MindMatch

Combining AI & strategic foresight to future-proof online brand positioning

Graduation Project,
MSc Strategic Product Design,
Juliane Hageselle Trier,
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Master Thesis

Strategic Product Design
Faculty of Industrial Design Engineering
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PREFACE

Dear Reader

This thesis serves as the final outcome of my graduation project in the master degree Strategic Product Design at Delft University of Technology. Through the last five months, this project has gone from abstract ideas to a concrete solution - continuously challenging the theoretical and methodological knowledge I have gathered through the five years of design education.

The motivation for this project was a combination of a personal passion for combining technical, design and business fields and the discovery of potential needs at Deloitte Digital. As we are experiencing in this strange beginning of the year 2020, the world around us is increasingly uncertain and unpredictable. Even organizations we thought would be around forever are struggling as long-term survival is no longer a given for anyone. Creating a brand that connects deeply with people is essential to overcome these unpredictable challenges.

To do a graduation project in these alien times would not have been possible without strong support from a number of people. First, I would like to thank my supervisory team. Thank you, Giulia, for your rational and supportive feedback which allowed me to stay grounded throughout the project. Thank you, Zoltán, for your genuine enthusiasm and always asking good questions which motivated me to be sharp in every decision I made.

A special thanks to you, Matthé, for being more present and engaged than I could have asked for. I have truly enjoyed our weekly catchups and been inspired by your feedback, our discussions and your extensive knowledge within branding and strategizing.

I also want to thank the eight experts who formed the base for this project, thank you for your time.

Additionally, I wish to thank all of the Deloitte colleagues who participated in the feedback session and validation interviews. Also, a special thanks to DSM, who took the time to explore and discuss the solution.

Even though most of this project was done in a time with ‘intelligent lockdown’ and social distancing, I never felt alone thanks to some great fellow designers and friends. Thank you, Gal, for all the support and pep-talks through our video calls. Thank you, Kate, for always taking the time to look at my work and give your honest advice. Thank you, Zuber, for making the long days in front of the screen more fun.

I want to thank Gabriele, who has been by my side patiently listening to me both during ups and downs and given technical explanations whenever needed.

And finally, I want to thank my parents and sister for their endless support during the adventure of leaving Denmark to pursue new challenges.

Thank you all for listening, participating, supporting and supervising.

I hope you enjoy reading.

Juliane Trier

10th of July, 2020

EXECUTIVE SUMMARY

The world that organizations today are forced to navigate is volatile, uncertain, complex and ambiguous - a VUCA world. Their long-term survival is continuously endangered. A strong brand positioning is important to secure survival and deeply connect with customers. However, changes in consumer needs and expectations call for new ways to stay relevant and stay ahead of these changes. At the same time, it is important to look ahead and make informed predictions regarding the direction society and customers are moving. Thus, future studies - more specifically strategic foresight - has gained growing attention within both academia and industry. With the amount of data collected today, novel ways of analysing and predicting customer behaviour and trends are emerging. Artificial intelligence (AI) has recently gotten a new breakthrough due to its ability to gather, monitor and analyse these vast amounts of data. The intersection between the three - branding, strategic foresight and AI - holds great potential to create and maintain a strong brand positioning.

Therefore, this thesis aims to investigate this main question; how can artificial intelligence and strategic foresight be applied to the improvement and/or maintenance a future-proof brand positioning?

This project is done in collaboration with Deloitte Digital who consults a number of well-established brands. Thus, this project is relevant for Deloitte Digital as it can future-proof the brands of their clients.

Through a literature review and eight expert interviews regarding the three areas and the relations between them it is discovered that there is potential in further focusing more specifically on (1) the emotional connection between brand and user, (2) the Generic Foresight Process and (3) natural language processing (NLP). These insights are translated into design requirements and a design vision which then guide the creation of a solution.

The solution proposed is called MindMatch and falls into the category of social listening tools. The digital platform contains three main USPs; (1) an analysis of the match between brand identity and brand image, (2) sentiment analysis and emotion recognition and (3) digital co-creation connected to the analysis insights.

An interactive prototype of both a marketing website and the digital platform was developed and iterated upon based on feedback from Deloitte colleagues. When finalized, the solution was validated through interviews with three Deloitte colleagues and one crown jewel client, DSM.

MindMatch embodies the answer to the main question of this thesis. By applying NLP techniques (including topic modeling, sentiment analysis and emotion recognition) and the Generic Foresight Process (including the six steps of the process, weak signal detection and forecasting) to social media data, the solution assists Deloitte Digital in improving and/or maintaining the emotional connection and co-created meaning between brand and user - resulting in a future-proof brand positioning.

GUIDELINES

DEFINITIONS

Brand position vs positioning

The actual position a brand has within its industry and market. The position a brand wants to have in the mind of their consumers.

User

The person interacting with a brand is in this project referred to as a user rather than customer, consumer or audience. This is chosen to put emphasis on the perspective that a brand is co-created and additionally, that a person often uses a brand to express their desired self.

Strategic foresight

The structured way of imagining multiple futures which are plausible based on our current knowledge is referred to as strategic foresight, but has other names such as futures studies and corporate foresight.

Artificial intelligence (AI)

Artificial intelligence refers to a system's ability to correctly interpret external data, to learn from such data, and to use those learnings to achieve specific goals and tasks through flexible adaptation. Though it consists of different sub-areas, namely machine learning and deep learning, we will use artificial intelligence as an umbrella term.

Point of parity

The aspects of a product or service that are necessary in order to compete with other products or services in the same category.

Point of difference

The aspects of a product or service that act as differentiators compared to other products or services in the same category.

REPORT STRUCTURE

1.0 **Introduction**
Introduces the context, stakeholders, aim and scope of the project.

2.0 **Background**
Presents a literature review of branding, strategic foresight and artificial intelligence and their relations.

3.0 **Talking with the experts**
Describes the interview format, introduces the experts and presents the analysis from the design research.

4.0 **Specifying the solution space**
Defines the final project scope and explains the process of translating the research insights into design requirements and a design vision.

5.0 **Making it come to life**
Displays the process of creating a solution framework, the solution, the prototype and the iteration based on a feedback session.

6.0 **Evaluation & Recommendations**
Presents the validation interviews, an overall evaluation of the solution and recommendations for implementation of the solution.

7.0 **Final thoughts**
Concludes the project by answering sub-questions and main question, describe limitations and future work, and wraps up with a personal reflection.

VISUAL CUES

Throughout the report, visuals are made to support the textual content. Some recurring visual cues can be seen and are explained below.

Sub-question icon
Six sub-questions will be presented in section 1.0 which need to be answered to answer the main question. Throughout the text describing the research phase, red icons with the question number will be showing besides insights which are related to that specific question.

Yellow boxes
In the literature research, the yellow boxes will present important definitions, while in the design research, they will present objectives with the sessions and interviews.

Red background
When an area has a red background, it presents you with key insights from the past section.

Highlighted text
Quotes during the design research are highlighted with yellow to increase the communication of the qualitative findings.

TABLE OF CONTENT

SECTION 1.0

INTRODUCTION

This section will briefly introduce the context of which this project takes place. Furthermore, it will present Deloitte Digital and the other stakeholders, the scope, problem definition and finally, the approach taken towards solving the described problem.

SECTION 1.1

INTRODUCTION

Changes in consumer behaviour combined with societal and technological development have led to a call for new perspectives on branding and marketing (Veloutsou & Guzman, 2017). During the last decades, branding has become global, strategic, and interdisciplinary (Veloutsou & Guzman, 2017, p. 2), and traditional methods and perspectives have been rethought. The average life expectancy of a well-established company in the 1980s was 42 years, while today it is down to 20 years (Rohrbeck & Gordon, 2018), indicating the challenge of long-term survival on today's markets. Furthermore, an increase in competitors in most markets throughout the world is causing oversaturation, dilution and fading (Vorst, 2017). Thus, brands are forced to find new ways of standing out from the crowd. Brands have developed from being a mere signal of the products they sell to a symbolic character in itself with values, beliefs and morals, representing groups and opinions (Beverland, 2018; Vorst, 2017). As seen in figure 1, it is no longer only about the attributes of a product, but about the user identifying themself with the brand and feel connected to it.

Due to the fast-changing nature of markets and consumer needs, branding is a forward-looking discipline. However, the integration of processes and methodologies from futures studies - more specifically, foresight - has not been widely explored (Rohrbeck & Gordon, 2018). Additionally, with the big data revolution came the possibility of gathering huge amounts of consumer insights to guide decision-making regarding branding, products and services (West, Clifford & Atkinson, 2018). With big data came the need for appropriate ways of analysing the extensive data, and artificial intelligence (AI) got its newest break-through. This project will thus explore the possibilities of combining AI and strategic foresight to assist the brands in today's challenging markets and secure their long-term survival.

1.1.1 DELOITTE DIGITAL

Deloitte is a multinational professional services network and one of the "Big Four" accounting organizations providing audit, tax, consulting, enterprise risk and financial advisory services. As an organization, Deloitte is in constant growth and always looking to fulfil its purpose - **making an impact that matters**. Deloitte is structured in so-called service lines and industries. Deloitte Digital is a service line within consulting, dedicated to design and consultation in digital transformation, brand strategy and experience design. Their motto is **elevating the human experience**, showcasing their human-centered approach to their offerings. Deloitte Digital has a modern approach to working, taking inspiration from design thinking, agile methods, creative collaboration and workshops.

This project takes place within the branch called Advertising, Marketing & Commerce (AMC), which provides three main offerings to their clients; advertising, marketing and commerce. Furthermore, these offerings are divided into four domains depending on the problem a certain client is facing. The domains are strategy, design, build and activation.

The focus of this project is especially on advertising and marketing within the domains of strategy and activation. Furthermore, Deloitte divides its clients into different categories depending on industry, size and priority. This project will focus on the business-to-customer (B2C) organizations within the most prioritized clients - the so-called crown jewels - as these are big well-established brands with enough online engagement to provide sufficient data. Figure 2 shows an overview of the offerings and domains while indicating where this project focuses.

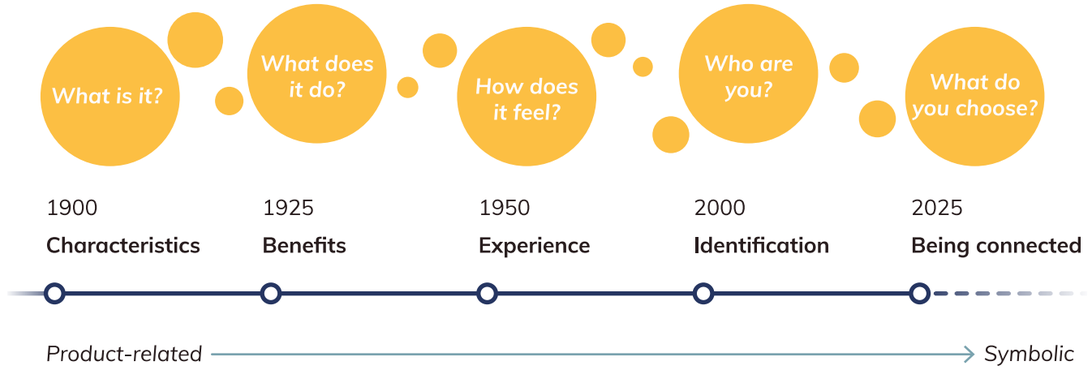


Figure 1: *A timeline of the evolution of a brand. A brand is no longer only an indicator for specific product attributes, but now holds symbolic value.*

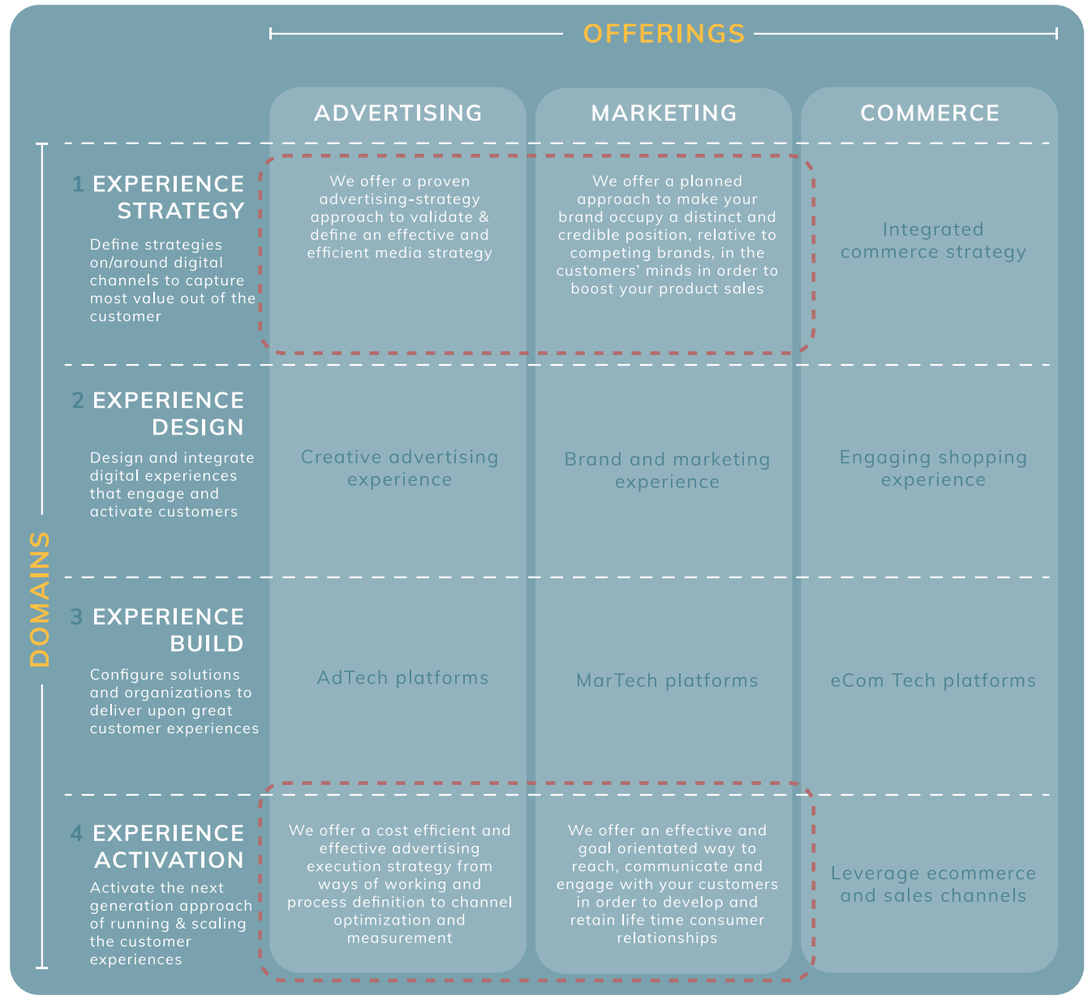


Figure 2: *A simplified version of the AMC department's offerings. The areas for which this project is most relevant are marked with red.*

SECTION 1.2

THE PROJECT

1.2.1 PROJECT CONTEXT

Deloitte Digital is often faced with client projects regarding brand positioning in an increasingly connected world. With a holistic focus on customer experience, they combine qualitative and quantitative research to explore the current state and advise on how to reach the desired state.

Branding is a forward-looking discipline where imagination and creativity is a must to succeed. However, with increasingly complex and dynamic markets, the so-called VUCA-world is making its mark on this discipline - resulting in even well-established brands to struggle.

Within other areas of the corporate world, there has been a new interest in strategic foresight - ta structured way of imagining multiple futures which are plausible based on our current knowledge - to better accept and prepare for the uncertainty of the future. The foundation of foresight lies in the collection of insights from a variety of perspectives, sources and disciplines to form a comprehensive view on what is happening today that might influence us tomorrow.

Due to the big data revolution, we now have more insights than ever before, which left foresight practitioners with another challenge - how to gather and analyse this amount of data. With the recent advancements of artificial intelligence, more and more foresight practitioners have been integrating this in the first steps of identifying and analysing data.

This project aims to explore the opportunities within the combination of these three topic areas - branding, strategic foresight and AI - with the goal of supporting the brand designers at Deloitte Digital when consulting clients on their strategic positioning. 1.2.

1.2.2 INITIAL PROJECT SCOPE

Though branding consists of a variety of aspects, brand positioning - also known as strategic positioning - is a key offering at Deloitte Digital and one that influences most other offerings. Thus, this will be the focus area within branding, especially in terms of the theory regarding the elements of a brand's positioning.

Strategic foresight contains both theoretical perspectives, principles, methods and processes. In this project, the theoretical perspective and processes of strategic foresight will be the focal point, contributing with a structured and future-oriented approach.

Artificial intelligence is a combination of disciplines such as psychology, neuroscience and data science. The appliance of AI in this project is from a practical perspective, and thus, the focus will mainly be on the technological capabilities of AI and how these can be applied within brand positioning. Figure 3 displays the above-defined scope.

1.2.3 PROBLEM DEFINITION

Through conversations with Deloitte Digital, a problem area has been identified. Deloitte Digital's clients have to continuously adapt its brand positioning to the user's needs to gain competitive advantage, customer loyalty and long-term survival.

The users' needs are more and more dependent on the identification and emotional connection they feel with a brand. However, there is a lack of solutions available which assists in analysing, optimizing and predicting this connection.

The combination of the three topic areas creates an opportunity to address this problem by using AI

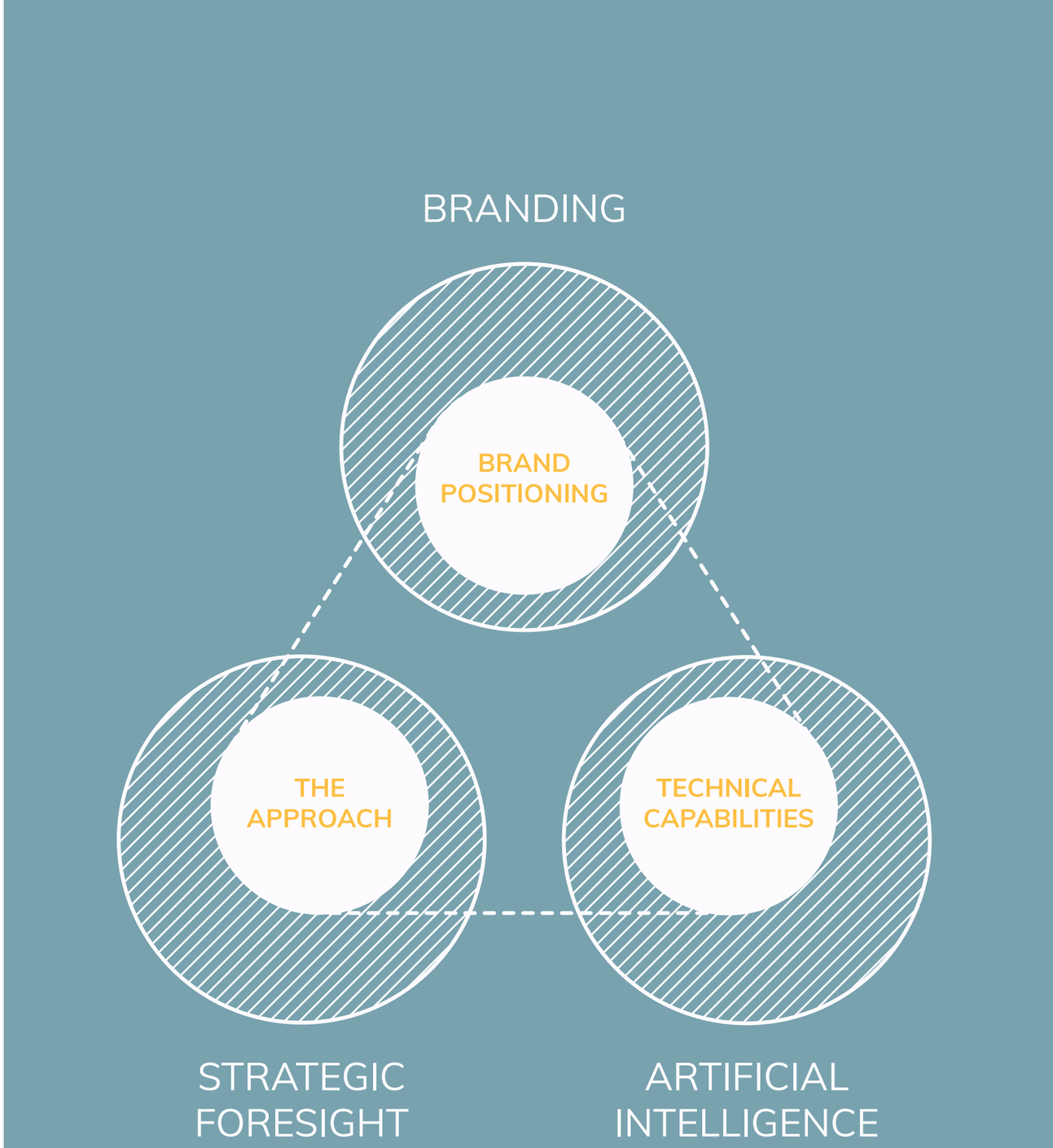


Figure 3: *The three topic areas together with the initial scope within each of the areas.*

to analyse the users' needs while using strategic foresight to create a proactive and structured approach to tackle the emerging changes.

To further specify the problem area, this graduation project will aim to answer the following question:

MAIN QUESTION

How can artificial intelligence and strategic foresight be applied to the improvement and/or maintenance of a future-proof brand positioning?

Let us deconstruct this question. Several sub-questions needs to be answered in order to answer the main question;

Q1 ***what makes a brand positioning future-proof,***

Q2 ***which part(s) of a brand should be continuously adapted,***

Q3 ***which area(s) of AI can support this,***

Q4 ***what process(es) and method(s) from strategic foresight can be beneficial,***

Q5 ***what sort of data is needed, and***

Q6 ***how can it be communicated.***

The icon for each question can be seen throughout the report when insights are directly related to a given question.

1.2.4 PROJECT STAKEHOLDERS

Several stakeholders take part in this project. Figure 4 shows a stakeholder map and the main benefits this project offers each of them. Deloitte Digital is the primary client and collaborator. The project will be executed in close communication with the company mentor, Matthé Stet, to achieve a solution that fits their strategy, needs and ways of working. The project can provide several benefits for Deloitte Digital as it taps into their current offerings. They will be able to co-create the future opportunities with their clients and the solution will be scalable and generalizable enough to be applied to a variety of their crown jewel and priority clients. Additionally, the solution might lead to more collaboration with the clients in the future.

The faculty of Industrial Design Engineering (IDE) at TU Delft will be the second main collaborator in the project, of which supervision and guidance will be received from chair Giulia Calabretta and mentor Zoltán Rusák. As the project lies in the intersection between three growing research areas, the faculty benefits from the innovative angle of the graduation project. Furthermore, it can be seen as a foundational contribution to other students or researchers wanting to investigate the combination of these topics. By combining a more technical field with futures studies and branding, the project also displays the value of strategic design - connecting and combining different disciplines to solve complex problems.

With these three collaborators in the supervisory team; Matthé Stet, Giulia Calabretta and Zoltán Rusák, they bring with them three perspectives; branding, strategic design and computer-aided design are represented. This will benefit the project as the team holds knowledge within all three topic areas.

A secondary stakeholder within this project is the client of Deloitte Digital, who will be influenced by the outcome of the project. Thus, the project will take into account the importance of the solution being valuable for the client. The client will benefit from the project by gaining more insights into their connection with users and how to ensure their future survival.

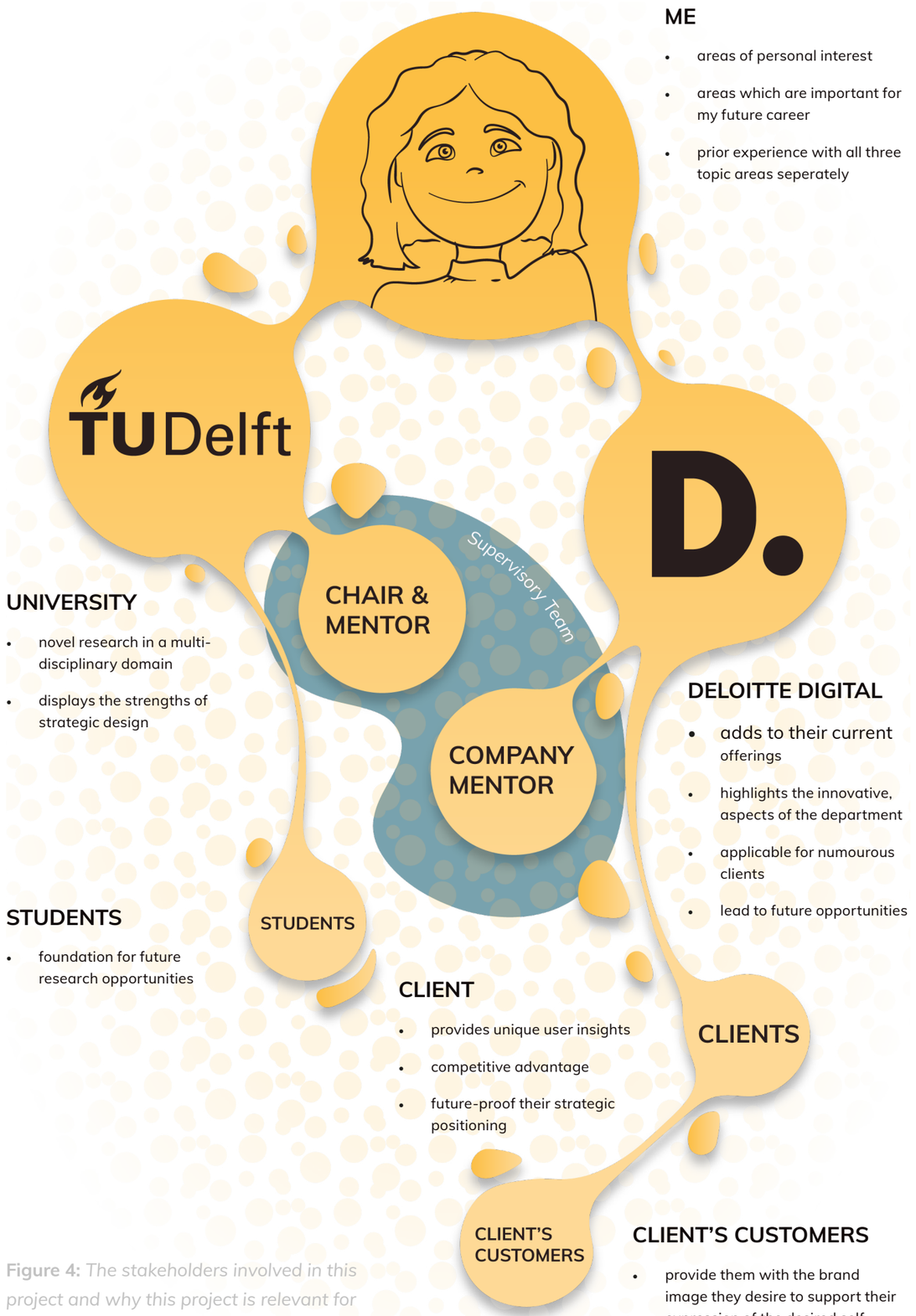


Figure 4: *The stakeholders involved in this project and why this project is relevant for each of them.*

SECTION 1.3

PROJECT APPROACH

This project consists of two main phases - the first is an exploratory phase of researching and scoping, the second is a solution-oriented phase of ideating and validating. Figure 5 displays a detailed project plan inspired by the classical double diamond process and design principles from the Design Council (2019).

During the first phase, extensive desk research (section 2.0) and interviews with eight experts (section 3.0) will form the foundation for the definition of the solution space (section 4.0). In the second phase, directions for the solution will be ideated upon and a solution will be developed as a prototype and further iterated upon based on a feedback session with Deloitte Digital and a competitor analysis (section 5.0). Next, the solution will be evaluated through validation interviews and recommendations for Deloitte Digital will be made (section 6.0). At last, a conclusion will be made followed by a discussion of limitations and future research before ending with a personal reflection (section 7.0).

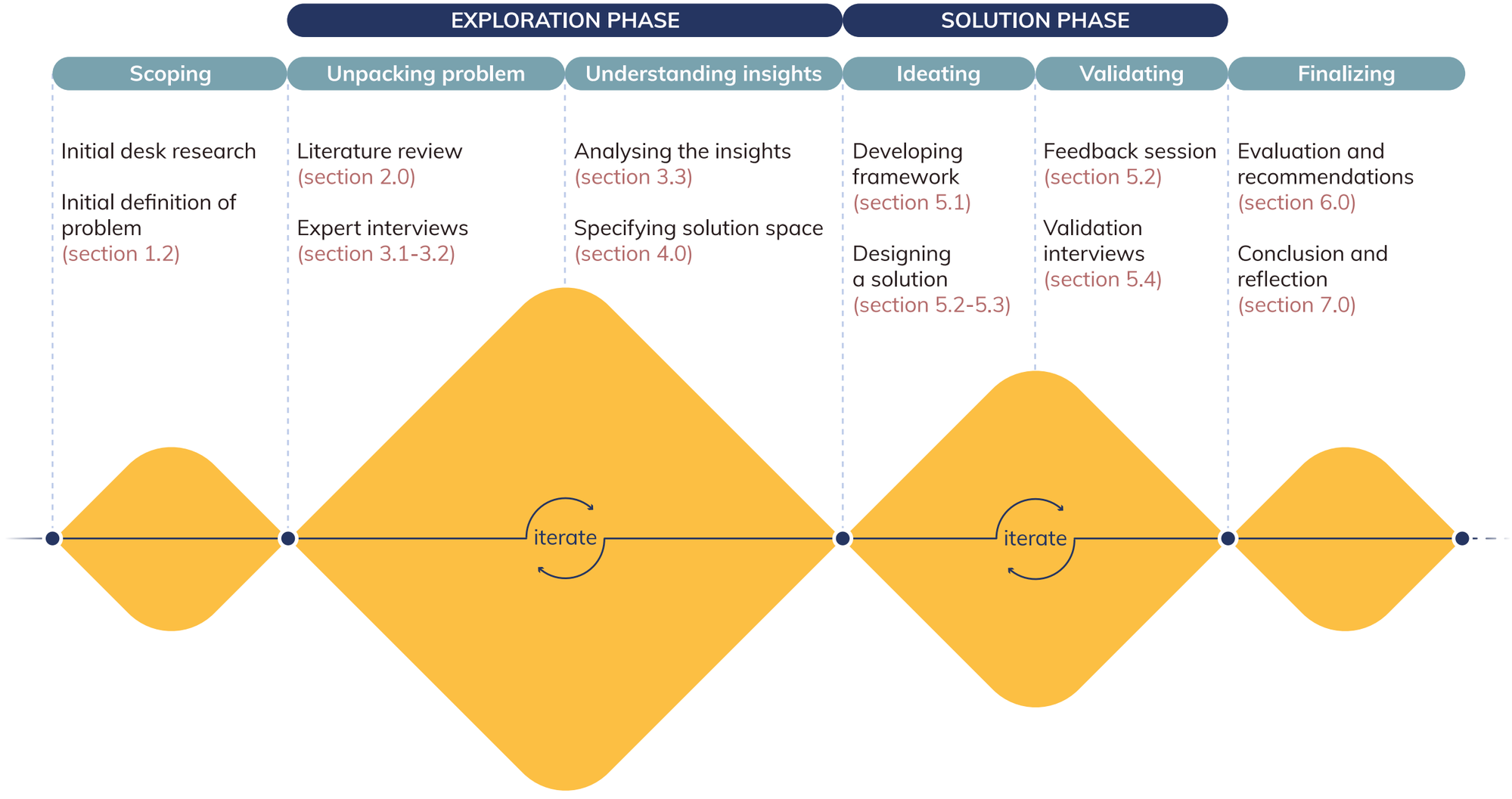


Figure 5: *The project overview is an adaptation of the famous double diamond from the Design Counsil.*

SECTION 2.0

REVIEWING THE BACKGROUND

This section will highlight key elements of the three topic areas found in the current literature. It will cover the evolution of branding, foresight, and AI, and dive into some of the theoretical models and techniques used in each of the three areas. Furthermore, it will examine the relationship between each of the topics. This will be a building block when moving onto the preparation of the expert interviews.

SECTION 2.1

BRANDING

The world surrounding us today consists of uncountable brands - from morning till evening we are constantly confronted with branded messages, products and services (Beverland, 2018). Branding has been around for centuries, however, it is only within the past decades that the discipline of managing a brand and its reputation has emerged (Beverland, 2018; Veloutsou & Guzmán, 2017). A variety of definitions have been suggested to cover the meaning of a brand, all with more or less specificity depending on the author of the definition (Beverland, 2018). The definition adopted throughout this project is a recent definition by the author of Brand Management: Co-creating Meaningful Brands (p. 10):

DEFINITION

> "An intangible, symbolic marketplace resource, imbued with meaning by stakeholders and the broader context in which it is embedded that enables users to project their identity goal(s) to one or more audiences."

