future entrepreneurs, enabling them to navigate the startup development stages proficiently.

Distribution of startups in Europe in 2018, by development stage

Startups in Europe 2018, by development stage

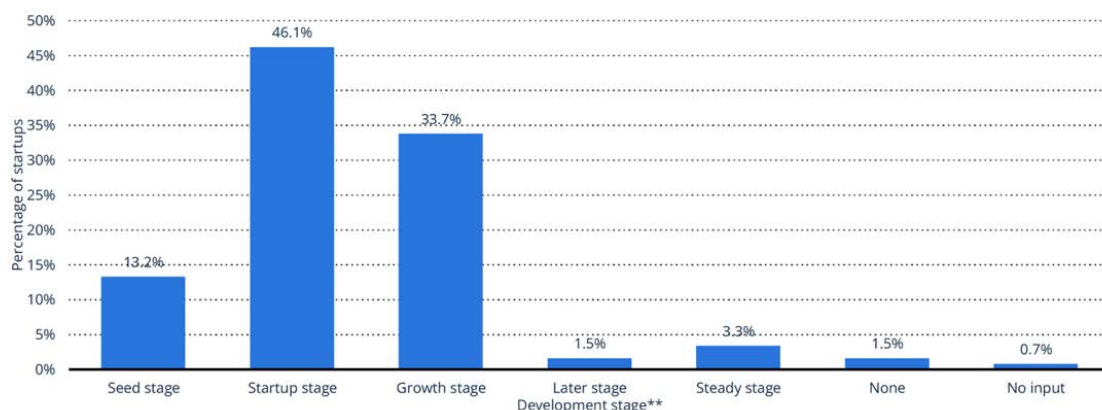


Figure 2. Distribution of Startups in Europe in 2018, by Development Stage. (Statista, 2024)

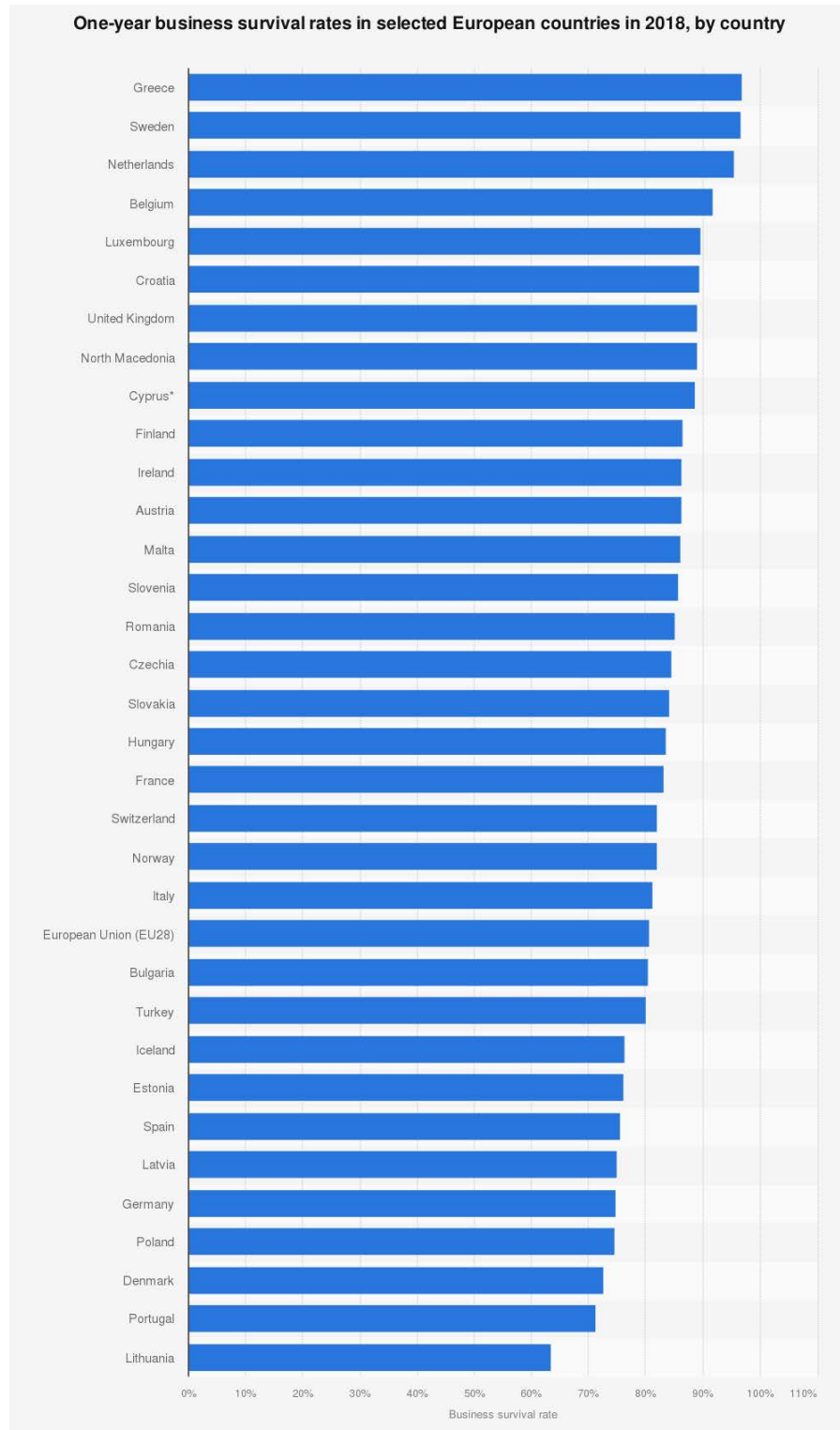


Figure 3. One-year Business Survival Rates in Europe in 2018, by Country (Statista, 2023).

Studying the implementation of Behavioral Design in startups is crucial as it can significantly influence business survival rates, particularly in their critical first year. Given that, in Figure 3, “nearly one in five new businesses in the European Union failed in their first year in 2018” (Statista, 2023), implementing effective Behavioral Design strategies can provide startups with the tools to better align their products and services with user needs and expectations, potentially increasing their chances of survival and success.

“This approach is evidenced by the stark contrast in survival rates between countries like Greece, with a high of 96.7%, and Lithuania, with a low of 63.57%”, highlighting the impact that strategic business practices can have on new ventures' longevity (Statista, 2023).

1.4. Scope and Delimitations

Defining the scope of this master's thesis is crucial for setting clear boundaries for this research. Although Behavioral Design is relevant across many industries, this study will specifically concentrate on the following criteria:

Temporal

This research was carried out from March to August 2024 and is considered relevant historical data related to the researched topic.

Spatial

This study will primarily focus on their implementation within startups operating in technology-driven sectors such as e-commerce, software-as-a-service (SaaS), mobile applications, and digital platforms.

Resources

This research will adopt a predominantly qualitative approach, drawing insights from books, PDFs, specialized Behavioral Design institution websites or articles, online related thesis, in-depth interviews, and case studies as examples of real-world success.

It is important to consider that qualitative research offers rich contextual understanding and allows an easier explanation and exploration of complex phenomena, it is important to not generalize to all startup contexts. Therefore, the findings of this study should be interpreted with caution and may serve as a basis for further quantitative research to validate and extend the findings.

1.5. Methodology of Research

This research adopts a qualitative approach to explore the benefits and ethical considerations of implementing Behavioral Design in startups. The research methodology is structured around collecting rich, descriptive data through the literature review of relevant sources and interviews with key informants within the startup context.

Primary Research

- 1. In-depth Interviews:** This consists of one interview with a startup's founder to explore the organization's experiences, challenges faced, strategies employed, and outcomes achieved through Behavioral Design implementation and one interview with a small business founder to explore the possibility of integrating this concept. For this, it will be used open-ended questions to allow the participant to share detailed insights.
- 2. Case Studies:** Select a few startups known for successful implementation of Behavioral Design. analyzing their journey, including the initial problem identification, design process, implementation strategies, and outcomes.

Secondary Research

- 1. Literature Review:** Identify theoretical frameworks and methodologies by studying academic journals, books, and articles related to Behavioral Design, startups, and user behavior.
- 2. Market Analysis:** Explore industry reports, market analyses, and trend forecasts related to startups and the integration of Behavioral Design.
- 3. Online Resources:** Utilize online platforms, reports, and forums where startup founders share their experiences on implementing Behavioral Design in startups.

2. Literature Review

2.1. Behavioral Design

Exploring its concepts and principles within the Behavioral Design realm reveals a multifaceted approach to understanding and influencing human behavior. Drawing from a variety of sources, authors, and institutions engaged in this field, a comprehensive understanding emerges, offering insight into the broader landscape of this discipline. Some relevant definitions that are considered for this research are as follows:

Behavioral Design, as elucidated by Lockton, Harrison, and Stanton (2010), “encapsulates a methodology rooted in the application of behavioral science to the design of products, services, and environments. Central to this methodology is the intention to influence human behavior and decision-making, emphasizing the significance of context and design in shaping individual choices”.

Building upon this foundation, Thaler and Sunstein (2008) emphasize the importance of choice architecture in Behavioral Design. They describe it as “a practice aimed at designing choice environments that nudge individuals towards decisions aligned with their broader self-interests”. This perspective highlights the subtle yet impactful ways in which design can shape behavior, steering individuals toward beneficial outcomes.

Norman (2013) expands on this notion, framing Behavioral Design as “a human-centered approach that integrates insights from psychology, behavioral economics, and other behavioral sciences”. This interdisciplinary framework underscores the complexity of human behavior and the need for holistic design solutions that cater to diverse cognitive and emotional factors.

Moreover, Behavioral Design, as articulated by Lockton, Harrison, and Stanton (2010), “extends beyond individual decision-making to encompass the design of built environments”. Here, the focus shifts towards enhancing well-being and performance

while minimizing wastage and harm, reflecting a broader societal perspective on the implications of design choices.

“Behavioral Design is a method that applies principles from the fields of behavioral science, psychology, and economics to influence human behavior. This approach is used across various domains, including product design, public policy, health, education, financial services, and environmental sustainability, among others”. (Interaction Design Foundation, 2017)

“The simple definition of Behavioral Design is that it’s a process and a method” (de Bruyne, 2022). Behavioral Design is a method for finding human insights, coming up with ideas, and figuring out how to make them work. The underlying process is Design Thinking, a fancy word for a designer's typical steps to solve a problem: empathize with the user, define opportunities, design solutions, prototype and test the most promising ideas, and refine the design.

“Behavioral Design includes a deep understanding of human behavior (behavioral) and its change through targeted measures (design) that influence the considerations during a decision” (Entscheidungsmanufaktur, 2019). Behavioral Design is both a subfield of academic research in behavioral sciences (Behavioral Sciences) and the practical application of various frameworks for designing environmental conditions”

Studying the explanation of Ideo (2021), the godfather of Design Thinking, and what they call “Behavioral Design is a method”. They refer to it as a method since it is a combination of Design Thinking plus the Science of Influence, where designers through interviews and observations, try to fall in love with the problem, utilizing the insights gathered as a solid base for creativity. As it is described by Ideo (2021), first, designers have deep brainstorming, and they prototype with the more promising ones. After this, they make these prototypes public and test them with real subjects to learn and observe

how the prototype influences the targeted behavior. To understand better this concept, it's recommended to look at the next figure:

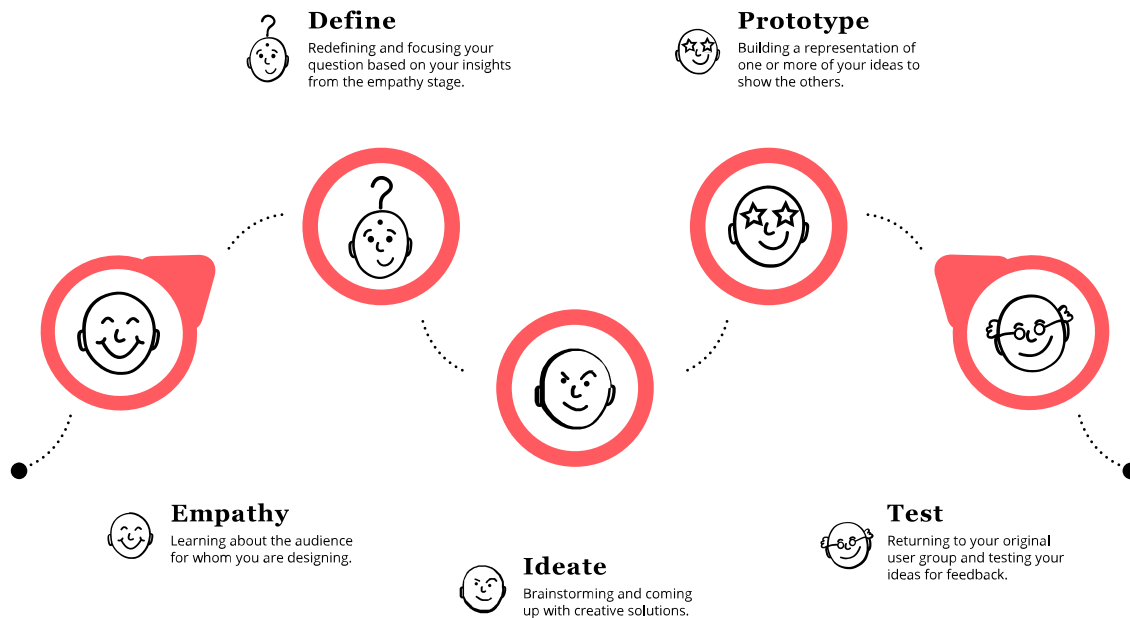


Figure 4. Ideo's Behavioral Design Definition (Groenewegen, 2021).

In synthesizing these perspectives, a coherent narrative emerges, highlighting Behavioral Design as a dynamic field characterized by its emphasis on understanding, influencing, and optimizing human behavior through thoughtful design interventions. By standardizing definitions and drawing from diverse sources, a clearer understanding of this topic is attained, enabling further exploration and application in various domains.

The Goal of Behavioral Design

The goal of Behavioral Design is to achieve specific behavior changes in targeted areas. To accomplish this, Behavioral Designers must operate on multiple levels.



Figure 5. The Three Main Goals of Behavioral Design (Eluminous Technologies, 2024)

- Better understanding of consumer behavior

The behavior design team is dedicated to conducting in-depth research on cognitive biases, decision-making procedures, and behavioral patterns. The primary goal is to gain a comprehensive understanding of human behavior and decision-making processes. Through this understanding, the team aims to identify potential opportunities for intervention that can positively influence behavior and decision-making.

- To influence human behavior

The fundamental purpose of behavior design is to employ psychological principles and behavioral science to influence and guide individuals toward specific actions or

behaviors. This can encompass various objectives such as promoting the adoption of a new product feature, encouraging a purchase decision, or persuading customers to upgrade their subscription level. By leveraging Behavioral Design methodologies, startups can strategically design interactions and experiences to nudge individuals towards desired actions, ultimately leading to the attainment of specific results and goals.

- **Creating Enabling Environments**

Behavior design centers around creating environments that help individuals make choices aligning with their goals and values. By designing choice architectures and interventions that promote positive behavior change, behavior designers assist individuals in achieving their desired outcomes.

The following five factors are essential for designing behavior change (Pohlmann, 2023).

Arousing curiosity: How do you get people interested in a particular topic in the first place?

Increase perception: How do you make something stand out among other choices?

Optimize experience: How do you get someone to feel positive about a particular experience? (product, service, company, brand)

Generate behavior: How do you trigger a certain behavior after arousing interest?

Forming habits: How to ensure that the behavior is maintained?

2.1.1. Foundations of Behavioral Design

The foundations of Behavioral Design are deeply rooted in the interdisciplinary integration of psychology, economics, and design. These fields have each contributed key theories and principles that have shaped the practice of influencing behavior through design.

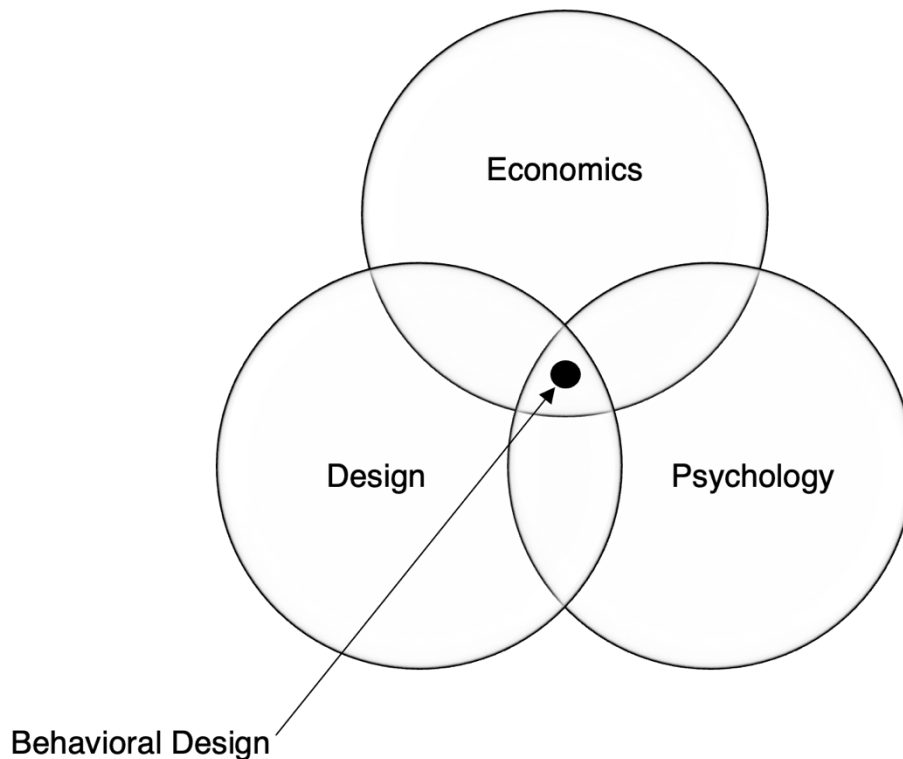


Figure 6. Interdisciplinary Roots of Behavioral Design. Own creation 2024.

Foundations in Psychology

Behaviorism

“Behaviorism emerged in the early 20th century as a major school of thought in psychology. John B. Watson is often credited with founding behaviorism, which focuses on observable behaviors rather than internal mental states” (Watson, 1913). Watson's

work emphasized the role of environmental stimuli in shaping behavior, laying the groundwork for later developments in Behavioral Design.

Skinner expanded on Watson's ideas with his theory of operant conditioning, which explored how consequences of actions (rewards and punishments) influence future behavior (Skinner, 1938). Skinner's research demonstrated that behavior could be systematically shaped through reinforcement schedules, a principle that is central to many Behavioral Design strategies.

Skinner Box and the Cradle of Behavioral Design

The exploration of Behavioral Design mechanisms dates back to 1930, when Burrhus Frederic Skinner, then a professor at Harvard University, conducted experiments on operant conditioning using rodents. In his quest to comprehend the foundations of behavior, Skinner placed a rat in a box containing a lever. Upon pressing the lever, the rat would receive a small pellet of food. As a result, the rat learned to associate pressing the lever with obtaining food. This positive reinforcement led to the formation of a habit, as the rat continued to press the lever to receive food. Skinner's findings led him to propose that the same principles could be applied to any "operant,"

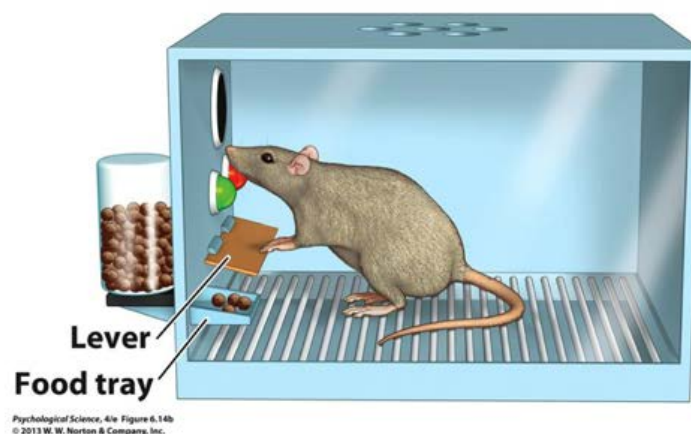


Figure 7. The Skinner Box or The Operant Conditioning Chamber
(Pixetic Design Agency, 2022).

whether it be a rat or a human. He named this invention the Operant Conditioning Chamber, now widely referred to as the Skinner Box.

The core concept is straightforward, understanding how the environment affects the behavior of both humans and rats is crucial. This understanding allows behavioral designers, startup founders, and managers to gain comprehensive insights into user behavior. By successfully creating the right "box" with appropriate reinforcement, it becomes easier to control behavior.

This concept can easily be applied in the digital field. Compare this “box” to all the emails that control people’s decisions that function as a trigger to buy something, games or apps that drain people’s attention, or online forms that guide customers to make some decisions. All of these were designed with one simple goal, to shape the way people behave. With every improvement, they are approaching humans in a more concealed and gentle forming a new separate science called, Behavioral Design.

Cognitive Psychology

In the mid-20th century, cognitive psychology revolutionized the focus of psychological research from behavior to mental processes. Herbert A. Simon and other researchers played a pivotal role in this shift by examining how humans make decisions. Simon introduced the concept of bounded rationality, which suggests that “individuals make decisions based on the information available to them and their cognitive limitations” (Simon, 1955). This concept is crucial for understanding how design can impact decision-making by simplifying choices and reducing cognitive load.

