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The Competitive Advantage of Prioritizing Human-Centered Design Thinking in Business

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Departmental Honors Thesis
The University of Tennessee at Chattanooga
Management

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Abstract

This thesis examines the impact of design thinking on promoting innovation within businesses. *Design thinking* is a human-centered problem-solving approach that solves problems using empathy, creativity, and iterative prototyping. The thesis commences by clearly defining design thinking and presenting its fundamental concepts, emphasizing how it differs from traditional business thinking.

The thesis vividly illustrates the real-world impact of design thinking through compelling case studies from the consumer electronics, healthcare, automotive, and entertainment industries. It showcases how design thinking fosters creativity and develops solutions that prioritize customers' needs. The case studies show how companies gained a competitive advantage by deeply understanding and addressing consumer needs. The thesis also suggests an improved design thinking model that can be incorporated into future businesses to increase competitive advantage.

Overall, the thesis provides a comprehensive overview of design thinking in the context of business innovation, offering insights into its principles, practices, and future directions.

Introduction

Human-centered design thinking is utilized in companies to innovate products and services that will change based on analyzing customer needs. Design thinking has influenced companies to make changes to their current plans to prepare for the needs of the future. Design thinking is the process used to solve problems using creativity (Brown, 2008).

The difference between the design thinking and business thinking process is the key in implementing the right business plan. The design thinking process enables businesses to give a broader view of how a business operates. Moreover, the business thinking process is narrower compared to design thinking. In order to innovate current business plans, an alternative thinking process is required. This approach will help identify defects in the current business environment and provide solutions to improve the company plans to meet future needs. The purpose of this thesis is to find out how human-centered design thinking can improve business long-term. This thesis will address two questions regarding design thinking in business; (1) “what is the best design thinking model that companies can use to increase profitability?” and (2) “What is the difference between business thinking and design thinking?”

To answer these questions, I have researched how companies such as Apple, GE Healthcare, Tesla, and Netflix have used design thinking to improve their business strategies enabling tremendous growth. This research will create a guide that can be used by businesses in the future to incorporate design thinking in businesses.

Background

Human-centered design thinking is not novel to the corporate world, but it has gone unnoticed in many companies. When I attended the UTC Honors Innovation Lab class, I became fascinated by human-centered design thinking. The deeper understanding of design thinking attracted me to think why it cannot be used in every business to create more productive business plans. Having knowledge about consumers through a unique perspective will help businesses to formulate the right business plan. Creating a consumer centered business plan requires studying the user and that can be fulfilled by human centered design thinking process (Foster, 2021).

We live in a fast-paced world, and it requires businesses to be able to think out of the ordinary. Innovations are created when people think out of the normal and try to understand the needs and wants of society. Design thinking promotes creating ideas and solutions from a diversified environment that assists businesses for the future. In addition, design thinking emphasizes more on problems rather than the solutions themselves. The approach also fosters an environment favorable for generating varied solutions to a single problem by completely understanding the problems at stake. This broad understanding is the foundation for promoting creativity and innovation in challenging situations (Dan Kraemer: Growth Through Design and business strategy. 2020).

Finding solutions to problems through creative thinking is the simple idea of design thinking. Despite the introduction of design thinking into organizations, its use to improve overall corporate performance remains limited. Furthermore, design thinking has not received the kind of attention required to maximize its potential impact. Identifying and creating products or services that will satisfy consumer needs should be the ultimate goal of business.

Methodology

My goal is to study how human-centered design thinking can be used to provide value to the current business environment while also preparing firms for the future. This study will provide a roadmap for future business owners and managers to use design thinking to make better decisions. This study was conducted by researching at the libraries and online databases for relevant information. The study sought to understand how companies like Tesla, Apple, Starbucks, and GE Healthcare have successfully used design thinking. By synthesizing past research, I create a framework.

Business Thinking and Design Thinking

Business thinking and design thinking are distinct methodologies that relate to innovation and problem-solving in the context of organizations. Design thinking prioritizes empathy, creativity, and iterative experimentation, whereas business thinking emphasizes efficiency, goal orientation, and structured processes. This section will examine the foundational differences between these two paradigms.

