Design Thinking: A Strategy to Enhance Customer Value

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Abstract

As the business environment evolves and innovations are introduced, organisations need versatile product designs to achieve success and growth that comes by increasing customer value. Organisations are constantly challenged to adopt new approaches while keeping their business goals in mind, increasing sales, and market share, and delivering quality customer service experiences with the offered products. This allows businesses to adopt design thinking concepts to create unique products that provide a differentiated value proposition. Evolving markets and changing customer behaviours call on businesses to develop products that address the customers' unmet needs.

The purpose of this study was to explore and gain insights into the application and effectiveness of design thinking as an approach to addressing customer problems to enhance customer value. A deep understanding of design thinking to enhance customer value will help management use design thinking techniques to address unmet customer needs and create a better customer value propositions. This study provides an understanding of the application of design thinking methodology its dimensions, factors that lead to successful implementation, benchmarking practices, and how organisations can enhance customer value and gain competitive advantage.

This study uses an exploratory and qualitative design with data collected through semi-structured in-depth interviews with 11 decision-makers including executives, design practitioners, and entrepreneurs in South Africa.

The conceptual framework that emerged from the research study outlines the key concepts of design thinking and customer value and their relationships, thereby confirming and adding to the existing body of knowledge and providing potential future contributions into the design thinking literature. Two new findings identified in this study as potential additions to the design thinking literature include removing internal competition to create a collaborative culture. Second, develop a differentiated value proposition model that is independent of the core operating model to create a differentiated value proposition.

The key findings of this study was the assessment that organisations need to have the right skills and competencies to implement a design thinking process successfully. Organisations need to build a culture that supports design thinking and prioritises it as a strategic imperative. Key recommendations based on the findings include ensuring management and various stakeholders hire the right talent, develop a unified culture of collaboration to achieve common organisational goals, and be progressive in implementing design thinking

Key words:

Design Thinking

Customer Value

Human-Centered Design

Customer Experience Management

Declaration

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Philosophy in Corporate Strategy at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

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1 Table of Contents

1. Chapter 1: Introduction

This chapter introduces the design thinking methodology and its application in organisations to address unmet customer needs and the creation of innovative solutions and strategies that increase customer value. This introductory chapter presents details on the background of the study, the statement of the research problem, the aim of the study as well as the significance of the study. In addition, the chapter presents the research objectives and research questions

1.1 Background to the research

The business environment is evolving and the introduction of innovation is more prominent than ever, requiring organisations to be versatile in their product designs for success and growth (Han, 2022). The introduction of innovation is the root cause of the evolving market changes and customer behaviours, thus propelling businesses to recognise the importance of using design thinking as a differentiator to meet their customer needs (Pikover, 2023). To effect this, businesses must adopt a new way of doing things taking into account the core business goals which include increasing sales, market share, and creating memorable customer experiences through the products they offer (Pikover, 2023).

Forbes Technology Council (2023), reported that businesses fail in their projects because they lack an understanding of the business needs, the end customer is not a first priority, the project requirements are unclear, there is no clarity and execution strategy and silos mentality. In order to overcome these failures, an opportunity exists for businesses to adopt design thinking to ensure they address the right problems using data-driven insights (Pikover, 2023).

Moreover, Han (2022) articulated that the adoption of design thinking affords an opportunity to develop unique products to offer a differentiated value proposition. Design Thinking enables businesses to design innovative solutions to the encountered customer problems through a four-stage process, which involves the problem statement- clarifying stage, new innovation-ideation stage, concept development stage, and testing, refining, and implementation stage.

Businesses adopting design thinking to develop products that meet customer needs are in a position to fulfil design thinking criteria of feasibility, viability, and desirability in line with the designed product (Hugo, 2019).

1.2   Research Problem

The research problem focuses on the applicability and effectiveness of design thinking, as illustrated by Micheli et al. (2019). Design thinking is a critical concept to innovation (Micheli et al., 2019), using human-centredness to solve user problems that are innovative (Nakata & Hwang, 2020).

Literature has indicated that design thinking as a dynamic coupling of mindsets and actions enables organisations to achieve innovations, signifying that the application of thought is instrumental to tasks embarked on (Nakata & Hwang, 2020). In addition, design thinking provides structure to capture users' information and the communication of knowledge to stakeholders (de Paula et al., 2022). Meinel et al. (2020) found design thinking has a positive effect on an organisation's innovativeness.

Transitioning towards design thinking has proven to be a useful tool for organisations during strategy formulation, communication, and post-merger integration (Micheli et al., 2019). The initial findings from Nakata and Hwang (2020) demonstrate that human-centredness and experimentation are integral components of design thinking, and require professional skillsets such as a designer who empathises and identifies and ideates user needs, the technical engineer to determine the feasibility and the business manager who determines the value generation (Micheli et al., 2019). Meinel et al. (2020) found out that through human-centredness, design thinking offers an opportunity to develop solutions that address customer needs (Meinel et al., 2020).

However, the literature still lacks sufficient evidence on when design thinking is applied, the level of use and resources required intensity of the intended outcome of design thinking. In support (Nakata & Hwang, 2020), articulated that research has not considered the cultural factors that affect the implementation of design thinking. Moreover, de Paula et al. (2022) highlighted that research has not specified the training methods businesses should adopt in order to improve the implementation of design thinking.

The identified research recommendations (de Paula et al., 2022; Micheli et al., 2019; Nakata & Hwang, 2020) necessitated the theoretical relevance of the research study. The study was guided by the human-centered design-thinking attribute, which incorporates customer needs into solution-seeking efforts. The study interrogates the identified knowledge gaps to gain better insight into the application and effectiveness of design thinking to create customer value.

1.3   Research Questions

The literature review on design thinking and an invitation for future research by Micheli et al. (2019) to gain a deeper understanding of when design thinking ought to be applied, the level of use and resources required to uncover the applicability and effectiveness of design thinking, informed the formulation of the research questions.

In line with the research objectives, the main research question is:

How do organisations use design thinking to advance customer value?

The analysis of the literature on design thinking indicated additional gaps and invitation for further research to understand the applicability and effectiveness of design thinking, leading to the formulation of three sub-research questions, aligned to the research constructs.

Sub-Research Question 1: What are the design thinking methodologies in place and how are they applied to enhance customer value? (de Paula et al., 2022; Nakata & Hwang, 2020).

Sub-Research Question 2: What are the key factors contributing to the successful implementation of design thinking to enhance customer value? (Micheli et al., 2019; Nakata & Hwang, 2020).

Sub-Research Question 3: What are the best practices for organisations to implement design thinking effectively as a strategy to enhance customer value and achieve competitive advantage? (de Paula et al., 2022; Micheli et al., 2019).

Chapter 3 provides a detailed discussion of the research question.

1.4   Research Aim

The study aims to explore the application and effectiveness of design thinking as an approach to addressing customer problems to enhance customer value.

The research seeks to gain deeper insight into an organisation's understanding of design thinking and the application of its dimensions to enhance customer value. Furthermore, the research aims to determine contributing factors that lead to its successful implementation, the benchmarking practices, and the organisation's way of doing things, which enhance customer value and gain competitive advantage.

The insights gained from the research objectives will enable the researcher to make recommendations to management on the applicability and effectiveness of design thinking to

enhance customer value. I develop a conceptual framework integrating the key constructs of design thinking to enhance customer value.

1.5 Research Contributions

1.5.1 Theoretical relevance

The theoretical relevance of the study adds to the current literature on design thinking and improves our understanding of the role of design thinking in customer value. The study interrogated the antecedents of design thinking that contribute to the foundational concepts and practices that shape the evolution of design thinking, its methodologies, and their application.

I propose a conceptual framework from a careful interrogation of theories on human-centered design and customer experience management. This is consistent with the invitation of Meinel et al., (2020) to fill the identified gap in the usefulness of design thinking.

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1.5.2 Business relevance

According to the Forbes Technology Council (2023), businesses fail to implement their projects, towards the set goals to increase sales and market share and create a memorable customer experience through the products they offer. Amongst the challenges encountered is the end customer is not the first priority, the business needs are not understood and there is a silos mentality (Forbes Technology Council, 2023). In order to overcome these failures, an opportunity exists for businesses to adopt design thinking to ensure they address the right problems using data-driven insight (Pikover, 2023), and to develop unique products to offer a differentiated value proposition (Han, 2022).

This study focuses on design thinking to enhance customer value by analysing how organisations integrate design thinking into their operations, identifying the best strategies organisations can adopt, and evaluating the best practices to create value for customers. The findings are practically important for businesses to overcome the major obstacle of engaging customers to create innovative solutions that meet their needs, and effectively use design thinking to enhance customer value, through customer retention, customer loyalty, and value proposition. This research will aid designers, policymakers, innovation managers, strategic management officers, and organisational management in making informed decisions to increase customer value when implementing design thinking methodologies.

1.6 Research Scope

The theoretical scope of the study was on design thinking literature, incorporating the context of customer value. Literature including Human Centered Design and Customer Experience Management encompassed due to its relation to design thinking

The theoretical methodology was on the attributes of design thinking: human-centered, abductive reasoning, and learning by failure (Nakata and Hwang, 2020). These attributes are key to design thinking implementation and performance. They help organisations recognise the usefulness of design thinking to enhance their customer value by focusing on the customer for whom the developed solution should serve.

The physical scope of the study explored the usefulness of design thinking to enhance customer value within South African organisations in 2023. The researcher used a combination of purposive sampling and snowballing to demarcate the boundaries of the research, selecting individuals within South Africa operating within design thinking and customer service environment. The data collection is from a population of entrepreneurs, managers, and design thinking practitioners to understand the application of design thinking in organisations, design thinking success factors, and benchmarking practices. The aspects considered for data collection include critical steps in design thinking, key competencies and qualities for a successful design thinking team, integration of design thinking into an organisation's strategic planning process, and success factors within design thinking to enhance customer value.

1.7 Chapter Summary

This chapter outlines the research problem, research objectives, research questions, and the importance of the study in addressing the challenges organisations face in integrating design thinking to enhance customer value.

In the next chapter, the researcher provides a theoretical methodology as well as a review of relevant literature on design thinking and customer value.

2 Chapter 2: Literature Review

2.1 Introduction

This chapter provides an overview of the literature on design thinking and customer value. It emphasises the design thinking mindset necessary for organisations to create innovative solutions that create customer value. To review the current literature adequately, this study explores the definitions and composition of design thinking and customer value, design thinking practices, and the relationships between design thinking and customer value. The chapter opens with a discussion on the theoretical framework that underpins the study and concludes with a conceptual framework and expectations based on the theory.

2.2 Theoretical Framework

This section outlines the theoretical framework underpinning this study on design thinking and customer value. The researcher interrogated the Human Centered Design theory on the problem solving solutions approach adopted based on user needs, their preferences and behaviours, and techniques to collect data. The interrogation also included the Customer Experience Management theory processes set up to understand, measure and improve the entire user journey experience. The relationship between the two theories is to improve the user experience.

2.2.1 Human Centered Design Theory

2.2.1.1 Definition, history and application

Scholars (Burns, 2018; Holeman & Kane, 2019; Melles et al, 2021;) define Human-Centered Design as a systematic approach that emphasises creating problem-solving solutions from a human perspective throughout the different stages of the development process. This includes observing problems in real-life contexts and engaging in activities such as brainstorming to conceptualise ideas to create and implement appropriate solutions. Melles et al (2020) further emphasise that the systems developed must be user-friendly, truly benefit the user, which indicates that organisations must clearly understand the user's wants and needs, and design solutions that meet the user's requirements using specialised knowledge and methods. Additionally, Holeman and Kane (2019) point out that this is possible through a flexible structural approach that promotes innovation. This implies that the innovation approach must be flexible and organised to meet the users' needs.

Holeman and Kane (2019) assert that the terms Human-Centered Design, Human-Centered computing and Human-Centered systems began to come into common use in the past thirty years, mainly in computing and information systems. Academic engineering conferences has

promoted research in these fields such as Computer-Human Interaction and Computer-Supported Cooperative Work because they have shared the results of experiments that influence user-centered design principles, the concept of user-friendliness, and the emerging field of value-sensitive design. In contrast, Melles et al. (2021) argue that the emergence of Human-Centered Design was initiated after the Second World War with the aim of enhancing the efficiency of industrial production by adjusting tasks for workers, which evolved to encompass the organisational structure, social, and emotional needs, as well as creating enjoyable experiences. Importantly, both perspectives acknowledge the growing importance of Human-Centered Design but differ in their interpretation of its origins, initial direction, and historical development.

Holeman and Kane (2019) focus more on its recent emergence in computing and information systems, thereby inspiring organisations to realise the value of a Human-Centered approach to meeting today's customer challenges. On the other hand, Melles et al. (2021) focus on the history of design thinking from the Second World War and its expansion in industrial production.

2.2.1.2 Human Centered design: Characteristics and Principles

According to Melles et al. (2021), Human Centered Design firstly considers the needs and behaviours of the people for whom the design aims to impact. The Double Diamond Model, developed by the British Design Council in 2005, is a widely used representative model of the Human Centered Design process (Figure 1). This model highlights a key principle of Human Centered Design, which is to first identify the key problem and then design solutions that meet human needs.

The first phase often referred to as the problem space, which requires designers to be divergent thinkers, that is, explore a broader problem by considering all the fundamental aspects of the problem (Melles et al, 2021). Li and Liu (2022) identifies the first stage as being where problems are discovered through user and market research, followed by the second stage which defines the problems to be solved by exploring the collected data. (Li & Liu, 2022; Melles et al, 2021) outline the second phase as the solution space, which requires designers to create suitable solutions, with Li and Liu (2022) outlining that brainstorming and workshops should be conducted to first identify common problems.

The use of the double diamond model highlights the importance of in-depth exploration before focusing action in Human-Centered Design. This implies that the user is the most important partner in design. As partners, users co-discover their needs through requirements definition,

contributing to design through iterative cycles of prototyping, and providing continuous feedback.

Burns (2018) further supports that the designs formulated should cater to the needs and circumstances of the intended users. Therefore, the design process in Human-Centered Design (HCD) should focus on solving real-world problems faced by real people. HCD is a repeated cycle of designing and refining, with each phase reviewed and adjusted based on feedback before moving forward. The key to a successful HCD process is to engage users and stakeholders throughout, starting from defining requirements to obtaining early feedback, conducting evaluations, and carrying out field-testing.

Melles et al. (2021) argue that designers create products, services, or strategies for people with different skills and experiences. In order to make these offerings user-friendly and effective, designers must thoroughly understand the users' physical and mental characteristics, needs, and behaviours. It is imperative for designers to engage real users in their real-life situations by including them in the design process in order to achieve a genuine understanding of human behaviour, values, and motivations. This indicates that it is a key requirement for designers to step into the shoes of the users they are designing for, to understand their characteristics and needs, and to involve them in the design process to create effective and user-centric solutions.

Holeman and Kane (2019) demonstrate that the Human-Centered Design principles include designing the products or services based on a deep understanding of users and their environment, that is, involving users in every step of the design and development, where they evaluate the designs in an iterative process. The designers must aim to solve the user experience challenges through multidisciplinary skills and perspectives.

Magistretti et al. (2021) argue that one of the principles encompassing human-centeredness is being people-centered, which means that it is important for organisations to understand the needs and desires of their customers in order to find the right solution to solve their problems. This also means that the solutions developed must resonate with customers on a personal level in order to create a memorable experience. In order for organisations to understand and solve the key problems, they need to understand exactly what the purpose of the intended developed product or service solution is. From this perspective, Klenner et al. (2022) evidenced this through experimentation and prototyping in an iterative process that ensures the organisations understand the user needs, tested, and suitable solutions are developed. Consequently, the iterative process will lead to more user-friendly and effective solutions for the customers, which results in added customer value.

In summary, user engagement is fundamental in Human-Centered Design. It requires organisations to understand the problems experienced by their customers in order to create suitable solutions, following an iterative process of prototyping and testing.

2.2.1.3 Implementing a Human Centered Design process

Human-Centered Design begins with respecting the user and recognising the importance of the user as a partner in design. The first step in the Human-Centered Design process is to identify the problem to solve, including the desires and lives of the target customer. Second, generate ideas that solve identified problems using prototypes to visualise ideas and test them with target customers. Finally, create a potential solution that the target customer will use (Burns, 2018).

The author further highlighted that

> organisations should address these four key questions during the development process: Which customer needs are currently being met and which ones are not? How can the organisation address the identified needs in a way that customers are willing to pay? What are the specific skills and resources needed to achieve sustainable competitive advantage by delivering on your promises? Does it address identified needs?" and "How will the strategy ensure that it produces sustainable returns?. Diderich (2020, p. 6)

These questions informed the basis of research to determine if organisations use customer data to determine their value proposition from a customer perspective. In answering the above questions, organisations can use design thinking to create benefits for their customers in a differentiated and sustainable way.

2.2.1.4 Human Centered Design Tool and Techniques

Table 1 below provides an overview of the human centered design tools and methods used to collect data during the design phases

Method	Description	Similarities	Differences
User-observation	Studying individuals in their natural environments to gain insights into real-life phenomena, influential factors, and the connections between them (Melles et al, 2020).	Both approaches involve immersive research methods, where researchers actively engage with participants in real-life settings.	Melles et al (2020) focus on observing participants in various situations to understand a broad range of phenomena and their interconnections.
	Obtaining in-depth knowledge by spending extensive time shadowing a user in their daily activities to gather detailed descriptions of their work-related challenges (Burns, 2018).	They aim to gain a deep understanding of specific phenomena or problems within the context of the participants' lives or work.	Burns (2018) specifically emphasizes shadowing a user for an extended period to gather comprehensive insights into a particular work-related issue.
Interviews	Collection of data by tapping into users' perspectives on how a design should be and what their requirements are (Burns, 2018).	Both methods aim to gather information directly from individuals involved in the design or decision-making process.	Burns (2018) emphasizes gathering data from users to inform the design process, with a focus on their preferences and requirements.
	Conducting in-person meetings with stakeholders to gain insights into their views, beliefs, motivations, and actions (Melles et al, 2020).	They focus on understanding the perspectives, needs, and motivations of the individuals they interact with.	Melles et al (2020) focus on face-to-face consultations with a broader range of stakeholders, seeking to understand their perceptions, opinions, motivations, and behaviours related to a particular context or problem.

Method	Description	Similarities	Differences
Brainstorming	Advocate for a creative thinking method that employs specific guidelines and processes to generate a substantial volume of ideas, operating under the belief that a higher quantity ultimately results in higher quality (Melles et al, 2020). Focuses on enhancing efficiency and streamlining work processes by creating task maps. (Burns, 2018)	Both approaches aim to enhance and optimise processes or outcomes. They offer structured methodologies for addressing specific challenges or objectives.	Melles et al. (2020) emphasise creative thinking and idea generation, with the goal of producing a large number of ideas, potentially for innovation. Burns (2018) concentrates on task mapping, primarily aiming to improve workflow and efficiency by visualising and optimising the steps involved in a process.
Co-creation	Involves the collaborative efforts of two or more individuals, including both designers and individuals without formal design training- Melles et al (2020) Emphasises the importance of comprehending the physical connections and expert strategies in order to gain insight into various processes (Burns, 2018).	Both approaches involve seeking a deeper understanding of certain aspects, whether it is collective creativity or expert-driven strategies. They highlight the significance of examining processes or phenomena in detail.	Melles et al. (2020) focus on the collaborative nature of creativity and its applicability to individuals from diverse backgrounds, including those outside the design field. Burns (2018) emphasizes the importance of studying physical relationships and expert strategies, which may be more specific to certain

Method	Description	Similarities	Differences
			domains or fields of expertise.
Interactive prototyping	Use of prototypes to mimic and assess how individuals will interact with a forthcoming design. This approach aids in the early evaluation of design concepts, promoting rapid learning cycles throughout the concept development phase, often using techniques such as written scenarios and illustrated storyboards (Melles et al, 2020).	Both approaches highlight the significance of using prototypes in the design process to assess and refine concepts.	Melles et al. (2020) specifically mention prototype testing as a means of evaluating concepts early in development, with an emphasis on quick learning cycles.
	The need to create multiple prototypes aligned with project requirements, subject them to user testing, and make necessary adjustments using storyboards, mock-ups, and sketches as part of the design process (Burns, 2018).	They advocate for user testing as an essential part of the design iteration process.	Burns (2018) addresses the broader process of developing multiple prototypes in accordance with project requirements and iteratively refined based on user feedback, involving various prototyping techniques.

Table 1: Human Centered Design Tools and Techniques by Burns (2018) and Melles et al (2020)

2.2.1.5 Human Centered Design challenges and limitations

Melles et al (2020) identified various sets of practical challenges that designers face and need to address. These challenges involve user engagement, managing sensitive situations,

adapting to unexpected situations and ensuring the active involvement of stakeholders throughout the project.

One criticism noted by Holeman and Kane (2019) has to do with reservations expressed about the common use of the term "Human-Centered Design." They argue that its imprecise use among practitioners and researchers makes it difficult to determine what "human" actually means. This vague term can prove problematic in the context of design projects focusing on people and social issues, raising concerns about the overuse of the term and its potential to become meaningless over time.

User engagement and prototyping in an iterative process is essential in Human-Centered Design. Designers (referred to include management for the purposes of this study) must understand user behaviour, the environment and social impacts prior to developing products that meet customer needs.

2.2.2 Customer Experience Management Theory

2.2.2.1 Definitions, History and application

Holmlund et al. (2020) describe customer experience, as how customers respond to an organisation's products or services, including the interactions that take place before, during and after purchase, consumption, or engagement through different channels. McColl-Kennedy et al. (2018) define customer experience as a dynamic process that includes multiple engagements and activities across multiple touchpoints. Importantly, both researchers emphasise that customers respond to an organisation's offerings using multiple steps and touchpoints. The difference lies in the entire customer journey (experience before, during and after) mentioned by Holmlund et al. (2020).

According to Becker and Jaakola (2020), customer experience has historically dominated marketing, where business leaders believe it gives organisations a competitive advantage. However, with the advent of technology, organisations implementing customer experience must use big data analytics to understand their customer journey and make key decisions in line with improving their customer experience (Holmlund et al, 2020). This motivates organisations to manage customer experience effectively to reap benefits such as customer satisfaction, revenue, competitive advantage, and employee satisfaction (McColl-Kennedy et al, 2019).

2.2.2.2 Customer Touchpoints

Customer experience encompasses many different aspects, such as the customer's cognitive, feelings, emotional, social, and sensory elements, that occur at multiple touchpoints (the end-to-end journey with an organisation) (McColl- Kennedy et al, 2019). To effectively measure and understand customer experience, organisations must focus on spontaneous customer

responses and the reaction stimuli related to the offer, using touchpoints to gain insights and make comparisons between different situations (Becker & Jaakola, 2020). To avoid the touchpoints that lead to stagnant customer experiences, organisations must manage the entire customer journey (Holmlund et al, 2020). This means that organisations that adopt this approach will be able to create a dynamic and satisfying experience for customers.

2.2.2.3 Managing the customer experience journey

According to McColl-Kennedy et al. (2019), customer experience management is critical to enhancing the customer journey and improving an organisation's value proposition to customers. In support, Holmlund et al. (2020) assert that through this process, organisations evaluate touchpoint interactions with customers. This demonstrates that optimising every customer interaction with an organisation is essential to creating a seamless, valuable and memorable journey. Thereby creating a competitive advantage for the organisation, and increasing customer satisfaction and loyalty.

Four fundamental components to effectively manage the customer experience journey as described by (McColl-Kennedy et al, 2019; Holmlund et al, 2020) entail the following: (1) Gaining rich insights through customer feedback, enabling the identification of both successful touchpoints and customers pain points. The feedback obtained through methods such as customer surveys, providing reviews, social media comments or face-to-face interactions (Holmlund et al, 2020). (2) Identifying the root causes of customer pain points that need to be addressed using the organisation's competencies, knowledge and skills. This is actioned through continuous monitoring, prioritisation and adaptation capabilities, which ultimately leads to incremental innovations (Holmlund et al, 2020). These two components outline the importance of understanding customer feedback and using the organisation's capabilities to enhance the customer experience journey, addressing issues that customers experience.

(3) The third element by Kennedy et al (2019) is uncovering a hidden risk segment of customers with the potential to leave an organisation, using a longitudinal analysis that enable organisations to devise strategies to mitigate this risk. In contrast (Holmlund et al, 2020, p.360) argues that predictive big data analysis tools should be used to predict the customer experience to answer the question "what could happen?". This demonstrates that the utilisation of customer data is key for organisations to identify potential customer churn and take proactive preventive measures as part of customer retention. (4) Capture customer's emotional and cognitive responses using discrete emotions to assess how customers feel about the service they have received, including cognitive responses obtained through evaluations. In contrast, Holmlund et al. (2020) argue that organisations should use

attitudinal/psychographic insights as a means to analyse customer's behaviours to gain insights into their emotions that could potentially affect the customer experience and business outcomes if negative.

These four components are critical for organisations when developing a customer-centric strategy that uses data-driven insights to improve the overall customer experience journey. Enables organisations to retain customers and gain a competitive advantage.

2.3 Definitions: Design Thinking and Customer Value

2.3.1 Defining Design Thinking

Literature by (Cankurtaran and Beverland, 2020; Nakata &Hwang, 2020; Thompson & Schonthal, 2020) provides evidence that there is no consensus on the definition of design thinking. With the authors, defining Design Thinking from the perspective of the research carried out. For example, design thinking is defined as a development approach that aims to solve problems faced by the user (Cankurtaran & Beverland, 2020; Nakata & Hwang, 2020), but design thinking is more than just a process of creating solutions. Other scholars have defined design thinking as a process in which the designers who use a variety of methods to meet customer needs in order to create customer value and competitive advantage (Selvalakshmi et al, 2022).

The opportunity that design thinking offers is the ability of organisations to use design thinking to identify insights that they can systematically use to develop innovative solutions by engaging users (Thompson & Schonthal, 2020). However, the limitation of design thinking is the visualization of information to create solutions for customers, as evidenced by Michele et al (2022) that literature does not illustrate how design thinking helps non-designers within organisations to visualise information. From the definitions above, design thinking aims to resolve user problems by involving users (referred to as customers in this study), to create innovative solutions, and management involvement is required.

2.3.2 Defining Customer Value

Literature describes customer value as the goal of organisations to create value for their customers in various ways (Ramos et al, 2023; Ranta et al, 2020; Schwepker, 2019), which presents both opportunities and threats to businesses. For example, Schwepker (2019) points that value guides organisations towards achieving sustainability. Ranta et al (2023) added that in creating value, organisations realise the value that their unique product and service offer, and the financial benefits that customer can achieve, thus increasing attraction and retention of customers.

Furthermore, organisations create value for customer by developing value-added activities that increase customer profitability throughout their lifecycle and generate economic value for the seller, thereby improving organisational performance (Ramos et al, 2023). Consequently, customers are essential partners of an organisation through marketing promotion and customer relationship management must be a top priority.

From the above definition, it can be concluded that customer value is the benefit customers believe they receive from a product or service compared to what they have to give up to obtain it. It is essential in marketing and business strategies to drive retain, satisfy, and purchasing decisions.

2.4   Design Thinking Composition

2.4.1.1 History of Design Thinking

Over the past two decades, starting in 2005, design thinking concept has evolved from being a specific approach mainly used in design-related fields to a broader thought process that can be applied to a wide variety of fields, including business innovation. Design Thinking promotes a problem-solving process entered on understanding and addressing user needs. It consists of several stages of exploration of possibilities and selection of the best solutions (Selvalakshmi et al, 2021).

In support of this assertion, Chouki et al. (2021) have shown that in recent years, design is centered around people's expectations, which has seen the birth of design thinking that focuses on human-Centered and adoption of a solution-oriented approach in which organisations see the world through the eyes of their customers. This gives the designer (including management) the opportunity to apply human-Centered techniques fully in innovative and creative ways to solve problems (Interaction Design Foundation, 2018).

In essence, the evolution of Design Thinking into a flexible problem-solving approach applied beyond design principles, in the face of a complex and rapidly changing business environment, fosters the importance of user-centered innovation and iterative processes to create value.

Selvalakshmi et al. (2022) posits that design thinking is introduced to organisations as a process to conceive new ideas, applied to the organisation's innovation through a design culture. This requires the organisation to understand the characteristics of design thinking. A large number of organisations are adopting design thinking as a central approach to developing their products and services, recognising its potential in driving innovation and

creating value for customers, adopting it as a new way to address challenges in various fields, including information technology, medicine, business, and education.

Design thinking functions as a differentiator for the business, and provides opportunities for organisations to embark on new product innovations, increasing turnover and managing change. Design thinking serves as a tool that management can incorporate into the organisational design to achieve organisational objectives (Chouki et al, 2021). Organisations demonstrate this by implementing Human-Centered Design to understand customer behaviours and establish ways to better satisfy them through the early involvement of thinkers in the innovation process to study and observe user behaviours, conduct testing and create prototypes.

Verganti et al. (2020) argue that design thinking guided by principles that put people and their needs first. It is people-Centered, and primarily empathetic with the aim of deeply understanding users' problems from their point of view rather than relying solely on technology or predefined solutions. It uses abductive reasoning where they generate hypotheses to imagine potential solutions, without limiting the choices to a predefined set. Finally, it is characterised by an iterative process that ensures rapid testing and refinement, in which designers and users continuously interact to develop effective solutions. Interestingly, these principles do not take into account the resource constraints of continuous testing, the ethical issues that can arise from user interaction and the potential of bias during decision-making process, in which management makes emotional decisions due to its high reliance on empathy and user perspectives.

2.4.1.2 The Concept of Design Thinking

Nakata and Hwang (2020) articulate the concept of design thinking as a set of mindsets and actions that provides a rational explanation of design thinking as previously articulated by other scholars. Affirming that both mindset and actions are integral to design thinking and demonstrates the components of human-Centeredness and experimenting.