The six lenses on influencing human behavior

As indicated in Table 1, the six lenses provide a framework for organizing design patterns with similar considerations, behavioral understanding, or assumptions about influencing users. These lenses, namely Architectural, Errorproofing, Persuasive, Visual, Cognitive, and Security, represent different perspectives on how to approach a design problem. For instance, a safety engineer might utilize error-proofing patterns to

minimize deviations from desired behavior by implementing defaults, forcing functions, and warning alerts. On the other hand, a graphic designer may leverage visual techniques to shape perceptions.

The main purpose of these lenses is to broaden designers' perspectives, encouraging them to explore beyond their immediate frame of reference when addressing a design brief or client's requirements. It is essential to recognize that these groupings are not strictly defined in theory but rather serve as a guide for understanding diverse approaches to design challenges.

Architectural lens	The Architectural Lens draws on techniques used to influence user behaviour in architecture, urban planning and related disciplines such as traffic management and crime prevention through environmental design (Crowe 2000; Katyal 2002; see also the Security lens). While the techniques have been developed in the built environment (e.g. Alexander et al. 1977), many ideas can also be applied in interaction and product design, even in software or services; they are effectively about using the <i>structure of systems</i> to influence behaviour.
Errorproofing lens	The Errorproofing Lens treats deviations from the target behaviour as 'errors' which design can help avoid, either by making it easier for users to work without making errors, or by making errors impossible in the first place (Shingo 1986; Chase & Stewart 2002; Grout 2007). This view on influencing behaviour is often found in health & safety-related design, medical device design and manufacturing engineering.
Persuasive lens	The Persuasive Lens represents the emerging field of persuasive technology (Fogg 2003), where computers, mobile phones and other systems with interfaces are used to persuade users: changing attitudes and so changing behaviour through contextual information, advice and guidance.
Visual lens	The Visual Lens combines ideas from product semantics, semiotics, ecological psychology and Gestalt psychology about how users perceive patterns and meanings as they interact with the systems around them, and the use of metaphors (e.g. Saffer 2005; Barr et al. 2002).
Cognitive lens	The Cognitive Lens draws on research in behavioural economics looking at how people make decisions, and how this is affected by heuristics and biases (Kahneman et al. 1982). If designers understand how users make interaction decisions, that knowledge can be used to influence interaction behaviour. Where users often make poor decisions, design can help counter this.
Security lens	The Security Lens represents a 'security' worldview, i.e. that undesired user behaviour is something to deter and/or prevent through 'countermeasures' (Schneier 2003) designed into products, systems and environments, both physically and online, with examples such as digital rights management. From a designer's point of view, this can be an 'unfriendly' and, in some circumstances unethical view to take, effectively treating users as 'guilty until proven innocent'.

Table 1. The Six Lenses on Influencing Human Behavior
(Lockton, Harrison, & Stanton, 2010).

Foundations in Economics

Bounded Rationality and Heuristics

Herbert A. Simon's research on bounded rationality in economics emphasized the constraints of human decision-making, challenging the conventional economic model of the perfectly rational "Homo Economicus" (Simon, 1955). This paved the way for behavioral economics, which incorporates psychological perspectives into economic frameworks to gain a deeper understanding of real human behavior.

Daniel Kahneman and Amos Tversky further developed this field through their research on heuristics and biases. Their work revealed that people often rely on mental shortcuts (heuristics) that can lead to systematic errors (biases) in judgment and decision-making (Kahneman & Tversky, 1979). This understanding is vital for Behavioral Design, as it informs how to create environments and interfaces that guide people toward better decisions.

Prospect Theory

Kahneman and Tversky's prospect theory (1979) challenged traditional economic theories by demonstrating that people value gains and losses differently, leading to decision-making that deviates from rational choice models. Prospect theory's insights into risk perception and decision-making under uncertainty are essential for designing interventions that account for human biases and irrationalities.

Foundations in Design

Human-Centered Design

Donald Norman's work in the 1980s and 1990s brought a human-centered approach to design, emphasizing the importance of understanding user behavior and needs. In *The Design of Everyday Things*, Norman argued that "effective design should make products intuitive and usable by aligning with human psychology" (Norman, 1988). His

principles of affordances, signifiers, feedback, and constraints have become fundamental in creating designs that guide user behavior naturally.

Design Thinking

Design thinking, a methodology popularized in the late 20th century, focuses on empathy, ideation, and experimentation to solve complex problems. This approach, advocated by designers like Tim Brown, integrates insights from psychology and behavioral science to create innovative solutions that meet user needs and influence behavior (Brown, 2009). Design thinking emphasizes iterative prototyping and user testing, ensuring that designs are effective in real-world contexts.

Behavioral Design has emerged as a valuable field by combining foundational insights from psychology, economics, and design. Practitioners aim to create environments, systems, and products that positively influence behavior. This multidisciplinary approach has proven beneficial across various domains, including public policy, healthcare, technology, and marketing, showcasing its broad relevance and positive impact.

2.1.2. Norman's Three Levels of Design

Donald Norman's (2004) design conceptualization comprises three levels, namely the visceral, behavioral, and reflective, which serve as a comprehensive framework for comprehending the multi-faceted impact of design on users. This model advocates for a holistic approach to product design, striving to engender resonance with users across diverse dimensions.

According to Norman's framework, successful design should involve users on three levels: visceral, behavioral, and reflective. A product that looks great but doesn't work well, or functions perfectly but fails to create an emotional connection, might not reach its full potential in the market. This suggests that for a product to truly succeed, it needs to appeal to users not only visually and functionally but also emotionally.

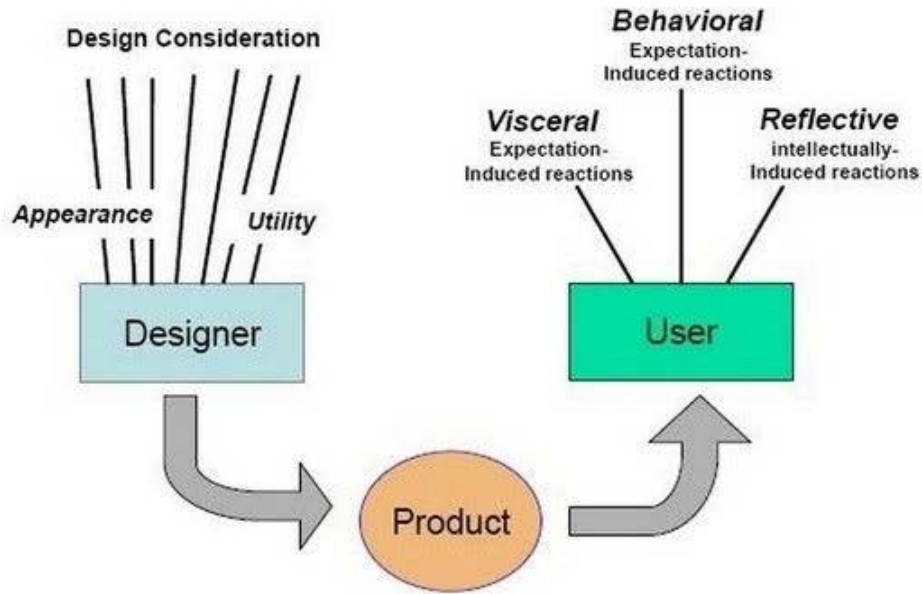


Figure 8. Norman's Three Levels of Design (Kominos, 2020)

Visceral Design: This level refers to the first impression of a product, which is based on sensory experiences and immediate emotional responses. It emphasizes a product's visual, tactile, and auditory aspects to evoke an instinctive positive reaction. Visceral design aims to establish an immediate and strong connection through aesthetics and sensory appeal.

Behavioral Design: This level focuses on the functionality and usability of a product. It evaluates how well a product performs its intended function and how user-friendly it is. Behavioral Design highlights practicality, ease of use, and effectiveness. This level ensures that the product is not only visually appealing but also functional and intuitive.

Reflective Design: This level deals with the personal meaning and significance that a product has for the user. It encompasses self-image, personal satisfaction, and the intellectual and emotional connections a user develops with a product over time. Reflective design pertains to the narratives users create about the product, the pride they take in ownership, and the lasting impression it leaves.

2.1.3. Key Principles of Behavioral Design

The key principles of Behavioral Design encompass a range of concepts aimed at understanding and influencing human behavior in various contexts. One seminal work that outlines these principles is "Nudge: Improving Decisions about Health, Wealth, and Happiness" (Richard H. Thaler, 2008).

Within this book, the authors introduce fundamental principles that lay the groundwork for Behavioral Design. These core principles encompass:

- a. Choice Architecture:** This involves intentionally designing choice environments to subtly influence decisions without restricting freedom of choice.
- b. Defaults:** This refers to using default settings to guide behavior by presenting a preferred option as the default choice, which individuals are more likely to adopt.
- c. Framing:** This revolves around presenting information in a manner that influences perceptions and decisions, often by emphasizing specific aspects or attributes.
- d. Feedback:** This involves providing timely feedback to individuals about their behavior to encourage desired actions or discourage undesirable ones.
- e. Incentives:** This entails creating systems that align incentives with desired behaviors to motivate individuals to act in specific ways.

These principles serve as foundational frameworks for professionals in Behavioral Design, guiding the development of interventions that foster positive behavior change. They underscore the significance of comprehending human psychology and decision-making processes in creating effective solutions.

2.1.4. Three Key Aspects of Behavioral Design

Stanford scientist B.J. Fogg founded this relatively young study that uses Skinner's experiments as a basis. According to him, for someone to do something, like buy a car, check the mail, or do twenty push-ups, three key aspects need to be present:

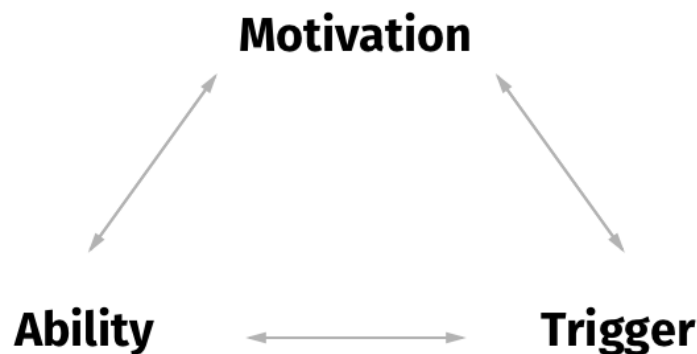


Figure 9. Three Key Aspects of Behavioral Design (Pixetic Design Agency, 2022)

This looks like a simple formula but to succeed all three preconditions have to be fulfilled. Thus trigger, a cue to action, is only valid when a person is highly motivated, or the task is straightforward. Contrary, if the task is difficult and a person has no opportunity to complete it, they will be confused. If the operand is not motivated, your hints will only irritate.

Motivation: Fogg means about the things that motivate each individual. It is considered three drives which are, sensation (pleasure and pain), anticipation (hope and fear), and belonging (to not feel rejected). Motivation can be interpreted in three different levels, physical, emotional, and social level.

Ability: Fogg does not refer to someone's competence in developing a specific task. He demonstrates how easy it is for an individual to do something at a particular moment in time. Fogg outlines six approaches that a task can be executed in a simpler way to foster new behavioral patterns. These are time, money, physical effort, mental cycles, social deviance, and non-routine. The idea with each of these "elements of simplicity"

is to minimize them as much as possible, working with less effort, time, energy, and resources in general, optimizing the individual's ability.

Trigger: The final element of the Behavioral puzzle is the triggers. Customers should be offered or encouraged to sprint into action.

Three types of triggers

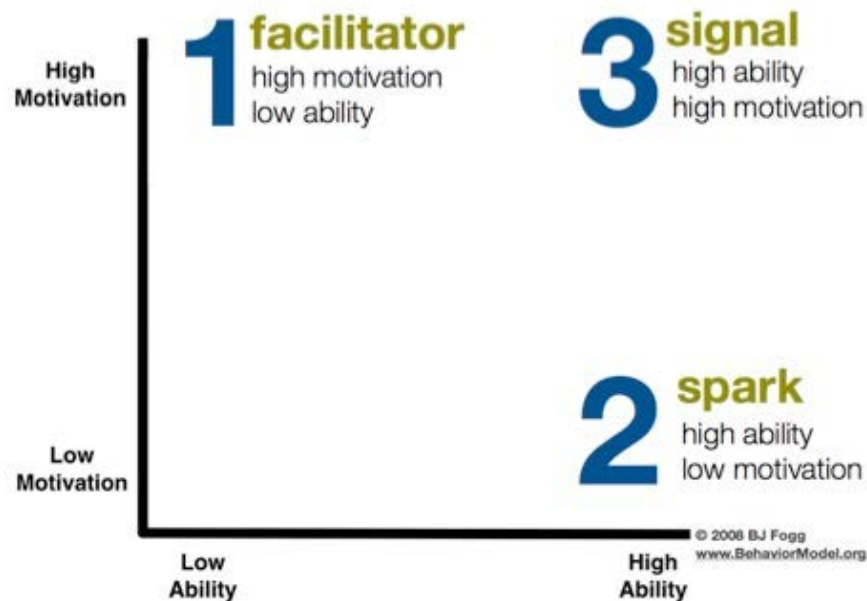


Figure 10. Three Types of Triggers (Medium, 2018)

Spark: The spark is a trigger that comes with added motivation. It's perfect for those who have the ability but lack the motivation. They want to know why it's important, and it's up to you to make them care.

Facilitator: Some customers are bouncing with motivation, but can't achieve what's expected of them. To combat this, go micro and send them snippets of the value each day. These snippets act as a reminder whilst giving further instruction to help the customer reach the level of ability needed to change their behavior.

Signal: Some customers are ready to change. They have the motivation, they have the ability, all they need is the starting gun to fire and they'll get going. Make sure that your

messaging ends with a clear call to action explaining exactly what the customer needs to do.

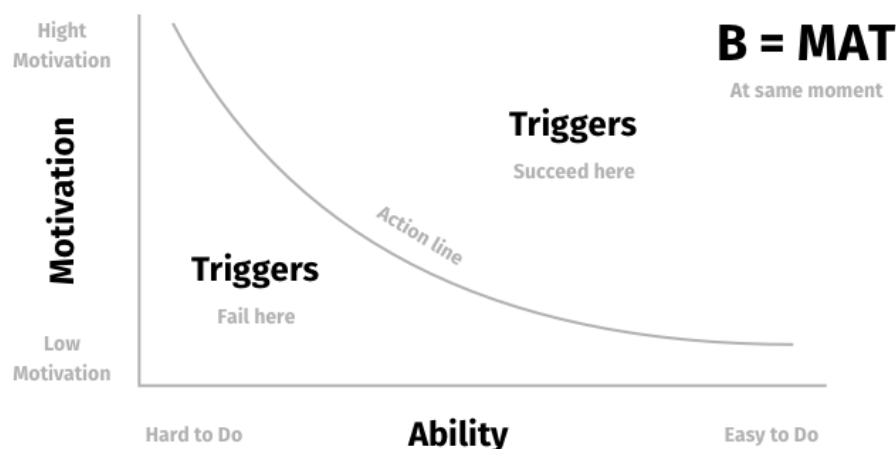


Figure 11. The Ability-Motivation-Trigger Triangle (Pixetic Design Agency, 2022).

In order to fully engage the user, it's essential to enhance the ability to motivate users. Predicting motivation is not that simple, and it takes time and effort. The focus should be on simplifying the possibility of action as much as possible, which will increase the chance of the user taking the expected action.

This principle was successfully applied to urge people to become organ donors. “Organ donation rates are pretty consistent. In some countries, it’s around 80% while in others – 20%. It turned out that the critical factor why in some countries citizens were more willing to donate was the way a website form was designed. In countries with around 20% rates citizens had to opt-in to become donors, while in countries with 80% rates, they had to opt-out of donating” (Pixetic Design Agency, 2022).

The Moment of Investment

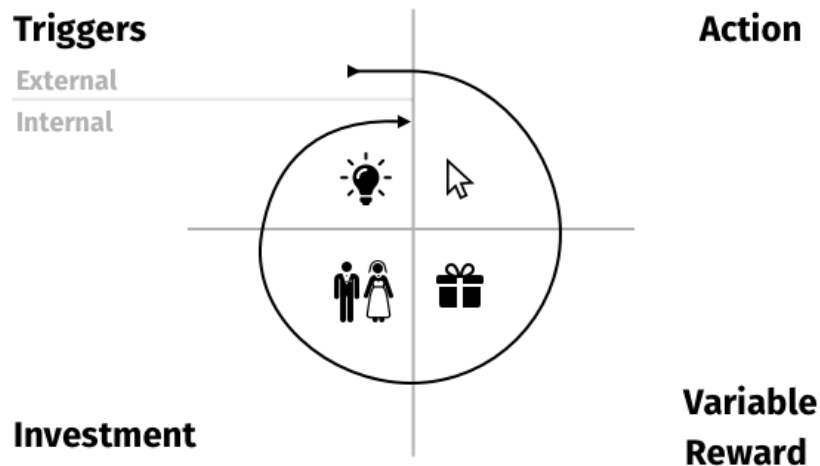


Figure 12. The Moment of Investment (Pixetic Design Agency, 2022).

The concept of investment in the context of user engagement is a crucial factor in the product's appeal. When a user invests something valuable, such as time, into a system, it increases the likelihood of their continued interest in the product. It has been demonstrated through various experiments that the more effort and time a person invests in a product, the more they perceive its value in their life. This phenomenon, commonly referred to as the "IKEA effect" by psychologists, highlights the tendency for individuals to place higher value on products in which they have invested.

Furthermore, developers often employ various strategies to enhance user engagement, some of which may include manipulative techniques. For instance, tactics like creating a sense of scarcity, such as indicating that a product is running out of stock, are commonly used. Additionally, techniques like anchoring (e.g., "buy this item and receive 50% off"), social proof (e.g., "10 of your friends have already liked this page"), and continuous progress (e.g., loyalty cards and bonus programs) are widely utilized to create a more engaging user experience.

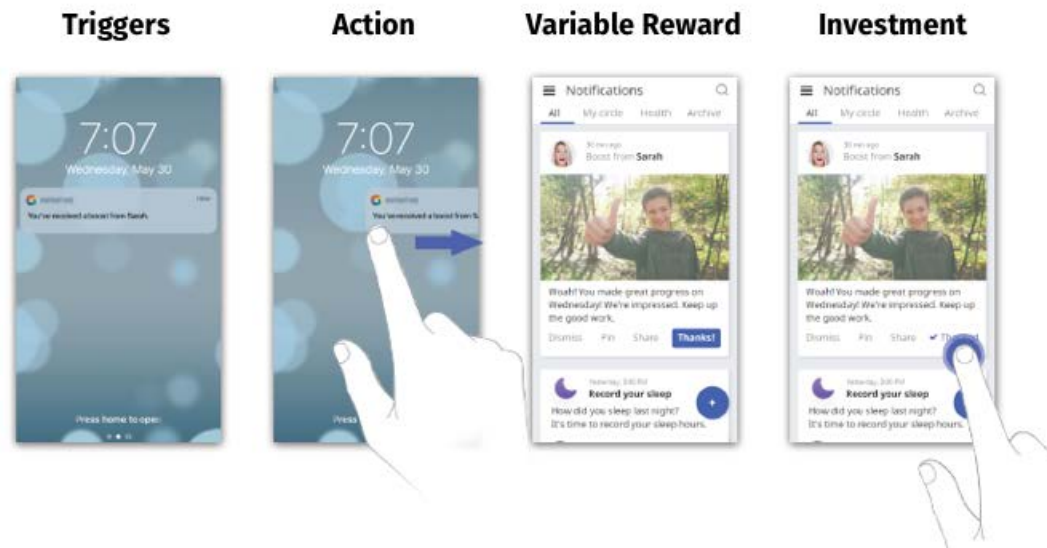


Figure 13. The Embedded Behavioral Design Pattern in Digital Products
(Pixetic Design Agency, 2022).

All of these methods are already integrated into our minds as consumers. Newsfeeds and notifications have become entirely natural in the design of digital products. These techniques are already embedded in Behavioral Design patterns, and we use them all the time.

2.2. Startups

“Startup as the original form of enterprise existence is an important area of study of the organization's theory” (The Kauffman Index of Startup Activity, 2016). Given the characteristics of this form of starting a business to understand the mechanisms of "start", it is advisable to consider the life cycle stages, which are proposed in this paper. The process of transforming startups into enterprises with the specification of stages, their content, forms, and time horizons is presented in Figure 14.

