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DESIGN THINKING – EVOLUTION & ITS IMPORTANCE IN BUSINESS

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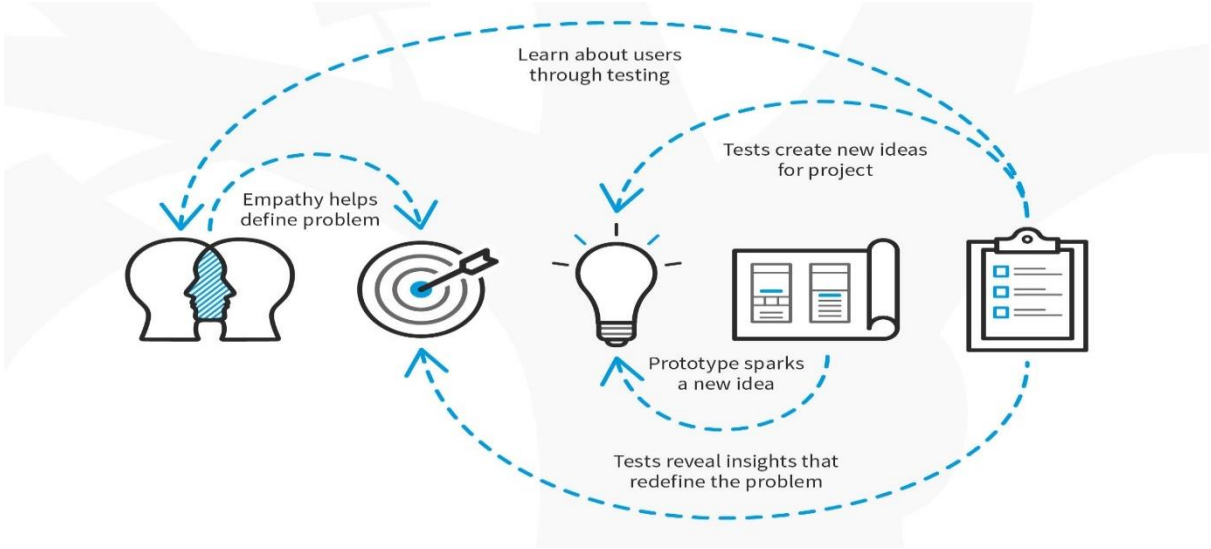
ABSTRACT

Design thinking is an analytic and creative process in which a person is encouraged to experiment, create and prototype models, gather feedback, and redesign. The literature has identified several characteristics (e.g., visualisation, creativity) that a good design thinker should have. Design and design thinking have been recognised as valuable contributions to business and management, and the number of higher education programmes teaching design thinking to business students, managers, and executives is increasing. Multiple definitions of design thinking, as well as a variety of perspectives, have led to some confusion about possible paths. Design, like problem solving, is a natural and widespread human activity. A design process begins with a need and discontent with the present situation, as well as a determination that something must be done to fix the problem. Many scientists, in this opinion, have been creating and behaving as designers throughout their careers, while not always being aware of or realising that they are doing so.

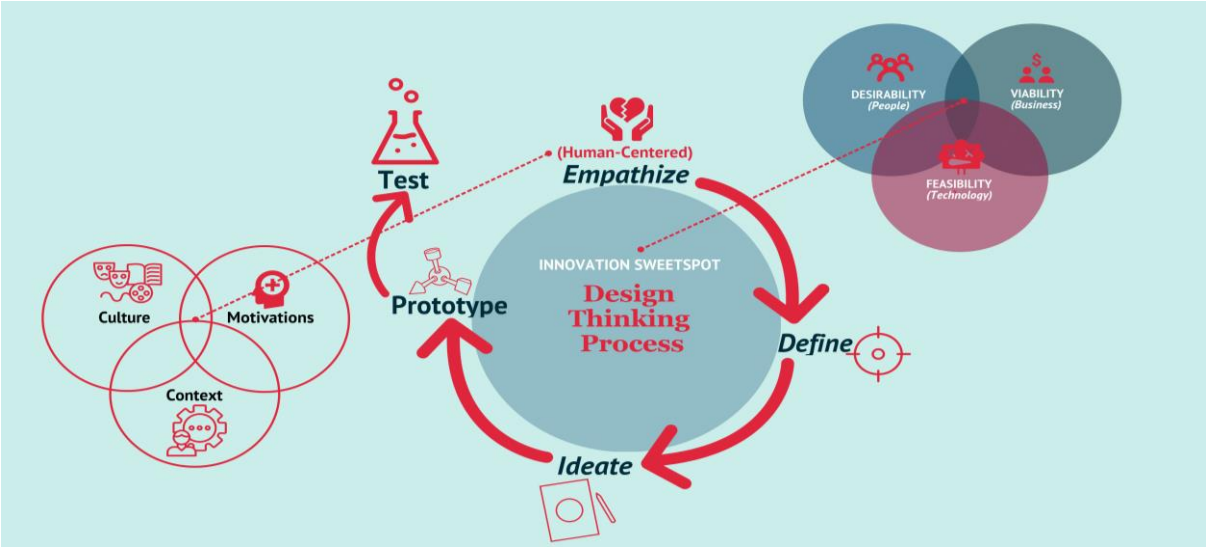
Keywords: Design thinking.