Vignoli et al. (2023) note that mindset is central to the design thinking dialogue and is crucial to the implementation of design thinking. They further highlight the challenges faced by the design thinking approach, which shows that people without an appropriate attitude towards the type of work in the design approach are unable to use design thinking methods and tools, as it is difficult to make the transition from a decision to adopt to a design attitude.

The three mindsets that make up and are integral to design thinking are human-centered, abductive reasoning, and learning by failure (Nakata & Hwang, 2020). In contrast, Micheli et

al. (2019) and Vignoli et al. (2023) state that the design thinking mindset through its evolution integrates various elements of thoughts and actions and is not limited to the three factors listed by Nakata and Hwang (2020).

2.4.1.2.1 Human Centred Mindset

Human Centered as a mindset is a fundamental characteristic of design thinking, creating a customer-centric solution involving empathy by focusing on the people for whom the designed solution serves, thereby providing an opportunity for organisations to solve problems users encounter in the process of product and service design (Nakata & Hwang, 2020). In contrast, (Micheli et al, 2019) equates human Centeredness with involving consumers in the innovation process and appreciate their contribution. This ensures that the solutions created are effective and deliver a meaningful user experience for the customer.

The use of empathy is evident when organisations approach problems from the user's perspective, analysing their behaviours, needs and what they consider as important. To support this, Magistretti et al. (2021) emphasise the importance of accepting dissenting opinions and providing feedback to users, with the ultimate goal of resolving user issues. It is fair to argue that it is important to put the user needs, preferences and behaviours at the centre of the design process. Demonstrating that designers should avoid bias and embrace diversity in their design process.

This interplay points to the need for organisations to create solutions that address the right problems using abductive thinking, by commencing from unknowns to visualise possibilities and explore alternative solutions. Micheli et al. (2020); Nakata and Hwang (2019); and Vignoli et al. (2023) provide evidence that by integrating Abductive Reasoning in the design thinking process, organisations can continually determine the various types of solutions to develop to meet their customer needs and challenge existing practices to create multiple innovative solutions.

2.4.1.2.2 Abductive Reasoning Mindset

The second mindset identified in the literature by (Micheli et al, 2019; Nakata & Hwang, 2020) is abductive reasoning mindset, which questions the status quo to push organisations to pursue alternatives by exploring the unknown territory to create and encourage ideation for possible solutions. Removing the focus from experiences and expertise allows for the creation of new knowledge and insights for organisations. In so doing, the organisation nurture the culture of producing ideas from a multiple views.

Evidence from (Micheli et al., 2019; Nakata & Hwang, 2020; Vignoli et al, 2023) highlights that abductive reasoning is integral to an organisation's design thinking process as it enables organisations to leave their familiar spaces and step into uncharted territory and explore alternatives in the process of developing innovative solutions that meet their customer needs. From this perspective, organisations should see uncertainty and ambiguity as an opportunity to explore a variety of ideas, even if these ideas may seem out of the ordinary at first. It is important for organisations to avoid rushing to early solutions and be willing to iterate and evolve their ideas.

2.4.1.2.3   Learning by Failure Mindset

Learning by failure mindset encourages organisations to view failure as part of the learning process to ensure they are not afraid to explore uncertain environments to produce effective solutions earlier. For example, Micheli et al. (2020) indicates that engaging in trial-and-error experiments allows organisations to embrace uncertainty, adding that organisations must provide feedback to stakeholders in their quest to define and address customer problems. This translates into creating into habit of foregoing ideas and readjusting approaches instead of defending an initial idea (Panke, 2019).

Vignoli et al. (2023) offer a different perspective stating that organisations should be learning-oriented, by ensuring there is an appetite for learning, learning about others, and looking at new contexts to learn by taking action, observing prototyping, and testing. This provides evidence of the relevance of learning from failure to customer value, as it gives organisations the opportunity to view failures from a different perspective, which can lead designers (management) find unexpected solutions to improve the organisation's customer value proposition (Micheli et al, 2019; Nakata & Hwang, 2020). In addition, it allows organisations to test their products with target customers before launching them to the market to determine if the proposed solution will succeed or fail (Micheli et al, 2019; Nakata & Hwang, 2020; Vignoli et al, 2023).

Organisations failing to adopt the mindset for design thinking are prone to experience a weak discovery, ideation and experimentation (actions required for design thinking) leading to ineffective innovation drives. To mitigate against this, organisations must train employees on the design thinking mindset, such training could include acceptance of learning by failure (Nakata & Hwang, 2020)

2.4.1.3 Design Thinking: Tools and Methods

Various tools and methods for design thinking mindset facilitate an end to end process in which empathy is used and the needs of the customer needs are addressed (Micheli, 2019). The relationship between tools and methods takes place through ethnographic methods, interviews and focus groups conducted to collect data, providing a holistic view of understanding issues in their full context. Personas identifies key stakeholders through user patterns, ensuring users are part of the end-to-end problem solving process. Throughout the journey map, organisations track the customer experience and visceral response to the experiences. Through prototyping, organisations have the opportunity to learn continually about their customers, enabling iterative, experimental and tailored solutions for their customers (Micheli, 2019).

From this perspective, by adopting this mindset, organisations can effectively solve complex problems by developing innovative solutions and creating disruptive products and services that resonate deeply with customers and meet their real needs. This demonstrates that rich data is collected from customers using a variety of tools, allows the organisation to analyse and ask "what if" questions while also giving the organisation the opportunity to experiment and re-test possible solutions that supports abductive reasoning and learning from failure.

2.4.1.4 Design Thinking Processes

Design thinking as an iterative process, allows management to seek to understand users, challenge the status quo, and identify alternatives that they did not considered initially for problem solving, through reflection and use of practical methods. This implies that it is essential to develop an interest in getting to know the customers for whom the product or service is designed, particularly by empathising with the target user (customer) by questioning problems, assumptions and implications during the design phase (Interaction Design Foundation, 2019). Selvalakshmi et al. (2022) expands the fact that design thinking is not only iterative but also an exploratory process that includes visualisation, experimentation, ideation, prototyping and feedback gathering of customers. This, therefore, provides the opportunity for collaborative problem solving for a desirable future driven by user-centric innovation.

Many scholars interpret design-thinking processes differently. For example, Nakata and Hwang (2020) describe design thinking as a three-step process made up of discovery, ideation, and experimentation in order to interact with customers to develop ideas tailored to their requirements and test the feasibility of the solutions for which the concepts are developed. From this point of view, adopting a user-centric approach is imperative in the design thinking process to gather relevant data to develop ideas that address customer needs

and thus create value. On the other hand, Thompson and Schonthal (2020) list a four-step process that includes observe and notice, frame and reframe, imagine and design, and make and experiment. It is the ability of a design thinker (for purposes of this research referred to as management) to view things without preconceptions, using different lenses to approach customer problems and develop the desired solutions. This indicates the critical role designers play in the solutions they develop and the importance of considering all avenues to addressing customer problems.

2.4.1.5 Design Thinking Qualities

Auernhammer and Roth (2021) argue that design qualities encompass elements such as culture, creative thinking, imagination, and cognitive processes. These aspects are crucial components of design thinking. The first quality is having a versatile thinking approach, which is critical for understanding human needs and solving problems arising from unclear situations. The second quality involves having the right attitudes and values, meaning questioning problems and recognising patterns. However, the organisational culture often hinders support for design-thinking implementation.

The third quality attribute includes confidence, motivation and flexibility that drives organisations to develop effective solutions that meet customer needs, and influenced by the organisational environment and collaboration with key personnel. The fourth quality involves specific activities and practices, such as problem definition, prototyping and testing, enabling organisations to identify opportunities to solve customer problems to discover innovative solutions, using techniques (fifth quality) such as scenarios, brainstorming, and storytelling. It is important for management not to focus excessively on process steps and methods, which can prevent flexible thinking (Auernhammer and Roth, 2021).

The sixth quality of the environment affords organisations to foster learning and creativity, leading to better policymaking, project management and innovation management that delivers value to customers. It is crucial for management to provide support towards design initiatives.

Selvalakshmi et al. (2022) notes that the ability to consider three main aspects of a designer simultaneously is crucial for implementing design thinking: (1) understanding human needs and envisioning improved ways of living. (2) Evaluation of available materials and technical resources. (3) Asses the limitations and opportunities associated with a project or business. To integrate these three elements successfully, management must possess a unique combination of qualities such as analytical, empathetic, rational, emotional, methodical and intuitive.

2.4.1.6 Design Thinking Methods

This study examines the application of design thinking to enhance customer value, which includes a variety of methods that share common principles. The focus of this research is the five-phase model developed by the Hasso-Plattner Institute of Design at Standford, which guides both the application and teaching of design thinking. Due to their repetitive nature, these phases do not necessarily follow a chronological order. The five phases aim to facilitate the creation of innovative solutions for organisations and include empathy for users, identification of user needs, problems and organisational insight, challenging assumptions and creating innovative ideas in the ideation phase, crafting innovative solutions through prototyping and testing them (Interaction Design Foundation, 2019). In contrast, Scholars (Selvalakshmi et al, 2022) outline the design thinking methods that involve visualising ideas, conducting experiments, creating models and prototypes, and gathering feedback. This method highlights the need to include everyone in the design process to contribute effectively and emphasise the importance of adopting a user-centric approach in designing solutions that meet the customer needs (Selvalakshmi et al, 2022). In addition, Chouki et al. (2021) identify a three-step iterative process that includes idea generation based on user needs, testing those ideas, and implementing them.

From the design thinking methods described, scholars highlight similarities in the use of user-centered approaches and iterative processes. However, differences are noted in the number of design thinking stages used, that is, (Interaction Design Foundation, 2019; Selvalakshmi et al, 2022) describe a five-stage process, and Chouki et al (2021) identified a three-step process. Importantly, all scholars emphasise the importance of understanding user needs, questioning assumptions and testing ideas for feasibility before accepting the solution to market, to allow for flexibility in the sequence of phases. A comprehensive design thinking process compromising of empathy, ideation, and prototyping, and user feedback, enables organisations to achieve the development of innovative solutions that meet customer needs, and drives organisational innovation and competitiveness in the market. This demonstrates how important it is for organisations to understand the needs of their customers and address them through innovative solutions.

Design thinking methods adopted by organisations are essential in helping them understand design thinking and the application of its dimensions to enhance customer value. It is imperative that organisations understand how to apply design thinking methods to enable them to create innovative solutions that enhance customer value in the design process. Encourage collaboration to drive the adoption of user-centered mindset, robust prototyping,

and remove biases to develop compelling value propositions for customers (de Paula et al, 2022).

2.5   Customer Value Composition

Customer value creation has traditionally focused on customer benefits and cost savings. However, as the environment evolves, organisations are moving to an era of customer value focused on understanding the value drivers they can provide to multiple customers and stakeholders while gaining a competitive advantage in their industry (Ranta et al., 2020). In support of this assertion, Ramos et al. (2023) state that rapid changes in the market are driving organisations to prioritise customer value and achieve customer improvements through customer management. Evidenced by Zeithaml theory of customer value developed in 1988, indicating the importance of understanding the customer to meet their demand through the design and communication of the marketing offering (Li et al, 2021).

Various scholars indicate that to create value for customers, organisations must incorporate key elements into their customer value-creation process. For example, Zeithaml et al. (2020) presented the customer value framework that includes five key elements. First, define the target the generated value. Second, determine which methods to use to capture value, such as product-related customer experience surveys. Third, it encourages recognition of critical situations that necessitate organisations to create value, such as technological advancements and pandemics. Fourth, organisations are encouraged to create complementary products and services as part of the value chain to remain competitive. Finally, the framework emphasises the interrelationships of variables that make up customer value, including brand awareness, social support, product price, and product quality. From this perspective, organisations must be able to measure and apply strategies that deliver customer value effectively, taking into account changes in customer needs and perceptions.

For example, Ranta et al. (2020) present six key design factors that have different effects on customer value. These include the following:
(1) Benefits - identify the types of value that the target customers can anticipate, including economic, environmental, and social benefits. (2) Recipient - refers to individuals or groups whose purpose is to benefit from the value created. (3) Perspective - It distinguishes whether the customer-generated value represents a commitment or represents the value created by the organisation. (4) Focus - This determines whether the value delivers the expected value through the customers' experience and usage. (5) Explicitness - Refers to how organisations communicate their value proposition to customers and other stakeholders. (6) Granularity - involves deciding on the level of value created, whether for the organisation as a whole, for

specific customer segments, or for individual customers. From this point of view, creating and delivering value to customers is a multidimensional process influenced by several key design factors to design products and services tailored to customer needs, communicated effectively and respond to diverse customer needs.

After considering the environment and its impact, value-creating organisations communicate the expected results of the value created, the target beneficiaries, and the resulting benefits and measure the customer experience created. As a result, they gain insights to determine how to create their value proposition and achieve competitive advantage and sustainability through their value creation process (Ranta et al., 2020; Zeithaml et al., 2020).

This implies that organisations must identify the different opportunities available to them in terms of value creation and identify customer pain points in order to create innovative solutions to solve their problems by defining the specific functionality required. Second, test the solutions created early to ensure that the idea creates financial value, has senior management support in its implementation, and show how performance measurements to ensure that the final product meets the unique needs of the customer. Third, ensuring that a diverse team with key skills is part of the design process to ensure organisations do not overlook critical points in the development phase (Sjödin et al, 2020).

2.5.1 Customer engagement

Yen et al. (2020) posit that customer engagement is critical in creating customer value for customers, covered by five key factors: (1) how customers relate to the organisation and their brand. (2) The customers' level of enthusiasm for the organisation and their brand. (3) Expressed interest in an organisation and its brand. (4) The degree of interaction made by the customer with the organisation. (5) Customer interactions with the organisation's brand, online or offline such as experiences, feelings, and thoughts. It is essential for management to understand the impact of customer engagement on the organisation, as it affects the customer's perceptions, attitude and behaviours toward the customer product or service, leading to various customer values such as referral value, customer lifetime value and knowledge value, thereby improving customer loyalty and organisational performance.

2.5.2 User experience

Jeon (2019) contends that an essential aspect of enhancing customer value is providing a unique user experience, which entails offering products, or services that stand out from the competitors by considering user expectations, purchasing motivations and effective product design systems that deliver value and satisfy customers. User experience must address all customer touchpoints, including the expected experience before the customer interacts with

the product, such as advertising. Momentary experience during product use influenced by the attitude, language and facial expressions of the organisation. An episodic experience in which the customer reflects on the experience after using the product or service. A cumulative experience in which the organisation continuously evaluates the customer journey across all three stages.

These user experiences give organisations the opportunity to deliver a unique, holistic, and emotional user experience that aligns with customer expectations and preferences throughout the customer journey, helping organisations achieve greater customer satisfaction, loyalty and value creation. Failure by organisations to integrate these factors, results in organisations experiencing lower customer satisfaction, loss of opportunities for growth and innovation, and failure to compete in the market.

2.6 Design Thinking Relationship to Customer Value

Design thinking closely links with customer value focusing on understanding and addressing customer needs and preferences, as organisations develop products and/or services to enhance customer value. This section explores the relationship between the two concepts.

2.6.1 User-Centered Focus

Literature has shown that adopting a human-Centered design enables organisations to create solutions that meet customer needs by understanding customer needs and wants, which has become more important, exacerbated by the growing demand for customer-tailored solutions (Magistretti et al, 2021). Organisations must ensure that the customer is the first focus of the solution development process, and it is imperative to use tools such as questionnaires and focus groups to collect data on the customer's needs.

Supported by empirical findings, (de Paula et al., 2022; Knight et al., 2020; Wrigley et al., 2020) highlight the importance of customer data collection to enable organisations to create customer value. de Paula et al. (2022) agree and assert that data collected from customers should be used to generate insights that meet customer needs and organisations should provide feedback to customers. This demonstrates that relevant data will enable management to create value for customer's right from the design stage.

The evolution of the market drives organisations to be aware of the rapidly changing needs of their customers, forcing organisations to know the social dynamics so that they can collect quality data that they will interpret. This will lead to the development of innovative solutions that meet customer needs, thus extracting value from the data collected and not taken as part of the statistics (Magistretti et al, 2021; Knight et al., 2020).

This highlights the design thinking process organisations must commence with, i.e. empathy, and understanding of the customer's pain points and wants to create solutions that create customer value, ensuring that the product and/ or service are created to meet customer needs. In turn, eliminates the risk of organisations creating products or services that do not match customer needs, resulting in wasted resources and time without asserting a position in the market.

2.6.2 Ideation and Innovation

Scholars Onufrey and Bergek (2021) state that as markets evolve and mature, organisations are forced to review their strategies and adapt to the change to remain relevant to their customers and gain a competitive advantage. Organisations achieve this through developing innovative strategies that positions an organisations value proposition, i.e. adopted innovations, the rationale for the adopted innovations, and the value users derive from the adopted innovation (Onufrey and Bergek, 2021).

Despite this, organisations face the challenges of developing quality products that are affordable to their customers (Getnet et al., 2019). According to Yen et al., (2020), a contributing factor is that customers react differently to new ideas and practices due to their different perceptions of innovation. To address this challenge, Getnet et al. (2019) state that organisations need to develop innovative products that create value for their customers. In addition, they point out that manufactured products must offer superior benefits to the customers and be perceived by the customers as valuable compared to competitors. This means developed products must be of higher quality and durability to improve the quality of the well-being of their customers. Similarly, Yen et al. (2020) assert that customers are willing to use an organisation's products or services if they perceive them as highly innovative. This includes the customers' participation in the organisation's marketing activities, interacting with service personnel, and collecting data on product-related information.

Moreover, scholars (Magistretti et al., 2021) consider design thinking as a structured approach that uses creative problem-resolution methods aimed at nurturing innovation, leading to the resolution of complex problems. In keeping with the design thinking practice of abductive reasoning, organisations are required to create innovative solutions in original ways by gaining knowledge and insights from abductive reasoning. This includes a process where management builds scenarios around what might be the right thing to do to meet customer needs and current market challenges by defining the "how" part of the equation (Magistretti et al, 2022)

Organisations achieve customer value creation based on customer drive and enthusiasm by adopting innovative business models. As innovation is implemented, customers are actively engaged in the product or service journey, resulting in customer motivation and belief that the adopted innovation is capable of meeting their requirements (Yen et al., 2020). This is done considering diverse types of innovations, that is, product innovation involving the development of distinctive new process; process innovation involving process and technology enhancements; service innovation including improvements or introduction of novel service; or business model innovation involving adopting strategies that elevate the value an organisation offers to its customers (Ranta et al., 2020). This means that organisations must encourage innovative thinking that will lead to the creation of unique customer value. During the ideation phase, management should be able to identify opportunities to create an experience that customers did not initially anticipate. An organisation's inability to create an environment of innovation can lead to missed opportunities to differentiate themselves from competitors, gain a competitive advantage and unlock new opportunities in the market to enhance customer value proposition.

In addition, scholars provide evidence that design thinking affects the innovation process through collaboration. This is exemplified by design thinking used as an approach to help organisations conduct effective customer research, achieve vital partner engagements, and drive cross-functional collaboration. Thus, enabling organisations to design solutions to cater for identified customer problems and allowing organisations to convert ideas and seize the opportunities to implement new business models during the innovation process (de Paula et al., 2022; Knight et al., 2020; Wrigley et al., 2020). This means that in driving collaboration between different teams, organisations ensuring they address all customer touch points and that teams brainstorm and ideate to create innovative solutions that fill identified gaps.

2.6.3 Iterative approach, Prototyping and testing

Design thinking promotes the rapid creation of prototypes that can be tested with users. This iterative testing process helps refine ideas and concepts to ensure they match user expectations, ultimately leading to solutions that deliver greater value to customers (Micheli et al., 2019).

Micheli et al. (2019) argue that an iterative method is utilised to refine the statement of the problem that the organisation is trying to solve. Through an iterative process, organisations benefit from the opportunity to learn through trial and error to engage customers in testing a variety of potential solutions, using tools such as prototypes to ensure ideas are developed specifically for the problem to be solved. Moreover, Magistretti et al. (2021) posit that creativity

and ideation are fundamental qualities in the framework of design thinking, requiring management to look at problems from a unique perspective to investigate pioneering alternatives that lead to revolutionary solutions. That way, organisations can identify patterns and correlations. It is imperative that when generating new concepts, organisations must focus on a high quantity of ideas, questioning established assumptions, to ensure that the perception of context is reframed to evolve a comprehensive and solid understanding (Magistretti et al, 2021).

In addition, Micheli et al. (2019) show that prototyping allows ideas to be generated to help organisations understand the strengths and weaknesses of developed ides as well as possible alternative ideas that may need to be in place. Organisations are encouraged to conduct frequent initial tests to minimise possible losses in the innovation process, and to ensure that they are moving towards continuous innovation, focused on creating a desired product and/ or service (Klenner et al, 2022). This demonstrates that organisations without a structured approach to deal with complex problems can have a hard time identifying the root cause of issues in order to apply effective solutions, thus failing to create a clearly defined customer value proposition.

2.6.4 . User Experience Design

According to the Interaction Design Foundation (2019), user experience contributes to the success or failure of an organisation's product. The factors that contribute to user experience performance include: (1) helpful in ensuring that it meets the customer's needs and is able to compete in the market; (2) usable to ensure that the customer can effectively and efficiently achieve his or her goals with the purchased product. (3) the product must be easily found by the customer; and (4) credibility to ensure that customers are able to trust that the product will deliver on what it promises.

In addition, (5) the product's brand, image and emotional design must be desired by users which can lead to customer promotion of the product and brand loyalty. (6) the customer must be able to access the created products without any inconvenience; and (7) the organisation must derive value from the product and service developed to gain a competitive advantage (Interaction Design Foundation, 2019).

The application of design thinking leads to the creation of products and services that deliver an improved customer experience. Considering factors such as usability, accessibility and aesthetics when creating products and services will help enhance the value of elements into their user experience designs tend to create products and services that are difficult to use,

confuse customers, and are unattractive, resulting in disappointed customers, negative reviews and reduced customer loyalty.

Osterwalder et al. (2023) argue that by adopting a customer-centric approach, management must ensure that customer information is organised in a way that simplifies how value can be created. This is to ensure effectively created value propositions and profitable business models through direct target customers. Showing empathy by seeing the customer's point of view and listening to their feedback is essential. This is evidenced through the creative process, which includes strategic conversations and exercises that are aligned to the value proposition with actionable outcomes, such as communication, distribution and sales channels. Through the value proposition, the customer's needs are understood; value maps are created to describe what customers expect (Osterwalder et al., 2023).

Design thinking and customer value drive a customer-centric approach to innovation. By understanding the pain points and desires of their customer, organisations can tailor their offerings to deliver meaningful solutions that resonate with customers. However, failure to adopt a customer-centric approach will result in wasted time, money, and effort. This inefficient allocation of resources can affect an organisation's bottom line and hinder its ability to invest in meaningful initiatives. From this perspective, it is integral to place the needs and desires of the customers at the centre of the design process, designing with a genuine intention to improve the experiences of the customers who will interact with the developed solution.

2.7   Case studies: design thinking enhancing customer value - impact on business

Various organisations are using design thinking to revolutionise their industries and creating value by engaging their customers in the design process. These companies have recognised the importance of putting their customer needs and desires at the core of the innovation process, understanding that customers are the future of an organisation's existence. This section details case studies of some organisations that have used design thinking to create innovative solutions that in turn create value for customers (Han, 2022).

Oral B - When Oral B wanted to enhance its electric toothbrush by introducing more features, including brushing frequency tracking, gum sensitivity assessment, and built-in music playback feature, it enlisted the assistance of expert designers. However, in the process of clarifying the problem, the expert designers pointed out that brushing teeth was considered as a neurotic behaviour of many people. Users do not care about additional features and consider such additions to lead to increased stress. Instead, they proposed two solutions that could enhance user experience without resorting to unnecessary features.

Their initial proposal was to simplify the toothbrush charging process, especially when the user is traveling. The second idea was to make ordering replacement brush heads more convenient by enabling toothbrushes to connect to phones and send timely reminders. Both proposals proved successful as they Centered on addressing user needs rather than the company's preferences for new products (Han, 2022).

UberEats - designed a driver app to alleviate the challenges delivery partners face when parking in densely populated urban regions by offering drivers with detailed guidance from restaurant to customer's locations. This enhanced the efficiency of the delivery process and successfully enhanced its service through targeted improvements that effectively address location-specific issues (Han, 2022).

Airbnb - Upon realising that the advertising pictures posted by hosts lacked the desired quality, which dissuaded potential customers from booking accommodations, the Airbnb founders personally travelled to various locations, envisioning what temporary lodgers seek as a quest to better understand customers' perspectives. Their remedy involved acquiring high-quality cameras and capturing images aligned with customer preferences based on their travel insights. This entailed displaying all rooms, highlighting special amenities like pools, and hot tubs, and emphasising the surrounding neighbourhood's attractions. The outcome was remarkable. Airbnb saw the revenue double from $200 within a week.
Through embracing design thinking to comprehend why their existing users were not fully engaging with their platform, Airbnb founders recognised that moving away from conventional business priorities, such as scalability, and instead adopting a user-centric approach was the key to resolving business challenges effectively.

Netflix has used design thinking to stand out as a prime example by consistently applying the concept to establish its dominance in the industry. At its outset, Netflix faced off against Blockbuster, which necessitated customers to physically visit stores for DVD rentals and returns. This inconvenience prompted Netflix to innovate by introducing a subscription model that involved direct DVD delivery to customers' homes.

Netflix's real triumph is its ongoing innovation, where they initially transitioned to on-demand streaming which eliminated waiting times, when they recognised the decline of DVD's. Later on, they expanded their design thinking approach by addressing customers' desire for original content not found on traditional networks. Subsequently, enhancing user experience by integrating short trailers into its interface. Each significant advancement Netflix made was a

result of its responsiveness to customers' needs, guided by an effective design thinking process.

From this perspective, design thinking succeeds not only in coming up with effective solutions for organisations but also in testing innovations before actual implementation. This approach is a powerful tool for addressing complex challenges of the business landscape. However, to harness its potential fully, it is essential to apply design thinking to a wide range of problems, including small and large concerns.

2.8   Application of design thinking

Organisations that apply design thinking in their design processes can create innovative solutions that satisfy their customers. This means that organisations must ensure that innovative solutions meet the specific needs of their target customer' segment, as perceived by the customers themselves, with an emphasis on qualities such as sustainability, improved customer wellbeing and better quality. Effective communication about developed products or services is key for effective positioning and marketing. This ensures quick customer acquisition and continuous supply up to uninterrupted mainline availability (Getnet et al., 2019) Verganti et al. (2020) suggest that when implementing design thinking, management should focus on identifying meaningful problems, supported by pertinent data to solve their problems. This approach avoids situations in which management develops solutions without conducting preliminary research to understand customer pain points, and critically examine their solutions-generating methods. Adopting design thinking gives organisations the opportunity to enhance their innovation capabilities by fostering collaboration and adopting a user-centric mindset (de Paula et al., 2022). This means that putting customer needs and preferences first is critical to management decision-making and problem-solving processes.

Critical success factors required when implementing design thinking include organisations having the required skills and knowledge needed to be able to make strategic decisions to develop innovative solutions. Secondly, it requires organisations with keen, visionary and innovative qualities to support the design thinking process and create a culture that uses design thinking to create value for customers ((de Paula et al, 2022). In support (Nakata & Hwang, 2020) indicate that the creation of a design thinking projects unit with the resources required, should be established to derive the value of barriers removal, adaptation to design thinking and organisational transformation on design thinking.

This will, in turn, give organisations the opportunity to develop the products that customers seek (de Paul et al., 2022), seize opportunities in the environmental landscape, and use the

prototyping stages as an opportunity to learn how to better understand the customer experience and formulate innovative strategies for the customer (Knight et al, 2020). In addition, organisations use design skills, including visual, technical and management experience to translate customer needs into tangible designs that create value and meaning for customers (Auernhammer & Roth., 2021). Identifying best practices helps organisations assess which ones are considered the most effective and successful in their industry and strive to adopt or adapt those practices to improve their own operations and results (de Paula et al., 2022).

2.9   Criticism and Limitations

The literature also highlights the critics and limitations of design thinking. Michele et al. (2019) cited the potential risk of design thinking being in the same basket as organisational effectiveness, causing temporary excitability and collapse due to its lack of clarity. Nakata and Hwang (2020) pointed out the fact that the background of design thinking is unknown, which limits the study of the subject. In support of the limitations specified, Micheli et al. (2022) show that literature does not illustrate how design thinking helps non-designers visualise information.

2.10   Conceptual Framework

The following conceptual framework outlines the foundations of research investigating the performance of the design thinking framework. Design thinking consists of mindset where organisations interact with customers through human-Centered approach to gather data to create solutions that meet customer needs and wants, exacerbated by the growing demand for customer- tailored solutions. Organisations implement this by exploring uncharted territory to design and ideate possible innovative solutions that enhance customer value. The key is for organisations to recognise that innovative solutions can fail and allows them to learn from their failures.

Incorporating enablers such as empath, iteration, collaboration, continuous learning and adaptation, and leadership support into the organisations design thinking process, drives enhancement of customer value and affords organisations with the opportunity to create products or services that truly resonate with your target customer segment enabling a memorable user experience that is measured against experiences.

