Moving from designing for to designing with consumers: Utilizing human-centred design approaches to create Facebook advertisements

Yaridis Toppenberg - s2968789

Master's Programme in Communication Science

Faculty of Behavioural Management and Social Sciences, University of Twente

Supervisors:

Dr. Joyce Karreman

Dr. Ester van Laar

Abstract

Aim. The human-centred design approaches are spilling over into other fields, including marketing. However, the effects of different human-centred approaches are still unknown in marketing. In this research, two human-centred design approaches, design thinking and co-design, were studied. Co-design is more focused on sharing power and active participation of users, while design thinking is more focused on being innovative with the collection of information. These two approaches have shown to be used in solving business problems, improving team collaborations and having similarities with marketing. This study explored the differences between co-design and design thinking in the marketing context and investigated how effective these are when creating Facebook advertisements.

Method. This qualitative exploratory study was divided into two parts. In the first part, 24 people participated dividing them into six groups of four people. Three groups worked in co-design teams and three groups in design thinking teams. They were asked to work together in creating visuals and texts for a Facebook advertisement. Each participant's viewpoints on the two processes, teamwork, individual work, and product results, were collected based on observations and interviews. In the second part, the creations designed by the groups in part one were shared with 17 students. These students, who functioned as potential, shared their thoughts about these products through interviews.

Results. The results in part one based on the observations and interviews showed no differences between the approaches regarding the processes, efficiency, teamwork, and individual work. However, there was a difference in the product satisfaction of the individuals. The people had higher satisfaction when it came to the products created by the co-design teams. Part two, based

on the results of the interviews, showed that people preferred the designs created by the design thinking teams.

Conclusion. Participants preferred to work in co-designing teams as it resulted in higher product satisfaction. The potential customers find the advertisements created by design thinking teams more attractive and informative and felt that those teams followed the task instructions better based on the context.

Keywords: human-centred design, co-design, design thinking, marketing, advertisements, university students, interviews, observation

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Introduction

With the world constantly changing, organisations are endlessly searching for innovative ways to generate profits, connect with consumers and develop new products or services. With such fierce competition between companies in different industries, it can be challenging to keep up, especially in marketing. Value creation is a way to combat this problem (Kotler, 2020). Companies can create value by broadening their scope on what marketing means and moving away from marketing to the masses. Another way to combat this problem is by integrating the needs of the customers and their unique qualities into the process to stimulate innovation throughout the design process (Grau, 2021; Itoh et al., 2007; Kujala, 2003; Liem & Sanders, 2011). Embracing these ideas can enable companies to shift their focus from short-term, success-oriented strategies towards long-term relationship-building and sustainable value creation with customers (Berger et al., 2005).

A promising approach that fosters value creation and innovation is human-centred design, also called user-centred design. Originating in the 1980s within human-computer interaction (Gould & Lewis, 1985; Norman & Draper, 1986), human-centred design is an iterative problem-solving method (Giacomin, 2014; Landry, 2020). It centres around multidisciplinary design teams that place consumers at the core of the process, considering their needs, wants, and experiences (Landry, 2020). Throughout this process, designers refine their creations while customers provide valuable feedback, resulting in designs that resonate more effectively with consumers (Giacomin, 2014; Harte et al., 2017; Landry, 2020). In the case of marketing, researchers have applied human-centred design tools to enhance their social marketing planning (Biroscak et al., 2018). Social marketing entails utilising marketing techniques to positively influence individuals' behaviour, benefiting both individuals and society. It encompasses

elements such as product planning, pricing, communication, and marketing research (Bayrak, 2013). With that idea in mind, the researchers employed human-centred design tools from IDEO, such as extracting key insights, brainstorming, and prototyping, to refine their social marketing frameworks (IDEO, 2011). With this adaptation, the researchers aimed to solve complicated, dynamic issues that call for a whole-systems approach (Biroscak et al., 2018; Kessler & Glasgow, 2011; Lyn et al., 2013).

Several methodologies have emerged from the foundation of human-centred design, with co-design being one notable approach. Co-design is a collaborative technique involving skilled professionals and consumers working together throughout the entire process to generate innovative solutions (Antonini, 2021). Previous research showcased its effectiveness as a means of collaboration between retailers, customers, and manufacturers to create a customer-centric business strategy (Berger et al., 2005). In that study, they explored various modes of collaboration within Adidas, finding that teams collaborating led to increased cooperation and the successful incorporation of diverse group needs and values into the design and analysis process.

Another notable human-centred design approach is design thinking. Design thinking centres around empathy, problem definition, and the generation of ideas aimed at positively impacting end products (T. Brown, 2008). Design thinking differs from co-design in that consumers are involved mainly at the beginning, when collecting data, and at the end, when evaluating the product, of the process. In a recent study, scholars merged design thinking with marketing to aid Fajar Motors in creating an effective marketing strategy (Anasrul & Sutrisno, 2023). They applied the design thinking process to assess current marketing strategies and crafted a new approach. They developed a prototype marketing strategy by leveraging data from

the business owner and some customers. As a result, they created a way for the business to overcome its sales challenges.

Despite the growing interest in innovative ways to improve businesses, research connecting marketing and human-centred approaches still needs to be explored. So, more research is needed on human-centred approaches such as design thinking and co-design in connection with marketing processes (Baum et al., 2019). As only a few studies focus on their use, differences, and effects on marketing, this study will be conducted to fill that gap (Antonini, 2021; Chen et al., 2018; Lefebvre & Kotler, 2011; Schiele & Chen, 2018) Unlike previous research that examined team dynamics but did not compare and evaluate these approaches' impact on end products (Borza & Macías, 2015; PU, 2019), this study will analyse how different teams aligned with these approaches affect customer perceptions of the resulting designs. Furthermore, practitioners are increasingly urged to embrace human-centred design, especially in marketing (Pamfilie & Croitoru, 2018; Savoy & McLeod, 2014). So, this research aims to empower practitioners by exploring the integration of human-centred design techniques into marketing processes. Lastly, the perception that organisations disregard people's well-being can lead to scepticism and critical scrutiny of marketing messages (S. Brown, 2004; Dole, 2020). Thus, our study explores how involving customers in the design process can help businesses establish a closer connection with their customers.

This exploratory study delves into the relationship between marketing and human-centred design approaches, specifically design thinking and co-design. The research consists of two phases. The first phase involves observations and interviews to investigate the differences between co-design and design thinking and their use in the marketing context of creating Facebook advertisements. In the second phase, interviews with potential customers will be

conducted to discuss the end results based on their preferences. The central research question driving this study is as follows:

To what extent are design thinking and co-design effective in creating advertisements?

Theoretical Framework

Co-design

In recent decades, design methodologies have shifted from producing "for users" to "with users." Co-design is an example of a "with users" technique that focuses on co-creating with users (Antonini, 2021; Beyond Sticky Notes, n.d.; Durl et al., 2017). The users become part of the design process and are experts in their own experiences (Durl et al., 2017). Together, they work with professionals in the field to tackle problems and create innovative solutions while sharing power, prioritising relationships, using participatory means, and building capability (Beyond Sticky Notes, n.d.). Today, co-designing is one of the most popular human-centred approaches known (Antonini, 2021). However, two other preceding approaches inspired co-design. The first is participatory design, and the second is the user-centred design approach. When combining these two approaches, participatory design is seen as the broader approach with direct user collaboration. User-centred design is seen as the base development approach derived from the principles of human-computer interaction research.

Participatory design originated in Scandinavia in the 1970s and 1980s. The origin story involves academics forming collaborations with labour unions to give workers a say in creating new technologies (Bødker et al., 1988; Spinuzzi, 2005). These investigations were conducted to help workers develop technological systems with developers to retain control over their work. Before that, they were forced to use systems they did not understand, which hindered their work. After those studies were conducted, it became apparent that the workers and the development team could work together on a project while considering each other's differences and creating systems that were useful. Today, participatory design is used as a design practice that incorporates people from different positions, interests, and experiences to work together in teams both as non-designers, such as users and stakeholders, and as part of the project team, such as marketers and engineers (Antonini, 2021; Sanders et al., 2010). The

team members understand, investigate, develop, establish, reflect, and collaborate (Antonini, 2021).

The user-centred design approach originated after the participatory design approach. It became popular in the 1980s with the works of Donald Norman (Norman, 1988; Norman & Draper, 1986). What he pointed out with his works was not only to incorporate the users' needs and desires but also to make sure the design is usable (Abras et al., 2004). In user-centred design, the user is put at the centre of the design and provides recommendations to the designers. Next, the designers consider how the user uses the product and if they can use it with minimum effort. Tests are conducted with the users as part of usability evaluations and an iterative design process (Lewis, 2006). By involving users, products become more effective, efficient, and safer, contributing to product acceptance and success (Abras et al., 2004; Keinonen, 2008; Sanders et al., 2010; Spinuzzi, 2005). Today, the user-centred design approach has become a well-known technique and was a basis for other design approaches (Abras et al., 2004).

Co-design has been conceptualised in a variety of ways over the course of years. However, among those definitions, people have misappropriated the term and those similar to co-design (Masterson et al., 2022). Besides, the definitions are scattered based on the field that they are being used in, as some scientists only focus on their specific fields in connection with co-design (Kang et al., 2020; Krawczyk-Dembicka et al., 2022; Masterson et al., 2022). In this research, the definition and steps of the co-design process, as defined by Mckercher (2020), are used as a basis for conceptualisation and measurement. This is because Mckercher (2020) defines the process in a way that shows that the steps of the co-design process are not linear and could change course based on the project context. So, the definition is not fixed or related to one specific field but can be changed to fit a specific context. The used definition as defined by Mckercher (2020) is as follows:

> Co-design is a method of designing with people rather than for them. It is beneficial and most effective when individuals with lived experience, communities, and experts collaborate. They are working together to enhance something vital to them all. Co-design is about how we are seen (our mindsets), what we are doing (methods) and how our systems are embracing the People with lived experience are encouraged to participate (social movements).
>
> (p.14).

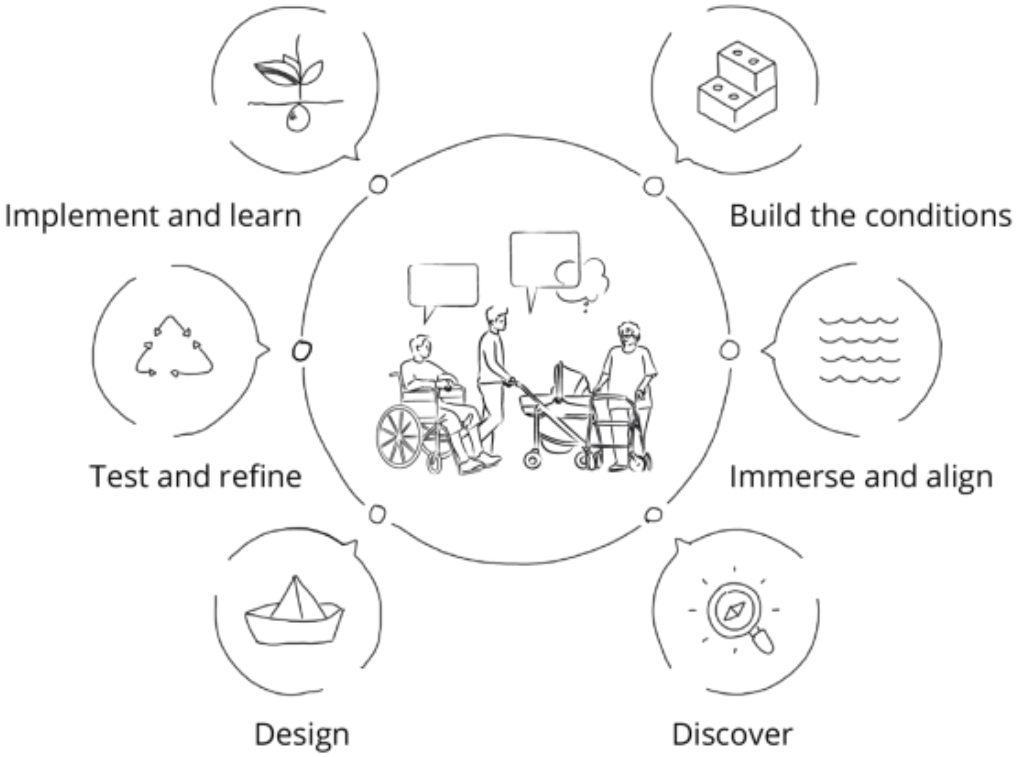
The concept of co-design can be translated and executed into actions by following several steps that form the co-design process. The steps as defined by Mckercher (2020) are illustrated in Figure 1 and include building the conditions, immersing and aligning, discovering, designing, testing and refining, and implementing and learning. During building connections, the team defines whom they work with and how to work with each other (Rezende, 2021). The team members examine their values and goals to align these with the project process. The team then defines what they already know and discusses the gaps for the immersion and alignment step. In the discovery phase, the team acknowledges what is happening concerning the context of the project. Besides, they find out what the potential target group needs and wants. During the design phase, the team discusses how they can build something practical and creative. After that phase, the team finds what appears to be working in the test and refine step. The members improve the design and test as needed. During the implementation and learning phase, the team members reflect on the process and discuss the project's challenges.

These steps, as defined by Mckercher (2020), were picked to be consistent with the concept of co-design. Additionally, Mckercher (2020) provides more detailed instructions than previous models on using this model to collaborate on designs. Finally, unlike many other models that combine methodologies and misunderstand what co-design entails, this

model focuses on co-design (The University of Auckland, n.d.; Yadav et al., 2021).

Figure 1

The Co-design Process



Note. This model shows the co-design process that is used in this research. From *Beyond Sticky Notes - Co-design for real: mindsets, methods and movements* (p. 16), by KA. Mckercher, 2020, Thorpe-Bowker Identifier Services Australia. Copyright 2020 by Kelly Ann McKercher. Reprinted with permission.

Design Thinking

Another design methodology that also incorporates users into the design process is design thinking. Design thinking is a non-linear technique in which human-centred design principles are incorporated into a process to inspire innovative activities and solve problems (T. Brown, 2008; Clark & Smith, 2010; Gobble, 2014). In this approach, innovation is crucial and is powered by understanding and observing what users want and desire, including products or services and how they are marketed, sold, and supported (T. Brown, 2008). So,

this collected data serves as a source of creativity and knowledge. The combination of divergent and convergent thinking drives the problem-solving part of the process. Convergent thinking drives towards solutions, and divergent thinking increases options to create choices (Huang & Hands, 2022).

Design thinking originated from the early twentieth-century logic models constructed by philosophers of science to describe the world and our understanding of it (Lee et al., 2020). Back then, designers and architects got interested in creating a "scientific explanation" for how people think. By the 1960s, they presented scientific, mathematical, and philosophical theories to describe design as a process. One of the first models of design thinking is the one created by Herbert Simon in 1969, which has formed the foundation of design processes today (Dam & Siang, 2020a). This model includes the seven stages: define, research, ideate, prototype, choose, implement and learn. In the 1990s, multiple models were established to explain the design process, conceptualising the creative design process as intrinsically cognitive and referring to it as "design cognition" (Lee et al., 2020). Today, design thinking has developed from a typical creative design discipline to one that focuses on complicated issue solutions in business, management, and engineering. It is currently seen as a problem-solving method to produce new results and has become one of the critical skills needed in businesses (Lee et al., 2020; Meinel & Leifer, 2022).