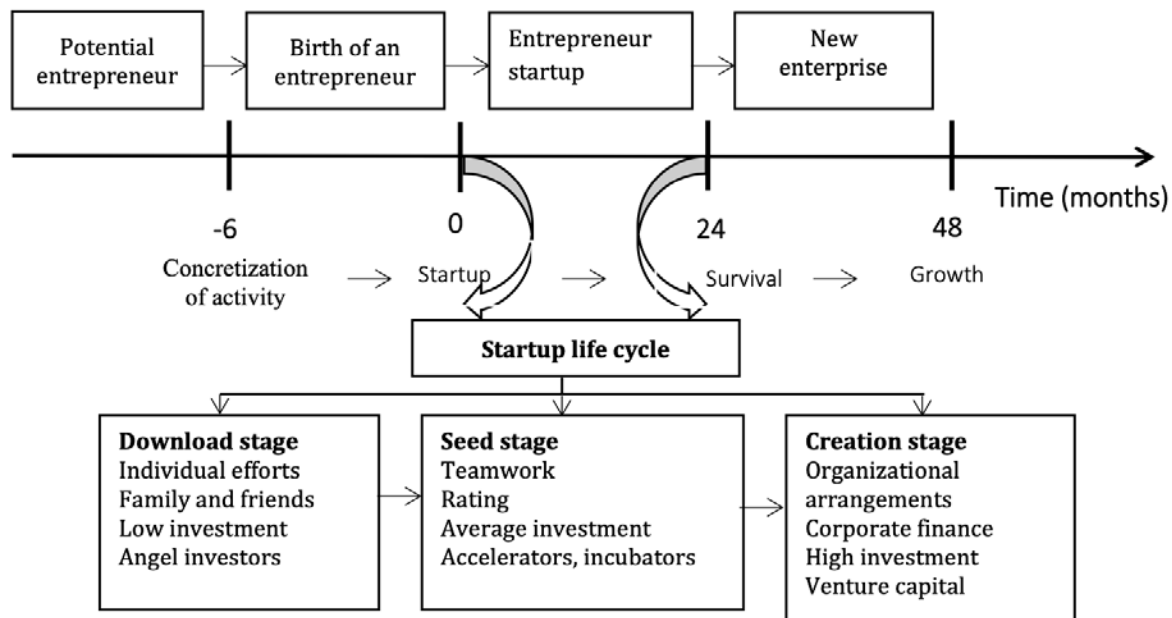


Figure 14. Stages of Transformation of Startups into Enterprises (Bosma, Meijaard, & van Popta, 2002); (Salamzadeh & Kawamorita, 2015); (Kasych & Dzhura, 2019).

When studying the nature of startups and identifying the characteristics of this type of business organization, it's useful to compare them with small businesses. Startups and small businesses both have common features such as being typically founded by entrepreneurs and being small in scale. Startups usually consist of 2-10 people, while small businesses generally have up to 50 employees. Both startups and small businesses operate in a risky and volatile market environment and require investment for successful development.

However, there are also differences between them in terms of product innovation, scope of activity, development trajectory, scale, infrastructure, and investment mechanisms. Startups are established to introduce new and innovative products, while small businesses focus on new or existing business models. Therefore, the main characteristics of startups include a creative idea, entrepreneurial initiative, a short implementation period for the idea, minimal investment, and continuation as a new enterprise.

Efficient management of the startup's development process requires a clear understanding of not only the main stages of their development but also measures to ensure the introduction of new ideas from the startup into the market and production through established enterprises.

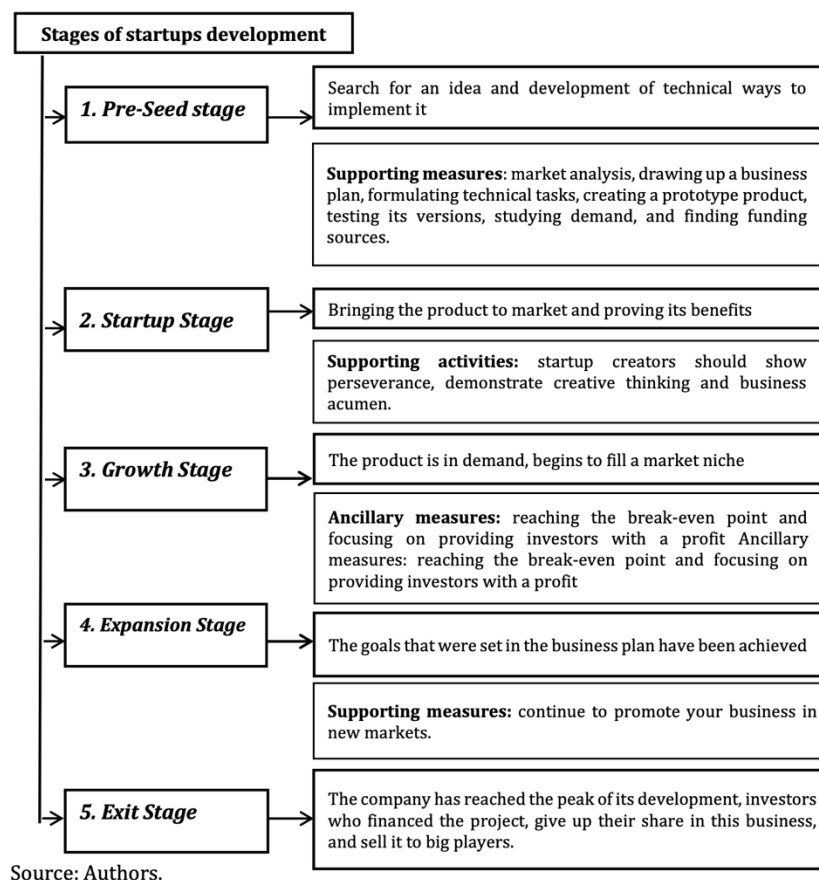


Figure 15. Key Stages of Functioning of Old-Timers
(Kasych & Amelyaniuk, 2020).

“Based on their role in economic development in current conditions, the startups' development is given great attention around the world and monitored accordingly. Next, we should focus on the study of international experience and identify the main trends in startup development” (Kasych & Amelyaniuk, 2020):

The world has recently experienced a startup revolution; the amount of capital invested in startups through venture funds reached the largest in ten years at 140 billion U.S. dollars in 2017. “The total value of the created global startup economy for 2016-2018 increased compared to the 2015-2017 period by 20.6% and reached 2.8 trillion U.S. dollars” (Graham, 2012).

In the process of startup establishment, there are some regional differences, even though there is a total increase in their number in the world, as well as improving the general conditions for development. The efficiency of entrepreneurial activity in terms of the number of successful startups differs significantly in different countries. The indicator of the relative level of population entrepreneurial activity is the total number of startups that are created (Kasych & Amelyaniuk, 2020).

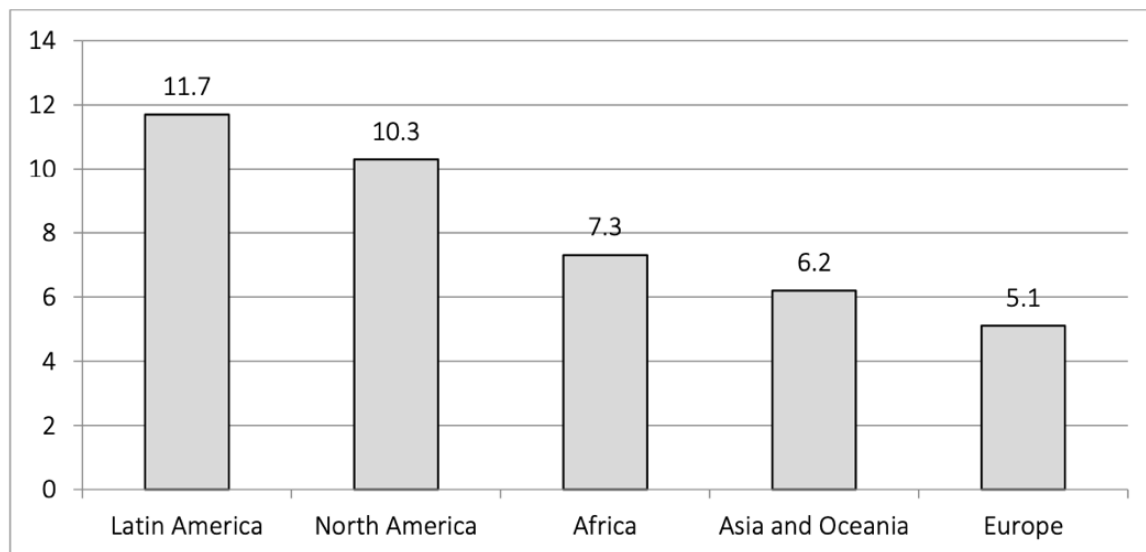


Figure 16. Indicator of the General Initial Stage of Entrepreneurial Activity (TEA)
(The Startup Europe Ecosystem, 2018).

The most valuable startups are typically found in the United States and China, but Latin America and the Caribbean are currently the most active regions for startups. In Ecuador, about a third of the population is involved in starting a business, compared to 13% in the United States. Lebanon, Vietnam, and Estonia also have high rates of new business creation. In 2017, the Latin American and Caribbean region had the highest level of startups worldwide, with about 11.7 percent of the working-age population involved in new entrepreneurial activities, even surpassing North America.

Countries	Number of startups	TEA	Good career choices	Entrepreneurial intentions	Funding problems
USA	46377	13.6	63.1	14.5	5.2
India	6028	9.3	53.0	10.3	37.9
Great Britain	4871	8.4	55.6	7.3	8.4
Canada	2454	18.8	65.6	14.1	11.9
Indonesia	2012	7.8	70.0	28.1	39.5
Germany	1965	5.3	51.3	7.2	5.7
France	1383	3.9	59.1	17.6	16.6
Brazil	1069	20.3	m.d.	15.3	17.8
China	545	9.9	66.4	15.3	31.2
Ukraine	238	m.d.	m.d.	m.d.	m.d.
Estonia	157	19.4	54.2	18.1	10.7
Latvia	70	14.2	57.5	17.3	9.3
Slovakia	59	11.8	47.6	9.0	12.2

Table 2. Indicators of the Development of Startups in Different Countries in 2017 (The Startup Europe Ecosystem, 2018).

The lowest entrepreneurial activity in Europe is in the post-socialist countries, indicating a potential problem for the region in terms of innovation and economic development sustainability. In developed EU countries, such as France and the UK, entrepreneurial activity is at the level of 4% to 8%, respectively. It's worth noting that the United Kingdom has taken significant steps in recent years to intensify entrepreneurial initiatives.

The United States stands as the unrivaled frontrunner in the realm of successful startup ventures, owing to its conducive environment that encompasses robust infrastructure, keen interest from companies, and abundant financial opportunities. In 2016, the total venture capital injected into startup enterprises, spanning both their nascent and growth stages, amounted to \$33 billion, slightly lower than the \$41 billion in the preceding year.

An intriguing aspect to consider within this context is the correlation between the relatively modest levels of Total Early-stage Entrepreneurial Activity (TEA) in select countries and their resultant successful startup ventures. Notably, despite India and Indonesia exhibiting subdued TEA levels, they have achieved noteworthy success in their startup endeavors. Conversely, countries such as Canada and Brazil have fostered a high level of entrepreneurial activity, which has laid the groundwork for heightened productivity.

Profitability serves as another pivotal yardstick for assessing the efficacy of startups. However, only 40 percent of small businesses are profitable, and 30 percent are constantly losing money (Mittal, 2014). That is why, first of all, financial conditions are necessary for the intensification of entrepreneurship.

Startups in Germany

“In Germany, more than 380,000 people set up their own business in 2017. Start-ups in commerce, trade, the skilled craft sector, and professional services are of great significance for the economy: they create new jobs and foster competitiveness and innovation in a Social Market Economy (Federal Ministry for Economic Affairs and Climate Action, 2018).

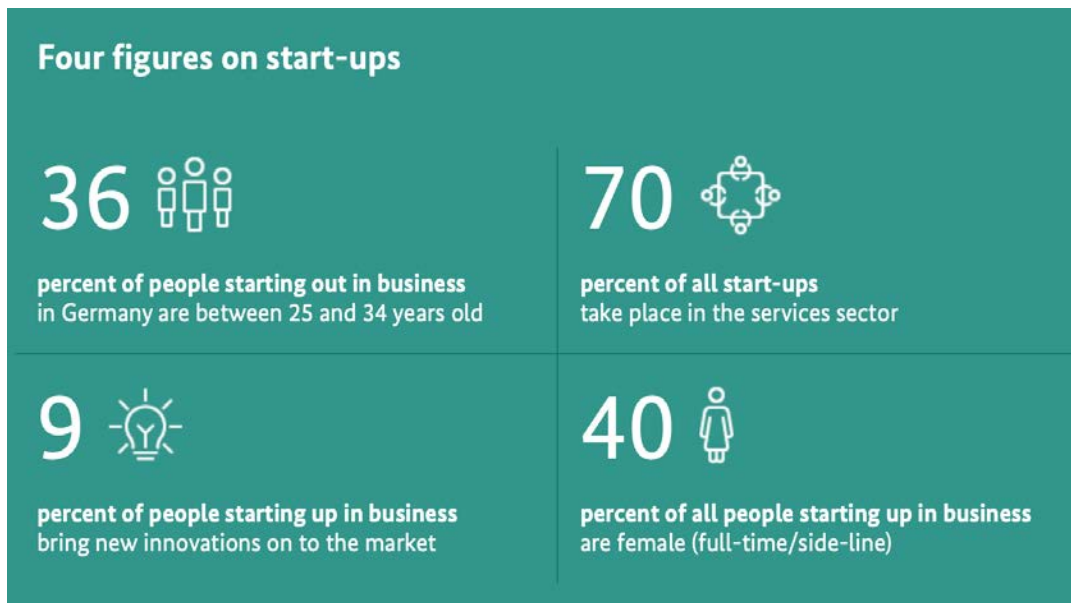


Figure 17. Four Figures on Startups in Germany (Federal Ministry for Economic Affairs and Climate Action, 2018).

The Country Report for Germany developed as part of the Global Entrepreneurship Monitor (GEM) (2016), states that Germany has a particularly good track record on the following key aspects for startups:

- Physical Infrastructure
- The value that consumers attach to new products/services
- Public funding programmes
- Intellectual property rights (e.g. patents)
- Consultants and suppliers for businesses

The main challenges now are to improve entrepreneurship training both inside and outside the classroom, enhance policy commitment, and reduce the burden of regulation and taxation (Global Entrepreneurship Monitor, 2016).

According to a survey carried out by Statista (2023) on 1,825 founders, managers, and C-Level employees, it was stated that “This statistic shows the distribution of startups in Germany in 2023, by state. That year, 20.8 percent of German startups were located in Berlin. The source defines startups as being younger than ten years, highly innovative in terms of technology and/ or their business model, and aiming for significant growth in revenues and employee numbers.”

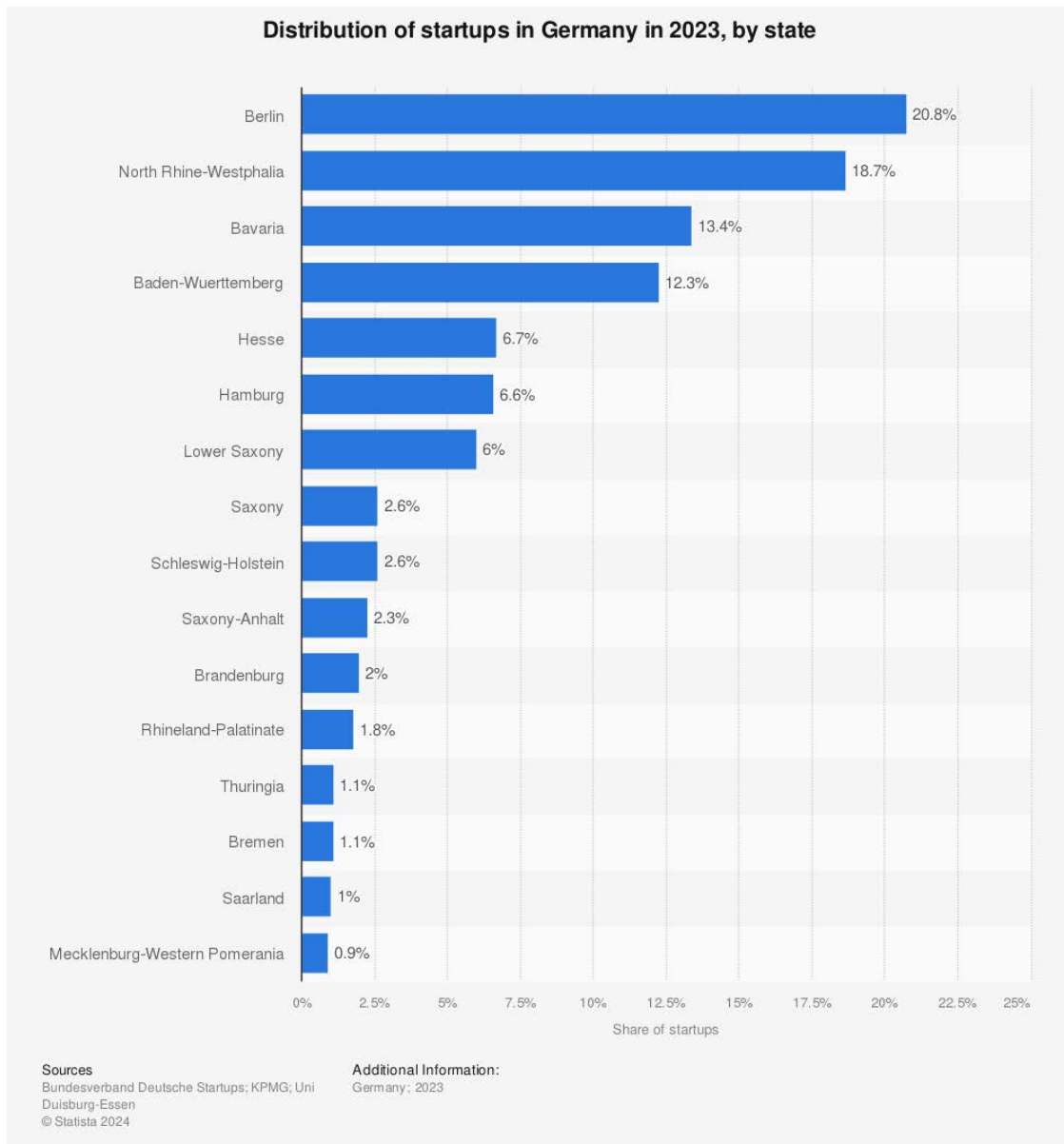


Figure 18. Distribution of Startups in Germany in 2023, by State (Statista, 2023)

Another statistic developed by Statista (2023) shows that “Around 29.7 percent of German startups were in the information and communication technology industry. The source defines startups as being younger than ten years, highly innovative in terms of technology and/ or their business model aiming for significant growth in revenue and employee numbers”.

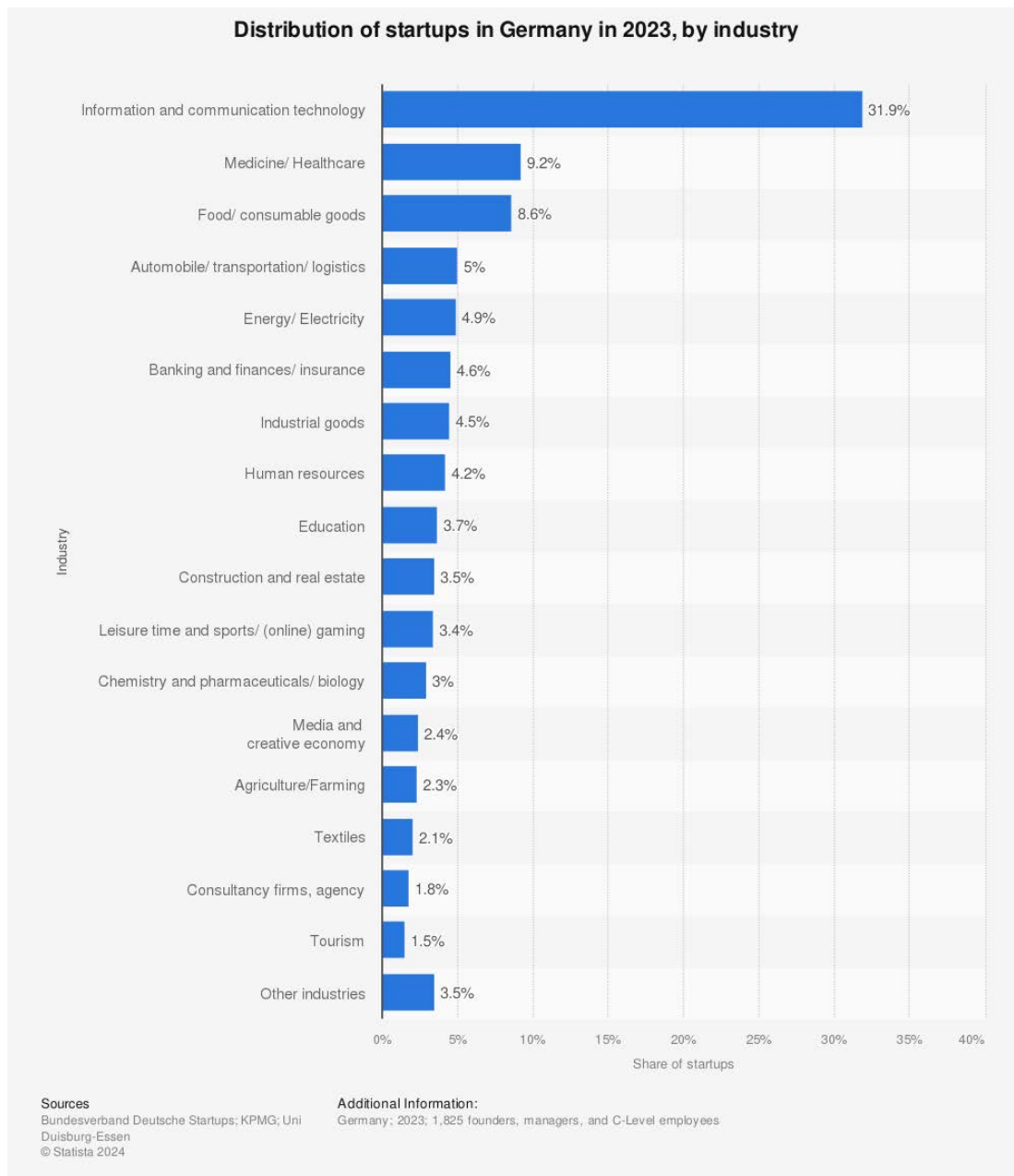


Figure 19. Distribution of Startups in Germany in 2023, by Industry (Statista, 2023)

2.2.1. Concepts of Startups

The concept of “startup” has recently become widespread and influential. Creating startups is relatively new and requires a systematic understanding, in the context of activation and, therefore, in the theoretical, methodological, and applied way (Kasych & Amelyaniuk, 2020). “In general, it is a term used to describe a business that works to create products or provide services to solve modern problems or meet current requirements, because the solution is unclear and success is not guaranteed” (Heyets, 2015). In the next table are mentioned some important definitions of different authors of the word and concept “startup”.