2.1.1 THE EVOLUTION IN SHORT

To dissect this definition, let us first take a look at the known evolution of branding, specifically through the outline presented by Veloutsou & Guzmán (2017). The authors created their overview based on the research developments in the acknowledged Journal of Product and Brand Management. Branding and brand management has dramatically changed the past 25 years (Veloutsou & Guzmán, 2017).

One of the main changes was the shift from a brand being merely an indicator for products to a consistent experience including all digital and non-digital touch-points (Beverland, 2018; Veloutsou & Guzmán, 2017). The driving force of this change is interpreted to be due to changes in consumer behaviour and expectations combined with increasingly saturated markets. Thus, a brand can no longer stand out only based on their products or services functional benefits (Beverland, 2018; Vorst, 2017).

This led to another major change in the perception of a brand - namely that it possesses value on it, a value which is added to the products and services it offers (Beverland, 2018; Veloutsou & Guzmán, 2017). This value is known as brand value or equity and is what the first part of Beverland's (2018) definition refers to - an *intangible, symbolic marketplace resource.*

An early source acknowledging the fact that a brand had to be more than just its products' attributes and functional benefits was David Aaker (1996), author of Building Strong Brands. Aaker (1996) argued that a brand was much more, as figure 6 shows, and its reputation should be built on emotional and self-expressive benefits to create a strong brand-customer relationship. We will return to these later in this chapter.

Products are made in the factory, but brands are created in the mind.

Walter Landor, pioneer of branding

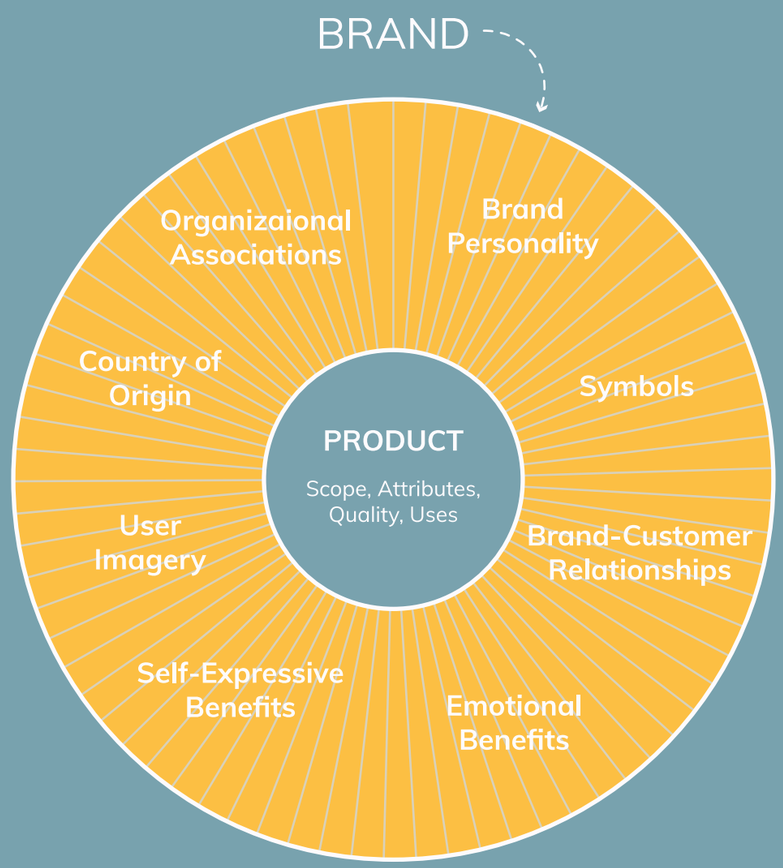
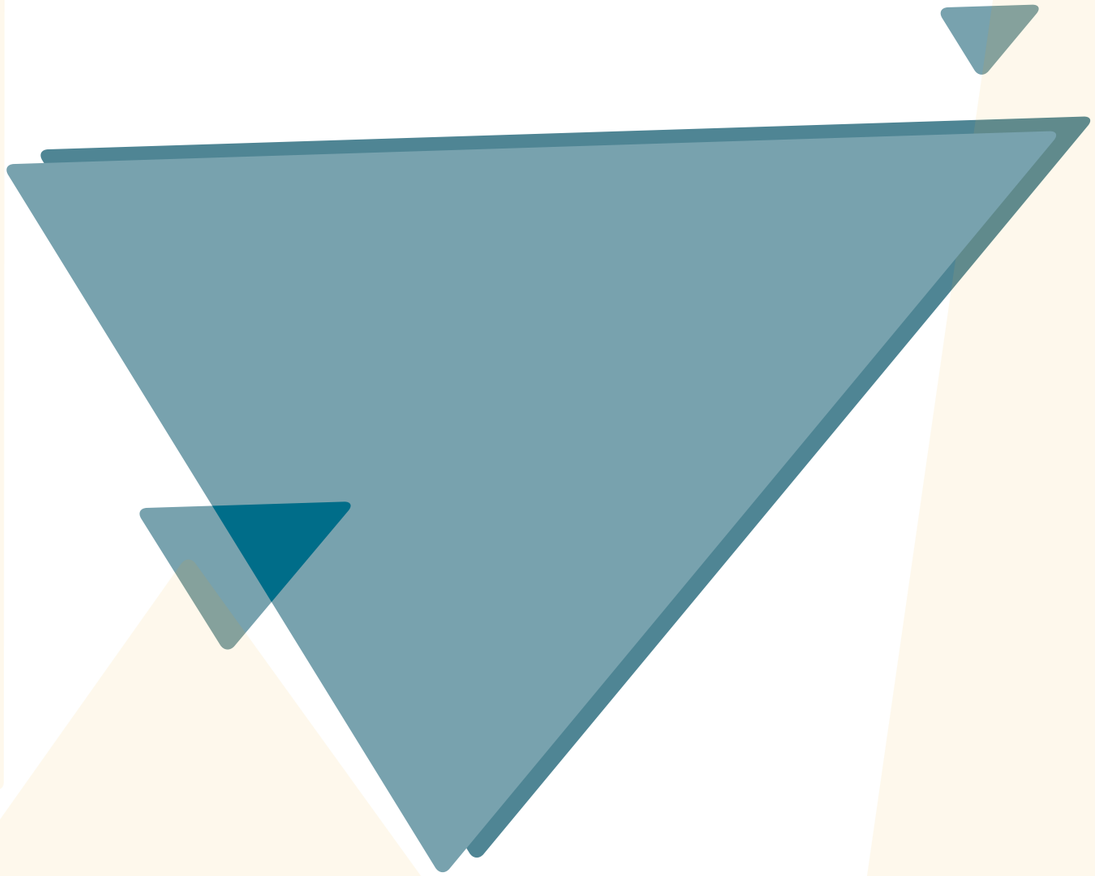


Figure 6: *David Aaker (1996) acknowledged early on that a brand consists of much more than its products which he shows in the figure above.*

2.1.2 THE BRAND DNA

Due to the evolution of branding, the construction and maintenance of a brand and its identity have also gained complexity with many models and approaches to choose from. Some worth mentioning are Kapfere's model from 1992 and Keller's brand equity model from 2012. A simplified triangular model of the brand identity drawing on these past models will be used in this project, called the brand DNA and the elements are described below.



PURPOSE | THE WHY

Brand purpose, also called brand promise, refers to the deep belief a brand tries to uphold through every action it takes.

Nike
"We believe if you have a body, you are an athlete."

AirBnB
"We believe travel is better when you experience it as an insider."

PERSONALITY | THE HOW

Brand personality can be defined as human characteristics associated with the given brand - these act as guidelines for the brand when communicating with the world (Aaker, 1996).

Disney
"I am fun, caring, loyal, full of laughter, and imaginative creative."

Tesla
"I am exciting, visionary, charismatic, courageaous and spirited."

POSITIONING | THE WHAT

A variety of models and templates for building a positioning statement has emerged, however, Aaker's (1996) arguments still influence the majority with a much-used template as following:

For [target audience], [brand] offers [product category] that is [product attributes], [functional benefits] and give people the [emotional benefits] to [self-expressive benefits].

Nike
For serious athletes, Nike offers sports apparel that is technologically advanced, delivers great performance and gives people the confidence to be a hero.

Emotional benefits are defined as the more abstract feeling a customer gets from a brand.

Coca Cola
makes you feel popular

Facebook
makes you feel likeable.

Functional benefits are defined as the practical benefits a customer gets from a brand.

Coca Cola
quenches your thirst

Facebook
makes it possible to stay in touch with family.

Self-expressive benefits are the benefit that relates to the consumer's need for expressing their self-concept.

Coca Cola
supports that you i are an adventurous person

Facebook
supports that you are a caring family member.

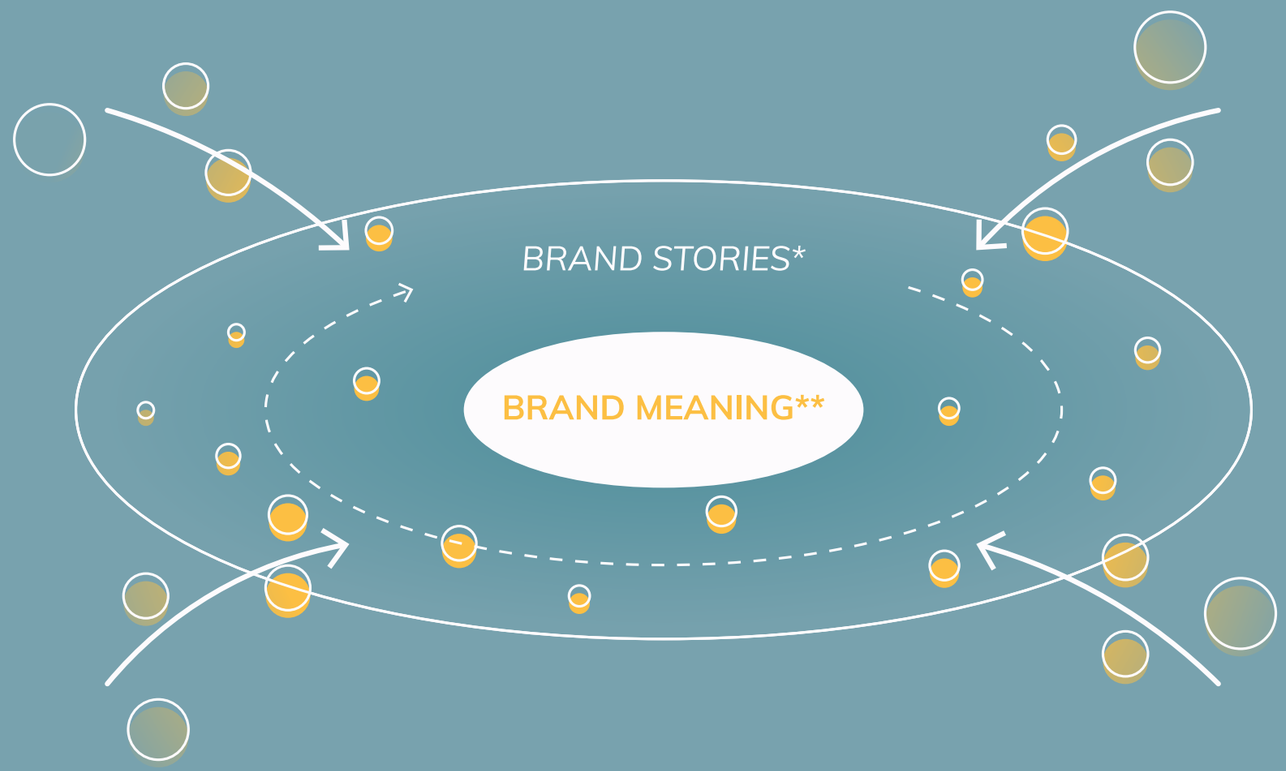


Figure 7: *The four authors co-create the meaning a certain brand holds and thus, it is not only in the hands of the brand managers.*

** Brand stories are created by the circulatig perceptions, associations and experiences of the brand by the four authors. ** Brand meaning is created from all four authors stories about a certain brand.*

2.1.3 CO-CREATING BRAND MEANING

Besides the recent shift in mindset from a focus on product and functionality to emotion and self-expression, it is acknowledged that a brand's reputation or meaning has become a co-created one rather than a managerial creation (Wallpach et al., 2017; Beverland, 2018: West, Clifford & Atkinson, 2018). Mainly due to the increasing digital connectedness, the meaning of a brand is no longer a one-way communication controlled by the brand managers (Wallpach et al., 2017). Douglas Holt (2003) argued that several 'authors' including consumers, employees, influencers, and popular culture co-creates the brand stories and meaning (cf. figure 7). This is what the middle part of Beverland's (2018) brand definition refers to - imbued with meaning by stakeholders and the broader context in which it is embedded.

"What we buy says a lot about who we are, how we see ourselves, and even who we would like to be."

Beverland (2018)

2.1.4 THE USER OF BRANDS

The person interacting with a brand and its offerings has gotten many names - consumer, customer, audience etc. As defined on page 6 in this report, the word user will be used as this emphasizes this project's perspective on this person - a person who uses the brand for their own advantage. They are not merely consuming a product, acting as a customer or listening to the brand as an audience. They are part of the creation and development of brand meaning (Wallpach et al., 2017; Beverland, 2018: West, Clifford & Atkinson, 2018; Douglas Holt, 2003). Thus, users can also benefit from interacting and co-creating the brand meaning by pushing it towards the desired self they want to portray (Beverland, 2018). Brand-consumer identification has been an increasing research area, and a variety of authors support the claim that users use brands to express and enhance their identity (Stokburger-Sauer, Ratneshwar & Sen, 2012; Tuskej, Golob & Podnar, 2011). The more a user can identify with a certain brand, its values, purpose and personality, the more loyal and committed is the user to the brand (Tuskej et al., 2011).

HOW DO WE PERCEIVE AND JUDGE A BRAND ?

2.1.5 BRAND IMAGE

The relationship between brand identity and brand image has been vastly debated through history, however, most literature agrees that the concepts are related - two sides of the same coin (Srivastava, 2010; Verma, 2006; Harris & de Charlnatony, 2001).

The concept of brand identity covers everything the brand as an author contributes to the co-creation of meaning - it is the unique associations the brand aspire to evoke in the other authors (Srivastava, 2010). This is claimed to include brand vision, culture, positioning, personality, and visual design (Harris & de Charlnatony, 2001), thus, also containing the previously presented brand DNA.

At the other side of the coin is the brand image. This is the perception a user has of the brand - the actual associations it evokes (Srivastava, 2010). It is the combined evaluation of every touchpoint the user experiences with the brand. The goal of a brand designer is to align these two bundles of associations, limiting the gap between identity and image (Srivastava, 2010).

Q1

2.1.6 CONSUMER PSYCHOLOGY MODEL

The driving forces of brand image creation is widely discussed amongst different disciplines such as psychology, branding and behavioural science. One recent research done by Schmitt (2012) based on an extensive review of the past decades' literature presents a comprehensive consumer psychology model to investigate the levels and processes a user goes through when establishing their perception and judgement of a brand (figure 8).

Q5

The model consists of three layers of engagement. Schmitt (2012) argues that the further out in the model a user engages, the more meaningful a brand is to the user - going from a functionally-driven engagement to a sense of community.

The model is furthermore divided into five brand-related processes which will shortly be explained. **Identifying** relates to the process of a user identifying a brand and its category, associations, and relations with other brands.

The process of **experiencing** includes the multi-sensory perception (taste, smell, music etc) of the brand, the feelings they evoke and the active participation and interaction a user might have with the brand (both online and offline).

When going through the process of **integrating**, the user combines the general information of a brand into a concept, perceived personality, and might see the relationship as human-like, e.g. a friendship, dependencies etc.

Signifying refers to when the user uses a brand to signify either information (functional or rational), part of their identity or a group they belong to.

Lastly, the process of **connecting** with a brand involves the user developing an attitude towards the brand, becoming attached to a brand and being part of a brand community.

With the perspective of the co-creation between the two parts, it can be argued that a brand is influenced by the user's perceived brand image. Therefore, brand designers might make changes to a brand inspired by the perception their users have with the brand.

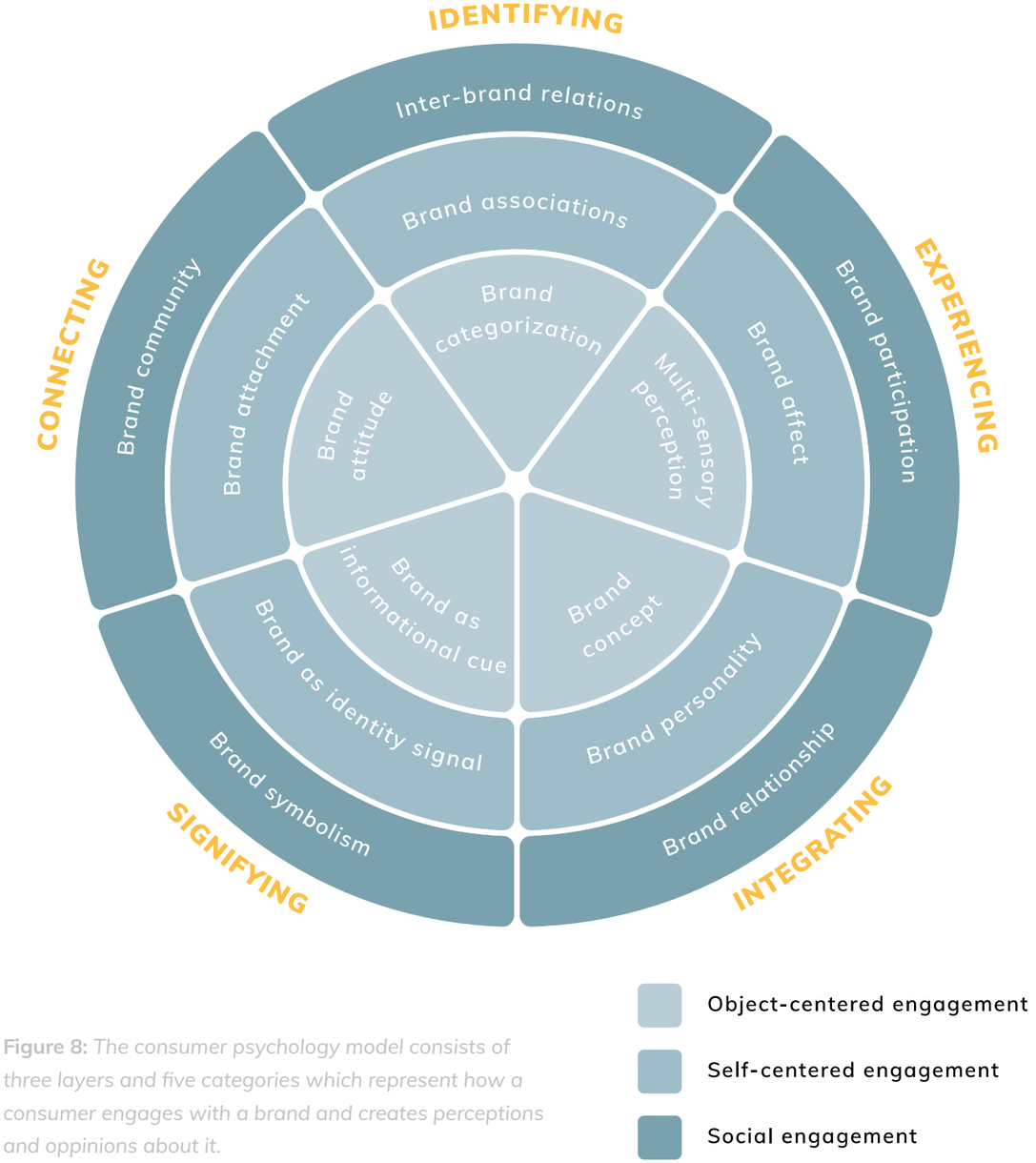


Figure 8: *The consumer psychology model consists of three layers and five categories which represent how a consumer engages with a brand and creates perceptions and oppinions about it.*

2.1.7 SOCIAL LISTENING

Above it is described how literature argues that the user can co-create the brand meaning, and that it is important to reach a fit between brand identity and brand image. To achieve this, brands are now monitoring users using the increasing amount of data - especially through social media (Liy, Dzyabura & Mizik, 2018). This is called social listening, and is becoming an integrated part of branding (Brinkman, 2018). A variety of tools and techniques are used to gain an overview of segments engaged with a brand online and their conversations (Liy, Dzyabura & Mizik, 2018). Social listening is increasingly taking advantage of AI, and it is recognized as an essential tool in today's online branding (Brinkman, 2018; Liy, Dzyabura & Mizik, 2018).

Q5

2.1.8 EMERGIN WITHIN BRANDING

The discipline of branding is in constant change. As presented in section 1.0, we are on our way to a new outlook on branding - the connected brand. One concept gaining attraction is 'lean branding', being able to create so-called chameleon brands which adapt to their users' needs and self-concepts (Busche, 2014). Supporting the perspective of co-created brand meaning between user and brand, Busche (2014) describes that brands should have conversations, not monologues.

In line with this concept, fluid or adaptive branding is emerging. Taking advantage of the number of user insights and technological advances, brands are able to change both the visual identity and key message of marketing content to fit the individual user (Bleier, Keyser & Verleye, 2017; Pearson, 2013). However, several authors point out a disadvantage of this adaptive branding, as it might sacrifice the consistency and recognizability of a brand - balancing relevance and consistency (Beverland, Wilner & Micheli, 2015; Beverland, 2018).

This type of personalization and listening has raised the question of how artificial intelligence can be used to better understand consumers and meet their needs (Kumar et al., 2019). This will be further elaborated in section 2.3.

2.1.9 THE LACK OF FORESIGHT

With a market characterized by ever-faster development, an increasing number of players, and dynamic consumer needs, brands have to be agile and ahead of time to spot the emerging opportunities (van der Vorst, 2017; Veloutsou & Guzmán, 2017). Already in 2013 Binet & Field published a study investigating the balance between short and long-term marketing strategies, arguing that the focus is often on the short-term sales-driving campaigns. They further claim that while short-term success is rational, long-term success is more measurable on an emotional level (Binet & Field, 2013). However, it is also argued that this mindset has not yet been fully adopted (Berghous, 2015; Davis, 2019).

Recent research performed by Rohrbeck & Gordon (2018) looks at the benefits of practising foresight within corporations. The authors find that brands which do not succeed to do foresight have 37% lower profitability and 39% lower market capitalization growth (Rohrbeck & Gordon, 2018). As mentioned in section 1.0, the average life expectancy of a well-established organization has gone from 43 to 20 years within the last decades (Rohrbeck & Gordon, 2018). However, the disciplines of branding and foresight - though both creative - do not have a strong relationship in current research.

INTERMEDIATE

KEY FINDINGS

Due to the above findings, it can be concluded that a brand is a resource and its meaning is co-created by its users and context. Users use brands to express their emotions and identity through fulfilling their so-called identity goals. It can prove beneficial for brands in the fast-changing world of today to adopting processes and methodologies from foresight, branding could detect and predict emerging changes and prepare for the future in time. The next section will take a closer look at how strategic foresight has been used in the past to investigate the appliance of it within branding targeting consumer identity goals.

SECTION 2.2

STRATEGIC FORESIGHT

As our knowledge of the world around us grows and digitalization and globalization blurs the borders between us, we are faced with more uncertainty than ever before. We find ourselves in the transformation era, where every brand is operating in a VUCA environment (Duijne & Bishop, 2018). Complex and cross-disciplinary decisions are now everyday life. This has led to an explosion of research within strategic foresight and how we can benefit from the forward-looking discipline. There is no fixed time horizon within foresight. According to United Nations Development Program (2018) everything beyond the present can be described as foresight. Others describe that the short-term foresight is within 0-3 years, mid-term is 3-5 and long-term is more than 5 years (Rohrbeck & Gordon, 2018). The definition of strategic foresight created by the Organization for Economic Co-operation and Development (OECD, 2018, para. 2) captures the essence of a variety of definitions:

DEFINITION

"Strategic foresight is a structured and systematic way of using ideas about the future to anticipate and better prepare for change. It is about exploring different plausible futures that could arise, and the opportunities and challenges they could present. We then use those ideas to make better decisions and act now."

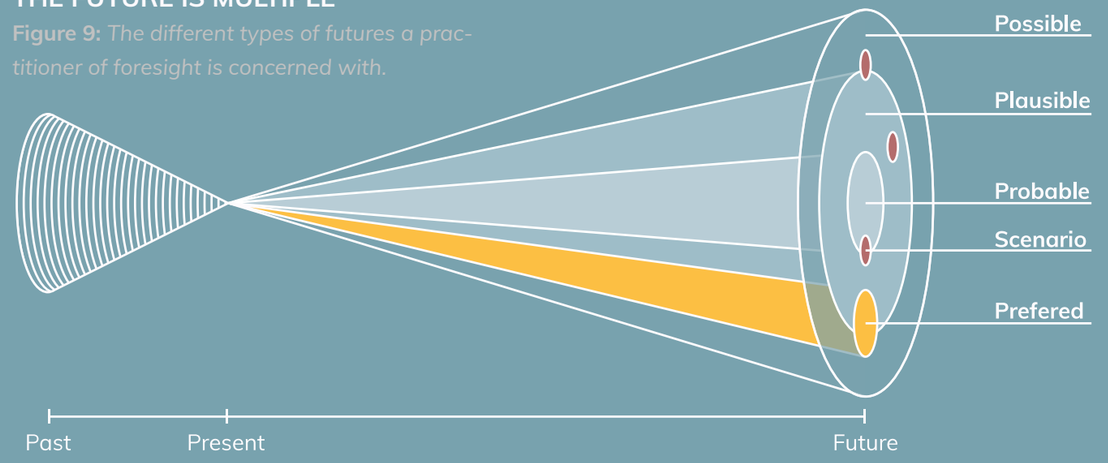
2.2.1 THE EVOLUTION IN SHORT

The concept of foreseeing the future has been one of great debate throughout human history. From fortune tellers to horoscope readers, we long to know what our future holds. However, it was not until during the second world war that the outline of a disciplined approach to foresight emerged (Hammoud & Nash, 2014). The military envisioned several alternative futures and how to prepare for these to counter the enemy's move (Hammoud & Nash, 2014). Decades after, in 1963, the book "A behavioural theory of the firm" criticized managers' shortsightedness in strategic decision-making and how they should anticipate long-term uncertain events and plan for them (cited by Gavetti & Menon, 2016). This was the starting point for the structured anticipating future events and preparing for them, mostly referred to as future(s) studies or foresight.

As the definition indicates, the preparation for several futures lie at the heart of the activity (cf. figure 9). A core feature of foresight is that it both envisions an expected future and multiple (often 2-3) alternative futures (Duijne & Bishop, 2018; EPSC, 2017; Hammoud & Nash, 2014). The main goal of strategic foresight is to discover a change in one's market as early as possible to be able to respond or use it as an opportunity for the company (Hammoud & Nash, 2014). The process involves a variety of tools and methods to create visions of the future meant to direct strategic decision-making (Hammoud & Nash, 2014). However, the competitive advantage that comes with practising strategic foresight successfully makes it difficult to gather specifics about the process since it happens behind closed doors in corporations (Hammoud & Nash, 2014). Nonetheless, an increasing amount of research done by both academia, governments, and corporations has resulted in more insights into the methods, tools, and benefits of strategic foresight.

THE FUTURE IS MULTIPLE

Figure 9: *The different types of futures a practitioner of foresight is concerned with.*



Q4 2.2.2 METHODS

Even though strategic foresight practitioners agree on the objective or their process, the road to these multiple futures is somewhat different (Duijne & Bishop, 2018; EPSC, 2017; Hammoud & Nash, 2014). Some of the often used methods are described below.

Weak signal analysis

A weak signal is an emerging indicator of change, consisting of fragmented and unstructured information from various sources pointing in the same direction (Mendonça, Cardoso & Caraça, 2012). By detecting and analysing this information, emerging risks and opportunities might be discovered.

With the advancement of technology, more data than ever can now be analysed, however, it is argued that experts still need to intepret the signals detected to harvest the benefits (Mendonça et al., 2012).

There is not one right way of detecting signals. However, research argues that if a signal is repeated from different sources and reinforced by similar signals, this holds potential to become a trend (Mendonça et al., 2012).

Forecasting

Forecasting is a data-driven linear projection and aims to predict the most likely future - the propable future - based on the assumption that everything will continue in the same direction as status-quo (Duijne & Bishop, 2018; EPSC, 2017).

Visioning

Visioning is a description of the prefered future, building on prior trend research and scanning (EPSC, 2017). It can often be supported by exercises such as Futures Wheel (a change-effect mindmap), News Headline of the Future etc.

Horizon scanning

Horizon scanning refers to the continuous task of detecting signals often using techniques such as Delphi and DESTEP. Huge amounts of information from various sources (news, reports, websites etc) is gathered and reoccuring signals and trends monitored.

More qualitative input such as domain expert interviews are also used (EPSC, 2017).

Roadmapping

When a prefered future is chosen and a vision is created, a planning technique such as roadmapping can be used (Duijne & Bishop, 2018). By backcasting from the vision to now, one can identify the actions, technology, etc. which are needed to reach the prefered future. Such a roadmap is also connected to the trends and signals found to connect the strategic planning with the prior analysis (Simonse, 2018).

2.2.3 THE GENERIC FORESIGHT PROCESS

In 2005 Joseph Voros outlined a Generic Foresight Process. Due to its clear and structured step, it has become an important framework for foresight practitioners since. The process can be seen in figure 10, with a short description of each stage.

Voros (2005) indicates that while the process framework seems linear, it is an iterative process with continuous feedback loops. Within each stage, there are several methods one can consider in order to fulfil the step. The framework goes from raw information and analysis of this towards a higher level of interpretation and creativity.

A variety of information can be used as input in foresight projects and different methods such as Delphi, environmental scanning and trend research can be used (UNDP, 2018; EPSC, 2017; Voros, 2005). In this stage, the practitioner is mainly looking for signals and trends. Signals are individual insights and events which are relevant and hold the potential to become a trend (UNDP, 2018). Trends are a pattern of signals and can have different variety of strength or maturity (UNDP, 2018). Rohrbeck & Gordon (2018) argues that a key measure an organization must take in order to stay ahead of the competition is to build continuous scanning capabilities - a strategic radar which can perceive changes early.

When the information is gathered, it can be analysed with the objective of sorting the insights through different analysis techniques such as trend analysis, matrices (UNDP, 2018; EPSC, 2017; Voros, 2005).
Then the deeper interpretation of the structures, patterns and insights begin, drawing on methods such as causal layered analysis to investigate what lies behind the patterns and trends detected (UNDP, 2018; EPSC, 2017; Voros, 2005).

When the insights have been thoroughly looked at, prospecting can begin and includes methods such as visioning, scenarios and futures wheel (UNDP, 2018; EPSC, 2017; Voros, 2005). The focus is on creating different plausible versions of the future based on certain events and changes and its implications (Voros, 2005). While visioning and scenarios have a more loose format, futures wheel is a graphic visualization of a proposed change and the main direct and indirect implications of that change - often used in change management or decision-making processes (UNDP, 2018). Other creative and participatory methods such as 'New headlines of the future' and 'A day in a life of...' are also known to support this stage.

From the above-described foresight process comes outputs which can be both tangible and intangible with the goal of having a range of directions or futures (Voros, 2005). The outcome can be reports, presentations, videos, physical products etc. (Voros, 2005). The desired future can then be chosen and strategies to reach it can be made.

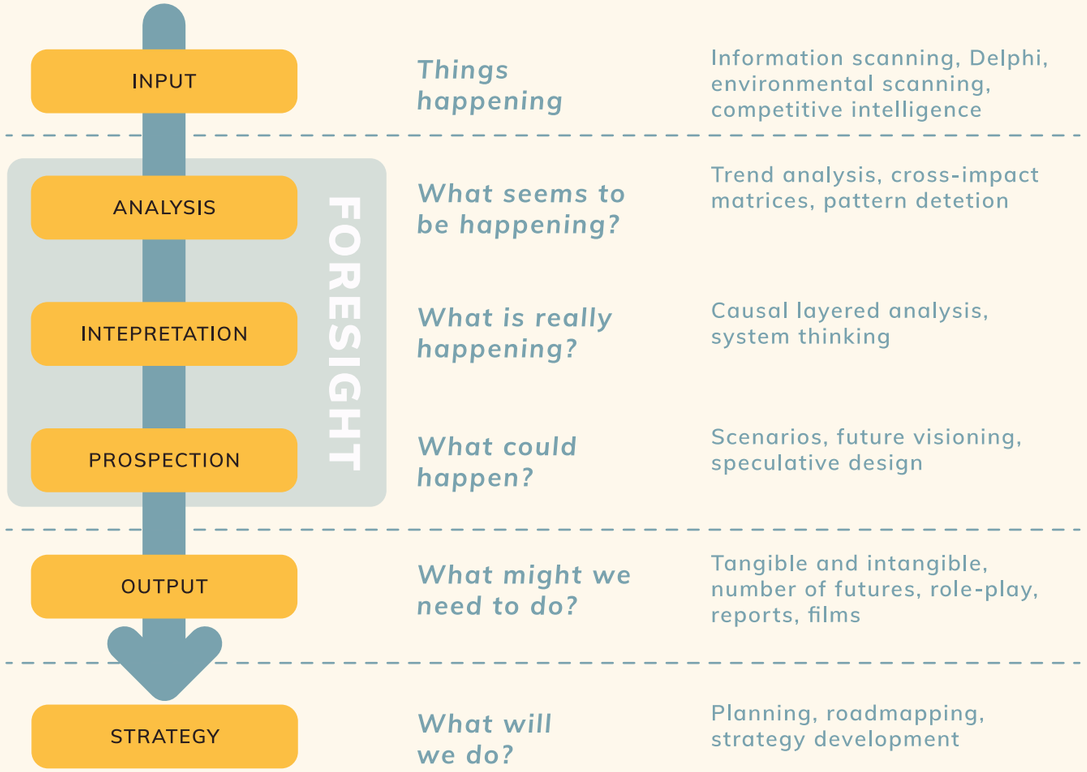


Figure 10: *The Generic Foresight Process created by Joseph Voros is one of the most used approaches within foresight.*

2.2.4 POSSIBLE BENEFITS

A number of benefits are said to be connected with the performance of strategic foresight. In their qualitative research involving 14 foresight practitioners, Hammoud & Nash's (2014) demonstrated that the main reasons for including foresight in corporations were **to innovate, create a competitive advantage, or influence the consumers' perception of the company**. An overview of the benefits found in their study related to practising foresight can be seen to the right. This is further supported by other sources claiming that performing strategic foresight can result in innovation and competitive advantages (Duijne & Bishop, 2018; UNDP, 2018; European Foresight Platform, 2010).