Despite design thinking existing a few years, the definitions of what design thinking is are still very scattered, with some thinking of it as an organisational attribute, while others see it as something that is individual (Micheli et al., 2019). Another example is that scholars have focused mainly on the tools while others see it as a culture. So, the general definition of design thinking is still lacking. Nevertheless, the Interaction Design Foundation created a definition based on past definitions and models. The Interaction Design Foundation's definition of design thinking will be used for this study:

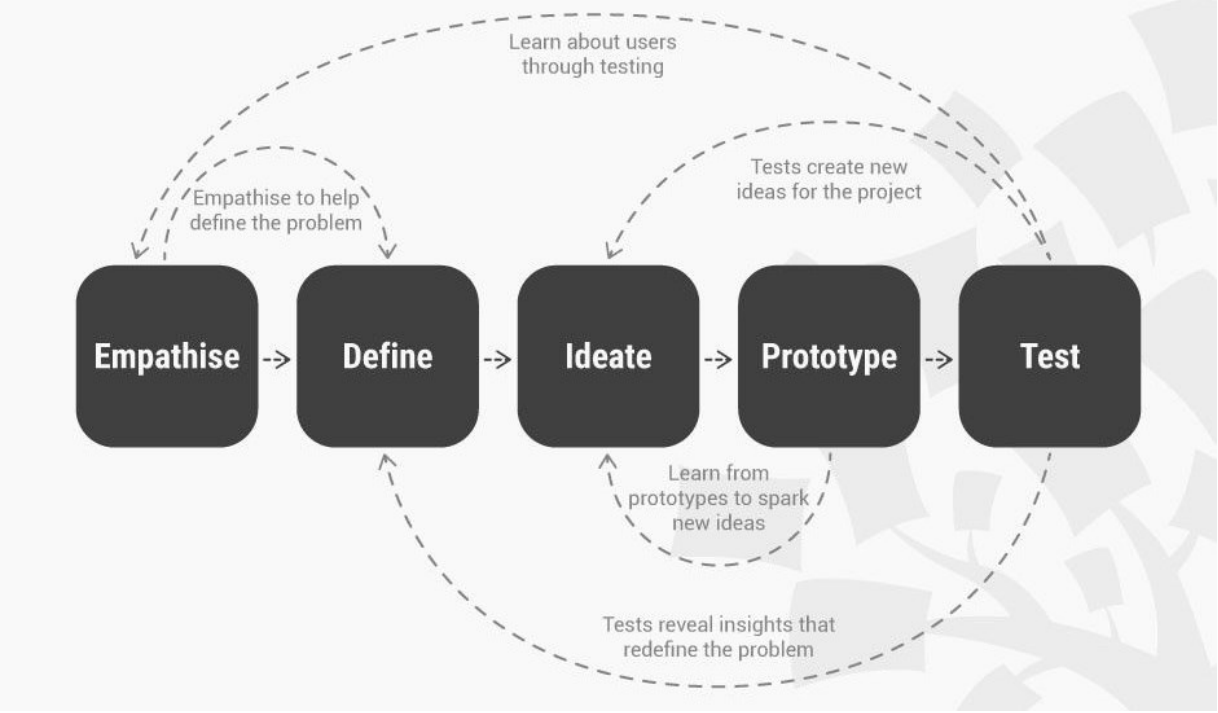
> Design thinking is a non-linear, iterative method teams use to understand people, question assumptions, reframe challenges, and build creative prototypes and tests. It is beneficial for tackling ill-defined or unknown challenges, as it involves five phases: empathise, define, ideate, prototype, and test.
>
> (Interaction Design Foundation, n.d.)

While defining design thinking, some steps were developed to implement it as a design process. There have been many design thinking process models, such as the DeepDive™ Methodology by IDEO, the "Double Diamond" Design Process Model and The LUMA System of Innovation (Dam & Siang, 2020a). However, they all follow the same principles and entail the same stages: empathise, define, ideate, prototype and test (Dam & Siang, 2020b). During the empathise stage, the group puts itself in the customers' situation. The team asks these customers open questions to gain data input for the project (Mahajan et al., 2022). The team empathises with potential target groups by understanding their actions, reasons, thoughts, and meanings. The problem statement, limitations, and project rules are formulated during the define phase. Besides, the customers' needs are translated into actions to be used in the project, which is about making sense of the data (Hasso Plattner Institute of Design, 2010). During the ideate phase, the strive is to share as many ideas as possible within the group (Huang & Hands, 2022). This step requires the group to be creative and think outside the box, which results in enough ideas to create solutions. The prototype step includes building a physical prototype with which the customers can engage. Building these prototypes while keeping the customer's real context in mind to enable relevant feedback is essential. The chosen prototypes will be tested during the test phase to gain customer insight. Testing also helps in gaining more empathy and understanding the user better (Hasso Plattner Institute of Design, 2010). This input can be later used again to better the designed solution.

The model chosen for this study is defined by the Interaction Design Foundation (Dam & Siang, 2020b) based on the process created by The Stanford Design School. This model can be seen in Figure 2. It is chosen as one of the models for this study as many institutions globally use it. Besides, this model has evolved over the years to be up to date with the changes of time but somewhat mimicking those in the standard mid-twentieth-century architectural process model (Lee et al., 2020). Lastly, because of the way the process is illustrated in the figure, the stages are viewed more as enablers or ways of thinking rather than concrete linear steps, which is what is needed for the design thinking process (Dam & Siang, 2020a).

Figure 2

The Design Thinking Process



Note. This model shows the design thinking process that is used in this research. From *Stage 3 in the Design Thinking Process: Ideate*, by T. Siang and Interaction Design Foundation, 2020. (https://www.interaction-design.org/literature/article/stage-3-in-the-design-thinking-process-ideate). CC BY-NC-SA 3.0.

Co-design Versus Design Thinking

Even though both approaches include human-centred design principles, the processes have similarities and differences. The similarities include that users or customers are at the centre of the design (Maguire, 2001; Mahajan et al., 2022; Sanders, 2000). Furthermore, both approaches require the process to include real-life experiences from the target group, not hypothetical target audiences (Durl et al., 2017; Reinecke, 2016). Next, there is trial and error for the design being created. In other words, both approaches give the space to test, receive feedback, and refine the design (Berger et al., 2005; Hasso Plattner Institute of Design, 2010). So, some phases are almost identical, for example, discover versus empathise, and design versus prototype, and both are iterative processes.

However, there are differences between these two approaches. In co-design, the users or potential customers participate throughout the whole process. They collaborate and are part of the project team (Beyond Sticky Notes, n.d.). In design thinking, they only provide input at the beginning, during the empathy phase and towards the end when tests are conducted (Ngamvichaikit, 2021). Another difference is that in co-design, users are seen as experts sharing their experiences (Durl et al., 2017). As a result, the power is equally distributed with other members in the group, who are professional experts in their field as well (Mckercher, 2020). On the other hand, the designers keep their power when creating products or services in the design thinking approach (Schiele & Chen, 2018). They can quickly change the design based on their knowledge because the user is not there. Finally, co-design is taken outside of the office and can include other stakeholders. On the contrary, design thinking is a mindset for fixing problems, usually in offices and work teams. Finally, co-design is more radical and specialist-based, while design thinking is incremental and easy to integrate (Vanstone, 2019).

Although there were studies conducted in the past looking at how people worked in teams of human-centred approaches, not many studies compare the approaches and measure

the product results (Borza & Macías, 2015; Pu, 2019). Nevertheless, many practitioners have mentioned the possible benefits of using such approaches, especially in marketing (T. Brown, 2008; Ellevate Network, 2017; Hotjar, 2022; Rutirasiri, 2015). It seems to be the case that design thinking is dominating that field a bit more (Reinecke, 2016). So, research on co-designing in this context is still scarce (Antonini, 2021; Drivas et al., 2019; Lefebvre & Kotler, 2011). For these reasons, studies are needed to see whether there are differences between these two approaches in fields such as marketing and whether the created designs result in different views.

Sub-questions

Based on exploring if there are any differences between the two approaches and the context, the following sub-questions can be formulated:

To what extent does co-designing teamwork differ from design-thinking teamwork in creating advertisements?

A. *To what extent are there differences in efficiency for the co-design and design thinking process when creating advertisements?*
B. *To what extent are there differences in satisfaction for the co-design and design thinking process when creating advertisements?*

To what extent do customer opinions on the designed advertisements of the co-designing process differ from the design thinking process?

Method Part 1

Research Design

The first phase of this study applied two qualitative research methods, observations and interviews, to investigate teams' dynamics. The teamwork evaluation within these groups was based on questions designed to gain insight into the process, the team and individual satisfaction, work efficiency and product satisfaction (See Appendix A). Inspiration for these questions was drawn from prior research by Pu (2019). To gain the answers to these questions, the teams got a task for which they had to create a visual and write texts that could be used as a Facebook feed advertisement. This type of advertisement can be seen when one scrolls through a Facebook feed. The content creation exercise centred around a fictional company, "Bon Voyage Agency". This company specialises in assisting students in The Netherlands to plan solo or group vacations and mindfulness retreats. The specific task assigned to each group was to develop content to attract students to book a European trip with this fictitious company.

Research Procedure

A booklet with information about the workshop for each approach (see Appendix F and Appendix G) was created for the participants of part one. These booklets were emailed to the participants a few days before the session they participated in. So, they had time to read through the document beforehand. This document included the planning of the sessions, the steps of the processes and the instructions for each step. As a result, the participants were prepared for their designated session and role. The roles included a user, content writer, marketer, and graphic designer. This meant that each person had their own function within the team. The users provided information regarding their own travel experiences, answered all questions the other members had to gain insight into the project and shared their thoughts on what other potential customers

would deem necessary when looking at the advertisement. In the design thinking teams, the user only gave information in the first step, "Empathise", and briefly evaluated the content after the session ended (Ngamvichaikit, 2021). In the co-designing teams, the users worked equally with the other members in all steps and could be experts in their own experiences (Durl et al., 2017). The content writer wrote important content concerning the ad's visuals and the texts. They worked closely with the group's designer to complete the content needed to create the ad. In the design thinking groups, the marketer asked the user questions to gain insight into what could be added as content. They also had to put themselves in the user's position and remind the others of the task's goals. The graphic designer designed the visual based on their skills in content creation. They also got feedback from others or asked others for feedback during the sessions. They created the visual using the logo provided for the company Bon Voyage. Besides, they also had to incorporate the business colours and ensure the visual appealed to potential customers. The teams had to follow the booklet instructions but also had some freedom regarding the photos added and the text to be written.

Measurement

The teams' work was measured based on observations and interviews. For the observations, a sheet with observation questions and points was used (See Appendix E). Besides, a GoPro 7 camera was used to record the sessions as a backup for observations. In the Design Thinking sessions, users also observed and documented critical insights. The study conducted by Pu (2019) was used for the questions asked during the interviews. The interviews with participants were conducted using a Zoom H4n Pro recorder. The questions were divided into teamwork, individual work, the end product, the process, satisfaction, efficiency, usefulness and user experience. An example team-oriented question was, "Are you satisfied with your team's

cooperation? Why or why not?". An example of an individual-oriented question was, "What do you think about your contribution to the team?". Lastly, a question related to the product was, "What do you think about the design you have made?". After the interviews were conducted, the recorded audio was transcribed using AmberScript and imported into ATLAS.ti 23 for coding.

Research Participants

The participants were recruited in various ways. Some participants were directly approached through personal contacts. These included friends and classmates from Communication Science or other studies that followed the same courses as electives, such as industrial design. The students who participated had the skills and knowledge to participate. Additionally, a portion of the participants were contacted through LinkedIn. They were primarily students at the University of Twente who studied Communication Science and had the expertise to fit into one of the roles. Furthermore, a snowballing recruitment method was utilized, where initial participants were asked to refer other potential participants within their networks. Everyone was given a role based on their experiences, study, and field backgrounds. Even the user roles were assigned to students passionate about travel. As a result, this combined strategy was chosen to ensure diversity in participant backgrounds and experiences.

A total of 24 participants participated in this phase. The participants primarily consisted of university students with diverse academic backgrounds. Of the participants, 70.8% identified as female, while 29.2% identified as male. In each group, there was at least one of each gender. The participants' ages ranged from 21 to 30 years. There were four groups, with three focusing on Design Thinking and the remaining three on Co-designing. People were assigned to a group based on their availability to participate on one of the given dates. The Design Thinking groups

participated on May 2nd,3rd, and 4th, 2023, while the Co-designing sessions were held on May 8th,9th and 10th, 2023.

Validity and reliability

The reliability and validity were calculated through intercoder reliability tests using Cohen's Kappa coefficient in SPSS. The second coder got 10% of the first coder's work. This analysis aimed to identify areas of agreement and disagreement between the codes assigned to data segments by both coders. After the first round, the primary and second coders met to discuss code-related issues and disagreements. McHugh (2012) states that a Cohen's Kappa for intercoder reliability above 0.8 signifies nearly perfect agreement. In the first round, Cohen's Kappa was 0.718; in the second round, it improved to 0.960, indicating a high level of agreement between the coders.

Results Part 1

Observations

During the research sessions, observations were made, incorporating various aspects of the participants' interactions and activities. These observations included examining the distinct roles within each team, their utilisation of materials, and the extent to which they executed given instructions. Additionally, precise timing data was collected to address sub-question 1A.

Group 1-Design Thinking Group

In this group, the designer took on a leadership role, although one that was more motivating. The designer effectively motivated the team by drawing upon their experiences and offering support through statements like "We will figure it out." They played a crucial role in the ideation process by writing key ideas on Post-it notes and seeking approval from other team members. The marketer in the group assumed a slightly different role, primarily serving as a reminder to adhere to the rules and instructions. They also actively contributed to the design process and assumed control over Canva, expressing concerns with statements such as "You are limiting our creativity." The marketer's disappointment stemmed from the belief that Canva was not the optimal tool for completing the task effectively. The group's writer exhibited a versatile role, engaging in various activities. They provided valuable input by offering suggestions for the designs, writing texts, and sharing their opinions, as exemplified by the statement, "We cannot be marketing something that we find ugly." This comment was prompted by the designer's dissatisfaction with the design they were creating. The user of this group observed together with the researcher of this study. They were making notes about how they thought that the team took their preferences into consideration.

Regarding tools and resources, the group extensively used Post-it notes, the whiteboard, and constant interactions with each other. They brainstormed, often moving around in the workspace to provide suggestions and feedback. Initially, there needed to be more clarity among the marketer and designer regarding project details, partly due to the instructions needing to be more straightforward. However, the researcher intervened when necessary, offering further clarification. Consequently, notes were taken by the researcher of this study to enhance the overall participant experience, including addressing issues such as mentioning that the Canva tool is premium, ensuring the designer had access to a mouse, and providing clear explanations for the booklets and procedural elements.

Group 2 – Design Thinking Group

It was clear that the team members in this group worked well together. The marketer played a vital role, engaging with the customer by posing questions during the "empathise" step and doubling as a motivator for the rest of the process. They contributed by writing down ideas on the whiteboard and emphasised the importance of tailoring solutions with the mindset that "there is no one size fits all." With this, the marketer tried to imply that they should consider what the client mentioned but also keep in mind other potential customers. The writer fulfilled their role by writing texts, while the designer focused on visual design. The user in this group showed keen eagerness to be actively involved, consistently generating ideas while observing the group's proceedings.