INTRODUCTION

Design thinking is a non-linear, iterative process that teams use to understand users, challenge assumptions, redefine problems and create innovative solutions to prototype and test. Involving five phases—Empathize, Define, Ideate, Prototype and Test—it is most useful to tackle problems that are ill-defined or unknown.



Design thinking is "human-centred," which means that it uses evidence of how consumers (humans) actually engage with a product or service, rather than how someone else or an organization thinks they will engage with it. To be truly human-centred, designers watch how people use a product or service and continue to refine the product or service in order to improve the consumer's experience. This is the "iterative" part of design thinking. It favours moving quickly to get prototypes out to test, rather than endless research or rumination.



HISTORY OF DESIGN THINKING

The 1960s: Attempts Were Made to Make Design Scientific

In the '60s, people applied scientific methodology and processes in an attempt to understand every aspect of design—how it functions and what it's influenced by.

Nigel Cross—Emeritus Professor of Design Studies at The Open University, UK—unpicks the struggle that began to unfold in the early 1960s in the paper "Designerly ways of knowing: design discipline versus design science" (2001). Cross highlights statements made by radical technologist Buckminster Fuller, in which he refers to the "design science decade":

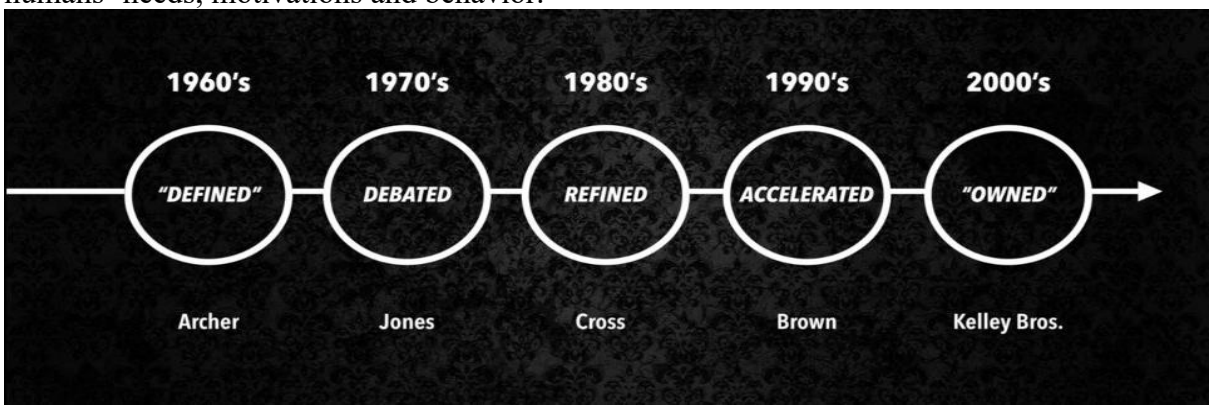
The struggle continued throughout the decade as further attempts were made to bring the field within the objective of rational sciences and, ultimately, make design *scientific*.

The term "Wicked Problems" is Coined

In the mid-1960s, Horst Rittel wrote and spoke extensively on the subject of problem-solving in design… so much so that he's known as the design theorist who coined the term "wicked problem" to describe problems which are multidimensional and extremely complex. Rittel specifically focused on how design methodologies could be used to tackle wicked problems and how these methodologies were influential to the work of many design practitioners and academics of the time.

Horst Rittel is known as the design theorist who coined the term "wicked problem" after he wrote and spoke extensively on the topic of problem-solving in the 1960s.

Wicked problems are at the very heart of design thinking because it is precisely these complex and multidimensional problems that require a collaborative methodology to gain a deep understanding of humans' needs, motivations and behavior.