Market
Turbulence

Design thinking

Mindset
- Human Centered
- Abductive reasoning
- Learning by failure

Innovative
Solutions

Customer Value

user behaviours

customer engagement

user experience

measurements
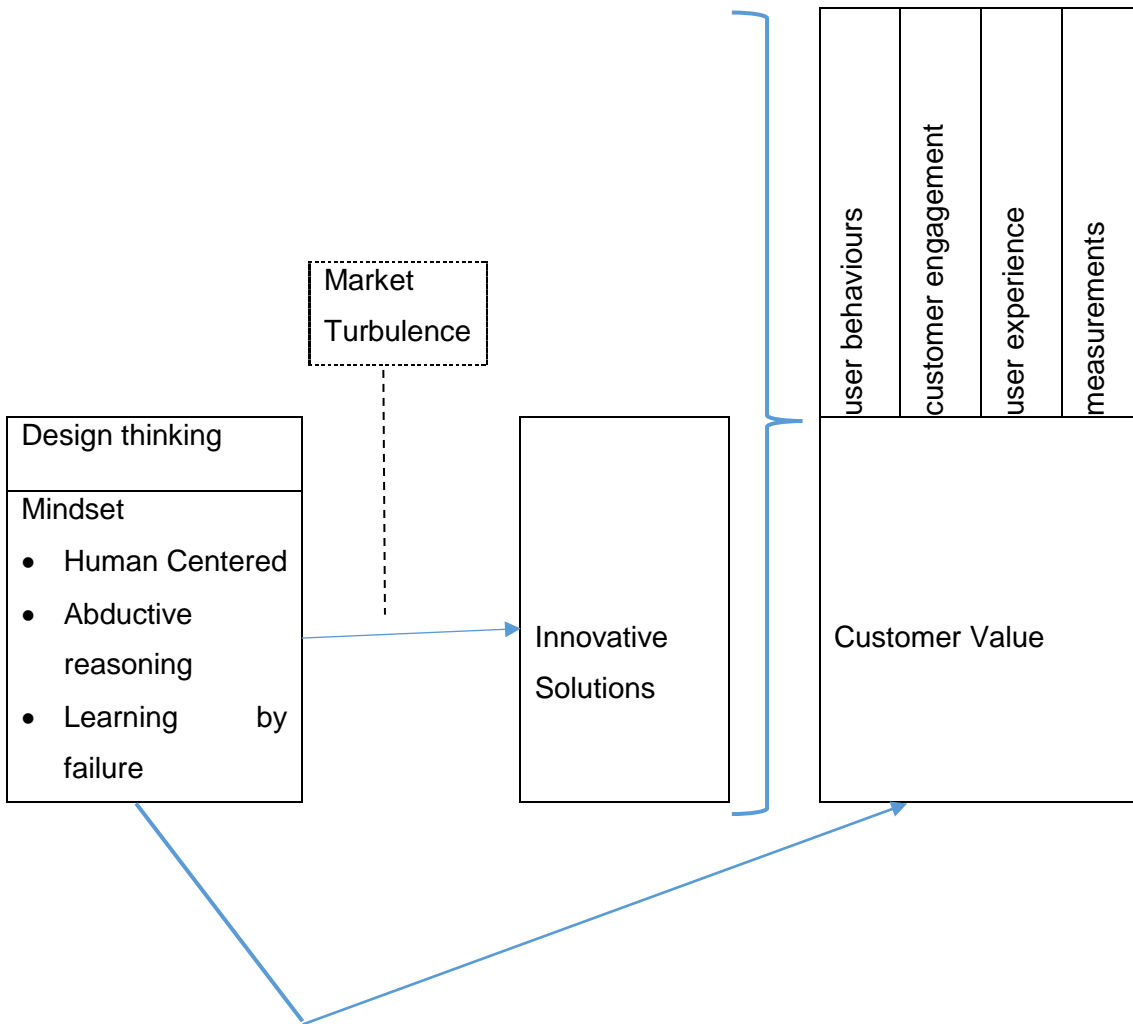
Figure 3: Conceptual model of design thinking mindset to innovate for customer value, Researchers own

2.11 Summary

Design thinking is a mindset that uses empathy to create value for customers. It affords organisations an opportunity to challenge the status quo in the midst of the evolving market to create innovative solutions that are tested prior to launch,

Design Thinking, as traditionally practiced, requires management to navigate a complex interplay of factors. They must simultaneously address human needs and aspirations for improved living, and consider the constraints and opportunities inherent to enhancing customer value. This multifaceted approach demands a management ability to create a culture that is adaptable and spontaneous in their problem-solving journey to foster innovative solutions that resonate with human experiences.

It is important for organisations to prioritise factors such as delivering unique customer experience in their quest to create value for customers, by understanding customer needs and

expectations, and assessing the entire customer journey. Neglecting these aspects can lead to competitive disadvantages, customer dissatisfaction, and missed opportunities. Including identifying and monitoring relevant indicators to learn from their peers, adapt successful strategies, and drive excellence in their operations.

3   Chapter 3 Research Questions Analysis

This chapter introduces the analysis of the research questions in alignment with the research problems and research questions outlined in Chapter 1.

The purpose of the research study is to explore how design thinking methodologies are integrated strategically integrated into organisations to enhance customer value and to identify the factors that lead to its successful implementation.

The research questions derived from the literature reviewed on the research topic presented in Chapter 2, focusing on design thinking frameworks, factors contributing to the success and best practices and strategies for organisations to implement design thinking successfully to enhance customer value. The research questions were informed by the research gaps identified in the literature, with the main question built on the invitation for future research by Micheli et al., (2019,p.144) stated "having identified the main attributes and tensions inherent within design thinking, we urge scholars to empirically investigate the applicability and effectiveness of design thinking".

The primary research question
"How do organisations use design thinking to advance customer value?" adopted from Knight et al (2020) and re-adjusted to align with the research topic.

The analysis of the literature on design thinking indicated additional gaps and invitation for further and led to the formulation of three sub research questions, in order to insight on the main research topics.

Sub- Research Question 1: What are the design thinking methodologies in place and how are they applied to enhance customer value? (de Paula et al, 2022; Nakata & Hwang, 2020).

Sub- Research Question 2: What are the key factors contributing to the successful implementation of design thinking to enhance customer value? (Micheli et al, 2019; Nakata & Hwang, 2020).

Sub- Research Question 3: What are the best practices for organisations to implement design thinking effectively as a strategy to enhance customer value and achieve competitive advantage? (de Paula et al, 2022; Micheli et al, 2019).

Secondary Research Questions

The study asked three secondary questions and each question respond to a specific aspect of design thinking to ensure the study is holistic. The research gaps identified in the literature review in Chapter 2, prompted the secondary research questions, and built on the invitation by Meinel et al (2020) for future research into the usefulness of design thinking in creating innovative solutions to enhance customer value.

Sub- Research Question 1: What are the design thinking methodologies in place and how they are applied to enhance customer value?

The development of this question was to assess the organisation's understanding of design thinking and the application of its dimensions. The research question is hoping to uncover how organisations apply design-thinking principles to create customer value, executed by drawing insight from the research interview participants experienced to provide key frameworks applied to enhance customer value.

Sub-Research Question 2: What are the key factors that contribute to the successful implementation of design thinking as a strategy to enhance customer value?

The design of this question was to determine the success factors for implementing design thinking. Identify the enabling factors, evaluate the limiting factors, and conduct a comparative analysist of the approaches taken by organisations when implementing design thinking to enhance customer value.

The research question is hoping to provide guidance on overcoming limiting factors when implementing design thinking, including strategies organisations should integrated into organisations processes, and explore emerging innovation trends integral in the design of solutions that enhance customer value.

Sub-Research Question 3: What are the best practices and strategies for organisations to implement design thinking effectively as a strategy to enhance customer value and achieve competitive advantage?

The development of this question was to assess benchmarking practices and the organisation's way of doing things to improve operations and intended results. Aligned to de Paula et al. (2022) view that organisations that identify best practices helps them to assess which ones are considered the most effective and successful in their industry and strive to adopt or adapt those practices to improve their own operations and results (de Paula et al., 2022).

The research question is hoping to achieve how organisations design thinking initiatives align to the overall organisational goals and strategies, and the training and culture required to support the successful implementation

4 Chapter 4 Design and Methodology

This section introduces the research methodology adopted in the research study.

4.1 Research Philosophy

According to Saunders et al (2019), research philosophy refers to the set of beliefs that underpin research based on a researcher's assumptions and beliefs about the development of knowledge. This includes the ontological, epistemological and axiological assumptions that underlie the research. It informs the methodological choice, research strategy, data collection, and analytical process that researchers undertake to understand what they are investigating. Ontology assumptions refer to the realities encountered. Epistemology refers to "assumptions about knowledge, what constitutes acceptable, valid and legitimate know and how we can communicate knowledge to others" (pg 133) Axiology assumptions magnify researchers' values and influence the research process, including ethical views. Moreover, these assumptions shape the understanding of the research question, the methods used and the analysis of the finding (Saunders et al, 2019).

According to Bell et al (2019), epistemology is the theory of knowledge. It addresses the process researchers have followed in conducting their research and ensures that the designs and techniques implemented in their research produce knowledge.

Three research philosophies encompassing ontology, epistemology and axiology assumptions outlined by Saunders et al (2019) are positivism, interpretivism and pragmatism. The philosophy of interpretivism is concerned with the in-depth analysis of particular cases by exploring participants' experiences, perceptions, and determining the fundamental elements of their experience (Smith et al, 2019). The philosophy adopted for this study is an interpretivism approach to better understand the design thinking phenomenon by studying the views and experiences of the research participants. The research questions were set to explore the participant's experiences in design thinking and customer value, with the expectation of obtaining a subjective perceptive. This is consistent with the underlying epistemological belief that it is best to obtain knowledge from the people who create it (Choudrie et al, 2022).

4.2 Research Strategy

The research study adopted a qualitative research, as it is concerned with developing theories and identifying patterns and exhibits an exploratory nature. It is used to understand human perceptions, worldviews and the way people describe their experiences. The goal is to explore

and understand a wide range of questions, so there are few preconceived notions that form part of the basis of potential discoveries during the research study (Bell et al, 2019).

According to Choudrie (2022), qualitative research is extensive and detailed; it provides deep insight and facilitates understanding. In addition, Jansen and Warren (2020) state that it collects and analyses data using text, images, and audio-based data. Qualitative research understands people's perspectives.

According to Schulze and Pinkow (2020), organisation-focused research built its theories on qualitative methodologies, generating propositions by observing social realities through data collection and drawing theoretical conclusions from the analysis of these observations. Based on this, the qualitative research design selected outlines the methodological assumptions and contribute to the literature for understanding how design thinking enhances customer value (Bell et al, 2019; Choudrie et al, 2022)

The qualitative research study focused on organisational strategies and processes to determine their relationship with design thinking to create innovative solutions that enhance customer value. Consistent with Choudrie et al (2022), the methodology chosen supported the researcher's focus on gaining understanding.

4.3   Research Approach

According to Saunders et al (2019), there are three approaches to developing theory: deductive, inductive and abductive approaches, which affect the data collection and analysis. An inductive approach starts with data collection before exploring a phenomenon and developing a theory (Saunders et al, 2019). Bell et al (2019) state that the inductive approach involves coding and categorising–data observations, to develop themes. Bell et al (2019) further highlight that researchers can use focus groups, interview data, and participant diagrams to link data to the theory.

In order to better grasp the nature of the problem and develop a theory, this research employed an inductive approach for data collection and analysis by interviewing a sample of Executive, Entrepreneurs and Designers about their knowledge on the application and effectiveness of design thinking methodologies that produce customer value. This was consistent with Phair and Warren's (2021) view that the approach selected must align with the research goals and objectives of the study.

4.4   Research Design

Bell et al (2019) states that research design provides researchers with a structure for collecting and analysing data. Research design ensures the consistency, reliability and validity of a researcher's work (Jansen et al, 2023). Key factors to consider when choosing a research design study are the type of data collected the impact of research objectives and questions, consideration of time constraints, and available resources at your disposal to conduct the required research (Jansen et al, 2013).

Jansen et al (2023), lists various qualitative research designs, including action research, grounded theory, ethnography, archival research, experiment, and case study designs to explore single cases in detail to gain a deeper understanding.

A case study is an analysis based on a specific case, organisation, individual, or location. It aims to investigate the phenomenon of data collection using different sources of evidence, such as interviews as primary data and organisational or industry reports as secondary data (Bell et al, 2019; Ji et al, 2019).

According to Jansen et al (2023), through case studies, researchers can learn more about the experiences and behaviors of their participants. Ji et al (2019) state that case studies are exploratory in nature, and include in-depth interviews with participants to collect data, and understand and analyse their interpretations. Smith et al (2019) point out that the ability for researchers to gain additional knowledge about the participants and their reactions to the specific situation is one advantage of case studies. Secondly, case studies provide the ability to detect connections within the participants' accounts.

This study adopted a case study research design to establish how design thinking enhances customer value from an individual perspective, categorised into three groups of decision makers (Executives), implementers (Designers) and accountability holders (Entrepreneurs). The case study research design considered factors to participants' perspectives during the in-depth interviews, as the primary data collection tool (Bell et al, 2019; Ji et al, 2019; Jansen et al, 2023).

4.5 Data Collection

Saunders et al (2019) state that researchers collect data through participants' observation, which falls into different categories: primary observations, secondary observations, and experimental observations. In agreement, (Bell et al, 2019; Smith et al, 2019) state that data collection explores and analyses the lived experiences of the participants through a first-person account of their experience.

The data collection process followed that outlined by Smith et al (2019) which included conducting one-on-one semi-structured interviews to gain a deeper understanding of the phenomenon. The interviews were conducted online using MS Teams. The online interviews (11 in total) lasted for average 60 minutes, with the shorted interview lasting 27minutes and the longest interview 72 minutes. The process followed was in line with the GIBS ethical clearance approved on 31st of July 2023. The interview process commenced on 4th August 2023.

Smith et al., (2019) posit interview questions derived from the interview guide and may include follow-up questions to clarify what the participants have said. The researcher used an interview guide (refer to Appendix B) to collect the research data. The researcher received signed consent forms (proforma refer to Appendix C) from the participants, confirming their acceptance to participate in the research study. In addition, the participants granted verbal consents to audio record the interviews to prepare the data for analysis.

4.6 Research Instrument

According to Bell et al (2018), researchers commonly use interviews for data collection during research due to their flexibility. Various types of interviews described in the literature include structured interviews, standardised interviews, semi-structured interviews, unstructured interviews, and focus group interviews.

A semi-structured interview allows the interviewer to clarify questions based on the responses received. Semi-structured interviews are usually open-ended questions designed to get answers to the issues outlined in the interview guide. However, it can also be a closed-ended question to obtain data on gender, age, and income (Bell et al, 2018). The interview guide compromised three sub-questions with 12 interview questions. The research interview protocol aimed to provide insight into the identified research questions.

Bell et al (2018) state that research questions help the researcher to focus on the area of interest studied. Furthermore, Smith et al (2019) outline that an interview guide must meet the

criteria for an interview guide, that is, being clear, researchable, linked to established research and theory, logically linked and able to contribute to knowledge. During the interview process, the interview guide, informed by the research questions and reviewed literature was used to gain insight into the design thinking concepts supported by the questions contained in the interview guide. Consistent with the views of Smith et al., (2019) that the interview guide questions aim to test the participants' comprehension and experience, and interpretivism studies examine participants' detailed life experiences.

This research employed the interview guide presented in Annexure B. The questions developed in the guide were from the work of Nakata and Hwang (2020), Schwepker Jr (2019), Micheli et al, (2019), and de Paula et al, (2022). The researcher conducted semi-structured interviews with the participants, following consent received from the individuals.

4.7 Population

The population is the target group to extract a sample (Bell et al, 2019; Saunders et al, 2022). The targeted group for this study included executives, entrepreneurs and designer group who met the sample criteria of individuals leveraging design thinking, innovation, and customer services within their professions to create solutions for their customers. This is consistent with Smith et al, (2019) notion that the selected population is on the basis that they are able to share some of the experience and knowledge relevant to the phenomenon under study.

4.8 Unit of Analysis

According to Bell et al (2019), the unit of analysis is a key element of measurement and analysis that focuses on either individuals, departments, organisations, or societies. Furthermore, Smith et al (2019) outline the unit of analysis focuses on individuals and their thoughts, understood through the research questions asked.
For this study, the unit of analysis was executives, entrepreneurs and designers involved in design thinking and customer service to provide insights from their experience.

4.9 Sampling Method and Size

Saunders et al (2019) posit that sampling answers research questions by collecting and analysing data from a selected group emanating from the population. It employs probabilistic and non-probabilistic sampling techniques. One of the benefits of sampling is improved overall accuracy. Furthermore, Smith et al (2019) outline that the sampling methods implemented should be consistent with the direction of the research strategy. The sample method was

selected purposively to ensure that the participants would be able to offer the relevant data the researcher is looking to find.

Bell et al (2019) indicate that the chosen samples come from selected segments of the population and the selection method based on either probability or non-probability approach. In non-probability, samples selected strategically rather than randomly from the population, indicating that some participants are prone to be selected over others.

According to Bell et al (2018), purposive sampling is performed when sampling a specific group of participants relevant to a research study. This is done in line with the research objectives to ensure that the research question is answered. There are different types of targeted sampling approaches, including theoretical sampling, snowballing, stratified and purposive sampling.

Bell et al (2018), outline that in snowballing sampling, interviewed participants recommend other participants with similar experiences and characteristics relevant to conducting the study. According to Smith et al (2018), the sample is contacted through referrals from various gatekeepers, and the researcher's own contacts, considering they can provide insight into the phenomenon under study.

Consistent with Smith et al (2019) view that researcher must find homogenous participants relevant to the research questions. The sampling criteria included participants with experience in key constructs, i.e. design thinking, and customer value creation. Secondly, the sample included participants who provided consent and had a minimum of three years of professional experience. The participants were given the opportunity to tell their stories, speak freely and reflectively, generate ideas and articulate concerns in order for the research to provide "rich data" (Smith et al, 2019).

Sample sizes will vary depending on population diversity and organisational limitations. Additionally, the sample size chosen should be able to achieve data saturation and theoretical saturation. This indicates that the sample is sufficient for the study, additional data can not be obtained, and the data begin to replicate (Bell et al., 2018; Smith et al, 2019).

This study combined purposive and snowball sampling to invite participants to the research study. The purposive sampling (non-probability) method was followed. The researcher used their personal contacts to select participants with experience to provide rich insights (Bell et al, 2018). The snowballing criteria implemented, included three participants from the

researcher's personal contacts referring additional participants with experience and characteristics required for the study (Bell et al, 2018; Smith et al, 2019)

The respondents compromised 11 individuals. The sample reached data and theoretical saturation in line with (Bell et al, 2018; Smith et al, 2019) views. The participants were invited via email, which outlined the purpose of the research and contributions the participant could make given their experience. Only one participant was contacted through Facebook messenger. The entire sample size is involved in either design thinking or customer services or a combination of both (Johnstone et al, 2019).

4.10 Data Analysis

According to Smith et al (2019), data analysis is a repetitive process that engages the transcripts, compromising flexible thinking, contraction, modification, and innovation. It indicates that the analysis is modifiable and becomes fixed once it is written down.

Two strategies commonly used to analyse qualitative data are thematic analysis and grounded theory. The framing of thematic analysis involves the inclusion of theory by focusing on emerging themes from collected data (Braun and Clarke., 2020; Bell et al., 2019). In addition, the analysis of qualitative interview data requires the use of software applications that support the analysis of qualitative data, such as Dedoose and ATLAS.ti.

This study employed thematic analysis presented by Smith et al (2019). This process outlines the principles of understanding the participant's perspective through a line-by-line analysis, identifies emerging themes, and encodes data for analysis applied flexibly according to the analysis task, using ATLAS.ti.

The process of analysis adapted from Smith et al., (2019) below depicts the steps to analyse data:

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┌─────────────────────────────────────┐
│ 1. Reading and re-reading:          │
│ Active participation with participant data │
└─────────────────────────────────────┘

┌─────────────────────────────┐      ┌─────────────────────────────┐
│ 6. Looking for patterns across │    │ 2. Initial noting:          │
│ cases:                       │      │ Explore semantic content and │
│ Identification of patterns (themes) │ │ language to identify interesting │
│ in all cases                 │      │ elements in transcripts     │
└─────────────────────────────┘      └─────────────────────────────┘

┌─────────────────────────────┐      ┌─────────────────────────────┐
│ 5. Moving to the next case:  │      │ 3. Developing emergent themes: │
│ Repetition of step 1-4 from the │   │ Mapping interrelations,     │
│ other participants transcripts │    │ connections and patterns between │
│                              │      │ exploratory notes           │
└─────────────────────────────┘      └─────────────────────────────┘

        ┌─────────────────────────────────────┐
        │ 4. Searching for connections across │
        │ emergent themes:                    │
        │ Charts creation to determine how the │
        │ themes fit together                 │
        └─────────────────────────────────────┘
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Figure 4: Thematic Analysis Process, Adopted from Smith et al (2019)

According to Bell et al (2019), the criteria for establishing themes is based on recurring themes, how participants express their thoughts along the research questions and similarities and differences extracted from the transcripts. In addition, Bell et al (2019) emphasised the importance of reflecting upon the original codes to determine how they relate to other codes further downstream in the coding process.

4.11. Quality control

The four criteria that indicate the reliability of qualitative research are credibility, transferability, dependability, and confirmability (Bell et al, 2019). Smith et al, 2019) list four general principles for evaluating the quality of a researcher's reports as sensitivity to context, commitment and rigour, transparency and coherence, and impact and importance.

The research was conducted according to principles of good practice to demonstrate credibility and contextual sensitivity; the researcher used peer-reviewed articles and highly rated journals for the literature review. In addition, verbatim citations were incorporated to support the arguments made in the data analysis process. Moreover, the sample size was credible as it demonstrated data and theoretical saturation. The researcher added a complete reference

list at the end of the work, and listed all cited sources in the study in the reference list, which also offers an additional measure to ensure credibility and trustworthiness. The study data analysis methods were conducted in line with the methodology literature (Bell et al, 2019; Smith et al, 2019).

Bell et al (2019) state that reliability requires a detailed description of the study, demonstrating the transferability of the findings aligned to other settings, such as a literature review. On the contrary, Smith et al (2019) outline commitment as demonstrated in the level of attention given to participants during data collection and the close attention to the analysis of each case. Rigour indicates the thoroughness of the research by ensuring that the sample and interview questions selected are consistent and uniform with the research question and objectives. The researcher used a consistency matrix for literature review (refer to Appendix D). The interview guide had open-ended questions to minimise researcher's bias. The research findings discussed in Chapter 5 are supported by verbatim citations.

Bell et al (2019), state that dependability demonstrates its reliability by applying an "audited" approach that ensures that complete records of each stage of research are kept and accessible. The research used data triangulation between the research participants groups, and aligned the comparative analysis of the research findings to the literature in Chapter 6.

Bell et al (2019) state that the purpose of confirmability is to ensure that personal values and theoretical biases do not influence research conduct and results, thereby demonstrating that researchers have acted with integrity. In addition, Smith et al. (2019) outline the impact and importance for researchers to ensure that research studies highlight interesting and useful findings. The interviews were audio recorded and the files stored, and the anonymised interview transcripts uploaded on the GIBS data repository.

4.12 Ethical Considerations

In accordance with Johnstone et al (2019) opinions, the ethical procedures that were followed during data collection and data analysis phases are detailed in this section.
In order to authenticate each individual participation in the research study, the researcher obtained a signed informed signed form prior to conducting interviews, highlighting the length of the interviews and consent to record the interview (Proforma consent form- refer to Appendix D). The participants granted the researcher verbal consent to record the interview during the interview sessions.

The Interview records were transcribed, transcripts and audio recordings reported anonymously. The data stored in electronic format for at least ten years, in line with the GIBS requirements.

4.13 Limitations of the research study design and methods

The limitations that may impede the researchers' studies include cancellations of confirmed interview sessions, time for transcription of the interview transcripts, and costs associated with interviews and data analysis (Bell et al, 2019).

The first limitation was the small sample size secured for the research interviews. The number of interviews conducted was set at 18 and the researcher only conducted 11 interviews. The limitation was due to cancellation of confirmed interviews. The small sample size was mitigated by the data reaching data saturation and theoretical saturation. The sample size means that the findings may not easily be generalised to other industry sectors or organisations.

The second limitation was on the design thinking concept, the researcher had developing knowledge on the subject when commencing with the research.
The next chapter discuss the findings from the research.

5   Chapter 5: Presentation of Findings

5.1 Introduction

This chapter introduces the findings from the data collected from 11 participants via MS Teams, using thematic analysis process as described in Chapter 4 (Methodology).

The research study participants are categorised into three groups of executives (ExecGrp), entrepreneurs (EntGrp) and designers (DGrp)

5.2. Presentation of Findings

5.2.1   Research Question 1: Application of Design Thinking frameworks

The findings show that empathy, problem definition and discovering unknowns and challenging assumptions as important steps in design thinking. The participants' responses emanated from their various unique experiences. Insightful information was derived from the diversity of the participants experience and understanding of design thinking steps.

5.2.1.1 Sub-theme 1: Empathy as an important step in design thinking evidence

Findings show that empathy is an important step in the design thinking process, as evidenced by the participants.

DGrp3: "*being empathetic about what the clients' needs instead of focusing on your own agenda*".

EntGrp4: "*I think for me it's the exploration/ finding/ user research i.e. empathise. It is the very first step where you understand the core of the problem, you understand the experience of the user or the client and you are immersing yourself in in that experience*".

Comparison of findings between the groups evidence

The entrepreneur group and the designer's group participants aligned in terms of being empathetic towards customers, meaning that the customer should be the focal point. DGrp3 experience indicates that organisations need to be empathetic about the clients' needs. EntGrp4 further indicated the importance of understanding the customer experience in order to understand the core problem.

The cross-group comparison illustrated that the experience of the Entrepreneur group had elements of customers' experience, which are similar to the Designers group experience.

Summary

The entrepreneur group and the designer's group participants identified empathy as an important step in design thinking. The two groups aligned in terms of being empathetic towards customers, meaning that the customer should be the focal point. The differences noted was in how empathy is applied. The Designers group experience indicates that organisations need to be empathetic about their clients' needs, and not focus on the organisations agenda.

Entrepreneur group indicated the importance of organisations understanding the customer experience in order to understand the core of the problem faced by the customers, by implementing an approach of immersing themselves in the customer's experiences.

5.2.1.2 Sub-theme 2: Problem definition as an important step in design thinking evidence

Findings show that problem identification is an important step in the design thinking process, as evidenced by the participants.

ExecGrp5: "*the first one is to define the problem clearly. What happens is that people believe they have a problem and then they rush straight into solution mode*".

ExecGrp10: "*You need to identify a problem and you solve that problem. The only way that you can do that is by knowing what customer is experiencing and what they struggle with and then work it from the backwards*".

Entpr4: "*It is the very first step where you understand the core of the problem, you understand the experience of the user or the client and you are immersing yourself in in that experience*".

Comparison of findings between the groups evidence

The problem definition theme indicated similarities across the groups. The findings indicate that clearly defining the user problem as stated by ExecGrp5 and ExecGrp10, addressing it incorporating the user experience as stated by EntGrp4 and ExecGrp10 is an important step in design thinking.

The cross-group comparison indicates alignment between the Executive Group and Entrepreneur group in defining the problem during the design thinking process.

Summary

The two groups displayed similarities on identifying the problem during design thinking process although the groups showed a different approach to the implementation process. The Executive group related how organisations should clearly define the problem to solve.

A similarity between the Executives and Entrepreneur group included addressing the identified problem by integrating the customer experience through understanding their touchpoints with the organisations product.

5.2.1.3 Sub-theme 3: Discovering unknowns and challenging assumptions evidence

Findings show that discovering unknowns and challenging assumptions is an important step in the design thinking process, as evidenced by the participants.

ExecGrp7: *"In my position and role, what I have found particularly around the ideation step, is that there is a lot of opinion and hypothetical thinking and because of that, the ideation process is very biased, subjective, and dependent only on a few peoples hypothesis and opinions".*

Entpr4: *And it's also in that process where you discover, unknown unknowns, which may not be useful later, but you keep them in mind. Also it's in that space where you are able to challenge any assumptions that you had, which is often where the real value comes in whatever that you will then be building or doing or designing".*

Comparison of findings between the groups evidence

As far as the discovering unknowns and challenging assumptions sub theme is concerned, the basis was similar between the Executive group and the Entrepreneur group. ExecGrp7 experience indicated that the ideation process was biased and subjective, thus refraining organisations from discovering the unknowns. However, EntrGrp4 experience indicated that the design thinking process enables organisations to discover the unknown and to challenge any perceived assumptions.

The cross-group comparison indicates that organisations are not able to tap into discovering the unknowns and challenging the assumptions, as they are biased and subjective towards their ideation process as illustrated by ExecGrp7 who had shared similar sentiments to the Entrepreneur group. The entrepreneurs advocate that during the design thinking process, organisations can tap into the unknowns and view things from different lenses by challenging previously held assumptions.

Summary

The two groups displayed differences on discovering unknowns and challenging assumptions during design thinking process.

The Entrepreneur group outlined that during the design thinking process, provides an opportunity to discover the unknowns and challenge any pre-perceived assumptions. On the

other hand, the Executive group highlighted that challenging the pre-perceived assumptions would ensure that organisations are not biased and subjective during the ideation phase.

5.2.1.4 Sub-theme 4: example of how design thinking has been used to enhance customer value in a real-world situation evidence

Findings show examples of how organisations use design thinking to enhance customer value in a real-world situation, as evidenced by the participants.