Design Thinking

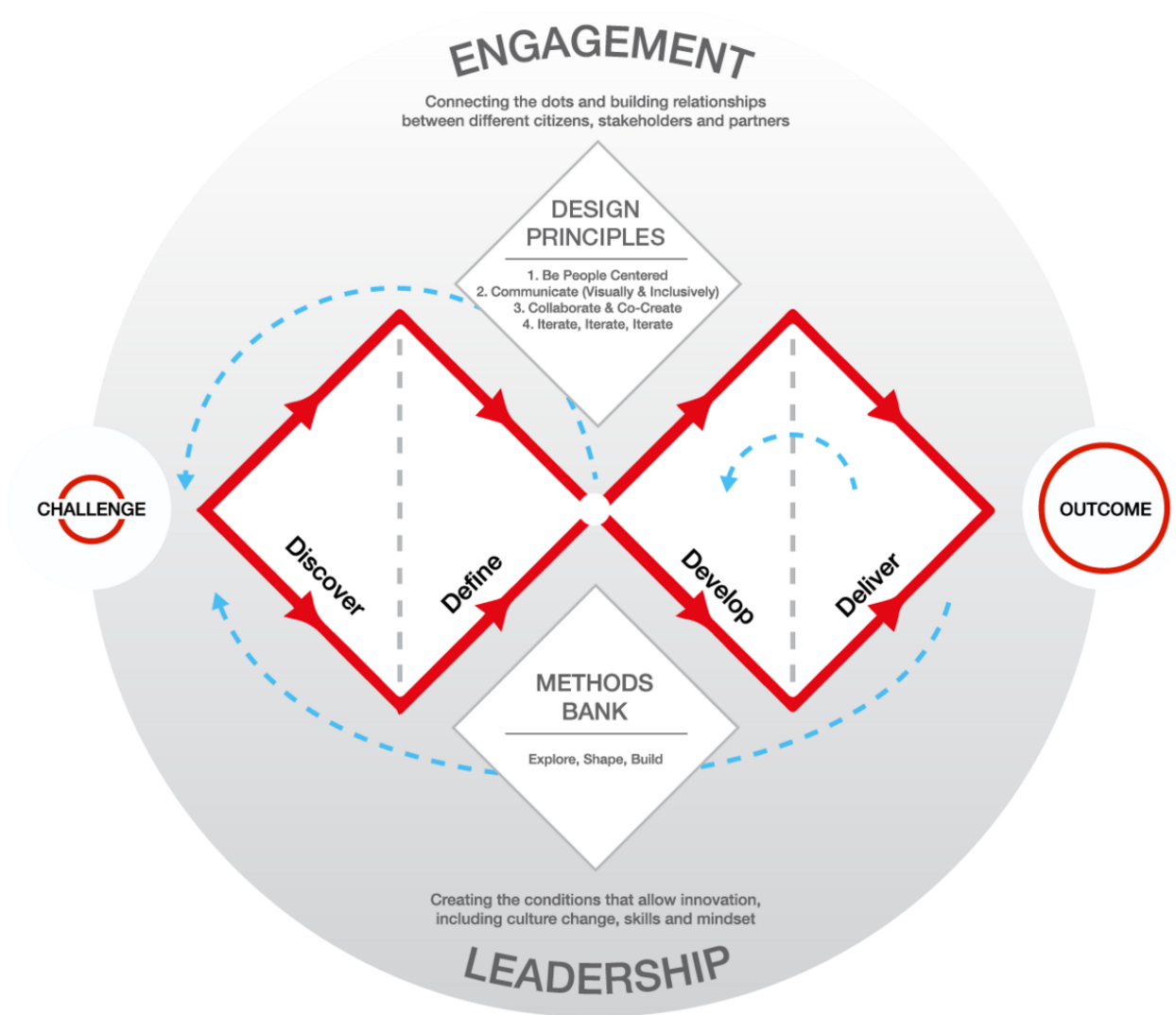
"Design thinking is a mindset and approach to problem-solving and innovation anchored around human-centered design" (Han, 2022). Design thinking is used to solve problems, understand the "human" aspect of the problem, and gain business success. This thinking process asks "what-if" questions at every step to create more suitable solutions. Although it started with designers, it has become a flexible method used across many fields to develop innovative ideas, improve processes, and build solutions that focus on the user. The fundamental principles of

Design Thinking are identifying end-user problems, developing innovative solutions, and continually enhancing them through testing and prototyping.

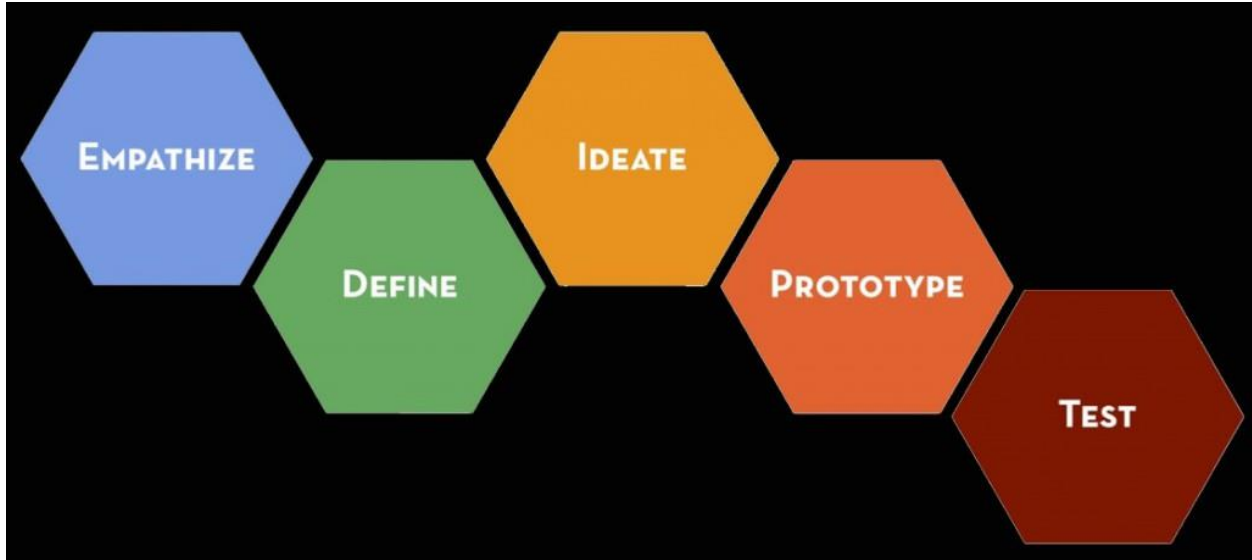
The design thinking process usually includes five steps: empathize, define, ideate, prototype, and test. The primary principle is empathy; according to the American Psychological Association, empathy is "understanding a person from their frame of reference rather than one's own, or vicariously experiencing that person's feelings, perceptions, and thoughts" (APA). Empathy is crucial in design thinking because it gives a clear picture of end-user needs. Putting on the consumer's shoe is more than just asking people what they like. This goes deeper into observing, listening, and fully understanding problems from a unique perspective. It also helps designers or managers to "set aside his or her own assumptions about the world in order to gain insight into users and their needs" (IHH lab). Decisions made without the influence of personal biases will improve the quality of the result. The 'define' process involves creating a perspective grounded in the end user's requirements and insights and, in the preceding phase, 'empathize.' The ideate phase includes producing creative solutions. The prototyping phase includes building models of the created solutions. The final stage of the design thinking process involves testing the best solution created during the prototyping stage. The testing stage usually comprises returning to the previous stages and redefining the problems to improve the final product.