The 1970s: The Principles of Design Thinking Started to Emerge

Cognitive scientist and Nobel Prize laureate **Herbert A. Simon was the first to mention design as a way of thinking in his 1969 book**, *The Sciences of the Artificial.* He then went on to contribute many ideas throughout the 1970s which are now regarded as principles of design thinking.

Simon is noted to have spoken about rapid prototyping and testing through observation, for example—concepts which form the core of many design and entrepreneurial processes today, including two of the major phases in the typical design thinking process.

What's more, a large proportion of his work was focused on the development of artificial intelligence and whether human forms of thinking could be synthesized—a topic which is very prevalent in the design world today.

Robert H. McKim, Emeritus Professor of Mechanical Engineering, also referred to the notion of design thinking in his 1973 book, *Experiences in Visual Thinking.* McKim differed from Simon in that he is best described as an artist and engineer—he focused his energies more on the impact visual thinking had on our ability to understand things and solve problems. McKim's book unpicks various aspects of the *visual* thinking and design methods used to solve problems. He places an emphasis on the combination of left and right brain modes of thinking, to bring about a more holistic form of problem-solving. The ideas discussed in his book ultimately underpin the design thinking methodology we use today.

The 1980s: Solution-Focused Problem-Solving was Observed

In 1982, Nigel Cross continued to make history in the design thinking world when he discussed the nature of how designers solve problems in his seminal paper "Designerly Ways of Knowing". (Please note, this is not to be confused with his series of articles and papers similarly titled "Designerly Ways of Knowing", published much later in the 2000s). In his 1982 paper, Cross compared designers' problem-solving processes to the non-design-related solutions we develop to problems in our everyday lives.

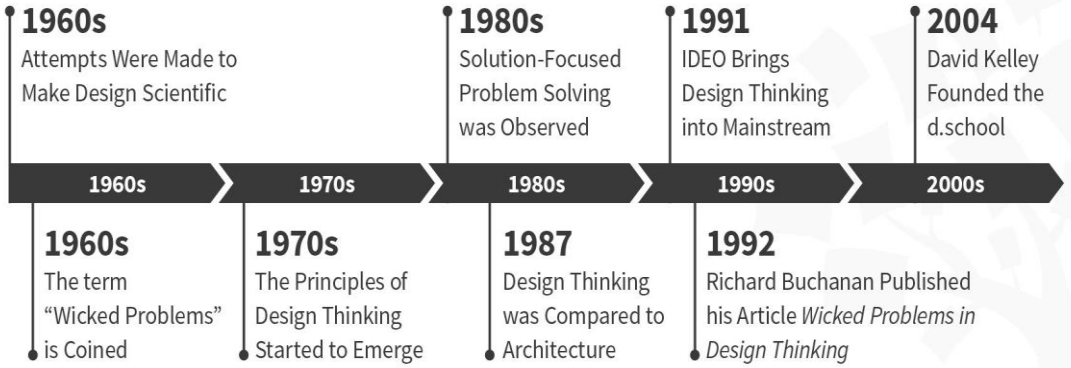
Bryan Lawson, Emeritus Professor at the School of Architecture, University of Sheffield, UK, also discussed the insights he'd gathered from a series of interesting tests. The main goal of the tests was to compare the methods used by scientists and architects when they attempted to solve the same ambiguous problem.

Bryan Lawson asked architectural and science students to arrange colored blocks according to a set of rules. What he discovered was incredibly interesting and contributed to his theories around the "designerly" way of problem-solving.

1987: Design Thinking was Compared to Architecture Once Again

Peter Rowe, then Director of Urban Design Programs at Harvard, published his book *Design Thinking* in 1987. It focuses on the way architectural designers approach their tasks through an inquisitive lens.

As you can see, the progression of **design thinking as a subject made its journey through various fields of specialization over the decades.** Thinkers within those various fields explored the cognitive processes within the scope of their own knowledge until design thinking finally became a separate concept and moved into a space of its own.



The 1990s to the Present

1991

It is widely accepted that IDEO is one of the companies that brought design thinking into the mainstream. They developed their own customer-friendly terminology, steps and toolkits over the years, and made the process more accessible to those not schooled in design methodology.

IDEO have developed their own design thinking terminology, steps and toolkits. This picture was taken at one of their Make-a-thons—two fun, intense days where groups of people craft, hack and build human-centered design solutions to real-world problems.

1992

Richard Buchanan, then Head of Design at Carnegie Mellon University, published his article "Wicked Problems in Design Thinking", which discussed the origins of design thinking. In the article, he discusses how the sciences developed over time to become more and more cut off from each other until they finally became specializations in their own right. He clarifies that **design thinking is a means to integrate these highly specialized fields of knowledge** so they can be jointly applied to the new problems we face in the world today—and from a *holistic* perspective.