Creativity thrived within this team as members utilised resources like Post-it notes, the whiteboard, and a flipchart. However, their enthusiasm for utilising multiple tools simultaneously eventually led to losing focus. The team's eagerness to integrate many ideas became evident, resulting in scattered efforts. While these tools initially fostered the generation

of creative ideas, they posed challenges during the final product creation phase. This made it challenging for them to keep the instructions of the project in mind.

Group 3 – Design Thinking Group

In this group, the marketer connected with the user during the empathise phase, asking them about their travel experiences. Additionally, the marketer played a role as a reminder, offering insights such as "if the pictures look authentic, people can be more attracted to them." The writer and the designer readily connected due to their shared enthusiasm for collaboration. They openly expressed their appreciation for working together, with the designer even describing the collaboration as an art form. However, when designing the visual, the designer assumed control with unwavering confidence in their skills. They openly shared their intentions, stating, "I am going to be a bit stubborn and delete that." Despite the user's eagerness to contribute, they were assigned the role of an observer after the "empathise" step. This decision was challenging for them as they found it difficult to refrain from actively engaging with the team and offering valuable feedback and suggestions to enhance the team's approach.

Initially, the group began their work in relative silence, with each member focusing on their tasks. As time passed, a sense of cohesion emerged. However, they remained seated around the table, exchanging ideas on Post-it notes. Unlike the other design thinking teams, this group relied solely on Post-it notes and did not utilise additional materials or tools to spark their creativity. In terms of following the instructions, the team appeared to be in a hurry towards the end of the project. The writer encountered challenges while attempting to integrate text into both the visual component and the advertisement, which led to an oversight in including a description text for the advertisement. Surprisingly, this oversight went unnoticed by the other team members until after the project had concluded.

Group 4 – Co-design Group

This group initiated their collaboration by sharing their designated roles and previous experiences as instructed in the booklet. Notably, the marketer assumed a leadership position within the team, consistently motivating and actively seeking input from the other members. They also consistently placed themselves in the customer's perspective, as evident in their statement, "Imagine yourself on this trip." The writer actively collaborated by sharing their travel experiences and worked closely with the marketer throughout the "designing" phase to write the text for the ad. While the user shared insights from their travel experiences when prompted by the marketer's questions, they generally maintained a quieter presence, mirroring the designer's behaviour. The designer primarily focused on the visual design, working independently, while the remainder of the team concentrated on textual content.

The team worked collectively around the table, utilising Post-it notes to brainstorm, think innovatively, and share ideas. The marketer leaned towards crafting catchy phrases, the user concentrated on visualising the trip, and the writer contributed insights from their travel experiences. At the same time, the designer independently worked on the visual. Overall, the team could follow the instructions more effectively due to the constant encouragement provided by the marketer.

Group 5 – Co-design Group

In this group, the marketer emerged as a driving force, steering the conversation and displaying unwavering belief in the project. They diligently took notes of the ideas shared by the team members. From the outset, the user actively engaged with the group, expressing high expectations for the project's outcome. They shared, "If I am not satisfied with the product, it is not the end product". The designer effectively involved all team members in the visual design,

with everyone actively contributing. The designer held the marketer's opinion in high regard. The writer occasionally needed to focus on the team's activities, resulting in a rushed approach to written text. Overall, each team member had an equal opportunity to voice their thoughts.

Along with the resources in the booklet, the group also used Post-it notes. Together, they worked at the table, ensuring high engagement and continuous interaction. Their ideas flowed easily because they actively sought input and interacted with one another, reducing their need for additional tools. Despite consistent interaction among team members, this group struggled with interpreting and comprehending the context outlined in the instructions. The marketer expressed dissatisfaction with how the rest of the team members perceived and grasped the context, leading to their discontent.

Group 6 – Co-design Group

In this group, the designer assumed the role of a motivator, actively taking notes while team members brainstormed ideas. They initially involved the entire team in visual creation but later found it more efficient to collaborate mainly with the marketer. The marketer actively generated ideas and advocated for an open and creative approach, with plans to refine concepts later in the process. The writer encouraged the team to establish and adhere to rules, consistently referring to the project and group guidelines established at the beginning. Interestingly, the user closely collaborated with the writer on text-related tasks, providing inspiration when needed and reflecting, "It is quite strange that there is no leader."

The team used the booklet as the primary tool to drive creativity. When brainstorming, the team used other tools such as Post-its and markers. Additionally, they ensured that these notes were displayed on the walls. Their level of engagement remained consistently high, with team members actively participating in tasks, collaborative thinking, and feedback-seeking.

Notably, this team demonstrated a solid ability to follow instructions, and when lapses occurred, the writer promptly guided them back on track, ensuring a smooth workflow.

Differences Between Groups

Some differences can be noted between the groups based on the observations. These differences were related to the leadership, use of additional tools, user engagement, response to project context, writing, and communication.

First, the roles of leadership and motivation were distributed differently among the groups. The designer was motivating in Group 1 (Design Thinking Group). The marketer assumed a motivating role in Group 2 (Design Thinking Group). The power distribution was equal in Group 3 (Design Thinking Group). Group 4 (Co-design Group) had the marketer as the leader. Group 5 (Co-design Group) had a highly motivated marketer. Group 6 (Co-design Group) saw the designer taking on the motivating role.

Next, while most groups utilised a combination of tools, Group 3 (Design Thinking Group) relied solely on Post-it notes and did not use additional materials. This choice resulted in a more focused approach but also had some downsides regarding creativity as they did not explore it as extensively as other groups.

Furthermore, the degree of engagement of the "user" role was different because of the two approaches. In the design thinking groups, the user observed and took notes. This made the users feel left out as they were eager to share their thoughts but could not. In the co-design teams, the user actively participated and contributed ideas. This difference in user engagement impacted the dynamics within the groups.

On top of this, the groups had varying responses to the project context and instructions. Some groups had initial difficulties understanding the context, while others were more aligned

with it from the beginning. These differences in interpreting and responding to the context influenced the creative process.

Besides, the role of the writer differed in how actively they engaged in writing tasks. In some groups, the writer was heavily involved in creating textual content, while in others, the writer's focus was divided among various tasks, leading to rushed text production. What can be noted is that in the design thinking teams, the writers were more focused on their tasks than the writers of the co-design teams.

Finally, communication styles and feedback dynamics varied among the groups. Some groups actively sought input and encouraged open discussions (mostly in co-design teams), while others had moments of silence or limited interaction (mainly in design thinking teams).

Overall, each group had its unique dynamics and approaches to creativity, influenced by the individuals' roles, interactions, and responses to project challenges.

Time

Another type of observation made during the sessions is the time each group spent completing the final product. Each group had 90 minutes to go through the design processes. Despite having specific timing for the groups to complete a particular step, some groups needed more time while others needed less time to complete the end product, depending on how they worked together. However, the average time spent on the process by the Design Thinking groups was generally 91 minutes. The co-design teams' average time spent on the process was 94 minutes. This means that the teams did not differ while working based on time taken. All the teams were able to finish their work in the given time.

Interviews

This study section is dedicated to presenting the findings derived from the interviews. Four prominent themes have emerged through the interview questions: the process, teamwork, individual contributions, and the outcomes achieved. To address sub-question 1A of this study, the participants' perceptions of team and individual efficiency were investigated. To answer sub-question 1B, the product satisfaction of the individuals will be explored.

The Process

In general, only a minority of participants expressed negative sentiments about the processes. Four participants shared these negative thoughts. Two of which pertained to design thinking and the other two to co-design. Notably, these four negative viewpoints corresponded to the four distinct roles within this study. Negative comments were made by a designer and a customer within the design thinking teams, while within the co-design teams, a marketer and a writer voiced similar concerns. Therefore, there were no differences regarding participants' negative thoughts about the two processes, as these were evenly distributed. The negative thoughts expressed by these participants revolved around different reasons. These included the perception that work might proceed more efficiently if carried out individually, concerns that excessive customer demands could derail the process, doubts about the practical productivity and effectiveness of the process, and worries about an increase in conflict brought on by the collaborative nature of the work and the absence of a clear leader to guide the group. Some of these points were made by a designer from Design Thinking Group 1 as follows:

> "But yeah, but if you are really a designer, I do not think you really need that. You can ask for feedback in the times in between, but all the time. Then why else would you be a designer? Because you have learned the design principles and you know all of this stuff.

> Then I think someone who does not know all of this stuff can have a suggestion. But it is kind of a loss of time, I think, because maybe you can do other things in this time." Designer Group 1 Design Thinking

Despite the few negative comments, most participants had favourable thoughts and enjoyed the process. Interestingly, the results for both design approaches were quite similar. Participants' positive sentiments were closely aligned with the most enjoyable aspects of the processes. These sentiments were largely uniform, with most individuals acknowledging the same benefits. These included involving the customer in the processes, having clear steps to initiate and guide the process, the opportunity to share ideas with peers, and the experience of collaborating with individuals from diverse backgrounds. The quotes below exemplify that the positive sentiments towards both approaches are similar and align with the most enjoyable aspect of the process:

> "I think the working together, really brainstorming together, including everyone's ideas, also taking the consumer into account. Just all the sides and having everyone, just being very inclusive, everyone included". Marketer Group 2 Design Thinking – The most enjoyable of the process

> "I think it went relatively well just based on not comparing it to anything. I think a lot of the people in the group had the same idea about what it was going to look like, and what the challenges could be. So, I think pretty quickly, we decided on letting each other finish, having each other share ideas, and not being afraid that it might be a bad idea. So, I think from that perspective, it went well from the beginning". Writer Group 6 Co-design – Positive thoughts

In summary, no distinctions emerged when comparing co-design with design thinking when assessing both the positive and negative thoughts and the most enjoyable aspects of the processes. The rationales behind these opinions were consistent for both approaches. Despite the inherent differences between these approaches that could yield varying results, this was not reflected in the shared sentiments.

The teamwork

Several noteworthy insights emerged from the findings when assessing group efficiency. Firstly, participants were asked to reflect on the efficiency of their respective teams. Over half of the respondents reported that their team worked efficiently throughout the project. One essential highlight of these results is that all the writers from both design thinking and co-design teams thought their group was efficient. In general, the reasons the respondents provided for that thought were reaching the end goal, dealing with the challenges, dividing the tasks, carrying out the project by using the tools provided, and the most predominant reason being finishing within the given time. These reasons are apparent for both approaches and did not differ much, as can be seen from the following examples:

> “Yes, I do, because for specific steps we finished earlier than usual, and then we used the remaining time to go into the third and fourth.” Writer Group 1 Design Thinking
>
> "Everyone has their own ideas and wants to express them. And also because of time, like we will have the time limit so we can know when we need to move to another step." Designer Group 4 Co-design

On the other hand, some participants expressed concerns about the efficiency of their teams. Despite the difference not being prominent, three participants in the co-design group did not think their team was efficient compared to four participants in the design thinking group. The

members who considered their teams inefficient gave reasons such as time constraints, lack of organisation and lack of task division. As can be noted, the reasons for efficiency and inefficiency were similar. Remarkably, these reasons were consistent across both design thinking and co-design groups. In the case of design thinking, the primary reason was time constraints. In the co-design teams, the reasons were equally distributed among participants. One crucial finding from the responses is that none of the designers in the design thinking groups regarded their teams as efficient. Their reasons were time constraints and a lack of organisation, as articulated by the designer from group 1:

> "Then no. I think it can be a lot more efficient because of the thing I just earlier said about how you divide time I think at some points it's very important to create ideas together and discuss that everyone understands the needs of the customer. And I think it's very important that we're all on the same page and everyone gets the complete picture and knows what we're doing. But then when you've all discussed all the ideas and know what we're going to do, then the doing part I think can be done separately. And then continuously ask for feedback". Designer Group 1 Design Thinking

Concerning the efficiency results, the perspectives of customers inside the design thinking teams were excluded from the evaluation of group efficiency. This is due to their minimal engagement throughout the project, making their viewpoints on group efficiency unknown and inconclusive.

Various other aspects were considered, including team satisfaction, power distribution, role allocation, encountered challenges, solutions, and prospects for teamwork improvement, to delve further into the dynamics of teamwork. Starting with the team satisfaction results, only one individual across all the measured sessions expressed dissatisfaction with their team. This result

indicates that most participants were content with their teamwork and fellow team members. The dissatisfied participant was the marketer in group four during a co-design session. However, their discontentment was directed at something other than the co-design process itself but rather at the level of engagement within the team. They expressed dissatisfaction with the limited sharing of ideas and thoughts by other team members, which was more a reflection of their teammates' personalities and their hesitancy to take the initiative. Consequently, the marketer took on a more prominent role, which aligns differently from the principles of power sharing in a co-design process. This dissatisfaction was articulated as follows:

> “I would have liked a bit more engagement from the others because even though I like being the leader and like knowing what's going on in the group, I also like others to take a step forward and be a bit more engaged and be like, I have an idea. And I'd be like, Yeah, that's fine. That's good. I would have appreciated a bit more engagement”. Marketer Group 4 Co-design

Power sharing should be a fundamental aspect of both processes. However, as the previous example showed, the marketer in group four assumed a leadership role. When participants were asked about their perceptions of power distribution within their teams, this same marketer acknowledged that they had taken the lead, indicating that power was not evenly distributed. Additionally, a writer in group 5, a member of a co-design team, also believed that power was not shared equally. They believed the customer needed to be more actively engaged in the process.

Moreover, responses varied when participants were questioned about sharing responsibilities. Although each team member was assigned a specific role, a few participants felt that their roles overlapped with those of other team members. Four participants believed that

roles within their teams lacked clear distinctions, with three of them belonging to design thinking teams. However, this overlapping of roles is not surprising given the close collaboration within the teams and the fine line between assisting one another. Team members readily helped each other when someone encountered difficulties. However, it is essential to note that the division of roles holds more importance in design thinking. In this approach, each expert is expected to contribute their specialised skills and apply their knowledge while collaborating with team members possessing different skill sets. It might have been less surprising if most of the teams overlapping in roles belonged to co-design, given that power and responsibility sharing are much more emphasised in this approach.

Working in groups also presented its share of challenges, which were similar for both methods, indicating no differences. These challenges included the difficulty of incorporating all requirements into the visual and texts, the need for organisation and structure, communication issues, and time management. Participants provided the following thoughts to illustrate these challenges for the two approaches:

> "They wanted to include everything that I said. However, when you are a consumer, you must also have in mind that not everything you can get in one time, you know? They wanted to show me culture. They wanted to show me explorative. They wanted to show everything. But it became a bit overwhelming for them at the end. What to do, what she wants to put because they wanted to incorporate, I think all the needs of all the preferences I mentioned, which I really like. But to be realistic it could have been a bit more different. So, they could have more of a more concrete prototype." Customer Group 2 Design Thinking

"The only thing at the end was the time that was a little bit difficult. And so maybe if we had some more time, we could have everybody looked at the text or everybody give their input and then decide on that together and decide on the design together." Marketer Group 6 Co-design

On the other hand, the teams effectively addressed these challenges by focusing on the customer's wants and needs, making the best use of the available resources and tools, and fostering open discussions. In response to these team challenges, team members suggested improving their future teamwork, emphasising better coordination, time management, and communication. These insights are valuable for enhancing teamwork and reducing the challenges associated with collaborative work.