“Design thinking is *not* about magic – it’s about generating practical, value-creating ideas and translating them into real market applications that drive growth.” (Liedtka, 2012).

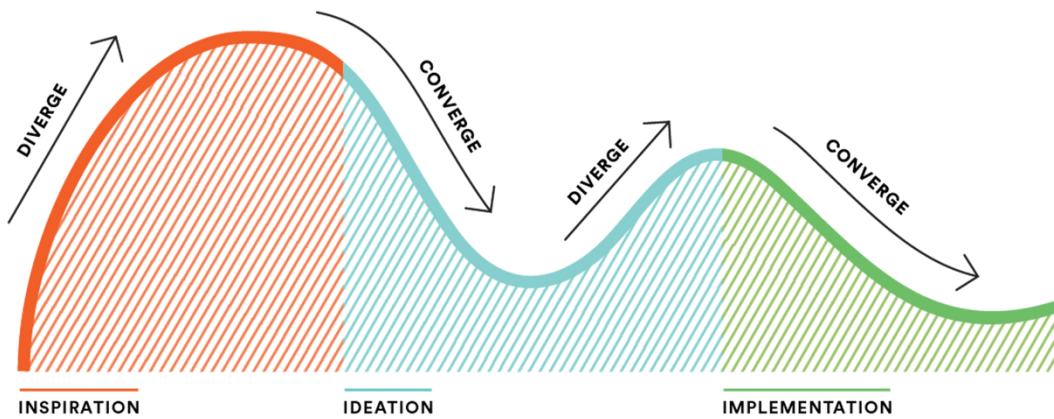
The “Double Diamond Design Thinking Model” by Design Council, the “5-Step Design Thinking Model” from Sandford Design School, the “IDEO Human-Centered Design Thinking Model” and “Google’s Design Sprint Process” are some existing design thinking models.



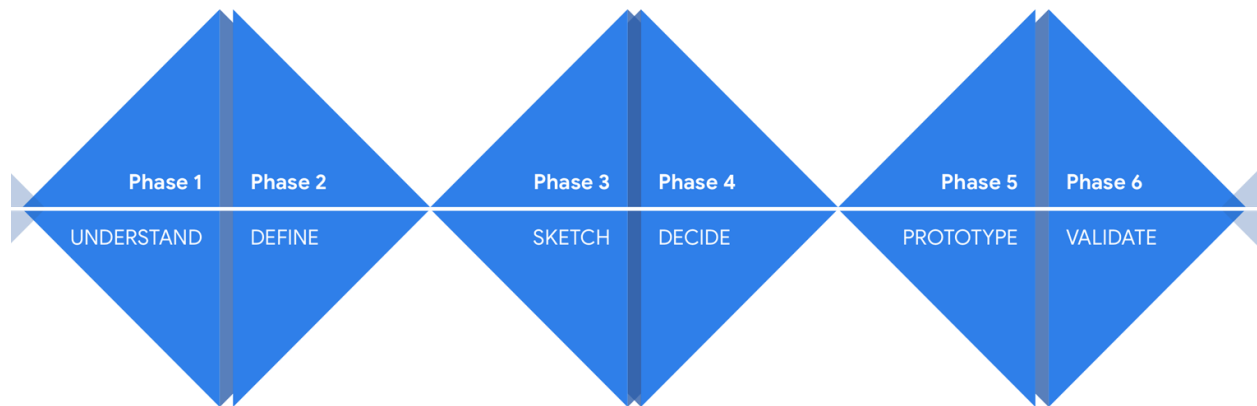
Design council – Double Diamond Design Thinking Model



5-Step Design Thinking Model from Sandford Design School



IDEO Human Centered Design Thinking Model



Google Design Sprint Process

Although all these models differ in the design thinking process, the core principle stays the same. Empathizing with users, defining the problems, finding a solution, and testing the solutions.

The Double Diamond Design Thinking Model, developed by the Design Council, consists of four distinct phases represented by two diamond shapes. The 'Discover' phase of the first diamond is when teams research and develop user empathy to understand the problem better. Next is the 'Define' phase, during which the research findings are combined to establish a precise problem statement and recognize possibilities for innovation. The second diamond symbolizes the 'Develop' phase, during which teams generate ideas, create prototypes, and conduct user testing to collect feedback. The 'Deliver' phase encompasses enhancing solutions through user feedback and applying them to achieve significant results.