Author	Definition
Blank, 2013	Startup (from the English. Start-up – start, run) – is a temporary organization created to find a repetitive, scalable, and sustainable business model.
Kashirin and Semenov, 2008	A startup is a new company at the initial stage of its development, which is created to implement a promising idea to receive high profit.
Greham, 2012	A startup is a growth.
Ris, 2012	A startup is a newly created organization that develops new products or services in conditions of extreme uncertainty.
Mrykhina, 2015	Startup – the market entry process of a newly created enterprise with an innovative project, usually in the short term and with minimal investment.
Pikul, 2008	A startup is a newly created company (sometimes not even a legal entity), which is on the development stage and builds its business either based on new innovative ideas or newly invented technologies.
European Network of Startups, 2018	A startup is an independent organization that is less than five years old and aims to create, improve, and expand a scalable, innovative, technological product with high and rapid growth.

Table 3. The Essence of the Concept “Startup” (Kasych & Amelyaniuk, 2020).

The most common concept of a startup is the definition formulated by the successful American startupper Stephen Blank (2013): “A startup is a temporary structure aimed at finding and implementing a scalable business idea”. To enhance comprehension throughout this research, we will use this definition as our initial point of reference.

2.2.2. Challenges and Barriers facing Startups

“Some startups succeed spectacularly and Facebook is an obvious example. Back in 2005, Accel Partners made a \$14.8 million investment in "thefacebook.com" and they made a whopping \$5.6 billion return, 378 times their original outlay. More often than not, however, startups tend to fail and fail brutally. CB Insights found that 70 percent of upstart tech companies fail, along with 97 percent of seed crowdfunded companies” (McCarthy, 2017).

“Not all ventures manage to attract lucrative investment like Facebook and in 29 percent of cases, they just run out of cash. It's also important to have the right people on board and pressing on without the right team is the third most frequently cited reason for startup failure” (McCarthy, 2017).

The infographic below highlights the top 20 reasons for startup failures, with the primary issue being products or services that do not address market needs.

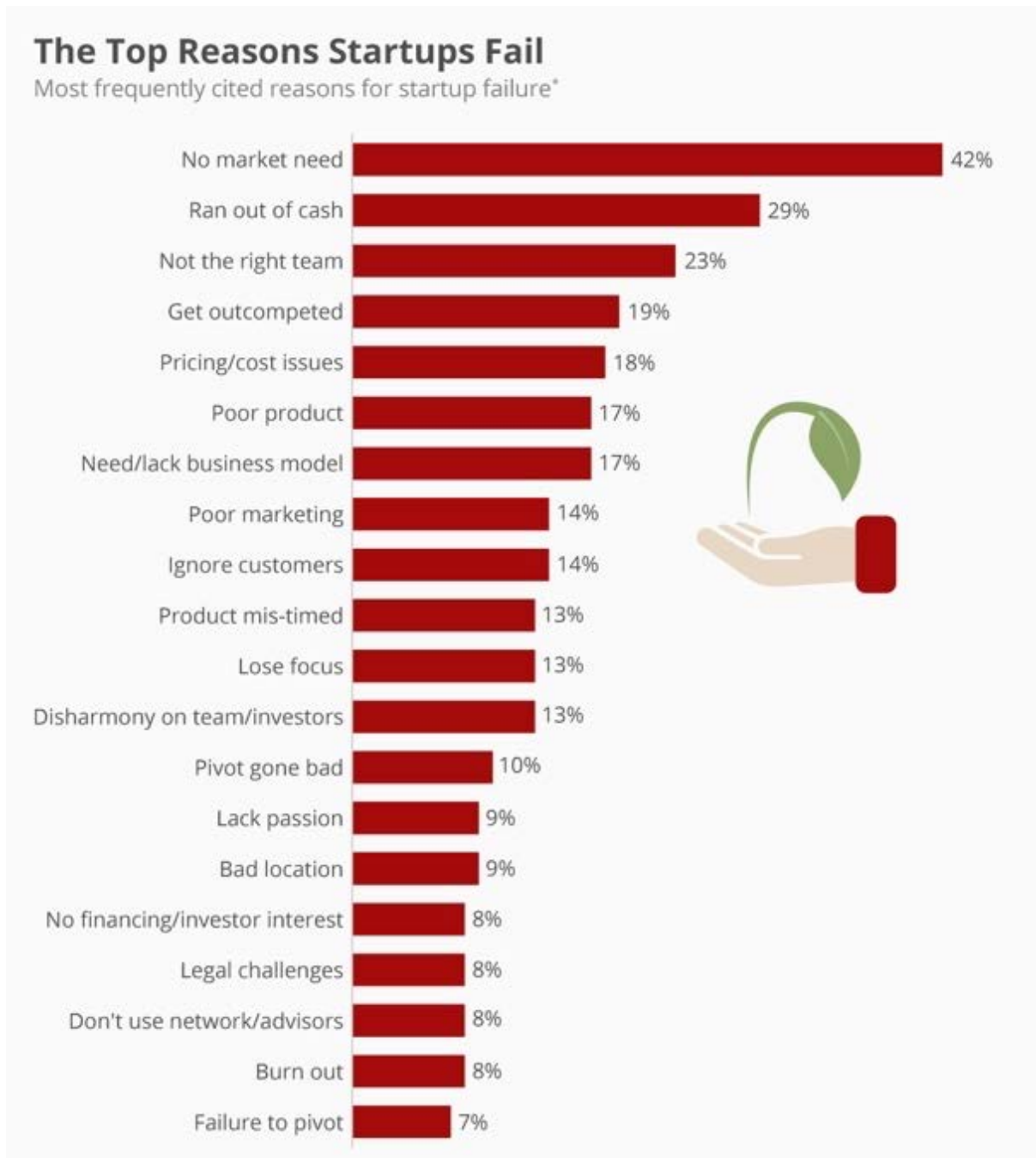


Figure 20. The Top Reasons Startups Fail (McCarthy, 2017)

2.2.3. Lifecycle of Startups

When considering the longevity of startups in the market, it can be helpful to draw an analogy between nurturing and cultivating a plant and the various stages of a startup's journey from inception to success.

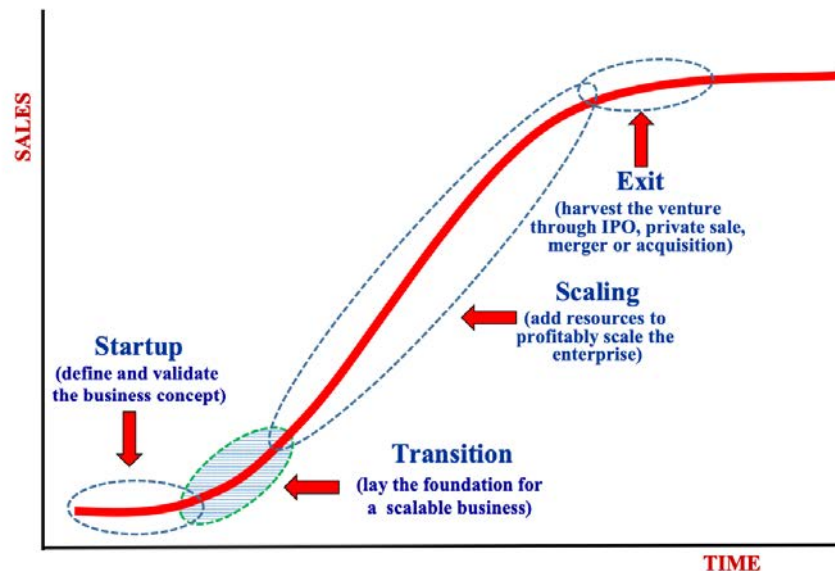


Figure 21. The Entrepreneurial Innovation Process (Picken, 2017)

In the early phase, founders are like gardeners planting a seed, as they work to nurture and refine their startup ideas. This involves validating the purpose of their venture and ensuring they have the right conditions for the seed to germinate and grow, much like a gardener making sure the soil, water, and sunlight are optimal. “The entrepreneur’s challenge in a startup is to define and validate the business concept: the market opportunity (i.e., critical need, target market, market size, and timing); the offering (i.e., product or service and value proposition); the business model (i.e., resources, processes, and economic model); and the go-to-market strategy needed to deliver the offering reliably to the target customer at a profit. In startups, the focus is narrow, the commitment of time and resources is limited, and the economic risks are modest. The organization of a startup is typically informal, loosely structured, and fluid” (Picken, 2017).

The second phase involves laying the groundwork for sustainable growth, akin to providing consistent care and nutrients for a growing plant. Here, the focus is on building a scalable and successful business model, similar to a gardener's efforts to ensure the plant has a solid root system and is protected from pests and harsh weather, enabling it to grow strong and healthy.

The period of transition begins about the time an entrepreneurial firm first gains traction in the marketplace. The transition represents an essential bridge between the loosely structured informality of the startup and the structured and disciplined form required for rapid scaling. The entrepreneur's challenge is to complete the development of the offering, establish a solid foundation, and position the organization for rapid scaling. Once the startup engages customers, additional resources are required, new capabilities must be developed, and the scope and complexity of the challenges faced by the founding team increase dramatically (Hambrick, Donald C., Lynn M. Crozier, 1985).

"Transition, as the nascent startup matures into a disciplined business, is arguably the most critical period in the life of an emerging firm. During this relatively brief period (typically 18—36 months), the founding team must lay the foundation for a rapidly growing business, establish credibility and legitimacy, and acquire the initial resources essential for growth" (Picken, 2017). "The experience and competence demanded of the management team expand dramatically in this stage" (Wasserman, 2003). The founders must simultaneously deal with strategic direction and market positioning, building a management team, implementing discipline, structure, and management processes, acquiring resources, molding a supportive culture, and managing risk proactively. The increased scope and complexity also require that the founding team adjust its leadership style and management behaviors (Picken, 2017).

Many new ventures fail to negotiate these challenges. No matter how brilliant or compelling the original idea is, only about half survive more than 5 years (Bureau of Labor Statistics, 2016), and only the most promising receive early-stage professional

investment. Even with substantial funding, more than 75% of venture-backed firms fail or sustain a marginal existence (Ruhnka, Feldman, & Dean, 1992). Management inexperience or incompetence (Gorman & Sahlman, 1989), the failure to manage the business properly (Drucker, 1985) , or the inability of the founders to continually meet new challenges as the business evolves (Boeker & Wiltbank, New Venture Evolution and Managerial Capabilities, 2005) are often cited as factors contributing to venture failure.

Premature scaling, in a bid to establish market leadership before laying a solid foundation for rapid growth, often precipitates failure as transaction volumes overwhelm inadequate systems and infrastructures or outrun the capacity of the management team (Boeker & Karichalil, 2002).

Table 1. The eight hurdles of the transition period

<ul style="list-style-type: none"> Setting a direction and maintaining focus The entrepreneur must be clear about his/her goals, view the situation realistically, and establish and communicate a clear direction (target customer, offering, value proposition, business model and key milestones) to keep the organization focused on the proper objectives. Positioning products/services in an expanded market Customer relationships and distribution channels must be developed and the product/service offering expanded, refined, and repositioned to meet the needs of an expanded market. Maintaining customer/market responsiveness In the early days, when customer issues and problems arise, decisions are made quickly and resolution is swift. With growth, functional specialization and organizational layers slow the process, and new internal processes must be developed and implemented to maintain customer responsiveness. Building an organization and management team The development of the management team is critical. The required skills and the organizational demands change significantly as the firm grows, requiring careful planning and flexibility to ensure alignment with strategy and business requirements. Developing effective processes and infrastructures Effective decision processes and efficient operational and management processes and infrastructures are essential to support growth. As the firm gains traction in the marketplace, new systems and infrastructures will be required to deliver value to customers, adapt to a changing environment and support the growing business. Building financial capability It's not just about raising money. Investors are also interested in the efficient utilization of resources, effective controls, efficient management of working capital, reliable financial projections, and clear and effective stakeholder communications. Developing an appropriate culture Founders have an opportunity to shape and mold a culture that reflects values, beliefs and norms supportive of the firm's business purpose and strategy. Failure to do so risks the unwitting development of a dysfunctional culture that precipitates the failure of the firm. Managing risks and vulnerabilities Rapidly growing ventures with all their eggs in one basket are particularly vulnerable to sources of risk, including rapid growth, a narrow revenue base, inexperienced employees, key employee defections, inadequate infrastructures, information and management systems, and a bias toward entrepreneurial risk-taking.
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Table 4. The Eight Hurdles of the Transition Period (Picken, 2017)

If a proper foundation for scaling has been established, the firm will be positioned to grow rapidly, riding the momentum of an expanding market. If not, trouble lies ahead. Table 4 shows the essential tasks summarized by Picken (2017), as the eight hurdles during the transition period:

Scaling, the third phase, founders continue to invest in providing additional resources and optimal conditions for the startup's growth and capabilities to enhance the monetary impact, similar to a gardener using fertilizers, support structures, and pruning techniques to help the plant flourish and reach its full potential.

The entrepreneur must add significant resources and leverage processes and partnerships to grow the business within the framework of the validated business concept and a sustainable business model. Scaling requires a very different kind of organization, one with structure, process, and discipline. As the firm grows, the fluid and flexible environment of the startup organization becomes unwieldy. Informal communication and decision-making processes are no longer effective. Functional specialists now assume roles once covered by generalists, and processes and policies replace ad hoc decision-making (Charles W. Hofer; Ram Charan, 1984).

Finally, the exit phase represents the culmination of the efforts, by selling or merging their startup. "Consistent profitability is required to provide a return for investors and fund the drive to market leadership. At some point, a successful exit (by IPO, private sale, merger, or acquisition) is usually required to harvest the value accumulated by the venture for the benefit of the entrepreneur and investors" (Picken, 2017).

This stage mirrors the gardener's harvest, where the mature plant produces fruit, flowers, or seeds that can be enjoyed, sold, or used to start new plants. Just as the gardener's work in nurturing and growing the plant comes to fruition, the startup also reaches a point of maturity and success, providing returns on the initial investment.

2.3. Considerations for Implementing Behavioral Design in Startups

2.3.1. Ethical Considerations

Utilizing Behavioral Design raises important ethical considerations regarding the manipulation of human behavior and decision-making processes. One source that addresses these ethical concerns comprehensively is "Ethics of Influence: Psychological, Business and Legal Perspectives". In this book, several chapters take a look into the ethical dimensions of Behavioral Design and related practices (Pöyhönen & Hämäläinen, 2019). Some of the key ethical considerations include:

- a. Autonomy:** The implementation of Behavioral Design interventions raises important considerations regarding individuals' autonomy. These interventions have the potential to subtly influence individuals' decision-making processes without their explicit awareness or consent, potentially leading to choices that may not wholly reflect their personal preferences and deeply held values.
- b. Transparency:** Ensuring full disclosure of the use of Behavioral Design techniques is of utmost importance. This transparency is critical in providing individuals with comprehensive information about the methodologies and tools utilized to influence their decision-making processes. By being transparent, individuals can make more informed choices and exercise greater agency over their actions.
- c. Equity:** The development of Behavioral Design interventions necessitates a steadfast commitment to promoting fairness and impartiality. It is imperative to meticulously evaluate these interventions to ensure they do not inadvertently favor specific groups or put others at a disadvantage, thereby upholding the foundational principles of equity and fairness.
- d. Privacy:** The process of collecting and analyzing data for Behavioral Design purposes gives rise to significant privacy concerns. It is imperative to implement robust safeguards to protect individuals' personal information, thereby respecting and upholding their privacy rights.

- e. Long-term Effects:** When engaging in the implementation of Behavioral Design interventions, careful attention must be paid to the potential long-term effects on individuals' well-being and the broader societal impact. This encompasses a thorough examination of potential unintended consequences and the proactive implementation of measures to mitigate any adverse repercussions. Such long-term considerations are essential for ensuring the responsible and ethical use of Behavioral Design interventions.

2.3.2. Responsible Uses of Behavioral Design Techniques

Practicing ethical considerations and employing strategies to foster the well-being and self-governance of individuals are integral to the responsible application of Behavioral Design. An authoritative resource addressing responsible approaches in Behavioral Design is the book "Designing for Behavior Change: Applying Psychology and Behavioral Economics" authored by Stephen Wendel (2013). In this book, Wendel outlines several responsible use techniques, including:

- a. Informed Consent:** Obtaining informed consent from users before implementing Behavioral Design interventions involves prioritizing transparency. It is essential to ensure that users are fully informed about the nature of these interventions and their potential impact on behavior. This includes providing them with all the necessary information to make an educated decision about their participation. It's important to explain the interventions' purpose and potential risks or benefits thoroughly, allowing users to make an informed choice.
- b. Choice Architecture:** When designing choice environments, the goal is to empower individuals to make well-informed decisions. This is achieved by providing them with clear, relevant information and meaningful options. Choice architecture also involves structuring the decision-making environment in a way that minimizes the risk of manipulation or coercion. It's important to ensure that individuals feel empowered to make choices that align with their values and preferences, without feeling pressured or influenced in any way.

- c. Feedback Mechanisms:** It is essential to establish feedback mechanisms that not only inform users about their behavior and its consequences but also encourage them to reflect on their actions and learn from them. These mechanisms empower users to make mindful, informed decisions by gaining a profound understanding of the outcomes of their behaviors.
- d. Personalization:** Tailoring Behavioral Design interventions involves customizing them to suit the individual preferences and needs of users, which respects their autonomy in decision-making. It also acknowledges the unique circumstances that may influence their behavior. This can be achieved by utilizing user-specific data to personalize interventions and promote positive behavior change in a way that feels relevant and significant to each individual.
- e. Evaluation and Iteration:** Continuously evaluating the impact of Behavioral Design interventions is crucial. This evaluation should not only measure their effectiveness but also take into account ethical implications and potential unintended consequences. A thorough evaluation allows for data-driven decision-making, and making iterative improvements based on user feedback and ethical considerations ensures that these interventions evolve to better cater to the needs and well-being of the users over time.

2.3.3. Approaches and Tools for Setting Up Behavioral Design

Decentralized and Centralized Approach

“With “Start With The End”, Matt Wallaert (2019) wrote a great book on how companies could benefit from behavioral science. In the book, he evangelized the idea of the Chief Behavioral Officer (CBO), a senior executive role who manages a Behavioral Science Expert Team” (de Bruyne, 2022).

According to Matt Wallaert (2019), there are two approaches to how organizations try to benefit from the power of Behavioral Design:

a. The Decentralized Approach: A Behavioral Design Guild

The first approach to implementing this strategy involves forming a guild or chapter specifically for Behavioral Design Leads, who will work alongside multidisciplinary business teams. In addition to roles like Product Owner, Scrum Master, and UX expert, a dedicated Behavioral Design Lead will be responsible for gathering human insights, defining behavioral outcomes, organizing idea generation workshops, and coordinating prototype testing at every stage of the insight, design, and implementation process to incorporate behavioral intelligence.

Within this setup, a guild represents a collective of experts who share common interests, regularly convening to exchange ideas, learn from each other's best practices, and enhance their skills. This approach offers two notable advantages. Firstly, it is directly applicable to tangible aspects such as products, services, and customer communication. When successfully implemented, its impact can be quantified through key performance indicators (KPIs) like acquisition, activation, retention, revenue, cost savings, and profit. Moreover, this approach enables all team members to experience the fascinating, enjoyable, and rewarding process of considering customer irrationality. This exposure fosters a general enthusiasm for leveraging Behavioral Design to a greater extent.

b. The Centralized Approach: A Behavioral Design Lab

The Behavioral Design Lab was conceived by Matt Wallaert (2019), with a singular vision captured in his book "Start with the End." It involves establishing an autonomous lab with a select team of behavioral experts operating independently of the business units. The lab's primary mission is to innovate best practices through rigorous experimentation with landing pages, letters, communication, and services. Their mandate is to conduct experiments to gather compelling evidence of how subtle nudges and reframing can yield significant results. However, despite its advantages, this setup

has inherent drawbacks. One significant limitation is the siloing of knowledge and expertise within the lab.

Furthermore, the successes achieved by the lab are often seen as incremental and narrowly focused, such as the use of post-it notes as a form of reciprocity or the integration of social proof cues into payment reminders.

The Influence Framework Tool

“Outside-in” Thinking Approach for Behavioral Designers.

When attempting to influence minds and shape behavior, a common mistake that is often made is to adopt an inside-out approach, wherein the emphasis is placed on highlighting the benefits of a product or service and attempting to persuade individuals to recognize their value. However, a more effective strategy for Behavioral Designers is to utilize an outside-in approach.