To summarise, the teamwork experiences did not differ between participants working in design thinking or co-design. The results were similar, as evidenced by efficiency and team-related issues. Furthermore, most of the challenges or disadvantages encountered during the sessions were not inherently linked to the methodologies themselves. However, they were primarily influenced by external variables such as team dynamics, communication issues, and time constraints. These processes typically involve more extensive preparation and collaboration over an extended period, allowing participants to work together more smoothly.

The Individual work

In addition to group efficiency, the self-efficacy of individual participants was also assessed. The results indicate that a majority of participants perceived themselves as efficient. When comparing different roles and the two approaches, it was found that all designers in the co-design teams considered themselves efficient. In contrast, this was the case for all marketers, writers, and customers in the design thinking approach. Participants provided similar reasons for their

perceived efficiency in both methods, including the ability to share ideas and collaborate. In essence, they believed their efficiency was closely linked to teamwork and the opportunity to voice their ideas within a group. Collaborative work was essential for their efficiency, as they acknowledged that they needed help to accomplish the work. These sentiments were expressed consistently during both the design thinking and co-design sessions, and the reasons behind their perceived efficiency were essentially the same, as evident from the following quotes:

> "I guess, yes, because, I mean, it was a little time, and I think I was able to contribute to in that time. I do not think I could have been more efficient without doing everything myself and not working together. Yes." Designer Group 2 Design Thinking
>
> "Yeah, I am happy with myself. I had worse, I had better. But as I said, the team we were working pretty smoothly with each other, and everyone was hearing the other person. So, there were not any arguments any fights. The whole thought process was pretty fine." Customer Group 5 Co-design

Three participants with different roles (marketer, customer, and writer) in the co-design teams expressed feelings of inefficiency. In contrast, two designers voiced this sentiment in the design thinking sessions. Notably, inefficiency was more evenly distributed among participants in the co-designing sessions, whereas in the design thinking sessions, it was specific to one role. One of the designers in the design thinking team expressed dissatisfaction with the tool provided, Canva, as they believed it hindered their ability to work efficiently with the program. Conversely, the other designer felt they were taking more time than expected. In the co-design sessions, the reasons given for inefficiency included a lack of preparedness (customer), straying from assigned tasks (marketer), and the belief that individual work would be more efficient (writer). In the case of the writer in the co-design process, they expressed a preference for individual work but acknowledged

that it might not have resulted in a superior product. This indicated that they did not entirely dismiss the idea of collaborating with others:

> "No, I do not. Because I am not saying that the product would be better if I did it alone. Like, that is the whole point of this, I think. But if you just look at the efficiency, I think that it would be more efficient to do it alone". Writer Group 6 Co-design

Other individual-level evaluations were taken in addition to self-efficacy to understand better how the participants felt about their collaboration in the sessions. These measurements encompass individual satisfaction and personal challenges and solutions. Regarding individual satisfaction, most participants were content with their contributions. Only three participants, one from a design thinking session and two from co-design sessions expressed dissatisfaction. The difference in the number of individuals dissatisfied with their collaboration did not vary between the two methods. Furthermore, the reasons for dissatisfaction were not method-specific, as they related to issues such as poor information sharing, acting as a dominant leader within the group, and attempting to steer the group in a specific direction. Conversely, satisfied participants said that helping others with their duties, considering the customer's wants and preferences, and exchanging ideas made them content.

Concerning personal challenges, participants mentioned struggles like misunderstanding instructions, disagreements about certain aspects of the products, and difficulty voicing their concerns. However, these issues were typically overcome through increased discussions and soliciting feedback from team members. Not everyone encountered personal problems during the sessions; only a tiny number, eight individuals, reported individual challenges. Of particular concern is that five individuals were designers (two from design thinking and three from co-design). Their primary issues were designing, working with tools, and sharing their ideas with

others. Hence, these problems were highly individualised and not necessarily linked to the choice of methodology, as reflected in their statements:

> "But I personally use Adobe and not Canva, which made it for me a little bit difficult because I want to do certain things, and I cannot do them". Designer Group 1 Design Thinking

> "Only maybe on the designing part. Like I started to feel like I really wanted to, like, I do not know, start putting my own ideas just in. Already, without really consulting with the group and just being like, no, I think this is good. Like, let us go with this". Designer Group 5 Design Thinking

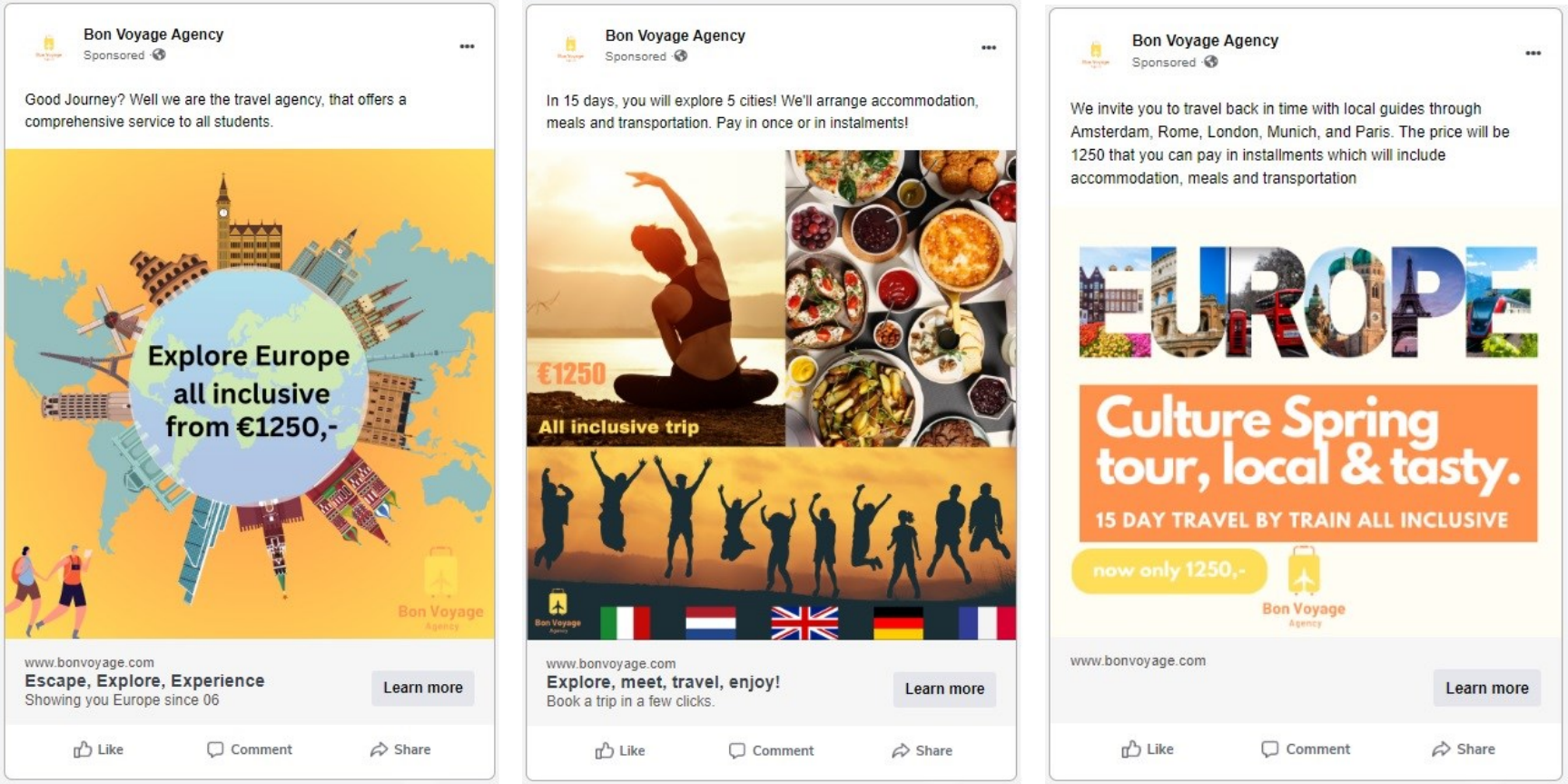
In conclusion, this section revealed that individual work within the teams was similar to design thinking and co-design. Participants in both co-design and design thinking shared similar reasons for their efficiency, satisfaction with collaboration, and personal challenges if any arose.

The product results

Each group successfully delivered a product consisting of visual and text components. It is worth noting two specific points regarding the created content. First, the creation of Group 6 was fixed by rectifying a spelling mistake in the text. Second, Group 3's writer forgot to include a description for the advertisement, leaving it blank. The design thinking creations cane be seen in figure 3 and the co-design creations in figure 4.

Figure 3

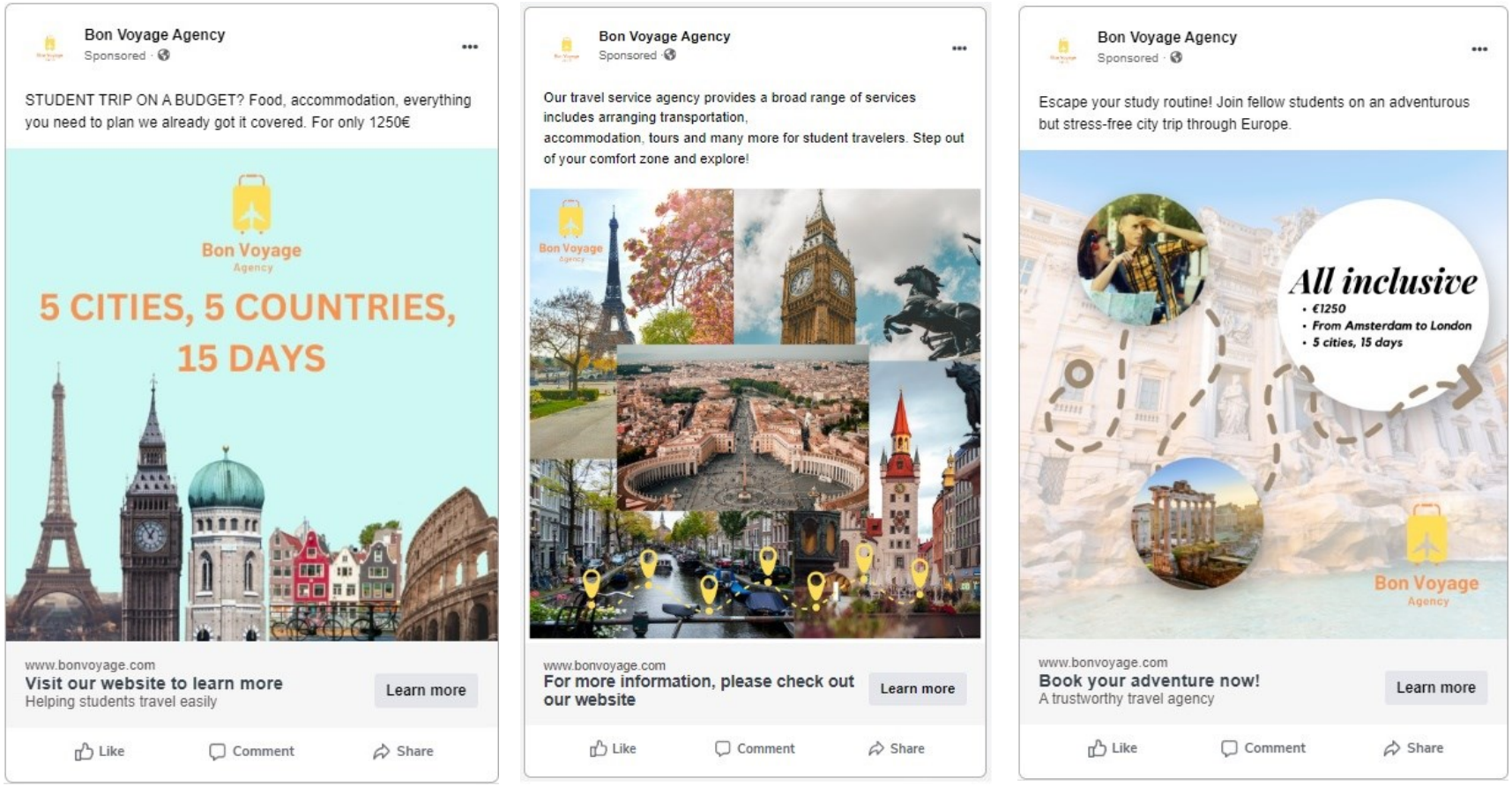
Design Thinking Teams' Advertisements



Note. These are the ads created by the design thinking teams during part 1 of this study. The first ad on the left is created by Group 1. The second ad in the middle is created by group 2. The third ad on the right is created by group 3.

Figure 4

Co-design Teams' Advertisements



Note. These are the ads created by the co-design teams during part 1 of this study. The first ad on the left is created by Group 4. The second ad in the middle is created by group 5. The third ad on the right is created by group 6.

A question was asked about the participant's product satisfaction to measure how they viewed their creations. The results revealed that most participants were satisfied. Sixteen out of 24 participants were utterly pleased with the final product, indicating satisfaction with both the text and visual aspects created by their groups. Reasons for complete satisfaction included achieving a well-balanced combination of information between the visual and text components, successfully producing a quality product within the allotted time, and effective teamwork. These reasons were consistent across both methods, indicating that the chosen methodology did not influence participant satisfaction.

In a broader comparison of the two methodologies, participants in co-design sessions generally reported greater overall satisfaction with the outcome. In contrast, two participants from the design thinking sessions expressed dissatisfaction. One of these individuals was a writer, and the other was a designer. Their reasons for being dissatisfied included the time and tools hindering the product, the inability to address what the client wanted fully, and the message being translated as not appealing enough. It is worth mentioning that in the co-design sessions, only one marketer expressed doubt rather than outright dissatisfaction with the product's quality, conveying their perspective as follows:

> “Not really. Sorry. No, I do not know. I do not know why. I think it is just because I am not sure if it is correct. That is why I am not really satisfied with it. Because if I do something, I really want to, you know”. Marketer Group 5 Co-design

Next, a small group of participants expressed partial satisfaction, either with the text or the design component. One crucial insight is that all these individuals were from the design thinking sessions. Furthermore, at least one person in each role category was partially satisfied. For instance, a marketer expressed dissatisfaction with one aspect of the end product related to

the writer's task. At the same time, another participant, the designer, focused solely on their task and did not consider other aspects of the final product:

> "Yeah, the text is not so catchy. It just says the cities' names. Um, I cannot see any differences between this text and, for example, another advertisement. There is not something catchy on that". Marketer Group 3 Design Thinking
>
> "I do not know. It could have been better. Um, it is kind of busy, I would say. Like, we have three pictures, and that is nice because it conveys, like, different things, but now it is kind of all cluttered together. Uh, so maybe in hindsight, we could have worked more with a graphical depiction of something. Or like not have really three separate pictures instead of maybe combining stuff and adding like small images or icons instead. So, I personally do not think I would click on this because it is very intense". Designer Group 2 Design Thinking

An important observation pertains to customer satisfaction. Among the design thinking teams, two out of three customers indicated only partial satisfaction with the advertisements. In contrast, all clients in the co-design teams were completely satisfied with the final products. For example, a design thinking group 2 customer expressed some appreciation for the design but described the text as "plain."

This study also assessed participants' opinions on user experience, usability, and potential product improvements. Regarding user experience, most believed that the final product would provide a pleasant user experience and evoke positive emotions. Approximately five participants (four from design thinking and one from co-design) did not share this sentiment, primarily citing that the product needed to be more attractive to generate excitement. Usability, on the other hand, saw most participants agreeing that the product conveyed sufficient information and was useful.