The 5-Step Design Thinking Model, developed by Stanford Design School, provides a systematic approach to problem-solving. The process begins with the 'Empathize' stage, during which teams aim to comprehend user demands and experiences employing observation, interviews, and immersion. Next comes the 'Define' stage, in which the problem statement is

explicitly expressed, drawing from the insights acquired during the empathy phase. The 'Ideate' phase is the following stage, during which teams provide various innovative ideas to tackle the specified challenge. After that is the 'Prototype' stage, during which low-fidelity prototypes of prospective solutions are created for testing and making improvements. Ultimately, the 'Test' stage entails collecting input from users to assess the efficiency of prototypes and guide subsequent improvements.

IDEO's Human-Centered Design Thinking Model adheres to a similar iterative procedure. The process begins with the 'Inspiration' phase, during which teams actively seek inspiration by closely monitoring and empathizing with users to understand their needs, behaviors, and motivations comprehensively. Next comes the 'Ideation' phase, during which teams produce many ideas through brainstorming and investigation. The 'Implementation' phase includes the creation of prototypes and testing prospective solutions to obtain feedback and refine concepts.

Google created the Design Sprint process to test new ideas and solve challenges in five days. The methodology, developed by Jake Knapp at Google Ventures, has gained popularity in the design and technology sector due to its high efficiency and effectiveness. The Design Sprint method includes a sequence of distinct steps. The 'Understand' phase gathers insights and knowledge to understand the problem. The second step 'Define' phase defines the challenges and scope of the sprint. The third phase is 'Sketch' that involves individual brainstorming to come up with potential solutions. The 'Decide' phase is next in which each solution are critiqued, and one best solution is decided for prototyping. In the 'Prototyping' phase, the prototypes are built. The final step 'Validate' phase, includes the testing of the prototypes created with users.

Business Thinking

The Industrial Revolution gave birth to the concept of present business thinking. The main goal behind industrial revolution was to maximize profitability and productivity. Business thinking is problem solving that is deeply centered in the principles of goal-oriented, efficient, and structured processes. Business thinking or traditional approach heavily relies on established management theories such as Total Quality Management (TQM) and Scientific Management. “It suggests that a manager’s job is to increase efficiency in a production system” (Petriglieri, 2021). The main goal of Scientific Management is only to maximize the production. It is one of the most used management theories by business owners and managers. Business thinking decisions are based on data, financial forecasting, and market analysis. Above all, it prioritizes efficiency and risk management, aiming to scale and improve processes to guarantee long-term corporate success.

Business thinking is a methodical and analytical approach in resolving issues based on logical reasoning and evidence-supported decision-making. The main goal of Business thinking is to optimize processes and maximize profitability. It follows a rational approach based on established principles and frameworks to assess situations objectively and obtain logically sounding results. Proof is required to proceed with decision-making compared to design thinking, where many solutions to a problem exist. This evidence-based approach ensures that decisions are purely based on reality. While the logical and systematic approach characterizes business thinking, it also operates on a framework where decisions are evaluated based on right or wrong. In essence, Business Thinking is a results-driven approach that prioritizes attaining concrete results and quantifiable goals.

Business Thinking vs Design Thinking

In terms of competitive advantage for businesses, design thinking and business thinking offer distinct advantages and challenges. Business thinking is effective in optimizing existing processes and maximizing profitability. One of the advantages of business thinking is its emphasis on stability and predictability since the decisions are based on previous data. However, it can sometimes be outdated for the rapidly evolving markets. The linear approach of business thinking may fail to anticipate disruptive innovations and potentially hinder growth. Moreover, business thinking focuses on the financial metrics may affect the long-term factors such as customer satisfaction, employee engagement and social impact. On the other hand, design thinking emphasizes on empathy, creativity, and iterative problem solving, which can bring fresh perspectives to business growth strategies. By deeply understanding the user and their preferences design thinking enables businesses to be innovative in product development. Furthermore, creating products and services that resonate close with the consumer thereby increasing competitive advantage. Design thinking can also be considered as more time consuming and expensive than business thinking. The idea of design thinking is to predict the future whereas business thinking mainly depends on previous data. By placing empathy and understanding as a top priority, organizations can create solutions that fulfill practical requirements and deeply resonate with customers emotionally. This cultivates more robust customer connections, resulting in improved loyalty, and advocacy. By integrating design thinking into their problem-solving and innovation strategies; companies will be able to stand out from their competitors in a competitive business landscape.

Case Studies

To understand how firms that have successfully integrated human-centered design thinking into their business methodologies, I created case studies of four organizations from various industries. My goal was to examine the distinct design thinking approaches used by each of these firms and then create a systematic framework in the form of a checklist. This checklist will help managers and executives optimize their business plans and operations.