EntGrp4: "*This case study put in place incentivizing frameworks, they shrunk down the hierarchy, making it more flat and then they made teams more multidisciplinary across to eliminate silos. For their projects and product development, they ensured that the team compromises of tech team, marketing team, and operations. What they did was that whenever this team came up with an idea and they needed to go out of the room and experiment with it, each team was given a company credit card of up to $500.00 or $1000. Which means that they could go out and spend on buying some stuff, experiment with it and develop a prototype very quickly, buy software to test something, but you had this credit card, you know, and it's $1000. They found the credit card was an enabler for experimentation. Having these resources, that are professional application of design thinking, other ones might be a database of the different, questionnaires or surveys or workshops that you can do with customers to collect customer feedback. And this not only for the marketers, but about how we make it available for the whole team and the whole organisation under the theme of design thinking resources*".*

ExecGrp5: *So in globally I can think of a company called **"Company B"**. And they're training others on design thinking. Their culture is not very hierarchical. They have an open culture, the way people get along and flow of ideas is encouraged.*

EntGp6: *"For instance, long ago we did a project for of medical aid on their member retention. They were losing members at such a high rate and they wanted to know why. We launched this project, where we tried to figure out the reasons behind the terminations. One of the things that we realized was a lot of people don't get their membership cards. The scheme would post the membership card and just assume that the Members got it and these Members, if they did not get it after a month, they would just resign and join a new scheme. Then we proposed to the Scheme to courier the cards and confirm telephonically with the new members after a few days that they got the card. Post implementation, there was a significant reduction in membership loss. Use the negative feedback received to enhance the identified gaps in the process".*

ExecGrp7: "*The other one that stands out for me **"Company A"**, they separated that business model and development of that business model from its core-operating model. And I think from*

*that, they wanted to be able to allow the pace at which they needed to require without the bureaucracy involved in like your core operating model. This allowed them to test fail, fix and re-ideate as required. They continuously evolving that model through design thinking process and **"Company A",** is hugely data driven, they're able to mine a whole lot of data, they're then able to put it back into this process in which they can then rethink, re- ideate, hypothesize, test and implement.*

Comparison of findings between the groups evidence

The findings showed that organisations put incentivising frameworks in place, removing silos, creating multidisciplinary teams and availability of monetary resources to drive experimentation. Moreover, they used methods and tools such as, questionnaires or surveys or workshops to collect customer's feedback, as evidenced by EntGrp4.

A similarity observed was the use of customer feedback, with Entrp6 showing that customer feedback drives customer retention; moreover, organisations should use the negative feedback to refine their product offering.

ExecGrp5 indicated that organisations provide an open culture to encourage flow of ideas from the employees.

The cross-group comparison illustrated alignment between Executive and Entrepreneur groups asserted the importance of design thinking in creating value for customers.
A different perspective was highlighted by ExecGrp7 that organisations must develop a differentiator model that is separate from the business core model to enable freedom to innovate solutions without bureaucracy, testing, fail fix and re-ideate, and reduce regulatory restrictions associated with the core operating model.

Comparison of findings between the groups evidence

The findings provide a practical application organisations can adopt in their design thinking to enhance customer value, focusing on customer feedback, creating a multidisciplinary team, providing resources for design thinking. Moreover, organisations to develop a separate differentiator model that is separate from the business core model.

5.2.1.5 Sub-theme 5: Common Misconceptions evidence

The research findings show the common misconceptions regarding design thinking, as evidenced by the participants.
ExecGrp5: "*The misconception is when design thinking is likened to agile. Agile would be how you implement something. Design thinking is the thinking before that".*

EntGrp4: *"the first one is that designed in the form of graphic design like visual designs, aesthetic designs so this might include architecture, how products look. This is the first thing people think that design thinking means."*

EntrGrp4: *"The second thing is that it's only for product development. This is a little bit more of a nuanced misconception, but I think many people will think you apply design thinking when you want to develop product"*

EntrGrp9: "*The misconception is when people think that design thinking is a fault finding process*".

ExecGrp10: *"Where you think you can just design a product, process, offering, or value add without developing a solution to a problem"*

DGrp1: *"I think people believe that users firstly do not know what they want. In addition, they do not know what is good for them. Us as the guys with the big degrees and software experience, we know best, that's not true"*

ExecGrp10: *"I think it is when it's interpreted as a one sided approach where you do not take your market into consideration, or you do not meet clients expectations or you don't fill a gap*".

ExecGrp11: *"One of the misconception is that design thinking is first a linear process that is straight where we move from A to B to C to D. It is actually an action learning process, to explore different options, discover, and identify the possibility- to reflect and learn, its open ended and it is iterative"*.

DGrp3: "*I think most common misconception is that people want to start with the ideas first. They start by creating big ideas that most of the time do not address anything*"

Comparison of findings between the groups evidence

The Executive group evidenced that design thinking was likened to agile process, linear process, and a one-sided approach that do not take various factors into account, such as, market and client expectations. Further misconceptions is that it is for graphic design or it's a process utilised to find faults as illustrated by Entrepreneur group.

Moreover, ExecGrp10 indicated organisations perceive design thinking to be process where organisations design a product without first developing the solution to the problem. EntrGrp4 supported this by stating that organisations assumed design thinking is only for product design. This demonstrates the similarity of perceptions held between the Executive group and the Entrepreneur group.

DGrp1 experience, demonstrated another misconception, that suggests customers do not know what they want, and what is good for them. Its only organisations that know what is good

for the customers with DGrp3, outlining that organisations assume that you must start with the idea first when implementing design thinking.

The cross-group comparison illustrated the similarities between the Executive Group and Entrepreneur group on highlighting the design thinking misconception from a process point of view. The experience of the Executive and Entrepreneurs groups was also similar, indicating the misconception that organisations use design thinking for product development.

The designers' unique experience focuses on customer and ideation, indicating the misconception that customers are not knowledgeable about their needs and organisations must start with the idea first in their design thinking process.

Summary

The biggest common misconception is the assumption of what design thinking entails, from a process point of view. The Executive group evidenced that design thinking was likened to agile process, linear process, and a one-sided approach that do not take various factors into account, such as, market and client expectations. Further misconceptions is that it is designed in graphic design format or a process utilised to find faults, and is only for product design illustrated by Entrepreneur group.

The second common misconception is the assumptions organisations make about their customers, assuming that customers do not know what they want, and what is good for them as evidenced by the Designers group. In addition, they evidenced the misconception of starting with the idea first when implementing design thinking.

5.2.1.6 Sub-theme 6: Addressing Misconceptions on design thinking evidence

Findings show that ways to address misconceptions on design thinking, as evidenced by the participants

ExecGrp5: *"It's something that is a combination of practice, but also training, that is, ongoing training around what design thinking is because there's also different methods as well that are used"*

ExecGrp11: *"In addition, design thinking makes use of a different kind of reasoning, that is, abductive reasoning. Which is the combination of inductive and deductive reasoning and work in terms of your intuition (your gut feeling), it's not totally a rational process".*

ExecGrp1: *"In addition, design thinking it is a trial and error process and that is where the learning comes in again. You do not design until you got the ultimate solution. It is as if you don't know".*

DGrp1: *"I think one of the best ways to solve this, is just in how you have those conversations with the end consumers of your products. So do not walk into the room and ask them what they want, maybe ask leading questions, maybe guide them towards user journeys that best support their business problems. It is about how you have the conversation with the end consumers of your solutions and get to the crux of the value that you can give your customers".*

DGrp2: *"the more we practice how design thinking can solve problems in that structure, process with the creativity, and all the elements that are part of the actual methodology, the more people will realize that this is a cool thing to do and to apply".*

DGrp3: *"What is in the market needs to be defined and making sure that it has a sort of impact or it will change something in the market or will it enhance a particular product that already exists? If it does not address none of those, I think running or jumping into a design board or prototyping of something that you do not know whether it's addressing a need it's a bad concept to come up with".*

EntrGrp4: *"Design thinking has to be experienced to truly better grasp its essence and its effects. Practicing design thinking in a safer space, can help take away the misconceptions. That might mean, of course training in the form of workshops that include real life training, identifying applications in your everyday that you can apply design thinking to, or something that you already did that you can apply design thinking to and then you see a different outcome".*

EntrGrp4: *"What I mean by that, you can hold a workshop where you are able to practice on the ideas of design thinking over a day, two days, three days. You actually get out of the room where you go and speak to the people, whether it's a fictional problem or a real problem or outcome, and then you formulate the design thinking process and you experience it and you reflect it".*

EntrGrp8: *"For me, I find the fluidity of it very comforting in that, firstly you taking your client along and you are not strictly bound to a certain way of doing things. Secondly, for me, the stages might not necessarily follow each other linearly, so you might jump from prototyping to ideation and backwards and forwards, because the more you test the prototype, the more the idea changes and requires organisations to keep refining. The misconceptions that because it's nonlinear, it's not fixed, maybe it might take too long or too confusing or too much in the cloud in terms of thinking".*

EntrGrp9: *"Train people for them to have a better understanding of what design thinking is about and what it aims to achieve, including workshops".*

Comparison of findings between the groups evidence

The findings show various ways in which organisations can address the misconceptions on design thinking, including training employees on what design thinking entails which both

EntrGrp9 and ExecGrp5 illustrated, with ExecGrp5 further indicating the relevance of practicing design thinking in a safe space (demonstrated by EntrGrp4). In support, DGrp2 indicated that practicing design thinking affords organisations with an opportunity to develop creative solutions aligned to problems identified. The entrepreneur group further indicated workshops as the training method that organisations can put in place as mentioned by EntrGrp4 and EntrGrp9.

Because design thinking is a learning process of trial and error as stated by ExecGrp11, it provides organisations with the opportunity to assess the market needs as mentioned by DGrp3. This is interlinked with the opportunity that organisations have as mentioned by DGrp1, that is to engage with the end users of their products, which was supported by EntrGrp8, who indicated that it provides organisations with the fluidity to take their customers along through your design thinking process.

ExecGrp11 illustrated a different perspective towards addressing the misconceptions by indicating the abductive reasoning that affords organisations to work with their intuitions.

The cross-group comparison illustrated that the Executive Group had a unique approach towards addressing misconceptions by applying abductive reasoning in their design thinking. The other groups did not mention this. However, the researcher identified a number of similarities between the three groups (Executive, Entrepreneurs, and Designers) in terms of addressing the misconceptions through training and practicing design thinking.

Summary

The findings provide organisations with practical suggestions that they can put in place to ensure the successful implementation of design thinking. It is imperative for organisations to identify the need faced by the customers and address the identified problems, through conducting research and customer engagements to determine the customer expectations and experience, as evidenced by the Executive Group and Entrepreneur Group. In so doing, organisations have data insight to embark on a seamless product design, guided by the data collected and not relying on assumptions made about what customers need, as evidenced by the Designers Group.

Another opportunity mentioned by the three groups (Entrepreneur, Executive and Designers) available for organisations to address misconceptions is conducting market analysis to identify the customer needs, taking the customer along the design journey through engaging with them at every customer touchpoint. In addition, organisations should incorporate abductive reasoning into their design thinking approach/ practices, as evidenced by the Executive group.

5.2.1.7 Sub-theme 7: Promoting Open Minded

Findings show that ways to integrate design thinking into an organisations strategy, organisations must promote open- minded, as evidenced by the participants

ExecGrp5: "*It all falls into the discipline of innovation, identifying solutions. So basically being open minded to all the problems that are coming from different parts (industry and technological innovations), and then you take them through the discipline of the funnel and seeing whether if some of the solutions are relevant for implementation in the company you are in or not*".

ExecGrp11: "*design thinking is where you really have an open mind, where you listen to the voice of the customer, and you actually immerse yourself in their situation to come up to solutions that will fit and delight them. That is where you start adding artificial intelligence into that, where you have data generated by the use of your solution and used to improve the customer experience. In the process, you are creating customer intelligence and the customer also in the use of your solution becomes smarter every time they use your solution*".

EntGrp4: "*The strategic team and the leadership team should be open to experimentation, which is, being open to process improvements and aim to be agile when they are putting the strategy*".

Comparison of findings between the groups evidence

There was a consensus amongst the three groups (Executives, Entrepreneurs and the designers) on organisations being open minded towards design thinking and its integration into the overall organisational strategy. The Executive group experience was organisations being open minded to creating solutions. The approach taken to being open-minded was different with ExecGrp5 highlighting that problems emanating from different forms of the industry assessed to design innovative solutions. ExecGrp11 indicated that organisations should integrate customers in their design process, by listening to their customer voice and immersing themselves in their experience. This will enable organisations to design innovative solutions that delight them.

The entrepreneur group highlighted the need for the strategic team and leadership being open to experimentation in order to improve their strategic process to enable them to formulate agile strategies as illustrated by EntGrp4. In contrast, the designers focused on the employees by indicating that organisations must inculcate an open-minded culture to guard against employees leaving the organisation to work for organisations that drive an open-minded culture, as illustrated by DGrp2.

The cross-group comparison showed consensus amongst the three groups (Executives, Entrepreneurs and the designers) on organisations being open minded towards design thinking and its integration into the overall organisational strategy. The Executive group focus was on the organisation being open minded to design innovative solutions, having considered the problems affecting the organisations from the market and technology aspect. The Entrepreneur stance was on the strategic management office and management being open minded in terms of process improvements, to enable agility during the strategy formulation process. The experience of the designers group aligned to the culture aspect of an organisation, indicating that the repercussions organisations can experience if they fail to drive an open-minded culture.

Summary

The Executive Group argued that organisations have an opportunity to be open minded about the problems that are coming from different parts (industry and technological innovations) in order to develop innovative solutions, and listening to their customer voice, immersing themselves in their experience. Organisations should also improve processes to enable the organisation to be agile towards their strategy formulation, as evidenced by the Entrepreneur group.

5.2.2   Research Question 2: Key success factors for implementing design thinking

5.2.2.1 Sub-theme1: Problem solving evidence

Findings show problem solving as a prerequisite skill for individuals or teams to possess to implement design thinking successfully, as evidenced by the participants

ExecGrp10: *"You need to solve a problem for the client in terms of convenience cost, more flexibility, but it must add value to their experience".*

ExecGrp5: *"Problem solving".*

DGrp2: *"Problem solving skills because that is the main core of this tool to solve problems".*

Comparison of findings between the group evidence

There was a consensus amongst the Executives, and the designers' groups in relation to possessing problem-solving skills either as an individual or as a team in order to implement design thinking successfully. The Executive group had a similar view on problem solving skills being one of the required skills in design thinking, as indicated by ExecGrp5. In addition, ExecGrp10 highlighted that design thinking encompasses being able to solve a client needs, taking cognisance of costs, being flexible to ensure value is added to their experience. DGrp5 stated that individuals or teams with problem solving skills use it as a tool to solve design-thinking problems.

The cross-group comparison indicated that the experiences of the two groups (Entrepreneurs and Designers) was similar in terms of skills and qualities required to implement design thinking, taking note of costs and being flexible to embed value in the customers experience as illustrated by the Executive group. The Entrepreneur group did not mention this sub-theme.

Summary

The research findings identified problem solving as one of the skills required in an organisation to implement design thinking successfully. Problem solving is core of design thinking, as evidenced by the Designers groups. Individual and teams involved in design thinking are able to solve the problems faced by the customers in terms of convenience costs, providing flexibility and adding value to the customers experience as evidenced by the Executive and Designers Group.

5.2.2.2 Sub-theme2: Being Open Minded evidence

Findings show being open minded as a prerequisite value to implement design thinking successfully, as evidenced by the participants

ExecGrp7: *"I think one of the things is acceptance of new ways of thinking and working."*

ExecGrp11*: "I think firstly an open mind, the courage to move beyond their comfort zone,"*

EntrGrp4: *"I think for individuals. it is definitely openness to new ideas".*

EntrGrp8: *"People who are flexible in their thinking and people who are comfortable with not knowing, That is, people who are not afraid of stepping into the unknown, knowing that they do not know. In addition, are OK with finding out. You need people are daring, flexible, and willing to learn."*

Comparison of findings between the group evidence

The findings show consensus on the need for individuals or teams to be open minded in order to implement design thinking successfully. ExecGrp7 asserted that design thinking requires individuals or teams to be receptive towards new ways of thinking and working. In support of this, EntrepGrp4 stated that individuals must be open to new ideas. This will drive the behaviour of not relying on pre-set solutions to address the customer needs. The second perspective of getting out of the comfort zone challenges individuals and teams practising design thinking, with ExecGrp11 indicating that they need to be courageous to tap into a different zone. EntrepGrp8 supported this notion and stated that individuals and teams need to be flexible in terms of their thinking and dare themselves to step into the unknown.

The cross-group comparison indicated that the experience of the two groups (Executives and Entrepreneurs) was similar in terms of being open minded towards implementing design thinking successfully even though they had different perspectives of the application process.

The first group (Executive7 and Entrepreneur8) mentioned being open minded through individuals and teams being flexible to accept new ways of thinking. The second group (Executive11 and Entrepreneur4) highlighted the importance of individuals and teams working in design thinking to have the courage to move beyond their comfort zone to enable being open to new ideas, thus being able to implement design thinking successfully.

Summary

The quality identified for an individual or team to have in order to implement design thinking successfully, is being able to adopt an open mind through being flexible and accepting new ways of thinking. Which translates to the individuals or teams having the courage to get out of their comfort zone to explore the unknown and provide opportunities for new ideas, outlined by the Executive and Entrepreneur groups.

5.2.2.3 Sub-theme 3: Culture

Findings show culture as having a direct impact on the success of design thinking initiatives set by organisations, as evidenced by the participants

DGrp1: *"That makes a huge massive difference. So if you are one of those organisations that believes that the user is stupid and they don't know what they're doing. And then it's going to take a lot of effort to change that culture, because the moment we start believing that our users or our customers are not very smart and they need all of your help. You simply cannot have design thinking anywhere near an organisation like that. So that's a big cultural element."*

EntrGrp4: *"If the culture has short termism that definitely will challenge design thinking. If a culture is very risk averse that might cause design thinking as an experimentation philosophy. If a culture of an organisation does not let communication to freely flow or openly flow, and is very hierarchical in its structure, it would also challenge design thinking. And if it's a closed culture, whether that's secretive or we don't really engage with people outside or there isn't a lot of openness in terms of how we work with suppliers or customers, the transparency within and between the outside and the inside of the organisation, would also challenge design thinking".*

ExecGrp11: "*Culture is the way in which we see things, we think about things, we interpret things and then we do things. Culture also is a shared thing, that is, shared thinking, shared doing, and people share it. In essence, culture will either act as an enabler to design thinking, or its going to act as a barrier, because that's the way we see, think, interpret, and do things in the organization. You have to examine your culture and determine if it is conducive to design thinking. The type of culture organisations need for design thinking, is a very innovative, experimenting, No Fear of failure, you don't get punished for mistakes, there is no blame*

shifting, and risk taking type culture. Design thinking will only flourish if the culture is going to support it".

Comparison of findings between the group evidence

There was consensus amongst the three groups (Executives, Entrepreneurs and Designers) on the impact of culture to drive the design thinking initiatives successfully. For example, DGrp1 asserted that organisations that perceive their customers as stupid will not be able to implement any design thinking initiatives.

EntrGp4 further mentioned that the values of short termism, hierarchical structure, closed risk averseness, closed communication and closed culture needs to be addressed when an organisation is building a design thinking culture, including their purpose to determine if they will drive the implementation of design thinking initiatives successfully within an organisation. Moreover, the experience of ExecGrp11 highlighted that culture as a shared thinking within an organisation can be an enabler or a barrier to design thinking and requires organisations to evaluate their culture and fit to design thinking. Design thinking initiatives will only flourish though a design thinking culture of innovation, experimenting, allowance for failure and mistakes, and risk taking.

The cross-group comparison indicated that culture is the key driver to either enable or act as a barrier to the successful implementation of design thinking initiatives. Entrepreneur and Executive groups aligned on their experiences that organisations must review their culture to ensure it allows for the implementation of design thinking initiatives, taking into account the organisation's risk tolerance levels.

The Designers' experience focused on the organisation's perception of the customer, and affects design thinking initiatives when there is a negative perception of the customer.

Summary

A factor that could influence the successful implementation of design thinking initiatives if it not addressed is culture. Organisations must perceive their customers as important as they contribute towards the business sustainability, and are not stupid, as illustrated by the Designers group. The culture required for design thinking is a culture that is not hierarchal, closed, but a culture that promotes innovation, experimentation, and allows for failures and mistakes, as illustrated by the Executive and Entrepreneur groups.

5.2.2.4 Sub-theme 4: Barriers to successful implementation of design thinking

Findings show lack of resources, lack of collaboration and organisational culture as barriers to successful design thinking implementation, as evidenced by the participants

EntGrp9: *"Lack of resources: It could be the facilities that is the resources to make use of"*

ExecGrp10: *"The most important obstacle is when we are all not speaking from the same page".*

ExecGrp11: *"The organisational culture is the one thing that could really prevent design thinking of happening. However, there is another important addition to that, which is the kind of a safe psychological safety you have in the organization, which is related to your organizational climate"*

Comparison of findings between the groups evidence

The research evidenced lack of resources as a barrier to the successful implementation of design thinking, stated by Entrepreneur Group. The Executive group evidenced that when there is no collaboration within an organisation, leaves room for the emergence of a culture that prevents design thinking.

Summary

The findings highlight what organisations should avoid as these barriers may restrain the implementation of design thinking successfully. The first barrier is the organisation lacking the relevant resources to implement design thinking successfully, as evidenced by the Entrepreneur group. The second barrier is when there is no collaboration to ensure everyone aligns to the same goal. Misalignment leads to a culture that prevents the implementation of design thinking as evidenced by the Executive group. In contrast, organisations can view the identified barriers as opportunities they can explore to implement design thinking successfully.

5.2.2.5 Sub-theme 5: Overcoming barriers to successful implementation of design thinking

Findings show taking people out of their comfort zones, attracting the right skills, having financial capacity and understanding the importance of time and every stage of the product development as measures organisations can put in place to overcome barriers to successful design thinking implementation, as evidenced by the participants.

ExecGrp11: *"I think you have to confront people. You have to take them out of their comfort zones by redefining their thinking parameters and putting something else."*

EntrGp9: "*1) They attracted the right skills to implement the system. (2) Financial capacity to execute the systems effectively without barriers."*

DGrp3: "*Every stakeholder needs to understand the importance of time, and the importance of giving every stage of product development a chance in order to see the final developed product that is valuable and has minimal chances of failing when introduced to the market*".

ExecGrp5: "*And I remember even my own experience when I first got introduced to design thinking, I was not ready to accept the change until I saw the value. Having that focus to say change the people and those that do not want to change, maybe they need to be replaced by the ones that want to change. And have ongoing training on that*".

ExecGrp5: *I think there is a whole change management, process training, training the organization on design thinking. Though this is a long process on its own, there needs to be a process of a much targeted and much focused training in initiative as well as change management. In addition, in some cases, you find that for you to change the culture, you have to change some people, because I think some people are steeped in a certain way of doing things.*

EntrGrp8: "*Change management, it needs to be an integral part of project management or even introducing design thinking. You can't even think about doing design thinking implementation, without having change management at the core of it. Once you do that, you understand change management principles, which makes the implementation process easier in terms of mapping it out, but also gives you an opportunity to see where the loopholes are and when you need to start engaging your stakeholders and customers- internal or external.*"

Comparison of findings between the groups evidence

The Executive Group had similar experiences on overcoming the barriers to successful implementation of design thinking, with ExecGrp5 indicating that change of perception is instrumental to seeing the value of design thinking, which in turn will enable the successful implementation of design thinking. In support, ExecGrp11 indicated that it requires organisations to redefine their thinking parameters and replacing it with something else that pushes the organisation and employees out of their comfort zone. All of this, is enabled by organisations implementing ongoing training measures, such as process training or training the organization on design thinking encompassed by a change management process as evidenced by ExecGrp5. EntrGp8 stated that change management is an integral part of implementing design thinking as it provides organisations with the opportunities to map the implementation process and identify gaps.

To ensure implementation of the above, ExecGrp7 indicated that organisations must be agile in their design thinking process to adapt to changes to differentiate their value proposition from their competitors. Furthermore, organisations must attract the right skills and financially invest into design thinking to ensure successful implementation, as evidenced by EntrGp9.

Organisations must also invest in time and the product design process to ensure they develop the right product for customers prior to market launch, as evidenced by DGrp3.

The cross-group comparison illustrated the similarities between the Executive Groups participants in relation to change of perception to enable successful design thinking implementation, supported by ongoing training and change management. The Entrepreneur experience was similar to the Executive group on organisations implementing change management to drive the successful implementation of design thinking.

Entrepreneur and Designers groups had similarities on organisations making investments into design thinking. However, differences observed were on the type of investment made. With the Entrepreneurs, group focusing on human resources and system investments, while the Designers group focused on time and the product development process. The Executive group highlighted the importance of organisations being agile towards refining their value proposition as a differentiator strategy against their competitors.

Summary

In order to overcome barriers to successful design thinking implementation, organisations must drive the change of perception, that is, taking people out of their comfort zone on design thinking within the organisation through various trainings methods to create a culture that is design thinking focused, as evidenced by the Executive group. Moreover, organisations must listen to their customers to integrate their ideas in the design process, as evidenced by Designers group. In addition, Entrepreneur group highlighted that organisations must attract the right skills and invest in a number of factors such as time, product design process and financing of systems to ensure that the developed products are right for the customers and the market.

Implementing all of the above, enables organisations to be agile in their value proposition and helps them to gain a differentiation advantage over their competitors, as evidenced by the Executive group.

5.2.2.6 Sub-theme 6: Examples of companies that successfully implemented design thinking and factors contributing to their success

Findings show organisations that implemented design thinking successfully and contributing factors, as evidenced by the participants.

DGrp1: "*Our company did some work with a medical scheme, where through our experience, we very much encourage the idea of prototyping solutions and doing usability with our consumers first. They agreed to this and this means that our time to market was surprisingly shorter. Our investment in development was less because we were not redeveloping things*

that did not work. In addition, at the end of the day, our uptake of the solution was a lot quicker because we had given people what they wanted".

ExecGrp7: *"From a system point of view testing, pressure testing determining if the system can hold up or do what is required. As they begin to scale up right, the worst thing in terms of launching a new product is launching it at scale and it does not work because it would be difficult to come back and recruit customers, once they have had a bad experience. From a design thinking perspective that is crucial in positioning yourself in a in a in a market".*

ExecGrp10: "*in our company, we have developed a wellness program. As customer used the program, we identified additional elements to add-on. This was prompted by the decline in uptake as compared to the previous years. In the second phase implementation, customer's feedback was incorporated into the expansion of the wellness programme.*"

ExecGrp10: "*What we did continuously, was to focus on users feedback . Communication was also key during the process. We designed the program as we got users feedback and based on their real needs and requirements we were flexible enough to identify new needs. This program helped us to attract younger customers and provided us with an opportunity to differentiate our offerings. It's important to note that the design cannot outrun your user, and you will never reach an end. You need to keep on getting feedback to incorporate in your offering*".

Comparison of findings between groups evidence

The findings showed that product development was similar between the two groups (Executives and Designers groups) with different approaches to implement design thinking successfully. The experience of ExecGrp10 outlined how they refined their product through the product development process to address identified gaps on their product. In contrast, DGrp1 developed a product that did not require additions of features that did not work, which resulted in a speedy uptake on the product.

The actions taken to ensure successful implementation of design thinking included the use of experience through encouraging prototyping and testing the usability of the product with the customers as evidenced by DGrp1. In support, ExecGrp10 indicated the importance of incorporating user feedback and creating communication between the organisation and the customers during product development to incorporate the user's feedback in the product design process. ExecGrp7 highlighted a different perspective, outlining that organisations should ensure system engineering by testing their systems to ensure the capability to do what is expected.

The cross-group comparison illustrated alignment between Executive and Designers groups in relation to product development to ensure that the product developed serves its intended purpose to address the customer needs. With the Executive group further highlighting the importance of redefining a non-performing product incorporating feedback from users. On the other hand, the designers used the customer feedback during the prototyping and testing stages to determine usability of the product with the customers.

Similarities between the Executive groups and designers groups was evident on product development and user's feedback, irrespective of the different execution approaches. The Executive group also had a different perspective on implementing design thinking successfully, by ensuring that they test the systems prior to product launch to determine functionality of set capabilities within the system.

Summary

The findings provide organisations with practical initiatives they can put in place to ensure successful implementation of design thinking. The product development embarked on should either be to develop a new product or to enhance an existing product (with the aim of addressing identified gaps) as evidenced by the Executives and Designers Group. Using customer feedback, communication, and prototyping and testing the product for usability are critical steps to ensuring successful implementation of design thinking when launching a product.

The testing also includes systems testing to ensure that the system functions as intended and address any technical issues to mitigate against system failures and customer disappointments on the day of product launch.

5.2.3. Research Question 3: Best practices for implementing design thinking successfully as a strategy to enhance customer value and achieve competitive advantage

5.2.3.1 Sub-theme 1: Collaborative Culture evidence

The research findings show that collaborative culture is a pre-requisite when organisations are building a culture that supports design thinking, as evidenced by the participants.

ExecGrp5;"*Key to note that design thinking won't work when there is competition amongst departments or division: "So if you have a collaborative culture, not a very not a silo culture, not an internally competitive culture, you'll find that you will start operating in a more collaborative and design thinking approach".*

EntGrp4: "*I think design thinking can be a great tool or methodology or philosophy to put behind that value and build it into the culture. In summary, I think look at it as a systemic thing that will take time and not expect it returns at a quarter or financial year basis, but I think it give it 18 to 36 months of building something systemic will have big returns. Secondly, build it in as a culture at all levels, in all interactions of the organisation and incentivize for it*".

DGrp1: "that means that I start listening to other people and I start taking in that they might be better at something at one thing than I am at a certain thing. Therefore, it creates that culture of thinking together and appreciating other people's expertise, which I think then at the end of the day, lets us listen to our consumers better etcetera, etcetera. Its very informal, it doesn't have to be business related, but it creates a culture of listening and appreciating expertise in different places".

Comparison of findings between the group evidence

Regarding the collaborative culture sub-theme, the findings demonstrated that collaboration is integral to building a culture that supports design thinking. ExecGrp5 experience illustrated that a collaborative culture enables design thinking and eliminates silos and an internal competitive culture. EntGrp4 provided a different perspective by illustrating that organisations should built design thinking into the organisation's culture, that is, at all levels and within all interactions and culture be incentivised.

Another different perspective outlined by DGrp1 was that listening to people and learning from their wisdom creates a culture of thinking together, and values their expertise, which enable organisations to listen to their customer better.