However, five individuals (three from design thinking and two from co-design) believed otherwise, stating that the product lacked informativeness and had the potential for misinterpretation. Regarding potential improvements, everyone except one person expressed a desire to change something about the final product, indicating that they saw room for further enhancement given the opportunity.

Overall, there is a notable difference between the co-design and design thinking groups regarding the product results. Specifically, there is a difference in product satisfaction. Co-design teams, overall, reported being entirely satisfactory, with only one person expressing dissatisfaction. In contrast, design thinking groups had multiple participants who were not or only partially satisfied. These results suggest that participants in co-design teams generally perceived their products as successful. Additionally, when assessing user experience and usability, it was observed that most participants with negative views were from the design thinking groups.

Method Part 2

Research Design

The second phase of this study involved collecting data through in-depth interviews. These interviews were conducted with students who could serve as customers for the advertisements created by the groups in the first part of the study. The visuals and texts developed by the groups were then placed into templates resembling actual Facebook feed advertisements. As a result, potential customers could assess the quality of the visuals and text as they would for a Facebook advertisement. Part 2 drew inspiration from previous research by Sharma et al. (2012), Smith et al. (2007), and M. Mercanti-Guérin (2008). Unlike many social media campaigns, often reduced to quantitative data (Nieuwerth & Seliger, 2022), this study phase aimed to delve into the qualitative aspects of user perceptions and feelings regarding the advertisement content.

Research Procedure

In preparation for the interviews conducted, participants received an email detailing the project's context, matching the information provided to the groups in the first part of the study. This context was shared with the participants to assess the relevance of the created advertisements to the project (See Appendix H). During the interviews, participants initially responded to general questions about companies, advertisements, and experiences with businesses. Subsequently, they had the opportunity to review the advertisements created by the groups, offering their opinions, ranking the different ads, and selecting the most appealing ones. Detailed questions from these interview sessions can be found in the appendix (See Appendix I).

Measurement

Opinions from potential customers were gathered through in-depth interviews recorded with. The interviews included general questions regarding advertisements, interactions with companies, and feedback on the advertisements created by the groups. These questions were inspired by the works of Sharma et al. (2012), Smith et al. (2007), and M. Mercanti-Guérin (2008). For instance, a typical general question posed during the interview was, "Do you feel connected to companies through their advertisements?". An example of an ad-related question was, "Can you rate these designs from 1 to 6? Can you elaborate on your choices?". After the interviews were conducted, the recordings were transferred into Amberscript. The transcriptions made with Amberscript were then coded in Atlas.ti.

Research Participants

Participant recruitment followed a diverse approach. A portion of the participants were directly engaged through personal contacts, including friends and classmates. Additionally, some participants were introduced to the study through referrals by initial participants. Furthermore, the remaining participants were individuals who were unable to participate during the first phase, either due to timing constraints or the preferred slots and roles being fully occupied.

There were 17 participants from diverse fields of study. Among these participants, 47.1% identified as male, while 52.9% identified as female. The age range of participants ranged from 21 to 52 years. Data collection for this phase occurred from May 30th to June 2nd, 2023.

Validity and reliability

The intercoder reliability tests were conducted in the same way as in phase 1. The second coder got 10% of the work, and Cohen’s Kappa coefficient was calculated in SPSS. There were two rounds of coding, as after the first round, some misunderstandings needed to be cleared out.

For the first round, Cohen's Kappa was 0.926. In the second round, after the meeting, it was 0.981. This indicates that there was almost perfect level of agreement (McHugh, 2012).

Results Part 2

This section of the study delves into what potential customers think about ads that were created by the groups in part 1 of this study. From the results, some important aspects will be considered, such as the best product for the context, the most informative, and the most likely to pique interest. These are also the essential measurements for the study's second sub-question: *To what extent do customer opinions on the designed advertisements of the co-designing process differ from the design thinking process?*

Advertisement Related to the Context

The initial insights gathered concerning the participants' opinions on the advertisements were related to the task's context. This context focused on evaluating the extent to which the groups adhered to the project instructions.

Per the analysis, advertisement number two was the most related to the specified assignment context. Impressively, it was created by a design thinking team. Participants favoured this advertisement due to its inclusion of crucial information, such as the number of days and instalment payment options, as well as the mention of mindfulness, which was mentioned in the assignment context. Participant 14 elaborated on these aspects, stating:

"Um. I think it would be two would be the best related to the context. I think it is really mentioning the five cities and 15 days, accommodation, meals, and transportation are included. Um, it mentions that you can pay in instalments. It shows the yoga part, even though it does not like the mindfulness, it does not really like to express it that much, but it really shows in the picture, and I think that is already clear enough". Participant 14

The second and third-best advertisements were numbers three and four. Advertisement number three was created by a design thinking group, while a co-design team designed

advertisement number four. Participants who selected advertisement number three noted that they did so because it presented the information relevant to the context. For advertisement number four, the reasons for selection were its explicit mention of students and its transparent appearance. Although these two advertisements had different justifications, it is evident that participants chose them because they believed they provided the most contextually relevant information:

> "It is straight to the point. Five cities, five countries, 15 days, or it tells you what you are going to be doing. Um, and it also starts the thing saying student trip on a budget. I do not think it can be any more clear than that". Person 17 Advertisement 4
>
> "I would say three because. I think most of the information, what was mentioned in the context is mentioned in this and everything is very clear. So, I would say three, highly recommended.". Person 11 Advertisement 3

While the remaining ads were picked less often, they were not without value since they were chosen at least once by individual participants.

Most Attractive Advertisement

Another important research finding concerns the advertisements that drew the most attention from the potential customers. However, one thing to note is that one participant's answer is missing, as this was not appropriately recorded during the session.

According to the research, advertisement number one was the most appealing. Six out of 16 participants chose this ad as the most attention-grabbing. Next in line was advertisement three, which garnered the interest of four participants. Design thinking teams created both advertisements. Participants who selected advertisement number one were drawn to its effective communication of the city trip topic, design, and the quality of visuals and information provided.

Similarly, for advertisement number three, participants cited the format, design, the integration of pictures within the text, and the information presented as reasons for their choice. Some of these rationales closely resemble participants who favoured advertisement number one:

> “Piquing my interest. Uh, yeah. So, that is number one. Most of it is because it is easy on the eyes when I look at it, and it invites me to look focused. Not so much on all the on the background or like on what they depict, and the fact that it put all-inclusive a bit bigger and in a like fancy typeface, I was like, oh, it is like relaxing. I do not have to do as much.” – Person 7 – Ad 1

> “It is the format of number three. I say format because it also depends on the countries that are listed”. – Person 6 – Ad 3

An intriguing quote related to this question came from person 13, who had difficulty deciding between advertisements one and three but ultimately selected advertisement one. They explained that they ultimately chose number one because of its visual appeal. Many participants also emphasised the importance of visuals in choosing which ad would most pique their interest. Therefore, the visual elements are a crucial consideration when creating advertisements, as person 13's thoughts highlight:

> "Potential Customer: The first. I think I liked the visual the most for the first, so I would stop scrolling for that because, for the third one, it says Europe like in big letters. But I am basically from Europe, so I am like, Yeah, well, uh, and so I live here. So, from Europe, uh, I live in the, on the continent of Europe. Um, so I would be like, yeah, cool. I mean, seen all that or I assume, um, but for the first one I liked the visual the most. I think so that would pique my interest". Person 13

The absence of any selection for advertisement number six is an intriguing observation. Participants were asked to share their thoughts on each advertisement in another question, where they mentioned both the positive and negative aspects of each design. Despite advertisement six having some positive qualities, such as persuasive text and cleanliness, it also received equal adverse reactions. These negative feedback points included lacking essential details, visuals that did not closely align with the message, and a need for overall clarity improvement. So, there were specific reasons why participants did not choose this particular advertisement.

Most Informative Advertisement

Another interesting result measured is the advertisement that participants perceived as providing the most information, considering both the visuals and the text content. It is crucial to mention that data from one participant was missing, so the analysis is based on the responses of the remaining 16 participants.

Among all the advertisements, advertisement number three emerged as the predominant choice for providing helpful information. Seven out of the 16 participants chose this advertisement. A design thinking team created this ad. Participants who chose this ad mentioned that it stood out because it provided the most comprehensive and detailed information. This preference for ad number three is evident from the thoughts of participants who made this choice:

> “The cities, it has the price, it has the instalments. I mean it does not tell how many. Oh yeah, it does tell how many days. Yeah. Never mind”. Person 13
>
> "Because yeah, as I mentioned, the days, the transportation, the location, even the price are included in the ads while the others missing some information." – Person 10

Despite some positive reactions from participants, such as approval of the colours or visually appealing elements, advertisement number one failed to garner any picks. When participants were asked for their general impressions of advertisement number one in a different question, some mentioned its shortcomings. These included the absence of essential information, difficulties in interpreting the content, and a perceived insincerity in the messaging that made it seem overly promotional and lacking authenticity. These thoughts emphasize the importance of companies carefully considering how they communicate their message to potential customers to avoid turning them away.

Advertisement Opinions

In addition to addressing essential information, which was a sub-question of this study, general feedback on all the designs was collected. All designs received both positive and negative points from various participants. Furthermore, when participants were asked to rank the designs, the rankings differed; each participant had a different preference. Lastly, every participant desired to change something about at least one of the designs. This remained consistent even when participants favoured a particular design; they often still had suggested improvements in mind.

Based on the essential results, it was indicated that participants functioning as potential customers preferred the designs created by the design thinking group. This preference extends to content context, interest factor, and the amount of information provided.

Discussion

Discussion of Findings Part 1

This study's main differences are found in product satisfaction. Participants' perceptions of their created products divided the two investigated approaches. Notably, co-design group members consistently expressed satisfaction with the final results. In contrast, the design thinking groups displayed a more comprehensive range of product satisfaction responses, with a substantial number expressing either dissatisfaction or partial satisfaction. These variations in product satisfaction call for further investigation, as they may be influenced by factors such as power dynamics, user involvement, and group effectiveness.

An interesting finding highlights the differences in power dynamics between co-design and design thinking groups. Power dynamics in co-design teams were very consistent. Participants within these groups readily collaborated, freely seeking feedback, regardless of their designated roles. Additionally, the intentional arrangement of the co-design process enabled participants to create collaborative ground rules from the beginning, stressing strict respect for these norms throughout the process. These findings align with established research emphasising power-sharing as a fundamental co-design principle, closely intertwined with relationship building, capacity development, and participatory methodologies (Beyond Sticky Notes, n.d.). Besides, a study by Berger et al. (2005) showed that co-design promoted cooperation among stakeholders with various points of view as they worked together to achieve shared goals. Conversely, in design thinking teams, designers often exhibited a higher level of trust in their expertise. They made decisions based on their knowledge without frequently seeking feedback from others. This resulted in them retaining more control and influence over the design process. This pattern of behaviour also corresponded with communication dynamics within design

thinking teams. These dynamics appeared less consistent than co-design groups, characterised by occasional silence or limited interaction as team members worked independently at times. These results are consistent with past research, highlighting designers' propensity to retain control (Schiele & Chen, 2018; Vanstone, 2019).

Another prominent distinction between the two methodologies lies in user engagement. This divergence became apparent through both observational data and interview responses. In design thinking teams, users were eager to assist the teams when observing on the side. As their teams struggled with input interpretation, they found it challenging to stay passive. The lack of direct user interaction in design thinking teams frequently resulted in chaotic circumstances as they attempted to integrate multiple customer requirements without receiving immediate feedback. In contrast, co-design groups benefited from the active participation of users. These users played crucial roles in ensuring alignment with the client's vision, representing the broader customer base, sharing valuable insights, and sharing expertise comparable to the professionals. The importance of user engagement have been apparent through past studies as well (Maguire, 2001; Mahajan et al., 2022; Sanders, 2000). In design thinking, the user is only added at the beginning and the end of the process. The co-designing team users function as experts in their own experiences (Durl et al., 2017).

Efficiency emerged as a key distinguishing factor between the two methodologies. Many designers within design thinking teams disagreed regarding their team's or individual efficiency. They may have felt pressured, as team members offered feedback while simultaneously expecting trust in their specialised expertise. Additionally, designers consistently incorporated input from marketers and found their opinions valuable. However, this practice occasionally led to confusion and feeling overwhelmed during the design process. Moreover, time constraints and

the limitations of Canva restricted their ability to explore their creativity further. These factors collectively contributed to the perceived disorganisation within the design thinking groups. Connecting these findings to previous studies, in design thinking teams, designers typically have significant influence over the design process (Vanstone, 2019). Moreover, design thinking is often recognised for stimulating creativity and innovation (T. Brown, 2008). On top of this, the iterative nature of design thinking allows for a more extensive exploration of creativity(Dam & Siang, 2020a). However, due to the limitations of this study, the designers might not have fully harnessed this potential for creative exploration.

Considering all these discussions, the first sub-question can be addressed: *To what extent does co-designing teamwork differ from design-thinking teamwork in creating advertisements?* This question was further dissected into two inquiries, one about differences in efficiency and the other about differences in satisfaction. *To what extent are there differences in efficiency between the co-design and design thinking processes when creating advertisements?* Globally, there were no discernible differences in the time taken to complete the projects between the two groups. However, variations emerged based on the roles within the groups. For instance, designers within the design thinking teams, as revealed in this study, perceived their efficiency negatively. It is essential to acknowledge that external factors, such as time constraints and available resources, still shaped participants' perceptions of efficiency as shared by some participants. *To what extent are there differences in satisfaction between the co-design and design thinking processes when creating advertisements?* A distinct difference emerged between the two approaches in terms of product satisfaction. Participants in co-design teams expressed higher satisfaction with the end results than those in design thinking teams. While the design thinking teams exhibited a mix of satisfaction levels, including satisfaction,

dissatisfaction, and partial satisfaction, the co-design team had only one dissatisfied member, with the rest expressing complete satisfaction.

Therefore, in response to the sub-question regarding how co-designing teamwork differs from design-thinking teamwork in creating advertisements, it is evident that teamwork dynamics can vary significantly. External factors may influence these differences, such as time and resource constraints and team dynamics, including individual roles, power distribution, and user involvement.

Discussion of Findings Part 2

In the second part of this study, it became clear that people strongly preferred the advertising created by the design thinking teams since they outperformed those created by the co-design teams. A noteworthy finding was that every design created by the design thinking teams excelled in at least one of the three predetermined categories: contextual relevance, informativeness, or attractiveness.

An important driving force behind this preference lies in the design thinking teams' enthusiastic commitment to incorporating the entirety of the user's requirements. This dedication directly responds to the absence of direct user engagement, necessitating thorough user insight gathering during the empathy phase. The design thinking process, characterised by its adept use of insightful questioning, effectively facilitates this approach. Existing research underscores the pivotal role of the empathy phase in design thinking, emphasising the need for teams to deeply empathise with potential target groups by delving into their actions, motivations, thoughts, and desires (Dam & Siang, 2020a; Hasso Plattner Institute of Design, 2010; Mahajan et al., 2022).