Apple

Apple Inc. (formerly Apple Computer Inc.) is an “American manufacturer of personal computers, smartphones, tablet computers, computer peripherals, and computer software and one of the most recognizable brands in the world” (Britannica). It was founded in 1976 by Stephen G. Wozniak and Steve Jobs. The genesis of the company stemmed from Wozniak’s lifelong dream of building his own personal computer. In 1977 they were able to create a functioning computer and named it Apple II which “offered a color display and other features” “in contrast to the forbidding steel boxes of other early machines” (Steven Levy, 2024). Initially, production took place in Job's parents' garage. Apple achieved business expansion with the support of investors such as Michael Markkula. However, the corporation faced fierce competition from IBM, which challenged its growth. Apple incorporated “first functional graphical user interface (GUI), featuring on-screen windows, a pointing device known as a mouse, and the use of icons, or pictures” into two of their computers Lisa (1983) and lower-cost Macintosh (1984) (Steven Levy, 2024). Jobs also said that “that the computer should be not merely great but ‘insanely great’” (Steven Levy, 2024). The company did not achieve the level of business success they had anticipated, leading to Jobs being ousted (by the CEO John Sculley) from the company

in 1985. Later that same year, Wozniak also departed from the company. The company incorporated various innovations, including PageMaker and HyperCard, which significantly enhanced its market performance. Microsoft increased market competition by introducing their operating system, Windows, which drove down computer prices. As a result, buyers became less likely to invest in high-end Apple computers. Despite the launch of new products, apps, and leadership changes between 1985 and 1997, Apple struggled to increase its market share and performance. In 1997 Jobs rejoined the company that he cofounded. Jobs revitalized the company by creating an alliance with Microsoft and discontinuing licenses and products that were unprofitable and introduced affordable computers like iMac. “The iMac quickly became the all-time best-selling Mac and lifted Apple’s U.S. market share from a record low of 2.6 percent in December 1997 to roughly 13.5 percent in August 1998” (Steven Levy, 2024).

In 2001, Apple introduced the iPod which operated on the exclusive iTunes platform. Despite iTunes not generating immediate profits, the innovative program created an ecosystem that was significantly relied on by common consumers and players in the music industry. “The iPod is to music players what Kleenex is to tissue or Xerox is to copiers” (Morris. CNN). Tony Fadell was tasked to come up with a MP3 player for the company and developed it into iPod. Fadell notes that he trusted the visionary leader Jobs to join the company and come up with iPod. “Much of the early work on the iPod paved the road for the iPhone, Apple's next groundbreaking product” (Cheng, 2021). “It's a product that not only redefined the smartphone but also reimagined how design could shape the future of technology” (Borah, 2023). Apple was able to bring big differences in MP3 player, smartphone, and computer industries. “Apple has demonstrated how to create real, breathtaking growth by dreaming up products so new and ingenious that they have upended one industry after another: consumer electronics, the record

industry, the movie industry, video and music production.” Apple increased their growth by using design thinking and being a good marketer in the industry.

When Apple introduced iPhone, it empathized with users who struggled with complexity in using a phone. “The process of design thinking begins with data gathering at the outset of the design process, designers gather a great deal of data on the users they want to create value for” (Liedtka, Forbes). Apple’s products were created by understanding their user’s needs, behavior, and preferences. Even using the letter “I” in most products is to make users feel like it is created just for them. Empathizing with the users will help to create a product that is loved by many customers. The next step Apple used in the design thinking process was to define the problems that are faced by customers. Apple’s main goal during creating the iPhone was to find what was the main issue phone users were facing. The complexity of using different devices for certain needs was the main problem Apple took into consideration when they created iPhones was “how to create a single device that could combine communication, computing, and entertainment in a user-friendly way” (Borah, 2023).

In the design thinking process Apple’s next step was to create ideas that solved the problems they found and create of prototypes that solved the problems. “That is, they treat their new ideas as hypotheses to be tested. They surface the assumptions underlying their hypotheses and test them” (Liedtka, 2012). Understanding the consumer needs and making it into reality will be a prolonged process compared to traditional business thinking. The result of these two ways of thinking produces two different results. “Apple’s main purpose is to create products that enrich people’s daily lives. That involves not only developing entirely new product categories such as the iPhone and the Apple Watch, but also continually innovating within those categories” (Podolny & Hanseen, 2020). Effectively using design thinking is to continuously innovate your

products or services. The company also has innovatively introduced newer features to the smartphone industry shown through the following:

“iPhone camera technology has contributed to the photography industry with a stream of innovations: High dynamic range imaging (2010), panorama photos (2012), True Tone flash (2013), optical image stabilization (2015), the dual-lens camera (2016), portrait mode (2016), portrait lighting (2017), and night mode (2019) are but a few of the improvements” (Podolny & Hanseen, 2020).

One of the reasons Apple successfully employed design thinking is because they focused on their leadership and management. “Technical experts rather than general managers increase the odds that those bets will pay off” (Podolny & Hanseen, 2020). Experts leading experts not only improve the overall performance but create a work culture that works efficiently. A functional organization creates a culture where new innovations will be introduced. When experts in a certain field are in management rather than the professional managers, the company will be able solve problems and adopt changes more organic than normal organization.

GE Healthcare (Adventure series)

GE Healthcare is one of the companies that applied Human-Centered design thinking in its business to help its customers. GE Healthcare was able to understand that pediatric patients were scared to get their MRI scan on the normal MRI machine. “A twenty-four-year veteran of General Electric, Doug helps lead the design and development of high-tech medical imaging systems for GE Healthcare, an \$18 billion division of one of the largest companies in the world” (IDEO U, n.d.). Doug was responsible for adapting unique MRI procedures for pediatric patients.

During his visit, he saw a girl scared about her MRI scan, and the technician called an anesthesiologist to sedate the patient to complete the scan. “Doug learned that hospitals routinely sedate pediatric patients for their scans because they are so scared that they cannot lie still long enough. As many as 80 percent of pediatric patients have to be sedated” (IDEO U, n.d.). That incident changed Doug’s perspective about the machine he had been proud of for many years.