2004

David Kelley founded the Hasso Plattner Institute of Design at Stanford—commonly known as the d.school. The d.school has made the development, teaching and implementation of design thinking one of its central goals since inception, and it serves as a source of huge inspiration to design thinkers across the world, including us here at the Interaction Design Foundation.

Present Day

At present, the **design thinking movement is rapidly gaining ground**—with pioneers like IDEO and the d.school paving out a path for others to follow. Other prestigious universities, business schools and forward-thinking companies have adopted the design thinking methodology to varying degrees, and have sometimes even re-interpreted it to suit their specific context or brand values.

The understanding and use of the term 'wicked problems' has matured too, and Human-Centered Design pioneers and leaders like Don Norman now prefer the term 'complex socio-technical systems'

IMPORTANCE OF DESIGN THINKING

Design thinking seeks to understand and assess how customers engage with products and services. Design thinking can also be used by companies to better understand how the consumer-product relationship works. Design thinking challenges conventional approaches to problem-solving when ideas are generated, designs are developed, and products are produced. When implementing methods for enhancing goods and services as well as corporate operations, this use of critical thinking and creative problem-solving can concentrate on answers that may not always be obvious.

Given that design thinking rekindles creativity, narrows down focus areas, and communicates goals with clarity, its importance in business is immense.

Clarity

Design thinking helps businesses to bring clarity in their business understanding by helping leaders to identify, understand and address the problems that affect their businesses and customers. Since design thinking values solutions over processes and innovation over traditions, it can help you find the right problems that need to be solved for the customers.

Future readiness

With clarity comes a clear vision about the possible problems and their possible solutions. In this age of technology-powered disruptions, it is all the more important to create a roadmap and chart the direction for the future using the power of design thinking in decision making.

Competitive advantage

Since design thinking encourages customization of products and services for your customers, it stands to benefit your organization by giving it a competitive advantage through the creation of bespoke, best-in-class products and services that are more practical, user-friendly, and immersive. The deep understanding of customers and the practice of putting the needs of your customers first to solve their problems through empathy and iterations help you to build not only the best products and services but also the most engaging and delightful experiences for your end-users.

Team collaboration and innovation

Nothing infuses team-based collaboration as much as design thinking does by focussing on brainstorming, interactions, thinking out of the box, and letting everyone contribute for a common cause. It enforces team-based collaboration that puts the user at the center. Business leaders like CEOs, CMOs, CFOs, CHROs, Chief Strategy Officers, and L&D Heads can get people aligned with common goals to collectively come up with better products and services.

Better sales interactions

Sales interactions with customers are often a decisive way for a product's success. Better sales interactions ensure positive word of mouth and better customer engagement. Sales interactions are expedited in design thinking because the prospective customers are kept constantly in touch with the product development process. Moreover, the customers get to know how your organization is keen on solving their issues.

Effective product launches

Design thinking helps in better product launches by reducing the last-minute surprises and risks. Since the customer feedback and iterations were already factored in during the development phase itself, the launched products and services perform well from the very beginning.

Solves concrete human needs

Design thinking provides crucial solutions to solve human needs effectively. It makes it possible for organizations to create lasting value for customers. Design teams learn about users' pain points that they never thought of before using a well-researched and human-centered approach.

Tackle difficult or ambiguous problems

Consumers often don't know what problems they face, or they might not know how to verbalize these issues. Design thinking aims to create products that solve ambiguous or difficult user problems.

The best method of defining these user problems is by observing their behavior. With design thinking, you observe consumer behavior, establish a pattern and design a problem to tackle this issue.

Better user experience

Every company needs to communicate effectively. The best way to listen to your customer is through design thinking. You listen to your customers' needs and create a better user experience.

Fresh and innovative solutions

Design thinking will help you create innovative solutions to solve consumer pain points. Most people don't think of innovative problem-solving methods; therefore, design thinking will help you cater to this human need.

A more efficient work process

Even though design thinking is not linear, it will help you organize and streamline your design process. Design teams should follow design thinking steps to logically and systematically create effective and testable products.

CONCLUSION

Design Thinking plays a important role in Business in various aspects. Design Thinking is an iterative and nonlinear process. This simply means that the design team continuously use their results to review, question and improve their initial assumptions, understandings and results. Results from the final stage of the initial work process inform our understanding of the problem, help us determine the parameters of the problem, enable us to redefine the problem, and, perhaps most importantly, provide us with new insights so we can see any alternative solutions that might not have been available with our previous level of understanding.