Furthermore, the design thinking teams showed a remarkable surge in creativity compared to their co-design teams. The team members brainstormed, leveraging available

resources, and harnessing the innate creativity stimulated by the design thinking process. This creative surge aligns seamlessly with previous research that firmly positions innovation as a cornerstone of design thinking (T. Brown, 2008; Clark & Smith, 2010; Gobble, 2014). This innovation is fuelled by a comprehensive grasp of consumer needs, which includes both the features of the product or service and details of successful marketing tactics (T. Brown, 2008). As a result, the information gathered through this approach was a priceless source of inspiration and understanding.

Lastly, the design thinking methodology's apparent favourability might be linked to its alignment with marketing goals. The flexibility of design thinking in marketing situations has been shown in earlier studies (Anasrul & Sutrisno, 2023; Pamfilie & Croitoru, 2018). Additionally, design thinking is more adaptable, simple to include, and frequently used in office environments and corporate work teams (Vanstone, 2019). This stands in contrast to co-design, often used to address complex and specialised problems. Surprisingly, design thinking and marketing have much in common, a point underlined by Reinecke's (2016) examination of how closely they are related. Design thinking can improve marketing tactics, giving them more creativity, agility, and effectiveness.

Considering the points discussed in the second part, the second sub-question of this study can be answered. The second sub-question of this study is: *To what extent do customer opinions on the designed advertisements of the co-designing process differ from the design thinking process?* The answer to that question is that there are differences in the opinions for the advertisements based on the two approaches. From the results, the potential customers preferred the design thinking ads over the co-design based on the context, information, and interest.

Theoretical Implications

During this study, several research gaps in the context of human-centred design approaches and their application in the marketing field were explored:

Firstly, this research addressed a notable gap in the existing literature. Previous studies often focused on individual human-centred design approaches independently, without comparing them. In contrast, this study compared two well-known human-centred approaches, design thinking and co-design. The findings highlighted the differences between these approaches when people collaborate in groups. However, distinct variations emerged regarding how group members perceived the end products. This suggests that the organizational structure of a group can influence the final outcomes of human-centred design processes.

Secondly, the study examined the effects of these methods on end results. Previous research usually focused only on how people work together in teams rather than on what effects the end results have on people. While many studies concentrated solely on the collaborative aspects within teams, this research delved into how these approaches impact the participants' perceptions of their creations and how potential customers view these end products. In the case of this study, it was observed that participants in co-design groups expressed higher satisfaction with the end results. In contrast, when potential customers' opinions were measured, they favoured the advertisements created by the design thinking groups. These somewhat contradictory results suggest that neither method is inherently superior. Consequently, further research is necessary to explore these findings in more depth.

Lastly, this research provided valuable insights into how these human-centred design approaches can be integrated into a marketing context. Previous human-centred design often centred on system development, such as websites or applications, and user feedback. However,

this study demonstrated that human-centred design approaches are increasingly extending into other domains within marketing. Specifically, advertisements were created as a lens to assess their effects in this field. The findings revealed that participants, especially customers in part one of the study, felt they contributed value to the team's work. Moreover, potential customers expressed willingness to participate in design sessions with companies if given the opportunity. Consequently, this study can serve as a roadmap for future research, inspiring investigations in other often-overlooked fields and offering insights into how human-centred design can enhance various aspects of marketing.

Practical Implications

This study offers practical implications that can impact various aspects of business operations. With human-centred design approaches gaining momentum in the industry, it is an opportune moment to delve deeper into their practical application. In today's fast-paced corporate landscape, where efficiency is paramount, this research underscores the value of involving customers throughout the creative process, regardless of the industry. This customer-centric approach is not just advantageous for design teams; it also holds immense potential for customers themselves. Engaging customers in the process fosters a sense of empowerment and satisfaction as they witness their input directly shaping products and designs. This mutually beneficial relationship between businesses and customers enhances the quality of products and services and nurtures a stronger bond.

Furthermore, this study serves as a compass to navigate the many tools available for improving teamwork within organisations and sparking creativity. Participants in the study attested to the effectiveness of structured processes and tools in facilitating collaboration. Even when time and resources were constrained, the positive impact on participants' experiences

remained evident. Human-centred design approaches offer the flexibility to customise and adapt practices to suit each team's unique needs, providing endless opportunities for innovation and synergy.

Lastly, this study stands out for its qualitative data analysis approach, which holds valuable lessons for businesses, particularly in marketing. While quantitative data analysis dominates marketing research, this study highlights the importance of deeper, qualitative insights drawn directly from customers. This approach helps companies gain a more profound understanding of what truly resonates with their audience and serves as a compass to navigate their strategic direction, reaffirming their alignment with customer preferences, needs, and desires.

Future research

The culmination of this study has ignited a spark of inspiration for future research, carefully considering its theoretical underpinnings and practical implications.

Firstly, it is evident that many companies continue to develop products and services without soliciting input from their intended customers. This study delved into two distinct approaches incorporating customer perspectives, but it did not provide a comparative analysis with processes excluding customers. An interesting direction for future research is to conduct a study that meticulously examines both approaches with and without customer involvement.

Secondly, while this study utilized various tools for each approach, it did not delve into the specific tools employed at each step. Future research can embark on the crucial task of identifying the most effective tools for each stage of the design process. This endeavour holds the potential to open new avenues for research. It offers valuable insights to companies seeking

to optimize their toolsets while integrating the elements of human-centred design that enhance overall effectiveness.

Lastly, this research briefly grazed on power dynamics and shared responsibilities within human-centred design approaches, noting that some individuals perceived these dynamics as potential hindrances. Further research may be warranted to delve deeper into these perceptions and explore the effects of leadership structures and flexible role assignments within design teams. By conducting a more comprehensive investigation into these aspects, researchers can provide valuable insights into how to strike the right balance between collaborative efforts and streamlined efficiency within human-centred design initiatives.

Limitations of Research

Firstly, one fundamental limitation lies in the composition of the study participants. Particularly in the first part of the study, most participants were students. While some possessed relevant work experience and knowledge for their respective roles, the predominance of student participants needs to fully align with real-world scenarios where these methods are typically applied within corporate teams or groups tackling societal issues. Additionally, just six different groups were used in the study, which, while representative in this context, may require a larger dataset to draw thorough conclusions. Furthermore, the grouping of participants was primarily based on their skills, and some groups were not balanced regarding personality traits. For example, Group 4 had three shy individuals and one assertive leader, which may not accurately reflect the need for equal power sharing in practical team settings. Future research should consider diversifying participants in terms of personality, age groups, and professional backgrounds to validate the findings in broader contexts.

Another limitation pertains to the formulation of survey questions and interview techniques. Some questions may not have been optimally framed, leading to missing or inconsistent data. Qualitative data collection can be susceptible to question-wording, potentially yielding contradictory responses and complicating data analysis. Future studies should emphasize precise question formulation to mitigate these issues, ensuring more reliable and straightforward data collection and analysis.

Lastly, the study's timeframe was limited, preventing the complete execution of human-centred design approaches, which typically involve multiple iterations and client feedback loops spanning weeks or months. In practice, the development of products or advertisements often demands rapid turnaround times. Some participants' opinions of the method's efficacy were influenced by this limitation, which raised the possibility that individual effort might be more efficient. These time constraints highlight the need for future research to explore the challenges and opportunities associated with implementing human-centred design approaches within tight timeframes and identify strategies to enhance efficiency without compromising quality.

Conclusion

Human-centred design approaches gradually expand their influence into diverse fields, including marketing. Specific approaches like design thinking and co-design have captured the attention of professionals and researchers in recent years. Furthermore, consumers have become increasingly discerning about how companies approach them through marketing and have grown critical of the products and services they engage with. This study addressed the central research question: To what extent are design thinking and co-design effective in creating advertisements? The findings of this study suggest that both design thinking and co-design can effectively be employed in creating advertisements, depending on where the focus lies. Co-design tends to

yield higher product satisfaction levels among team members in group settings. However, the creative emphasis inherent in design thinking often results in advertisements that resonate more effectively with customers regarding contextual relevance, information provision, and overall appeal. This insight highlights that both design approaches have their respective strengths, and the specific goals and focus of the project should influence their choice. In marketing, where engaging customers is essential, design thinking may offer a more customer-centric and contextually aligned approach. At the same time, co-design can foster greater team satisfaction in the creative process.

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Appendix A

Interview Questions Part 1

Team- oriented

1. Can you describe the design process?
2. What did you find enjoyable about the design process?
3. Did you encounter any difficulties during the design process? If yes, how did your team work out those difficulties?
4. DT: What did you think about your teamwork? Did you feel that everyone was able to keep their roles while working together?

   CD: What did you think about your teamwork? Did you feel that everyone shared the responsibility of working together and the power within the group?
5. Are you satisfied with your team's cooperation? Why or why not?
6. Do you think your team worked efficiently during the process? Why do you think your team has a high/low working efficiency?
7. Do you have any suggestions for your team if you could work together again?

Individual-oriented

1. Can you describe your role in the team?
    a. What do you think about your own contribution to the team?
    b. Do you think you worked efficiently during the process? Why or why not?

Product-oriented

1. What do you think about the design you've made?
    a. Are you satisfied with your design or not?
2. What do you think about the usefulness of the design you created?

   a. Do you think it provides enough information to a potential consumer?
3. What do you think about the design in terms of the user experience?
   a. How do you think the user will feel when looking at this?
4. What would you change to the design if you could?

User Design Thinking questions – Only for the Design Thinking Users

1. What do you think of your own input into this project?
2. Do you feel that you contributed enough as a consumer to the project? Why or why not?
3. Do you feel like the rest of the team took your advice into account? Why or why not? (They can share their notes from their own observations)
4. What do you think of the idea of adding consumer input to the design process?
5. If a real company offered, you the opportunity to design a product with them, would you? Why or why not?
6. Would you change anything to the design? What would you change or why wouldn't you change?

Appendix B

Part 1 Time Taken to Complete Steps

Group	Step 1	Step 2	Step 3	Step 4	Total
1: Design Thinking	9	20	24	42	95
2: Design Thinking	10	20	20	36	86
3: Design Thinking	12	20	20	39	91
4: Co-design	15	26	20	38	99
5: Co-design	14	23	20	42	99
6: Co-design	11	20	20	34	85

Note. These are the times for the sessions that were held in part 1 of this study. The time provided is in minutes.

Appendix C

Part 1 Participants' Demographics

Group 1	Customer	Writer	Designer	Marketer
Age	25	22	29	25
Gender	Female	Male	Female	Female
Study Title/ Working Field	International Human Resource Management	International Business Administration	Communication Science	Marketing
Nationality	Dutch	Zimbabwean	Dutch	Dutch
Country (Born)	Aruba	Zimbabwe	The Netherlands	Curaçao
Country (Living)	The Netherlands	The Netherlands	The Netherlands	The Netherlands
Group 2	**Customer**	**Writer**	**Designer**	**Marketer**
Age	24	23	23	21
Gender	Female	Female	Female	Male
Study Title/ Working Field	International Human Resource Management	Communication Science and Psychology	Industrial Design Engineering	International Human Resource Management
Nationality	Dutch	Dutch	Dutch	Dutch
Country (Born)	Colombia	The Netherlands	The Netherlands	The Netherlands
Country (Living)	The Netherlands	The Netherlands	The Netherlands	The Netherlands
Group 3	**Customer**	**Writer**	**Designer**	**Marketer**
Age	22	22	30	28
Gender	Female	Female	Female	Male
Study Title/ Working Field	Electrical Engineering	Philosophy	Content Manager/ Graphic Designer	Communication Science/ Social Media Specialist
Nationality	Albanian	American	Dutch	Iranian
Country (Born)	Albania	USA		Iran
Country (Living)	The Netherlands	The Netherlands	The Netherlands The Netherlands	The Netherlands

Group 4	Customer	Writer	Designer	Marketer
Age	20	28	23	26
Gender	Female	Male	Female	Female
Study Title/ Working Field	International Law	Communication Science	Communication	Communication Science
Nationality	Dutch	Indonesian	Chinese	German
Country (Born)	Aruba	Indonesia	China	Germany
Country (Living)	The Netherlands	The Netherlands	Exchange in The Netherlands	Germany
Group 5	**Customer**	**Writer**	**Designer**	**Marketer**
Age	21	26	23	23
Gender	Male	Female	Male	Female
Study Title/ Working Field	International Human Resource Management	International Human Resource Management	International Human Resource Management	Communication Science
Nationality	Bulgarian	Dutch	Dutch	German
Country (Born)	Bulgaria	Jamaica	Curaçao	Germany
Country (Living)	The Netherlands	The Netherlands	The Netherlands	Germany
Group 6	**Customer**	**Writer**	**Designer**	**Marketer**
Age	25	25	22	24
Gender	Female	Male	Female	Female
Study Title/ Working Field	Communication Science / Human Resources	Communication Science/ Copywriter	Industrial Design Engineering/UX Researcher	Communication Science/ Marketing & Sales Intern
Nationality	Dutch	Dutch	Dutch	German
Country (Born)	The Netherlands	The Netherlands	The Netherlands	Germany
Country (Living)	The Netherlands	The Netherlands	The Netherlands	The Netherlands