The European Foresight Platform (2010) additionally describes that foresight amongst other benefits can provide input to policy formation, encourage strategic thinking, generate visions of the future, anticipate significant challenges and trigger action. In 2017 the European Political Strategy Center released the Strategic Foresight Primer to encourage organizations to integrate foresight in their decision-making processes (EPSC, 2017). Besides supporting the mentioned benefits, the report also argues that strategic foresight is already a success if it encourages dialogue and reflection on the long-term future (EPSC, 2017).

By practising strategic foresight, an organization can increase their:

Opportunity to shape and influence the future
When looking ahead, we can choose our desired future.

Adaptability and preparedness
By knowing risks the future holds, we can prepare for them.

Opportunity awareness
We can spot signals emerging before they become a trend and target them.

Positive customer perception
By listening to the market and its needs, we can meet customer expectations.

Organizational alignment
Through imagining the future, we can all align on the same goal and vision.

Competitive threats
We can detect upcoming competitors and new initiatives from established companies.

2.2.5 LIMITATIONS

Certain limitations are acknowledged within the literature regarding practising strategic foresight. One limitation is that **measuring the actual impact of strategic foresight** in the corporate world is difficult and therefore often leads to a lack of trust and leadership support towards foresight practitioners (Rohrbeck & Gordon, 2018; Hammoud & Nash, 2014). We as humans are wired to think in the present, as the thought of long-term future is too daunting - leaders are often biased towards stepping up in a crisis instead of preventing it - they are reactive rather than proactive (EPSC, 2017). However, leaders are starting to notice the need for foresight, and recent work such as the model evaluating firm's future preparedness done by Aarhus BSS (Rohrbeck & Gordon, 2018) is directing a focus towards this need. Furthermore, a more data-driven approach to foresight - both regarding monitoring and data-driven scenarios - is leading to more measurable input and output (Schühly, Becker & Klein, 2020; Heist & Tarraf, 2016).

Furthermore, the **application of strategic foresight in the corporate world is still limited** to a few areas such as foreseeing technological development, opportunities within new product lines or additions to existing products (Rohrbeck & Gordon, 2018). However, opportunities within the core of a brand have yet to be investigated. Additionally, as argued by the author of the Generic Foresight Process, the discipline of foresight needs to develop and grow continuously in order for it to stay relevant (Voros, 2005).

2.2.6 EMERGING WITHIN FORESIGHT

Within the past few years, emerging technologies combined with the increasing need for strategic foresight has led to a focus on using aspects of artificial intelligence to support foresight activities (Schühly, Becker & Klein, 2020). A new publication, "Real-Time Strategy: When Strategic Foresight Meets Artificial Intelligence" (Schühly, Becker & Klein, 2020) paves the way for practitioners to further explore the relationship between the technology and the foresight discipline.

Supporting this in his article "Strategic Foresight Development through AI-based Horizon Scanning", Tamal Chowdhury, Senior Vice President of Course5 Artificial Intelligence Lab describes how strategic foresight can benefit from the assistance of AI in some aspects of the process (Chowdhury, 2019). Crowdhury (2019) describes that successfully combining horizon scanning and AI can lower costs, handle much more complex data in less time, and offers a scalable way to propose multiple futures. In the next section, we will take a brief look at the recent evolution of AI and how it is currently used within strategic foresight and branding.

Furthermore, both machine learning and deep learning is currently being applied to methods such as horizon scanning and scenario planning to support practitioners in finding and organizing emerging trends and drivers of change. IBM's research department is one of the academic front-runners, describing how they are using deep learning to support scenario planning (Sohrabi et al., 2018) and the fact that they are investigating so-called AI Machine Foresight (Quitzau, 2019). A variety of entrepreneurial companies have also started emerging in the intersection between foresight and AI. Q5

An innovative AI-powered foresight agency, Shaping Tomorrow, mentions a list of benefits they have encountered by integrating the technology in their offerings (Shaping Tomorrow, 2020). Amongst others, they describe advantages such as more systematic scanning of insights, a much higher number of insights and sources, instant pattern identification and less resources needed.

INTERMEDIATE

KEY FINDINGS

Based on the above insights it can be concluded that strategic foresight has indeed evolved from being an unknown military technique to an accepted means to continuously ensure success in the corporate world. Due to the increasing need for foresight and the advancements and availability of artificial intelligence, this is now becoming a new and exciting tool to aid different steps within strategic foresight such as trend research, analysis and scenario planning. The next section will take a closer look at artificial intelligence, how it has evolved and which advantages and disadvantages it brings.

SECTION 2.3

ARTIFICIAL INTELLIGENCE

Just as we thought we had peaked regarding technological revolutions, artificial intelligence made its way to the top of both corporate and academic domains. Though the idea of robots and intelligent machines can be traced back in time, many believe that we are only scratching the surface of what is possible (Duan, Edwards & Dwivedi, 2019). A generally accepted definition of AI is of great debate, however, the following definition by Kaplan & Haenlein (2019, p. 17) will be adopted in this project:

DEFINITION

"A system's ability to correctly interpret external data, to learn from such data, and to use those learnings to achieve specific goals and tasks through flexible adaptation."

2.3.1 THE EVOLUTION IN SHORT

The rise of AI is one of dreams, imagination and science fiction. Already in the first half of the 20th-century philosophers and mathematicians alike played with the thoughts of the mechanical man - the concept that a machine could learn and reason based on experience (Duan et al., 2019; Buchanan, 2005). But we have only within the past half century truly been capable of making progress - and it has had its ups (AI-springs) and downs (AI-winters) (Schühly, Becker & Klein, 2020; Buchanan, 2005). During the 1960s more funds went into research of AI, and especially domains such as health care and manufacturing started adopting different aspects of the advancing technology (Duan et al., 2019). Furthermore, the development of more powerful computers contributed to the possibility of exploring AI. However, it was still based on a rule-based logic rather than actual learning until the 1980s when machine learning emerged (Schühly, Becker & Klein, 2020). Fast-forward to today, AI has been revived through the available processing power and amount of data making deep learning possible (Schühly, Becker & Klein, 2020). Currently, most of us are interacting on a daily basis with a device, product, or service utilizing one AI system or another (Duan et al., 2019). With giant players such as Netflix, Amazon and Google constantly inventing new ways of utilizing user data, and home assistants becoming increasingly more human-like, we are faced with both ethical, moral, physiological and technological questions.

2.3.2 BEYOND THE BUZZWORD

It seems as though there is always a new technology on the horizon, making bold promises which gets all of us excited about endless possibilities. But the challenge is to look beyond the hype and discover the true applicability of the technology - which is why Gartner's Hype Cycle, introduced in 1995 (Linden & Fenn, 2003) became a bit of a hype itself. However, it is necessary to acknowledge the principles behind the cycle, which is displayed in figure 11, as our expectations for a certain technology are often influenced by the hype.

AI is indeed a technology which has led to huge expectations within the past years. Though it is not a new technology, the hype cycle has been triggered recently due advances within deep learning. According to a survey from 2019, artificial intelligence in organizations grew from 4% to 14% (Goasduff, 2019).

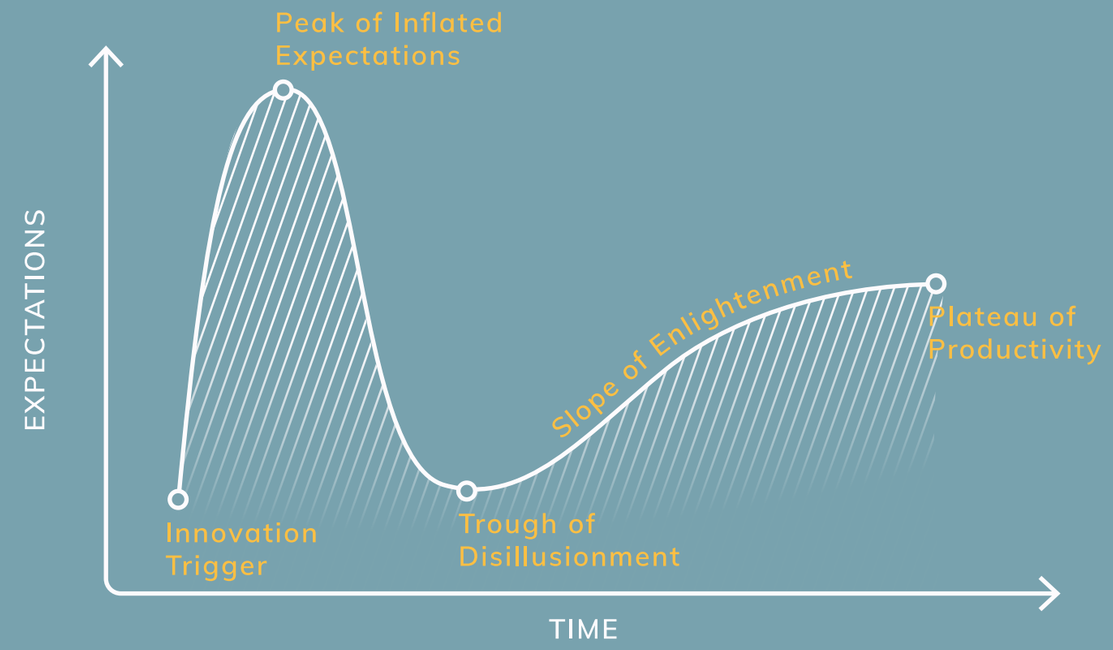


Figure 11: *The Hype Cycle displays how we often end up with inflated expectations when a new technology emerges.*

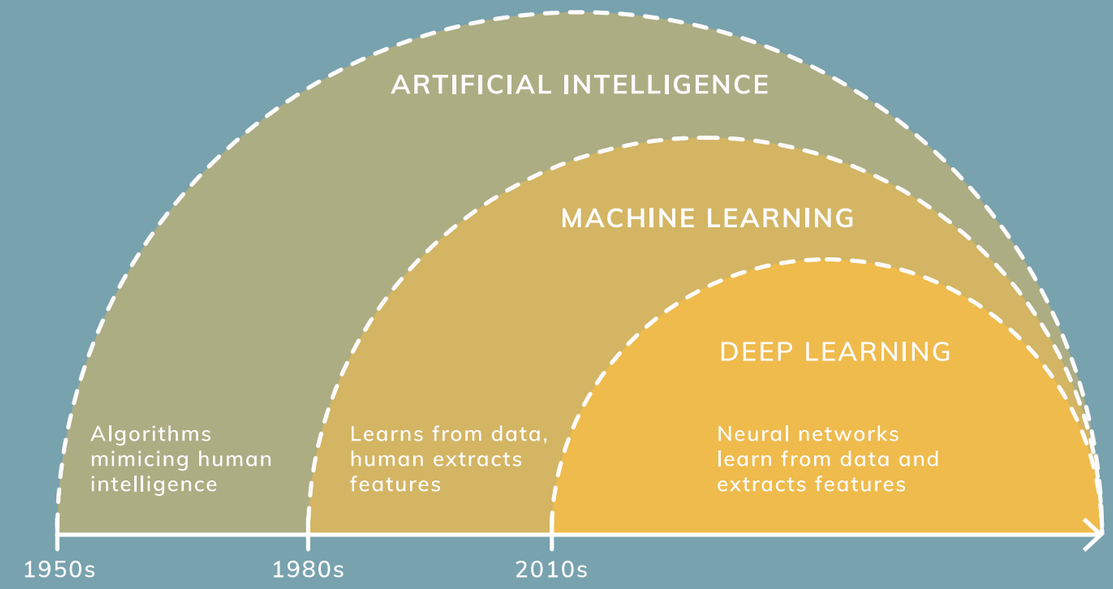


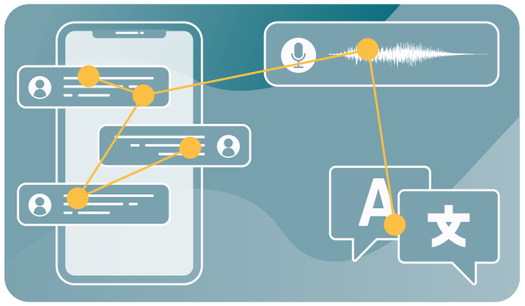
Figure 12: *Artificial intelligence has been around for decades, while machine learning and deep learning came much later. The latest AI hype came with the emergence of deep learning.*

To avoid becoming a victim of inflated expectations it is important to create an aligned understanding of what AI is and later in this section discuss the limitations of it. AI is a branch of computer science which consists of three layers (cf. figure 12, previous page).

Many acknowledge this division of these layers, however, it is an on-going debate where exactly the three areas divide (Ceron, 2019; Berchane & Berchane, 2018). While AI covers the capability of mimicking our behaviour in specific tasks through sets of rules, machine learning (ML) and deep learning (DL) learn from the data they are given using neural networks (Schühly, Becker & Klein, 2020; Ceron, 2019; Berchane & Berchane, 2018). The main difference between machine learning and deep learning is that while machine learning needs human input to feature engineer what the algorithm should learn from, deep learning algorithms discover these features by themselves (Ceron, 2019). This project mainly lies in the intersection between AI and ML, however, for simplicity, the term AI is used to cover this topic area. AI holds many capabilities, most commonly within monitoring and analysing data, detecting patterns, and predicting or classifying an outcome based on past data. To perform these tasks, different techniques are needed whereof the most relevant for this project will be described in the next section.

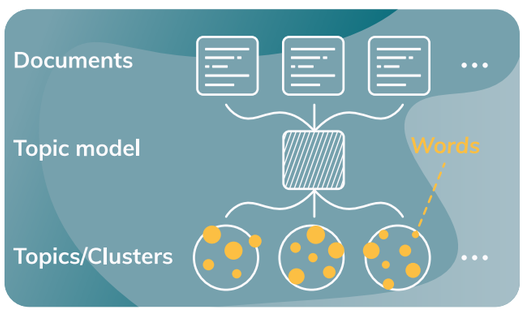
Q3 2.3.3 RELEVANT TECHNIQUES

To later explore a feasible solution, a variety of AI techniques are researched. The most relevant for this project can be seen in the overview below. Furthermore, it is important to mention that while the techniques might be useful for a given problem, the data fed into a model is paramount for the quality of the outcome (Alamäki, Mäki & Ratnayake, 2019; Holland et al., 2018). In any case, the sources of data and the chosen approach to preprocess and clean the datasets depend on the problem at hand and should be carefully considered (Jacobi, Atteveldt and Welbers, 2015).

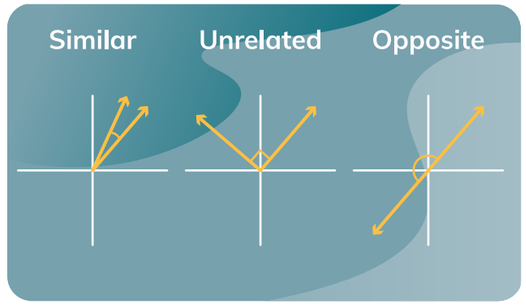


Natural language processing
Natural language processing (NLP) is, at its core, just that - the capability of AI to read, write, listen, speak and understand human language (Marr, 2019; Yse, 2019; Jacobi et al., 2015). Though NLP is developing as we speak, it is one of the most used techniques within AI today (Marr, 2019). NLP can be used to extract not only words and topics in our communication, but also our tone, sentiment and mood (Yse, 2019). However, the unstructured nature of this data makes the analysis and interpretation quite complex and holds limitations that forms the basis of frequent debate (Resch, Usländer & Havas, 2018; Yse, 2019).

The application of NLP is broad and the possibilities are only just being explored with examples such as prediction of diseases based on patient journals, auto-correction of written text, filtering e.g. emails, voice-driven interfaces and machine translations (Marr, 2019; Yse, 2019).



Word2Vec
A foundational part of NLP is Word2Vec. This mathematical approach makes it possible to translate words into vectors which results in the possibility of identifying the relationship between words (Lakhey, 2019). Due to the nuanced human language, it is essential for an algorithm to understand similarities and differences between words when analysing and interpreting text. This is often referred to as the cosine similarity, the closer to +1 (small angle between vectors) this value is, the more similar the words are, if the value is close to 0 (90^{o} angle between vectors), the words are not similar, and if the value is close to -1 (big angle between vectors), they are similar but opposites (Lakhey, 2019).

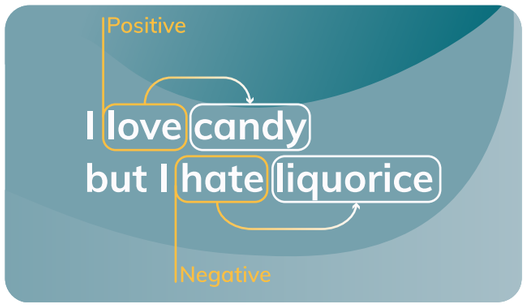


Topic analysis
Topic analysis is a common approach within NLP with the objective of extracting topics from a given dataset. It can be either supervised, referred to as topic classification, or unsupervised, referred to as topic modeling (Kessel, 2018). Both when doing modeling and classification, a so-called corpus of documents is gathered containing the relevant data e.g. articles, social media posts etc (Jacobi et al., 2015; Bansal, 2016; Kessel, 2018). The preprocessing involves removing irrelevant words (stop-words such as ‘am’, ‘is’ etc.), single-letter words, punctuation, usernames, and whitespace.

When performing topic classification, the topics are predefined and the algorithm is trained to classify the data based on the labeled dataset. It can be useful if very specific objectives are defined e.g if a company wants to classify which reviews relate to customer service, hardware and software (Kessel, 2018). However, a limitation of this is an increased possibility of inducing our own biases as the algorithm is somewhat ‘forced’ to classify the documents within the topics provided.

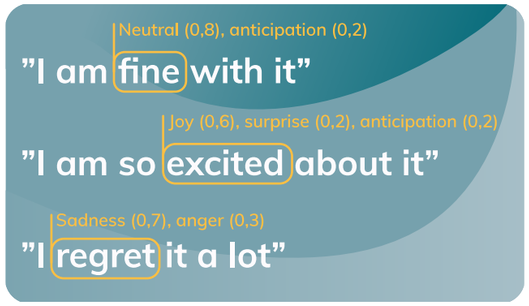
Topic modeling is unsupervised, thus, the algorithm does not require manually labeled data. Instead, it learns to detect patterns and similarities in the documents (Jacobi et al., 2015; Kessel, 2018). Simply put, the algorithm measures the frequency of words, their relationship with each other, when they occur in the same document etc. in order to cluster them in an optimal way. The output of such a model will be a number of topics - specified by the developer - with no name. The name can, however, be based on the most frequent words in each topic.

Depending on the algorithm, a word can occur in several topics. If this is chosen, the relationship between each topic can also be measured by examining which topics might contain the same or similar words. One debated factor within topic modeling is choosing the number of topics, and thus, experimentation should be done (Kessel, 2018).

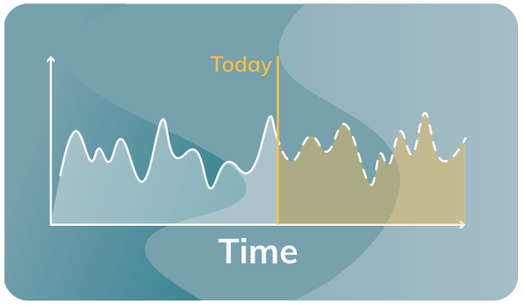


Sentiment analysis
By performing a sentiment analysis on the textual data, we can increase our understanding of the author’s oppinon when writing it. This analysis detects the polarity - the attitude - of a document and can contain different levels from binary (positive, negative) to a fine-grained (very positive, positive, neutral, negative, very negative). The algorithm can be trained based on existing lexicons of labeled textual data such as National Research Council Canada’s sentiment lexicon (NRC, 2016). By assigning a sentiment ‘score’ per word in a text-based on the training dataset, the model can classify the text within the sentiment classes (Ruiz-Garcia et al., 2016).

The analysis can today also be aspect-based, also called entity recognition, making it possible for the algorithm to detect what entity in the text the user has a certain sentiment towards (Soleymania et al., 2016). Take for example the statement “I love candy, but I hate liquorice.”. The algorithm should detect that a strong positive sentiment is expressed towards the aspect/feature ‘candy’, however, a fairly negative sentiment is expressed towards ‘liquorice’.



Emotion recognition
To add yet another level to the analysis, emotion recognition could be considered. While emotions and sentiments are related, there is to this day still debate about how to separate these are (Garcia et al., 2016). However, several researchers argue that a sentiment is an overall long-term opinion towards a certain entity. An emotion is a deeper cognitive short-term reaction towards an entity with obvious triggers (Garcia et al., 2016). Different models within the psychology related to emotions have been developed through the years, one of the most used being the Plutchik’s wheel of emotions, which has been used within emotion recognition in previous work (Shu et al., 2018; Tromp & Pechenizkiy, 2014). However, also more recent studies suggest more nuanced emotions and explore the gradients between the main emotions (Cowen & Keltner, 2017). Cowen & Keltner (2017) found 27 categories of emotions in their research using videos to trigger the emotions and participants to report their experience. Similar to the sentiment analysis, emotion recognition can also be based on existing lexicons which again could be provided from NRC (2016).



Time-series forecasting
When dealing with the topic of foresight, a relevant technique within AI is forecasting. Time-series forecasting draws on data from a certain period in time and aims to fit a model to forecast future events. The premise of forecasting is that future events are expected to act similarly to past events (Deb et al., 2017). Thus, a big amount of research within forecasting using AI is related to predicting seasonal events such as weather, natural disasters, and traffic. However, recent research explores the advantage of adding sentiments as an external factor to guide the forecasting (Xing, Cambria & Zhang, 2019; Saini, Zia & Abusham, 2018; Wang, 2017).

2.3.4 BRANDING & AI

The relationship between branding and AI is currently a topic of increasing interest. The focal point is in most literature on how the technology can optimize marketing and personalize commerce, however, limited research has been done within the possibility of using AI within the design and maintenance of a brand’s meaning (West, Clifford & Atkinson, 2018). Within customer service, automation such as chatbots have been increasing for years, and within recommending products and services, machine learning algorithms are now the go-to option (West, Clifford & Atkinson, 2018).

Q3 IBM is, as mentioned earlier, a front-runner within challenging the applicability of AI, and with their IMB Watson Personality Insights (2020), they are using techniques such as NLP to analyse social media accounts and interaction to identify personality traits, values and needs of their clients’ consumers.

Initiatives such as platforms using AI to suggest logos, colour palettes or brand names are emerging, riding on the recent wave of creative AI. The renowned design agency M&C Saatchi is experimenting with AI regarding both film production, dynamic city poster campaigns and a robot to create an overview of different components and trends in advertising. Joe Zeoli (2017) developed a machine learning algorithm for brand personality classification built on IBM Watson’s Personality Insights documentation.

2.3.5 LIMITATIONS

As described at the beginning of this section, we only seem to be seeing the tip of the iceberg regarding the possibilities of AI. But a variety of acknowledged limitations also comes with this.

Firstly, as previously mentioned, the **quality of data** is of great debate, and the saying ‘you only get out what you put into it’ is indeed suitable for describing the necessity of good data. If a dataset does not yet exist, a lot of work has to go into the creation and **manual labeling** of the data, while if you gather real-world data, this is often unstructured and needs **cleaning and preprocessing**.

Secondly, the hype around AI might lead to **unrealistic expectations** of the technology and it is difficult to separate the hype from what is feasible. This might lead applications of AI which are not yet precise or useful (Linden & Fenn, 2003).

Thirdly, the most discussed limitation of AI is the **black box effect**, which refers to the hidden layers of the neural networks (Adadi & Berrada, 2018; Samek, Wiegand & Müller, 2017). While some applications, such as Netflix recommending TV series, might not demand a fully explainable process, illness diagnostics and natural disaster warning signals do (Adadi & Berrada, 2018). Due to the increase in application, a big demand for explainable AI (XAI) has emerged with the aim of developing techniques to explain the choices made by the algorithms (Adadi & Berrada, 2018; Samek, Wiegand & Müller, 2017). However, the limited explainability behind most AI today makes for great disadvantages when evaluating the outcome of the models, and ways of explaining it should be thought of (Adadi & Berrada, 2018; Samek, Wiegand & Müller, 2017).

Lastly, another debated topic related to AI is the induction of **biases**. In a recent extensive review of biases in AI, Ntoutsi et al. (2020) describe that bias has existed as long as humankind and is now found in machines in different forms. Bias can in some cases come from the creation of an algorithm, but often stems from the data that a certain ML or DL model is trained on (Ntoutsi et al., 2020). It can be everything from gender to racial bias due to unbalanced datasets, and the authors warn that AI-based decision-making might emphasize existing biases (Ntoutsi et al., 2020). Opposing this, some argue that AI holds the capabilities of reducing biases by including a broader variety of sources and data while not holding any prejudices (Schühly, Becker & Klein, 2020). Different solutions depending on the task at hand are proposed to account for AI bias such as collecting balanced and nuanced data and including XAI (Ntoutsi et al., 2020).

SECTION 2.4

SECTION
KEY FINDINGS

The above section provides an overview of the three topic areas together with a brief description of the current relationship between them according to literature. Several conclusions can now be drawn;

1. **The tree topic areas are all big, intangible and complex constructs with components which are currently of great debate within recent literature.**
2. **Brands are co-created and an increasing focus has been given to the emotional and self-expressive benefits a user gets from a brand.**
3. **While branding and foresight is not directly connected, the nature of branding is forward-looking and dynamic, however, a need for a more rigid foresight approach is detected.**
4. **Though predictions with AI are possible, they are based on past data and thus rely on the future to be following the pattern of the past.**
5. **Foresight and AI are currently growing a closer relationship with emerging interest from both businesses and academia - already a variety of organizations are using AI to assist in monitoring and detecting trends.**

These insights can now act as a foundation for interviews with experts from all three fields to obtain a more practical view of the matter.

SECTION 3.0

TALKING WITH THE EXPERTS

To further explore the opportunities in using AI and foresight to support Deloitte Digital's brand designers, experts within each of the fields were contacted. In total 8 experts were interviewed. In this section, we will meet the experts, look at the goals and general format of the interviews and analyze the results.

SECTION 3.1

THE INTERVIEW FORMAT

The interviews were all done through Skype and lasted from 30-50 minutes. It was chosen that these should be semi-structured as this suited the exploratory nature of the project at that stage. Due to the three different areas of expertise, three different interview guides were created, however, keeping the construct as similarly as possible to allow comparison between the experts. The three interview guides can be seen in Appendix 2.

3.1.1 INTERVIEW GOALS

There were several primary goals related to the execution of these interviews. The main goal was to answer the sub-questions defined in section 1.2.3: Problem Definition. These questions and their hierarchy can be seen below:

OBJECTIVES

What makes a strong future-proof brand and how can AI and foresight support this?

1. Which type of data and insights are needed and from which channels?
1.a How can data best be communicated?

2. What are the core elements of a brand?
2.a What is adaptable in a brand without diluting it?

3. What is the relationship between the 3 topic areas?
3.a Which area of foresight/branding can be/already are assisted by AI?
3.b Which (dis)advantages might it have?
3.c What time horizon is it plausible to work on when dealing with branding/AI?

Two secondary goals were (1) to explore the different topics that the experts might be triggered to enter during the conversation and additionally (2) introduce the concept in a broad way through storytelling to explore their reaction towards a framework or tool combining the three topic areas.

3.1.2 INTERVIEW GUIDES

To make sure these questions were investigated during the interviews, three interview guides were developed (cf. Appendix 1). The guides were created based on Patton, (2002) description of interview guides, and consisted of multiple subject areas with a few key questions prepared. As the goal was also to explore these subjects in a more open conversation with the participants, unstructured interviews were suitable. The interviews went from a low abstraction to a high abstraction level to create a sense of trust and comfort before entering open discussions.

All three interview guides contained six subject areas. The first area was an introduction to the topic of the interview and the participants' introduction of their work. Following this, the second area was specifically about the experts own area of expertise, before diving more into the relationship between that area and the other two in area three and four. Area five was an open discussion about the idea of combining AI, branding and foresight and area six was a wrap-up with a summarization of the findings and general additional questions and comments.

SECTION 3.2

MEET THE EXPERTS

The experts were contacted through email and purposely sampled to represent all three topic areas. Figure 13 displays how the experts are placed in the three areas and which topic was mainly discussed during their interview. Let us take a closer look at the eight experts.

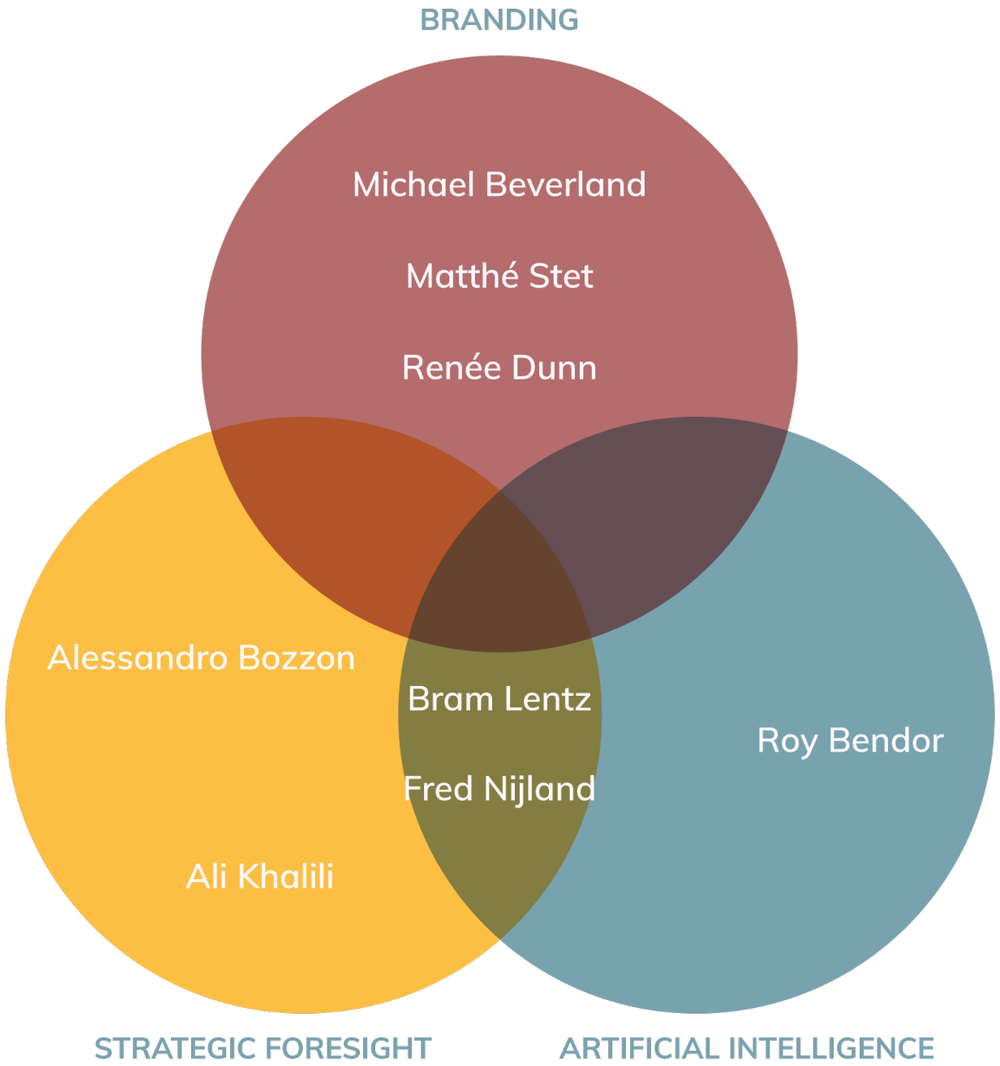


Figure 13: *The distribution of experts within the three topic areas.*

ALI KHALILI

AI Expert | Junior Manager, Financial Risk, Data & Reporting Advisor, Deloitte

Ali has a PhD in computer science on Agile Knowledge Engineering and Semantic Web, and has worked as a reasearcher/lecturer at the AI department of Vrije Universiteit Amsterdam before joining Deloitte. At Deloitte he is working as a Knowledge Graph specialist and creating propositions for clients within this field.