This involves focusing on the individuals behind the customers and seeking to gain a deep understanding of their needs for success. By pinpointing and addressing anxieties, doubts, prejudices, or bad habits that impede the desired behavior, Behavioral Designers can work on finding ways to alleviate these concerns and frustrations, ultimately leading to more effective behavior change.

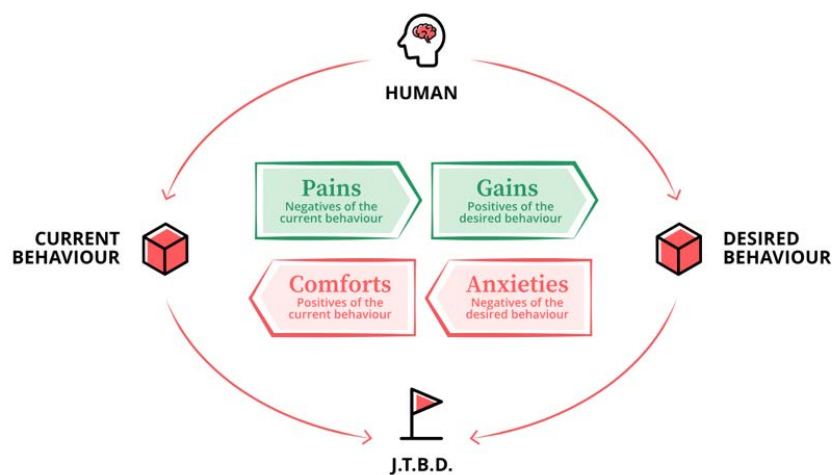


Figure 22. The SUE - Influence Framework Tool (Groenewegen, 2021)

The SUE Influence Framework Tool highlights all the factors that affect the behavior of individuals for whom interventions need to be designed. This framework is built around five essential questions that must be answered to comprehend why people behave as they do and how to encourage them to take action:

Job-To-Be-Done: What is the underlying goal for which people would have to embrace the new behavior? How might we align the desired behavior with goals that matter to them?

Pains: What are possible frustrations and pains in their current behavior, for which we need to come up with a solution?

Gains: What are the benefits we have, compared with their current solutions?

Anxieties: What are anxieties, doubts, prejudices, or other barriers that prevent someone from embracing the new behavior?

Habits: Which habits keep them locked in their current behavior?

The SWAC Tool

Turning the forces of people's behaviors into ideas of behavioral change.

Whereas the SUE Influence Framework Tool uncovers the unconsciousness of people, is this part about applying principles from the science of influence to come up with solutions on how to change behavior (Groenewegen, 2021).

The tool is designed to be easily understandable and accessible for users of all levels of expertise. It delineates the four essential components necessary to establish a context that can effectively persuade individuals to take specific actions and maintain them over time. Its practical simplicity is derived from the clear framework it provides. When aiming to design for behavioral change, users are guided to consider four straightforward questions that serve as a foundational basis for creating effective strategies. For this, it has been designed the following tool:



Figure 23. The SUE SWAC Tool (Groenewegen, 2021).

How can we make sure someone **WANTS** to perform the new behavior?

How can we make sure someone **CAN** perform the new behavior?

How can we **SPARK** new behavior at the moments that matter?

How can we activate this new behavior **AGAIN** and again?

Consequently, employing the SWAC Tool enables the rapid identification of obstacles that hinder individuals from adopting the targeted behaviors. Behavior modification is a gradual process, often necessitating recurrent cues to instigate the behavior for the first time. The repetition of a behavior facilitates its ease over time. It is imperative to SPARK the desired behavior consistently and repeatedly to activate it.

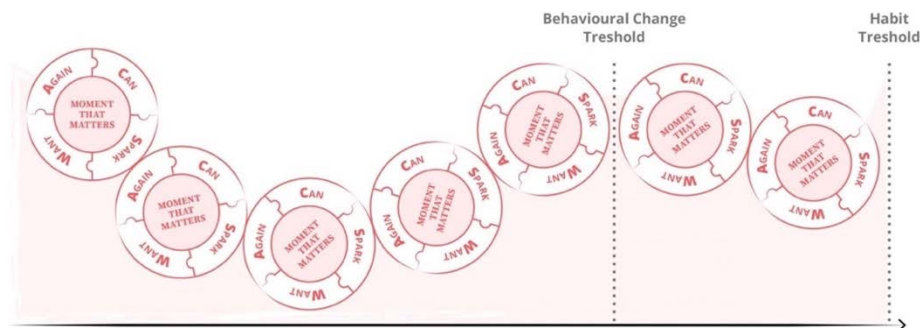


Figure 24. How to Become a Behavioral Change into a Habit. (Groenewegen, 2021).

3. Case Study Analysis

To gain a deeper understanding of the practical implications and benefits of Behavioral Design, the following chapter examines specific case studies of startups that have successfully implemented these principles, along with those that are currently exploring the implementation of Behavioral Design. This chapter offers a comprehensive overview of how Behavioral Design has been applied in real-world scenarios, highlighting the strategies, challenges, and outcomes faced by these innovative companies.

These examples illustrate the versatility and impact of Behavioral Design, providing inspiration and guidance for other businesses looking to integrate these concepts into their growth strategies.

3.1. Case Study #1: Duolingo

“Duolingo is a language-learning platform that offers courses in various languages through a mobile app and a website. It utilizes gamification to make learning engaging and effective, providing a fun and interactive experience for users. The platform is designed to cater to learners of all levels, from beginners to advanced speakers, and includes features such as interactive exercises, immediate feedback, and personalized learning paths. It was founded in 2011 by Luis von Ahn and Severin Hacker with the mission to make education free and accessible to everyone. The app is structured like a game, with elements such as points, levels, and streaks that motivate users to practice daily. As of 2024, Duolingo offers courses in over 30 languages and has a user base of over 500 million people worldwide” (Duolingo, s.f.).

“Duolingo is one of the world’s most successful learning-based businesses. In 2022, it made nearly half a billion dollars in revenue (a 46% increase from the year prior) and had 16.3M daily active users” (Clinehens, 2021).

“Delivering education on a smartphone is like hoping that people will eat their broccoli when the most delicious dessert ever made is right next to it. If you want to provide

education to everyone, you have to make it accessible AND you have to make sure people actually want to learn. At Duolingo, we make broccoli taste like dessert”. Luis von Ahn CEO and co-founder at Duolingo.

Duolingo’s big challenge:

It is very normal to be enthusiastic when humans embark on a new learning journey, for example, a new language, practicing a new sport, or attending the gym. The difficult part is related to the commitment to the learning process. Talking about learning a new language, a recent study by the Massachusetts Institute of Technology (MIT) found that online courses only have a 4% retention rate. “But Duolingo has been remarkably successful in keeping people engaged with digital learning. They boast a daily active user retention rate of about 55%” (Clinehens, 2021).

An interesting question comes from this report. Why? Duolingo demonstrated that they are using psychology and behavioral science to engage humans and make the learning process a habit. For this, it is crucial to understand what a habit is.

“Habits are routines or behaviors that are performed regularly and, often, automatically. They are formed through the process of habit formation, which involves the repetition of an action in a consistent context until it becomes ingrained in the individual's behavior.

This process is facilitated by the brain's ability to create neural pathways that make repeated actions easier to perform without conscious thought. Habits play a crucial role in daily life by allowing individuals to perform tasks efficiently without expending significant mental effort.

They can be either beneficial (such as regular exercise or brushing teeth) or detrimental (like smoking or excessive procrastination)” (Duhigg, 2012).

The “Habit Loop”

To establish a habit, all three elements of the “Habit Loop” must be present. These elements are the trigger (or cue), the routine, and the reward (or feedback).

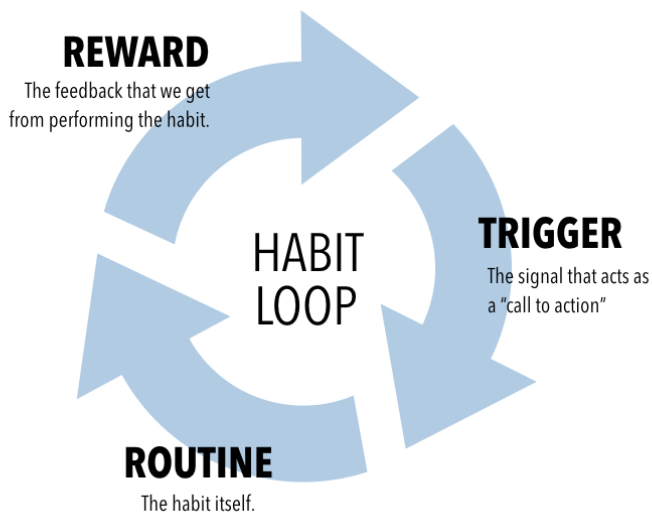


Figure 25. The "Habit Loop" (Clinehens, Choice Hacking, 2021)

How Duolingo uses psychology to create “triggers”

Push Notifications: An effective App habit strategy involves using push notifications and leveraging psychological factors like scarcity and consistency. Users may hesitate to grant notification permissions, however, Duolingo employs a successful strategy to address this.

Instead of simply asking for permission with the usual "allow" or "do not allow" options, they incentivize users to enable push notifications by rewarding them with an in-app reward chest. (See Figure 26).

The second winning strategy is that Duolingo asks users if they want to receive more notifications when a chest is ready to be unlocked, users get a reward and Duolingo receives the permit to send them more push notifications. (See Figure 27).

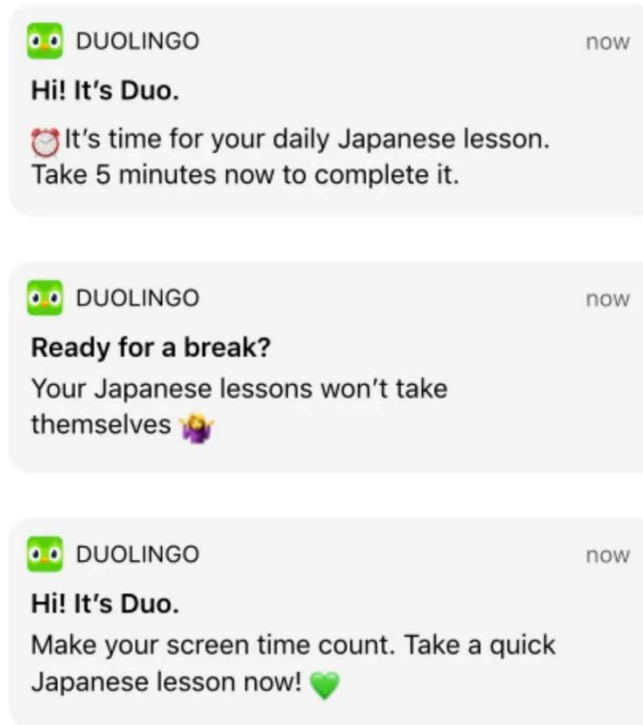


Figure 26. Duolingo's Push Notifications (Arora, 2028)

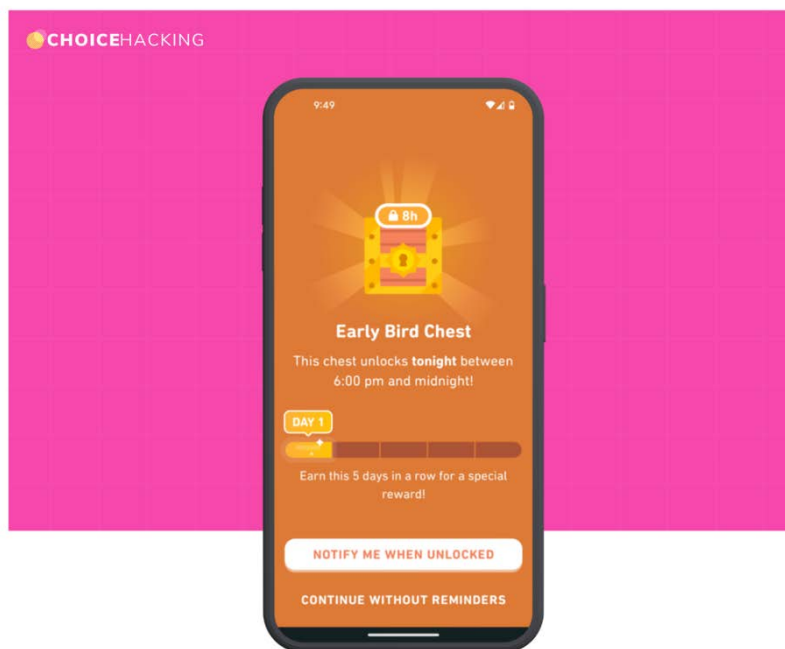


Figure 27. A Reward instead of More Push Notifications (Clinehens, 2021).

One more effective language learning strategy is the **streak system**, requiring users to consistently practice and track their consecutive days of practice. “This leverages the psychological principle of loss aversion, as users are motivated to maintain their streaks to avoid the negative feelings associated with breaking them” (Milkman, Minson, & Volpp, 2014).

They send messages to motivate users to utilize a home screen widget, so the app will be more visible, and it will help users decide to start the lesson as soon as possible. (See Figure 28).

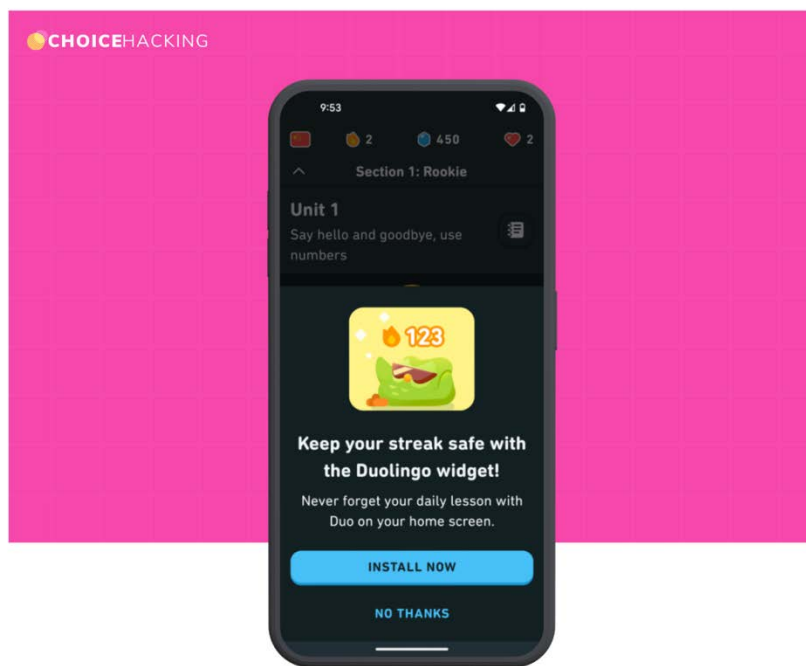



Figure 28. Keep your Strike Safe with the Duolingo Widget (Clinehens, 2021).

Email reminders: The most appropriate action to take if a user ignores, disables, or fails to respond to a push notification is to send an email. Duolingo's emails are simple and effective, usually containing (i) subject lines with clear instructions like “Hi Jen, dedicate 5 minutes to Chinese practice today!”, (ii) clear straightforward layout prompting action like "Begin a lesson", and (iii) personalized streak updates to motivate users to maintain consistency like "Your current streak: 1". (See Figure 29).

Your streak freeze saved the day! 😎 External Inbox x

 **Duolingo** <hello@duolingo.com> [Unsubscribe](#)
to me ▼

Wed, Feb 9, 10:22 AM ☆ ↶ ⋮



Figure 29. Duolingo's Email Reminders (Davies-Romano, 2022)

Emotional Manipulation: Duolingo utilizes its owl character, Duo, as a prominent mascot to evoke emotions and influence user behavior. For instance, when users become inactive on the app, Duolingo employs email notifications with subject lines such as "You made Duo sad" or "Keep Duo happy" to encourage continued engagement.

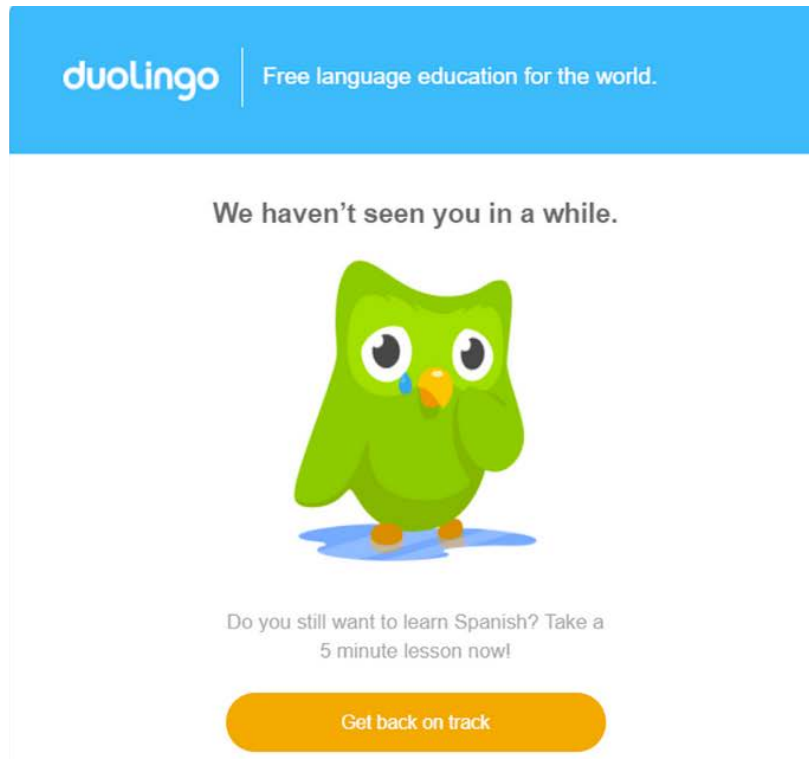


Figure 30. Duo Mascot and User Emotional Manipulation (Clinehens, 2021).

Social Features: “Duolingo includes social features such as leaderboards and the ability to follow friends, which fosters a sense of community and competition. Social influence and peer pressure can significantly enhance engagement” (Cialdini, 2001).

When individuals face obstacles, they frequently seek comfort by observing the actions of others. Recognizing this behavioral tendency, Duolingo effectively highlights its popularity by showcasing its remarkable user numbers. When individuals are confronted with challenges or difficulties, they often turn to the actions of others for reassurance.

Understanding this behavioral pattern, Duolingo effectively highlights its popularity by sharing its impressive user numbers, thereby establishing social proof of its widespread appeal and effectiveness. (See Figure 31).

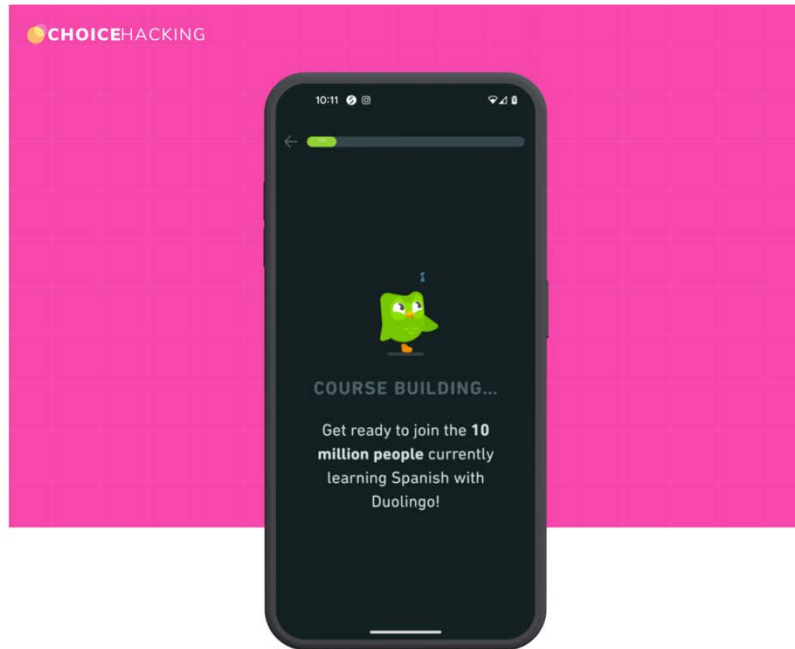


Figure 31. Duolingo's Social Features (Clinehens, 2021).

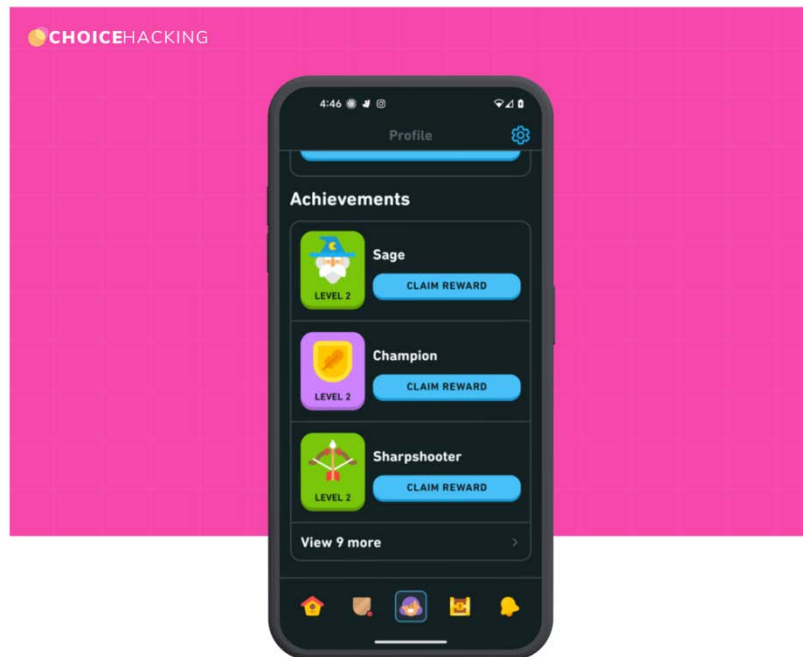


Figure 32. Achievements Board (Clinehens, 2021).