Appendix D

Part 1 Codebook

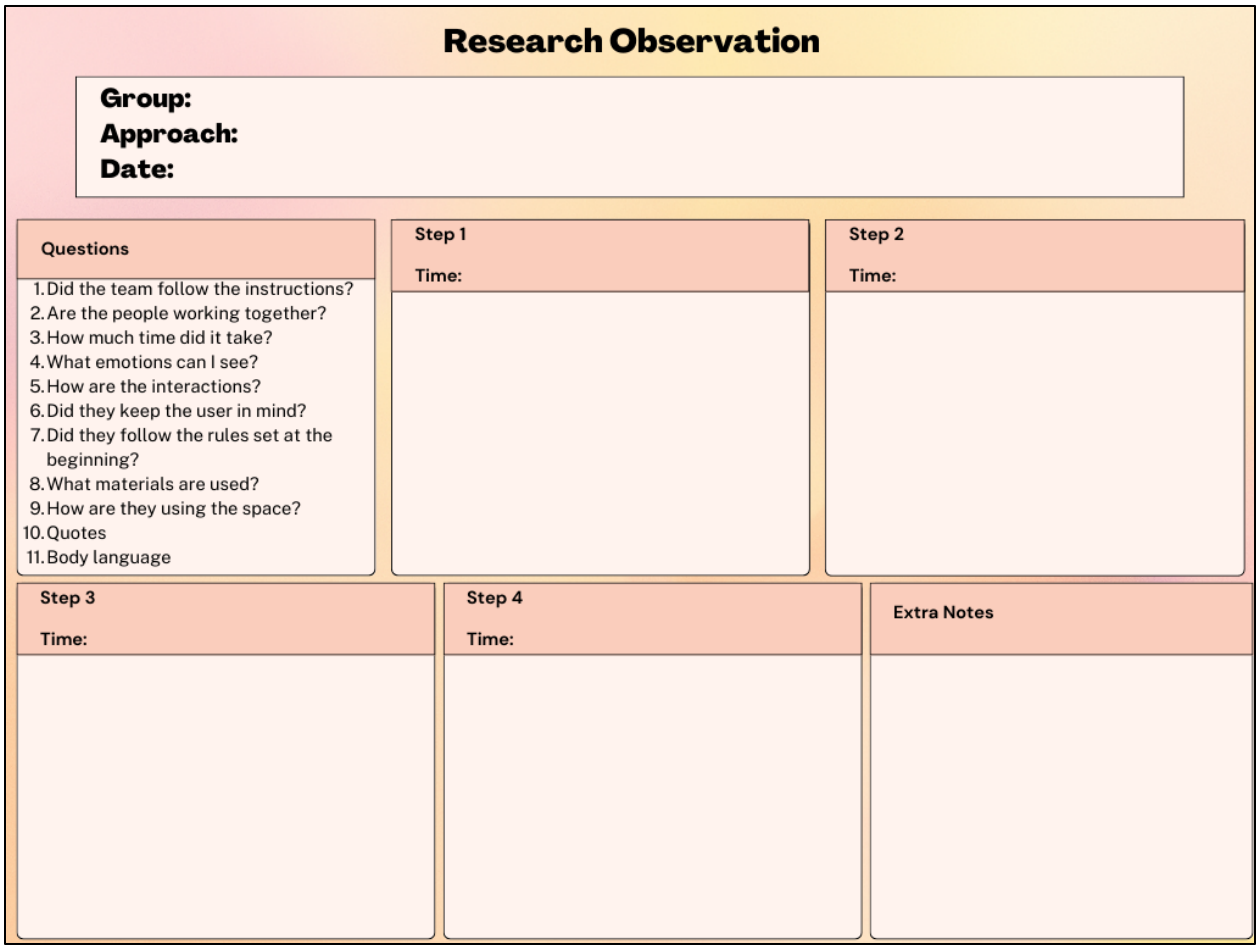
Code Name	Code Definition	Code number	Code Abbreviation
Design Satisfaction - Negative	When someone indicates that they are unsatisfied with the visual of the product.	1	DS-Neg
Design Satisfaction - Positive	When someone indicates that they are satisfied with the visual of the product.	2	DS-Pos
Group Cooperation Satisfaction - Negative	When someone indicates that they are unsatisfied with the group's cooperation/teamwork.	3	GCS-Neg
Group Cooperation Satisfaction - Positive	When someone indicates that they are satisfied with the group's cooperation/teamwork.	4	GCS-Pos
Group Difficulties	When people mention that they had difficulties working as a group.	5	GD
Group Difficulties Solutions	How did people manage to deal with group challenges or their own challenges.	6	GDS
Group Efficiency - No	When someone indicates that the group was inefficient.	7	GE-No
Group Efficiency - Yes	When someone indicates that the group was efficient.	8	GE-Yes
Most Enjoyable Of The Process	Most enjoyable thing of the process.	9	MEOTP
Personal Challenges	Challenges that one person had to deal with during the process. It's about their own struggles.	10	PECH
Personal Challenges Solutions	Solutions for the challenges that one person had to deal with during the process.	11	PECHS
Personal Contribution Satisfaction - Negative	When people were unsatisfied with their contribution. It wasn't sufficient or they didn't do what they were supposed to do.	12	PCS-Neg

Code Name	Code Definition	Code number	Code Abbreviation
Personal Contribution Satisfaction - Positive	When people were satisfied with their contribution. It was sufficient or they did what they were supposed to do.	13	PCS-Pos
Personal Efficiency - No	When someone indicates that they were inefficient when it comes to their own contributions.	14	PE-No
Personal Efficiency - Yes	When someone indicates that they were efficient when it comes to their own contributions.	15	PE-Yes
Power Sharing - No	When someone indicates that the power wasn't shared in a group, and someone took the lead/became a leader.	16	PS-No
Power Sharing - Yes	When someone indicates that the power was shared in a group, and everyone was equal.	17	PS-Yes
Product Improvements - No	When someone mentions that they have no improvements for the end results and would keep it the way that it is.	18	PI-No
Product Improvements - Yes	When someone mentions how they would change the end-product (the design and text).	19	PI-Yes
Product Satisfaction - Negative	When someone indicates that they are unsatisfied with the overall product of the project.	20	PS-Negative
Product Satisfaction - Positive	When someone indicates that they are satisfied with the overall product of the project.	21	PS-Positive
Product Usefulness - Negative	When someone indicates that the product is useless, and it does not provide enough information.	22	PU-Neg
Product Usefulness - Positive	When someone indicates that the product is useful, and it	23	PU-Pos

Code Name	Code Definition	Code number	Code Abbreviation
	does provide enough information.		
Product User Experience - Negative	When someone indicates that the product is unattractive and will not pique the interests of potential customers.	24	PUX-Neg
Product User Experience - Positive	When someone indicates that the product is attractive and will pique the interests of potential customers.	25	PUX-Pos
Project challenges	Challenges related to the project itself that are more out of the control of the people.	26	PTC
Role Responsibilities Overlap - No	When the person thinks that everyone was able to keep their roles and there weren't overlaps of roles.	27	RRO-No
Role Responsibilities Overlap - Yes	When the person thinks that everyone mixed with each other's roles and there were overlaps of roles.	28	RRO-Yes
Team Suggestions - No	When someone gives no feedback on how to improve the teamwork of their group.	29	TWS-No
Teamwork Suggestions - Yes	When someone mentions feedback on how to improve the teamwork of their group.	30	TWS-Yes
Text Satisfaction - Negative	When someone indicates that they are unsatisfied with the text of the product.	31	TS-Neg
Text Satisfaction - Positive	When someone indicates that they are satisfied with the text of the product.	32	TS-Pos
Thoughts About Process - Negative	When someone mentions something negative of the process.	33	TAP-Neg
Thoughts About Process - Positive	When someone mentions something positive of the process.	34	TAP-Pos

Appendix E

Research Observation Sheet



Appendix F

Design Thinking Booklet

BY YARIDIS TOPPENBERG

Session Booklet Design Thinking

A document to guide you through this session.

Design Thinking
Session Planning

10:00am	Signing ethics form, introducing names and roles and discussing the instructions for the session
10:30am	First step of Design Thinking: Empathize
10:45am	Second step: Define - The user/customer will become an observer
11:05am	Third step: Ideate
11:25am	Fourth step: Prototype creation
12:00pm	First person is interviewed - Person can leave after
12:15pm	Second person is interviewed - Person can leave after
12:30pm	Third person is interviewed - Person can leave after
12:45pm	Fourth person is interviewed - Person can leave after
13:00pm	End

Please note that the researcher will be timing the session.
One person will be interviewed at a time. We can discuss before the session who will go first, second, third and fourth.

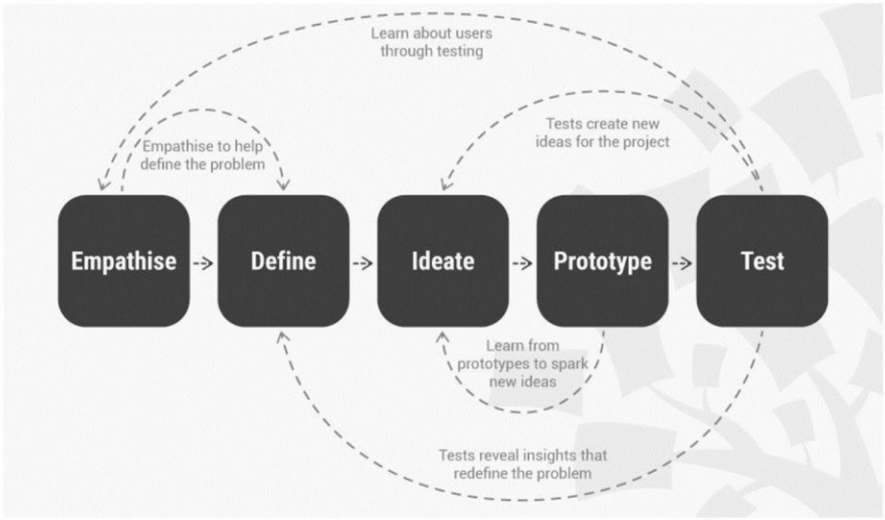
Roles and Descriptions

USER/CUSTOMER	As the user/customer, you have a passion for travelling and will share your travel experiences with the team. You will only actively participate with the rest of the team in the first step of the process (Empathize). After that, you will get a piece of paper and pen to write and observe what the team does without you. Do they take your advice into account? Do they keep you in mind? Make notes of whether you feel that your input was taken seriously during the rest of the steps.
MARKETER	As the marketer, you need to be creative and be able to put yourself in the mindset of the customer. Important task includes asking the customer questions.
WRITER	As the writer, you should be able to write captions and information that is useful for the content. Important work includes writing about 125 characters for the primary text, 27 characters for the headline and 27 characters for the description of the Ad.
DESIGNER	As the designer, you need to be able to translate ideas into visuals. Important task includes creating the design using Canva.

Company and Project Introduction

- You are going to create content that can be later used as a Facebook advertisement. This content includes a visual and text.
- The name of the company is Bon Voyage Travel Agency. The company mainly focuses on helping (future) students in The Netherlands plan solo and group vacations or organise retreats where students can work on their mindfulness. You will find the logo later in Canva when you are going to create the design.
- You will have to create content to promote a European trip that the company organized. The trip can be done alone or together with friends.
- The European trip will include the cities of Amsterdam, Munich, Rome, Paris and London. It will cost about 1250 euros and you can pay in instalments if you wish as long as the trip is fully paid before the starting date of the trip. The trip will be for 15 days. Accommodation, meals and transportation are included.
- You have the freedom to include any other information such as catchy names for the package, or slogans and images.

Design Thinking Process



The step called "test" will be removed from this session as I will be doing that.

From Stage 3 in the Design Thinking Process: Ideate, by T. Siang and Interaction Design Foundation, 2020. (https://www.interaction-design.org/literature/article/stage-3-in-the-design-thinking-process-ideate). CC BY-NC-SA 3.0.

Design Thinking Step 1: Empathise

During this phase, you will interview the customer to gain insight into the project. You will get 15 minutes to do this.

The marketeer should be asking the questions and the writer and designer can make notes that can be used as ideas later.

You can use the following example questions as inspiration:

- What do you like best about travelling?
- What do you normally do when you go on vacation? Do you like to explore or are you more of a relaxing type?
- If you were to book a vacation with a travel agency, what would attract you the most? The price, the number of days at the destination, the culture or the activities?
- If you could visit one of the five cities which one would you choose and why?
- Did you ever click on any ads concerning traveling? why yes or why not?

Tip:
Focus on what the customer would deem important. What are their priorities, needs, and wants?

Research observation sheet for user - To be used after Step 1: Empathize

Group:
Date:

Questions	Step 2	Step 3
• Do they take your advice into account? • Do they keep you in mind? • Make notes of whether you feel that your input was taken seriously during the rest of the steps		

Step 4	Extra notes

Design Thinking Step 2: Define

During this phase, you will create needs statements. With the needs statements the user's needs will be outlined and the focus can be set on ideas that can achieve their goals. You will get 20 minutes to do this.

1. You should use the notes that the team made during the first step (Empathize) to this phase.
2. You may write the following prompt to set the activity's context: [Our user] needs a way to [addresses this need] so that they [benefit in this way].
3. Write all the ideas on Post-its to replace what is in the brackets. Think about the needs and benefits you will be giving to the user with your team's creation.
4. Cluster ideas together and debate with the team. Try drafting a few needs statements.

Tips:

- Stay focused on the user
- Build on each others' ideas
- There are no bad ideas

Design Thinking Step 3: Ideate

During this phase, you will be brainstorming as a team. This will take 20 minutes.

1. You can write topics/questions on three flipchart papers and hang them on the wall of the room. These topics/questions are related to the designs. It can be regarding things like the visuals, texts or tactics to make the design more approachable. You will have 5 minutes to do this.
2. Write ideas on Post-its with markers and add them to the flipchart you believe is the closest to the idea. As a team member, add at least one idea per flipchart. You will get 10 minutes to do this.
3. Briefly discuss your ideas with the team for 5 minutes.

Tips:

- Build on each others' ideas
- There are no bad ideas

Design Thinking Step 4: Prototype

During this phase, you will create the design. Use your role to create the output of the design but be aligned with your team and discuss where needed. This will take 35 minutes. You have access to the computer and are logged into the account.

General design criteria

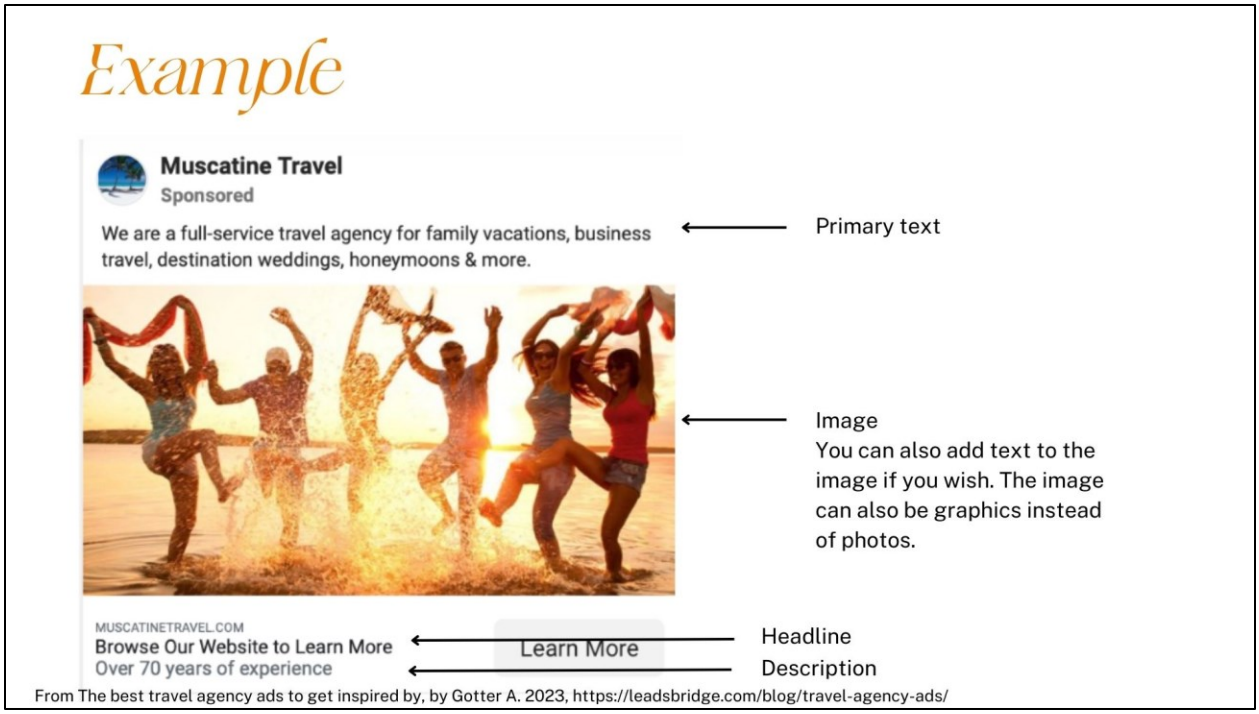
- Design is created in Canva, choose the template "Facebook post square".
- Design of a static visual that can be downloaded in PNG form.
- Resolution is 1080 x 1080 pixels.
- Design can have text and photos in it.
- The logo is included.
- Colors of the company are: #FFDE59 (Yellow) and #FF914D (Orange).

Text criteria

- Write the text that is not in the visual itself (the primary text, headline and description) on a new page in Canva using a text box.
- Primary Text: 125 characters
- Headline: 27 characters
- Description: 27 characters

Tips:

- Use your ideas from the previous steps.
- Use the information provided under "Company and Project Introduction".
- A good design will catch attention, educate people about what is offered and tell them what they should do (in this case, buy the Europe trip vacation package).