ALESSANDRO BOZZON

AI Expert | Professor, Human-centered AI, TU Delft

Alessandro is a professor at TU Delft and chair of the Human-Centered AI within IDE. He is especially involved in projects regarding machine learning, crowdsourcing and user modeling. Furthermore, he holds a lot of experience and knowledge within social media data analysis.

FRED NIJLAND

Foresight & AI Expert | Director, Customer Strategy and Applied Design, Deloitte

Fred is a director at Deloitte with many years experience within innovation growth consulting. He collaborates with a variety of big clients on spotting new value spaces and propositions and bringing them to the market. He has experience with using AI in the beginning of the foresight process in the search for these value spaces.

BRAM LENTZ

Foresight & AI Expert | Director, Monitor Deloitte

Bram is a director within Monitor Deloitte - a department dedicated to monitor markets and industries for deep insights to support client's strategic decision-making. Bram has some prior experience with AI, but is especially skilled within foresight methods, such as trend research, to spot opportunities for and with the clients.

ROY BENDOR

Foresight Expert | Assisting Professor, Design Conceptualization and Communication, TU Delft

Roy is an assistant professor at TU Delft with a focus on the social and political contexts of designs, futures and speculative design. Roy has a lot of experience in doing futures thinking workshops including scenario methodologies to imagine the future.

MATTHÉ STET

Branding Expert | Senior Manager and Art Director, Deloitte Digital

Matthé works as a senior manager at Deloitte Digital and has many years of design and marketing experience within the digital field. He is especially working on projects related to digital strategies and brand design. Additionally, Matthé has been involved with various projects which involve AI and machine learning.

RENÉE DUNN

Branding Expert | Visual Designer & Creative Strategist, Deloitte Digital

Renée is a designer and strategist at Deloitte Digital with expertise within brand design and strategy, UX design and prototyping. Prior to Deloitte she specialized in translating a brand into objects and surroundings. She has a special focus on supporting the client's in defining their brand identity through transformational brand experiences.

MICHAEL BEVERLAND

Branding Expert | Head of Department, Strategy & Marketing, University of Sussex Business School

Michael is a professor and head of department Strategy & Marketing in the UK. He is the author of several acknowledged branding books including "Brand Management: Co-creating meaningful brands" and "Building Brand Authenticity: 7 Habits of Iconic Brands".

SECTION 3.3

THE ANALYSIS

The analysis of the eight interviews was done based on the approach within grounded theory, specifically described by Charmaz (2006).

Initial codes from each interview were written down on sticky notes. If an initial code was repeated, this would be written down on the same note. When all interviews had been conducted, focused coding was done by clustering the notes and detecting patterns. This was iterated upon several times before six main categories were identified.

These categories were kept broad to create a simplified overview of the topics discussed with the participants, thus, sub-categories were required. In total 16 subcategories were identified and together with their main category, these can be seen in figure 14.

Next, relations between the categories and sub-categories will be described followed by an analysis of each sub-category.

3.3.1 INTEGRATIVE DIAGRAM

To further explore the categories and subcategories and the relations both between them and the initial codes, an exhaustive integrative diagram (Charmaz, 2006) was created and can be seen in figure 15 on next page.

Several interesting findings were extracted during the creation of the integrative diagram. For example, supporting the literature in section 2.3, some experts argued that AI can decrease bias while others argued the opposite.

Furthermore, several experts mentioned how social media data is a good predictor, while several others warned about the messy nature of the same data, though arguing that it is good for fast testing of assumptions and giving an overview of the landscape.

A considerable amount of categories supported each other such as using domain experts as predictors and mixing AI and domain knowledge from 'Keeping the human in the loop'. Additionally, the mention that we are drawn to stories in 'Using storytelling' and a brand has a narrative which makes it distinct from 'Designing an adaptive brand'.

3.3.2 THE SUB-CATEGORIES

The sub-categories will now be explained more in-depth using quotes from the interviews. To further emphasize their relationships, the most connected sub-categories will be clustered together.

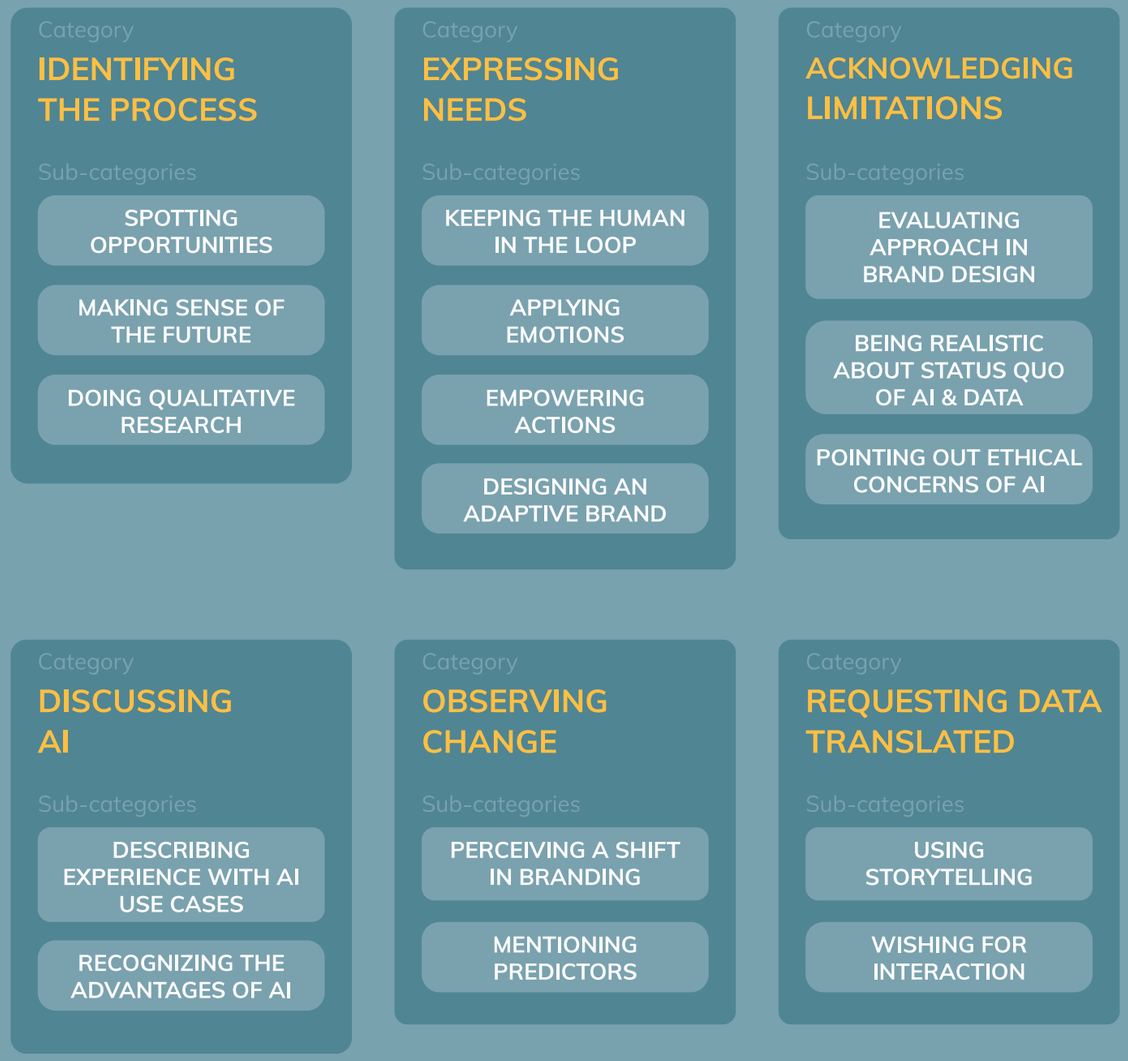


Figure 15: *The analysis resulted in 6 categories with 16 sub-categories.*

OVERVIEW OF CATEGORIES

USING AI AND FORESIGHT TO ASSIST BRAND DESIGNERS

IDENTIFYING THE PROCESS

1 SPOTTING OPPORTUNITIES

- Futures thinking can open up a space of opportunities.
- Goal of trend research: identify innovation and value spaces and opportunities.
- We do co-creation with our clients to find the most fitting opportunities.
- The brand team should look forward to know how to adapt their brand.

> **"It is up to brand managers and designers to always challenge that [the brand's position] and look ahead, reframing it, expanding it, making it more authentic, adapting it and then tying it back into a more during narrative of the brand."**
>
> *MB, Branding Expert*

2 MAKING SENSE OF THE FUTURE

- In foresight we use scenario planning techniques to imagine the future.
- The future can be communicated through products, images, movies etc.
- Presenting data is essential when the goal is to empower decisions.
- We partly choose the future we want and try to make decisions towards it.
- We combine and make sense of data through creative sessions.

> **"A wise thing to do is to say 'the best way to create the future is to predict it'. So when you are convinced that something will happen there [in that market] you have to take steps there to develop yourself and your company in that direction."**
>
> *F, Foresight & AI Expert*

3 DOING QUALITATIVE RESEARCH

- Sometimes we do association test with external agency (Neurensics).
- We often do in-depth interviews with consumers in brand design.
- We use design thinking sessions to make decisions based on the data.
- Prototype, demo - you need to test the brand or product/service to really know.

> **"After the trend research we co-create the opportunities with the client - we look at what is important together, and how we can target it. It is done through workshops where we also often bring in domain experts."**
>
> *B, Foresight & AI Expert*

Predictors supports spotting opportunities

Supports

Contributes to designing a brand

REQUESTING DATA TRANSLATED

4 USING STORYTELLING

- We respond to stories, not numbers
- Data is building blocks to stories. data-driven storytelling

> **"Forecasting, if it stays in numeric form, it is useless to people because we do not respond to numbers, we respond to stories - we know that this is how we make sense of our world."**
>
> *R, Foresight Expert*

5 WISHING FOR INTERACTION

- Data is right now communicated through excel and static graphs internally.
- Best way to communicate complex data is through interactive UIs.
- Successful interactive data visualizations are hard to come by.

> **"Make it [data visualization] more interactive and reactive than what is out there now, so the user really gets a feeling of the data, what it means and how dynamic it is."**
>
> *A, AI Expert*

Storytelling an approach to apply emotion

Actionable insights through interactivity

ACKNOWLEDGING LIMITATIONS

6 BEING REALISTIC ABOUT STATUS QUO OF AI & DATA

- Foresight is based on past data - take into account black swans, wild cards etc.
- Be concerned with the quality of the data.
- Data might only represent a certain region or demographic.
- It is not very plausible to do long-term predictions today with many variables.
- We are in the early stage of understanding these technologies.
- Social Media data is messy, but dynamic, so use in combination with other data.

> **"Social media data is a bit of a mess. However, it is quick and dynamic, so especially useful if you want to test assumptions or some changes in behavior."**
>
> *A, AI Expert*

7 EVALUATING APPROACH (IN BRAND DESIGN)

- Lack of a more diverse and exhaustive competitor analysis.
- The research is often limited to the brand designer's past experience and beliefs.
- No step-by-step method to go from product attributes to emotional benefit
- No structured approach to express brand identity through products, environments etc.
- Hesitant to step away from consistency due to the way marketers are trained

> **"We often tend to look at the competitors in our product category, but it would be very interesting to also look beyond that towards functional and emotional benefits. And even the consumer identification."**
>
> *M, Branding Expert*

8 POINTING OUT ETHICAL CONCERNS OF AI

- AI is biased by its creator.
- The black box effect.
- Be aware of the organizational and process changes AI brings employees.
- AI should assist us, not make the decisions.

> **"I see it [AI] as a support tool to real humans who should still very much be part of this process."**
>
> *R, Branding Expert*

Opposing opinions

Disadvantage

DISCUSSING AI

15 DESCRIBING EXPERIENCE WITH AI USE CASES

- AI is mostly used for marketing purposes.
- AI is mostly used to crawl/scrape the web and deliver the raw data.
- AI is used for trend research, where we use STEEP to help us look broad.
- AI only used for customer service, e.g. chatbots.

16 RECOGNIZING THE ADVANTAGES OF AI

- AI decreases bias.
- It is efficient both in terms of time, labour and handling high complexity.
- AI leads to more exhaustive research.
- AI can add diversity in our research and insights.

> **"AI allows you to combine all of these different and complex insights together and come up with meaningful connections in a short amount of time."**
>
> *F, Foresight & AI Expert*

Makes it possible to

OBSERVING CHANGE

The machine does not make sense of the data

9 PERCEIVING A SHIFT IN BRANDING

- We have shifted from functional to emotional branding.
- Brands are used to empower consumers' identity.
- Brands having to be genuine and authentic will grow even more the next 10 years.
- Growing challenge for brands to stand out due to increasing amount of players.
- Every brand wants to be purpose-driven now, this poses a challenge.
- Brands have to be more adaptive and dynamic than ever before.
- The next stage is that you need to be connected with consumers.

> **"It is very hard for brands today to really stand out - it is a balance between being consistent but also unique."**
>
> *M, Branding Expert*

10 MENTIONING PREDICTORS

- Socials (e.g. Twitter, Facebook, Instagram).
- Pattern databases (e.g. LexisNexis).
- News articles, reports, scientific articles.
- Venture capital (e.g. PitchBook).
- Domain experts.

> **"In terms of decision-making, a collection of opinions from expert within a field, for example branding, will always out-compete the insights of an algorithm."**
>
> *B, AI Expert*

Supports

Supports

Find the balance

EXPRESSING NEEDS

11 KEEPING THE HUMAN IN THE LOOP

- Not everything should be automated, it is important to keep the human in the loop.
- It is beneficial to mix AI with domain knowledge.
- Most work lies in processing the data once it is gathered.
- Predictors are dependent on the task at hand, we have to consider it before hand.

> **"Be careful not to try to automate everything. Something I think we see a lot now with the trend of AI is that people think it can replace the human. But always keep a human in the loop. We always have to add human knowledge, domain knowledge, and then mix it with the benefits AI brings."**
>
> *A, AI Expert*

12 APPLYING EMOTIONS

- Branding is emotional and human.
- Branding is creative work, and it involves a lot of gut feelings.
- Foresight is a very emotional process, it is about imagining unknown happenings.

> **"You have to get at the heart of the emotive connections with your audience with the product or service you are offering. Our job as brand designers is to create this connection."**
>
> *R, Branding Expert*

> **"If we tap into something deep within the consumer psyche we can be relative sure that we can build our position or a building block in our position which will be relatively long-lasting."**
>
> *MB, Branding Expert*

13 EMPOWERING ACTIONS

- There is a gap between data/insights and then encourage action.
- The goal of data visualization it to urge the user to do something with that knowledge.
- It is necessary to back caste from the desired future to now.

> **"When we have settled on an opportunity space and how it might look in the future, we translate it back to see which actions are needed today to reach it."**
>
> *B, Foresight & AI Expert*

14 DESIGNING AN ADAPTIVE BRAND

- The core identity should not be changed.
- A need for overview of an industry's common denominators, how to stand out.
- We need to continously rethink how to express the position in a relevant way.
- It is important for a brand to be adaptive to emotive cues.
- The brand has a story which has to make it distinctive.

> **"You should not change the identity - if your brand is rooted in certain attributes then you have to think about how to repackage them and present them to an audience in a way that they believe."**
>
> *R, Branding Expert*

LEGEND

- CATEGORY
- SUB-CATEGORY
- INTERMEDIATE CODES
- AMOUNT OF EXPERTS
- CATEGORY RELATION
- CODE RELATION

Figure 15: *The eight expert interviews resulted in rich insights which have been structured in this diagram in an effort to make sense of connections and relations between the information.*

14 DESIGNING AN ADAPTIVE BRAND
9 PERCEIVING A SHIFT IN BRANDING

Q1

Supporting the previous findings from literature in section 2.1, all three branding experts described the necessity for brands today to be adaptive. This is also portrayed in the subcategory 'Perceiving a shift in branding', where several experts described that a lot of markets are experiencing an increasing number of players, making it even more challenging to stand out.

Designing an adaptive brand brings with it an interesting paradox - as brand expert Matthé Stet explained: "It is very hard for brands today to really stand out - it is a balance between being consistent but also unique.". Renée Dunn also confirmed this, adding that the core identity of a brand should not be changed: "You should not change the identity - if your brand is rooted in certain attributes then you have to think about how to repackage them and present them to an audience in a way that they believe.".

Q2

The experts agree that it is the expression of the brand identity rather than the identity itself which can be adapted. Based on this, Michael Beverland mentioned that though the brand DNA model is a good construct, the name suggests that it is not possible to change. However, according to all three, the positioning is dynamic.

11 KEEPING THE HUMAN IN THE LOOP
3 DOING QUALITATIVE RESEARCH

Q3

An interesting subcategory found across all experts was the recommendation of keeping the human in the loop. Ali Khalili brought a warning not to strive towards automate everything, but rather find the balance between AI and domain knowledge. This was further supported by Alessandro Bozzon when describing domain experts as a great input: "In terms of decision-making, a collection of opinions from expert within a field, for example branding, will always out-compete the insights of an algorithm.".

This was supported in the subcategory 'Pointing out ethical concerns of AI' by Fred Nijland who explained how they had to overcome the black box effect of AI by having regular meetings with the data scientists to understand the input and output of the algorithms.

In the same category, several experts also mentioned that AI should be seen as an analytical tool rather than a decision-making power.
Additionally, the subcategory 'Doing qualitative research' also showed how several experts would combine the quantitative data collection with qualitative research. Bram Lentz explained that: "After the trend research we co-create the opportunities with the client - we look at what is important together, and how we can target it. It is done through workshops where we also often bring in domain experts.".

6 BEING REALISTIC ABOUT STATUS QUO OF AI AND DATA

Across all experts, there was a focus on the limitations of AI and the data available today. According to several of them, we are still in a very early stage of understanding the applicability of AI, and though we have an incomprehensible amount of data, the quality is debatable. As Ali Khalili described: "The issue lies mostly in the knowledge graph and the quality of data, not in the analysis afterwards.".

This was supported by several other experts and Alessandro Bozzon additionally recommended to choose the data sources based on the task at hand: "Social media data is a bit of a mess. However, it is quick and dynamic, so especially useful if you want to test assumptions or some changes in behaviour.". Several experts described how social media was a very interesting area for customer insights, providing a more unfiltered and personal look into the relationship between brand and user.

Q5

2 MAKING SENSE OF THE FUTURE
4 USING STORYTELLING

Q4

Foresight methodology was especially mentioned by the experts to be beneficial when making sense of the future. Several foresight experts mentioned the use of scenario planning to imagine a certain future. The subcategory 'Using storytelling' supports this with Roy Bendor describing that: "Forecasting, if it stays in numeric form, it is useless to people because we do not respond to numbers, we respond to stories - we know that this is how we make sense of our world.".

Q6

Furthermore, the acknowledgement within foresight that we have the possibility to choose and influence the future was described by Fred Nijland in his advice: "A wise thing to do is to say 'the best way to create the future is to predict it'. So when you are convinced that something will happen there [in that market] you have to take steps there to develop yourself and your company in that direction.".

5 WISHING FOR INTERACTION
13 EMPOWERING ACTIONS

Q6

Several experts touch upon the need for an interactive and immersive presentation of data to better communicate the complex insights. Ali Khalili recommends: "Make it [data visualization] more interactive and reactive than what is out there now, so the user really gets a feeling of the data, what it means and how dynamic it is." This could potentially support the sub-category 'Empowering actions', as the interactivity and feeling of urgency created by dynamic data visualization could encourage actions.

16 RECOGNIZING THE ADVANTAGES OF AI
8 POINTING OUT ETHICAL CONCERNS OF AI

Several advantages of AI were acknowledged by the experts working with the technology. According to them, the implementation of AI can potentially lead to more exhaustive research and a broader scanning of insights. Using a machine could also lead to a decrease in biased data and analysis. Additionally, it can handle more complexity within a short amount of time, Fred Nijland mentioned: "AI allows you to combine all of these different and complex insights together and come up with meaningful connections in a short amount of time."

At the same time, the experts also acknowledged limitations, especially regarding ethical issues pointed out in the sub-category 'Pointing out ethical concerns of AI'. Interestingly, opposing the advantage of AI decreasing bias, the experts also mentioned that it could be biased by its creator and the data used to train the algorithm. Furthermore, the black box effect was a concert for several experts, together with the opinion that AI should assist rather than make choices. As Renée Dunn pointed out :"I see it [AI] as a support tool to real humans who should still very much be part of this process.".

Q3

12 APPLYING EMOTIONS

The branding experts all agreed that the discipline of branding is one involving intuition and emotion from the brand design team. Additionally, the connection between brand and audience is also emotional, supporting the sub-category 'Designing an adaptive brand'. To apply emotions both in creating the brand and communicating it is, according to Michael Beverland, an important part of a brand's long-term survival: "If we tap into something deep within the consumer psyche, we can be relative sure that we can build our position or a building block in our position which will be relatively long-lasting."

Q1

1 SPOTTING OPPORTUNITIES

Both for experts talking about branding, artificial intelligence and foresight the objective was identified to be spotting future opportunities and value spaces. This was also described as the objective of practising trend research, and often done in collaboration with clients within Deloitte. Furthermore, Michael Beverland describes that the brand team

should look forward in order to identify how best to adapt the brand - supporting the sub-category ‘Designing an adaptive brand’. To detect these opportunities some predictors were mentioned, which are described in the next section.

10 MENTIONING PREDICTORS

To identify white spaces in future markets and industries, the experts mentioned a variety of predictors. Domain experts were acknowledged to be essential for any process within all three topic areas - which supports the sub-category ‘keeping the human in the loop’. Alessandro Bozzon stated the following: “In terms of decision-making, a collection of opinions from experts within a field, for example branding, will always out-compete the insights of an algorithm.”. This was supported by other experts describing that a mix of facts and data with domain knowledge is necessary.

Q5

Predictors such as venture capital and pattern databases were also identified as strong predictors. Lastly, social media was discussed with three experts with prior knowledge within the use of this. It was described as messy in the sub-category ‘being realistic about status quo of AI and data’, however, it was also recognized as a great source for real-time and very personal data.

15 DESCRIBING EXPERIENCE WITH AI USE CASES

Q3

During the introduction of AI within all interviews, the experts described their prior experiences with the technology. Though only half of the experts had direct experience with AI projects, the concept of AI was known to everyone. The use cases identified within branding were limited, supporting the findings in section 2.3 - AI is mostly used within personalized marketing and customer service. Renée Dunn mentioned: ”I also see it [AI] being used in a lot of chatbots and predictions to help people through customer service.”

Within foresight practises, several experts described that they only used AI in the first steps of trend analysis - gathering and structuring data.

7 EVALUATING APPROACHES IN BRAND DESIGN

During the interviews with brand experts, they all identified limitations within some current methods. One limitation which was mentioned by several was the fact that current competitor analysis often limits them to look only within the product category, or the competitors their clients have defined. Furthermore, the research directing brand design and marketing is often very dependent on the practitioner’s prior experience. Michael Beverland additionally described that being more adaptive can be a great challenge within current processes: “Marketers have been taught that consistency across everything they do is very important, so stepping away from that even they know they should, or they know they need to is actually very difficult.” Thus, there might be a need for more probing tools and methods to be more adaptive and dynamic in branding and marketing.

Q2

SECTION 3.4

REFLECTING BACK ON THE GOALS

Based on the above analysis we can now reflect back on the interview goals from section 3.2 and investigate whether the questions were answered.

We will build it up based on the three sub-questions before concluding on the overall question in section 3.5.

Q5 WHICH TYPE OF DATA AND Q6 INSIGHTS ARE NEEDED AND FROM WHICH CHANNELS?

As described above, the experts were in agreement regarding the debatable quality of available data today. However, several predictors were mentioned during the interviews; socials (Twitter, Facebook, Instagram, YouTube), newspapers, trend reports, scientific papers, pattern databases, venture capital databases and domain experts.

Though the type of data needed is dependent on the task at hand, it was made clear that the preprocessing of the data is a very important step. Additionally, the combination of human knowledge and patterns detected in data was encouraged by several experts, Ali Khalili stated: "Be careful not to try to automate everything. Something I think we see a lot now with the trend of AI is that people think it can replace the human. But always keep a human in the loop. We always have to add human knowledge, domain knowledge, and then mix it with the benefits AI brings.".

Social media data was by most of the experts mentioned as an interesting data channel, making it possible to extract very raw and real-time insights about the brand together with predicting what trends and topics are emerging.

Another important topic was the communication of the data as mentioned in the previous section, Roy Bendor described how we as humans respond to stories rather than numbers. Ali Khalili also explained the importance of communicating the data in an interactive and dynamic fashion, supported by Fred Nijland, who also described the communication of data to clients as an essential step.

WHAT ARE THE CORE ELEMENTS OF A BRAND? Q1 Q2

When discussing the elements a brand consists of, all three brand experts mentioned the fact that it comes down to the associations users have with a certain brand. It adds a certain value to all your offerings. Matthé Stet described the development of brands as going from product-related to symbolic, supported by Renée Dunn explaining how every brand is focused on being purpose-driven today. Two of the branding experts mentioned some concrete brand models such as the brand DNA or the brand onion.

Apart from this, all three experts described the importance of the emotional connection between the brand and its' users - Michael Beverland also expressed the perspective of a co-created brand meaning between the four authors also described in section 2.1.3 and Renée Dunn stated: "It is about being adaptive and dynamic to changing emotive cues. Because emotive cues might need to evolve and change to connect with new audiences.".

According to the experts, it is debatable which features of a brand should be adaptive. However, they all agreed that core elements such as personality, purpose, and core visuals such as a logo should stay consistent while the way these elements are expressed during the different touchpoints with a brand can be adapted to create connections with the user.

Q3 WHAT IS THE RELATIONSHIP Q4 BETWEEN THE THREE TOPIC AREAS?

Both Fred Nijland and Bram Lentz had experience with the application of AI within foresight - more specifically in trend research. However, other areas of the foresight process were done through for example co-creation sessions with the client. Additionally, Roy Bendor emphasized that: "I think there is a lot of value in taking so to say data and using that as building blocks for actually telling stories as long as you understand the limitations of the data itself, and then use storytelling to compel people to act.".

Furthermore, Ali Khalili was sceptical about long-term predictions using AI, supported by Alessandro Bozzon who also described that the longer time horizon the lower accuracy of the prediction.

The relationship between foresight and branding is less obvious. Though branding is very forward-looking, the application of foresight procedures and methodology is limited. As mentioned in the previous question, the branding experts explained the importance of a brand being adaptive - thus, the need for continuous monitoring and scenario planning is essential.

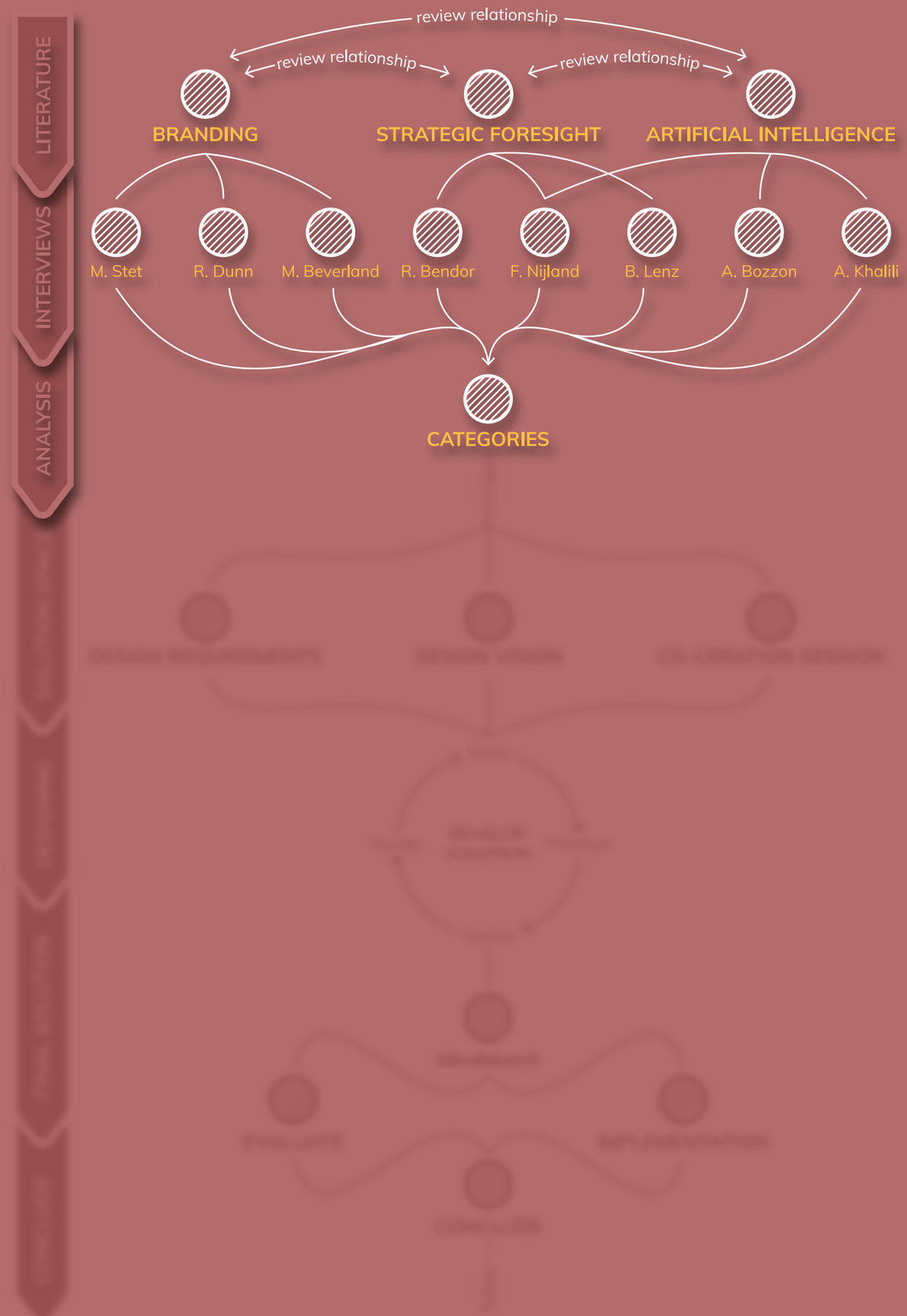
The experts mentioned a variety of examples of the relationship between branding and AI which is currently emerging. Matthé Stet described an online tool for naming a brand powered by AI logic, Bram Lentz mentioned a project using AI to detect the appearance of a brand on TV compared with user recognition, and Renée Dunn mentioned customer-facing AI such as chatbots.

Applying AI to direct the adoption of core elements in a brand was not detected. However, Michael Beverland described that: "A lot of things [within branding] is already to some extent data-driven.", and Renée Dunn also explained how a lot of a brand designer's work is process-oriented and could possibly be optimized by applying AI.

Both advantages and disadvantages of applying AI were mentioned during the interviews. Three experts described a key benefit to be the efficiency AI could contribute with regarding time and man-power sent on a given analytical task. Fred Nijland described that AI had the possibility of decreasing bias and broadening the scope of input - while on the other hand, Roy Bendor described that AI might carry the bias of its creator.

SECTION 3.5

SECTION
KEY FINDINGS



The exploratory nature of the expert interviews resulted in interesting patterns and insights which have been discussed and compared in the above section. The main question when initiating these eight interviews was ‘What makes a strong future-proof brand and how can AI and foresight support this?’. The following can now be concluded:

1. **A strong future-proof brand is one which adapts the expression of its positioning based on the emotional connection with its users.**
2. **A brand should not change its core identity (e.g. purpose and values) but rather focus on how to communicate it in relevant ways.**
3. **AI can support the process by continuously monitoring and detecting patterns/trends in this emotional connection between brand and user.**
4. **Foresight can support the process by establishing a structured and holistic approach to future-proofing the brand positioning and bridge the gap between data and action through its concrete methods.**

These findings combined with the theoretical background presented in section 2.0 will now direct the definition of the solution space.

SECTION 4.0

SPECIFYING THE SOLUTION SPACE

In this section, the scope of the solution will be narrowed down based on the above research. Furthermore, a creative session exploring the solution will be described, along with a design vision and design requirements.

SECTION 4.1

REDEFINING THE SCOPE

Based on the past research phase, the final scope for the solution can be narrowed down within the three topic areas (cf. figure 16).

Within **branding**, the focus is boiled down to the match between the online brand image and the brand identity, with the brand image being focused around the consumer psychology model (Schmitt, 2012) and the emotional connection. The main insights leading to this were;

1. literature described how the evolution of branding shows that the focus should be on connecting with users and the experts emphasised how a brand needs to stay emotionally connected with the user,

2. not a lot of focus within literature has been placed on a more quantifiable way of analysing this match, and

3. the branding experts repeatedly mentioned this connection and the need to tap into something deep within the consumer to secure the brand position.