Gamification: Duolingo incorporates gamification elements such as points, levels, and badges to motivate users. This approach taps into the human desire for achievement and competition, making learning more engaging and less like a chore. According to studies, gamification can significantly increase user engagement and motivation (Deterding, Dixon, Khaled, & Nacke, 2011).

The key is to determine if these badges are effective in gamified experiences. According to research from IBM (2019), “87% of users who earned a digital badge were found to be more engaged as a result of their digital reward.

Duolingo has achieved impressive results by strategically using Behavioral Design. The platform's gamified approach and focus on user engagement have contributed to high retention rates and widespread adoption. The company's success illustrates the effectiveness of integrating behavioral principles into product design to enhance user engagement and drive growth.

The incorporation of Behavioral Design principles such as gamification, streaks, and social features is based on psychological research and has been pivotal in establishing Duolingo as a leading language-learning platform. (See Figure 32 on the previous page).

3.2. Case Study #2: Fabulous App

Fabulous, developed by TheFabulous, “is a mobile application aimed at facilitating personal development and habit formation through the integration of Behavioral Design principles” (Garcia, M., & Lee, S., 2019). Launched in 2014, Fabulous has rapidly gained popularity among users seeking to cultivate healthier habits, enhance productivity, and improve overall well-being.

Features and Functionality

Fabulous offers a range of features designed to optimize user engagement and habit formation. “The App provides personalized coaching and recommendations based on individual goals and preferences, guiding users through their self-improvement journey” (Garcia, M., & Lee, S., 2019). Additionally, Fabulous employs persuasive design techniques, such as intuitive interfaces and interactive content, to captivate users' attention and encourage active participation.

“Social support is another integral aspect of the Fabulous experience, with users able to join communities, participate in challenges, and share their progress with friends and peers” (Garcia, M., & Lee, S., 2019). This sense of accountability and camaraderie fosters a supportive environment conducive to habit formation and goal achievement.

Since its launch, “Fabulous has garnered widespread acclaim and a loyal user base, solidifying its position as a leading personal development App” (Garcia, M., & Lee, S., 2019).

Sami Ben Hassine, CEO of Fabulous and the one who had the vision for the App describes how Fabulous creates better habits: “Behavioral change is not about the final goal. It’s about dividing the big changes you seek into smaller behaviors and getting you to accomplish them one at a time. Running is not the behavior we’re trying to teach you, it’s the goal. We’re only trying to get you to put your shoes on and start your power song. We know that these two actions almost always rekindle your motivation enough

to get you exercising. We are only asking you to perform two simple actions” (MacPherson, Designli, 2019).

To improve user engagement and foster habit formation, Fabulous utilizes various Behavioral Design principles. These are:

Tiny Habits: “Fabulous emphasizes the concept of starting small and gradually building momentum through tiny habits” (Garcia, M., & Lee, S., 2019).

Users are encouraged to identify simple, manageable actions that align with their larger goals. By breaking down daunting tasks into smaller, more achievable steps, Fabulous helps users overcome inertia and establish a foundation for long-term behavior change.

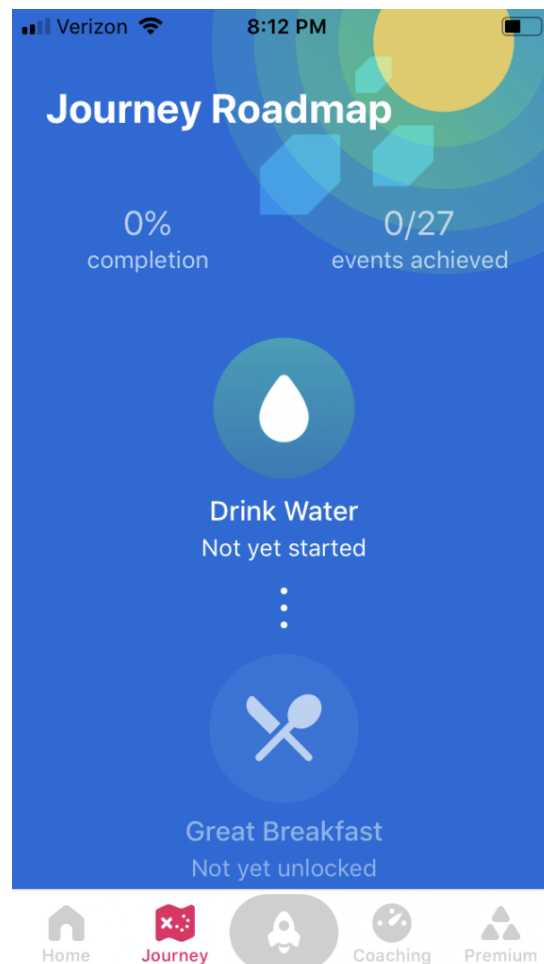


Figure 33. Example of “Tiny Habits” (MacPherson, Designli, 2019)

Positive Reinforcement: Positive reinforcement is a central aspect of Fabulous design. “Users receive visual cues, progress tracking, and positive feedback when they complete habits or reach milestones” (Garcia, M., & Lee, S., 2019). These reinforcements serve to reward desired behaviors, strengthen neural pathways associated with habit formation, and increase motivation to continue engaging with the App.



Figure 34. Inspirational Message within Beautifully Designed Graphics
(MacPherson, Designli, 2019)

Gamification: Fabulous incorporates gamification elements to make the habit formation process more enjoyable and rewarding. “Users earn points, badges, and other virtual rewards as they progress through the app and achieve their goals” (Garcia, M., & Lee, S., 2019). These gamified features create a sense of achievement, foster competition, and incentivize continued engagement with the App.

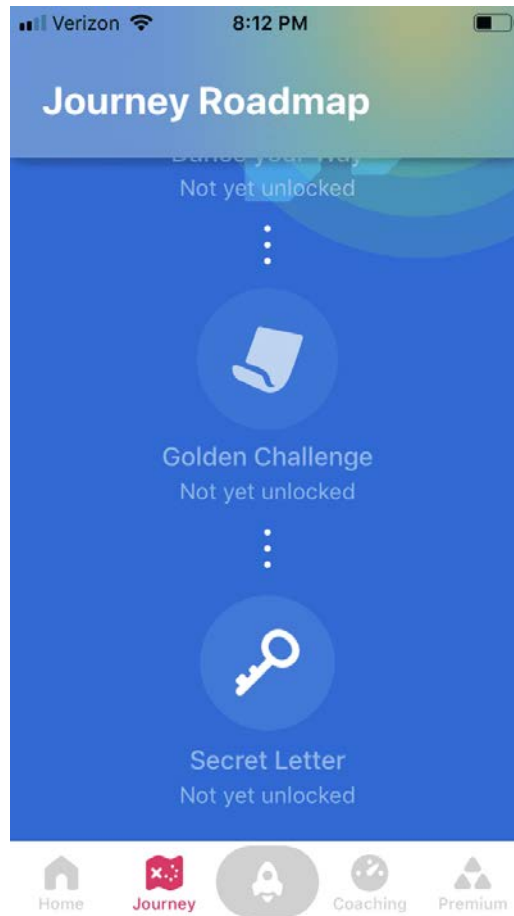


Figure 35. Challenges to Unlock Create Motivation (MacPherson, Designli, 2019)

Personalization: “Fabulous provides personalized coaching and recommendations tailored to each user's goals, preferences, and behavior patterns” (Garcia, M., & Lee, S., 2019).

By leveraging data analytics and machine learning algorithms, the app delivers customized experiences that resonate with individual users, increasing the likelihood of adherence and satisfaction.

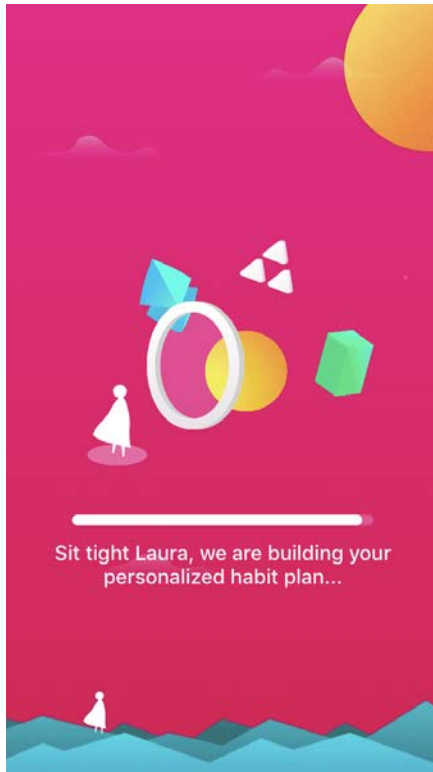


Figure 36. Personalized Plan Screenshot (MacPherson, Designli, 2019).

Social Support: “Fabulous facilitates social support by allowing users to connect with like-minded individuals, join communities, and share their progress with friends and peers” (Garcia, M., & Lee, S., 2019).

This sense of belonging and accountability fosters a supportive environment where users can exchange encouragement, advice, and motivation, increasing their likelihood of success.

Fabulous has achieved remarkable success by integrating Behavioral Design principles into its platform. These principles help engage users, form habits, and promote lasting behavior change. In addition, Fabulous incorporates gamification and social support to enhance user motivation and accountability. Overall, Fabulous' success highlights the transformative potential of Behavioral Design in helping individuals overcome barriers and adopt healthier habits.

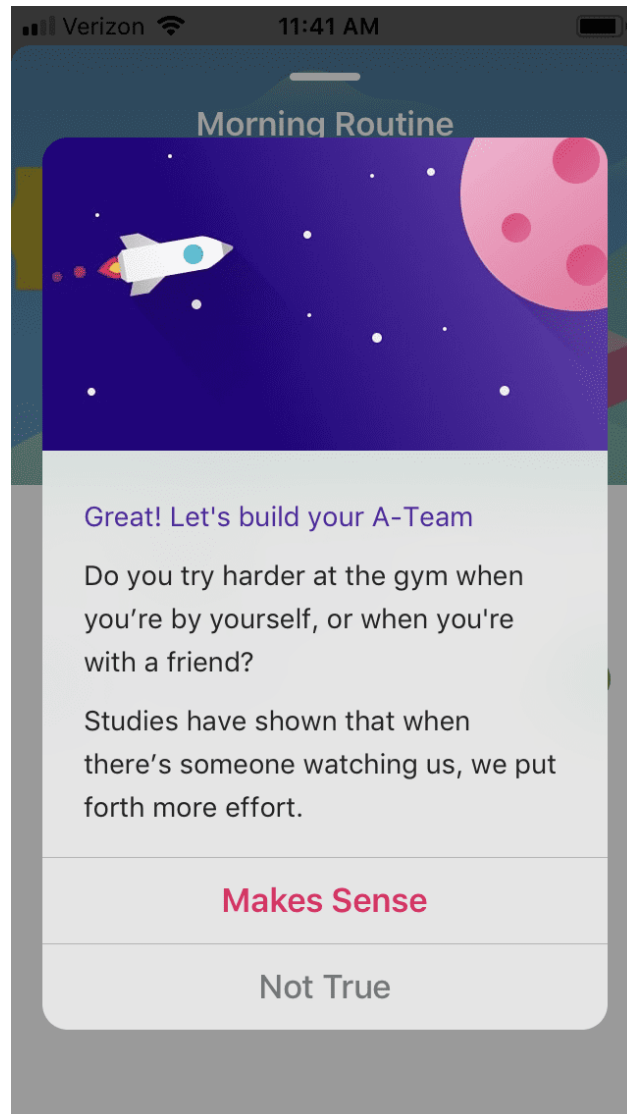


Figure 37. Building an “A-Team” with Friends (MacPherson, Designli, 2019).

4. Expert Interview Analysis

Through this thesis was conducted one in-depth interview to explore and gain insights from a professional related to the startup and business field. The expert provided precise information for academic purposes, guided by an interview questionnaire consisting of 9 open questions. (See Appendices).

4.1. Startup Interview: Wundertax – Daniel Hanemann.

As the CEO and one of the three founders of Wundertax, a company based in Berlin in 2015, Daniel Hanemann was the first expert to be interviewed. His actual position at Wundertax leads to guiding and managing almost the entire company to administrate a properly functioning to achieve the business goals. The first goal that Wundertax had when they went out into the market was to “provide students with an online solution for submitting their tax returns quickly and easily” (Wundertax, n.d.).

Mr. Hanemann (2024) in a few words explained that Wundertax “is a software application that enables you to create your tax return. Afterward, you can easily submit it to the tax office electronically”. In addition to this, he explained how this process works from a user perspective and how easy and affordable is to do the tax refunds through their software. He also mentioned that “Germany has one of the most complicated tax systems in the world, and getting a tax advisor is extremely expensive” (Hanemann, 2024).

The expert identified that there was an indirect lack of knowledge when he was asked about the concept of Behavioral Design. He explained that besides that they have not applied the concept and its principles, he said that they “observe how people use the tool and how they behave within the tool” (Hanemann, 2024).

In his opinion, Mr. Hanemann highlighted the fact that “human behavior plays a large role in how they have designed and how they are going to keep improving the software” (Hanemann, 2024).

From Mr. Hanemann's standpoint, for Wundertax it is important to provide a friendly user experience, fostering their users to reach the last step of the tax returns application form. For him, a huge competitive advantage is that Wundertax enables users to sign up and enter their tax data to see how much they will get back, for free. He clarified that this is a huge change for them in comparison to how was done in the past. On the other hand, Daniel talked about how this process is within their competitors, "in a lot of tax software, you have to buy the program first and then you can do the tax return. Wundertax is a financial product and the important thing is that around 80% of people don't know how to do with tax returns" (Hanemann, 2024).

Furthermore, Daniel expressed that one behavioral fact that Wundertax noticed in their users was on the pricing side. The cost of acquiring Wundertax tax returns service is 35 euros. They studied and gave importance to the fact that most of the people wanted to know how much money they would get back in the concept of taxes before paying 35 euros. This was a clue on changing human behavior and designing a pricing strategy to engage the customers, retain them, and shape their behavior. In the end, if they get more on what they have to invest in Wundertax, they will be happy and satisfied, if not, they are not going to feel the opposite because they didn't invest any cent on this.

Another important insight raised in this interview was the fact that emotions and feelings are behind in the process of filling out the tax return form. For this Wundertax studied, discussed, and talked to a lot of people at the very beginning of their journey about what they could do to increase their tax return or what other tooltips should they build. Surprisingly, people did not care about this, they were satisfied with the fact that they would receive something back from the tax office. After this, the team started to interviewing people again and a lot of them answered that they were more worried about the trust of the Wundertax process, literally confirming and stating that if they make a mistake in the tax return form or they type another number, they can get in prison because of tax fraud.

For Wundertax was important to create a collect all the qualitative data that they gathered through the NPS score and measure all the feedback to quantify it. In addition to this, he mentioned that Wundertax utilizes a product tool called “Amplitude” to research customer behavior within the software, providing numerical insights but not detailed information about the user experience. To facilitate and provide a better user experience, Daniel came up with an example of a feature that they are working on right now to leverage technology and create a better experience. This is the OCR, to helps users scan with their smartphone camera all the data of the annual salary slip, simplifying the process of writing manually the requested fields and avoiding making mistakes and dropping out of the process.

On the other hand, Mr. Hanemann mentioned that he looks necessary to encourage their current Designer to read, study, and implement this concept when designing processes, features, or the product itself. What is important to consider is that Wundertax is a small company and they already have to the mid-long term a new product plan. For them, the implementation is a tool to help them speed up important decisions, considering the possible human behavior or reaction to the actual and new products to be developed.

Daniel ended with the notion that he sees the implementation of Behavioral Design into Wundertax as a new perspective that could strengthen, empower, and improve the management inside Wundertax, designing the expected shape of their users and helping to accelerate the decision-making process.

4.2. Startup Interview: Gastrorientación – Andrés García Ramos.

Andrés García Ramos is one of the two founders of Gastrorientación, a business project developed in Madrid, Spain in 2022. During the interview, he explained that “Gastrorientación is an innovative event combining sports with gastronomy. The business idea was conceived since one person specializes in gastronomy and operates a shop featuring local products from Madrid, focusing on proximity goods. The other person (Andrés), has previous experience in organizing sports events” (Ramos, 2024)

In the interview, he expressed that he was not directly familiar with the concept of Behavioral Design. However, he acknowledged that some of its concepts, principles, and ethical considerations had been indirectly applied to his business idea.

Additionally, Andrés García Ramos (2024) described that “the project was initially conceived to bridge the gap between sports and local gastronomy for the general public. The primary target for the pilot phase was the town of Navalcarnero, a municipality in Madrid renowned for its culinary traditions and enthusiastic reception of sporting activities. The principal clientele for this initiative is local administrations, given that the event offers a unique combination of popular themes. The local government can incorporate this event into their leisure programs, thereby enhancing their portfolio of activities for citizens without incurring additional workload”.

One interesting point provided by Andrés is that “after their inaugural event, they distributed a questionnaire to participants, asking them to evaluate many aspects of the experience. Participants provided insights on what they liked, what they found less appealing, and which elements they deemed original but in need of improvement” (Ramos, 2024).

In my opinion, this was a significant advancement despite the lack of explicit knowledge of Behavioral Design. The organizers solicited feedback and adjusted subsequent events according to participants’ expectations, using these insights to enhance the overall user experience. Additionally, “they incentivized a competitive spirit by awarding

medals and prizes to the first arrivals at the finish line, thus catering to both casual participants and those seeking a more intense experience” (Ramos, 2024).

As discussed in the case study chapter, rewards are a crucial element of Behavioral Design. Many startups implement in-app rewards to engage more customers. This principle could be highly beneficial for Gastrorientación, as it aligns with fundamental human needs such as sports and nutrition. Leveraging current nutrition trends and incentivizing participation can ethically influence participants’ decisions to attend future events. This strategy could significantly expand their customer base, creating a growing portfolio of engaged participants.

Andrés identified one important barrier to integrating Digital Behavioral Design as a complementary tool in their operations:

The point concerns the potential development of an App soon. This app would facilitate the collection of data and enable the provision of personalized events for each participant. Mr. García (2024) answered this “Many participants struggled with the digital aspects, such as registration, logging in, and switching between the map and the questionnaire. Our initial approach was to have everything digital, with minimal physical maps, as we believed it would be more convenient to have everything at hand and facilitate automatic response quantification. However, participants expressed a preference for physical maps and less reliance on mobile devices. Given the wide variety of questionnaire applications and the apparent discomfort many had with the digital format, we decided against developing a dedicated app. Instead, in the second edition, we incorporated physical materials based on participant feedback, which was more favorably received”.

Mr. García expressed a positive answer when he was asked about how he envisions leveraging Behavioral Design for his actual business or a future startup if he decides to take again the entrepreneurial journey. For this, he stated “Behavioral Design is a relatively recent methodology for me, as you mentioned, it is rooted in three interdisciplinary areas: design, economics, and psychology. It would be highly

beneficial to go deeper into this methodology to understand and develop its concepts and principles. By doing so, we can better approach our customers, offering new types of gastronomic events tailored to their behaviors and trends. This approach will help us shape these experiences to attract new target audiences and convert them into our customers. I see enormous potential in this” (Ramos, 2024).

In conclusion, the two expert interviews revealed a gap in the explicit recognition of Behavioral Design theory. However, in practice, Andrés has demonstrated the application of some foundational principles of this methodology. He has integrated these principles into their operations to enhance strategies and services, thereby increasing participant attendance at future events.

By utilizing Behavioral Design, Andrés aims to better understand customers, engage them effectively, and scale the business. This approach not only creates a unique internal culture for future employees but also delivers an exceptional user experience for new customers.

5. Critical Analysis and Applicability

This chapter seeks to present research findings and provide insights into how startups can implement Behavioral Design to adapt and innovate their vision, ultimately boosting engagement and interaction, improving user experiences, and optimizing overall sales. The text is structured into three subchapters, each with relevant subtitles crafted to enhance understanding of the thesis topic and subtopics.

5.1. Designing for Engagement and Interaction

Designing for engagement and interaction is crucial for startups aiming to foster strong customer relationships and sustain growth. By leveraging principles of Behavioral Design, startups can create compelling user experiences that drive engagement and promote dynamic and engaging interaction. This subchapter explores the role of Behavioral Design in the designing of strategies and practical successful applications to consider.

Before designing a user experience, designers and managers should contemplate the gradient effect coined by behaviorist Clark Hull (1932) “As people get closer to a reward, they speed up their behavior to get to their goal faster”. Essentially, individuals are inspired by the distance remaining to achieve their objective, rather than by the progress they have made. As Hull (1932) put it in his original research “Rats in a maze run faster as they near the food box than at the beginning of the path.” The closer users get to their goal, the more encouraged they become to finish it. Users need to know where the finish line is to stay motivated.

That is where the goal gradient effect comes in, using gamification elements like progress bars, badges, and completion percentages. This effect can be used in any situation where users are encouraged to complete a major task by achieving smaller tasks or objectives. As stated by Ziglar (1986) “If you want to reach a goal, you must ‘see the reaching’ in your own mind before you actually arrive at your goal”.