From The best travel agency ads to get inspired by, by Gotter A. 2023, https://leadsbridge.com/blog/travel-agency-ads/

Appendix G

Co-design Booklet

BY YARIDIS TOPPENBERG

Session Booklet Co-Design

A document to guide you through this session.

Co-Design
Session Planning

10:00am	Signing ethics form, introducing names and roles and discussing the instructions for the session.
10:30am	First step of Co-Design: Building the conditions
10:45am	Second step: Immersing and aligning
11:05am	Third step: Discovering
11:25am	Fourth step: Designing
12:00pm	First person is interviewed - Person can leave after
12:15pm	Second person is interviewed - Person can leave after
12:30pm	Third person is interviewed - Person can leave after
12:45pm	Fourth person is interviewed - Person can leave after
13:00pm	End

Please note that the researcher will be timing the session.
One person will be interviewed at a time. We can discuss before the session who will go first, second, third and fourth.

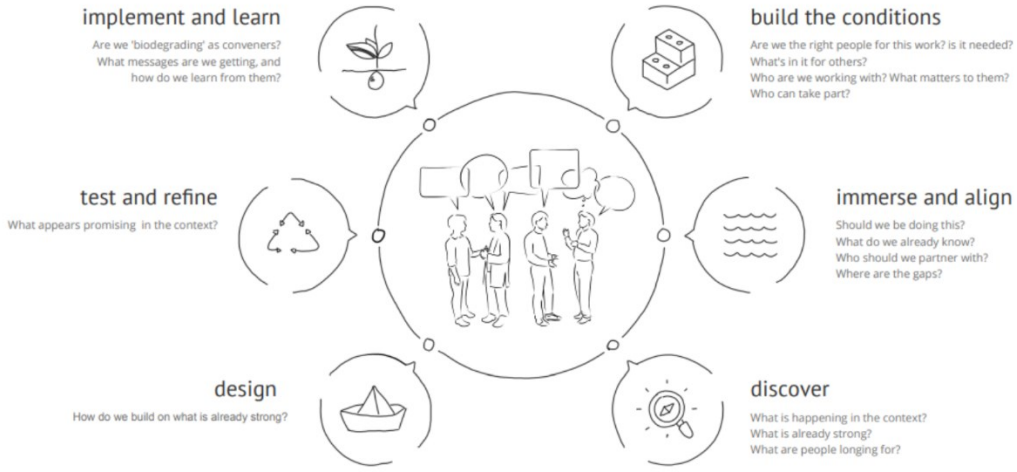
Roles and Descriptions

USER/CUSTOMER	As the user/customer, you have a passion for travelling and will share your travel experiences with the team. You will also be helping with the design and sharing your ideas throughout the session.
MARKETER	As the marketer, you need to be creative and consider the user and their needs in mind. Other members of the group can also support you in asking the user questions to define their needs and want. You can also share and add your own experiences with travelling to the project if you have any.
WRITER	As the writer, you should be able to write captions and information that is useful for the content. However, the rest of the group can help you and give you feedback. You can also share and add your own experiences with traveling to the project if you have any.
DESIGNER	As the designer, you need to be able to translate ideas into visuals. Important task includes creating the design using Canva. However, other participants can also provide their design ideas to you. You can also share and add your own experiences with travelling to the project if you have any.

Company and Project Introduction

- You are going to create content that can be later used as a Facebook advertisement. This content includes a visual and text.
- The name of the company is Bon Voyage Travel Agency. The company mainly focuses on helping (future) students in The Netherlands plan solo and group vacations or organise retreats where students can work on their mindfulness. You will find the logo later in Canva when you are going to create the design.
- You will have to create content to promote a European trip that the company organized. The trip can be done alone or together with friends.
- The European trip will include the cities of Amsterdam, Munich, Rome, Paris and London. It will cost about 1250 euros and you can pay in instalments if you wish as long as the trip is fully paid before the starting date of the trip. The trip will be for 15 days. Accommodation, meals and transportation are included.
- You have the freedom to include any other information such as catchy names for the package, or slogans and images.

Co-Design Process



The steps "test and refine" and "implement and learn" will be removed from this session as I will be doing that.

From What is co-design? A brief overview, by KA. Mckercher, 2020, https://www.beyondstickynotes.com/what-is-codesign. Copyright 2020 by Kelly Ann McKercher. Reprinted with permission.

Step 1: Building the conditions

During this phase, you will be breaking the ice. It is important to introduce yourself to one another and ask each other questions. After, you will write important goals and rules for this session on Post-its and put them on the wall. This will take 15 minutes.

You can use the following example questions as inspiration:

- How are you connected to the role you are given?
- What do you expect from the collaboration during this session?
- What do you want to reach at the end of this session?
- What rules will be set for this session regarding the collaboration?
- How can the power be distributed equally within the team?

Tip:
You should be feeling comfortable working with one another so, creating some rules will be useful. Think about:

- We will respect one another and always let the other person finish talking.
- We will provide each other with feedback.
- We will speak our minds because there are no bad ideas.

Step 2: Immersing and aligning

During this phase, you will get to know the context. You will build a shared understanding of the project and explore the topic. At the end of this phase, you will have at least one persona. This will take 20 minutes.

Questions you can ask each other:

- What does travelling mean to you?
- What do you normally do when you go on vacation?
- What is a travel story that you would like to share? if you have any (can be all roles, does not have to be only the user).

Task:
Build at least one persona using the template provided (next page).

Example questions to build persona:

- What kind of people would be customers for the travel agency? How do they look and act? What do they need?
- What are their interests in sports, culture, and hobbies?
- What challenges do we assist them to overcome with the design?
- What type of design and text would attract customers?

Persona

Persona
Name:

Key Attribute

Add adjectives to describe this persona

Short Description

Add phrases to bring this persona to life

Needs

Add the persona's reasons for taking this particular journey

Challenges

Add pain points or potential frustrations

Opportunities

Add ways that your product or service can address the pain points

Step 3: Discovering

During this phase, you will start brainstorming ideas and putting yourself in the customer's position. This will take 20 minutes.

To brainstorm, you will do the 6-8-5 method:

1. Everyone will be doing this on their own simultaneously.
2. Use the template provided.
3. Generate 6 to 8 ideas in 5 minutes in the boxes. Each box is one idea.
4. You can write or you can draw.
5. Discuss together in the team. Everyone needs to be able to present their ideas.
6. Choose the best ideas to take to the next step.

Tips:
The sketches can be rough, it shouldn't be perfect.
Write the best ideas on Post-its and put them on the wall.

Step 4: Designing

During this phase, you will create the design. Help each other out. This will take 35 minutes. You have access to the computer and are logged into the account.

General design criteria

- Design is created in Canva, choose the template "Facebook post square".
- Design of a static visual that can be downloaded in PNG form.
- Resolution is 1080 x 1080 pixels.
- Design can have text and photos in it.
- The logo is included.
- Colors of the company are: #FFDE59 (Yellow) and #FF914D (Orange).

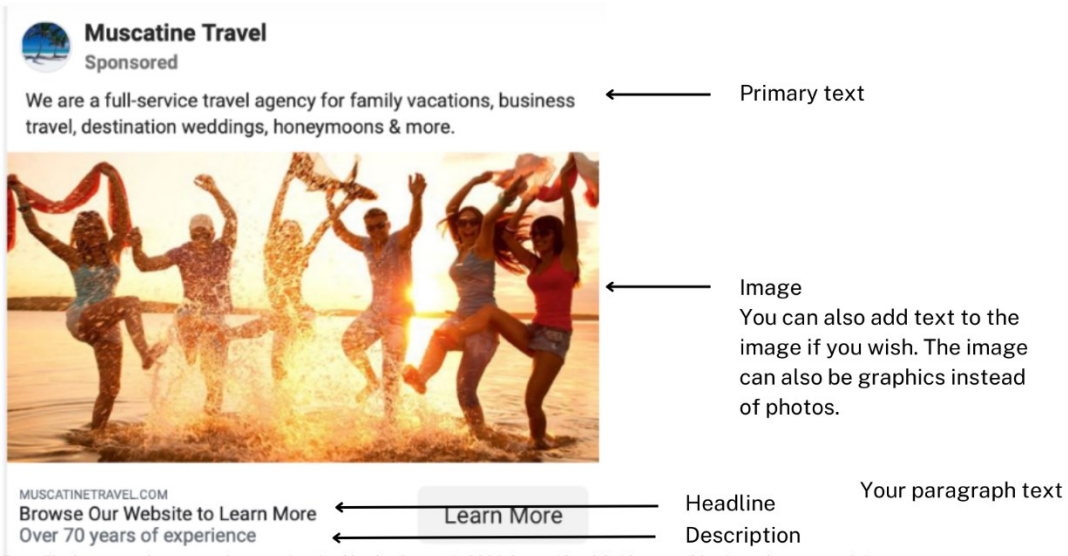
Text criteria

- Write the text that is not in the visual itself (the primary text, headline and description) on a new page in Canva using a text box.
- Primary Text: 125 characters
- Headline: 27 characters
- Description: 27 characters

Tips:

- Use your ideas from the previous steps.
- Use the information provided under "Company and Project Introduction".
- A good design will catch attention, educate people about what is offered and tell them what they should do (in this case, buy the Europe trip vacation package).

Example



From The best travel agency ads to get inspired by, by Gotter A. 2023, https://leadsbridge.com/blog/travel-agency-ads/

Appendix H

Context of the Advertisement

You are going to assess content that can be used as a Facebook advertisement. This content includes a visual and text. The name of the company is Bon Voyage Agency. It is a travel agency that mainly focuses on helping (future) students in The Netherlands plan solo and group vacations or organise retreats where students can work on their mindfulness. However, this created content is there to promote a European trip that the company organized. The trip can be done alone or together with friends. The European trip will include the cities of Amsterdam, Munich, Rome, Paris, and London. It will cost about 1250 euros, and you can pay in instalments if you wish as long as the trip is fully paid before the starting date of the trip. The trip will be for 15 days. Accommodation, meals, and transportation are included.

Appendix I

Part 2 Interview Questions

General questions

1. Do campaigns used on social media platforms often pique your interest?
2. Do they persuade you?
3. Did you ever buy or complete an action after seeing an advertisement? For example, I went to the website store and bought shoes on the website.
4. Do you feel connected to companies through their advertisements?
5. Would you as a potential consumer participate in the designing process of a company? Why?
6. Would you feel connected to a company if you were involved in the designing process of what messages and designs you would want to see?

Designs Questions

7. How do you feel looking at each of these visuals?
8. Which of these designs are more in line with the task description that was given?
9. Can you rate these designs from 1 to 6? Can you elaborate on your choices?
10. Which is the most effective at providing the information you would need? Why?
11. Which of them is the most effective in terms of piquing your interest? Why?
12. If you could, what would you like to change in each of the designs?

Appendix J

Part 2 Participants' Demographics

Person	Age	Gender	Study Title	Nationality	Country (Born)	Country (Living)
1	21	Male	Software Engineering	Zimbabwean	Zimbabwe	The Netherlands
2	26	Female	Communication Science	German	Germany	Germany
3	23	Male	Spatial Engineering	Nigerian	Nigeria	The Netherlands
4	52	Female	Communication Science	Dutch	The Netherlands	The Netherlands
5	22	Male	Communication Science	Dutch	The Netherlands	The Netherlands
6	27	Male	Biomedical Engineering	Dutch	The Netherlands	The Netherlands
7	23	Female	Industrial Design Engineering	Dutch	The Netherlands	The Netherlands
8	23	Male	Digital Marketing	Dutch	The Netherlands	The Netherlands
9	21	Female	International Human Resources Management	Dutch	Aruba	The Netherlands
10	26	Female	Business Information Technology	Indonesian	Indonesia	The Netherlands
11	23	Female	Chemical Science and Engineering	Indian	Saudi Arabia	The Netherlands
12	27	Male	Molecular & Materials Engineering	German	Germany	The Netherlands
13	26	Female	Communication Science	German	Germany	The Netherlands
14	23	Male	Industrial Design Engineering	Dutch	The Netherlands	The Netherlands
15	34	Female	Communication Science	Dutch	The Netherlands	The Netherlands
16	23	Female	Communication Science	Indian	India	The Netherlands
17	28	Male	Computer Science	Dutch	Curaçao	The Netherlands

Appendix K

Part 2 Codebook

Code Name	Code Definition	Code Number	Code Abbreviation
Buy/Complete Actions for Ads - No	The person did not buy something or complete an action because of an ad.	1	BCA-No
Buy/Complete Actions for Ads - Yes	Every time someone ended up buying something or completing an action because of an ad.	2	BCA-Yes
Campaigns on SM Persuasion - No	Someone who does not feel persuaded by ads.	3	P-No
Campaigns on SM Persuasion - Yes	Someone who feels that they can be persuaded by ads.	4	P-Yes
Campaigns on SM Pique Interest - No	Someone who feels that ads do not pique their interests.	5	PI-No
Campaigns on SM Pique Interest - Yes	Someone who feels ads pique their interest.	6	PI-Yes
Changes to the Products	When people mention what they would change to the designs and texts of the products.	7	CTP
Connection with Companies through Ads - No	People who do not feel connected to companies through their ads.	8	CWC-No
Connection with Companies through Ads - Yes	People who feel connected to companies through their ads.	9	CWC-Yes
Feel connected with designing - No	People who would not feel connected to the company if they were to design with them.	10	FCD-No
Feel connected with designing - Yes	People who would feel connected to the company by designing with said company.	11	FCD-Yes
Most Effective Product in Piquing Interest	The product (with the number) that is the most effective in piquing the person's interest.	12	PPIT
Most Effective Product in Providing Info	The product (with the number) that is the most effective in providing information.	13	PPIN
Participate in Designing - No	People who wouldn't participate in designing with a company.	14	PD-No
Participate in Designing - Yes	People who would participate in designing with a company.	15	PD-Yes

Code Name	Code Definition	Code Number	Code Abbreviation
Preferred Rating For Products	How the people rated the products (with numerical rating).	16	PRP
Product that relates to context	The product (with number) that mostly relates to the context.	17	PRC
Thoughts about products - Negative - 1	(First look) Feelings and thoughts about the product 1 that are negative.	18	N-1
Thoughts about products - Negative - 2	(First look) Feelings and thoughts about the product 2 that are negative.	19	N-2
Thoughts about products - Negative - 3	(First look) Feelings and thoughts about the product 3 that are negative.	20	N-3
Thoughts about products - Negative - 4	(First look) Feelings and thoughts about the product 4 that are negative.	21	N-4
Thoughts about products - Negative - 5	(First look) Feelings and thoughts about the product 5 that are negative.	22	N-5
Thoughts about products - Negative - 6	(First look) Feelings and thoughts about the product 6 that are negative.	23	N-6
Thoughts about products - Positive - 1	(First look) Feelings and thoughts about the product 1 that are positive.	24	P-1
Thoughts about products - Positive - 2	(First look) Feelings and thoughts about the product 2 that are positive.	25	P-2
Thoughts about products - Positive - 3	(First look) Feelings and thoughts about the product 3 that are positive.	26	P-3
Thoughts about products - Positive - 4	(First look) Feelings and thoughts about the product 4 that are positive.	27	P-4
Thoughts about products - Positive - 5	(First look) Feelings and thoughts about the product 5 that are positive.	28	P-5
Thoughts about products - Positive - 6	(First look) Feelings and thoughts about the product 6 that are positive.	29	P-6