The focus within **strategic foresight** was already on the theoretical lens and methodology of the discipline. Through the literature, the Generic Foresight Process was found to be the most defined approach, thus, this became the main focus of this topic area. Additionally, the expert interviews also highlighted the importance of spotting future opportunities and imagining the future through foresight methods such as trend research and scenarios. Therefore, the final focus within strategic foresight is on the Generic Foresight Process and the prospecting methods within that.

Lastly, as the literature reveals, **artificial intelligence** is a broad field with numerous techniques involved. Through both literature review and expert interviews, social listening was a recurring topic within listening to users and understanding their associations with and emotions towards the brand. NLP techniques strive to extract insights from textual content and are now developing techniques to recognize emotions. Therefore, social listening and monitoring using various NLP techniques will be the scope of AI in the solution.

With this scope, we can now move on to explore more practical sides of the solution space.

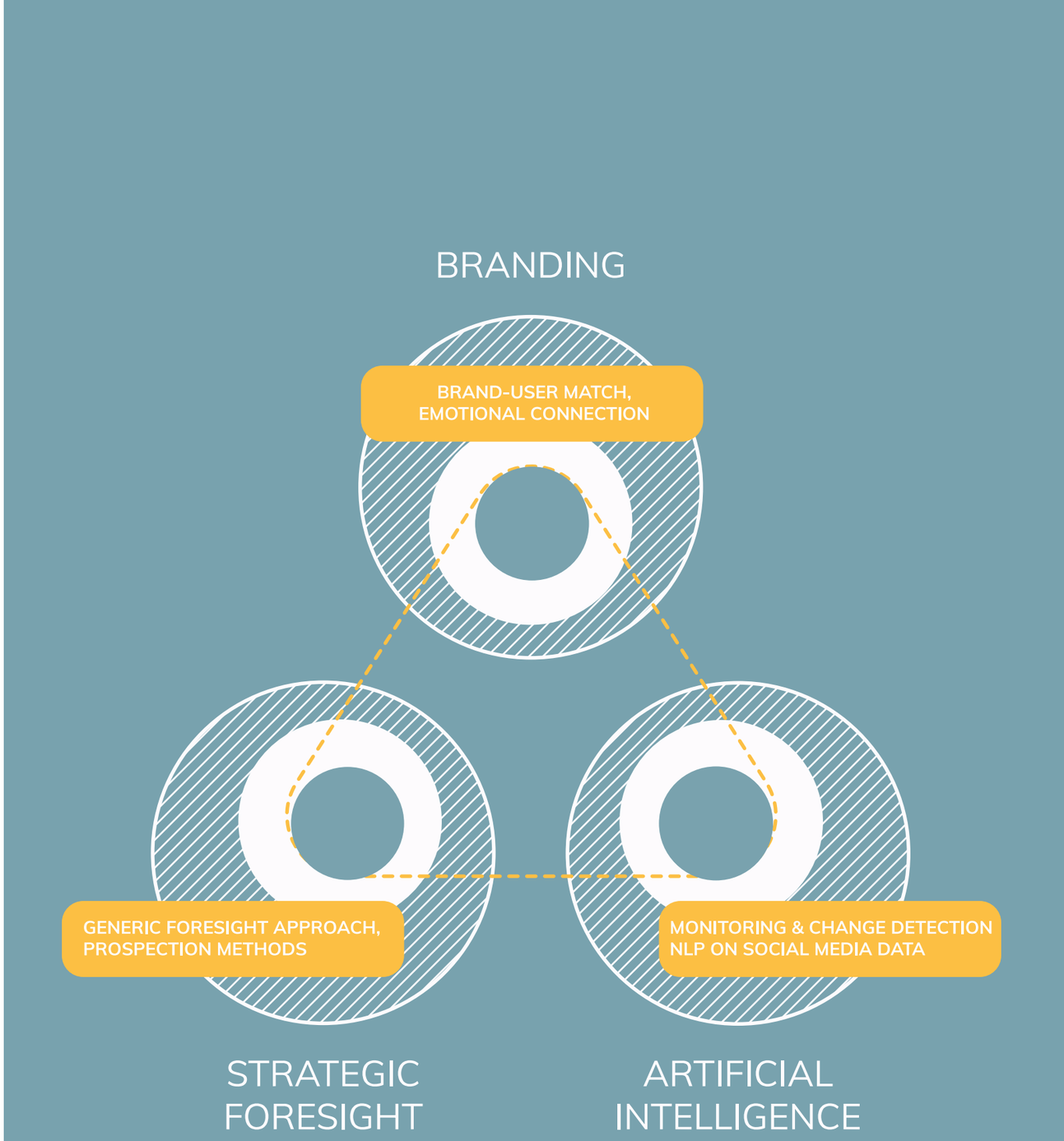


Figure 16: *The project is further scoped from the initial scope seen in figure 3 to the above based on the research phase.*

SECTION 4.2

CREATIVE SESSION

A two-hour creative session was held in collaboration with two participants; a data scientist working with graph neural networks for the prediction of time-evolving phenomena and a strategic design graduate working on making complex supply chains adaptive through applying AI. This session was meant as a starting point for the ideation of a solution from more than my individual perspective. The presentation, facilitator guidelines and images from the session can be seen in Appendix 3.

OBJECTIVES

The session had two main goals. The goals were to

1. explore the types of data the two participants together would deem both important and accessible for brand designers.

2. brainstorm different solutions drawing on this data that a fictional brand manager of Jumbo could use to design a stronger brand positioning.

THE STRUCTURE

The first challenge discussed during the interview The session was structured as follows. To convey the problem, a fictional story was told about Jack, Jumbo's brand manager and his current challenges. The problem was discussed with the participants followed by a time-boxed individual brainstorm on what sort of data might help Jack. All the data was discussed and put on a wall on sticky notes. These were then clustered and put on a matrix with one axis being the importance of the data for Jack, the other being the accessibility.

Following this was another time-boxed individual brainstorm on concrete solutions and tools which might use the data from the 'high importance - high accessibility' quadrant. The participants were asked to create a step-by-step storyboard of how Jack could use this solution.

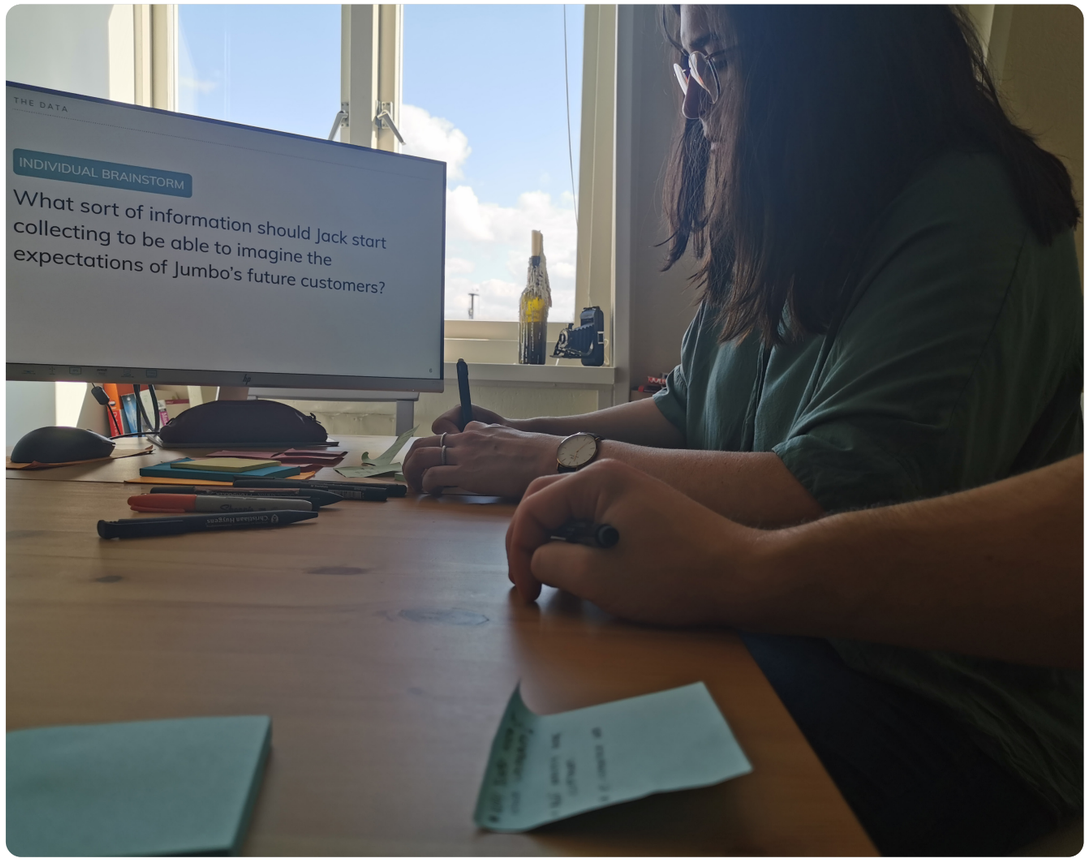
THE INSIGHTS

Several key insights were gained from the creative session and these will now be described.

Firstly, the most important and accessible data identified were (1) emerging trends, (2) how the brand is perceived by the users, (3) information about user needs, and (4) emerging competitor activities.

Secondly, the participants had an interesting discussion about how to simplify and decompose the problem for Jack as they believed this had to be done in order to take advantage of AI. The data scientist mentioned: "When you talk about for example predicting a certain scenario in the future, this prediction consists of a lot of variables - some of them we probably don't even know today. It is too complex - I don't think AI is ready for this yet. So you will need to simplify the problem, pick it apart."

Thirdly, another discussion arose based on the idea of monitoring emerging competitor activities. The participants discussed whether this information would bring Jack advantages or disadvantages seeing that he would want to do something different than the competitors. The designer described that "It is important to monitor what competitors do, but it can also sway you to do what they do instead of doing something new to stand out." However, the participants agreed that a brand can use this type



of monitoring for two reasons; (1) in some cases the brand will need to do the same as others in their industry, living up to the points of parity, and (2) in other cases the brand can identifying white spaces, opportunities of points of difference, due to the knowledge of where the participants are heading.

Lastly, a few solutions were suggested. The first was a simplified simulation drawing inspiration from The Sims. This solution was meant to simulate a segment's behaviour and attitude towards a change in the brand. Though these agent-based simulations are slowly increasing in capability, the participants agreed that this was not feasible at the moment. Another idea was regarding a brand matching tool which could match a brand with other brands based on brand identity to create a suitable eco-system while emphasising each other's identity. The last idea was to create a data visualization tool which could show the brand manager the industry landscape, competitor landscape and consumer landscape through data collected and detect emerging changes.

SECTION 4.3

DESIGN VISION

When combining the insights from section 3, the redefined scope and the four key insights from the creative session, it becomes clear that the solution lies in the area of a digital tool comparing the brand identity with the brand image through applying AI and foresight. With the objective of further directing the next phase of the project, a design vision was created. The approach from Delft Design Guide (Boeijen et al., 2014) was adopted and adjusted to fit the project. Furthermore, the vision was expressed as a positioning statement for the solution to stay within the spirit of branding.

4.3.1 POSITIONING STATEMENT

For **employees involved in brand positioning, brand strategy and brand experience at Deloitte Digital**[1], I offer a **digital platform**[2] that is **highly customizable**[3], provides an **actionable analysis of user insights and how they match with the client's desired brand positioning**[4] and gives the employee the **insightfulness**[5] to be a **proactive consultant who enables their client to be future-proof**[6].

1. target audience | 2. product category | 3. product attribute | 4. functional benefit | 5. emotional benefit | 6. self-expressive benefit

4.3.2 END USERS

The users of this solution are the marketing and advertising employees at Deloitte Digital. They work with projects regarding the clients' brand positioning and how this is expressed through online communication, and thus, could benefit from the insights this framework provides.

4.3.3 OTHER STAKEHOLDERS

Firstly, **other Deloitte departments** could find both the methodology behind the solution and the insights from the analysis useful. It could even be used to inform the employees concerned with Deloitte's own marketing.

Secondly, **Deloitte Digital clients** also represent an interested party as they are directly influenced by the outcome the solution provides. Furthermore, the solution will appear like a beneficial addition to the project process in Deloitte's proposals.

Thirdly, the **users of the client** will both be receiving and influencing the solution. Though they do not know about it, they provide insights for the analysis and will possibly see changes in the way a certain brand communicates online. Ideally, they will find that the brand connecting more with their values and expectations

4.3.4 CONTEXT OF USE

The product will mainly be used in projects regarding brand positioning strategies and online communication during the discovery and define phases of Deloitte Digital's work with clients. More specifically, it will provide user insights and a comparison analysis on which the employees can build their concepts and solutions. Furthermore, the constant monitoring can also lead to the solution notifying of significant changes in the relationship and user segments, and thus, lead to proactively reaching out to clients.

4.3.5 RELATION WITH OTHER OFFERINGS

Deloitte Digital is often involved in projects regarding digital communication strategies, brand positioning, and marketing material creation. Thus, the solution will be an addition within the already established offerings. Furthermore, it can provide the new service of automatic monitoring and detecting significant emerging changes.

The AMC department has a variety of steps when collaborating with a client depending on the type of project. The main areas this framework can be beneficial are highlighted in figure 17. However, due to the possibility of customization, it is expected that the solution can be used dynamically throughout all of the steps.

For each client project, Deloitte creates a proposal which informs the client of the process, budget, methods and tools and this solution will be part of the relevant proposals - shown in the process as a tool the team will use. It could also support the creative collaboration with the clients which Deloitte Digital often does.

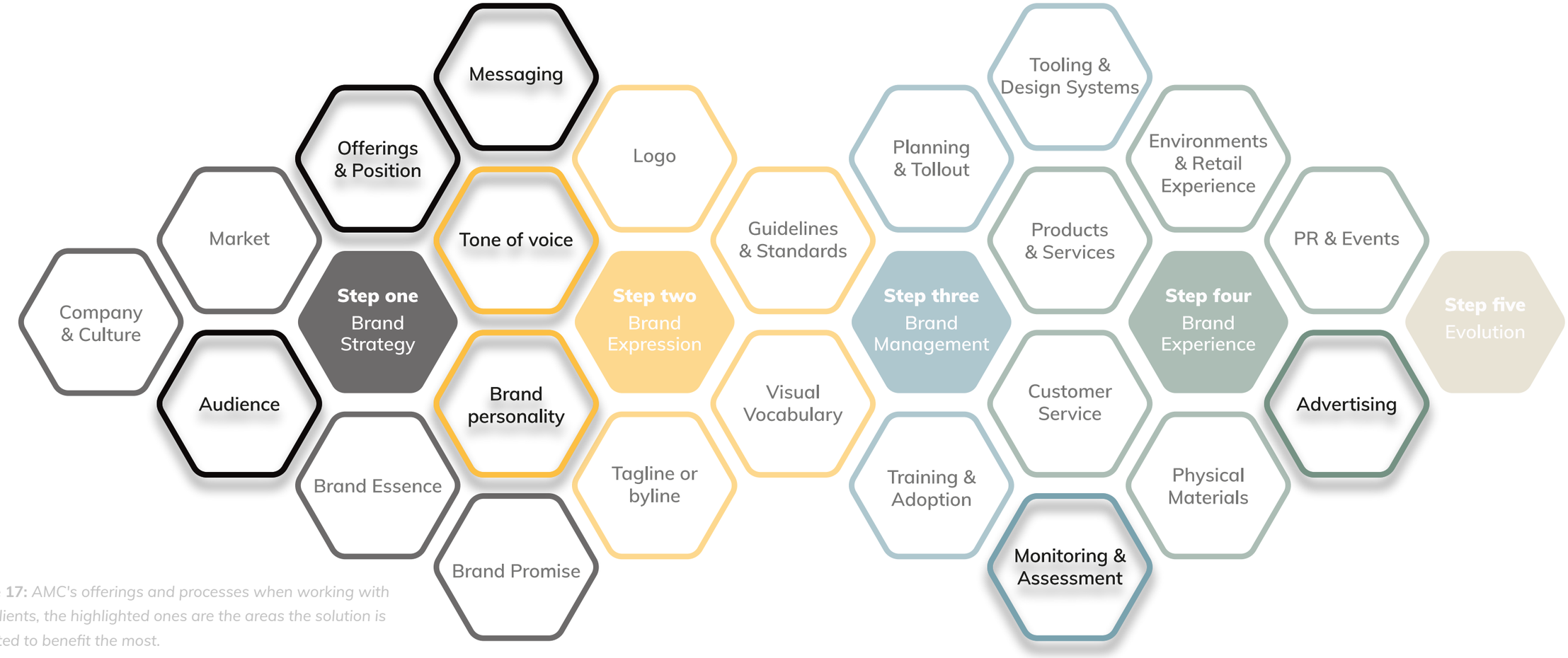


Figure 17: *AMC's offerings and processes when working with their clients, the highlighted ones are the areas the solution is expected to benefit the most.*

SECTION 4.4

THE DESIGN REQUIREMENTS

With a clear vision defined, we can return to the insights from the expert interviews and translate these into concrete requirements for the design. This is an additional contribution since these requirements could be used as principles when designing other solutions within the intersection of the three topic areas. For each of the main categories, a set of requirements were created (Boeijen et al., 2014). The requirement and category can be seen in each card (cf. figure 18).

Category: Identifying the Process

01 /
Spot future opportunities
which can be acted upon in the present

Category: Identifying the Process

02 /
Communicate creatively
about the future to support users in imagining it

Category: Identifying the Process

03 /
Inspire qual. research
and support it as a supple-ment to the quantitative data analysis

Category: Acknowledging Limitations

04 /
Be transparent
regarding what sources and data are used as input for the analysis

Category: Acknowledging Limitations

05 /
State data limitations
when data only represents a specific region, demographic or the like

Category: Acknowledging Limitations

06 /
Inform decisions
rather than attempting to make them automatically

Category: Acknowledging Limitations

07 /
Provide structure
to the creative process of positioning a brand

Category: Acknowledging Limitations

08 /
Explore a broad input
rather than solely operating based on the unput of the user

Category: Requesting Data Translated

09 /
Avoid static graphs
as the main data visualization as it does not convey the dynamic nature of the data

Category: Requesting Data Translated

10 /
Use storytelling
to convey the data collected in an engaging and memorable fashion

Category: Observing Change

11 /
Focus on emotions
and the emotional connection between brand and audience rather than functional needs

Category: ObservingChange

12 /
Keep it up-to-date
with easy updates and maintenance of the solution

Category: Observing Change

13 /
Include divers predictors
from both academic and non-academic sources to capture a broad perspective

Category: Expressing Needs

14 /
Motivate actions
and next steps based on the data rather than just informing the user

Category: Expressing Needs

15 /
Refrain from automating
the whole process but rather facilitate the interaction between user and system

Category: Expressing Needs

16 /
Avoid changes to the identity
of the brand but rather how it is expressed

Figure 18: *Based on the expert interviews 16 design requirements are created, which can also be used to design other solutions within branding, AI and foresight.*

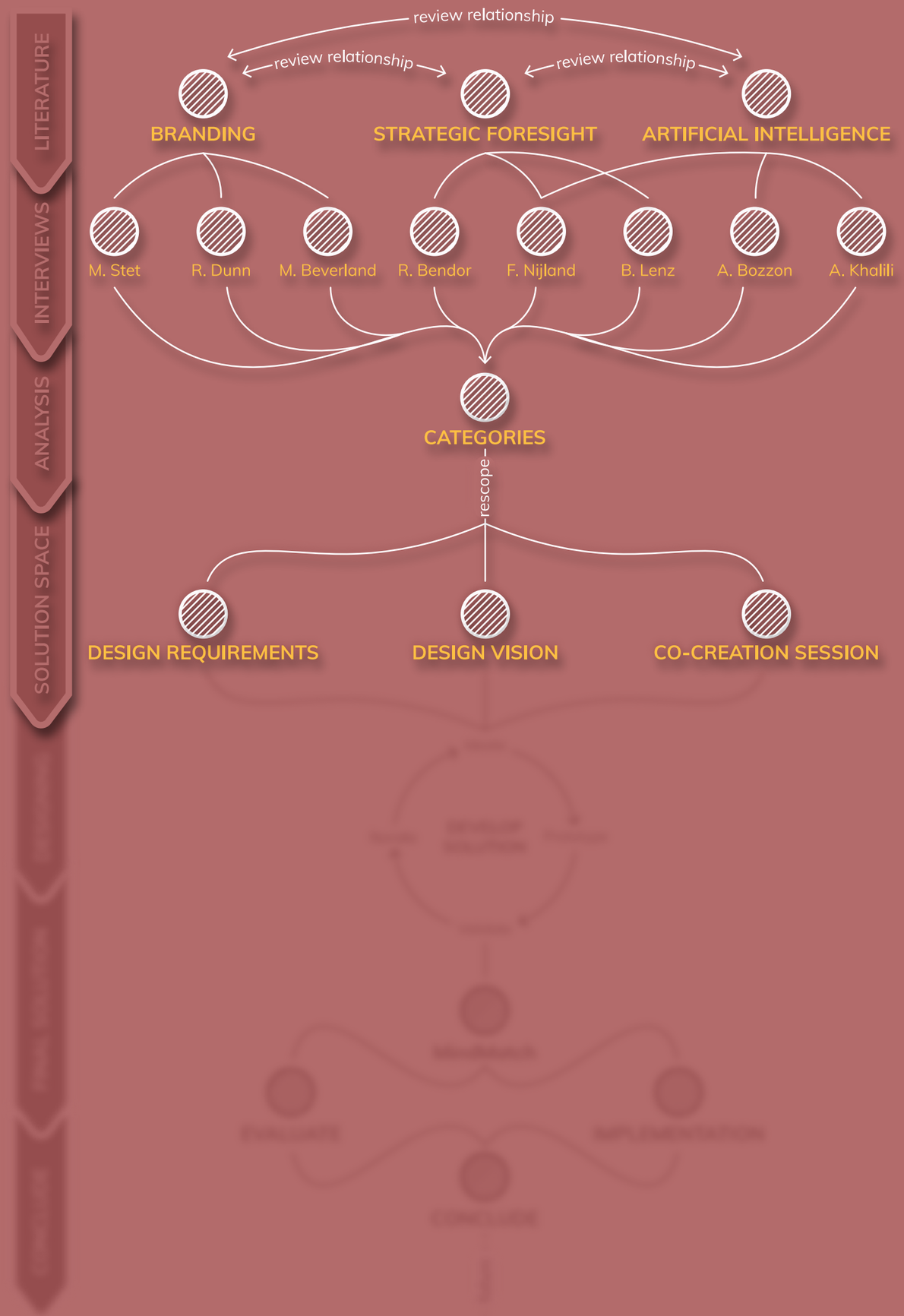
SECTION 4.5

SECTION
KEY FINDINGS

The above section sketches out the solution space which is based on the findings from section 2.0 and 3.0. Several conclusions can now be drawn;

1. **The scope is now narrowed down to focusing on (1) the emotional match between online brand image and identity, (2) the Generic Foresight Process and prospecting methods, and (3) NLP techniques on social media data.**
2. **From the creative session, insights suggest that;**
    - **It is advisable to limit the variables an AI algorithm has to deal with without over-simplifying a problem.**
    - **You are not only monitoring to follow the crowd, but also to be able to go in the opposite direction to stand out.**
3. **The design vision points out some main USP's for the digital platform; highly customizable, actionable insights and an analysis of the match between brand identity and brand image**
4. **The design vision points out some main benefits related to the digital platform; insightfulness and proactiveness for the employee leads to the client's brand becoming more future-proof.**
5. **16 design requirements will guide the development of the digital platform**

With this solution space in mind, the time has come to start designing concepts for a solution which can be used in Deloitte Digital's daily work with their clients.



SECTION 5.0

MAKING IT COME TO LIFE

This section will present the different steps towards an interactive prototype of the solution. Firstly, we will take a look at a framework consisting of all three topic areas which will guide the sketching phase. Then sketching and prototyping will be described, followed by an explanation of the feedback session with Deloitte Digital employees. A competitor analysis was done and will also be included in this section.

SECTION 5.1

FROM INSIGHTS TO FRAMEWORK

A high-level solution framework was developed combining all three areas defined in section 4.1. These three areas can be seen visualized in figure 19. Furthermore, brainstorming on the relationship between the consumer psychology model and NLP techniques was done and is shown in figure 19. This was done to ensure that all areas of the brand image theory were covered by the solution's AI analysis. The objective of the solution framework was to create an overview of how these three areas could come together and act as a guide to the solution.

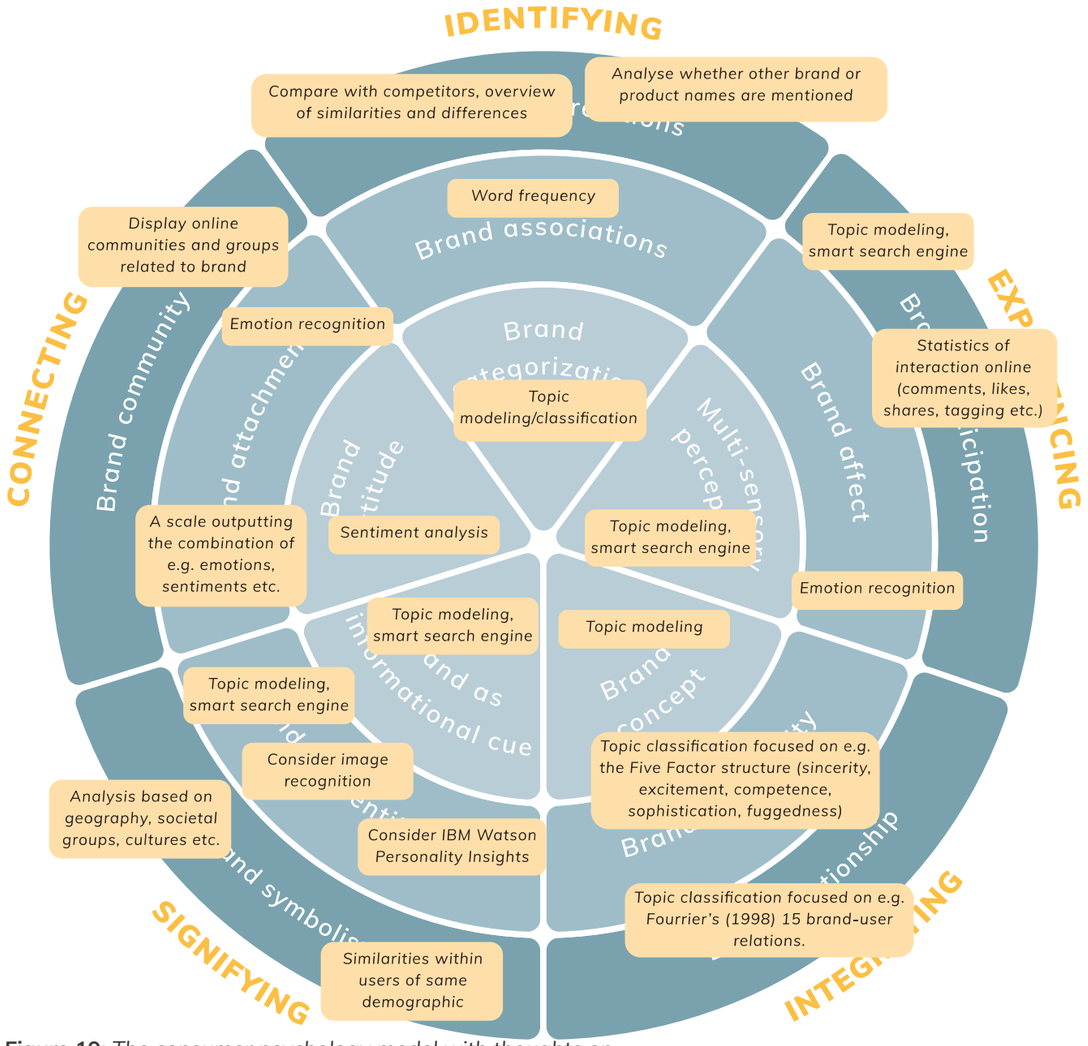


Figure 19: *The consumer psychology model with thoughts on how to uncover each of the aspects with AI.*

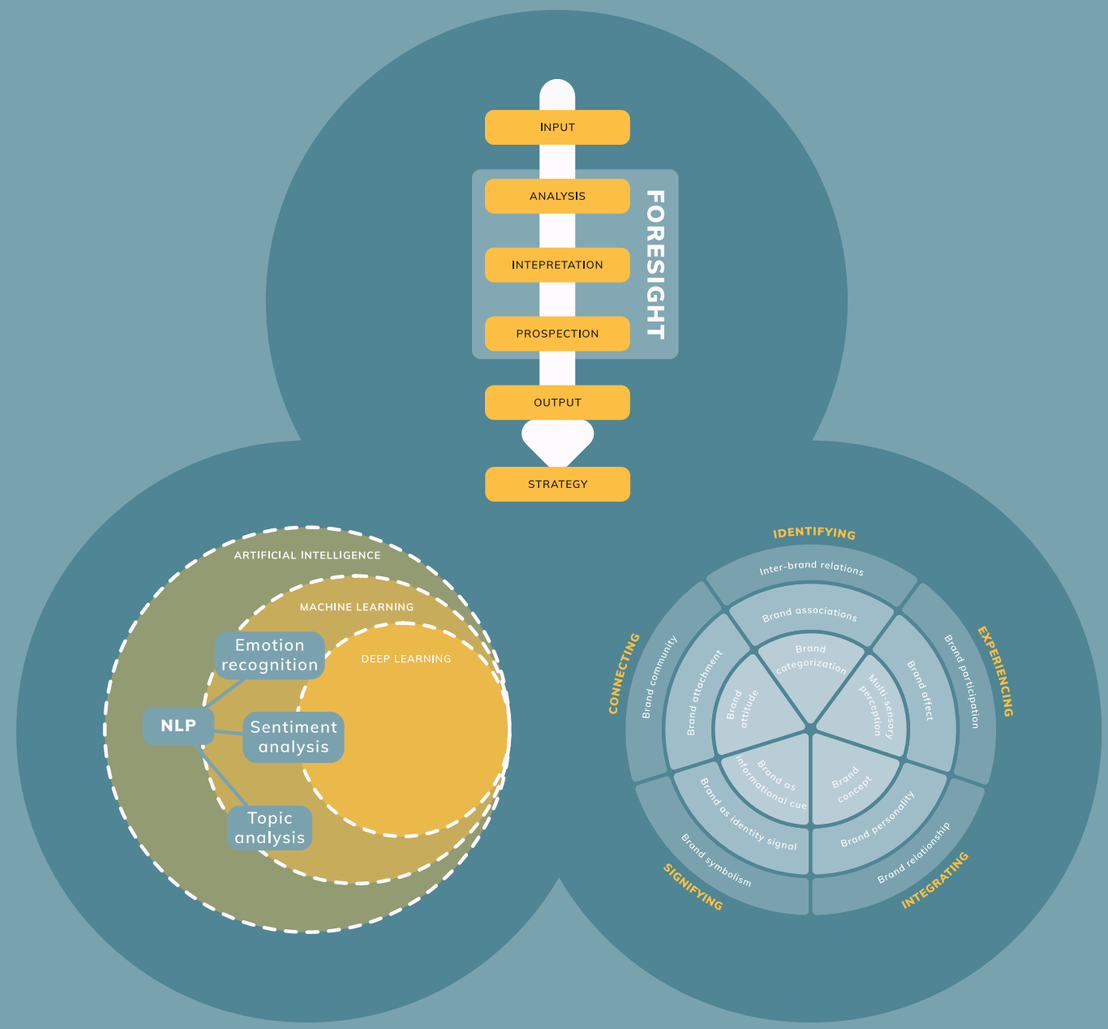


Figure 19: *A visual representation of the scoped topic areas described on page 66.*

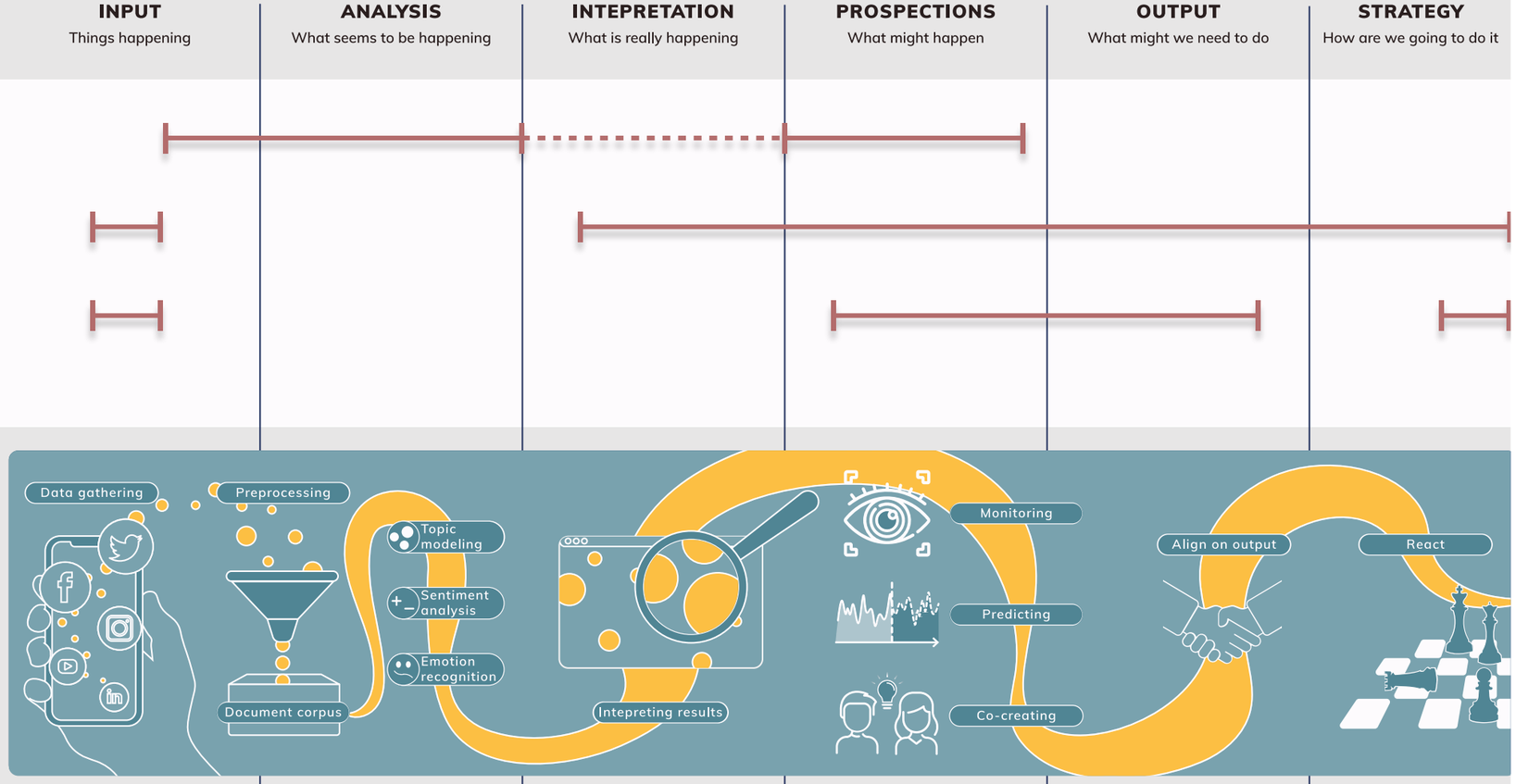
PIECING IT TOGETHER

The framework can be seen in figure 20. The Generic Foresight Process is used horizontally to indicate the different stages of the framework. However, it should be mentioned that the framework is not suggesting a linear process, but rather a dynamic approach, where some steps might not be needed for a certain project and others might need adaptation.