As previously demonstrated, Duolingo utilizes "chunked" progress bars as a strategy to drive engagement among its users. The platform adeptly applies the goal gradient effect to keep learners engaged and motivated. Each section within the platform is further divided into smaller subsections, each equipped with its mini progress bar, effectively providing users with clear and manageable milestones to track their progress. "This approach to language learning combines the goal gradient effect with chunking, a psychological learning technique. Chunking is a process by which big groups of information - the Spanish language, for example - are broken down into smaller parts. Then these parts are grouped by common elements. In the case of Duolingo, it chunks subjects into smaller topics like family, time, and sizes" (Clinehens, 2020). Then, "the App applies the goal gradient effect to show users how much they have left to do before completing each subsection. The subsections feed into bigger sections, and before long the user has learned a new language" (Clinehens, 2020)

In the case of LinkedIn, the platform utilizes progress bars to facilitate profile completion. This functionality indicates the completeness of a profile and the remaining steps required to finish it. Moreover, LinkedIn labels users' progress, such as "intermediate," to offer greater insight into their advancement within the platform. "By combining a progress bar with a measure of completeness, LinkedIn makes it easy for customers to know where they stand. For added measure, they have combined the goal gradient effect with data to persuade users that their work will help them be "discovered in search by recruiters". The goal gradient effect helps LinkedIn users feel like the finish line is closer than they may think" (Clinehens, 2020).

Finally, I would like to present an excellent example of how a simple sticker can effectively engage customers and solve problems, leading to cost reduction for companies. This is a clear case to consider. In my opinion, not every solution has to be grand or meticulously designed. The operations team at Schiphol Airport in Amsterdam serves as a compelling example of this. Despite the janitorial team's regular cleaning efforts, the men's urinals were consistently messy. The simple problem of this was the

men's lack of urinary precision. "In public toilets, the mess caused by hundreds of misses can be unsanitary and expensive to clean. Schiphol Airport solved this with a simple but entertaining solution by placing a sticker of a fly inside each urinal bowl" (Clinehens, 2020).

"These tiny engravings were incredibly effective at reducing the mess. The flies reduced spillage by 80% and total cleaning costs by 8%" (Ingraham, 2017).



Figure 38. Sticker of a Fly in an Urinal Bowl at Schiphol Airport in Amsterdam (Ingraham, 2017).

To understand why such a simple solution worked and solved this problem, it is important to recognize that has to be with a behavioral science known as salience bias. Salience describes how prominent or emotional something is (American Psychological Association, 1977). If an element seems to jump out from its environment, it's salient. "Salience bias states that the brain prefers to pay attention to the salient elements of an experience" (TIC Media, 2018).

5.2. Enhancing User Experience through Behavioral Design

“When customers are separated from the people and the processes that create value for them, they come away feeling like less effort went into the service. They appreciate the service less and then value the service less as well” (Buell R. , 2019). The author highlights the significance of integrating Behavioral Design into the User Experience design process. This approach aims to elevate the User Experience by harnessing psychological insights. Through this methodology, startups can create interactions that not only fulfill their functional purpose but also bring about a sense of delight for the user.

After conducting this research, I have realized that managers and designers must place a strong emphasis on creating exceptional user experiences not only with their products and services but also within their internal processes. It is essential to understand that human behavior is complex and multifaceted, and as such, it requires a deep level of attention and understanding to truly meet the needs and expectations of users. A clear example of this is the Subway Sandwiches franchise. “Their staff, known as Sandwich Artists, carefully craft your food to order right in front of you. You can customize your perfect Subway sandwich step by step, specifying exactly what you want and how much of it you would like” (Clinehens, 2020). “This commitment to transparency has made Subway one of the largest food franchises globally, with over 41,000 stores in 100 countries” (Herold, 2015). Subway effectively uses operational transparency to enhance its customer experience.

“Operational transparency is the inclusion of windows into your company’s process so customers can see the effort that’s going into their experience. According to recent research, experiences that use operational transparency cause customers to value products more highly and can even make people happier” (Clinehens, 2020).

An excellent illustration of operational transparency in practice is a research study highlighting its effects on college cafeteria staff and the students who benefit from their services (Buell & Donohue, 2016). “In one scenario, the cafeteria was set up much like

a Subway restaurant with the cooking process visible to students. In the second scenario, the cooking process was hidden in a separate kitchen. When students could see people making their food, they were able to make a more personal connection, not just to the servers, but to the process of creating meals. As a result, they rated the quality of the food 22% higher. There was a similar effect on workers who could see the students they were serving. Output went up 19%. By making a connection with students, the cooking process became more personal for the workers as well. They cared more when they could make a connection with the benefits of their labor” (Clinehens, 2020).

In addition to these two examples of how to enhance the user experience, it is recommended to explore Domino’s big customer experience challenge back in 2008. “When a customer's order took longer than the estimated time for delivery, they would typically contact the store by phone to inquire about the status of their order.

This communication would trigger a series of events. The employee taking the call would place the customer on hold, proceed to the kitchen area, engage with the staff to address the delay and disrupt the pizza-making process. This disruption had a domino effect, leading to operational chaos and causing delays for all ongoing orders and customer deliveries” (Clinehens, 2020).

Domino's recognized the need to address the issue of customers calling the store to inquire about their orders. They swiftly identified their existing order management software as a potential solution to enhance transparency. Leveraging this internal software, they developed the Domino's Pizza Tracker, enabling customers to track their orders' progress from "preparation" to "bake," from "bake" to "box," and finally to the "delivery" phase. This not only improved the customer experience but also contributed to the smooth operation of the store.



Figure 39. Domino's Tracker (Domino's Pizza, 2023)

In summary, the strategic implementation of Behavioral Design empowers startups to create tailored products and services that align with user behaviors and preferences. This approach also helps streamline internal processes, boosting employee performance, and ultimately delivering a superior user experience. By prioritizing user interaction and perception, startups can cultivate stronger customer relationships and achieve sustainable growth in a competitive market.

5.3. Leveraging Behavioral Design for Sales Optimization

Based on the research of previous case studies and an interview with Wundertax, it has been discovered that Behavioral Design can help startups grow sales and smoothly transition from the startup phase to becoming a world-recognized enterprise, as seen in the case of Duolingo or for Wundertax, adding new scanning features that facilitate the filling of their form has increased the number of sales. It is important to consider that this can be achieved if designers and managers base their decisions on understanding customer behavior. To help this objective, a British cognitive scientist named Colin Cherry discovered the cocktail party effect in the 1950s. "He wanted to understand what people focus on and why. After researching the dynamics of a noisy room, he discovered something interesting. Our brain separates

overlapping conversations into different auditory streams. It can then decide to ignore information that isn't relevant" (Clinehens, 2020). "Studies have shown that a key trigger for tuning in is when people hear their name. It makes sense that brands start personalization efforts with a customer's name" (Clinehens, 2020). When you visit Starbucks, they ask for your name after you order your favorite beverage for two distinct reasons. First, they aim to make you feel important to the brand. Second, when your beverage is ready, they call out your name to provide an exceptional personalized experience. Basically, as a customer, you would love to return and be treated as if you have been a customer for years.

But personalization isn't just about ensuring you get your customer's first name right; it's about creating tailored experiences that go beyond generic ads. As author and marketer, Seth Godin (1999) said: "[Personalization] is a chance to differentiate at a human scale, to use behavior as the most important clue about what people want and more important, what they need."

Another effective strategy related to behavioral decisions is the traditional envelope budgeting method. The cash envelope system is a straightforward method that involves dividing cash into separate envelopes for various budget categories such as groceries and rent. It can be beneficial for individuals who find that their money tends to disappear on small purchases throughout the month. In addition, there's a psychological reason why using cash makes it easier to adhere to a budget, which is known as the "cashless effect" (Coglode, n.d.).

"This effect states that the more tangible payments are, the more psychologically painful it is for customers to spend money" (Coglode, n.d.). In other words, it is called the "pain of paying". "It's why people on a budget find it easier to track their spending when they use cash instead of credit cards. The more painful it feels to pay, the less money people will spend" (Clinehens, 2020).

It is highly recommended to study and apply the Amazon1-Click Ordering strategy. The cashless trend is evident in various facets of Amazon's operations, with 1-click ordering

as a prime example. Defined by the company as a system that automatically places your order and allows you to bypass the shopping basket, 1-Click ordering is automatically activated upon your first purchase. Any subsequent orders will be charged to your default payment method and delivered to your default address.



Figure 40. 1-Click Amazon's Payment Option (Keating, 2017)

New businesses can enhance the customer experience and increase profitability by removing the difficulties associated with payment, creating a more pleasant and satisfying interaction for customers.

6. Conclusion and Outlook

In this thesis, the main goal was to investigate how the implementation of Behavioral Design can empower new startup founders and managers to effectively foster customer engagement, optimize sales, and improve user experience.

The Second Chapter looked into the theoretical underpinnings of Behavioral Design, situated within the interdisciplinary realm of economics, design, and psychology. Furthermore, the chapter provided a comprehensive overview of startup concepts, definitions, and lifecycles. Lastly, this section highlighted key considerations for implementing Behavioral Design, including ethical implications, responsible usage, and recommended tools for understanding customer behavior.

Chapter Three focused on a thorough analysis of how two businesses successfully employ Behavioral Design. This detailed examination offers valuable insights into their strategies for integrating and leveraging this powerful tool to not only expand their customer base but also enhance customer engagement.

In Chapter Four, a validation method was employed to show that two European businesses, a startup in Berlin and a small business in Madrid, lacked knowledge of Behavioral Design theory. However, both experts stated that despite their unfamiliarity with the theory, they had indirectly applied Behavioral Design in their operations. They emphasized the importance of gathering customer feedback to understand their needs and enhance the user experience. Furthermore, both experts expressed a desire to expand their knowledge and implement this innovative approach in their businesses' internal operations.

Taking into account the literature review and the results gathered, the strategic implementation of behavioral design can be integrated as the precise tool to enhance user engagement, product usability, and overall business success. Startups will gain a deeper understanding of user behavior and influence it to develop more effective product designs and strategies to improve sales and customer engagement.

Outlook

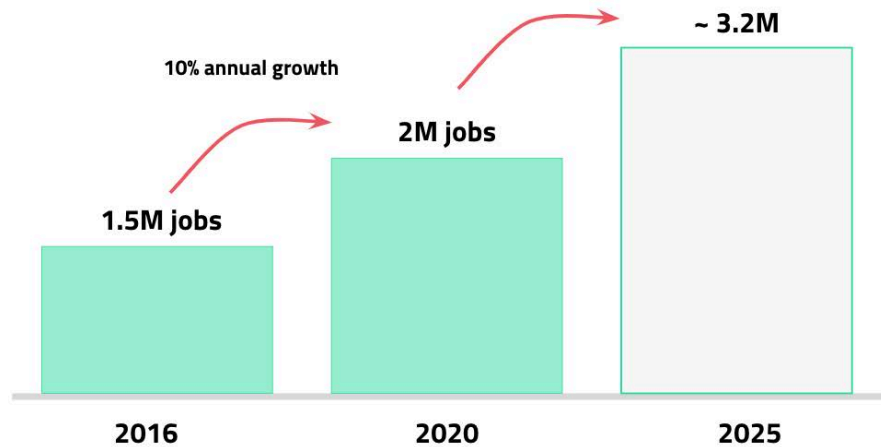


Figure 41. Startups are the Leading Engine of Job Creation in Europe (Sifted, 2020).

With two million people now employed in tech startups across Europe, the European Startups report predicts that as many as 3.2 million will be employed in European tech by 2025. That represents 10% year-on-year growth, with e-commerce, health tech, fintech, and food verticals expected to expand (Sifted, 2020).

Considering the startup jobs forecast for 2025, startups must cultivate more competitive strategies to highlight in a dynamic and crowded market. Additionally, they will need to innovate their approaches to crafting solutions that align with customer needs, thought processes, and decision-making patterns. By examining how other startups have utilized Behavioral Design to grow, several developments in this vital area can be expected in the future:

- a. Integration of AI and Behavioral Design:** "The integration of AI in Behavioral Design allows for the creation of highly personalized user experiences by analyzing and predicting user behavior patterns" (Smith & Anderson, 2020). The future of startups is expected to involve a more profound integration of AI with behavioral design. AI can analyze extensive data sets to identify patterns in user behavior, enabling the implementation of more precise and personalized behavioral interventions. Startups that harness AI to enhance their behavioral design strategies

can craft highly personalized user experiences, thereby optimizing user engagement and sales.

- b. Cross-Disciplinary Collaboration:** "Cross-disciplinary collaboration in behavioral design leads to more innovative and effective solutions by combining diverse expertise" (Ariely, 2019). In the future, is expected to see more collaboration among behavioral scientists, designers, and technologists. Startups will benefit from incorporating diverse perspectives to generate more innovative and impactful solutions. By bringing together insights from psychology, design, and technology, cross-disciplinary teams can develop products that are both user-friendly and behaviorally informed.
- c. Increased Use of Gamification:** "By integrating elements such as points, badges, and leaderboards into non-game contexts, businesses can increase user engagement and loyalty. Gamification taps into the fundamental human desire for achievement and recognition, motivating users to interact more frequently and deeply with products and services" (Werbach & Hunter, 2012). Using proven techniques to boost motivation and engagement in gaming, such as learning a new language, can be adapted to different and non-gaming or learning scenarios, where businesses can incentivize their customers with points, badges, leaderboards, and rewards.
- d. Adaptive and Responsive User Experiences:** "Adaptive and responsive design strategies in Behavioral Design ensure that user experiences remain relevant and engaging by dynamically adjusting to user needs" (Norman, 1988). Startups will utilize real-time data to adapt interfaces and features as necessary, to maintain user satisfaction and loyalty by keeping the user experience relevant and engaging.

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8. Appendices

8.1. Information Sheet

University	University of Europe for Applied Sciences, Innovation Hub, Potsdam, Germany.	
Programme	Master of Arts in Innovation Design Management	
Topic	Implementation of Behavioral Design in Startups	
Student	Javier Quintanilla Alfaro	
E-mail	javier.quintanillaalfaro@ue-germany.de	
<p>This information sheet provides details of my project. Please, feel free to review it.</p> <p>I am finishing my Master’s degree programme and I have decided to investigate about Behavioral Design and its use in startups. Therefore, I will investigate, analyze, and comprehend the practical application of Behavioral Design principles within both, existing and emerging startups. This study is intended to serve as a comprehensive guide for actual and future startups seeking to explore this approach to enhance customer engagement, boost sales performance, and deliver exceptional user experiences.</p> <p>The goal of this project is to explore the foundations of Behavioral Design and its use in startups. The specific objectives are:</p> <ol style="list-style-type: none">1. Determine the strategies and techniques employed by startups related to Behavioral Design.2. Provide recommendations for startups seeking for the implementation of Behavioral Design concepts within their organizations. <p>I want to thank you for your time and contribution to my research.</p>		

8.2. Interview Questionnaire – Wundertax

University	University of Europe for Applied Sciences, Innovation Hub, Potsdam, Germany.	
Programme	Master of Arts in Innovation Design Management	
Topic	Implementation of Behavioral Design in Startups	
Student	Javier Quintanilla Alfaro	
E-mail	javier.quintanillaalfaro@ue-germany.de	
<p>Thank you for taking the time to meet with me. I aim to have a fluid conversation about my research topic during this interview. Your feedback is invaluable and will greatly contribute to my project.</p> <p>I designed this questionnaire to gather information about Behavioral Design and its application in startups. Here are some relevant definitions and questions that will guide our conversation. There are no right or wrong answers, and your opinion is important to this project. Your participation is voluntary, and we may withdraw at any time.</p> <p>Definitions:</p> <ul style="list-style-type: none">• Behavioral Design: Behavioral Design involves applying principles from behavioral economics and psychology to design products, services, and experiences that influence human behavior in desired ways. As described by Nir Eyal, author of "Hooked: How to Build Habit-Forming Products," it's about creating products that "change user behavior and create new habits."• Startups: These are newly emerged, often small businesses focusing on innovative products or services, typically in a fast-paced and dynamic		

environment. Eric Ries, in "The Lean Startup," defines a startup as "a human institution designed to deliver a new product or service under conditions of extreme uncertainty."

Introduction and Background

1. Please provide an overview of your startup and its core products/services.
(Description of the startup's industry, mission, vision, products/services offered, target market, and stage of development.)

Behavioral Design

2. Are you familiar with the concept of Behavioral Design and its application in product/service development? *(Behavioral Design principles and their relevance in user behavior.)*

User

3. How do you collect and analyze data to identify behavioral patterns among your users? *(Insights into the methods used to gather data on user behavior, such as analytics tools, user feedback, or market research.)*
4. What challenges have you experienced in engaging customers/users with your products/services? *(Identification of barriers to user engagement, such as low retention rates, high bounce rates, or difficulty in converting leads to customers.)*

Potential Benefits of Behavioral Design

5. In your opinion, how do you think integrating Behavioral Design principles could enhance user engagement, sales optimization, and overall user experience within your startup? *(Speculation or awareness of the potential benefits of applying behavioral).*

6. Do you use any tools or methodologies to facilitate the application of Behavioral Design principles?

Organizational Culture and Adoption

7. How would you describe the organizational culture within your startup concerning experimentation and innovation, particularly in adopting new methodologies like Behavioral Design? *(Insight into the openness to innovation and experimentation within the startup, and any existing cultural barriers that affect the adoption of BDP).*
8. Are there any areas where you see opportunities for Behavioral Design within your company? *(Speculation or awareness of the potential benefits of applying Behavioral Design techniques, such as increasing user retention, improving conversion rates, or enhancing product usability.)*
9. Looking ahead, how do you envision leveraging Behavioral Design for your startup in the future? *(Speculation or vision regarding the long-term implications of embracing Behavioral Design, including its role in driving customer loyalty, revenue growth, and competitive advantage.)*

A handwritten signature in black ink, appearing to read 'Daniel Hanemann', with a long horizontal stroke extending to the right.

Daniel Hanemann, CEO and Founder of Wundertax. April 29th, 2024.

8.2.1. Transcript of the Interview – Wundertax

Javier Quintanilla Alfaro: Hi Daniel, good afternoon. Thanks again for your time and your participation in this interview. How are you?

Daniel Hanemann: Hi Javier, I'm doing great, thanks for asking. How about you?

Javier Quintanilla Alfaro: All good, focused on my thesis research.

Daniel Hanemann: It is a pleasure to help you. I hope you are doing great with your thesis, and I wish you good luck beforehand.

Javier Quintanilla Alfaro: Thank you so much. Before getting started, I will share my screen, so we can both be able to follow the questionnaire for this interview.

Daniel Hanemann: I'm just going to serve something to drink.

Javier Quintanilla Alfaro: Sure. Can you see my screen?

Daniel Hanemann: Yes, I can.

Javier Quintanilla Alfaro: Great. I want to make this interview a fluid and normal conversation, there are no right or wrong answers. Your expertise and your firsthand knowledge will be useful to gather invaluable information for my research project. Could you tell me more details about Wundertax and your position?

Daniel Hanemann: Of course. I'm the CEO and founder of Wundertax here in Berlin, Germany. Our headquarters are located in Berliner Str. 80-82, Berlin. Wundertax is a software application that enables you to create your tax return. Afterward, you can easily submit it to the tax office electronically.

Javier Quintanilla Alfaro: Ok, perfect. Thank you for sharing that. Let's start. Could you provide an overview of your startup and its core products/services, industry, mission, vision, target market, and stage of development?

Daniel Hanemann: Yeah, sure. We are a company that provides specialized software for people in Germany to facilitate the process of tax returns. First, we started offering

our product to students, in a way that they can use our software as a tool to hand in their tax returns online. Then, you know, we expanded into different target groups and have a general tool under the name of Wundertax. So how it works concretely is you enter your data into our interface and behind the scenes there are lots of calculations being done and also you have a lot of stuff automatically filled in. As a tool, we provide tips on how to enter your data, what to enter, and how to, to get the most out of your tax refund. Our mission is to enable taxes for everybody because it is very prohibitive since Germany has one of the most complicated tax systems in the world, and getting a tax advisor is extremely expensive. It starts anywhere from €150.00 and goes up into the thousands. And essentially, all the tax advisors are full as well. So we want to offer our tool for only €35. You can also deduct that from your taxes and the following year. We are trying to offer an affordable and accessible way that everyone can do their taxes including people of blue-collar backgrounds, expats, non-digital natives, etcetera.

Javier Quintanilla Alfaro: Okay, great information. As far as I understood, you saw this opportunity in the market, where of course, the tax system is very complex here in Germany and you offered and focused on students at first to help them with the tax return, right?

Daniel Hanemann: Exactly.

Javier Quintanilla Alfaro: Moving on, I want to ask you if you know about the concept of Behavioral Design. If you know about this, have you ever applied this concept, a technique, or a principle inside Wundertax daily basis operations or processes?

Daniel Hanemann: No, not not directly. What we do try to do, (I mean not formally), is that we have a lot of Behavioral Design concepts applied, but nobody ever sat down and said “Okay these are the principles of Behavioral Design. We are going to implement or follow them”. What we do is to observe how people use our tool and how they behave within the tool, because at the end of the day, as experts looking at the tool daily, we get blind about what the customer needs. We get blind about what they want and what they do not understand about the process. Human behavior plays a

large role in how we have designed and how we are going to keep improving our software.