The cross-group comparison indicated similarity on collaboration by all three groups. The Designers group, stating that learning from customer's wisdom enables organisations to create a collaborative thinking culture, enables them to value their customers and enhance their customer listening process, illustrated a different and unique experience. Another different perspective was the Executive group approach in addressing silos and competitive culture by implementing a collaborative culture. Similar to Executive group collaborative culture, the Entrepreneur group indicated that the collaborative culture should be across all levels and interactions with an organisation.

Summary

The three groups displayed similarities on collaborative culture being instrumental towards supporting design thinking within an organisation. The Executive group experience was that organisations must remove silos and internal competition and replace it with a collaborative culture when adopting design thinking approaches. The Entrepreneur group advocated for the

organisations to embed collaborative culture within all levels and interactions of an organisation. A different perspective mentioned by the Designers group, was in relation to listening to other people and learning from their wisdom, which provides the opportunity for organisations to listen to their customers better.

5.2.3.2 Sub-theme 2: Experiential learning evidence

The research findings show that experiential learning is one of the effective methods to train people on design thinking, executed through learning by doing and prioritising customer's needs, as evidenced by the participants.

ExecGrp5: *"But people also need to participate. I believe that, learning by doing is actually the best experience"*.

ExecGrp10: *"I think its experimental training where they do something themselves and find the best way and then demonstrate it and the team say yes, that is the way we want to do it. Therefore, you give them the power to find a way"*.

A different perspective outlined that experiential training focus on the customers' needs.

ExecGrp11: *"Try to create situations in your learning situations, in which through your action learning process your employees can creatively challenge in a safe space what you currently doing but outside in. It is always important to start with the customer needs how you can delight the customers and how you can outperform your competitors on the customer experience"*.

Comparison of findings between the group evidence

The experience of ExecGrp10 outlined experiential learning as a process that organisations should adopt to train their employees on design thinking methodologies, highlighting that enables employees to implement design thinking by themselves through finding the efficient way to implement it. ExecGrp5 also outlined learning by doing as the best experience employee's gain.

A different perspective argued by ExecGrp11 was including an activity linked to the learning situation, focused on addressing customer needs in an effort to address the customer needs and create a memorable experience for them. Activity based learning affords employees the opportunity to creatively challenge the way certain processes are implemented, gain a competitive advantage on customer satisfaction.

Summary

The findings for the Executive group were similar in terms of learning by taking action, highlighting that people learn by practicing and participating in design thinking affords employees with the best experience. Further, adopting an experiential learning process

enables employees to implement design thinking individually, thus being efficient in their implementation.

Moreover, the learning by action implemented by organisations should be actioned based focusing on addressing customer needs to create a memorable experience for them, to ultimately gaining a competitive advantage on customer satisfaction.

5.2.3.3 Sub-theme3: Prioritising innovation

The research findings show organisations must prioritise innovation when balancing creativity and experimentation vs efficiency and results, as evidenced by the participants.

DGrp1: "*Tough one, but I think you need to prioritise innovation*".

ExecGrp7: "*Moreover, this goes back to the fact that you really have to be innovative, especially in a service environment because of how individualistic customers, you cannot just generalize as easily as we used to before, where people used to follow trends blindly. Now, because of the plethora and of information that is available to people and the access to information, people are so independent and individualistic that you have to inform your design thinking process from a data perspective*".

ExecGrp5: "*But innovation and creativity is about new markets, and there you have to be opening up new spaces, New doors. For example, when the Apple iPad came in, it opened a completely new market space segment, which was not there. So creativity and innovation are things that companies should always have a budget that allows for that, where you have people that are not thinking of today. Their job is to live into the next 3-4, five years and then you'll have people that have to live for today to make sure the current business is running. So you have to do both*".

DGrp2: "*Well, it no longer works that way for many markets. If you just stick to that strategy of just saying that you are still going to do the things that you've done many years ago, you're going to not to be on the market for long or you're going to feel the pressure from your customers who are not going to be happy with what you offer*".

DGrp2: "*The culture that design thinking needs is to be in innovative, to be creative, to solve problems and to be willing to invest in the creative ideas and to bring them into a corporate, which is something that is super valuable*".

DGrp2: "*Because it is innovation and it takes time. It might make you survive on the market, you need you need the understanding of the value of design thinking and what it can do for your business*"

Comparison of findings between the group evidence

There was a consensus among the three groups in prioritising innovation to find a balance between creativity and experimenting as well as efficiency and results. ExecGrp5 further mentioned that innovation and creativity is about organisations tapping into new markets to create new space segments that were never available to customers.

DGrp2 supported that organisations can no longer operate as they previously did as the market has evolved, this will ensure the organisations sustainability, and removes pressure on delivering a product and/or service that does not meet the customer's needs. To enable this, organisations must create design thinking culture that is innovative and creative to solve customer's problems, investing in creative ideas and implementing them to create value to customers. Furthermore, understanding the value of design thinking and its benefits is critical for organisations as innovation takes time and serve as a survival tool in the industry of operation.

ExecGrp7 highlighted a different perspective that the individualism of customers requires organisations to be innovative, as customers have access to information and no longer follow trends blindly. In addition to their experience, they highlighted the importance of using data driven insights to inform the organisation's design thinking process.

The cross-group comparison showed similarities on market analysis as illustrated by Executive and Designers group. The Executive group experience highlighted that organisations must be cognisant of the evolving market and their customers' needs, endeavour to be innovative to address their individualism using data driven insight, given the evolving market and customer's access to information. The Designers Group asserted that organisations have to align their innovation strategies to the evolving market to ensure survival.

Moreover, the similarities observed included the opportunities derived from prioritising innovation. Executive group outlined the opportunities derived from innovation and creativity, including being able to tap into new markets. While the Designers group highlighted investing in innovation, enables organisations to survive in the market. They highlighted the importance of solving customer's problems and creating value for them. This is possible when organisations understand the value and benefits derived from design thinking and prioritising innovation.

Summary

The two groups displayed similarities on taking cognisance of the market, although the groups showed a different approach to the implementation process when prioritising innovation. The Executive group related how organisations can use innovation to tap into new markets that

enables them to create a new market segments that never existed before. On the contrary, the Designers group experience is about an organisation's enhancing/adjusting their product offering in line with the market needs, given the evolving market.

A similarity between the Executives and Designers group included the integration of customers into the innovation process to ensure organisations develop innovative products and/ or services that meet customer's needs, using data driven insights.

The designers group outlined the importance of organisations understanding the value and benefits of design thinking due to innovation taking time. The Executive group illustrated a different perspective of organisations allocating sufficient budget towards innovation.

5.2.3.4 Sub-theme 4- Priority as a strategic objective evidence

The research findings show that organisations must prioritise design thinking as a strategic objective during the organisations strategy planning process, to enhance customer value and achieve a competitive advantage.

EntGrp8: *"For me, I think if you suppose understand the principles designed thinking, when you start doing your strategic a process, your strategic process almost by default should be informed by design thinking principles. When you set your new strategy for the next three- five years, then you use design thinking principles to guide your strategic thinking direction as it were"*.

DGrp1: *"then it needs to be a strategic objective and form part of the organisations values. Thereafter organisations can actually start seeing results because that strategic focus means that you are prioritising design thinking"*.

The findings highlighted the approach organisations must take to prioritise design thinking as an organisations strategic objective, which focuses on including the customers and stakeholders as part of the strategic planning process**.**

ExecGrp11:*"I think organisations should approach their strategy session from the outside in with their customers and broader stakeholders. In determining what the needs of their customers are, organisations must bring the voice of the customer and the stakeholders into the strategic session".*

EntGrp8: *"It is important to also focus on the internal stakeholders, while we externally focused on our customers, we must also be very mindful to bring those that actually have to implement that process along. This will ensure that you are inwardly focused in you know by making sure that your internal customers are also brought along in the process".*

Two Executive members outlined a different perspective on the approach taken; highlighting that organisations needs to be futuristic, which includes change of mindset in their approach towards prioritising design thinking as a strategic objective.

ExecGrp7: "*Design thinking is the way in which you can start building your second engine, in preparation for anything that may happen in the future, building capabilities for what will happen ahead and in the future*".

ExecGrp10: *"In our industry, we can't see two or three years in advance but to get that right you need to think short, medium and long term. If you develop one initiative or offering for next year, you already need to start working and thinking about the year after. So it's a mentality that you need to start changing to be focused on the now, but also to tomorrow and the year after".*

Comparison of findings between the group evidence

Prioritisation of design thinking as a strategic objective firstly requires organisations to understand design-thinking principles to guide the strategic decision-making, emanating from the strategic thinking discussion-taking place during the strategic planning process, as evidenced by EntGrp8. In addition, DGrp1 indicated that organisations must incorporate design thinking into the organisations strategy as a strategic objectives being pursued, moreover it needs to be built into the organisations values, resulting in benefits where its performance monitored from a strategic focus area.

Integrating the customers into the strategic planning process, was identified as an approach organisations should adopt to prioritise design thinking as a strategic objective, focusing on inward and outward approaches. ExecGrp11 highlighted that organisation must adopt an outside in approach to their strategy sessions by incorporating the voice of the customers and stakeholders to determine their needs, to derive the benefits of determining the customer's needs. In contrast, EntGrp8 said that organisations should adopt an inward focus by highlighting the importance of organisations taking along the internal stakeholders on the design thinking process, as they are ultimately responsible for implementing the process.

Another approach outlined for organisations to adopt was being futuristic and having a change of mindset in prioritising design thinking as a strategic objective. The ExecGrp7 experience illustrated that in preparing for the future, organisations must build the required capabilities to ensure they are future proofed. In support, ExecGrp10 experience illustrated that product development strategies requires organisations to be future focused, and it requires organisations to change their mentality of focusing on the present to focus into the future.

The results showed similarities on incorporating design thinking as a strategic objective. EntGrp8 asserted that organisations should apply design thinking principles to guide their strategic direction. In support, DGrp1 experience indicated that organisations derive the value of monitoring and tracking the performance of design thinking when its developed as an

organisations strategic objective. Three approaches organisations can integrate to prioritise design thinking as a strategic objective include, bring in the customers and stakeholders voices into the strategy planning process, taking along the internal stakeholders along the design thinking process and its alignment to strategy, and adopting a future-oriented focus for design thinking by changing the current mindset in place. These approaches will enable organisations to derive the value of determining the customer needs, alignment and understanding of the organisations design thinking journey, and future proofed with the required capabilities to face emerging trends.

The cross-group comparison showed that the Executive group experiences were similar in terms of organisations integrating design thinking into their strategy planning process, by being future oriented, that is ensuring they have the required capabilities to develop strategies that consider the future impact. This means that organisations must conduct market analysis and compare against their current capabilities and product impact.

The Executive group asserted that organisations must adopt an outside in approach that incorporates the voice of the customers and stakeholders during the strategy sessions to determine their needs. In contrast, the Entrepreneur group asserted that organisations must adopt an inside approach that takes the customers along the design thinking and strategy process, as they are the ultimate implementers of set strategies.

Additional similarities observed between the Designers and Entrepreneur groups related to incorporating design thinking into the organisation's strategy document. For instance, the Designers group argued that organisations must position design thinking as a strategic objective and integrate it into the organisation's values and strategy document. This will enable organisations to monitor and track it from an organisational scorecard perspective to determine its success rate. In support, the Entrepreneurs asserted that organisations must incorporate design thinking principles into the organisation's strategy process to guide the strategic decisions of an organisation.

Summary

The two groups (Entrepreneurs and Designers) displayed similarities on prioritising design thinking as a strategic objective when integrating it into an organisation's strategic planning process. The Entrepreneurs outlined the integration of design thinking principles will assist organisation's strategic decision-making relating to design thinking. The Designers group, asserting that design thinking as a strategic objective provide organisations with an opportunity to track its performance, thus being able to determine its success or failure rate.

The groups highlighted two different approaches to adopt in prioritising design thinking as an organisations strategic objective. The Executive group experience focused on organisations being future forward in their capabilities building and product development processes, to ensure they are future-proofed.

The second approach was the integration of customers into the strategic planning process. Executive group focused on organisations adopting an outside in approach incorporating the voice of the customers, versus the Entrepreneur group that focused on internal stakeholders, who are the implementers of the design thinking process. Organisations will achieve the benefits of determining the customer needs and take the employees along their design thinking and strategy-planning journey.

Chapter 6- Discussion of Findings

6.1. Introduction

This chapter details the comparison of the findings in Chapter 5 Findings versus the Literature Review in Chapter 2. The approach adopted was to discuss each research question through the sub-themes that emerged from the research findings.

The purpose of this chapter is to provide an analysis of the alignment between the findings presented in the previous chapter and the literature review in Chapter 2.

The next process involves identifying differences, similarities, and contradictions.

6.2. Main research question: How do organisations integrate design thinking to advance customer value outcomes?

The findings show that organisations need to clearly identify the problem they are solving and focus on their customers. Tools and methods used include data, user engagement and feedback, employee training employees and tolerance for failure.

Factors for successful implementation of design thinking include the right talent with competencies, a collaborative and innovative culture, diversity; market orientation, adoption of innovative technology and agility.

It is critical for organisations to develop a separate operating model for design thinking to allow so that they have the freedom to create innovative solutions that create differentiated customer value propositions.

6.2.1 Research Question 1: What are the design thinking methodologies in place and how are they applied to enhance customer value?

The results show that organisations should emphatise with their customer, that is, be customer focused by understanding the customer needs using data driven insight and customer feedback. In addition, the solutions designed should be prototyped and tested first with the customers (trial and error) to ensure the product designed meet the customer expectations.

Moreover, organisations must separate their operating model for design thinking from the organisations core model to allow freedom to consider various innovative solutions to create a differentiated customer value. In alleviating the misconceptions about design thinking, organisations must train employees on design thinking methodologies, provide a safe learning place that tolerates learning by failure to creativity within the organisation, and investing in market analysis to determine the required changes for design process. The enablers for

successful application of design thinking methodologies to enhance customer value is leadership support and organisations having the right skills set for design thinking initiatives.

6.2.1.1 Sub-theme 1: Evidence of Empathy from Findings

The entrepreneur group and the designer's group participants identified empathy as an important step in design thinking. The two groups aligned in terms of being empathetic towards customers, meaning that the customer should be the focal point. The differences noted was in how empathy is applied. The Designers group indicated organisations must be empathetic about their clients' needs, and not focus on the organisations agenda.

The entrepreneur group indicated the importance of organisations understanding the customer experience in order to appreciate the core of the problem faced by the customers, by immersing themselves in the customer's experiences.

Evidence of Empathy from Literature

The increasing use of design thinking has propelled the understanding of design thinking principles to ensure successful implementation. One of the principles guiding design thinking is empathy. Insights by Verganti et al (2020) outline that empathy aims to understand the user's problems from the user's point of view, instead of relying on predefined solutions. This approach emphasises the use of empathy is evident when organisations approach problems from the user's perspective, analysing their behaviours, needs and what they consider important. To support this, Magistretti et al (2021) emphasise the importance of accepting dissenting opinions and providing feedback to users, with the goal of resolving user issues.

Moreover, human centered as a mindset is a fundamental characteristic of design thinking, as highlighted by Nakata & Hwang (2020), in the sense that customer centric solutions are designed involving empathy that focuses on the people whom the solution is developed. Micheli et al (2019) also highlighted that through human centered design, customers are included in the innovation process, and the solutions created are effective and deliver a meaningful user experience.

McColl-Kennedy et al (2019) and Holmlund et al (2020) outlined a fundamental component that organisations can use to effectively manage the customer experience journey which incorporates was to gain rich insights through customer feedback, enabling the identification of both successful touchpoints and customer's pain points. Organisations achieve this by using methods such as customer surveys, providing reviews, social media comments or face-to-face interactions (Holmlund et al., 2020).

Comparative Analysis of Findings with Literature

The research findings from the Entrepreneur and Designers groups demonstrated how empathy is an important step in design thinking to understand the core of the problem and focus on the customer needs, instead of organisations viewing problems from their organisations perspective. In so doing, it removes bias. Aligns to (Verganti et al. 2020) who assert, that organisations that deploy empathy in their design thinking process, aim to understand the user's problems from the user's point of view.

The Entrepreneur group highlighted organisations immersing themselves in the customer's experiences to be able to understand their customer experiences. This aligns to McColl-Kennedy et al (2019) and Holmlund et al (2020) who assert that organisations must use the insight gained from the customer feedback to identify successful touchpoints and customer's pain points, thus enabling the effective management of the customer experience. Organisations can track the effective management of the customer experience using methods such as customer surveys, providing reviews, social media comments or face-to-face interactions (Holmlund et al, 2020).

These arguments emphasise that organisations must place themselves in the shoes of their customers to determine their set customer experience journey is delightful to their customers or not and ensuring that the right personnel with the required skills are part of the process to adjust the process accordingly to create a memorable customer experience.

Summary

It is critical for organisations to understand the user problems from the user's perspective, instead of viewing them from the organisations perspective, thus removing bias between the users and organisations. The research findings align with the literature regarding empathy being integral to understanding the users problems (Magistretti et al, 2021; Nakata and Hwang, 2020; Verganti et al, 2020). The alignment of the findings to the literature adds to the body of knowledge on empathy being an important step in design thinking.

6.2.1.2 Sub-theme 2: Evidence of Problem identification from Findings

The two groups displayed similarities on identifying the problem during design thinking process although the groups showed a different approach to the implementation process. The Executive group related how organisations should clearly define the problem to solve.
A similarity between the Executives and Entrepreneur group included addressing the identified problem by integrating the customer experience through understanding their touchpoints with the organisation's product.

Evidence of the Problem identification from Literature

Clearly defining the problem during the design thinking process is one of the steps in design thinking, to avoid situations where solutions are developed without conducting preliminary research to understand customer pain points, and critically examine their solutions-generating methods. Auernhammer and Roth (2021) demonstrated there are various qualities that are crucial components of design thinking. One of the qualities involves specific activities and practices, such as problem definition, prototyping and testing, enabling organisations to identify opportunities to solve customer's needs.

Scholars Verganti et al (2020) suggest that when implementing design thinking, management should focus on identifying meaningful problems, supported by pertinent data to solve their problems. In support, research by (de Paula et al., 2022) demonstrated that it is critical for management in their decision-making and problem-solving processes, to adopt a user centric mindset when implementing design thinking.

Moreover, Design Thinking is a structured approach that uses creative problem-resolution methods aimed at nurturing innovation, leading to the resolution of complex problems as demonstrated by Magistretti et al (2021).

Comparative Analysis of Findings and Literature

Findings from the Executive group highlighted organisations must clearly define the problem to solve, by ensuring the problem is clearly defined, aligns to the literature, Scholars Verganti et al (2020) referenced that management should focus on identifying meaningful problems, supported by pertinent data to solve their problems when implementing design thinking. This also support the views by (Magistretti et al, 2021) demonstrating Design Thinking as a structured approach that uses creative problem-resolution methods aimed at nurturing innovation, leading to the resolution of complex problems.

A similarity observation between the literature and the findings included the approach organisations should adopt to when identifying the problem. The findings from the Executives and Entrepreneur group highlighted the approach of addressing the identified problem by integrating the customer experience through understanding their touchpoints with the organisations product. This aligns to the view by (de Paula et al, 2022) in demonstrating the critical aspect for management to adopt a user centric mindset in their decision-making and problem-solving processes when implementing design thinking.

Summary

Organisations must first identify the problem to solve, to guard against rush mode of developing solutions that are not suitable for the problem faced by the organisation. Moreover, they are able to consider all possible avenues to solve the identified problem. Secondly, organisations must place themselves in the shoes of the customer to determine if their customer experience offering is delightful to the customers. The research findings align to the literature on problem identification being an essential aspect in design thinking (Auernhammer & Roth, 2021; de Paula et al, 2022; Magistretti et al, 2021; Verganti et al, 2020). The alignment of the findings to the literature adds to the body of knowledge on user focus being an important step in design thinking.

6.2.1.3 Sub-theme 3: Evidence Discovering unknowns and challenging assumptions from Findings

The two groups displayed differences on discovering unknowns and challenging assumptions during design thinking process.

The Entrepreneur group outlined that during the design thinking process, provides an opportunity to discover the unknowns and challenge any pre-perceived assumptions. On the other hand, the Executive group highlighted that challenging the pre-perceived assumptions would ensure that organisations are not biased and subjective during the ideation phase.

Evidence of the Discovering unknowns and challenging assumptions from Literature

Discovering unknowns and assumptions- Literature advocates that organisations should see uncertainty and ambiguity as an opportunity to explore a variety of ideas, even if these ideas may seem out of the ordinary at first. This is evidenced by (Micheli et al, 2019; Nakata & Hwang, 2020) who indicated that organisations through the abductive reasoning mindset, are pushed to pursue alternatives by exploring the unknown territory to create and encourage ideation for possible solutions. This removes the focus from the organisation's experiences and expertise allowing for the creation of new knowledge and insights for organisations.

Furthermore, abductive reasoning is integral to an organisation's design thinking process as it enables organisations to leave their familiar spaces and step into uncharted territory and explore alternatives in the process of developing innovative solutions that meet their customer needs as evidenced by (Micheli et al, 2019; Nakata & Hwang, 2020; Vignoli et al, 2023).

It is imperative when generating new concepts, for organisations to focus on a high quantity of ideas, questioning established assumptions, to ensure that the perception of context is reframed to evolve a comprehensive and solid understanding (Magistretti et al, 2021).

Comparative Analysis of Findings and Literature

Findings from the Entrepreneur group demonstrated that the design thinking process, provides an opportunity to discover the unknowns and challenge any pre-perceived assumptions, aligned to (Micheli et al, 2019; Nakata & Hwang, 2020); who indicated that abductive reasoning mindset pushes organisations to pursue alternatives by exploring the unknown territory to create and encourage ideation for possible solutions. In so doing, the focus on organisations experiences and expertise directed towards the creation of new knowledge and insights within organisations.

The findings further revealed that challenging the pre-perceived assumptions would ensure that organisations are not biased and subjective during the ideation phase. This aligns with the view by (Magistretti et al, 2021) asserting the importance of organisations focusing on a high quantity of ideas, questioning established assumptions during new concepts generation, to ensure that the perception of context is reframed to evolve a comprehensive and solid understanding.

Summary

The research findings align with the literature on discovering unknowns and challenging assumptions being an important step in design thinking (Auernhammer & Roth, 2021; de Paula et al, 2022; Magistretti et al, 2021; Verganti et al, 2020). The alignment of the findings to the literature adds to the body of knowledge on discovering unknowns and challenging assumptions being an important step in design thinking.

6.2.1.4 Sub-theme 4: Evidence- example of how design thinking has been used to enhance customer value in a real-world situation from Findings

The findings serve as an opportunity for organisations to better derive value from design thinking in their customer value proposition quest. The application process includes adopting a systematic approach, as illustrated by Designers Group, prototyping and testing a product with your customers is an imperative step to test product usability that organisations should put in place when using design thinking to enhance customer value. Secondly, by receiving user feedback (as illustrated by the Executive Group) that provides organisations the opportunity to identify new needs, which leads to producing products that meet customer's expectations (as illustrated by the Entrepreneur group). Moreover, organisations to develop a separate differentiated operating model that is independent of the business core model (as illustrated by the Executive Group). This demonstrates the importance of organisations creating an end-to-end customer journey experience that will enhance their customer value proposition.

Evidence- example of how design thinking has been used to enhance customer value in a real-world situation from Literature

The evolving market requires organisations to be proactive in their market monitoring to ensure that they create a value proposition that meet the customer's expectations, using the design thinking method. Insights by Ramos et al. (2023) evidenced that rapid changes in the market are driving organisations to prioritise customer value and achieve customer improvements through customer management. To enable this, Selvalakshmi et al (2022) posits that design thinking as an exploratory process, provides organisations with an opportunity to solve problems faced by customers collaboratively. Done through visualisation, experimentation, ideation, and prototyping and gathering feedback from customers. At the end, organisations can create a desirable future driven by user-centric innovation, by designing solutions that meet the customer needs.

Chouki et al (2021) outlined that the design thinking iterative process includes idea generation based on user needs, testing those ideas, and implementing them. In support, Micheli et al (2019) illustrated that design thinking as an iterative process enables organisations to refine the statement of the problem they are trying to solve. Thus providing organisations with the opportunity to learn through trial and error when engaging customers to test a variety of potential solutions, using tools such as prototypes to ensure ideas developed are specifically for the problem an organisation is solving.

Furthermore, customer engagement is critical for organisations when they are creating customer value for their customers, and need to integrate factors such as: (1) how customers relate to the organisation and their brand. (2) The customers' level of enthusiasm for the organisation and their brand. (3) Expressed interest in an organisation and its brand, as evidenced by Yen et al (2020). Ensures that the users are part of the end-to-end problem solving process, enabling organisations to learn continually about their customers in order to create tailored customer solutions, as evidenced by (Micheli, 2019).

This will, in turn, give organisations the opportunity to develop the products that customers seek (de Paul et al, 2022), seize opportunities in the environmental landscape, and use the prototyping stages as an opportunity to learn how to better understand the customer experience and formulate innovative strategies for the customer (Knight et al, 2020).

In addition, Micheli et al (2019) show that prototyping allows ideas to be generated to help organisations understand the strengths and weaknesses of developed ides as well as possible alternative ideas that may need to be in place.

Comparative Analysis of Findings and Literature

The research findings from the Designers groups demonstrated that organisations must adopt a systematic approach when creating customer value, through implementing design thinking method of prototyping and testing to determine product usability. The findings aligns to Selvalakshmi et al (2022) who indicated that design thinking as an exploratory process, provides organisations with an opportunity to solve problems faced by customers through collaboration, using attributes and codes such as visualisation, experimentation, ideation, and prototyping and gathering feedback from customers. Thus creating a desirable future driven by user-centric innovation and designing solutions that meet the customer needs.

In support, Micheli et al (2019) evidenced that design thinking as an iterative process enables organisations to refine the statement of the problem they are trying to solve. Providing organisations with the opportunity to learn through trial and error when engaging customers to test a variety of potential solutions, using tools such as prototypes to ensure ideas developed are specifically for the problem an organisation is solving, understanding the developed ideas strengths and weaknesses, including possible alternative ideas that may need to be in place.

Another similarity observation between the literature and the findings included the incorporation of user's feedback when organisations enhance their customer value to meet the customer's expectations. The findings from the Executive group highlighted users feedback provides an organisation with opportunities to identify new leads, thus enables them to meet their customer's expectations as evidenced by the Entrepreneur group. Aligned to the literature by Chouki et al (2021) demonstrating that the design thinking iterative process includes idea generation based on user needs, testing those ideas, and implementing of the ideas. Supported by Yen et al (2020) who evidenced the critical importance of customer engagement for organisations, when creating customer value.

The Entrepreneur group indicated that user integration ensures that the users are part of the end-to-end problem-solving process, enabling organisations to learn continually about their customers in order to create tailored customer solutions, as evidenced by (Micheli et al, 2019). The Executive group asserted that a differentiated operating model enable organisations to enhance their customer value proposition. Aligned to the literature by (de Paul et al., 2022), demonstrating that organisations will be able to develop the products that customers seek, seize opportunities in the market, and use the prototyping stages to better understand the customer experience and formulate innovative strategies for the customers (Knight et al, 2020). After considering the environment and its impact, value-creating organisations

communicate the expected results of the value created, the target beneficiaries, and the resulting benefits and measure the customer experience created. As a result, they gain insights to determine how to create their value proposition and achieve competitive advantage and sustainability through their value creation process (Ranta et al, 2020; Zeithaml et al, 2020).

This signifies the importance for organisations to test their designed solutions for readiness prior to launch, to identify the strength and challenges of the solutions through customer testing. The involvement of customers in the design process provides organisations with an opportunity to assess if their product will attract more customers, and if it is easy to use. Moreover, it requires organisations to be open to criticism and flexible to implement suggestions received from the users, aligning to industry regulatory requirements.

Summary

The research findings align to the literature regarding using design thinking methods to enhance customer value. The first step outlined for organisations, is to enhance customer value through design thinking methods of iteration, prototyping and testing (Chouki et al, 2021; Micheli et al, 2019; Selvalakshmi et al, 2022).

Secondly, the findings further align to literature on organisations including user's feedback in their design process to enhance customer value, to ensure the designed products meet the customer's expectations. As evidenced by (de Paul et al, 2022; Knight et al, 2020; Micheli et al, 2019, Yen et al, 2020) highlighting the benefits derived by organisations in incorporating user's feedback to meet customer expectations.

Moreover, the findings on developing a differentiated customer value proposition through an independent operating model from the core operating model, differs with the literature on the approach to create a differentiated value proposition. The literature uses stakeholder's engagements to develop a differentiated value proposition, as evidenced by (Ranta et al., 2020; Zeithaml et al, 2020).

The alignment of the findings to the literature adds to the body of knowledge on the use of design thinking through its methods to enhance customer value. The literature does not seem to discuss the difference on a independent operating model from the core-operating model to create a differentiated customer value propositions seem.

6.2.1.5 Sub-theme 5: Evidence of Common Misconceptions from Findings

The biggest common misconception is the assumption of what design thinking entails, from a process point of view. The Executive group evidenced that design thinking was likened to agile process, linear process, and a one-sided approach that do not take various factors into account, such as, market and client expectations. Further misconceptions is that it is designed in graphic design format or a process utilised to find faults, and is only for product design illustrated by Entrepreneur group.

The second common misconception is the assumptions organisations make about their customers, assuming that customers do not know what they want, and what is good for them as evidenced by the Designers group. In addition, they evidenced the misconception of starting with the idea first when implementing design thinking.