The red lines indicate when the three key stakeholders are involved in the process. From this it can be seen that while AI dominates the first half of the steps, Deloitte Digital and their client dominates the second half. Furthermore, the main actions and goals are plotted in the last rows of the framework.

Framework

AI-powered foresight in online brand positioning



	INPUT	ANALYSIS	INTEPRETATION	PROSPECTIONS	OUTPUT	STRATEGY
ACTION	- define problem - choose relevant data sources - gather data - preprocess data - train models	- topic analysis - sentiment analysis - emotion recognition - data visualization	- explainable AI to increase interpretability - comparisons between competitors, segments, projects etc. - peak-analysis of correlations between topics, emotions and segments - matching logic of brand image and brand identity	- continuous monitoring - notifications of significant changes - weak signal detection - time-series forecasting - co-creation focused around foresight methods	- evaluate outcome from prior steps - reports and presentations for client alignment - co-creation focused around strategy and planning	- decide on strategy going forward - create action plans, roadmaps etc.
OUTCOME	A clearly defined problem and a big corpus of documents for the analysis.	A visualization of user segments, topics, sentiments and emotions detected in the documents.	An interactive environment which allows comparisons and unraveling the topics that allows the user to interpret the data.	A clear view of what might happen in the near future and a variety of co-created futures and solutions.	An alignment between Deloitte and client regarding the outcome of the analysis and co-creation on strategies.	A final strategy targetting the defined problem and guided by the data.

Figure 20: *The solution framework acts as a comprehendable over-view of how to best combine the three topic areas.*

SECTION 5.2

THE ROAD TO A SOLUTION

Based on the framework described in the previous section, several directions for a solution were brainstormed upon. By using the list of requirements (cf. section 4.4), the ideas were evaluated, and a concept was chosen; to make a digital social listening platform which could fully support all six steps of the foresight process. The concept should be customizable enough for Deloitte to use it in a variety of scenarios. While still keeping to the framework, it should not explicitly show the steps as the features of the platform as the steps would overlap in different ways. The employees should get a feeling of diving deep into the data collected and be able to be creative with it.

5.2.1 SKETCHING IT OUT

To concretize the solution, a variety of main features were decided upon based on the research phase of the project (cf. figure 21). Firstly, topic modeling was chosen to analyse the main associations and topics users were talking about online in relation to a brand. Next, sentiment analysis should be made on each topic and single document within this topic. Emotions should be recognized on a document level.

The insights from these analysis, together with demographic information, should be added to a dashboard. Furthermore, a matching logic should be implemented to analyse the gap between the positioning the brand desired - the brand identity - and the positioning actually analysed in the social media data - the brand image. To make the analysis more actionable, a co-creation feature was added, where the users could work in teams or with clients inspired by specific insights.

These features and sub-features were placed in a tree diagram to explore the hierarchy and flow of the solution (cf. figure 22). Further sketching was done before moving on to digital prototyping.

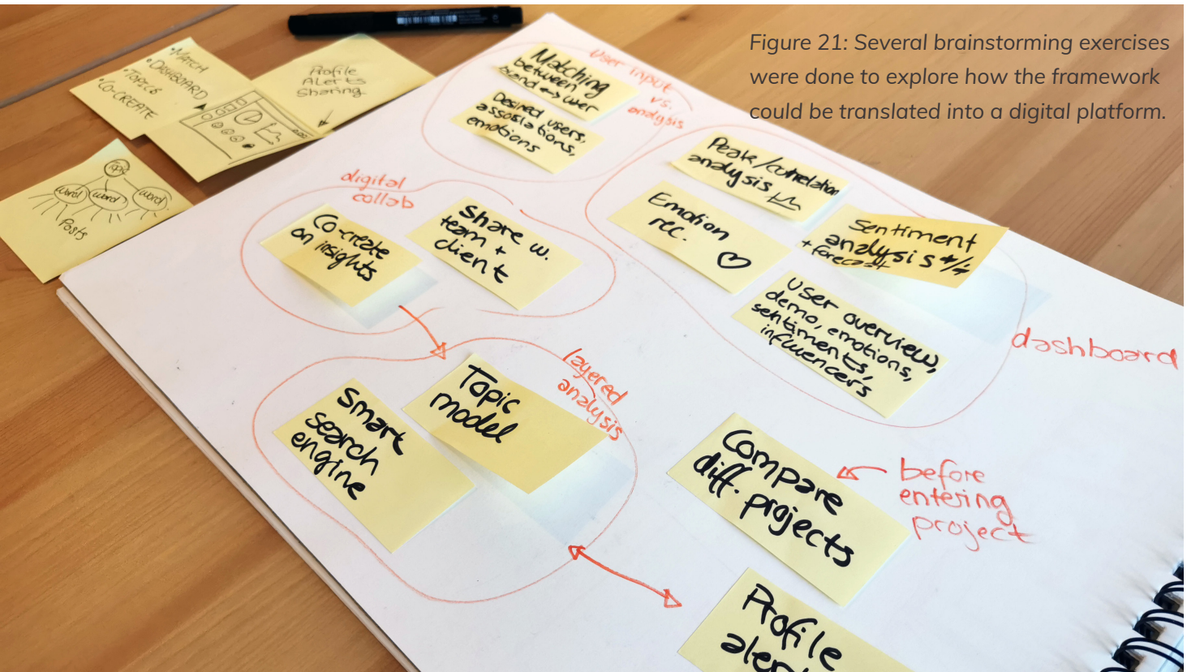


Figure 21: Several brainstorming exercises were done to explore how the framework could be translated into a digital platform.

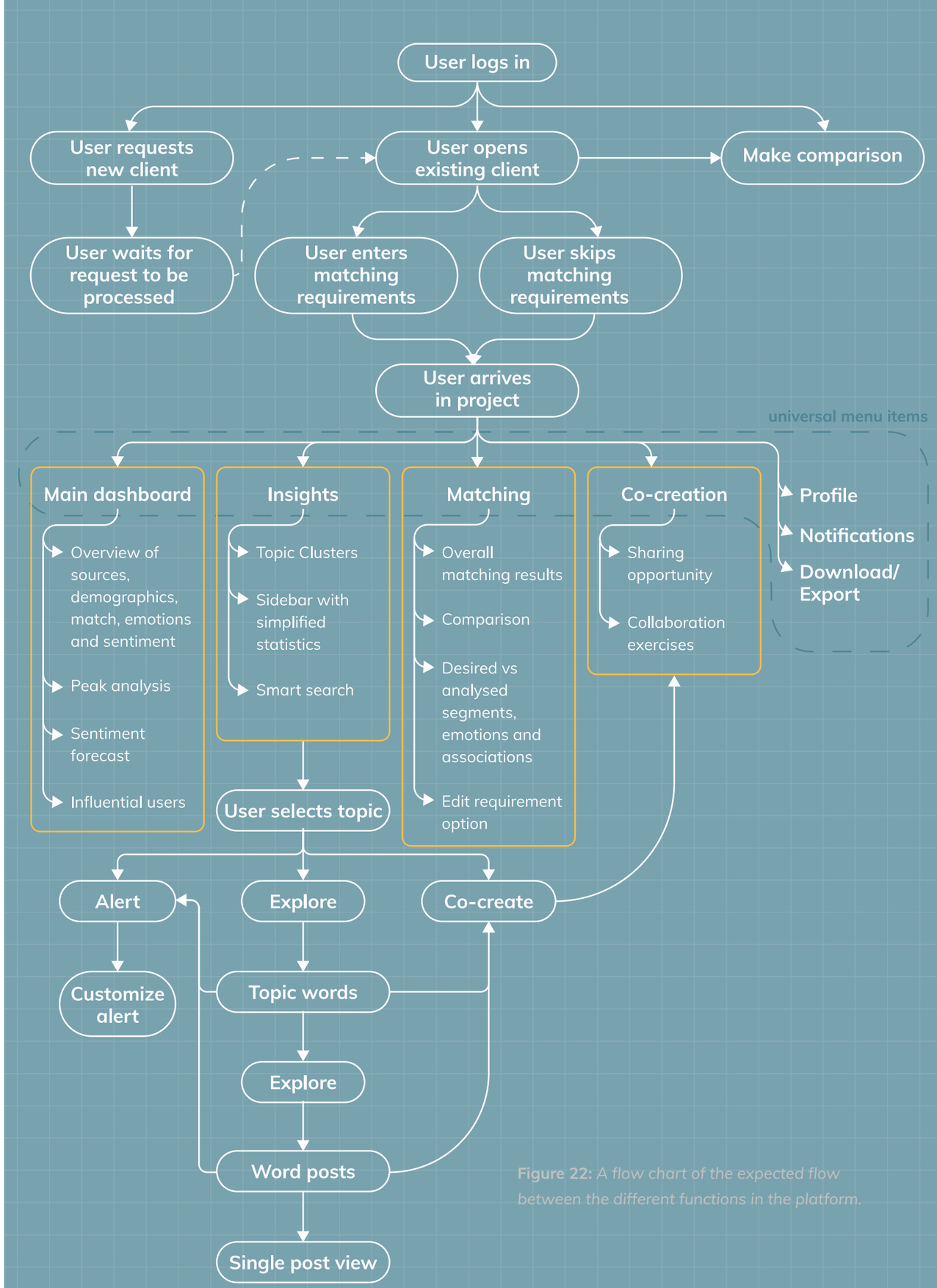


Figure 22: *A flow chart of the expected flow between the different functions in the platform.*

5.2.2 PROTOTYPE

A prototype was created to further communicate and test the solution. Deloitte Digital's visual identity was adopted in the design of the platform. The prototype was then iterated upon based on feedback from the supervisory team and fellow designers. The prototype can be seen here (click through it with the arrows or on the interactive buttons) and the main screens can in 23. Throughout the process, the platform was evaluated based on the previous research and design requirements.

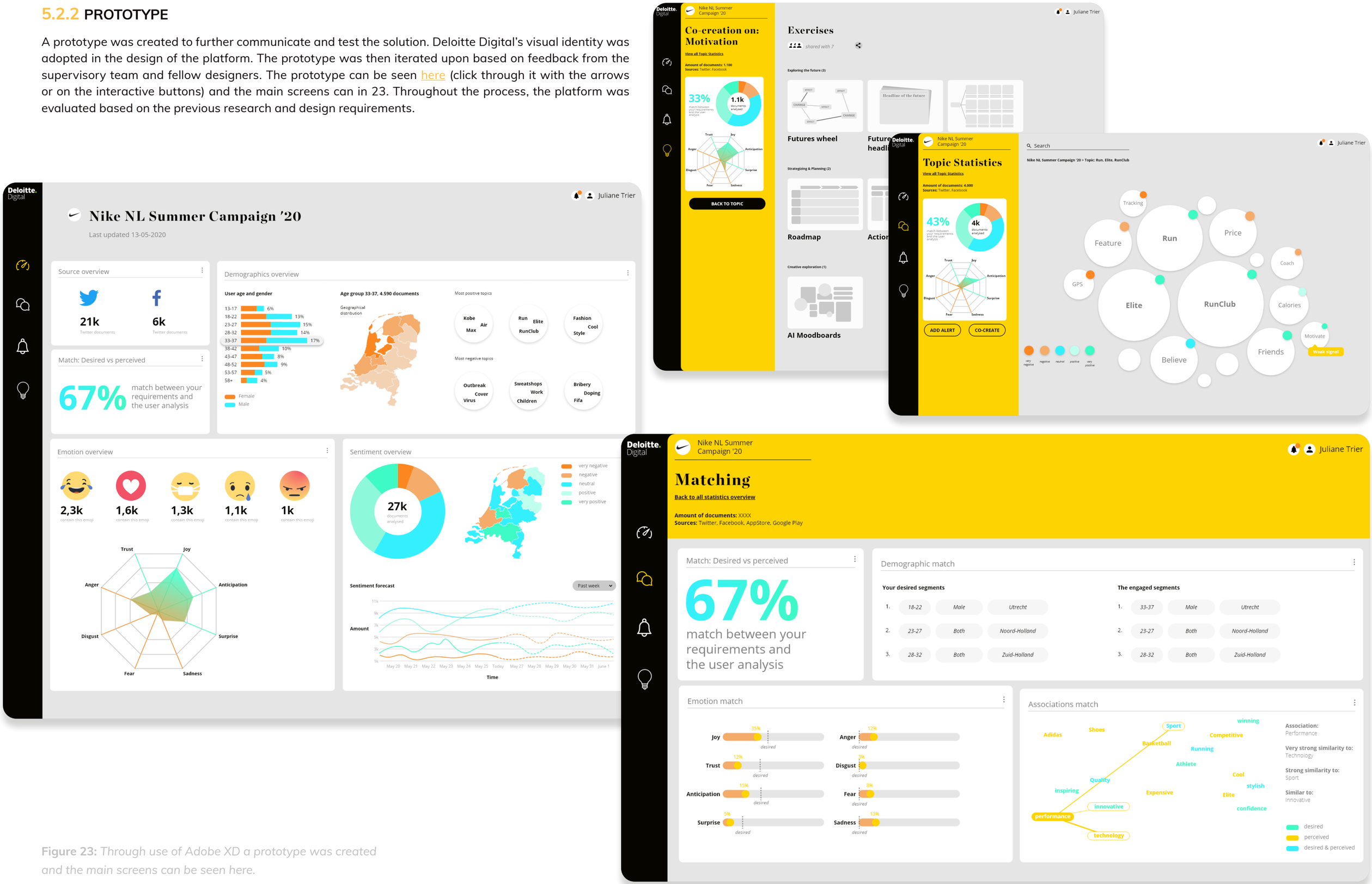


Figure 23: *Through use of Adobe XD a prototype was created and the main screens can be seen here.*

5.2.3 FEEDBACK SESSION

The participants were specifically recruited to have a mix of perspectives including the technical disciplines (AI and data visualization), UX and UI design, and brand positioning. In total six Deloitte employees participated in a one-hour session facilitated through Miro.

Firstly, a short elevator pitch of the project was given, then a walkthrough of the prototype, and lastly, an evaluation of the desirability, viability and feasibility of the solution. The participants were also asked to place sticky notes on the prototype screens with feedback and questions, alongside oral discussions. A video of the Miro board after the session can be seen here.

OBJECTIVES

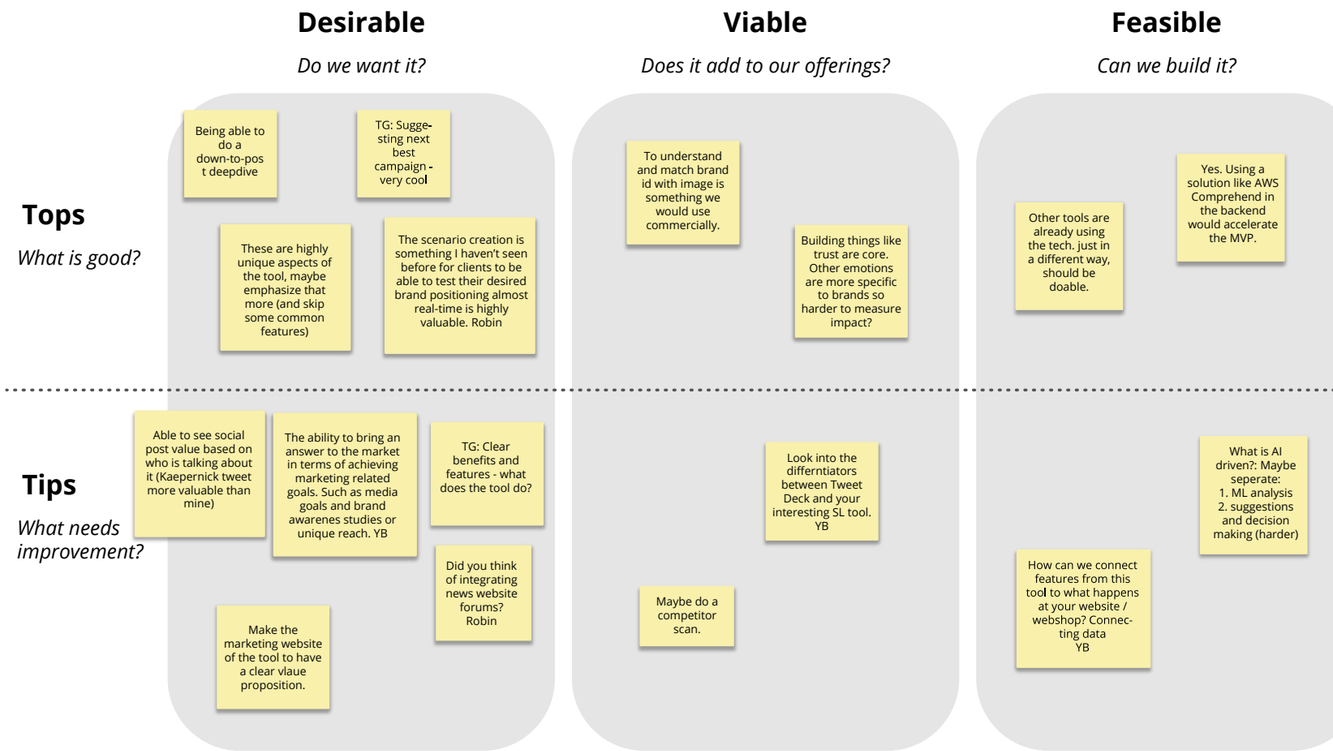
The main goal was to gain feedback on the usefulness of the functions and validate the desirability, viability and feasibility from the perspective of Deloitte employees.

Some main adjustments to the prototype were identified based on the feedback from the session. First, the emotion recognition received very positive feedback, however, it was pointed out that the emotions suggested were not nuanced enough. Furthermore, it was pointed out that a comparison across both competitors or projects would be interesting. One participant mentioned: "It would be great to be able to compare for example a campaign project from last summer with this summer - or with a competitor campaign."

Another insight was that the segment matching requirement should contain more segmentation options such as socio-economic data. One participant also mentioned that a post might hold different value depending on its reach - if an influencer or celebrity mentions a brand, it is worth more than a 'normal' user. This was argued to be even more important with the younger generations: "Especially with Gen Z coming along and being able to take over a brand with a single post.". It was also recommended to design the landing page for the marketing website of the solution to explore the value proposition.

The concept received positive feedback regarding desirability, feasibility and viability (cf. figure 24). Several features were especially described as desirable, including the possibility to create different customized projects and matching requirements, the in-depth analysis with the ability to go all the way down to a single post, and the inspirational aspect the tool could provide during campaign creations. The participants believed that the concept supported their current offerings, and added a new way of matching the brand identity with the online image. It was also mentioned that it would have multiple benefits for the clients when understanding their target audience and even discovering new segments.

Since the technology in the solution consists of combining already used techniques, this was a strong positive point of the implementation. Additionally, one participant with experience within NLP mentioned: "I would say it's technically feasible, there are challenges in the AI part and data acquisition, but they can be solved in different ways.".



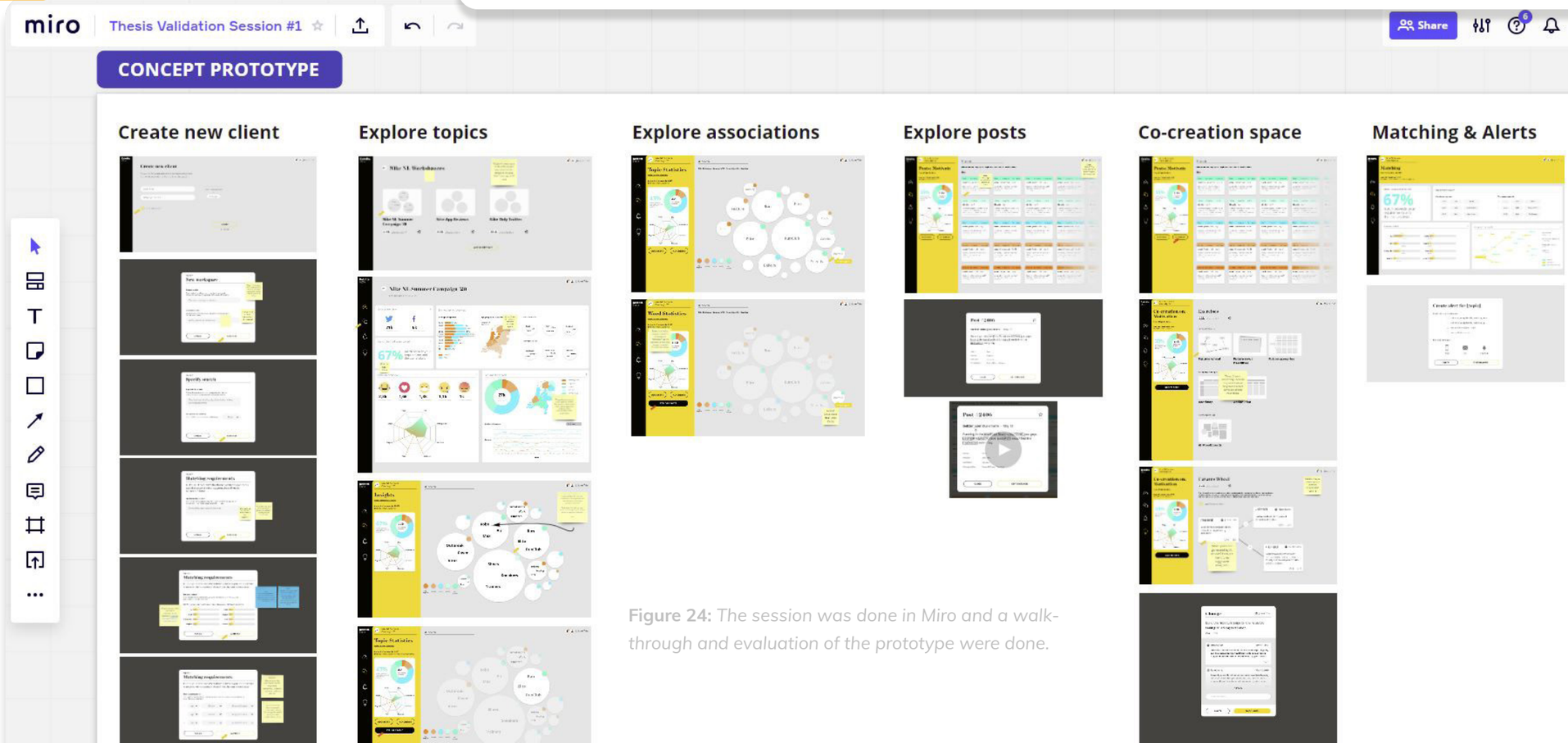


Figure 24: *The session was done in Miro and a walk-through and evaluation of the prototype were done.*

Let's iterate

The key insights from the session were translated into a prioritized list of improvements and additions to be made to the solution. The priorities were based on how important the participants in the session found the adjustments. All first and second priority adjustments from the previous section were made to the prototype, while the nice-to-haves were added to the implementation plan which will be presented later in this section.

First Priority

- Suggest a more elaborate set of emotions
- Create the possibility of comparing different projects - a project could also be gathering data about a competitor
- Make more options for the segment matching requirement, more detailed demographics (interests, lifestyle, education etc)
- Add that the user has to define how far back in time the data gathering preferably should go
- More elaborate information about (1) matching logic, (2) weak signals and (3) emotions
- Make the insights even more actionable, what happens after the co-creation
- Add export feature to create content for presentations and reports
- Optimize UI on main dashboard, matching dashboard and sidebar

Second Priority

- Show influential users and their reach (e.g. a celebrity or influencer reaches way more with a post than a ‘normal’ user)
- Make it possible to compare segments in the dashboard
- Create a more clear sidebar when a certain topic cluster is chosen
- More storytelling integrated, e.g. post-of-the-day in terms of reach, positivity, likes etc.
- Create a fictional landing page for a website selling the tool, focus o the value proposition and business case
- Show connection between emotion, topic and audience

Nice-to-have’s

- Consider supporting auto-generated personas/audience profiles based on each segment and the insights
- Consider a section of the tool dedicated to imagining the future - e.g. with automatically gathe red future vision videos, images etc. based on industry/product/service (creative AI, later implementation phase)
- Make recommendations and tips automatically based on prior projects

COMPETITOR ANALYSIS

1 Product Form
sensing with emotion recognition and customized matching analysis

2 Product Category
social listening with sentiment analysis on brand reputation

3 Generic Competition
campaign and social media engagement monitoring

4 Budget Competition
other ways to improve relations between users and brand

Figure 25: *The levels of competition, the closer to the center a competitor is, the more similar to Mindmatch.*

The solution falls into the category of social listening tools. Therefore, a competitor analysis within this product category was done to identify the closest competitors, points of parity and points of difference. The competitors were found through online reviews with the search 'top social listening tools 2020', and were evaluated based on how they position themselves on their websites.

Figure 25 displays the levels of competition. The closest competitors found were Awario, Social Studios and Netbase. Based on this analysis, points of parity and difference could be mapped out. The points of parity were decided based on the product category competitors. The points of parity and difference can be seen to the right.

The competitors were then placed in a diagram with two axes (cf. figure 26) which represents two main features of MindMatch; (1) the actionable analysis and (2) the high level of customization options. Only Social Studio from Salesforce's marketing suite is placed in the same quadrant as MindMatch, however, this competitor does not position themselves strongly with the use of these features.

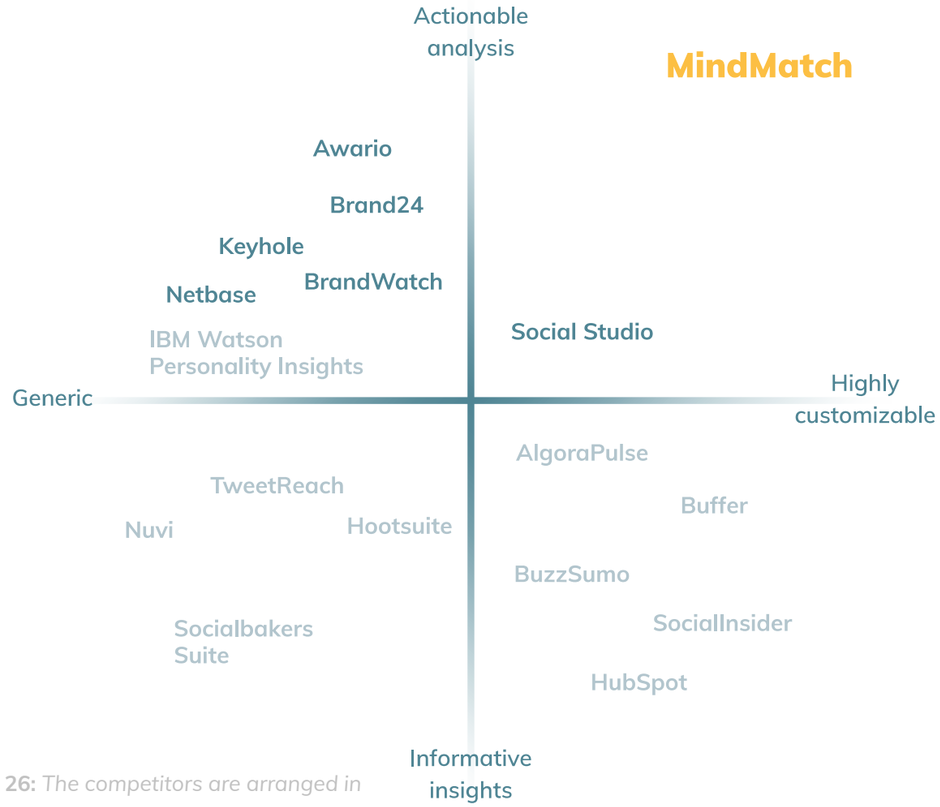


Figure 26: *The competitors are arranged in a diagram with the axis being the some of the main attributes of MindMatch.*

Points of parity | What is expected

- Alerts
- Demographics of segments
- Report export options
- Multi-platform data gathering
- Topic/trend detection
- Sentiment analysis (3 levels)
- Engagement analytics (followers, reach, likes, comments etc)
- Influencer identification
- Competitor comparison

Points of difference | What is unique

- Customize multiple projects (objectives, sources, keywords)
- Desired vs perceived matching logic
- Peak-analysis for correlations
- Emotion recognition
- Actionable insights through creative collaboration
- Foresight-oriented exercises
- Forecasting

The competitor analysis made it clear that the USP's of MindMatch should be (1) the ability to customize the matching requirements for each project, (2) emotion recognition, and (4) the encouragement of co-creation directly upon the insights. It is therefore important that these are given the most attention when finalizing the design. Furthermore, these should be highlighted in the communication about the solution.

SECTION 5.5

THE FINAL DESIGN

The prototype was iterated upon based on the findings from the validation session and competitor analysis. The final solution can be seen here (click through it with the arrows or on the interactive buttons) or in this video. Furthermore, due to the suggestion of participants at the validation session, a landing page for a marketing website was created (cf. figure 26). This supported the communication of the value proposition and main USP's of the solution which were clarified during the competitor analysis.

The solution was given the name **MindMatch** to; (1) emphasize the USP of matching the brand identity with the brand image, (2) stress the perspective of a brand positioning being the position it holds in the mind of its consumer, and (3) stand out from the competitors who often use terms related to 'social' or 'brand'. The tagline "**make an emotional connection that lasts**" was chosen as it refers to the finding that a future-proof brand is one that adapts and creates an emotional connection with its users. The colour pallet and fonts were kept in Deloitte Digital's brand identity. The following pages will show an overview of the rationale behind the features followed by a description of the main use scenarios of the solution.

mindmatch
Deloitte. Digital

Primary

Secondary

Tagline

Make an emotional connection that lasts

Purpose

To nurture and grow the emotional match between brand and user

Personality

Friendly, curious, innovative, optimistic - a loyal companion

Positioning - Design Vision

Deloitte Digital employees, digital platform, customizable, matching logic, insightful, proactive, future-proof

The solution was additionally communicated through an explainer animation which can be seen here. This animation was tested with three persons with no prior knowledge with the project or solution. They were all asked to mention the first thoughts and associations they had with the brand and the service after watching the video.

The most mentioned associations related to the products were **innovative, seamless technology, technological yet simple**, and **B2B oriented**. Regarding the brand, the associations mentioned were **classy, professiona, young, firendly approachable** and **cheerful** - one viewer mentioned:

"And the jazzy music gives me a classy, but also cheering feeling, like let's do this, it will result in things I'm going to be happy with."

Figure 27: The landing page for the solution, MindMatch

WHY

CUSTOMIZABLE DATA SOURCES

Literature shows that a limitation of AI is the black box effect. With the customizable features the transparency is increased. Experts describe the importance of including domain experts - marketing/advertising experts are able to customize the input.