The observation during the hospital visit made Doug start a journey to create a difference for pediatric patients who undergo MRI scans. “Through the eyes of a young child—the MRI looked more like a big scary machine you have to go inside” (IDEO U, n.d.). The core principle of design thinking is to see problems through the users view or have empathy to come up with solutions that will make an impact. The quest to solve the issues faced by pediatric patients made Doug join a workshop to understand more about Human-Centered design thinking. Working with people from different industries and positions made him say, “I started to imagine how powerful this tool could be if I brought it back and got cross functional teams to work together” (IDEO U, n.d.). After the workshop he knew that he needed solutions but redesigning the machine would be costly so “he focused on redesigning the experience” (IDEO U, n.d.). The empathy and defining processes were understanding the problems faced by the kids to get their MRI scan done and defining that the solution will be redesigning the experience.

Doug started “observing and gaining empathy for young children at a daycare center” (IDEO U, n.d.). He wanted to empathize with the kids to see how he can create a solution that will ease the process of doing MRI scans for kids. He reached out to pediatric hospitals to understand what patients go through when they do the scan. After understanding the problem and issues, “he created the first prototype of what would become the ‘Adventure Series’ scanner and was able to get it installed as a pilot program in the children’s hospital at the University of

Pittsburgh Medical Center” (IDEO U, n.d.). The idea behind his prototype was to change the normal MRI suite to an “adventure series” where kids will be in “starring roles.” “Doug and his ad hoc team applied colorful decals to the outside of the machine and to every surface in the room, covering the floor, ceilings, walls, and all of the equipment” (IDEO U, n.d.). Rather than changing the whole MRI machine the team focused on creating a distinct experience for the patients. The technicians were also taught different stories so the whole MRI experience will be an adventure for the patients.

“One of the prototypes is a pirate ship worthy of an amusement park ride. The ship comes complete with a big wooden captain’s wheel that surrounds the round opening of the chamber—a seafaring detail that also makes the small circumference seem less claustrophobic. The operator tells kids that they will be sailing inside the pirate ship, and they have to stay completely still while on the boat. After their ‘voyage,’ they get to pick a small treasure from the pirate’s chest on the other side of the room” (IDEO U, n.d.).

Tesla

Tesla motors was founded in July 2003 by Martin Eberhard and Marc Tarpinning. The company was named after the famous physicist Nikola Tesla. The goal of Tesla was “to engineer and mass produce a 100% electric vehicle (EV) that refused to compromise on mileage or comfort” (Forbes, 2022). In 2004, Elon Musk invested in the company with an initial funding of \$6.5 million, and this investment provided him an opportunity to join the board of directors. In July 2009, the company revealed the company's first car, the Tesla Roadster. Musk also released a Master Plan for Tesla on August 2, 2006 that briefly explained the vision and mission of the

company in a long run. After multiple leadership changes Musk became the CEO of the company in October 2008.

In the era of sustainable transportation, Tesla Motors has risen as a pioneer in revolutionizing the automotive industry, especially the electric vehicle (EV's) market. The success for the company was from adapting design thinking principles and continuous innovation. (Muciri, 2023). The company was able to resolve the confusion people had regarding EV's range, reliability, and the whole concept of fully electric cars. The company's "Master Plan" clearly outlined its ambition for changing the EV market. Elon Musk envisioned the company's product line early on, and the company adhered to it. The company was also able to successfully empathize with potential customers early on. The potential customers included environmentally conscious consumers, premium car enthusiasts, and tech enthusiasts that were looking for cars with cutting edge technology. Even before it was finalized, Tesla revealed its first car named the Roadster. This was a strategic attempt to attract the attention of potential consumers and garner substantial media coverage, underscoring the company's dramatic entry into the electric vehicle market. This calculated risk was intended to promote consumer enthusiasm and anticipation while presenting Tesla as a leader in the electric vehicle sector. Tesla aimed to create a car with groundbreaking features to provide a different driving experience when compared to standard gasoline cars. Tesla carved out a distinct path for engaging with customers, developing brand loyalty, and promoting mass adoption of electric vehicles. The company also continually pushed the boundaries of technology by presenting their products in appealing ways. "Tesla has more software than the average vehicle and it is integrated around a single central software architecture" (Furr & Dyer, 2020). It can also be argued that Tesla created cars that are more software based so the cars can be updated like smartphones from Apple. "This enables the

company to improve its cars' software functionality every few weeks. This is in sharp contrast to the traditional auto industry model where the product is the same for as long as you drive it" (Shipley, 2020). The company established its place in the market by developing cars that differed from traditional automotive manufacturers while offering a reduced total cost of ownership. Tesla broke industry conventions by developing electric vehicles that stood out in terms of design, performance, and sustainability which attracted consumers looking for innovative alternatives. The company revolutionized the automobile purchasing process by eliminating conventional intermediaries like dealerships, resulting in reduced prices.