Evidence of common misconceptions on design thinking from Literature

Design Thinking promotes a problem-solving process centered on understanding and addressing user needs. It consists of several stages of exploration of possibilities and selection of the best solutions (Selvalakshmi et al, 2022). In support of this assertion, Chouki et al. (2021) have shown that in recent years, design is centred around people's expectations, which has seen the birth of design thinking that focuses on human-centred and adoption of a solution-oriented approach in which organisations see the world through the eyes of their customers.

Nakata and Hwang (2020) articulate the concept of design thinking as a set of mindsets and actions that provides a rational explanation of design thinking as previously articulated by other scholars. Affirming that both mindset and actions are integral to design thinking and demonstrates the components of human-centredness and experimenting.

Nakata and Hwang (2020) describe design thinking as a three-step process made up of discovery, ideation, and experimentation in order to interact with customers to develop ideas tailored to their requirements and test the feasibility of the solutions for which the concepts are developed.

Comparative analysis of findings and literature

The results from the Executive and Entrepreneur group highlighted that there is a misconception about what design thinking entails, from a process point of view, being likened to agile process, linear process, and a one-sided approach that do not take various factors into account, is a fault finding process, and is only for product design. Literature provides clarity

on design thinking, evidenced by (Selvalakshmi et al, 2022) assertion that design thinking is a problem-solving process centred on understanding and addressing user needs. It consists of several stages of exploration of possibilities and selection of the best solutions.

Another misconception is the assumptions customers do not know what they want, and what is also good for them as evidenced by the Designers group, therefore the design thinking problem should start with idea implementation first. To counteract this assertion, Chouki et al (2021) evidenced that in recent years, design is centred around people's expectations, which has seen the birth of design thinking that focuses on human-centred and adoption of a solution-oriented approach in which organisations see the world through the eyes of their customers. In support, Nakata and Hwang (2020) described design thinking as a three-step process made up of discovery, ideation, and experimentation in order to interact with customers to develop ideas tailored to their requirements and test the feasibility of the solutions for which the concepts are developed.

Summary

It is important for organisations to address the identified misconceptions in order to implement design-thinking initiatives successfully. The design thinking needs to communicated clearly and described to employees through training or using visuals.

The research findings align to the literature regarding common misconceptions on design thinking (Chouki et al, 2021; Nakata & Hwang, 2020; Selvalakshmi et al, 2022). The alignment of the findings to the literature adds to the body of knowledge.

6.2.1.6 Sub-theme 6: Evidence of addressing misconceptions from Findings

Various opportunities provided to organisations to alleviate the misconceptions on design thinking and addressing them are as follows. The identified key step is for organisations to conduct training with employees, to help them understand what design thinking entails as evidenced by the Executive and Entrepreneur groups. In addition, organisations should provide safe practicing places to drive creativity within the organisation and allow for a learning space for trial and error as evidenced by the Entrepreneur and Designers groups.

The other opportunities mentioned by the three groups (Entrepreneur, Executive and Designers) that are available for organisations to address misconceptions is market analysis to identify the customer needs, taking the customer along the design journey through engaging with them at every customer touchpoint. In addition, organisations should incorporate abductive reasoning into their design thinking approach/ practices, as evidenced by the Executive group.

Evidence of addressing misconceptions on design thinking from Literature

In order to address misconception on design thinking, organisations must allow for a learning space for trial and error. Evidenced by Micheli et al (2020) that engaging in trial-and-error experiments allows organisations to embrace uncertainty, adding that organisations must provide feedback to stakeholders in their quest to define and address customer problems. This translates into creating into habit of foregoing ideas and readjusting approaches instead of defending an initial idea (Panke, 2019). To support the view, (Nakata & Hwang, 2020) asserted that organisations must train employees on the design thinking mindset and the training should include acceptance of learning by failure

Scholars Onufrey and Bergek (2021) state that as markets evolve and mature, organisations must review their strategies and adapt to the change to remain relevant to their customers and gain a competitive advantage. Organisations achieve this through developing innovative strategies that allow them to position their value proposition by, outlining the adopted innovations, the rationale for the adopted innovations, and the value users derive from the adopted innovation (Onufrey & Bergek, 2021)

To effectively measure and understand customer experience, organisations must focus on spontaneous customer responses and the reaction stimuli related to the offer, using touchpoints to gain insights and make comparisons between different situations (Becker & Jaakola, 2020). To avoid the touchpoints that lead to stagnant customer experiences, organisations must manage the entire customer journey (Holmlund et al, 2020).

Verganti et al (2020) argue that design thinking principles put people and their needs first. It is people-centred, and primarily empathetic with the aim of deeply understanding users' problems from their point of view rather than relying solely on technology or predefined solutions. It uses abductive reasoning where they generate hypotheses to imagine potential solutions, without limiting the choices to a predefined set.

Comparative Analysis of Findings and Literature

The research findings from the Executive and Entrepreneurs groups demonstrated that organisations must train their employees on design thinking to enable understanding of what design thinking entails. The findings aligns to the view of (Nakata & Hwang., 2020) assertion that organisations must train employees on the design thinking mindset and the training should include acceptance of learning by failure.

Another similarity observed between the literature and the findings included the allowance for trial and error learning space as evidenced by the Entrepreneur and Designers groups. . This

assertion aligns with the literature by Micheli et al (2020) that engaging in trial-and-error experiments allows organisations to embrace uncertainty, adding that organisations must provide feedback to stakeholders in their quest to define and address customer problems. This translates into creating into habit of foregoing ideas and readjusting approaches instead of defending an initial idea (Panke, 2019).

The three groups (Executives, Entrepreneurs and Designers) identified another way to address misconceptions is market analysis to identify the customer needs, taking the customer along the design journey through engaging with them at every customer touchpoint. This aligns to Onufrey and Bergerek (2021) assertion that as markets evolve and mature, organisations must review their strategies and adapt to the change to remain relevant to their customers and gain a competitive advantage. Organisations achieve this through developing innovative strategies that allow organisations to position their value proposition by, outlining the adopted innovations, the rationale for the adopted innovations, and the value users derive from the adopted innovation.

To support the assertion (Becker & Jaakola, 2020) state organisations must focus on spontaneous customer responses and the reaction stimuli related to the offer, using touchpoints to gain insights and make comparisons between different situations, as part of effectively measuring and understanding customer experience. To avoid the touchpoints that lead to stagnant customer experiences, organisations must manage the entire customer journey (Holmlund et al, 2020).

The finding from the Executive group highlighted the importance of integrating abductive reasoning into an organisations design thinking approach/ practices. This aligns to Verganti et al (2020) assertion that design thinking principles use abductive reasoning to generate hypotheses to imagine potential solutions, without limiting the choices to a predefined set.

Summary

It is important for organisations to train employees on design thinking to ensure alignment the methodology and expectations when implemented across the organisation. Enablers to design thinking are a learning environment that allows trial and errors, to promote creativity. Organisations to address customer needs informed by the market changes and users feedback, to be able to develop solutions and processes that encompass a memorable customer experience.

The research findings align to the literature regarding addressing misconceptions on design thinking (Becker & Jaakola, 2020; Holmlund et al, 2020; Micheli et al, 2020; Nakata & Hwang,

2020; Onufrey & Bergek, 2021; Panke, 2019). The alignment of the findings to the literature adds to the body of knowledge.

6.2.1.7 Sub-theme 7: Evidence of Promoting Open Minded from Findings

The Executive Group argued that organisations have an opportunity to be open minded about the problems that are coming from different parts (industry and technology) in order to develop innovative solutions, and listening to their customer voice, immersing themselves in their experience. Organisations should also improve processes to enable the organisation to be agile towards their strategy formulation, as evidenced by the Entrepreneur group.

Evidence of Promoting Open Minded from Literature

Organisations have to be open minded about the problems coming from different parts, that is, industry and technological innovations. Literature by Li and Liu (2022) showed that discovering problems through user and market research is the first stage of the problem space in the double diamond model, followed by the second stage which defines the problems to be solved by exploring the data collected (Melles et al, 2020).

There are many opportunities that organisations can capitalise on by incorporating design thinking into their strategy, including: Gaining a competitive advantage - as a strategic business resource, design thinking manages and addresses customer problems using an analysis that combines empathy, creativity, and rationality to deliver solutions (Wrigley et al, 2020).

Verganti et al (2020) suggest that when implementing design thinking, management should focus on identifying meaningful problems, supported by pertinent data to solve their problems. This approach avoids situations in which management develops solutions without conducting preliminary research to understand customer pain points, and critically examine their solutions-generating methods.

In order to identify sustainable solutions, organisations must enhance their innovation capabilities through fostering collaboration and adopting a user-centric mindset (de Paula et al, 2022).

Insights by (Micheli et al, 2019; Nakata & Hwang, 2020; Vignoli et al, 2023) highlights that abductive reasoning is integral to an organisation's design thinking process as it enables organisations to leave their familiar spaces and step into uncharted territory and explore alternatives in the process of developing innovative solutions that meet their customer needs.

Comparative Analysis of Findings and Literature

The research findings from the Executive and Entrepreneurs demonstrated that promoting an open mind is critical in integrating design thinking into the organisations overall strategy.

The Executive group show that organisations must be open minded about addressing problems affecting them from the market and technology. The lliterature by Li and Liu (2022) evidenced that organisations must utilise market and user research to discover problems, and defining the problems to be solved by exploring available data (Melles et al, 2020), using the first and second stages of the double diamond model.

In responding to technology to identify innovative solutions, organisations must enhance their innovation capabilities through fostering collaboration and adopting a user-centric mindset (de Paula et al, 2022).

Moreover, the findings indicated that organisations must listen to the voice of the customers, immersing themselves in their customer situations to come up with solutions that fit and delight the customers, as evidenced by the Executive group. This finding aligns to literature as evidenced by Wrigley et al (2020) that one of the opportunities an organisation can capitalise on by incorporating design thinking into their strategy, includes addressing customer problems using an analysis that combines empathy, creativity, and rationality to deliver solutions.

The findings also showed that process improvements enable organisations to be agile during their strategy formulation process, as evidenced by the Entrepreneur group. Literature by (Micheli et al, 2019; Nakata and Hwang, 2020; Vignoli et al, 2023) indicate that abductive reasoning is integral to an organisation's design thinking process as it enables organisations to leave their familiar spaces and step into uncharted territory and explore alternatives in the process of developing innovative solutions that meet their customer needs.

This signifies that the analysis of the market enables organisations to explore the unknowns using capabilities within the organisation to ensure sustainability through providing a differentiated value proposition, using attributes and techniques such as creativity, empathy, imagination and customer co-creation. Thus enabling organisations to be agile towards their design thinking initiatives.

Summary

The findings further align to literature on organisations being open minded in their problem consideration, defining the problems and design innovative solutions by conducting market research to determine user needs and design innovative solutions by enhancing their innovation capabilities (Li & Liu, 2022; Melles et al, 2020, de Paula et al, 2022). Moreover, the

findings align to literature on organisations listening to the voice of their customers to address customer problems (Wrigley et al, 2020; Verganti et al, 2020).

Process improvements enables organisation to be agile during their strategy formulation process, integrating abductive reasoning to an organisation's design thinking process to enables organisations to tap into uncharted territory and explore alternatives in the process of developing innovative solutions that meet their customer needs (Micheli et al, 2019; Nakata and Hwang, 2020; Vignoli et al, 2023)

The alignment of the findings to the literature adds to the body of knowledge on the use of design thinking through its methods to enhance customer value.

6.2.2 Research Question 2: What are the key factors that contribute to the successful implementation of design thinking as a strategy to enhance customer value?

The findings show that problem solving is the core of design thinking, and being open-minded allows the flexibility to explore the unknown and experiment with new ideas. Furthermore, they are important skills needed to be successful.

The culture and values that influence the success of design thinking are those in which an organisation values its customers and establishes a culture that encourages innovation, experimentation, tolerance for failure and mistakes, empathy, customer engagement and user participation.

The findings alerts organisations to common barriers that need to be avoided to ensure a successful design thinking implementation, that is, lack of relevant resources and lack of collaboration. Key success factors for overcoming barriers include pushing people out of their comfort zones, listening to customers, acquiring the right skills and being agile in delivering value propositions.

A key success factor for successfully implementing design thinking as a strategy to enhance customer value is identifying customer needs and addressing identified problems based on the data collected. Additionally, prototype and test products before launch to ensure a successful implementation of design thinking with the customer at the center.

6.2.2.1 Sub-theme 1- Evidence of Problem Solving from Findings

One of the skills required for organisations to implement design thinking successfully is problem solving. Problem solving is core of design thinking, as evidenced by the Designers groups. Individual and teams involved in design thinking are able to solve the problems faced

by the customers in terms of convenience costs, providing flexibility and adding value to the customers experience as evidenced by the Executive and Designers Group.

Evidence of Problem Solving from Literature

Insight by (Sjödin et al, 2020) demonstrate that a diverse team with key skills should be part of the design thinking process to confirm that all the critical points are not overlooked during the development phase. This is to ensure that the problem addressed is resolved to meet the customer needs.

In support, (Li & Liu, 2022; Melles et al, 2020); demonstrated that individuals or teams use their problem solving skills during the first and second stages of the double diamond model, by discovering problems through user and market research, followed by the second stage which defines the problems to be solved by exploring the collected data.

Comparative Analysis of Findings and Literature

A similar observation between the literature and the findings included problem solving as essential skill individuals or teams must possess to implement design thinking, as per findings from the Executive and Designers group. Aligned to (Li & Liu, 2022; Melles et al, 2020) demonstrated that individuals or teams use their problem solving skills to discover problems through user and market research, and define the problems to be solved by exploring the collected data. This also support the views by Sjödin et al, (2020) who indicated that an organisations design thinking process team, must be diverse with key skills to ensure all critical points are covered during the development phase. This is to guarantee that the problem addressed is resolved to meet the customer needs.

Design thinking requires individuals to have problem solving skills in order to analyse, interpret and resolve problems faced by customers. Organisations use data analysis or user engagements, to ensure that all critical points in the product development process are addressed.

Summary

The findings align to literature on individuals or teams having problem solving skills to implement design thinking successfully. As evidenced by (Li & Liu, 2022; Melles et al, 2020) that individuals or teams should use their problem solving skills discovering and defines the problems to be solved, using data collected from users and market.

The alignment of the findings to the literature adds to the body of knowledge on designers having problem solving skills.

6.2.2.2 Sub-theme 2- Evidence of Being Open Minded from Findings

The quality identified for an individual or team to have in order to implement design thinking successfully, is being able to adopt an open mind through being flexible and accepting new ways of thinking. Which translates to the individuals or teams having the courage to get out of their comfort zone to explore the unknown and provide opportunities for new ideas, outlined by the Executive and Entrepreneur groups.

Evidence of Being Open Minded from Literature

Being open minded to tap into the unknown is a quality required to implement design thinking successfully. Insight by Thompson and Schonthal (2020) list a four-step process that includes observe and notice, frame and reframe, imagine and design, and make and experiment. It is the ability of a design thinker (for purposes of this research, this also includes management) to view things without preconceptions, using different lenses to approach customer problems and develop the desired solutions. This indicates the critical role designers play in the solutions they develop and the importance of considering all avenues to addressing customer problems.

In support, (Micheli et al, 2020; Nakata & Hwang, 2019) provide evidence that integrating an abductive reasoning mindset which questions the status quo pushes organisations to pursue alternatives by exploring the unknown territory to create and encourage ideation for possible solutions. Removing the focus from experiences and expertise allows for the creation of new knowledge and insights for organisations. In so doing, the organisations nurture the culture of producing ideas from a multiple view.

Comparative Analysis of Findings and Literature

Individuals or teams must have the quality of being open minded in order to solve the customer problems through being flexible and accepting new ways of thinking, enabling them to get out of their comfort zone to explore the unknown as evidenced by the Executive and Entrepreneur groups. Aligned to Thompson and Schonthal (2020) the four-step design method enables management to view things without preconceptions, using different lenses to approach customer problems and develop the desired solutions.

This also supports the views of (Micheli et al, 2020; Nakata & Hwang, 2019) that using an abductive reasoning mindset drives organisations to pursue alternatives by exploring the unknown territory to create and encourage ideation for possible solutions. In so doing, they remove their focus from their experiences and expertise, and allow for the creation of new knowledge and insights for organisations.

This view signifies that organisations needs to be flexible to explore the unknowns in order to tap into unconsidered alternatives, to address customer needs. This will eliminate situations where organisations use pre-determined solutions that may be bias.

Summary

The research findings align to the literature individuals or teams being open minded to tap into the unknown, as an additional skill required implementing design thinking successfully. (Micheli et al, 2020; Nakata & Hwang, 2019; Thompson & Schonthal, 2020)
The alignment of the findings to the literature adds to the body of knowledge on the important steps in design thinking.

6.2.2.3 Sub- theme 3: Evidence of Culture from Findings

A factor that could affect the successful implementation of design thinking is culture. Organisations must perceive their customers as important as they contribute towards the business sustainability and not as stupid or not smart people, as illustrated by the Designers group. The culture required for design thinking is a culture that is not hierarchal, closed, but a culture that promotes innovation, experimentation, and allows for failures and mistakes, as illustrated by the Executive and Entrepreneur groups.

Evidence of Culture from Literature

An organisation's culture must be user focused to ensure the successful implementation of design thinking initiatives. Insight by Thompson and Schonthal (2020) shows that an organisation's culture focus on the users to ensure the successful implementation of design thinking initiatives, outlining that design thinking offers organisations an opportunity to use the approach to identify key insights to develop innovative solutions through engaging users. Burns (2018) agrees and states that the designs formulated should cater to the needs and circumstances of the intended users.

The organisation's culture components and types of culture required are innovation, experimentation, allowing for failure and mistakes, empathy, customer engagement and user feedback. To support this, Selvalakshmi et al (2022) asserted that organisations must introduce design-thinking processes where organisations conceive new ideas, and apply them to the organisational innovation, through a design culture. This requires the organisation to understand the characteristics of design thinking.

In support of this, Auernhammer and Roth (2021) indicated that design qualities encompass elements such as culture, creative thinking, imagination, and cognitive processes. These aspects are crucial components of design thinking. However, the organisational culture often

hinder support for design-thinking implementation. Secondly, it requires organisations with keen, visionary and innovative qualities to support the design thinking process and create a culture that uses design thinking to create value for customers (de Paula et al, 2022).

Comparative Analysis of Findings and Literature

The research findings from the Designers group highlighted user focus as one of the key steps to ensure that the organisations culture and values affect the design thinking initiatives successfully, confirming the need for user focus identified in the literature review. This is in support of the assertion by Thompson and Schonthal (2020) that organisations must employ user engagements to gain insights that will assist in the design of their solutions.

Findings from the Executive and Entrepreneur group highlighted the second key step where organisations incorporate culture components and establish the required culture to ensure that design thinking initiatives succeed, which includes innovation, experimentation, allowing for failure and mistakes, empathy, customer engagement and user feedback.

This finding aligns with Selvalakshmi et al (2022) who outlined that organisations must introduce design thinking to conceive new ideas that are applied to the organisational innovation, through a design culture. This requires organisations to understand the characteristics of design thinking. To support this, Auernhammer and Roth (2021) showed that design qualities encompass elements such as culture, creative thinking, imagination, and cognitive processes. These aspects are crucial components of design thinking. However, they the organisational culture often hinder the support of design thinking implementation of design thinking.

Moreover, de Paula et al (2022) claimed that organisations with keen, visionary and innovative qualities support the design thinking process and create a culture that uses design thinking to create value for customers.

Summary

Culture does influence an organisation's design thinking initiatives and requires that the culture focus on the customers through understanding their needs, such as environment, social elements and behaviours. In addition, the organisation's design attributes must be experimental, innovative, allow for failure and collaboration with stakeholders. In having these attributes, an organisation's design thinking culture centres on solving the user's problems.

The research findings align with the literature regarding user focus, as a key step to ensuring that the organisation's culture and values impact the design thinking initiatives successfully (Thompson and Schonthal., 2020; Burns., 2018). Secondly, the findings further align to

literature on the second key step where organisations incorporate culture components and establish the required culture to ensure that design thinking initiatives succeed, which includes innovation, experimentation, allowing for failure and mistakes (Auernhammer & Roth, 2021); de Paula et al, 2022; Selvalakshmi, 2021) .

The alignment of the findings to the literature adds to the body of knowledge on organisations culture and values influencing the success of design thinking initiatives.

6.2.2.4 Sub-theme 4: Barriers to successful implementation of design thinking from Findings

The findings highlight what organisations should avoid as these barriers may restrain the implementation of design thinking successfully. The first barrier is the organisation lacking the relevant resources to implement design thinking successfully, as evidenced by the Entrepreneur group. The second barrier is when there is no collaboration within organisations to ensure everyone aligns to the same goal. Thus leading to a culture that prevents the implementation of design thinking as evidenced by the Executive group. In contrast, organisations can view the identified barriers as opportunities they can explore to implement design thinking successfully.

Evidence of barriers to successful implementation of design thinking from Literature

Literature linking to common barriers that organisations should avoid is provided below. Diderich (2020) highlighted that organisations should address one of key questions during the development process: "What are the specific skills and resources needed to achieve sustainable competitive advantage by delivering on your promises?

Selvalakshmi et al (2022) notes that the ability to consider three main aspects of a designer simultaneously is crucial for implementing design thinking: (1) understanding human needs and envisioning improved ways of living. (2) Evaluation of available materials and technical resources. (3) Asses the limitations and opportunities associated with a project or business.

Design thinking methods adopted by organisations are essential in helping them understand design thinking and the application of its dimensions to enhance customer value. It is imperative that organisations understand how to apply design-thinking methods to enable them to create innovative solutions that enhance customer value in the design process. Moreover, to encourage collaboration that promotes the adoption of user-centred mindset, robust prototyping, and remove biases to develop compelling value propositions for customers (de Paula et al, 2022).

In addition, scholars provide evidence that design thinking affects the innovation process through collaboration. Design thinking is an approach to help organisations conduct effective customer research, achieve vital partner engagements, and drive cross-functional collaboration. Thus, enabling solutions to customer problems be built and allowing organisations to convert ideas and seize the opportunities to implement new business models during the innovation process (de Paula et al, 2022; Knight et al, 2020; Wrigley et al, 2020).

Selvalakshmi et al (2022) posits that design thinking is a process organisations use to conceive new ideas, and applied to organisational innovation through a design culture. This requires the organisation to understand the characteristics of design thinking.

Comparative Analysis of Findings and Literature

The findings from the Entrepreneur group demonstrated that lack of relevant resources, such as budgets, skilled personnel and information technology tools serves as a barrier to implementing design thinking successfully, which could impede the competitive advantage and value offering of an organisation. Diderich (2020) stated that it is imperative for organisations to establish the specific skills and resources required to achieve sustainable competitive advantage when delivering on its promises during the product development phase. Selvalakshmi et al (2022), concurs and noted that the ability to consider three main aspects of a designer simultaneously is crucial for implementing design thinking: (1) Understanding human needs and envisioning improved ways of living. (2) Evaluation of available materials and technical resources. (3) Assessing the limitations and opportunities associated with a project or business.

Findings from the Executive groups revealed that when there is no collaboration, there is misalignment about the design thinking goal embarked on. This is in support of assertions by (de Paula et al, 2022; Knight et al, 2020; Wrigley et al, 2020) who say that collaboration affects the organisation's innovation process. Design thinking is an approach to help organisations conduct effective customer research, achieve vital partner engagements, and drive cross-functional collaboration.

Organisations that lack collaboration, experience a culture that prevents the successful implementation of design thinking, as evidenced by the Executive group. Selvalakshmi et al (2022) posits that a design culture allows organisations to conceive new ideas and apply them to their organisational design. However, it is imperative for organisations to understand the characteristics of design thinking.

Summary

Lack of collaboration on the identified design-thinking goal creates a culture of resistance towards design thinking practices. The literature findings highlighted the opportunities that are available to organisations against the barriers identified from the findings, indicating that organisations can view the identified barriers as opportunities they can explore to proactive create an environment to implement design thinking successfully.

The research findings align to the literature regarding organisations common barriers organisations must overcome in order to create an environment to implement design thinking successfully (de Paula et al, 2022; Diderich, 2020; Knight et al, 2020; Selvalakshmi, 2021, Wrigley et al, 2020). The alignment of the findings to the literature adds to the body of knowledge.

6.2.2.5 Sub-theme 5- Overcoming barriers to successfully implement design thinking from Findings

In order to overcome barriers to successful design thinking implementation, organisations must drive the change of perception, that is, taking people out of their comfort zone on design thinking within the organisation through various trainings methods to create a culture that is design thinking focused, as evidenced by the Executive group. Moreover, organisations must listen to their customers to integrate their ideas in the design process, as evidenced by Designers group. In addition, Entrepreneur group highlighted that organisations must attract the right skills and invest in a number of factors such as time, product design process and financing of systems to ensure that the developed products are right for the customers and the market.

Implementing all of the above, enables organisations to be agile in their value proposition and helps them to gain a differentiation advantage over their competitors, as evidenced by the Executive group.

Evidence of overcoming barriers to successfully implement design thinking from Literature

Critical success factors required when implementing design thinking include organisations having the required skills and knowledge needed to be able to make strategic decisions to develop innovative solutions. Secondly, it requires organisations with keen, visionary and innovative qualities to support the design thinking process and create a culture that uses design thinking to create value for customers ((de Paula et al, 2022). Organisations to ensure that a diverse team with key skills is part of the process to confirm the design team does not overlook critical points in the development phase (Sjödin et al, 2020).

Literature has indicated that design thinking as a dynamic coupling of mindsets and actions enables organisations to achieve innovations, signifying that the application of thoughts is instrumental to tasks embarked on (Nakata & Hwang, 2020). In support, Vignoli et al. (2023) note that mindset is central to the design thinking dialogue and is crucial to the implementation of design thinking. They further highlight the challenges faced by the design thinking approach, which shows that people without an appropriate attitude towards the type of work in the design approach are unable to use design thinking methods and tools, as it is difficult to make the transition from a decision to adopt to a design attitude.

The third mindset is learning by failure, which encourages organisations to view failure as part of the learning process to ensure they are not afraid to explore uncertain environments to produce effective solutions earlier. For example, Micheli et al. (2020) indicates that engaging in trial-and-error experiments allows organisations to embrace uncertainty, adding that organisations must provide feedback to stakeholders in their quest to define and address customer problems. This translates into creating into habit of foregoing ideas and readjusting approaches instead of defending an initial idea (Panke, 2019).

Jeon (2019) contends that an essential aspect of enhancing customer value is providing a unique user experience, which entails offering products, or services that stand out from the competitors by considering user expectations, purchasing motivations and effective product design systems that deliver value and satisfy customers. In support, Getnet et al. (2019) state that organisations need to develop innovative products that create value for their customers. In addition, they point out that manufactured products must offer superior benefits to the customers and be perceived by the customers as valuable compared to competitors.

Verganti et al. (2020) argue that design-thinking principles put people and their needs first. It is people-centred, and primarily empathetic with the aim of deeply understanding users' problems from their point of view rather than relying solely on technology or predefined solutions. In addition, Osterwalder et al. (2023) argue that by adopting a customer-centric approach, management must ensure that customer information is organised in a way that simplifies how they create value. This is to ensure effectively created value propositions and profitable business models through direct target customers. Showing empathy by seeing the customer's point of view and listening to their feedback is essential.

According to Becker and Jaakola (2020), customer experience has historically dominated marketing, where business leaders believe it gives organisations a competitive advantage. However, with the advent of technology, organisations implementing customer experience must use big data analytics to understand their customer journey and make key decisions in

line with improving their customer experience (Holmlund et al, 2020). This motivates organisations to manage customer experience to reap benefits such as customer satisfaction, revenue, competitive advantage, and employee satisfaction (McColl-Kennedy et al, 2018).

Comparative Analysis of Findings and Literature

The findings provide an opportunity for organisations to overcome barriers that hinders the successful design thinking implementation.

Organisations must drive the change of mindset, which is, taking people out of their comfort zone on design thinking within the organisation through various trainings methods to create a culture focusing on design thinking, as evidenced by the Executive group. Nakata and Hwang (2020) evidenced that the adoption of mindset and actions enables organisations to achieve innovations, signifying that the application of thoughts is instrumental to tasks embarked on. Further, mindset is integral to an organisations design thinking conversations to enable a design attitude (Vignoli et al, 2023). In taking employees out of their comfort zone during design thinking process, encourages the behaviour of thinking beyond normal capacity to explore alternative innovative designs to put in place to solve identified design thinking initiatives, driving the adoption of a design attitude.

The Designers group evidenced the importance of listening to customers. Aligned to (Verganti et al, 2020; Osterwalder et al, 2023) view that design thinking principles, requires organisations to put the customers and their needs first, and being empathetic towards understanding the customers' needs from their point of view and its crucial to listen to the customers feedback. Incorporating the customers feedback, provides organisations with an opportunity to integrate the ideas received from the customers into their design process to develop solutions that address user needs and promotes a customer centric approach.

Moreover, Entrepreneur group highlighted that organisations must attract the right skills and allocate the required budget toward innovation drives. de Paula et al (2022) highlighted organisations that succeeded in their design thinking implementation had the required design skills and knowledge that enabled management to make strategic decisions that lead to the development of innovation solutions. Further, the design team made up of a diverse team coupled with key skills to ensure that they address critical points during the development phase (Sjödin et al., 2020). Overcoming barriers to design thinking requires organisations to recruit the right talent, be diverse in their formulation of the design thinking team to ensure operation efficiency, encourage interdisciplinary collaboration and promote employees desire to acquire knowledge.

Organisations who put the above practices (mindset change, listening to customers, recruiting the right talent) in place are enabled to be agile in their value proposition, to gain a differentiation advantage over their competitors, as evidenced by the Executive group. Aligned to Holmlund et al (2020) statement that the advent of technology propelled organisations to use big data analytics to understand their customer journey, enhancing customer value to provide a unique user experience by offering competitive products (Jean, 2019).