WHY

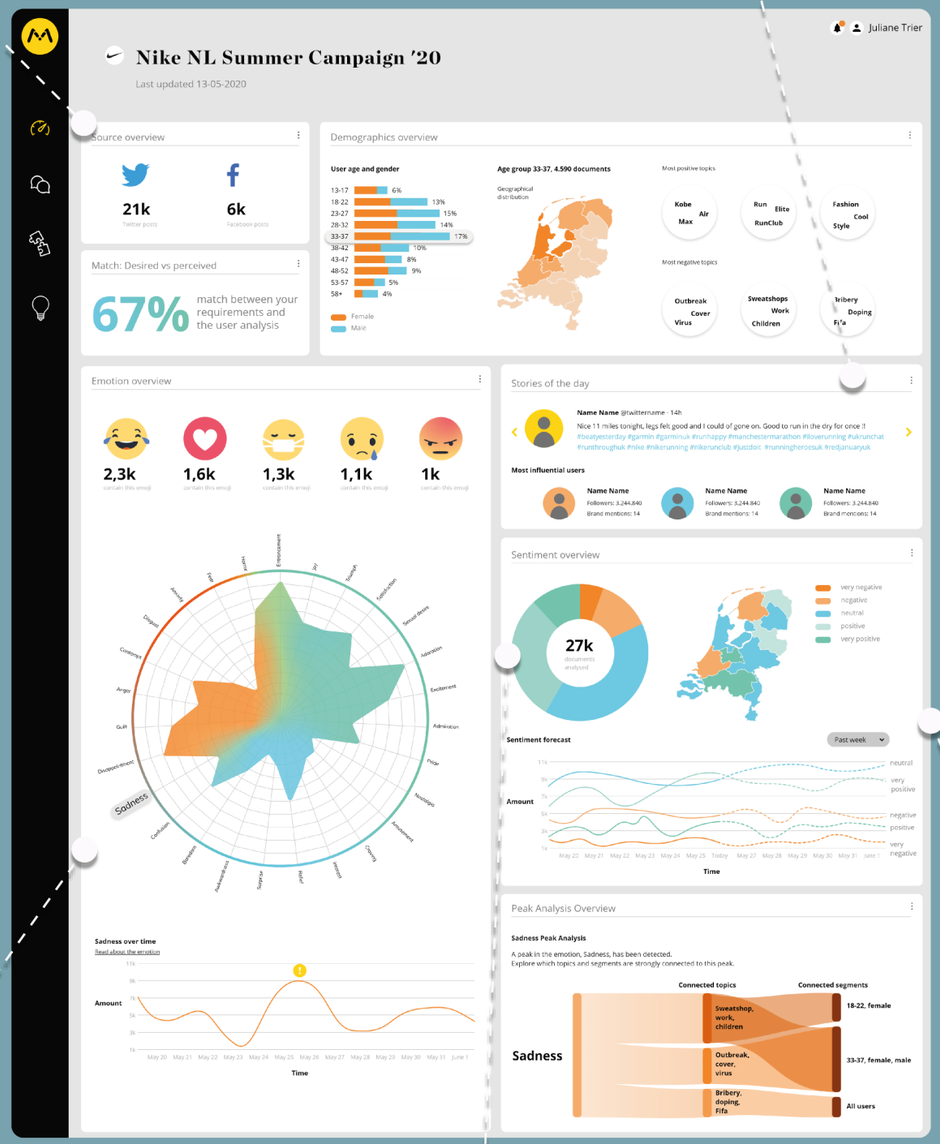
STORIES AND INFLUENCERS

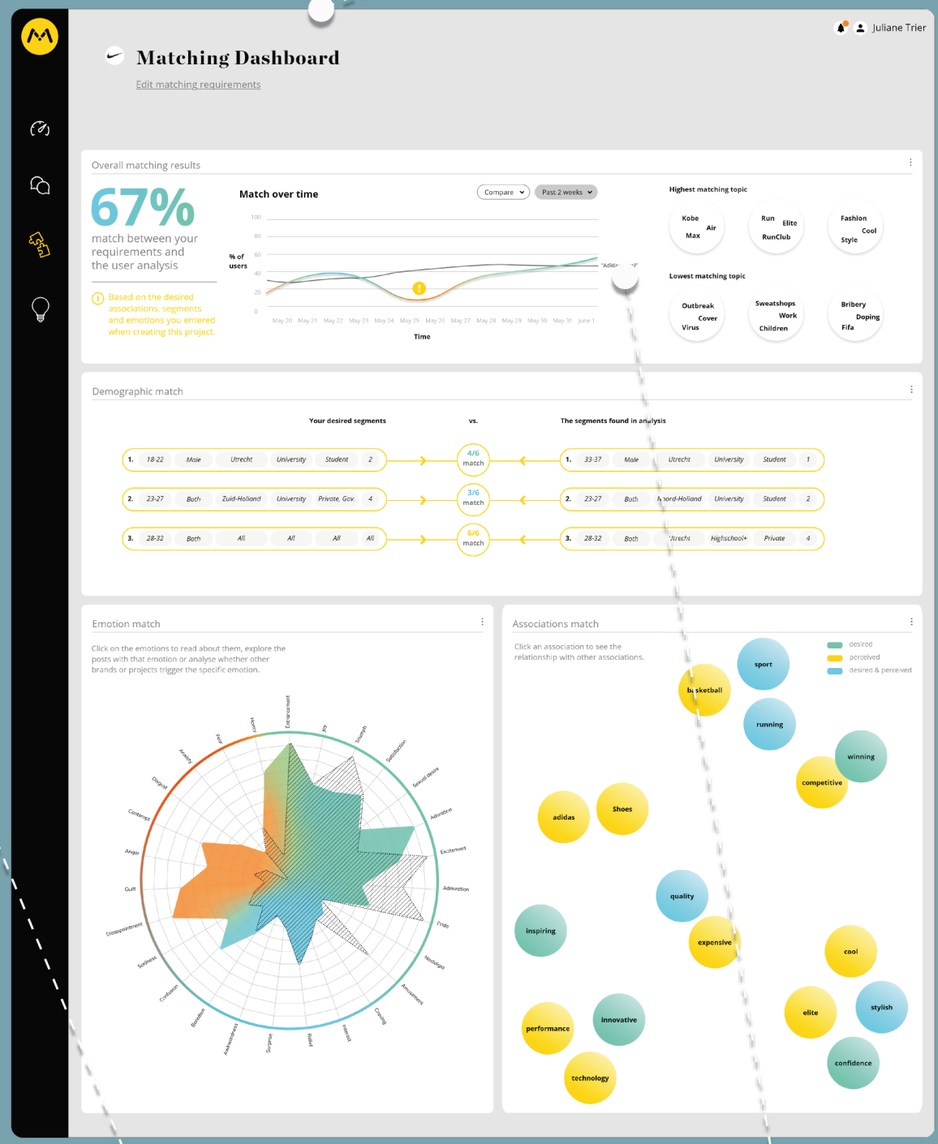
Experts express that storytelling is a great way of communicating data. Additionally, most competitors detect influencers and celebrities related to the brand.

WHY

MATCHING ANALYSIS

Literature argues that the gap between brand identity and brand image should be as small as possible. Experts describe that the brand has to adapt and meet users' expectations. It is also on of MindMatch's USP's.





WHY

EMOTION RECOGNITION

Literature displays that emotion recognition is gaining popularity within NLP. Experts put a great focus on the emotional connection being an essential element of a future-proof brand. It is a point of difference and a USP.

WHY

SENTIMENT ANALYSIS

Literature showed that sentiment analysis is emerging in the relationship between branding and AI. Experts describe that it is important to listen to the users and recognize their opinion about the brand. It is a point of parity within the product category.

WHY

TIME-SERIES FORECASTING

Literature argues that time-series predictions rely on the future being similar the past - there might be patterns within some insights which can give an indication of future directions. It is also a point of difference.

WHY

COMPARISONS

Experts describe that there is a need to compare themselves to their competitors in a new way such as through emotional benefits.

WHY

TOPIC MODEL

Literature argues that the brand meaning is co-created. Topic modeling provides a way to listen to the conversations and associations connected with the brand. Experts support this in sub-categories 'Ovserving Change' and 'Designing an adaptive brand'. It is a point of parity.

WHY

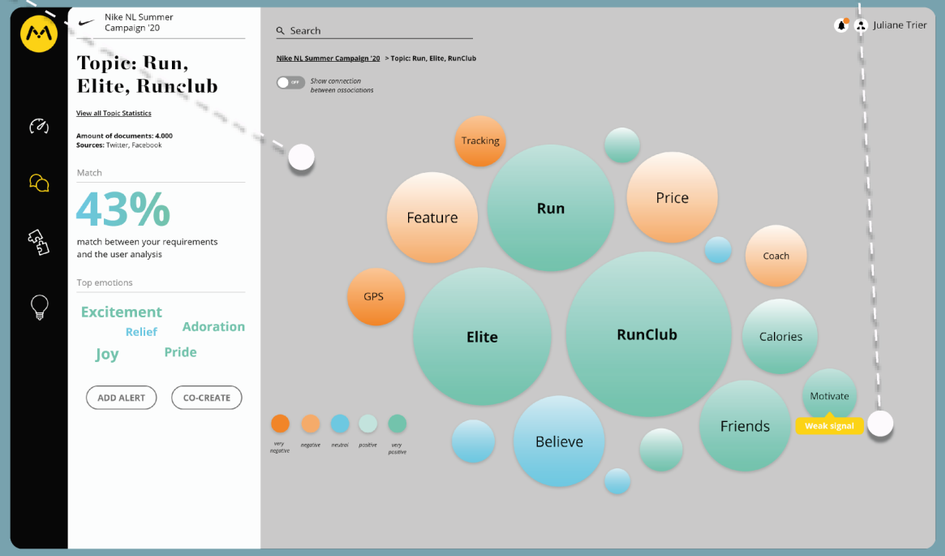
WEAK SIGNAL DETECTION

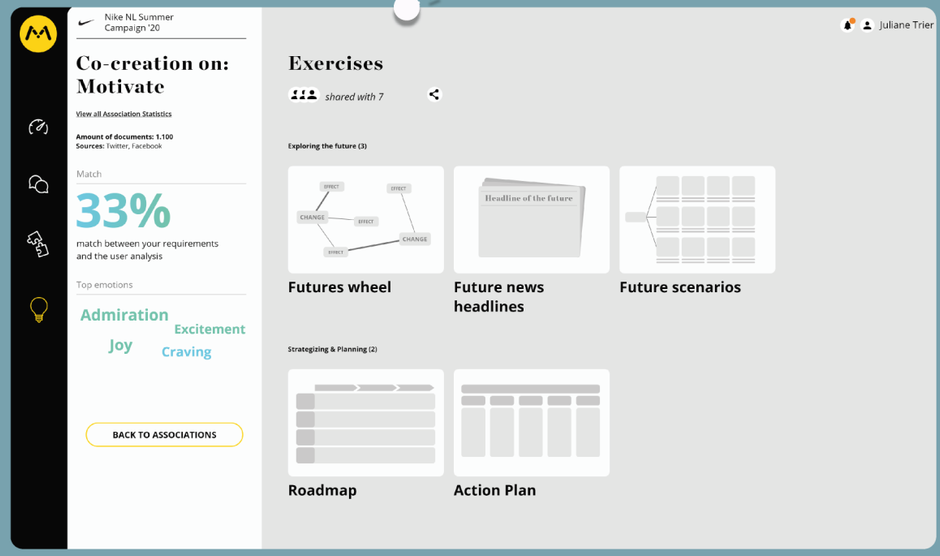
Literature argues that there is a lack of foresight within organizations, the weak signal alert encourages proactiveness. Most competitors have alerts and notifications when change is detected.

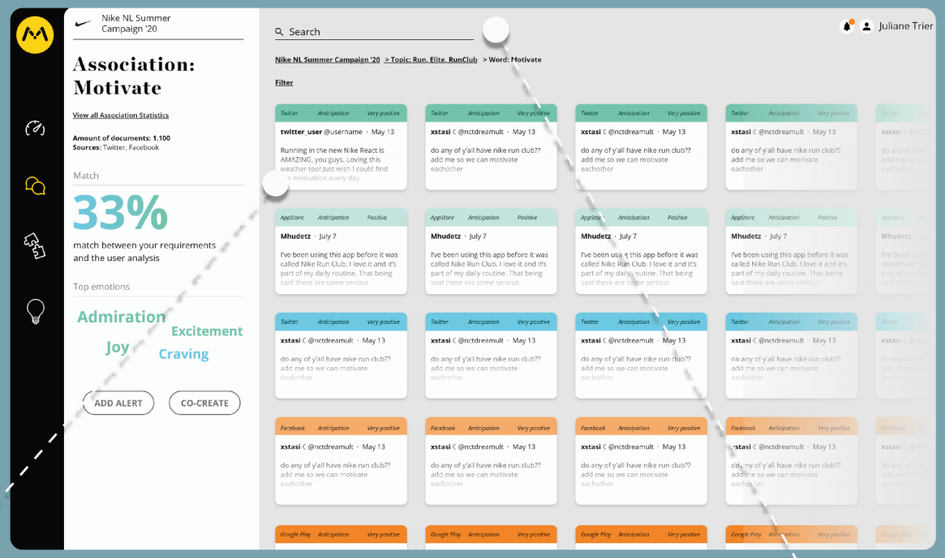
WHY

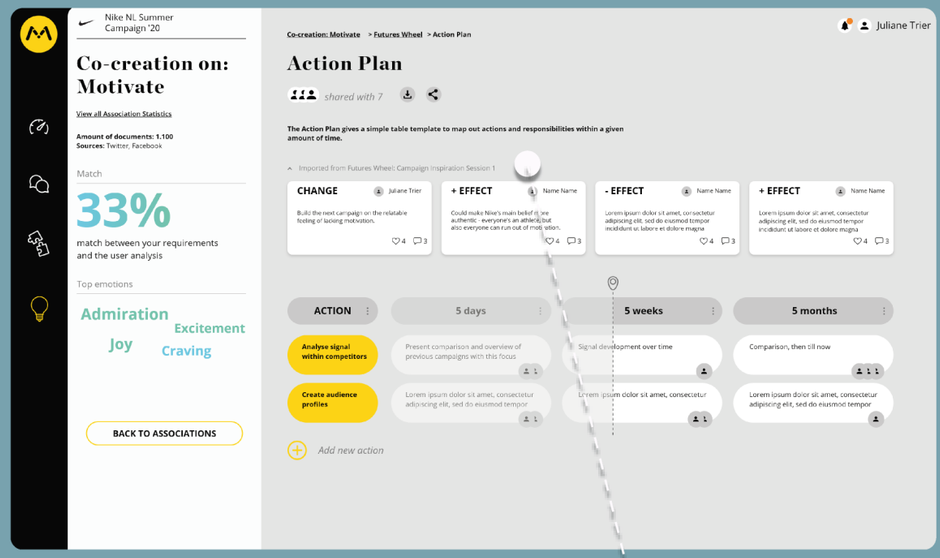
CO-CREATION

Experts argue that there is often a gap between insights and actions. This can be decreased with the co-creation feature. It is not found in any other competitors and is a USP for MindMatch.









WHY

SINGLE POST VIEW

Experts expressed that they do a variety of qualitative research which is important to keep doing - though this is still in a written form, the deep-dive into each post might give a more qualitative and transparent perspective on the analysis.

WHY

SMART SEARCH ENGINE

The consumer psyckology model displays the importance of investigating different aspects of a brand - with the smart search engine the user can search for opinions related to specific experiences, touchpoints, products etc.

WHY

PLANNING

Experts describe the difficulty of bridging the gap between insights and actions. By systematically connecting an insights with different exercises and connecting these to a strategizing or planning exercise acts as that bridge.

SECTION 5.6

THE MANY USE CASES

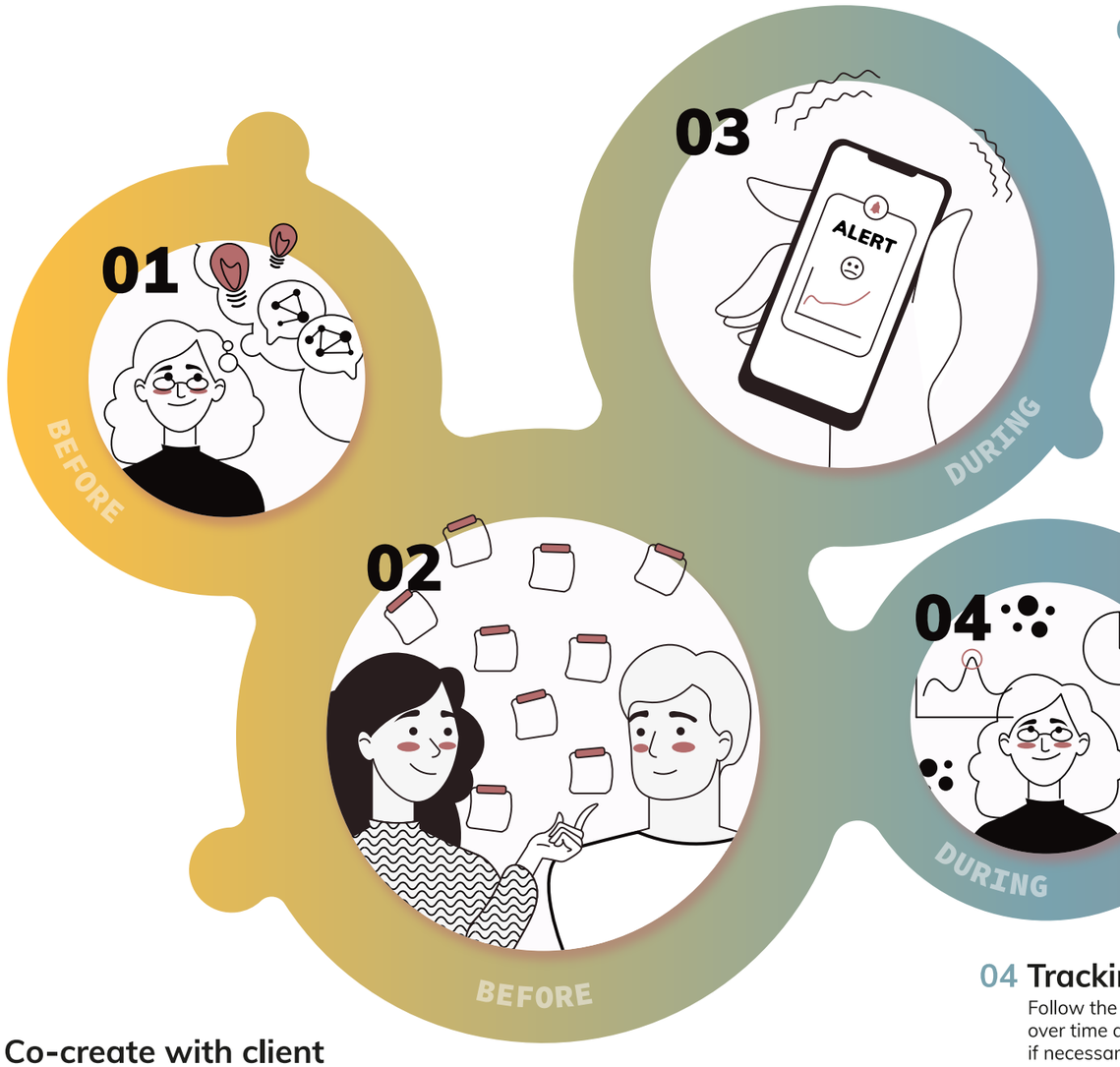
MindMatch is a tool with a variety of use cases. The customization of the input and the extensive analysis makes it possible for the user to be creative with the platform. To take a look at the main use cases thought of while creating MindMatch, we imagine it applied to a project which Deloitte Digital previously encountered. A well-established client contacted Deloitte since they were considering adding a new service to their existing ones. This service was in a quite different industry and product category. Thus, by introducing a completely new and unexpected service to an established brand involves a lot of risk. The brand needed to think of how to make this change without losing their current customers and their associations with the brand. Figure 28 shows a visualization of the main areas MindMatch could assist Deloitte Digital in investigating the risks and uncertainties around such a brand strategy project. The use cases are divided into before, during and after the new service is introduced.

01 Discover & Inspire

Understand your segments, their conversations and current state in terms of associations and emotions related to your brand.

Discover how customers' attitude is towards other brands with similar services to the new one, which topics elicit positive and desired emotions.

Investigate whether there is an overlap between the client's current service and the new service regarding associations and emotions.



02 Co-create with client

Start co-creating based on the matching requirements to discuss current and desired state.

Do Futures Wheel exercises on the different changes the client is introducing to the brand and which positive and negative effects this might have on their customers.

Collaborate regarding the plan and strategy for the upcoming launch of the new service.

03 Set change alert

Customize alerts to stay up-to-date during the introduction of the new service.

If certain negative sentiments and emotions trigger the alerts, inform the client and investigate whether this was an expected effect and how to overcome it.

04 Tracking & Monitoring

Follow the introduction of the service over time and perform peak analysis, if necessary, on certain topics, associations and emotions which might tell you why the customers are acting in a specific fashion.

05 Measure the impact

When the dust settles, start comparing the associations, segments, sentiments and emotions from before the launch with now.

Compare with competitors within the new product category.

06 Evaluate

Evaluate whether the effects you expected to happen did happen, note it in the Futures Wheel to inform the system which will later be able to recommend certain changes and effects.

Export insights to reports/presentations and co-create next steps with the client based on the outcome.

Figure 28: The solution can be used within a variety of scenarios from initating a new project to evaluating one.

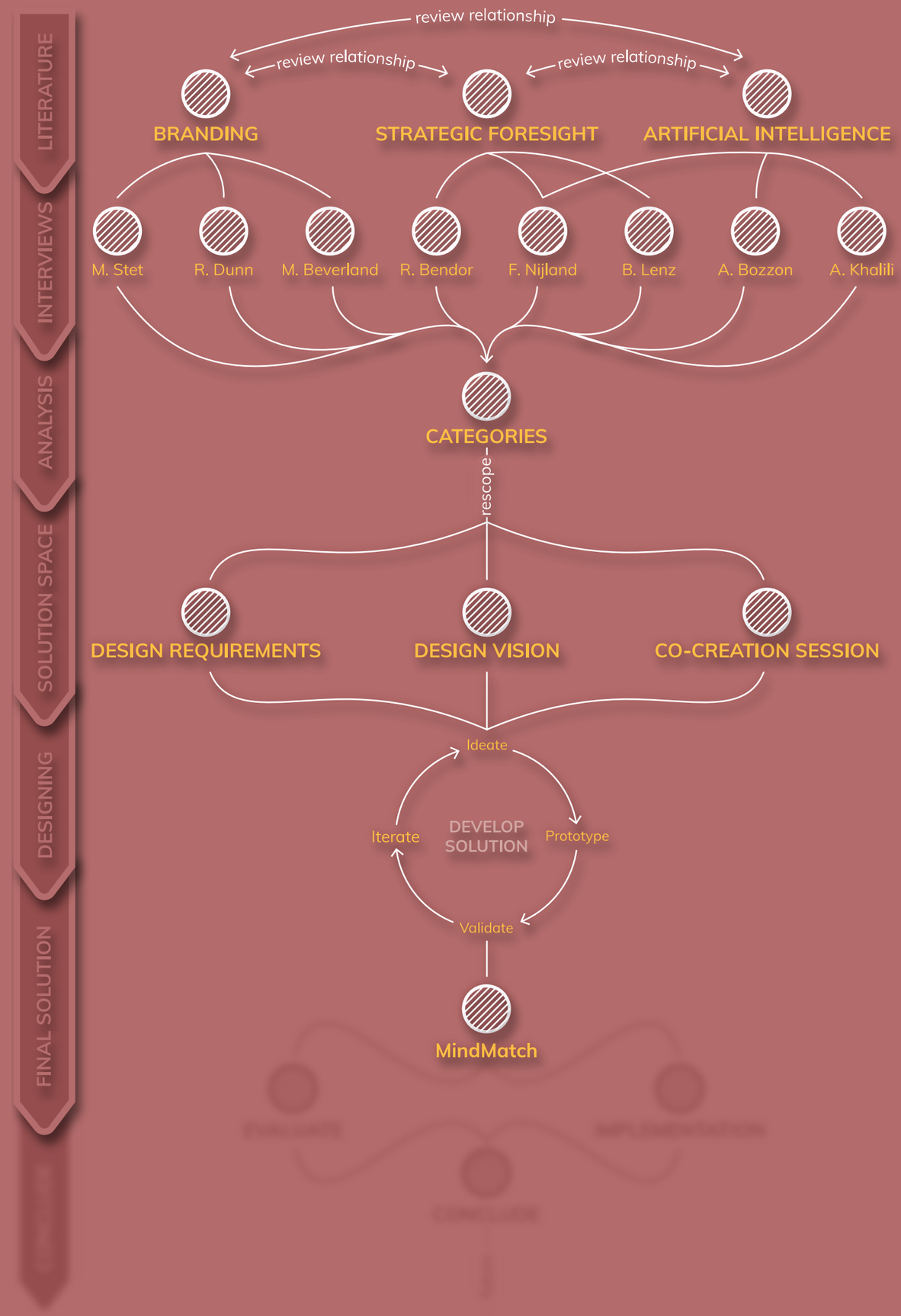
SECTION 5.7

SECTION
KEY FINDINGS

The above section presents how insights from the previous phase of the project were transformed into a solution. Several key insights were discovered;

1. **The solution framework acted as a middle-step between research insights and solution creation**
2. **A social listening platform was created - MindMatch; Create an emotional connection that lasts**
3. **The concept received positive feedback in an online Miro session with Deloitte employees from different disciplines and adjustments were made based on the suggestions of participants**
4. **A competitor scan revealed that MindMatch holds several unique features, some of the main ones being;**
    - **Customizable analysis of match between brand identity and brand image**
    - **Emotion recognition**
    - **Digital co-creation connected to analysis insights**
5. **A final iteration on the prototype was made based on feedback and competitor analysis**

With the final design finalized it is now time to validate and evaluate it with employees and a client.



SECTION 6.0

EVALUATION & RECOMMENDATIONS

This section will present the insights from validating the solution with employees and a Deloitte Digital client. It will then move on to an overall evaluation of MindMatch based on its desirability, feasibility and viability. We will also look at how well the solution meets the design requirements to tie it back to the research phase. Then, the relevance of this project for both Deloitte digital and Strategic Product Design at TU Delft will be discussed. Last, recommendations for Deloitte Digital will be presented regarding both implementation and organization.

SECTION 6.1

VALIDATION INTERVIEWS

To validate the final design of MindMatch, interviews were done with one client and three Deloitte Digital employees. The interviews had a duration of approximately 45 minutes and were done through Microsoft Teams. The interview guides can be seen in Appendix 4.

5.4.1 WITH DELOITTE DIGITAL EMPLOYEES

OBJECTIVES

The main goal of these interviews was to validate the usefulness and usability of MindMatch.

Three interviews were done with three Deloitte Digital employees. The interviews contained three topics; an introduction, a usability test and a discussion about the usefulness of the platform in their work. To test the usability, a think-aloud test (Lewis & Rieman, 1993) was done on five tasks;

1. Add a new project to Nike and enter the project.
2. Explore what you see on the screen. You will be able to click anywhere to see which elements are clickable.
3. Evaluate the match between Nike and its online users.
4. Discover the weak signal - explore it all the way down to single posts .
5. Start co-creating via the Futures Wheel exercise on a possible future campaign based on this signal.

Based on the interviews, some key insights are worth mentioning regarding each of the main functions of the prototype.

Website

The logo, title and three USP's of the landing page conveyed the product category and key differentiators for the product well. One participant mentioned: "This title [Create an emotional connection that lasts] really caught my eye and made me curious about getting to know the concept." Another participant also pointed out that the matching logic described in 'how it works' was drawing his attention: "I like the part about the desired associations because I think these are really important when you are trying to build a brand - 'do people have the right associations with my brand?'.".

This validated the landing page's ability to convey the value proposition of MindMatch.

Project dashboard

All three participants described the main dashboard as an important foundation to understand their users, what they were talking about and how they were feeling about a brand. One participant also described that: "The overall dashboard is a nice dashboard for discussion as well - I could imagine using it during a meeting."
Another participant also explained what benefits the insights could provide him: "The goal of knowing the users' emotions and opinions is so you can target these more with your advertising and campaigns. Also, you can target specific emotions and associations which you already know have a positive effect." Furthermore, the peak analysis flow diagram was also acknowledged by two participants to be essential for understanding the 'why' behind certain emotions: "It is really interesting to see which topics and segments triggered a certain emotion."

This validated that the insights presented in the dashboard were indeed useful and led to a deeper understanding of users than the participants had encountered before.

Matching dashboard

The matching dashboard was deemed very important to especially two participants, while the third described it as a good addition to the main dashboard. One participant described how this could be used in his daily work: "This [matching] is a quite important dashboard because you would like to follow the match through time. So I would actually use this during stand-up's for example - starting my day with sharing the match and the insights with other stakeholders and seeing whether we are still matching or evaluating if our requirements are still the right ones."

Another participant also described how this could be used for tracking campaigns: "It is useful for testing. For example, when we create a campaign or a product, we have targeted emotions or topics that we want to stimulate with our customers. The matching makes it possible to see if the brand communication, in reality, is eliciting the things we had in mind."

This validated the assumption that the matching logic in MindMatch is a main USP, and that it is indeed useful in the employees daily work.

Insights - from topic to post

When exploring the topic model, the participants found it interesting as it made it possible to get a quick overview of conversations and whether these were positive or negative.

Furthermore, one participant explained how this feature would be especially useful for her work: "It is almost like it [from topic to single post] is both quantitative and qualitative. This for me - that I can zoom in layer by layer from topic to what the user actually said - is like 'wow, then why do we then even have to do quantitative research'?. From this, I can already see which juicy parts I, for example, should do qualitative focus groups around."

This validated the importance and usefulness of a transparent topic model with the possibility of going all the way down to single post level.

Co-creation

The participants saw potential in the co-creation feature as it does make the insights more actionable: "I like the idea of adding some specific ways to solve these issues and making the insights more actionable.". It was also mentioned that some might prefer co-creation outside the online environment, but the insights and templates would still be useful for a physical co-creation. Another participant imagined it being useful in her current projects: "I think that this [co-creation] is very interesting - I find the actionable part very useful. For my work, this would be very helpful because I specialize in qualitative research and here I already have the quantitative part to build on."

This validated the assumption that the functionality of co-creation would bridge the gap between insights and actions.

Overall, the three interviews validated the usefulness and usability of the solution and were able to relate it to their current projects. One participant mentioned: "I think for the project I am doing right now it would be really useful. Right now it [MindMatch] is mostly about social media, but it would also be interesting for us to track interactions and sentiments on a website." Furthermore, another participant ended the interview saying:

"If it [the project] continues further, please let me know because I think we already have some projects we could test this on after your graduation."

5.4.2 WITH THE CLIENT

An interview with the crown jewel client, DSM, was held. The interview consisted of three parts; an introduction with a walk-through of the prototype, a discussion of the usefulness and a discussion of willingness to pay. The participant is part of managing corporate communications at DSM, with a background within marketing.

OBJECTIVES

The goal of this interview was to validate the usefulness of Mindmatch for a client and their willingness to pay for it.

> "It is about **emotions** and not just data, I really like that. What is also nice is that the **insights come from data** and not our gut feeling."

Website

When introduced to the concept and website, the client found the name and dashboard very intriguing: "The name triggers me since it does not immediately reveal what it is so I get curious.". She also expressed that she was especially interested in the fact that there was a contradiction between the dashboard and the USP 'Let's get emotional'. Furthermore, the client pointed out a struggle which she imagined could be solved by this solution: "What I like is that I see with me and my colleagues that a pain point is that we see that data is interesting in order to change your tactics and approach but we do not know how to read the data. People do not have the skills yet to turn it into action - and when I look at this I get interested because that is what your algorithm is also going to help me with."

This validated the attractiveness of the branding of MindMatch and the landing page's ability to communicate the USP's.

The tool in general

When diving into the tool, the client described that the analysis of emotions was very appealing to her: "It is about emotions and not just data, so I really like that. What is also nice is that the insights come from data and not our gut feeling." She moved on to also emphasize that the co-creation feature was indeed a unique selling point: "The system even helps you to co-create and show you the most voted path. It is not saying 'you should do this' but helps you translate the data into what you could do'."

The client also described that she was familiar with other listening and monitoring tools, however, they were often not easy to use. But with MindMatch she pointed out that: "What I also really like is that when you showed me this [the creation of new projects] it has a very user-friendly look - what you see is what you get rather than first understanding the whole system before putting stuff in."

This validated the desirability and usefulness of emotion recognition and MindMatch's ability to connect insights to actual actions.

Value for DSM

During the interview, the client mentioned a variety of ways MindMatch could support and solve challenges for DSM. Firstly, she explained that it could support the current KPI dashboard: "We are currently working on a KPI dashboard in DSM, but it is looking at the hard data and not the emotional data - so I could see potential that this brings something else."