For example, we want people to get through to the last step, right, at the end, you submit your tax return, well, you pay and then you submit your tax return. So signing up and entering your data to see how much you get back is for free. This is a huge change to how it was done in the past because a lot of people and in a lot of tax software, you have to buy the program first, and then you can do the tax return. But the thing is, we are talking about financial products here and 80% of people don't know what to do with tax returns.

So essentially, people want to know if they will get more than €35, before paying and receiving less money in comparison to what they invested in tax software. If they only get back €40 and have to pay €35, why should they? It does not make sense. If they only get back €30 and they have to pay €35.00, why should they do it right? So we have flipped that on the way to include human behavior here and understand why our customers “behave” in some ways during the refund tax process and while they are filling all the data in our software.

Javier Quintanilla Alfaro: It seems that the concept has been indirectly applied in Wundertax. That is something positive, it is a good start. In my opinion, the fact that you are dealing with taxes, people tend to worry and stress because it is not an easy topic, particularly here in Germany. On the other hand, there are a lot of emotional feelings related to doing something wrong or giving the wrong information while they are filing their tax return. Sincerely, I see a huge opportunity to establish and apply consciously what Behavioral Design refers to.

Daniel Hanemann: This is a very interesting point that you raised because when we were at the very beginning of our journey, we had a lot of discussions about how we increase the tax refund or what other tooltips should we build. We were under the assumption people wanted to maximize their refund but then when we started talking to people it was not like this. They didn't really care. They knew that they could get

something back from the tax office, so they and a lot of people, especially ex-pats, think they have to do it because in a lot of other countries, you are obligated to do a tax return every year, but in Germany, a lot of the times it is voluntarily. When we started interviewing people, a lot of them were like “Yeah, it is not about the tax refund (because they knew that they were going to get something back) it's about the trust because a lot of the time people are like “ohh if I type in something wrong or too much, I'm going to get into prison because of tax fraud”. That is literally what they say.

Javier Quintanilla Alfaro: I think that is why people decide to use Wundertax, I don't know if it has happened already, but if I don't know how to declare taxes, I can learn from someone who already did it using Wundertax, creating this “trust-chain” between people, being as a social proof that Wundertax is facilitating the resources and tools to people who need to do these complex processes, right?

Daniel Hanemann: Exactly, influencing the behavior and the way they think of our customers, helping them to trust Wundertax when they need to do tax returns.

Javier Quintanilla Alfaro: Okay, great. The following question is, how do you collect and analyze the data of the behaviors, preferences, or areas that you need to improve to provide a better user experience to your customers?

Daniel Hanemann: On the one hand it is the qualitative data that we have from customer interviews and on the other hand we have a record that shows the feedback loop when users come to customer service. We have two types of customer service, one is just the normal support app and then the second one is the NPS score. Do you know what NPS is?

Javier Quintanilla Alfaro: No, not really. Could you explain that, please?

Daniel Hanemann: The Net Promoter Score is a tool where you get asked what are the chances that you would recommend our tool to somebody else. On a scale from one to ten, eight, nine, and ten, you are a promoter, five, six, and seven, you are neutral, and then for everything under five, you are a detractor.

We measure and look at that number a lot because we also look at the feedback that they gave us there and we try to quantify it. The qualitative data that we recollect from the research, we write down and record all the customer says from a quantitative sense, we have different things such as customer support where we track what are the top issues that people have and the NPS score. What we also do is we have a product tool, called “Amplitude”. We use it to research our customer behavior within the tool. Like what? What do people click, whether the conversion rates, etc. “Amplitude” only gives us insights on numbers but it doesn't show why somebody clicks something specific and not another button in the App, for example.

Javier Quintanilla Alfaro: With this data that you usually collect and analyze, have you implemented a challenge or an improvement?

Daniel Hanemann: We do all the time. Let me think about an example. One of the biggest things that we are doing right now is that we are developing a new feature that enables the user to take the data of the annual tax salary slip. In our tool right now, you can only type all the numbers, one by one, but especially for mobile users, they're not going to like typing every single number with the thumb, which is very annoying. What we are doing now is using OCR (Optical Character Recognition), using the phone to take a photo of it, and then getting automatically all the characters inserted. This is the actual step that we have identified where most of the people drop out of the process.

Javier Quintanilla Alfaro: Now that we have covered the Behavioral Design concept. What would you think about integrating this topic directly into the daily basis of Wundertax? How do you think this will help in other departments?

Daniel Hanemann: We are a software tool, and for sure the implementation of Behavioral Design inside Wundertax will influence our user behavior. There are three things that all lead to each other, the first is getting people to visit our website or even just maybe a step earlier, just hearing about us, you know in marketing about AIDA? Attention, Interest, Desire, and Action.

The first step that we have is to get people to hear about us through thousands of ways. And then, convince them to sign up and go through our product and pay for it. The second one is the after-sales service. When people hand in their tax returns they usually need to wait up to six weeks. Sometimes it can take up to four months for a reply by the tax office, and they're unhappy. It's super important for us that if they're unhappy that the calculation is wrong, they will tell all their friends to use something else. Most of the time, why people get a different result than what we have calculated is because they add wrong costs and costs that you're not allowed to deduct. And the third thing is retention like how can we have the people stay in our tool.

Javier Quintanilla Alfaro: Yes, I think those 3 points are very important. Thanks for your great explanation. Following next, how would you describe the organizational culture within your startup concerning experimentation and innovation, particularly in adopting new methodologies like Behavioral Design?

Daniel Hanemann: Let's say we have a new feature that we want to implement thanks to the feedback of customer support. Normally what we do, we try to classify it. Is it a bug and it gets fixed immediately? Or if it's a very niche bug, we might record it and know in the future how to answer that. But if it's like a suggestion on how to improve a certain step in our tool, then we normally will also like A/B test it. There are no right or wrong answers, we just tried to A/B test it, to see if it's wrong or if it leads to more customers going through the conversion step, the conversion to buy or to submit.

In general, the Behavioral Design is great for understanding why and how people submit tax returns. We could look at our tool and just see the numbers on how to get people through the funnel. But of course, you can also cheat. There you can say like, hey, at the end you can take the calculator. Whatever they can expect to get back from the tax office and do times 2 right. (In this case, of course, more people will like to go through it). But, that's just manipulating the user to go through the conversion step, but it won't make them happy in the long run.

Javier Quintanilla Alfaro: Based on this, I want to ask you an extra question. What do you think about integrating a Behavioral Design manager or creating a department of behavioral management in Wundertax? Maybe this question goes too much further right now, but I would like to hear your opinion.

Daniel Hanemann: We do have a UX designer. Remember that we are a small company, around 20 people. We encourage the team to stay on top of new trends and I do think Behavioral Design is one of them at least for user user research. So we do encourage him (the designer) and I'm pretty sure if I ask him, he will also say "I read some articles about it", "I already moved into it", so I think it's part of the puzzle. To improve our startup, I think it is necessary to apply Behavioral Design to the skill stack base of our company and share the concept, the theory, and the applications, with all the employees, since it is an important matter to consider, no matter what department within the company you are from.

Javier Quintanilla Alfaro: Actually, this is an important point of view. Thanks for sharing it. To continue, let's jump to the next question. Are there any areas where you see opportunities for Behavioral Design within your company?

Daniel Hanemann: As I said before, I think our UX designer already knows this concept and its application. The thing is, as I mentioned, we are a small company and we have a lot of points that we need to do and to improve. Speaking for a mid-or-long term for the next 24 months, our business is working on a new product plan. We want to release new features so our workload is pretty full. We don't like that we have a lot of stuff that we still need to build. The implementation could help us more or act as a supplement tool or methodology and speed up important decisions for the next 24 months.

Javier Quintanilla Alfaro: Perfect. Well, we are almost done with the interview. This is the last question. Looking ahead, how do you envision leveraging Behavioral Design for your startup in the future? Do you see an opportunity to leverage this concept from a managerial perspective?

Daniel Hanemann: Yeah, that is a good question and a new way to think about it. A lot of design principles are crucial and relevant for a manager. This is a new perspective that you're sharing with me. I think that is a good question and something I will think about. If Behavioral Design can supplement and improve my management type, make me more emphatic with the user and employees, help me to accelerate the decision-making process, or simply, change the way I think or do things, I will use it as a source of making better decisions and implement it inside of Wundertax.

Javier Quintanilla Alfaro: I completely agree. That is why I want to go deep into understanding how analyzing the user and personas behavior, can help inside of startups. I want to tell you that we have covered all the questions and I would like to thank you once again for taking the time and your desire to participate in this interview. Have a great afternoon, goodbye.

Daniel Hanemann: All the best in your thesis. Goodbye.

8.2.2. Screenshot of the Interview with Daniel Hanemann

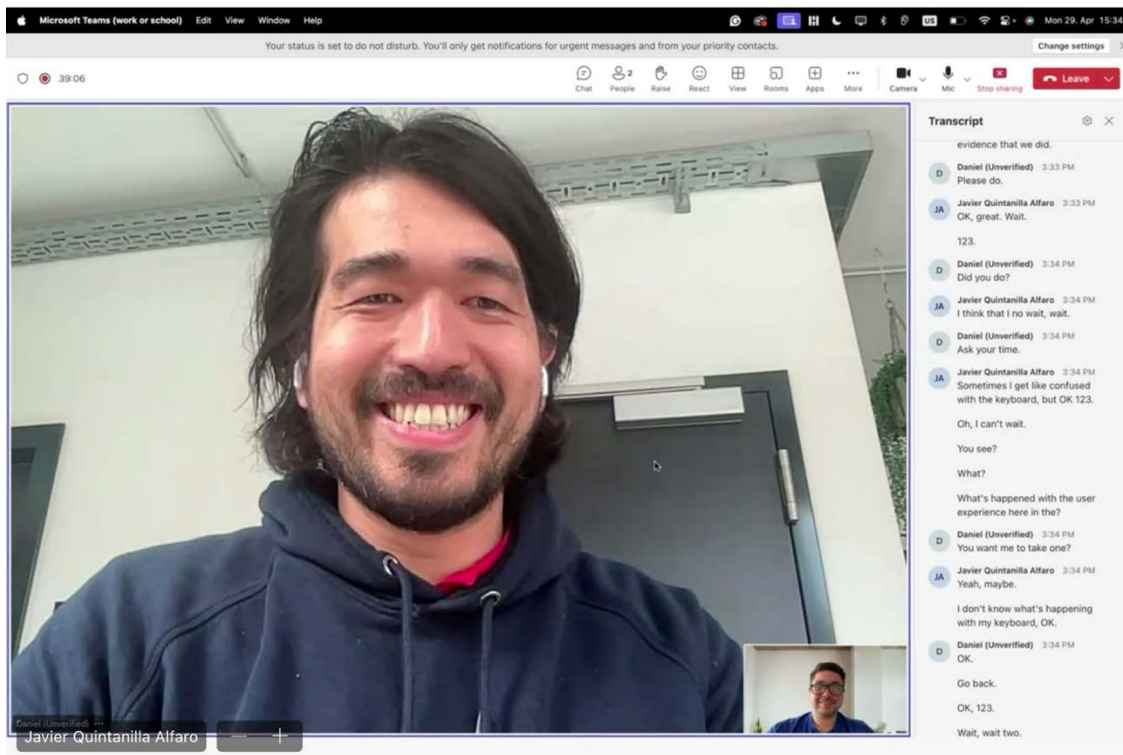



Figure 42. Screenshot of the Interview with Daniel Hanemann.

8.3. Interview Questionnaire – Gastrorientación

University	University of Europe for Applied Sciences, Innovation Hub, Potsdam, Germany.	
Programme	Master of Arts in Innovation Design Management	
Topic	Implementation of Behavioral Design in Startups	
Student	Javier Quintanilla Alfaro	
E-mail	javier.quintanillaalfaro@ue-germany.de	
<p>Thank you for taking the time to meet with me. I aim to have a fluid conversation about my research topic during this interview. Your feedback is invaluable and will greatly contribute to my project.</p> <p>I designed this questionnaire to gather information about Behavioral Design and its application in startups. Here are some relevant definitions and questions that will guide our conversation. There are no right or wrong answers, and your opinion is important to this project. Your participation is voluntary, and we may withdraw at any time.</p> <p>Definitions:</p> <ul style="list-style-type: none">• Behavioral Design: Behavioral Design involves applying principles from behavioral economics and psychology to design products, services, and experiences that influence human behavior in desired ways. As described by Nir Eyal, author of "Hooked: How to Build Habit-Forming Products," it's about creating products that "change user behavior and create new habits."• Startups: These are newly emerged, often small businesses focusing on innovative products or services, typically in a fast-paced and dynamic		

environment. Eric Ries, in "The Lean Startup," defines a startup as "a human institution designed to deliver a new product or service under conditions of extreme uncertainty."

Introduction and Background

1. Please provide an overview of your startup and its core products/services.
(Description of the startup's industry, mission, vision, products/services offered, target market, and stage of development.)

Behavioral Design

2. Are you familiar with the concept of Behavioral Design and its application in product/service development? *(Behavioral Design principles and their relevance in user behavior.)*

User

3. How do you collect and analyze data to identify behavioral patterns among your users? *(Insights into the methods used to gather data on user behavior, such as analytics tools, user feedback, or market research.)*
4. What challenges have you experienced in engaging customers/users with your products/services? *(Identification of barriers to user engagement, such as low retention rates, high bounce rates, or difficulty in converting leads to customers.)*

Potential Benefits of Behavioral Design

5. In your opinion, how do you think integrating Behavioral Design principles could enhance user engagement, sales optimization, and overall user experience within your startup? *(Speculation or awareness of the potential benefits of applying behavioral).*

6. Do you use any tools or methodologies to facilitate the application of Behavioral Design principles?

Organizational Culture and Adoption

7. How would you describe the organizational culture within your startup concerning experimentation and innovation, particularly in adopting new methodologies like Behavioral Design? *(Insight into the openness to innovation and experimentation within the startup, and any existing cultural barriers that affect the adoption of BDP).*
8. Are there any areas where you see opportunities for Behavioral Design within your company? *(Speculation or awareness of the potential benefits of applying Behavioral Design techniques, such as increasing user retention, improving conversion rates, or enhancing product usability.)*
9. Looking ahead, how do you envision leveraging Behavioral Design for your startup in the future? *(Speculation or vision regarding the long-term implications of embracing Behavioral Design, including its role in driving customer loyalty, revenue growth, and competitive advantage.)*

X

Andrés García Ramos
CEO Gastrorientación

Andrés García Ramos. Founder of Gastrorientación. *June 20th, 2024.*

8.3.1. Transcript of the Interview – Gastrorientación

Javier Quintanilla Alfaro: Hi Andrés, good afternoon. Thanks for your time and your participation in this interview. How are you?

Andrés García Ramos: Hi Javier, I'm good. How about you?

Javier Quintanilla Alfaro: All good, thanks for asking. Before getting started, I will share my screen, so we can both be able to follow the questionnaire for this interview. Can you see my screen?

Andrés García Ramos: Yes, I can.

Javier Quintanilla Alfaro: Great. I want to make this interview a fluid and normal conversation, there are no right or wrong answers. Your expertise and your firsthand knowledge will be useful to gather invaluable information for my research project. Could you tell me more details about Gastrorientación?

Andrés García Ramos: Gastrorientación is an innovative event combining sports with gastronomy founded in 2022. We are a team of two individuals: one person specializes in gastronomy and operates a shop featuring local products from Madrid, focusing on proximity goods. The other person, myself, has previous experience in organizing sports events. Participants engage in an orienteering challenge to locate tasting points for local products. This urban course is navigated using a silent map. Each attendee must complete a "Trivial" style questionnaire via an app, correlating to the gastronomic challenges at the designated points on the map. Final rankings are determined based on the time taken and the accuracy of the responses. The App used for the questionnaire is Kahoot.

The event is conducted with the support of the local administration, which provides resources regarding security, publicity, and materials for the course. The challenges are individual, and participants start in staggered groups to facilitate management. Gastrorientación is inclusive, allowing participation from children, adults, and even

individuals with mobility impairments. The event promotes engagement with sports, local gastronomy, and the exploration of tourist attractions within municipalities.

The project was initially conceived to bridge the gap between sports and local gastronomy for the general public. The primary target for the pilot phase was the town of Navalcarnero, a municipality in Madrid renowned for its culinary traditions and enthusiastic reception of sporting activities. The principal clientele for this initiative is local administrations, given that the event offers a unique combination of popular themes. The local government can incorporate this event into their leisure programs, thereby enhancing their portfolio of activities for citizens without incurring additional workload.

We posit that any municipality would be interested in this project as it also serves as a means to promote local tourism. Participants unfamiliar with the town will discover new areas, potentially leading to repeat visits and a positive impression of their experience. Beyond municipal administrations, we are considering other potential clients who need to offer leisure, sports, and gastronomic experiences to their audiences. This includes shopping centers, companies for team-building activities, and other event management firms with high attendance rates.

Javier Quintanilla Alfaro: Interesting business idea. Moving on, I want to ask you if you know about the concept of Behavioral Design. If you know about this, have you ever applied this concept, a technique, or a principle inside Gastronomía daily basis operations or processes?

Andrés García Ramos: We didn't necessarily recognize the formal terms. Nevertheless, many of the actions mentioned are things we have actively incorporated.

For example, we have always prioritized the opinions of both potential and actual clients. After each event, we gather feedback to refine and enhance our offering. Our focus is indeed solely on this unique event, as it represents an innovative concept not

available elsewhere in the market. Over the years, we have dedicated ourselves to perfecting this idea and improving every aspect that could benefit from enhancement.

Javier Quintanilla Alfaro: It is perfectly acceptable not to be familiar with this topic. In fact, this meeting aims to address and clarify these knowledge gaps. Moving to the next question, how do you collect and analyze data to identify behavioral patterns among your users?

Andrés García Ramos: After our inaugural event, we distributed a questionnaire to participants, asking them to evaluate various aspects of the experience. They provided insights on what they liked, what they found less appealing, and which elements they deemed original but in need of improvement. This feedback has been invaluable for our continuous improvement.

Given that many of our early participants were acquaintances, family members, or friends, we leveraged these relationships to obtain detailed opinions. We also recognized that the event's theme itself is inherently motivating, combining engaging elements like food and drink with a healthful, low-intensity physical activity. This broadens the appeal to a wide audience, including those with mobility impairments, while also allowing more competitive participants to push themselves harder, even running if they choose.

Furthermore, we incentivize competitive spirit by awarding medals and prizes to the first arrivals at the finish line, thus catering to both casual participants and those seeking a more intense experience.

Javier Quintanilla Alfaro: It appears that you have already incorporated a crucial element of behavioral design: gathering and utilizing feedback for understanding your customer segment. On the other hand, what challenges have you experienced in engaging customers/users with your products/services?

Andrés García Ramos: On the day of the event, both my partner and I were actively present, organizing and facilitating the activities. Along with some family members who

accompanied us, we were able to immediately identify and address any issues or difficulties participants encountered. Our real-time support ensured a quick resolution of problems, and we also took note of these challenges to prevent them in future editions.

In our initial event, we encountered a significant barrier: many participants struggled with the digital aspects, such as registration, logging in, and switching between the map and the questionnaire. Our initial approach was to have everything digital, with minimal physical maps, as we believed it would be more convenient to have everything at hand and facilitate automatic response quantification. However, participants expressed a preference for physical maps and less reliance on mobile devices. Given the wide variety of questionnaire applications and the apparent discomfort many had with the digital format, we decided against developing a dedicated app. Instead, in the second edition, we incorporated physical materials based on participant feedback, which was more favorably received.

Javier Quintanilla Alfaro: How would you describe the organizational culture within your startup concerning experimentation and innovation, particularly in adopting new methodologies like Behavioral Design?

Andrés García Ramos: We are two individuals who have created this project, bringing a high level of innovation and creativity. Coming from completely different fields, our collaboration has resulted in a unique, original, and highly innovative idea. In other words, we are open-minded to include every methodology that helps us improve and get to know better our customer, designing better solutions depending on their behavior in past events.

Javier Quintanilla Alfaro: Looking ahead, how do you envision leveraging Behavioral Design for your startup in the future?

Andrés García Ramos: Behavioral Design is a relatively recent methodology for me, as you mentioned, it is rooted in three interdisciplinary areas: design, economics, and

psychology. It would be highly beneficial to go deeper into this methodology to understand and develop its concepts and principles. By doing so, we can better approach our customers, offering new types of gastronomic events tailored to their behaviors and trends. This approach will help us shape these experiences to attract new target audiences and convert them into our customers. I see enormous potential in this.

To tell you more about us, over the past year, we have focused on refining our concept and expanding its reach to attract a broader audience, including those associated with major brands. Initially, our gastronomic partners were lesser-known local suppliers, which allowed them to promote themselves and reach more people. However, this did not significantly drive engagement from the public, as they were simply part of the event without strong brand recognition.

To enhance public interest in the future, we are now considering partnerships with well-known brands eager to advertise new products. These recognizable brands can attract their existing audience to our event. Additionally, we are exploring the possibility of positioning ourselves within established gastronomic fairs. This would provide the fair with an engaging extra activity, add a playful aspect to the event, and allow attendees to enjoy the same thematic experience in a lively and entertaining environment.

Javier Quintanilla Alfaro: Interesting. Thanks for sharing. We have covered all the questions and the objectives of this interview. I would like to thank you once again for participating in this interview and for sharing your professional experiences.

Andrés García Ramos: Sure, Javier. Have a great day and I wish you all the best.

Javier Quintanilla Alfaro: Thanks Andrés, Good bye.

8.3.2. Screenshot of the Interview with Andrés García Ramos



Figure 43. Screenshot of the Interview with Andrés García Ramos.