Summary

The research findings align to the literature regarding change of mindset, listening to the users, recruiting the right talent and being agile as practices organisations should put in place to overcome common barriers to implementing design thinking successfully. This is evidenced by (de Paula et al., 2022; Holmlund et al, 2020; Nakata & Hwang, 2020; Osterwalder et al, 2023; Sjödin et al, 2020; Verganti et al, 2020; Vignoli et al, 2023). The alignment of the findings to the literature adds to the body of knowledge on empathy being an important step in design thinking. The differences and the contradictions seem to be absent between the literature and the research findings.

6.2.2.6 Sub-theme 6: Evidence- Examples of companies that successfully implemented design thinking and factors contributing to their success from Findings

The findings provide organisations with practical suggestions that they can put in place to ensure the successful implementation of design thinking. It is imperative for organisations to identify the need faced by the customers and address the identified problems, through conducting research and customer engagements to determine the customer expectations and experience, as evidenced by the Executive Group and Entrepreneur Group. In so doing, organisations have data insight to embark on a seamless product design, guided by the data collected and not relying on assumptions made about what customers need, as evidenced by the Designers Group.

The findings also outline the significance of prototyping and testing products prior to launch to ensure successful implementation of design thinking. From a system perspective, the Executive group emphasised the importance of testing to ensure the product has capacity to deliver on what is expected and opens doors for attraction of targeted customers.
The customers should be an organisations central point in the piloting and testing stages to inform where the product needs adjustments or enhancements, as evidenced by Entrepreneur and Designers groups.

Examples of companies that successfully implemented design thinking and factors contributing to their success evidence from Literature

In the past, organisations used to design their customer solutions based on the designer's experience and perceived customer knowledge, customer preferences generated from feedback from focus groups, surveys, resulting in an impersonal customer exercise. Leading to instances where the customers' needs were unmet; and the organisations articulated their customer needs through their own biases (Liedtka, 2018). Moreover, Diderich (2020, pg. 6) further highlighted that organisations should address these questions during the development process: "Which customer needs are currently being met and which are not?" "How can the organisation address the identified needs in a way that customers are willing to pay?" "Does it address identified needs?".

Burn (2018) outlined an integrated process based on the human-centred design process, which involves identifying the problem to solve, including the desires and lives of the target customer. Second, generate ideas that solve identified problems using prototypes to visualise ideas and test them with target customers. Finally, create a potential solution that the target customer will use.

Scholars (Knight et al, 2020; Wrigley et al, 2020) highlighted that the application of design thinking provides evidence of both benefits associated with the integration of design thinking into strategy. Benefits include the utilisation of the data derived from customer engagements to create strategies that drive customer value creation and gain a competitive edge in the market.

Klenner et al (2020) evidenced that experimentation and prototyping in an iterative process ensures organisations understand the user needs, tested, and suitable solutions are developed. Consequently, the iterative process will lead to more user-friendly and effective solutions for the customers, which results in added customer value.

Evidence by Nakata and Hwang (2019) demonstrate that human-centredness and experimentation are integral components of design thinking, and require professional skillsets such as a designer who empathises and identifies and ideates user needs, the technical engineer to determine the feasibility and the business manager who determines the value generation (Micheli et al, 2019). In addition, a learning-oriented organisation, tests their products with the target customers before launching them to the market to determine if the proposed solution will succeed or fail (Micheli et al, 2019; Nakata & Hwang, 2020; Vignoli et al, 2023).

In support, Jeon (2019) contends that an essential aspect of enhancing customer value is providing effective product design systems that deliver value and satisfy customers.

Comparative Analysis of Findings and Literature

The research findings from the Executives and Entrepreneur group demonstrated the practical suggestions that organisations could put in place to ensure success implementation of design thinking, that is, identifying the need faced by the customers and addressing the identified problems, through conducting research and customer engagements to determine the customer expectations and experience. This is in agreement with Diderich's (2020) view that it is important for organisations to determine which needs of the customer they meet, and which needs they do not meet. Organisations will be able to determine ways to address the identified needs and assess if the product developed addresses the identified customer needs.

In support, Liedtka (2018) posits that organisations articulate their customer needs through their own biases, thus leading to instances where the customers' needs are unmet.
It is imperative for organisations to identify the need faced by the customers and address the identified problems, through conducting research and customer engagements to determine the customer expectations and experience, as evidenced by the Executive Group and Entrepreneur Group. Aligned to Burns (2018) integrated process based on human-centred design process that involves identifying the problem to be solved, including the desires and lives of the target customer. Secondly, generating ideas that solve identified problems using prototypes to visualise ideas and test them with target customers. Finally, creating a potential solution that the target customer will use.

The Designers group indicated that identifying the customer need and problems to solve enables organisations to have data insight to use when embarking on a seamless product design, guided by the data collected and not relying on assumptions made about what customers need. This view aligns to Wrigley et al (2020) and Knight et al (2020) view that benefits derived from applying design thinking include utilisation of the data derived from customer engagements, and propels organisations to create strategies that drive customer value creation and gain a competitive edge in the market.

The findings outline the significance of prototyping and testing products prior to launch to ensure successful implementation of design thinking. From a system perspective, the Executive group evidenced the importance of testing to ensure the product has capacity to deliver on what is expected and opens doors for attraction of targeted customers. This supports literature by Nakata and Hwang (2019) and Micheli et al (2019) which demonstrated the imperative for organisations to have the required professional skillset, such as the

technical engineer to determine the feasibility and the business manager who determines the value generation. In addition, organisations that are learning oriented test their products with target customers before launching them to the market to determine if the proposed solution will succeed or fail (Micheli et al, 2019; Nakata & Hwang, 2020; Vignoli et al, 2023).

The customers should be an organisation's central point in the piloting and testing stages to inform where the product needs adjustments or enhancements, as evidenced by Entrepreneur and Designers groups. Evidence by Klenner et al (2020) illustrated that experimentation and prototyping enables organisations to understand their user needs, testing developed ideas to identify and develop suitable solutions. This will ensure organisations design effective solutions for the customers, resulting in added customer value. In addition, Burns (2018) evidenced that interactive prototyping addresses the broader process of developing multiple prototypes in accordance with project requirements and iteratively refining them based on user feedback, involving various prototyping techniques. Evidence by Jeon (2019) contends that an essential aspect of enhancing customer value is providing effective product design systems that deliver value and satisfy customers.

Organisations should pilot test systems and products prior to launch to ensure they meet the required standards. Failure to pilot test may result in a negative customer experience that affect customer attractions and retentions. The iterative process enables organisations to achieve successful implementation of their designed solutions, through refinements based on users' feedback received.

Summary

The research findings align with the literature regarding identifying the need faced by the customers and addressing the identified problems, using data insight to embark on a seamless product design, guided by the data collected and not relying on assumptions made about what customer's need, as factors that contribute to the successful implementation of design thinking. Evidence illustrated by (Burns, 2018; Diderich, 2020; Knight et al, 2020; Liedtka, 2018; Wrigley et al, 2020). The alignment of the findings to the literature adds to the body of knowledge on training required for design thinking.

The research findings align with the literature regarding prototyping and testing, dry runs and pilots, user engagement and customer focus as factors contributing to the successful implementation of design thinking through piloting theme (Burns, 2018; Jeon,2019; Klenner et al, 2020; Micheli et al, 2019; Nakata & Hwang, 2019; Vignoli et al., 2023). The alignment of

the findings to the literature adds to the body of knowledge on training required for design thinking.

6.2.3 Research Question 3: What are the best practices and strategies for organisations to implement design thinking effectively as a strategy to enhance customer value and achieve competitive advantage?

The findings outline a culture of collaboration to achieve a achieve common goals, address identified problems from a user perspective, engage users, learn through action as a best practice organisation, and apply design thinking to effectiveness. The aim is to improve customer value by introducing new technologies.

The findings outline strategies for organisations to implement design thinking effectively to advance customer value by prioritising innovation by adapting to market changes, adopting innovation technologies and further developing products.

Moreover, organisations need to integrate design thinking as a strategic objective to ensure future-oriented approach and performance tracking of design thinking initiatives.

6.2.3.1 Sub-theme1: Evidence of Collaborative Culture from Findings

The three groups displayed similarities on collaborative culture being instrumental towards supporting design thinking within an organisation. The Executive group experience was that organisations must remove silos and internal competition and replace it with a collaborative culture when adopting design-thinking approaches. The Entrepreneur group advocated for organisations to embed collaborative culture within all levels and interactions of an organisation. A different perspective mentioned by the Designers group, was in relation to listening to other people and learning from their wisdom, which provides the opportunity for organisations to listen to their customers better

Evidence Collaborative Culture from Literature

To build a collaborative culture to support design thinking, design qualities are crucial components of design thinking. The quality attribute includes confidence, motivation and flexibility that drives organisations to develop effective solutions that meet customer needs, and influenced by the organisational environment and collaboration with key personnel. (Auernhammer & Roth, 2021). Organisations must encourage collaboration to drive the adoption of user-centred mindset, robust prototyping, and remove biases to develop compelling value propositions for customers (de Paula et al, 2022).

Literature provides evidence that design thinking affects the innovation process through collaboration, exemplified by using design thinking as an approach to help organisations to conduct effective customer research, achieve vital partner engagements, and drive cross-functional collaboration. Thus, enabling solutions to customer problems be built and allowing organisations to convert ideas and seize the opportunities to implement new business models during the innovation process (de Paula et al, 2022; Knight et al, 2020; Wrigley et al, 2020). Collecting data during the human centered design, through Co-creation method involves the collaborative efforts of two or more individuals, including both designers and individuals without formal design training (Melles et al, 2020).

In relation to a learning by failure mindset, Vignoli et al. (2023) offer a different perspective stating that organisations should be learning-oriented, by ensuring there is an appetite for learning, learning about others, and looking at new contexts to learn by taking action, observing prototyping, and testing.

Comparative Analysis of Findings and Literature

The research findings from the three groups showed (Executives, Entrepreneur and Designers) similarities on collaborative culture being a key element that supports design thinking, despite the different views.

The Executive and Entrepreneur groups highlighted that organisations needs to create collaboration within the organisation by removing silos and internal competition, and embed collaboration across all levels and interactions in the organisation. Auernhammer and Roth (2021) contended that organisations with the attribute quality are able to develop effective solutions that meet their customer need, enabled by the organisational environment and collaboration with key personnel. This aligns to de Paula et al (2022) assertion that organisations must encourage collaboration to drive the adoption of a user-centred mindset, robust prototyping, and removing biases to develop compelling value propositions for customers.

Moreover, collaboration allows organisations to utilise design thinking to conduct effective customer research, achieve vital partner engagements, and drive cross-functional collaboration. Thus, enabling solutions to customer problems be built and allowing organisations to convert ideas and seize the opportunities to implement new business models during the innovation process (de Paula et al., 2022; Knight et al., 2020; Wrigley et al., 2020).

A different perspective by Melles et al (2020) outlined using a data collection method of co-creation, drives collaborative efforts of two or more individuals.

Findings from the Designers group highlighted the use of learning from customers in order to build a culture that supports design thinking, executed through listening to and learning customer's wisdom, and valuing their expertise. Aligned to Vignoli et al (2023) perspective that organisations should be learning-oriented, by ensuring there is an appetite for learning, learning about others, and looking at new contexts to learn by acting, observing prototyping, and testing.

Summary

A collaborative culture allows organisations to be unified towards achieving their set design thinking objectives, affording them to learn from others and viewing things in a different perspective to be able to co-create memorable experience for the customers through an integrated end-to-end journey.

The research findings align with the literature regarding embedding collaborative efforts towards building a culture that support design thinking (de Paula et al., 2022; Knight et al., 2020; Wrigley et al., 2020; Auernhammer and Roth.,2021; Melles et al, 2020). The alignment of the findings to the literature adds to the body of knowledge on the important steps in design thinking.

Moreover, literature demonstrated that organisations must encourage collaboration to drive the adoption of a user-centred mindset, robust prototyping, and removing biases to develop compelling value propositions for customers (de Paula et al., 2022). In contrast, the research findings outlined internal competitions be removed to create collaborate.

The differences and the contradictions observed between the literature and the research findings on building a culture that support design thinking included the approaches applied on collaboration and the use of learning respectively. A different view outlined by Melles et al (2020), included collaborative efforts of two or more individuals adopted to collect data, as part of the co-creation method during the human centered design. In contrast, the research findings outlined the process of listening to customer's wisdom, and valuing their expertise.

Another difference was the removal of internal competitions to create a collaborative culture, which the literature does not seem to discuss.

6.2.3.1 Sub-theme 2: Evidence of Experiential learning from Findings

The findings for the Executive group were similar in terms of learning by taking action, highlighting that people learn by practicing and participating in design thinking affords employees with the best experience. Further, adopting an experiential learning process

enables employees to implement design thinking individually, thus being efficient in their implementation.

Moreover, the learning by action implemented by organisations should be actioned based focusing on addressing customer needs to create a memorable experience for them, to ultimately gaining a competitive advantage on customer satisfaction.

Evidence of Experiential learning from Literature

Vignoli et al (2023) stated that organisations should be learning-oriented, by ensuring there is an appetite for learning, learning about others, and looking at new contexts to learn by taking action, observing prototyping, and testing. In addition, Micheli et al (2019) argued that the iterative process in design thinking, allows organisations to learn through trial and error, engaging customers in testing a variety of potential solutions, using tools such as prototypes to ensure ideas are developed specifically for the problem to be solved

Organisations address identified problems from the customer's perspective through interviews method, where they collect the data by tapping into users' perspectives on how a design should be and what their requirements are (Burns, 2018). In support, Melles et al (2020) outlined that conducting face-to-face consultations assist organisations to understand the users and stakeholders perceptions, opinions, motivations and behaviours related to a particular context or problem.

Scholars (Selvalakshmi et al, 2022) have defined design thinking as a process in which the designers who use a variety of methods to meet customer needs in order to create customer value and competitive advantage

Personas identifies key stakeholders through user patterns, ensuring users are part of the end-to-end problem solving process. Throughout the journey map, organisations must track the customer experience and visceral response to the experiences. Through prototyping, organisations have the opportunity to learn continually about their customers, enabling iterative, experimental and tailored solutions for their customers (Micheli, 2019).

Comparative Analysis of Findings and Literature

The findings from the Executive group outlined that organisations must train employees through learning by acting, through practicing and participating in design thinking drives. Aligned to Vignoli et al (2023) statement that organisations should be learning-oriented, by ensuring there is an appetite for learning, learning about others, and looking at new contexts to learn by acting, observing prototyping, and testing. Moreover, learning through trial and

error during the iterative process using tools such as prototypes to ensure ideas developed specifically for the problem to be solved (Micheli et al., 2019).

The findings from the Executive group also outlined that the learning by action implemented by organisations should be actioned-based focusing on addressing customer needs to create a memorable experience for them. Aligned to (Selvalakshmi et al, 2022) statement that design thinking as a process in which the designers who use a variety of methods to meet customer needs in order to create customer value and competitive advantage. Aligned to (Micheli, 2019) statement that personas tools identifies key stakeholders through user patterns, ensuring users are part of the end-to-end problem solving process. Throughout the journey map, organisations must track the customer experience and visceral response to the experiences. Through prototyping, organisations have the opportunity to learn continually about their customers, enabling iterative, experimental and tailored solutions for their customers.

Summary

Organisations training their employees to learn by doing, and addressing customer needs through action-based learnings enables the integrated approach of understanding customers to create suitable solutions that drive customer value and understand the customer better to create a memorable customer experience. Key to note that this requires employees to be empathetic, have patience and be able to comprehend what the customer are saying, in order to use the data insight to design innovative solutions.

The research findings align to the literature regarding learning by doing with action based customer needs as effective methods to train employees for design thinking. This is evidenced by (Burns, 2018; Melles et al, 2020; Micheli et al, 2019; Selvalakshmi et al, 2022; Vignoli et a, 2023). The alignment of the findings to the literature adds to the body of knowledge on training required for design thinking. The differences and the contradictions seem to be absent between the literature and the research findings.

6.2.3.3 Sub-theme 3: Evidence of Prioritising Innovation from Findings

The two groups displayed similarities on taking cognisance of the market, although the groups showed a different approach to the implementation process when prioritising innovation. The Executive group related how organisations can use innovation to tap into new markets that enables them to create a new market segments that never existed before. On the contrary, the Designers group experience is about an organisation's enhancing/adjusting their product offering in line with the market needs, given the evolving market.

A similarity between the Executives and Designers group included the integration of customers into the innovation process to ensure organisations develop innovative products and/ or services that meet customer's needs, using data driven insights.

The designers group outlined the importance of organisations understanding the value and benefits of design thinking due to innovation taking time. The Executive group illustrated a different perspective of organisations allocating sufficient budget towards innovation.

Evidence of Prioritising Innovation from Literature

In order for organisations to prioritise innovation, they must include a flexible structural approach that promotes innovation as evidenced by Holeman and Kane (2020). In support, Onufrey and Bergek (2021) demonstrated that the evolution and maturity of markets, propels organisations to review their strategies and adapt to the change to remain relevant to their customers and gain a competitive advantage, as evidenced by Onufrey and Bergek (2021).

Organisations achieve this, through developing innovative strategies that allow organisations to position their value proposition by, outlining the adopted innovations, the rationale for the adopted innovations, and the value users derive from the adopted innovation (Onufrey & Bergek, 2021). However, organisations face the challenges of developing quality products that are affordable to their customers (Getnet et al, 2019), due to customers reacting differently to new ideas and practices due to their different perceptions of innovation (Yen et al, 2020).

To address this challenge, Getnet et al (2019) state that organisations need to develop innovative products that create value for their customers. The manufactured products must offer superior benefits to the customers and be perceived by the customers as valuable compared to competitors.

Organisations achieve customer value creation based on customer drive and enthusiasm by adopting innovative business models. As organisations implement innovation, customers are actively engaged in the product or service journey, resulting in customer motivation and belief that the adopted innovation is capable of meeting their requirements (Yen et al, 2020). Organisations do this, considering diverse types of innovations, that is, product innovation involving the development of distinctive new process; process innovation involving process and technology enhancements; service innovation including improvements or introduction of novel service; or business model innovation involving adopting strategies that elevate the value an organisation offers to its customers (Ranta et al, 2020).

Design thinking functions as a differentiator for the business, and provides opportunities for organisations to embark on new product innovations, increasing turnover and managing change. Design thinking serves as a tool that management can incorporate into the

organisational design to achieve organisational objectives (Chouki et al, 2021). Organisations demonstrate this by implementing human-centred design to understand customer behaviours and establish ways to better satisfy them through the early involvement of thinkers in the innovation process to study and observe user behaviours, conduct testing and create prototypes.

Comparative Analysis of Findings and Literature

The research findings from the Entrepreneur and Designers groups' demonstrated being cognisant of the market as a key element to balancing between creativity and experimentation with the need for efficiency and results, though they had different approaches. Aligned to literature findings, Onufrey and Bergek (2021) demonstrated that the evolution and maturity of markets, propels organisations to review their strategies and adapt to the change to remain relevant to their customers and gain a competitive advantage. Designers achieve this through developing innovative strategies that allow organisations to position their value proposition by, outlining the adopted innovations, the rationale for the adopted innovations, and the value users derive from the adopted innovation (Onufrey & Bergek, 2021). Aligned to the findings by the Executive group that organisations must use innovation to tap into new markets that enables them to create a new market segment that never existed before. Holeman and Kane (2020) supported that organisations must include a flexible structural approach that promotes innovation.

Findings from the Designers group highlighted that the evolving market, propels organisations to enhance their product offering to meet market needs. The literature indicates that organisations face the challenge of developing quality products that are affordable to their customers (Getnet et al, 2019). Customer behaviours attribute to this as they react differently to new ideas and practices due to their different perceptions of innovation, as illustrated by Yen et al (2020). To curb this, organisations must develop innovative products that offer superior benefits and customers perceived them as valuable compared to competitors (Getnet et al, 2019).

The findings also show the importance of integrating the customers into the organisations innovation process, using data driven insight to develop innovative products that meets the customer needs, as evidenced by the Executive and Designers groups. Aligned to literature by Yen et al (2020) demonstrating that customers should be actively engaged in the product or service journey during the implementation of innovation, resulting in customer motivation and belief that the adopted innovation can meet their requirements.

Moreover, the designers group outlined the importance of organisations understanding the value and benefits of design thinking. Aligned to literature, design thinking serves as a differentiator for organisations, providing opportunities to explore new product innovations that increase turnover. Enables organisations to achieve organisation objectives when incorporated into the organisational design process, as evidenced by (Chouki et al, 2021). This demonstrates that the evolving market propels organisations to be deliberate about their innovation, using factual reference point, being agile to ensure they design progressive products and / or services. Moreover, allocating the required resources such as sponsorship to enable credibility towards innovation.

Summary

The research findings align to the literature regarding taking cognisant of the market to balance the need for creativity and experimentation with the need for efficiency and results. Organisations must use innovation to create innovative strategies, remain relevant to their customers, gain a competitive advantage, create a customer value proposition, and to tap into a new market segment using a flexible structural approach (Holeman & Kane, 2020; Onufrey & Bergek, 2021)

Secondly, the findings are similar on organisations aligning their products to market needs, considering affordability, customers behaviours to design innovative products that create value, offers superior benefits and is perceived by the customers to be valuable compared to competitors (Getnet et al, 2019; Yen et al, 2020). The findings showed that integrating the customers into the organisations innovation process, using data driven insight to develop innovative products that meets the customer needs, is critical for organisations (Yen et al, 2020).

Moreover, the designers group outlined the importance of organisations understanding the value and benefits of design thinking. Aligned to literature, design thinking serves as a differentiator for organisations, providing opportunities to explore new product innovations that increase turnover. Enables organisations to achieve organisation objectives when incorporated into the organisational design process, as evidenced by (Chouki et al, 2021). The alignment of the findings to the literature adds to the body of knowledge on the important steps in design thinking.

6.2.3.4 Sub-theme 4- Evidence- Priority as a strategic objective from Findings

The two groups (Entrepreneurs and Designers) displayed similarities on prioritising design thinking as a strategic objective when integrating it into an organisation's strategic planning

process. The Entrepreneurs outlined the integration of design thinking principles will assist organisation's strategic decision-making relating to design thinking. The Designers group, asserting that design thinking as a strategic objective provide organisations with an opportunity to track its performance, thus being able to its success or failure rate.

The groups highlighted two different approaches to adopt in prioritising design thinking as an organisations strategic objective. The Executive group experience focused on organisations being future forward in their capabilities building and product development processes, to ensure they are future-proofed.

The second approach was the integration of customers into the strategic planning process. Executive group focused on organisations adopting an outside in approach incorporating the voice of the customers, versus the Entrepreneur group that focused on internal stakeholders, who are the implementers of the design thinking process. Organisations will achieve the benefits of determining the customer needs and take the employees along their design thinking and strategy-planning journey.

Evidence of priority as a strategic objective from Literature

Prioritising design thinking as a strategic objective requires organisations to be future oriented to enable the building of the required capabilities during product development. Insights by de Paula et al (2022), evidence that design thinking requires organisations with keen, visionary, and innovative qualities to support the design thinking process and create a culture that uses design thinking to create value for customers. In support, Holmlund et al (2020) stated that this is actioned through continuous monitoring, prioritisation, and adaptation capabilities, which leads to incremental innovations.

Prioritising design thinking as a strategic objective requires organisations to incorporate design thinking into their strategy. Evidenced by Chouki et al (2021) highlighting that design thinking functions as a differentiator for the business, provides opportunities for organisations to embark on new product innovations, increasing turnover and managing change, serving as a tool that management can incorporate into the organisational design to achieve organisational objectives. In support, Onufrey and Bergek (2021) highlighted the importance of strategy reviews during market evolution to ensure organisations can adapt to changes to remain relevant to their customers and gain a competitive advantage.

In integrating the customers in the strategic planning process, Diderich (2020) outlined that a measure organisations can put in place to solve the identified problems, include involving the stakeholders in their strategic design process to succeed in developing a viable solution. This includes capturing customer segment experience at a strategic level (Beckman, 2020).

It is critical to involve the stakeholders throughout the strategic design process to succeed. In support, Velsen et al (2022) highlighted that it is imperative to include end-users and key stakeholders in the design thinking processes and integrate their insight with existing design knowledge and design skills.

Comparative Analysis of Findings with Literature

The findings from the Executive group show that organisations must be future focused organisation to build the required capabilities for product development processes and future proofing itself. de Paula et al (2022) demonstrated organisations that successfully implement design thinking as a strategy are keen, have vision and innovative qualities to support the design thinking process and create a culture that uses design thinking to create customer value. In support, Holmlund et al (2020) stated the organisations adaptation capabilities, continuous monitoring and adaptation leads to incremental innovations.

The findings from the Designers and Entrepreneurs groups, highlighted that organisations must integrate design thinking into their strategy as a strategic objective, with different viewpoints on the outcomes. The Designers group highlighted that organisations must have design thinking as a strategic objective to monitor and track its performance. Aligned to Chouki et al (2021) evidence that design thinking is a tool that management can use in the organisations design to achieve the organisation's objectives, also as a differentiator for businesses providing opportunities to embark on new product innovations, increasing turnover and managing change. This aligned to Onufrey and Bergek (2021) evidence on organisations implementing strategy reviews as the market evolves are able to adapt to changes to remain relevant to their customers and gain a competitive advantage.

The Entrepreneurs group asserted that organisations integrating design thinking into their strategy, should apply design-thinking principles to assist the organisations strategic decision-making relating to design thinking. This aligns to Verganti et al. (2020) statement that design thinking is guided by principles that put people and their needs first, that is being people-centred, and primarily empathetic with the aim of deeply understanding users' problems from their point of view rather than relying solely on technology or predefined solutions. Moreover, it uses abductive reasoning where they generate hypotheses to imagine potential solutions, without limiting the choices to a predefined set.

Another similarity observed between the findings and the literature is the approach organisations adopts for strategy, which is the inclusion of stakeholders in the strategy, which aligned to Diderich (2020) evidence that it is critical for organisations to include the

stakeholders in their strategic design thinking to ensure their design thinking initiatives succeed, validating solutions with customers. Velsen et al (2022) also agree that including end-users and key stakeholders in the organisations design thinking processes, enables organisation to integrate their insight with existing design knowledge and design skills.

Summary

Organisations must adopt a future focused approach when integrating design thinking into the organisations strategic process. This means that organisations must strategise for the customers future needs through developing the required product in the present. Secondly, organisations must determine if delivering customer value is its priority to develop the required capabilities used during the product development process, adapt to market changes, thus in turn enabling organisations to achieve incremental innovations and gain a competitive advantage.

Adopting the design thinking principles enables organisations to adopt a user-centered approach, where they focus on understanding the customer's problems from their perspective and developing potential solutions without restrictions to meet customer needs. This requires organisations to include stakeholders in the design process to hear their voices.

Integrating design thinking as an organisations strategic objective drives new product innovations, increased turnover and effective change management, will differentiate an organisation. Moreover, it ensures an organisation has information about its current customers and potential future customers.

The research findings align with the literature regarding including design thinking as a strategic objective (Chouki et al, 2021; de Paula et al, 2022; Diderich, 2020; Holmlund et al, 2020; Velsen et al, 2022; Verganti et al, 2020). The alignment of the findings to the literature adds to the body of knowledge on prioritising design thinking as an organisations strategic objective. The differences observed was the implementation of strategy reviews when the market changes to enable organisations adaptation to the changes, thus remaining relevant to their customers and gaining a competitive advantage as evidenced by (Onufrey & Bergek, 2021).

6.2.4 Chapter Summary

This section provides a comparative analysis of research finding and the literature reviewed, presented in the amended conceptual framework in Figure 5. The research findings outline the design thinking theories, problem identification, and enablers to advance customer value using the design thinking process.
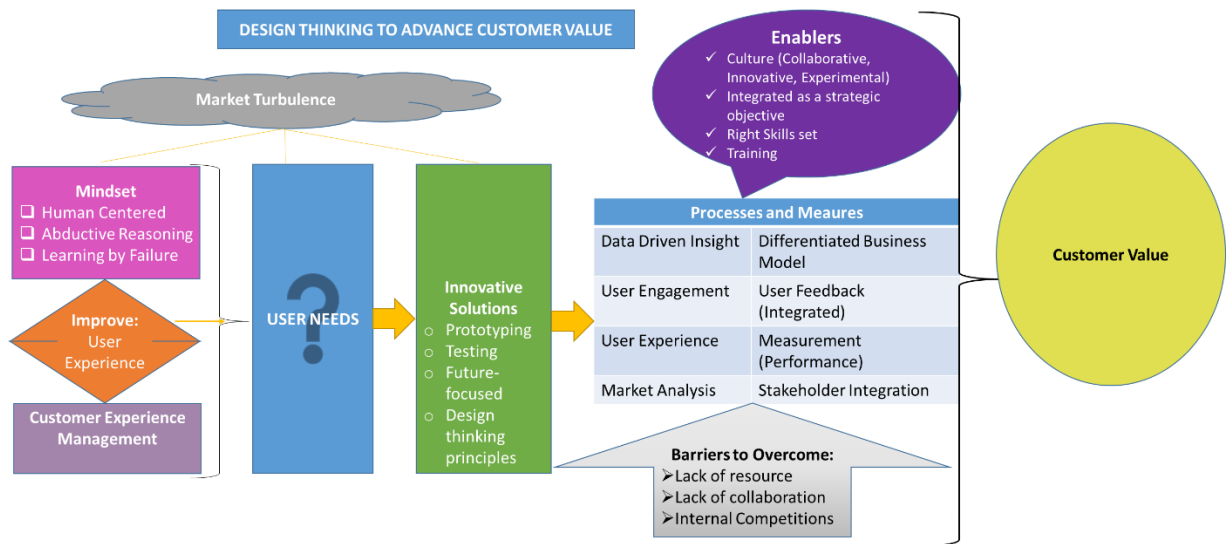
Figure 5: Revised conceptual framework- Researcher's Own

Chapter 7: Conclusion

This chapter focuses on the main findings of the study. The purpose of this study was to explore the application and effectiveness of design thinking to advance customer value in South Africa. This setting included three participant groups: Executives, Design Practitioners, and Entrepreneurs who are engaged in design thinking and customer service and are decision-makers.