The company also empathized with the customers when they installed charging network across the country (Furr & Dyer, 2020). Tesla accomplished this by employing an iterative process that involved continuously refining their designs and enhancing their products. This approach was closely connected with the principles of design thinking, which emphasizes the need for prototyping and testing. To understand the development of Tesla's product improvement, a direct comparison between the first Roadster and the most recent version is enough. Look at their first two door car and how they worked their way up to a semi-truck. They also have the solar roofs and energy storage that are complementary products that is related to its products. Tesla's strategy was to study their competition, that was already in market such as Toyota Prius. By understanding the challenges that was faced by Prius owners the company was able to solve some issues such as aesthetics, and range. Tesla's proactive strategy of gathering feedback from both customers and industry experts has been critical to improving its products and strengthening the company's overall position.

Netflix

The entertainment industry has seen significant innovation and development with Netflix, which replaced Blockbuster. In the early 1900s, going to the movies was the most popular way to watch movies. Then, in 1985, David Cook founded Blockbuster, which provided DVD rental through stores. However, when Netflix entered the market with a new strategy, Blockbuster neglected to innovate its strategy when Netflix joined the same market, which led to its demise. Reed Hastings and Marc Randolph established Netflix in 1997, using a different business model than Blockbuster. By 1999, Netflix debuted a subscription service “offering members unlimited DVD rentals without due dates, late fees, or monthly rental limits” (Netflix, n.d.). “There’s no doubt Netflix is the definitive modern media company, and its impact is felt in a number of industries. It’s what experts call the Netflix Effect” (Morgan, 2019). In 2000, Netflix proposed the idea that it would “run Blockbuster’s brand online and Antioco’s firm would promote Netflix in its stores” (Satell, 2014). Blockbuster executives rejected Netflix’s offer. However, with the rise of streaming, this decision made by the Blockbusters executives proved to be the start of the company’s downfall with the rise of streaming.

The case of Netflix is a good example of using design thinking in business to increase market share and overall performance. While initially operating on a similar business model, Netflix surpassed its predecessor, Blockbuster because of its effective application of design thinking principles. “Antioco was, in fact, a very competent executive—many considered him a retail genius—with a long history of success” (Satell, 2014). Despite being recognized as a retail genius, Blockbuster's CEO's refusal to embrace change and empathize with customers proved fatal. Blockbuster's income strategy was primarily reliant on late fees, suggesting a reluctance to consider new innovative techniques (Satell, 2014). Netflix lowered its rates by providing

products through retail outlets and charging subscriptions instead of renting videos (Satell, 2014). By offering its products at a more affordable rate, Netflix effectively increased its market share, notably through word-of-mouth recommendations. Antioco attempted to eliminate the late fees that customers had long complained about, but Blockbuster's attempt to mimic its competitors' business methods came too late to make a comeback.

Netflix changed how people saw content, transitioning from old behaviors like going to the theaters, renting DVDs, and watching TV via cable to seamlessly streaming media from the comfort of their living rooms, with the option of ad-free viewing. “In 2018, the number of people who cut the cord increased by nearly 33%, to 33 million people. At the same time, Netflix users are increasing” (Morgan, 2019). This enabled users to choose what to watch, when, and where to watch it, giving them unprecedented power over their viewing habits. They also increased their viewership by investing in and creating original shows. Netflix was one of the first companies to use the Internet, starting with a rent-by-mail business and then delivering content online. The primary idea of Human-Centered Design Thinking is to create products that promote a deep bond between consumers and the product, allowing users to relate closely to their own experiences and needs this has enabled Netflix to be the market leader.

Summary of cases

Case studies of businesses like Netflix, Apple, GE Healthcare, and Tesla show how incorporating design thinking methods into business plans have dramatically improved market performance. Visionary leaders such as Reed Hastings, Marc Randolph, Elon Musk and Steve Jobs' active participation and skillful execution are crucial characteristics shared by these firms. In contrast, conventional business methodologies, which depend on historical data to develop and project future strategies. Whereas design thinking strongly emphasizes comprehending the

evolving consumer habits. These firms' empathy for future users motivates them to develop several solutions for every issue, promoting creativity and adaptability. Traditional business model relies on data-driven decision making to reduce errors. In contrast design thinking promotes using consumer behavior and preference insights to inform product development and service delivery. As evidence of this strategy, Apple has developed an ecosystem of its own within the electronics industry, which is reflected in the development of seamlessly integrated services and products, including Siri, iTunes, iWatch, and Apple Pay. By putting the needs and wants of their customers first, Apple and Tesla have solidified their leadership positions in their respective fields, demonstrating the revolutionary potential of design thinking.

An approach to redefine Human Centered Design Thinking

Prioritizing design thinking will increase a company's unique competitive advantage. Prioritizing customers in problem solving and product development will significantly enhance the user experience. Higher User Experience (UX) will result in higher customer satisfaction and long-term loyalty. Human-Centered problem solving, and solution creation will minimize the risk of creating products or services that do not satisfy the market. Emphasizing Human-centered design thinking will also allow firms to stand out from the competitors. Organizations may achieve significant expansion, cultivate client loyalty, and position themselves as leaders in their respective sectors when they implement human-centered design thinking. Adopting an improved human-centered design thinking approach has many benefits for future businesses, entrepreneurs, and managers. Implementing this method has benefits such as enhanced customer satisfaction and a competitive edge in the market.

I would like to propose an enhanced Human-Centered Design Thinking process that is tailored to boost the competitive advantage of businesses. Adding the concepts of the Blue Ocean strategy and the refined design thinking model would help firms be more competitive in their respective markets. Since this model is created for businesses, it should be less time-consuming.