When looking at specific use cases for MindMatch within DSM, the client already mentioned creative ways of using the tool as the customization of sources and keywords allowed this: "We have two CEOs, so you could also do it on people and look into the emotional reactions towards this. Or on products, for example with our project Bovaer, there was a lot of negativity in the media around that. So I think it would work a lot for the issue marketing. There a lot of these sensitive topics and that would be interesting to look at."

Furthermore, from a more corporate perspective, the client was also interested in using it on specific conversation themes, risk management and predicting the public's reaction: "It could be used on the bigger themes, for example, we are doing a campaign on immunity and that it is good to have vitamins for that. But on the other side people could say 'Nice, DSM, that you talk about this but you do this because we are now in corona time'. So we also discussed if we should put this out there or if it conflicts with the situation we're in and with this, you could see those emotions."

Regarding processes, the client also expressed that MindMatch could optimize a current project: "Having a dashboard like this [main dashboard] with an overview of how DSM is doing in total might already be very relevant and I can even imagine that even... two years ago we started a survey to test trust and familiarity amongst DSM's key stakeholder groups, which is a pretty intense project in terms of interviewing people online and by phone and then we also looking for what are the words they associate DSM with. If such research can be done through this then that whole survey is almost not necessary."

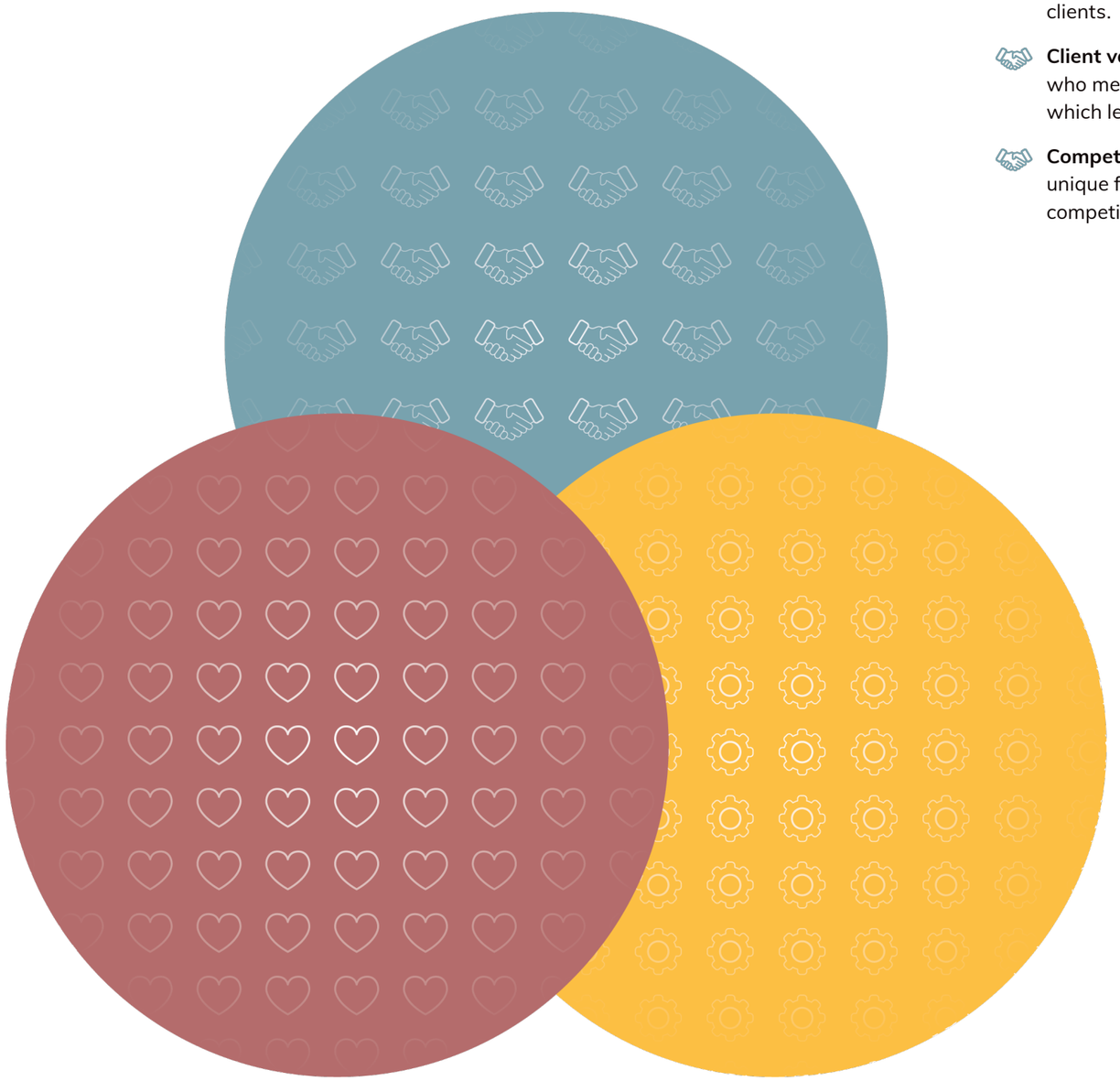
In terms of willingness-to-pay, the client described that it would depend on the costs of implementing all of it, however, that she believed it could cover other tools they were currently using: "We do different listening, monitoring etc. But if this brings all of these insights, then maybe some of the other tools are not necessary anymore."

This validates the usefulness of MindMatch directly connected to existing projects and challenges within the client's daily work and the likelihood that the client would pay for the service due to its broad usefulness.

SECTION 6.2

EVALUATING MINDMATCH

It is important to look back at the process and evaluate the possible success of MindMatch through the perspectives of desirability, feasibility and viability. The main points for each are seen below and based on the insights from the design research and validation done in this project.



6.2.1 DESIRABILITY

- **Feedback session:** Novel way of measuring the gap between brand identity and brand image.
- **Employee validation:** Can optimize parts of the current work at Deloitte Digital.
- **Client validation:** The bridge between insight and action is especially needed and the solution can support in a variety of projects.
- **Process:** The solution is built on a combination of academic research and domain experts, further validated and iterated upon with Deloitte Digital, thus, a sense of ownership of the solution in the department has also been achieved.
- **Process:** The project was initiated based on both a need discovered at Deloitte Digital and a gap in current research.

6.2.2 VIABILITY

- **Feedback session:** Solution can be developed in-house and costs distributed over different clients.
- **Client validation:** It is valuable for the client who mentions several use cases for them, which leads to willingness-to-pay.
- **Competitor analysis:** The solution holds unique features and points of difference, competitive advantage in the category.

6.2.3 FEASIBILITY

- **Feedback session:** No novel technology is introduced, however, the combination of existing technologies is new.
- **Feedback session:** Deloitte Digital has the knowledge to develop the technology in-house and combine it with existing solutions.
- **Process:** The implementation recommendation suggests that an MVP can be built on existing datasets and lexicons, thus, this phase is already feasible now.

6.2.4 LOOKING BACK AT THE DESIGN REQUIREMENTS

During the development of the solution, the design requirements were used as guidelines for both ideation and iteration. These requirements were created from the interview analysis, and the solution is evaluated based on these. MindMatch was born out of literature and qualitative research and connects well with the insights from section 3 by meeting the requirements.

Not meeting the requirement at this point

Partially meeting the requirements

Fully meeting the requirements

2. **Communicate creatively about the future to support users in imagining it**
   The solution does to some extent allow the user to communicate the future in creative ways through the different co-creation exercises. However, more creative communication could be added through e.g. creative AI and different scenario exercises.

8. **Explore a broad input rather than solely operating based on the input of the user**
   This requirement is not met in the first two phases of implementation since the user does control the input. However, in the third phase it is suggested that AI can recommend overlooked competitors and segments.

16. **Avoid changes to the identity of the brand but rather how it is expressed**
    MindMatch does not have control over which changes might be done based on the insights, however, nothing in the solution encourages changes in the brand's values or beliefs.

7. **Provide structure to the creative process of positioning a brand**
   The solution does aim to structure the process from gathering insights to co-creating solutions. Furthermore, the matching logic strives to make the match between brand identity and brand image more measurable.

10. **Use storytelling to convey the data collected in an engaging and memorable fashion**
    The solution's visuals, especially within emotion recognition, does to some extent tell a story about the users. This could be strengthened by e.g. showing the top posts of today, the most liked image or the post with the furthest reach.

12. **Keep it up-to-date with easy updates and maintenance of the solution**
    MindMatch does require some maintenance in the shape of preprocessing data and accepting requests of new clients and projects. However, this is always the case with similar systems.

13. **Include divers redictors from both academic and non-academic sources to capture a broad perspective**
    The customization of each project in MindMatch makes it possible for the user to choose which sources the data should be taken from - however, it could possibly recommend both academic and non-academic to encourage this variety.

1. **Spot future opportunities which can be acted upon in the present**
   MindMatch makes it possible to detect weak signals and significant changes in online user engagement, and thus presents opportunities which can be acted upon immediately.

3. **Inspire qualitative research and support it as a supplement to the quantitative data analysis**
   With its co-creation space MindMatch does encourage more qualitative engagement with the client. However, this requirement could be strengthened by e.g. allowing employees to add interview insights to the analysis or build interview guides based on the data.

4. **Be transparent regarding what sources and data are used as input for the analysis**
   MindMatch lets the employees customize data sources and keywords in order to give them full control of the input.

5. **State data limitations when data only represents a specific region, demographic or the like**
   The dashboard and user segment infographics clearly present this for the employees.

6. **Inform decisions rather than attempting to make them automatically**
   MindMatch facilitates decision-making but does not aim to make automated decisions or recommendations for strategies.

9. **Avoid static graphs as main data visualization as it does not convey the dynamic nature of the data**
   The visualization in MindMatch is imagined as very interactive and dynamic with continuous updates and alerts.

11. **Focus on emotions and the emotional connection between brand and audience rather than functional needs**
    This is one of the unique features of MindMatch - the sentiment analysis and emotion recognition are key to shifting the conversation towards the emotional connection between user and brand.

14. **Motivate actions and next steps based on the data rather than just informing the user**
    The co-creation feature of the solution aims to meet exactly this requirement in order to move beyond data visualization. Especially the encouragement of strategizing and planning exercises tries to encourage next steps.

15. **Refrain from automating the whole process but rather facilitate the interaction between user and system**
    Only input, analysis, and parts of interpretation and prospection are automated. MindMatch strives to facilitate the process from insights to a solution rather than automatically producing an outcome or strategy.

SECTION 6.3

RELEVANCE FOR STAKEHOLDERS

Several different stakeholders were connected to this project. The expected relevance of the project was shortly stated in section 1.2, and will now be discussed and reflected upon.

6.3.1 STRATEGIC PRODUCT DESIGN

At the core of strategic design is the ability to combine knowledge from **multiple disciplines** to create the most successful products, services and strategies. This is also a main element of this project as it aimed to combine three seemingly distant domains - AI, brand, and strategic foresight - to solve a problem. **Managing complexity** is also key for strategic designers - another element this project taps into with three big and abstract topics. The attention on AI within the field of design is increasing. It is essential for designers to expand their view on such revolutionary technologies, both to understand when to use them and when not to use them. During the process of this project, a variety of the subjects taught in Strategic Product Design (SPD) at TU Delft has been put to practice.

Firstly, the inclusion of **perspectives from all stakeholders** is essential for SPD. In this project, both Deloitte Digital, their clients and the customers of their clients have been explicitly reflected upon. Furthermore, both interviews and validation has been done with participants from different disciplines.

Secondly, **theory and methodology from branding** represents a big part of SPD. During this project, this knowledge has been put to practise, including brand DNA, positioning and competitor analysis.

Thirdly, **qualitative research** in the shape of interviews have been performed in this project. Both the execution and analysis was done based on theory taught at SPD.

Finally, more unconscious competences such as **visualizing** complex insights, **discovering connections** between seemingly unconnected areas, and balancing **desirability, feasibility and viability** are continuously needed as a strategic designer - and these have been tested and challenged during this project.

6.3.2 DELOITTE DIGITAL

Deloitte Digital aims to be perceived as an innovative and creative consultancy with emphasis on co-creation and fresh propositions. Furthermore, as their motto '**Elevating the human experience**' expresses, their main focus is on user-centric design. This project taps into this strategy by suggesting a solution with novel features to match the client's brand identity and image, recognize users' emotions and perform co-creation linked to data-driven analysis. Additionally, the solution **supplements current offerings** and has the ability to **strengthen their relationship** with current and future clients. In section 1.2 this solution is described as part of the marketing and advertising domains. It could be argued that the customizability allows for it to be used in the design and build domains.

The solution is also relevant as it can provide Deloitte Digital with **more work** due to the continuous monitoring and alert system. When the team is alerted, they can inform the client, and possible project proposals could be offered to provide a solution. As the goal of MindMatch is to future-proof the clients' brand, this is also expected to result in **clients staying loyal** to Deloitte Digital. Furthermore, the validation indicated that the solution can **optimize and add new insights to the employees work** and that the client finds the solution **valuable enough to pay for it**.

"It is **useful** for testing. For example, when we create a campaign or a product, we have targeted emotions or topics that we want to stimulate with our customers. The **matching** makes it possible to see if the **brand communication**, in reality, is eliciting the things we had in mind."

- Deloitte employee

People do not have the skills yet to **turn data into action** - and when I look at this I get interested because that is what your algorithm is also **going to help me** with."

- DSM

SECTION 6.4

RECOMMENDATIONS WHEN STEPPING INTO THE FUTURE

The future is both an uncertain and exciting place for organizations. Deloitte Digital has been rapidly growing and developing during the past years, and now offers services to a variety of well-known brands. Deloitte Digital can influence these brands' future survival. To do this, some recommendations are made related to MindMatch and its implementation. Additionally, more organizational recommendations can be made for Deloitte Digital.

6.4.1 IMPLEMENTATION STRATEGY

Due to the complexity of the solution, it is recommended to divide the implementation into phases. Three phases will be recommended, however, the prototype in this section is created with the second phase in mind. The phases are the following; (1) minimum viable product (MVP) phase, (2) customization, and (3) AI expansion. Figure 29 displays a visual representation of the implementation.

The main objective of the first phase is to test main assumptions and usability of the solution. It will thus be developed using existing datasets and lexicons to decrease the amount of resources needed.

When the solution has been tested and feedback has been gathered, the development of the second phase can be initiated. The second phase aims to reach the solution shown in the final design of this project. The main objective is to enable more customization and nuanced emotion detection and sentiment analysis.

The third and last phase speaks to the implementation beyond the prototype created for this project. This phase aims to expand the technical aspects of the solution by including analysis of images and videos, automated audience profiles/personas based on insights, recommending overlooked competitors and segments, and implementing more creative AI (generating scenarios, moodboards, music etc.). Furthermore, the solution could also integrate with other tools for customer insights and website analytics such as IBM Watson.

developing **Phase 1: MVP**

Use existing datasets and lexicons for sentiment and emotion recognition - 8 basic emotions from Plutchik's wheel of emotions, 3 sentiments (positive, neutral, negative)

Simple matching logic (top 10 associations, 8 emotions, 3 segments with simple segmentation)

Only few predefined data sources (Twitter, Facebook)

A few generic co-creation exercises

developing **Phase 2: Customization**

Produce own labeled datasets, fine-grained sentiment analysis (very positive, positive, neutral, negative, very negative)

More nuanced emotions (consider a combination of wheel of emotions, happiness cards from TU Delft, Microsoft's emotion recognition API etc)

Enriched matching logic (more specific segmentation, combine associations and emotions)

Customizable data sources (the user can write in free-form which data sources they prefer)

More co-creation and creative collaboration options

developing **Phase 3: AI expansion**

Integrate image recognition (analyse emotions and objects in images)

Integrate speech recognition (analyse emotions and topics in videos)

Combine with existing tools such as IMB Watson Personality Insights to gain even deeper insights (user lifestyle, interests, values, needs, personalities, purchase intent etc)

Automated personas/audience profiles based on insights

Recommendation system - AI recommends brands with similar segments, topics, emotions and sentiments, recommends next steps and tips to reach better match

Creative AI (get inspiration for more creative work regarding branding and marketing)

Figure 29: The implementation of MindMatch is recommended to be done through several phases. The final design presented matches the second phase.

6.4.2 TRUST IN FORESIGHT

Insights from both literature (cf. section 2.2) and expert interviews (cf. 3.3) indicated that foresight is hard to measure, and thus, hard to rely on within an organization. It is still a somewhat vague and ambiguous field, however, an increasing amount of research proves that it is essential for an organization to integrate foresight in all they do (Rohrbeck & Gordon, 2018; EPSC, 2017; Hammoud & Nash, 2014).

In today's chaotic VUCA environment it is necessary for companies to be proactive and spot risks and opportunities before their competitors. Deloitte Digital is in a position where they can improve and implement this competency with their clients. MindMatch can further support this and its use can convince the clients of the importance of monitoring emerging trends and analysing the often overlooked weak signals within their online users. Furthermore, it is recommended to integrate more foresight methods when developing solutions for and with clients.

6.4.3 JOIN FORCES

Deloitte is a comprehensive and complex organization with numerous departments. It is only expected that these are not all connected. However, as the AI and foresight initiatives are growing in the organization, it can be recommended to create some sort of 'hub' where knowledge sharing and system integration can take place. Departments such as Monitor Deloitte and AI & Cognitive could facilitate the collaboration between different departments, teams, and projects which are all working with similar technologies. Furthermore, collaborations with external partners such as IBM Watson could also be taken advantage of by adding more insights and possibilities.

It is recommended to integrate trend research done by Monitor Deloitte in MindMatch to further analyse correlations between the user insights and societal trends. Additionally, IBM Watson's tool 'Personality Insights' could provide a more nuanced analysis on the users' values, needs and personalities.

6.4.4 COMBINE DATA AND INTUITION

From both literature and the interviews with brand experts it is clear that gut feeling and intuition plays a part in the creative processes of branding. Intuition is increasingly acknowledged as an unconscious intelligence built on knowledge from our prior experiences. Thus, it is recommended to combine the insights from MindMatch with the intuition of domain experts.

Seeing that we are only scratching the surface of AI and data science, this hybrid approach to brand positioning can result in novel ways of expressing a brand and connecting with its users. By demystifying AI and educating the employees in how to interpret the data these initiatives present opportunities of optimization and innovation.

6.4.5 INTEGRATED IN DAILY WORK

For Deloitte Digital to fully take advantage of MindMatch, it is recommended that it becomes an integrated part of their current processes and ways of working with the clients. Furthermore, new processes around MindMatch such as workshops and sessions should be made. These are suggested to include data scientists and marketing/advertising employees where sources, keywords, the analysis and the objectives can be discussed.

For the solution to make an impact, it is also recommended to use it as a performance measuring tool on a weekly basis - as a participant also mentioned during the validation interviews.

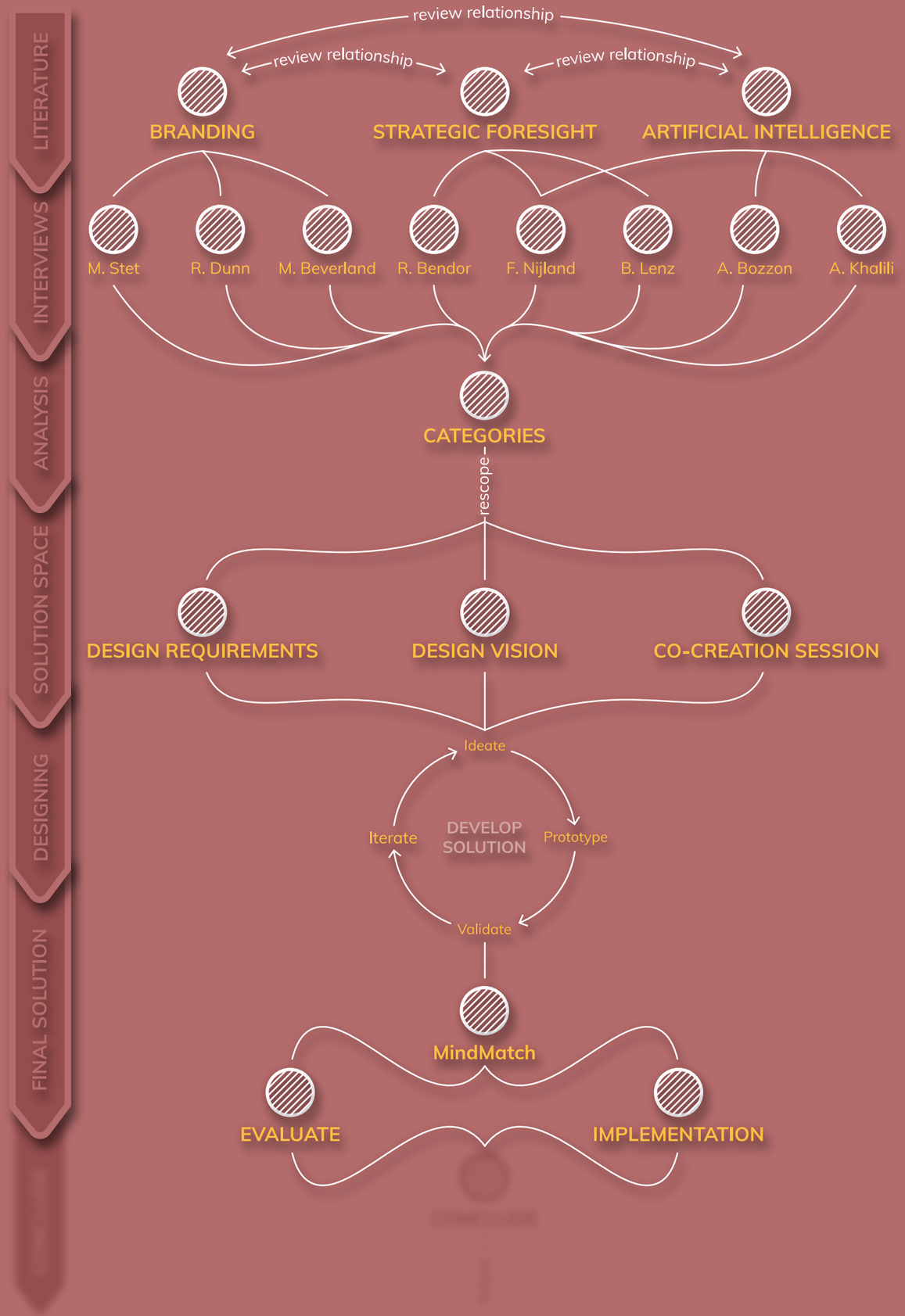
SECTION 6.5

SECTION
KEY FINDINGS

This section acts as a general evaluation of the solution and aims to tie all aspects together - from research to solution validation. Several key insights were discovered;

1. **Both Deloitte employees and the client, DSM, were positive about the solution during the validation interviews and they validated the usefulness, usability and willingness-to-pay for MindMatch.**
2. **Through the feedback session, validation interviews and process as a whole, the solution is found to be desirable, feasible and viable.**
3. **Out of the 16 design requirements nine were fully met by the solution, four were met to some extent and three were not at this point met by the solution, however, suggestions were made regarding how these could be met.**
4. **For SPD this project is relevant due to;**
    - **The combination of multiple disciplines**
    - **The need to manage complexity**
    - **The inclusion of all stakeholders**
    - **The variety of educational courses it touches upon**
5. **For Deloitte Digital this project is relevant due to;**
    - **The fit with their current strategy**
    - **The addition MindMatch would make to their current offerings**
    - **The possibility of increasing amount of projects and client loyalty**
    - **The ability to optimize current work within marketing and advertising**
6. **Three implementation phases were suggested; (1) MVP, (2) Customization and (3) AI expansion**
7. **Several recommendations were made; trust in foresight, join forces with other departments and tools, combine data and intuition, and integrate the solution in daily work.**

With all of these insights in mind, it is now time to conclude on the overall graduation project.



SECTION 7.0

FINAL THOUGHTS

This section concludes this project by presenting answers to the six sub-questions and the main question presented in the introduction. It then moves on to the limitations of the project and suggests future work. Lastly, it closes with a personal reflection.

SECTION 7.1

CONCLUSION

The purpose of this thesis was to investigate how artificial intelligence and strategic foresight can be applied to improve and/or maintain a future-proof brand positioning.

To achieve this, it was necessary to first answer five sub-questions. This has been done through (1) a review of the literature within brand positioning, strategic foresight and AI, (2) interviews with domain experts, and (3) the design of a solution including prototyping and validating. Additionally, this thesis contributes with investigating the relationship between three separate research domains through literature and experts, creates a set of design requirements for designers within this intersection and finally, contributes with a generalizable and scalable solution.

The sub-questions can now be answered followed by the final conclusion of the main question.

Q1 7.1.1 WHAT MAKES A BRAND POSITIONING FUTURE-PROOF

Based on the insights from both literature and domain experts, it can be concluded that a variety of aspects has to come together to create a future-proof brand positioning. However, the most essential aspect is identified as the emotional connection between brand and user. Furthermore, the research also suggests that a co-creation between user and brand regarding the meaning and narrative of the brand is essential for this connection.

Q2 7.1.2 WHICH PART(S) OF A BRAND SHOULD BE CONTINUOUSLY ADAPTED

The literature reveals that a debate surrounding fluid and adaptable branding is currently emerging, with opposing opinions as to how much and what aspects of a brand can and should be adapted over time. Additionally, this was identified during the expert interviews where the topic of balancing consistency and relevance was recurring. It can be concluded that the experts agreed that the core identity such as values and beliefs should be consistent. However, the way these are expressed through benefits and communication can change and adapt according to users and society.

7.1.3 WHICH AREA(S) OF AI CAN SUPPORT THIS Q3

It can be concluded that NLP can support the long-term survival of a brand. This conclusion is drawn based on two findings; (1) that the emotional connection and co-created brand meaning between user and brand are identified as essential for the survival of the brand, and (2) that the communication of the brand and its benefits is suitable for continuous adaptation. Thus, natural language processing is fitting, as it analyzes the communication for both associations, sentiments and emotions.

7.1.4 WHAT PROCESS(ES) AND METHOD(S) FROM STRATEGIC FORESIGHT CAN BE BENEFICIAL Q4

The perspective of strategic foresight has been a lens which has guided the project on a higher level from the beginning till the end. It can be concluded that the Generic Foresight Process is the most used structure when practising foresight, and has therefore created the foundation for the solution design in this project. Insights from the interviews suggests that especially trend research and detecting weak signals and opportunities

are important in the work Deloitte does with their clients. The literature argues that the organizations lack the integration of foresight practises, and thus, the solution was designed to encourage proactive thinking.

Q5 **7.1.5 WHAT SORT OF DATA IS NEEDED**

It can be concluded based on both literature and interview insights that the topic of data - both its form and sources - is of great debate. Though it is argued that social media data is an unstructured and messy type of input, it is also acknowledged to hold great opportunities regarding nuanced consumer insights and raw emotional reactions. This is suitable as it supports the first sub-question. Furthermore, social media data is dynamic and accessible. Textual data has been the main focus in this project, however, it is also recommended that image and video data can be gathered and added to the analysis. Additionally, trend research done on venture capital databases and news articles is also recommended to be made part of the solution at a later stage.

Q6

7.1.6 HOW CAN IT BE COMMUNICATED

Communicating data is argued to be of great importance during the expert interviews. It can be concluded that the communication should be visual, dynamic and interactive. Furthermore, it should be transparent and interpretable for the viewer to avoid bias and imbalance. Storytelling is suggested as a form of communication which will support this.

HOW CAN ARTIFICAL INTELLIGENCE AND STRATEGIC FORESIGHT BE APPLIED TO THE IMPROVEMENT AND/OR MAINTENANCE OF A FUTURE-PROOF BRAND POSITIONING?

When combining all the answers to the sub-questions, the solution was born; MindMatch. By applying NLP techniques (including topic modeling, sentiment analysis and emotion recognition) and the Generic Foresight Process (including the six steps, weak signal detection and forecasting) to social media data, the solution assists Deloitte Digital in improving and/or maintaining the emotional connection and co-created meaning between brand and user - resulting in a future-proof brand positioning.

Through a feedback session and validation interviews with both employees and a client, the solution proved to be valuable and relevant for Deloitte Digital to pursue.

With MindMatch, Deloitte can make an impact that matters on their client's online brand positioning and elevate the human experience.

Though the future is uncertain, we can prepare ourselves and our organizations to face its many challenges.

SECTION 7.2

LIMITATIONS & FUTURE WORK

It is important to acknowledge some limitations of this project and recommend areas for further work and research. This section will highlight some limitations of the literature research, expert interviews, design and validation before moving on to proposed future work.

7.2.1 THE LITERATURE RESEARCH

Brand positioning, AI and strategic foresight are all broad and ambiguous topics - each could easily have been a project on their own. This project therefore only covers a limited amount of the topics. Additionally, no current research focuses on the intersection between them and more research is needed - especially with regards to the comparison of brand identity and brand image.

7.2.2 THE EXPERT INTERVIEWS

The expert interviews aimed to equally include experts from all three topic areas. However, no pure foresight experts were found and could, therefore, create somewhat of an imbalance. This might also portray the limited field of strategic foresight. Furthermore, since no one is an expert within all three areas, I was the one interpreting and connecting the results across the three domains. This could to some extent limit the perspective and induce biases. This could be addressed by having multiple designers investigate the intersection further.

7.2.3 THE DESIGN OF MINDMATCH

The aim of this project was not to implement the technical aspects of the solution. Thus, the prototype does not test the AI engine which is meant to provide the insights. Due to this, the solution is relying on techniques validated in other research and emerging products on the market. Furthermore, the solution is dependent on social media data and the clients created in the solution thus have to be fairly active on social media. However, the product can be used to explore competitors or other brands to gain insights and inspiration from them.

7.2.4 THE VALIDATION

The prototype was validated through both an online feedback session and several interviews. However, it has yet to be validated in a practical context or directly applied to an on-going project. Thus, the validation relies on the participants' ability to imagine the solution in their current work. Furthermore, the impact of the solution is partly unknown as it would need more time and resources to further implement and test it. Thus, this should be done in the future.

7.2.5 FUTURE WORK

This project is to be seen as an initial work within the combination of the three topic areas. Based on the project results and the limitations, several suggestions for future work can be made.

Research | AI meets human behaviour

As our knowledge of the potential of AI and specifically NLP is still limited, more research within recognizing human emotions and behaviour through text is recommended.

Research | Foresight within branding

The relationship between foresight and branding in the current literature is hard to identify. More research within both how to better integrate the practice of foresight in sales-driven organizations and how brands can benefit from both long- and short-term foresight are promising research fields.

Solution | The value of a match

The solution holds great potential for advertising and marketing efforts, however, it is currently not connected to other typical KPI's such as sales, mentions, return on investment etc. In the future, another project could be to create a dashboard aimed at measuring the impact of social media engagement and the match between brand identity and brand image.

Solution | Combine with trend research

Other foresight solutions are currently concerned with using AI to spot societal trends. It could prove valuable to integrate this in MindMatch to investigate which societal trends might influence the users' brand image. This would further strengthen the preparedness of the future for a brand.

SECTION 7.3

PERSONAL REFLECTION

This thesis has come to an end and it is now time for me to reflect on the last 100 days of this exciting roller coaster ride. Like any ride, it has had its ups and downs, but the feeling of accomplishment you get once you step out of the roller coaster again has been worth it all.

Two years ago I packed up my life in Denmark with the hopes of broadening my perspective on design, technology and business. During my time at Strategic Product Design, I've discovered a variety of new viewpoints and skills within all three domains. And somehow it all came together in this project. None of the three topic areas - brand positioning, strategic foresight or AI - were domain I had much more than basic knowledge of before initiating the graduation. However, while researching topics I discovered connections between them which inspired and motivated me. This lack of more in-depth knowledge could be seen as a disadvantage - but I see it as a strength. It took me on an open and exploratory journey into the three topics rather than one biased by previous experiences. It forced me to let the insights guide me rather than a predefined view on the problem and its solution. It allowed me to once again broaden my knowledge and discover new domains. For me, this is what a strategic designer needs to do.

I especially remember one comment from the introduction speech given to us when we started SPD: **"To be a strategic designer is to know a little bit about everything but not everything about a little bit."** I have now come to agree with this statement. In this growingly multi-disciplinary VUCA world, we need to be the glue, the bridge, the connector - whatever you might call it - between the different worlds.

SOME HIGHS

The feeling of success when reaching a relevant and useful solution to a design problem I defined myself

Feeling excitement from the people around me - supervisory team, Deloitte employees, fellow designer - when presented with the solution

Applying a combination of known and unknown methods by myself and seeing that it is possible

SOME LOWS

The freedom of creating my brief also made me question myself, the problem I saw and the connections I made.

A graduation project is already a somewhat isolating project as it is one of the few at SPD which is individual - with COVID-19 this became even more prominent and made it hard to get the ideas and thoughts from my head to the project. Furthermore, the main stakeholder, Deloitte Digital, felt more distant and it was harder to reach out to the employees.

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SECTION 9

APPENDIX

The appendix is found in a seperate file

Content

1. Project Brief
2. Expert interview guides
3. Creative session facilitation guide and presentation
4. Validation Interview Guides

Thank you