The researcher adopted a Qualitative study to gain a deeper understanding of how design thinking advances customer value, using a phenomenological research design from an individual perspective. The study adopted an inductive approach to better grasp the nature of the problem and develop a theory, for data collection and analysis by interviewing a sample of executives, Entrepreneurs, and Designers about their knowledge on the application and effectiveness of design thinking methodologies that produce customer value.

The research data was collected through semi-structured interviews with 11 participants, using purposive and snowball sampling. This study used a thematic analytical process to understand the participant's perspective through a line-by-line analysis, identify emerging themes, and create coded data for analysis.

This chapter discusses the theoretical conclusions for each research question by presenting the main findings compared to the literature reviewed in Chapter 2 in order to identify potential additions and extensions to the literature. Additionally, this study provides recommendations to management and relevant stakeholders, including the limitations of the study.

7.1 Key Research Findings

7.1.1   RQ1: What are the design thinking methodologies in place and how are they applied to enhance customer value?

The research findings on design thinking methodologies show that organisations can create a differentiated value propositions and increase customer value by developing differentiated operating model that is independent of their core-operating model. The findings supports that value-creating organisations use insights gained from stakeholder engagement to develop value propositions to achieve competitiveness and sustainability (Zeithaml et al., 2020; Ranta et al., 2020).

The difference observed between the research findings and the literature was the implementation process to create a differentiated value proposition. The research finding highlights the need for organisations to develop an operating model that is independent of

their core-operating model, and the literature calls for leveraging stakeholder feedback to develop differentiated value propositions. The literature does not seem to consider the development of an operating model that is independent of the core-operating model.

7.1.2 RQ2: What are the key factors that contribute to the successful implementation of design thinking as a strategy to enhance customer value?

The research findings regarding critical factors contributing to successful implementation of design thinking include individuals or teams with problem-solving skills to solve user problems. This aligns with the literature by (Li & Liu, 2022; Melles et al, 2020) asserting that individuals or teams use problem-solving skills in the first and second phases of the Double Diamond Model, to discover and solve problems. . Tools and methods for identifying problems include user and market research, and examination of collected data.

Additionally, the research findings showed that organisations need to overcome barriers to successfully implement design thinking processes. Barriers identified include lack of relevant resources such as budget, skilled personnel, and information technology tools, which act as obstacles to the successful implementation of design thinking, and affect an organisation's competitive advantage and value proposition. This corroborates Diderich's (2020) argument that organisations need to keep their promises during the product development stage and, it is essential to create the specific skills and resources needed.

The research findings showed that for organisations to overcome the identified barriers, organisations must employ the right skills, invest in several factors such as time, product design process, and financing of systems to ensure that the developed product is suitable for the customer. This is consistent with de Paula et al. (2022) view that organisations can successfully implement design thinking if they have the necessary skills and knowledge.

7.1.3 RQ3: What are the best practices for organisations to implement design thinking effectively as a strategy to enhance customer value and achieve competitive advantage?

The research findings regarding organisations removing bias and internal competition in order to build a collaborative culture align with the literature as evidenced by de Paula et al.'s (2022) argument that when bias is removed, organisations can develop attractive value propositions for customers through collaboration. Additionally, the research findings corroborate the view of scholars (de Paula et al., 2022; Knight et al., 2020; Wrigley et al., 2020) that integrating design thinking methods into an organisation's culture promotes cross-functional collaboration when management builds culture across all levels and interactions within the organisation.

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The difference observed between the research findings and the literature was the adoption of best practices. The research finding shows that listening is the best practice to adopt, in contrast, the literature illustrated that organisations should use co-creation methods to promote a culture of collaboration.

Another difference observed was the removal of internal competition within the organisation to build a culture of collaboration. The literature does not seem to consider the removal of internal competition.

Additionally, the research findings demonstrate that the best approach to implementing design thinking is for organisations to implement experiential learning through "learning by doing", that is, participating and practicing to train employees in design thinking methodologies, aligns with the literature by Micheli et al. (2019) arguing that iterative processes allow organisations to learn through trial and error.

Furthermore, the research findings aligned with the literature on learning through action-based activities focused on customer problems. Melles et al., (2020) support this view that two characteristics of human-centered design are understanding people by observing their needs and behaviours, early and ongoing stakeholder engagements to identify the customer experience and appropriate solutions.

The research findings also shows that the best practice to implementing design thinking successfully is for organisations to prioritise design thinking as a strategic objective and require management to adopt a forward thinking approach. This aligns with the literature as evidenced by de Paula et al (2022) who argued that organisations with keen, visionary, and innovative qualities are successful in their design thinking initiatives. In addition, the research findings corroborate the views of scholars (Chouki et al., 2021) that management use design thinking as a tool to achieve organisational objectives through the application of design principles and tracking performance.

Furthermore, the research findings on stakeholder integration when organisations prioritise design thinking as a strategic objective, aligned with the literature as evidenced by Diderich's (2020) argument on the importance of including stakeholders in strategic design thinking to ensure design thinking initiatives are implemented successfully with customers.

7.2 Contributions of the study

The purpose of the study was to explore and gain insights into the application and effectiveness of design thinking as an approach to addressing customer problems to enhance

customer value. The findings intend to contribute theoretically to the design thinking literature through additions to the body of knowledge and offer the potential of extending the body of knowledge.

7.2.1 Theoretical relevance

The theoretical relevance of this study was to confirm and add to the current literature on design thinking and to improve understanding of the role of design thinking in customer value.

The findings regarding problem-solving skills, lack of resources as a common barrier and how to overcome them, learning by action through action-based activities and training methods, and design thinking as a priority strategic objective concur with the literature reviewed. The learning by doing through action-based activities as a training method responds to the research invitation by de Paula et al (2022), and highlight the training methods used to improve the implementation of design thinking.

Additionally, the resources required for design thinking include recruiting the right skills, investing in various factors such as time, product design processes, and financing the system, and responds to the research invitation by scholars (Micheli et al, 2019). Their research invitation questioned the impact of design thinking, that is, the applicability and effectiveness of design thinking, emphasising there is still lack of sufficient evidence in the literature on when design thinking is applied to ensure that the products are suitable for customers.

The findings on organisations developing a differentiator-operating model that is independent of the core-operating model and the removal of internal competitions to build a collaborative culture that is necessary for the successful implementation of design thinking are recognised as a potential addition to the body of knowledge.

The findings illustrate the differences in the literature regarding the behaviours needed to create a collaborative culture, especially those to remove internal competition when building a culture that supports design thinking. This difference is recognised as a potential addition to the body of knowledge.

7.2.2 Business relevance

This study analyses how organisations are incorporating design thinking into their operations, identifying the vest strategies they can adopt and enhancing customer value.

The findings of this study have practical importance for organisations to develop innovative solutions that meet their customer needs, and effectively leverage design thinking to enhance

customer value. Actions to take include developing an independent operating model with a focus on innovation designs, having the right skills and competencies within the organisation, removing internal competition to foster collaboration, and building on the needs of design thinking. This includes securing required resources for the organisation. This enables organisations to achieve customer retention, loyalty, and value proposition. The findings can serve as a guide for designers, policy makers, innovation managers, strategy managers, and organisational management to use design thinking methodologies to make informed decisions to advance customer value.

7.2.3 Amended Framework

The amended conceptual framework includes two theories (Human-Centered Design and Customer Engagement Management) focused on user experience, that is, and the integration of enablers, barriers, and implemented processes and measures to advance customer value.
.
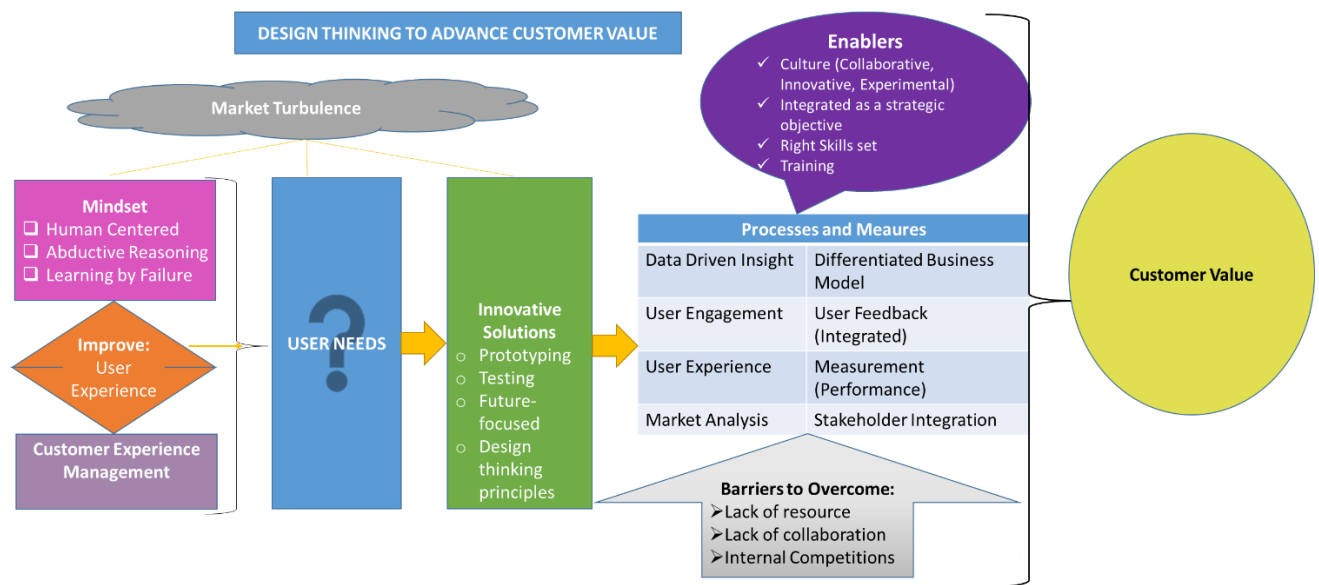
7.3 Recommendations for Management and key stakeholders

This section provides recommendations for management and key stakeholders implementing design thinking. Recommendations are organised according to research questions and extracted from the main theoretical findings.

7.3.1 RQ1: Recommendations on the application of design thinking methodologies to enhance customer value

- Management should consider developing an independent design thinking operating model to give management the freedom to create innovative solutions that create a differentiated customer value proposition and reduce regulatory constraints associated with the core operating model.

7.3.2 RQ2: Recommendations regarding key factors contributing to the successful implementation of design thinking to enhance customer value

- Recruiting the right skill set is critical. The recruitment processes for design thinking talent to include problem solving as requirement.

7.3.3 RQ3: Recommendations for best practices for organisations to effectively implement design thinking effectively as a strategy to enhance customer value and achieve competitive advantage

- Management should build a unified collaborative culture to achieve established shared organisational goals.
- Management should adopt a "learning-by-doing" approach in their design thinking process.
- Management should formulate and integrate design thinking as a strategic objective for the organisation to track design-thinking performance.
- Management to be future oriented in their design thinking efforts.
- Management should also consider investing in training in design thinking methodologies across the organisation and provide a safe learning environment that is tolerant to learning by failure to foster creativity within the organisation.

7.4 Limitations and future research

The study explored design thinking to enhance customer value using individual group of Management, Design Practitioners, and Entrepreneurs, who were selected purposively and snowballed according to selection criteria. Selection criteria included individuals who specialise in leveraging design thinking, innovation, and customer service to develop solutions for customers, have at least three years of professional experience, and are situated in South Africa.

A limitation could be that the findings apply only to individual and not to businesses in general. The research scope was limited to individuals; future research could be extended to

businesses to gain further insight into the applicability and effectiveness of design thinking to enhance customer value.

This study identified potential areas for investigation among the contributing factors that lead to the successful design thinking outcomes. A limitation is that this study did not explore this in detail. The findings identified removing internal competition as an action that organisations should take to create a collaborative environment when building a culture that supports design thinking. Second, was the development of a differentiated operating model that is independent of the core operating model to create a differentiated value proposition.

7.5 Conclusion

The research question presented provides an opportunity to adopt design-thinking methodologies to develop unique products that offer a differentiated value proposition, taking into account the challenges faced by businesses. Evolving markets and changing customer behaviours make it difficult for businesses to develop products that address customers' unmet needs.

This study investigated the application and effectiveness of design thinking as solution approach to customer problems to enhance customer value through participant's design thinking and customer service experiences.

The aim was to confirm and add to the existing body of knowledge and provide potential future contributions to the design thinking literature. The refined conceptual framework offers potential contributions and extensions to the original framework outlined in Chapter 2.

References

Antai, I., & Eze, N.L. (2023). Impact of the COVID-19 pandemic on business-to-business relationships in digital ecosystems: an African perspective. *Information Technology & People*, 36(8), 69-93. https://doi.org/10.1108/ITP-05-2022-0346

Auernhammer, J., & Roth, B. (2021). The origin and evolution of Stanford University's design thinking: From product design to design thinking in innovation management. *Journal of Product Innovation Management*, 38, 623-644. https://doi.org/10.1111/jpim.12594

Barton, C. J., Grossman, G.M., & Hafel Y. (2022). Innovation is the Answer! But is Development the Question? Assessing Innovation against the capabilities approach to development. *The Journal of Development Studies*, 58(11), 2180- 2197. https://doi.org/10.1080/00220388.2022.2075737

Becker, L., & Jaakkola, E. (2020). Customer experience: fundamental premises and implications for research. *Journal of the Academy of Marketing Science*, 48, 630-648. https://doi.org/10.1007/s11747-019-00718-x

Beckman, S. L. (2020). To Frame or Reframe: Where might design thinking research go next? *California Management Review*, 62(2), 144-162. https://doi.org/10.1177/0008125620906620

Bell, E., Bryman, A., & Harley, B. (2019). Business Research Methods. (5th ed.). Oxford University Press, ISBN 978-0-19-882877-8

Bogers, M., Chesbrough H., Heaton, S., & Teece, D, J. (2019). Strategic Management of Open Innovation: A Dynamic Capabilities Perspective. *California Management Review*, 62(1), 77-94. https://doi.org/10.1177/0008125619885150

Braun, V., & Clarke, V. (2019). Can I use TA? Should I use TA? Should I not use TA? Comparing reflexive thematic analysis and other pattern-based qualitative analytic approaches. *Counselling and Psychotherapy Research*, 21(1), 37–47 https://doi.org/10.1002/capr.12360

Burns, C. M. (2018). eHealth Research, Theory and Development: A Multidisciplinary Approach. In H. Kip et al (Eds), *Human-centered design* (pp.207-227). https://doi.org/10.4324/9781315385907-10

Cankurtaran, P., & Beverland, M, B. (2020). Using design thinking to respond to crises: B2B lessons from the 2020 COVID-19 pandemic. *Industrial Marketing Management*, 88, 225-260. https://doi.org/10.1016/j.indmarman.2020.05.030

Choudrie, J., Zamani, E., & Obuekwe, C. (2022). Bridging the Digital Divide in Ethnic Minority Older Adults: an Organisational Qualitative Study. *Information Systems Frontiers*, 24, 1355-1375. https://doi.org/10.1007/s10796-021-10126-8

Chouki, M., de Mozota, B, B., Kallmuenzer, A., Kraus, S., & Dabic, M. (2021). Design Thinking and Agility in Digital Production: The Key Role of User Experience Design. *IEEE Transactions on Engineering Management*

Chrisos, M. (2020, January 23). Benefits of Design Thinking for Business Strategy. Tech Funnel. https://www.techfunnel.com/information-technology/benefits-of-design-thinking-for-business-strategy/

Cirera, X., & Muzi, S. (2020). Measuring innovation using firm-level surveys. Evidence from developing countries. *Research Policy*, 49, 1-19. https://doi.org/10.1016/j.respol.2019.103912

Corrales-Estrada, M. (2020). Design thinkers' profiles and design thinking solutions. *Academia Revista Latinoamericana de Administración*, 33(1), 9-24. https://doi.org/10.1108/ARLA-01-2018-0028

de Paula, D., Cormican, K., & Dobrigkeit, F. (2022). From Acquaintances to Partners in Innovation: An Analysis of 20 Years of Design Thinking's Contribution to New Product Development. *IEEE Transactions on Engineering Management*, 69(4), 1664-1677. https://doi.org/10.1109/TEM.2021.3084884

Diderich, C. (2020). Design Thinking for Strategy: Innovating towards competitive advantage. Management for Professionals. Springer Nature. https://doi.org/10.1007/978-3-030-25875-7

Forbes Technology Council. (2020, March 31). 14 Common Reasons Software Projects Fail (And How To Avoid Them)
 https://www.forbes.com/sites/forbestechcouncil/2020/03/31/14-common-reasons-software-projects-fail-and-how-to-avoid-them/?sh=5f3db58a798c

Getnet, H., O'Cass, A., Ahmadi, H., & Siahtiri, V. (2019). Supporting product innovativeness and customer value at the bottom of the pyramid through context-specific capabilities and

social   ties.   *Industrial   Marketing   Management*,   83,   70-80.
https://doi.org/10.1016/j.indmarman.2018.11.002

Han, E. (2022, Feb 22). What is design thinking? [Blog post]. Harvard Business Review.
https://online.hbs.edu/blog/post/design-thinking-examples

Holeman, I., & Kane, D. (2019). Human-centered design for global health equity. *Information
Technology   for   Development,*   26(3),   477-505.
https://doi.org/10.1080/02681102.2019.1667289

Hugo, S. (2019, February 20). Design thinking for innovative business id. Old Mutual
https://www.oldmutual.co.za/corporate/resource-hub/all-articles/design-thinking-for-
innovative-business-ideas

Holmlund, M., Vaerenbergh, Y, V., Ciuchita, R., Ravald, A., Sarantopoulos, P., Ordenes, F,
V., & Zaki, M. (2020). Customer experience management in the age of big data analytics: A
strategic   framework.   *Journal   of   Business   Research*,   116,   356-365.
https://doi.org/10.1016/j.jbusres.2020.01.022

Interaction Design Foundation. (2018). Interaction-Design.org

Jansen, D., & Warren, K. (2020). *What is Research Methodology: A plain-language
explanation   &   definition   (with   examples)*.   https://gradcoach.com/what-is-research-
methodology/

Jansen, D., Rautenbach, E., & Warren, K. (2023). *Research Design 101: Everything You
Need To Get Started (With Examples)*. https://gradcoach.com/research-design/

Jeon, Y. (2019). Problem-Solving Design-Platform Model Based on the Methodological
Distinctiveness of Service Design. *Journal of Open Innovation: Technology, Market, and
Complexity*, 5(78). https://doi.org/10.3390/joitmc5040078

Ji, J., Dimitratos, P., & Chen, S. (2019). The qualitative case research in international
entrepreneurship: a start of the art and analysis. *International Marketing Review*, 36(1), 164-
187. https://doi.org/10.1108/IMR-02-2017-0052

Johnstone, J, H., Bryce, D., & Alexander, M, J. (2019). Using mobile methods to understand
multifaceted heritage organisations. *International Journal of Contemporary Hospitality
Management*, 32(4), 1675- 1691 https://doi.org/10.1108/IJCHM-04-2019-0400

Klenner, N. F., Gemser, G., & Karpen, I. O. (2022). Entrepreneurial ways of designing and designerly ways of entrepreneuring: Exploring the relationship between design thinking and effectuation theory. *Journal of Product Innovation Management*, 39, 66-94. https://doi.org/10.1111/jpim.12587

Knight, E., Daymond, J., & Paroutis, S. (2020). How to bring design thinking into the art of strategic management. *California Management Review*, 62(2), 30-52. https://doi.org/10.1177/0008125619897594

Liedtka, J. (2020). Putting Technology in Its Place: Design thinking's social technology at work. *California Management Review*, 62(2), 53-83. https://doi.org/10.1177/0008125619897391

Li, J., Nigatu, A, D., Yu, B., Gu, Q., &Yang, Y. (2021). Understanding Customer Value in the Mobile Internet Era. *Discrete Dynamics in Nature and Society*, 1-14. https://doi.org/10.1155/2021/9585743

Li, P., & Liu, Z (2022). Computer Science and Communication Technology (Conference Session). Third International Conference on Computer Science and Communication Technology, Beijing, China. https://doi.org/10.1117/12.2662602

Magistretti, S., Bianchi, M., Calabretta, G., Candi, M., Dell'Era, C., Stigliani, I., & Verganti, R. (2022). Framing the multifaceted nature of design thinking in addressing different innovation purposes. *Long Range Planning*, 55, 102163. https://doi.org/10.1016/j.lrp.2021.102163

Meinel, M., Eismann, T.T., Baccarella, V., Fixson, S.K., & Voigt, K. (2020). Does applying design thinking result in better new product concepts than a traditional innovation approach? An experimental comparison study. *European Management Journal*, 38, 661- 671. https://doi.org/10.1016/j.emj2020.02.002

Melles, M., Albayrak. A., & Goossens, R. (2021). Innovating health care: key characteristics of human-centered design. *International Journal for Quality in Health Care*, 33(S1), 37-44. https://doi.org/10.1093/intqhc/mzaa127

Micheli, P., Wilner, S.J.S., Bhatti, S.H., Mura, M.,& Beverland, M, B. (2019). Doing Design Thinking: Conceptual Review, Synthesis, and Research Agenda. *Journal of Product Innovation Management*, 36(2), 124-148. https://doi.org/10.1111/jpim.12466

Nakata, C., & Hwang, J. (2020). Design thinking for innovation: Composition, consequence, and contingency. *Journal of Business Research*, 118, 117-128. https://doi.org/10.1016/j.jbusres.2020.06.038

Nonaka, I., & Takeuchi, H. (2021). Humanizing strategy. Long Range Planning, 54, 1-11. https://doi.org/10.1016/j.lrp.2021.102070

Onufrey, K., & Bergek, A. (2021). Transformation in a mature industry: The role of business and innovation strategies. *Technovation*, 105, 1-14 https://doi.org/10.1016/j.technovation.2020.102190

Panke, S. (2019). Design Thinking in Education: Perspectives, Opportunities and Challenges. *Open Education Studies*, 1, 281- 306. https://doi.org/10.1515/edu-2019-0022

Phair, D., & Warren, K. (2021). *Saunders' Research Onion: Explained Simply. Peeling the onion layer by layer (with examples).* https://gradcoach.com/saunders-research-onion/
Pikover, J (2023). The Value of Design Thinking in Business. Toptal. https://www.toptal.com/designers/product-design/design-thinking-business-value

Raju, S.K. (2022, June 24). What is Design Thinking and Why is it important? https://www.mygreatlearning.com/blog/importance-of-design-thinking/

Ramos, C., Claro, D. P., & Germiniano, R. (2023). The effect of inside sales and hybrid sales structures on customer value creation. *Journal of Business Research*, 154, 113343. https://doi.org/10.1016/j.jbusres.2022.113343

Ranta, V., Keränen, J, & Aarikka-Stenroos, L. (2020). How B2B suppliers articulate customer value propositions in the circular economy: Four innovation-driven value creation logics. *Industrial Marketing Management*, 87, 291-305. https://doi.org/10.1016/j.indmarman.2019.10.007

Saunders, M.N. K., Lewis, P., & Thornhill A. (2019). Research Methods for Business Students. (8th ed.). Pearson Education Limited, ISBN: 9781292208787
Saunders, M., Lewis, p., & Thornhill A. (2022). Research Methods for Business Students. (6th ed.). Pearson Education Limited, ISBN:978-0-273-75075-8

Schulze, J.H., & Pinkow, F (2020). Leadership for Organisational Adaptability: How Enabling Leaders Create Adaptive Space. *Administrative Sciences*, 10(37), 1-22. https://doi.org/10.3390/admsci10030037

Schwepker Jr, C.H. (2019). Strengthening Customer Value Development and Ethical Intent in the Salesforce: The Influence of Ethical Values Person–Organization Fit and Trust in Manager. *Journal of Business Ethics*, 159, 913-925. https://doi.org/10.1007/s10551-018-3851-0

Selvalakshmi, M., Suresh, V., & Kolluru, M. (2022). Pedagogy innovation for management graduates: application of design thinking. *International Journal of Innovation Science*, 14(3/4), 659- 674. https://doi.org/10.1108/IJIS-10-2020-0188

Sjödin, D., Parida, V., Jovanovic, M., & Visnjic, I. (2020). Value Creation and Value Capture Alignment in Business Model Innovation: A Process View on Outcome-Based Business Models. *Journal of Product Innovation Management*, 37(2), 158-183. https://doi.org/10.1111/jpim.12516

Smith, J, A., Flowers, P., & Larkin, M. (2019). Interpretative Phenomenological Analysis: Theory, Method and Research (2nd ed.). SAGE Publications Ltd, ISBN: 9781529753806

Thompson, L., & Schonthal, D. (2020). The Social Psychology of Design Thinking. *California Management Review*, 62(2), 84-99. https://doi.org/10.1177/0008125619897636

Verganti, R., Vendraminelli, L., & Iansiti, M. (2020). Innovation and Design in the Age of Artificial Intelligence. *Journal of Product Innovation Management*, 37(3), 212-227. https://doi.org/10.1111/jpim.12523

Vignoli, M., Dosi, C., & Balboni, B. (2023). Design thinking mindset: scale development and validation. *Studies in Higher Education,* 1-15. https://doi.org/10.1080/03075079.2023.2172566

Wrigley, C., Nusem, E., & Straker, K. (2020). Implementing Design Thinking: Understanding Organisational Conditions. *California Management Review*, 62(2), 125-143. https://doi.org/10.1177/0008125619897606

Yen, C., Teng, H., & Tzeng, J. (2020). Innovativeness and customer value co-creation behaviors: Mediating role of customer engagement. *International Journal of Hospitality Management*, 88, 1-11. https://doi.org/10.1016/j.ijhm.2020.102514

Zeithaml, V.A., Verleye, K., Hatak, I., Koller, M., & Zauner, A. (2020). Three Decades of Customer Value Research: Paradigmatic Roots and Future Research Avenues. *Journal of Service Research*, 23(4), 409-432. https://doi.org/10.1177/1094670520948134

Annexure A: Consistency Matrix

TITLE: Design Thinking as an Innovation Strategy to Enhance Customer Value

Research Questions	Literature review	Data Collection Tool	Data Analysis
Research Question 1: What are the design thinking frameworks in place and how they are applied to enhance customer value?	Nakata and Hwang (2020), page 123, item 6.3.1 Schwepker Jr (2019), page 919, Table 2	Questions 1 to 4	Assess the organisation's understanding of design thinking and the application of its dimensions.
Research Question 2: What are the key factors that contribute to the successful implementation of design thinking as a strategy to enhance customer value?	Nakata and Hwang (2020), page 123, item 6.3.3 Micheli et al (2019), page 142	Questions 5 to 8	Determine the success factors for implementing design thinking.
Research Question 3: What are the best practices and strategies for organisations to effectively implement design thinking as a strategy to enhance customer value and achieve competitive advantage?	De Paula et al (2022), page 1671, item 4 and item 5 Micheli et al (2019), page 142	Questions 18 to 21	To assess benchmarking practices and the organisation's way of doing things.

Annexure B: Interview Guide

RQ1: What are the design thinking frameworks in place and how are they applied to enhance customer value?

1. What is the most important step of the design thinking and why?
2. Can you give an example of how design thinking has been used to enhance customer value in a real-world situation?
3. What are some common misconceptions about design thinking, and how do you address them?
4. In what ways can design thinking be integrated into an organisation's overall strategy for creating customer value?

RQ2: What are the key factors that contribute to the successful implementation of design thinking as a strategy to enhance customer value?

5. What are the most important skills and qualities that individuals or teams need to have in order to successfully implement design thinking?
6. How can an organisation's culture and values impact the success of design thinking initiatives?
7. What are some common barriers to the successful implementation of design thinking, and how can they be overcome?
8. Can you give me an example of an organisation that has successfully implemented design thinking as a strategy to enhance customer value? What factors do you think contributed to their success?

RQ3: What are the best practices and strategies for organisations to effectively implement design thinking as a strategy to enhance customer value and achieve competitive advantage?

9. How can organisations build a culture that supports design thinking?
10. What are some effective methods for training employees in design thinking methodologies?
11. How can organisations balance the need for creativity and experimentation with the need for efficiency and results?
12. How can design thinking be integrated into an organisation's broader strategic planning process?

Annexure C: Proforma Consent

Gordon Institute of Business Science
University of Pretoria

INVITATION TO PARTICIPATE IN AN ACADEMIC RESEARCH PROJECT

To whom it may concern

Based on the characteristics of your organisation, I would like to invite you to participate in an academic research titled: "Design thinking as an Innovation Strategy to enhance Customer Value".

Our interview is expected to last 60 minutes. Moreover, will help us understand: How do organisations integrate design thinking into their innovation practices to advance the customer value outcomes?

Key to note:

- Your participation is voluntary, and you can withdraw at any time without penalty.
- The interviews will be conducted via **Ms Teams (or similar online media) or Face-to-Face** at the discretion of the interviewee.
- By signing this letter, you are indicating that you have given permission for*:*

- the interview to be recorded;

- the recording to be transcribed by a third-party transcriber, who will be subject to a standard non-disclosure agreement;

- verbatim quotations from the interview to be used in the report, provided they are not identified with your name or that of your organisation;

- the data to be used as part of a report that will be publicly available once the examination process has been completed; and

- all data to be reported and stored without identifiers.

If you have any concerns, please contact my supervisor or me. Our details are provided below.

Researcher name: ____23690951____Research supervisor name: _____

Email: _____Email: _____

Phone: _____Phone: _____

Signature of participant: _____

Date: _____

Signature of researcher: _____

Date: _____