Definitize Phase: Defining the problems should be the start of implementing this design thinking model. This phase should be able to create a persuasive value proposition that targets potential customers needs and provide distinct advantage over the competitors. Asking “Why” throughout this phase can help to discover fresh perspectives about the problems. In this Phase, firms should incorporate the aspects of Blue Ocean Strategy to identify potential innovation areas not met by competitions. Apple found the problem of people trying to use multiple devices for entertainment. Defining that consumers value convenience helped the company to produce the iPhone. This combined devices such as phone, camera, digital camera, and portable music player which solved how people communicate and helped people to essentially have “internet” in their pockets. The Empathy phase of this model also should work along with the Definitize phase. It focuses on determining whether the identified challenges align with the potential needs of prospective clients. Potential opportunities for value creation can be found by collecting and analyzing data on market trends, consumer preferences, and emerging technologies. The firms should interact with the stakeholders to comprehend their needs, challenges, and goals. Involving the consumers in this stage will help to improve the defined problems from the Definitize phase. In addition, firms should not focus on the past data but predict the future of products or services.

Questions that should be asked during this phase:

Have we clearly defined the problem, from the perspective of potential users?

Did we align the problems in a way that aligns with value and goals of targeted users?

Are we creating an experience that resonates with the users on a personal level?

Ideation Phase: A wide array of ideas and concepts should be created for the problems that were found in the Definitize phase that empathize with potential users. This phase should be done with the help of cross functional groups in the organization. Including innovation and creativity from cross-functional groups will help to see different perspectives for the solutions. Prototyping of the prospective solutions should also be done in this phase to save time.

Questions that should be asked during this phase:

Are we generating a wide range of ideas without bias or judgements?

Are we involving diverse perspectives and expertise in our ideation phase?

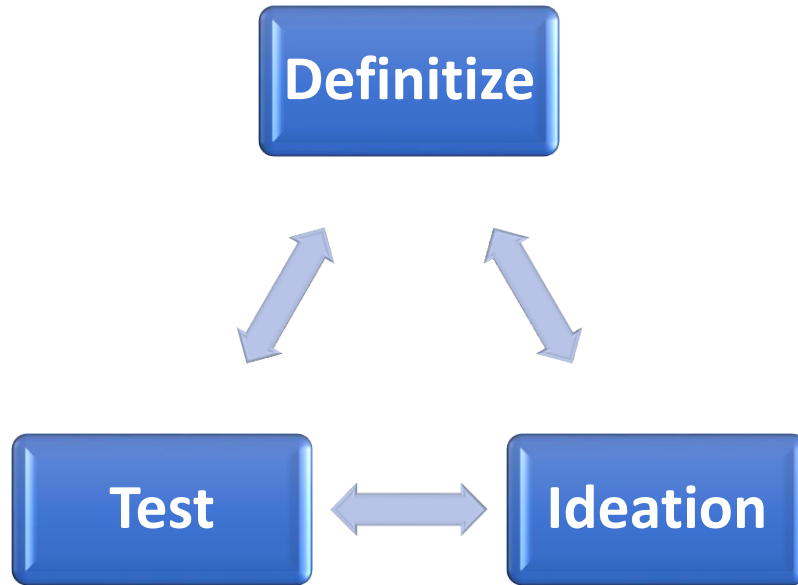
Have we created prototypes that allow users to interact with our solutions in a tangible way?

Test Phase: In the test phase, the potential prototypes are brought into the market to get real-life feedback from consumers. Firms should track the performance of solutions created and identify the opportunities to enhance them. In this phase it is necessary to get feedback from stakeholders, especially customers to improve the created the solutions. Promoting a culture of continuous learning and innovation within the organization allows continuous value creation. Organizations, while adopting the design thinking model and solutions, should be constantly advancing with feedback and the market performance indicators. The solutions also need to be created with the idea of sustainability.

Questions that should be asked during this phase:

Are we regularly collecting data and feedback to assess the impact of our solutions on user satisfaction, engagement, and business goals?

Are we considering the long-term environmental and social impact of our solutions?



Conclusion

Furthermore, this thesis has emphasized the significant influence of human-centered design thinking on corporate success when compared to typical business thinking paradigms. Through the case studies of major companies such as Apple, Tesla, GE Healthcare, and Netflix, it becomes clear that firms who use design thinking concepts have revolutionized innovation, customer involvement, and market dominance.

Design thinking is characterized by its focus on problem-solving driven by empathy and iterative idea generation. This distinctly differs from the inflexible, data-driven approach of traditional business thinking. Apple's product development, Tesla's groundbreaking advancements in sustainable transportation, GE Healthcare's patient-focused healthcare solutions, and Netflix's customized content distribution demonstrates the influence of design thinking in revolutionary change across various industries. Based on the knowledge gained from analyzing these case studies and current research, a more improved design thinking model is proposed. This improved version integrates essential phases such as empathize, define, ideate, prototype, and test while also highlighting the need for ongoing iteration and feedback loops.

Organizations may effectively handle complexity, promote innovation, and stay competitive in dynamic marketplaces by adopting empathy, creativity, and iterative experimentation. In a dynamic and rapidly changing corporate environment, where disruption is the usual and consumer expectations are constantly shifting, implementing design thinking principles is beneficial and necessary for achieving long lasting success.

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Figure 1



Adventure series pirate island CT scan suite.

Figure 2



Adventure series Space runway MRI scan suite