

# Research on Design Thinking Methods

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**Received:** 10 December 2023; **Accepted:** 15 January 2024; **Published:** 12 March 2024

## Abstract:

With the increasingly fierce market competition, design thinking plays an increasingly prominent role in product innovation. As one of the core abilities of design thinking, insight is of great significance for designers to deeply understand user needs, find market opportunities, and propose innovative solutions. This paper takes design thinking as the research object, discusses the insight method based on design thinking, in order to provide reference for designers to improve their innovation ability.

## Keywords:

Design Thinking, Insight, Methodological Research

## 1. Introduction

Design thinking is a unique way of thinking that aims to solve complex problems, discover potential needs, and create new value. Among them, insight is one of the core capabilities of design thinking, which can help designers deeply understand user needs, find potential market opportunities, and propose innovative solutions. However, many designers still have some problems in product design, such as lack of innovation awareness, neglect of user needs, too much pursuit of appearance and so on. Therefore, this paper aims to explore the research of insight method based on design thinking, in order to provide reference for designers to improve their innovation ability.

Design thinking is a human-centered approach to innovation that solves problems through a deep understanding of user needs and challenges, as well as through iteration and prototype testing. The core of design thinking is insight, which is to discover the real needs and pain points of users through observation, communication and experimentation. This paper aims to explore the insightful approach based on design thinking and how it can be applied to solve practical problems.

First, the insightful approach to design thinking includes a variety of techniques and tools, such as user research, brainstorming, prototyping, and user testing. These methods can help designers gain insight into the needs and behaviors of users to provide them with better solutions. By observing the daily life and work environment of users, designers can discover their real needs and pain points, so as to provide them with better products and services.

Secondly, the insightful method of design thinking can be applied to various fields, such as product design, service design, user experience design, etc. For example, in the field of product design, designers can improve the function and design of products by observing user behavior and feedback, so as to improve user satisfaction and market competitiveness. In the field of service design, designers can improve customer loyalty and word-of-mouth by providing users with a better service experience through in-depth understanding of their needs and expectations.

Finally, the insight approach based on design thinking requires designers to possess certain skills and qualities, such as observation, communication, creativity and teamwork spirit. Designers need to be good at observing and listening to the needs of users, good at communicating effectively with team members and users, good at flexible thinking and innovative design. In addition, designers also need to have a team spirit, and team members to discuss and solve problems, so as to improve the quality and effect of the design.

To sum up, an insightful approach based on design thinking is an important innovative approach that can help designers gain insight into users' needs and pain points, thereby providing them with better solutions. By applying this method, designers can achieve better results in the fields of product design, service design and user experience design, thereby improving the competitiveness and market position of enterprises. Therefore, we should attach importance to the insightful method of design thinking, cultivate the relevant skills and qualities of designers, and promote its application and development in practice.

## **2. The Relationship Between Design Thinking and Insight**

There is a close relationship between design thinking and insight. Design thinking is an innovative problem-solving approach that relies on deep insight to drive the user-centered innovation process. Insight is a deep understanding of user behavior, needs, motivations, and pain points that goes beyond superficial observation and data analysis to get to the heart of the user experience. In the process of design thinking, insight is usually discovered during the empathy stage. Designers and innovators use observations, interviews, user diaries, situational simulations, and more to dive into users' living environments to truly understand their experiences and feelings. This in-depth insight provides a solid foundation for defining problems and exploring solutions.

Insight makes design thinking work because it reveals the reasons behind users' behavior and the deep factors that influence their decisions. These insights may reveal non-intuitive needs that traditional market research ignores, or point to unmet needs in existing solutions. With this deep understanding, designers are able to create truly meaningful innovations, not just superficial improvements. The definition phase in design thinking relies on the insights gained from the empathy phase to accurately define the problem. An accurate definition of the problem can lead the team to focus on solving the most important problem instead of wasting resources in the wrong direction. Insight acts as a bridge here, translating the user's real experience and needs into actionable problem statements.

In the Ideas and prototyping phase, design thinking uses insights to generate ideas and prototype solutions. Designers translate insights into innovative ideas that solve users' real problems and deliver experiences that exceed their expectations. The prototyping and testing phase further validates these insights, using user feedback to

adapt and improve the solution. Insight is also an ongoing process in design thinking. As the project progresses, the team may gain new insights that require them to go back to the early stages of design thinking and revisit the problem definition or solution. This flexibility and constant focus on insight ensures that design thinking can adapt to changing user needs and market conditions.

In short, insight is an integral part of design thinking. It provides depth and direction to design thinking, ensuring that solutions are not only innovative but also relevant. The combination of design thinking and insight enables innovators to design products, services and experiences that truly meet the needs of users, thereby gaining an edge in a highly competitive market.

Design thinking and insight go hand in hand. Design thinking emphasizes that from the perspective of users, through observation, analysis, induction, reasoning and other methods, in-depth understanding of user needs, explore potential markets, and propose innovative solutions. The insight refers to the designer's deep, keen and accurate understanding of things, which can help the designer to capture valuable information from complex phenomena, and discover the potential needs of users and the changing trend of the market. Therefore, the combination of design thinking and insight is the key to product innovation.

### ***2.1. Concept and characteristics of design thinking***

Design thinking is a people-oriented methodology that emphasizes innovation and problem solving. It emphasizes from the user's point of view, by observing, analyzing and understanding the user's needs and behaviors, to find the best solution to the problem. Design thinking has the following characteristics: people-oriented, emphasizing innovation, emphasizing practice, advocating diversification and cross-border cooperation.

### ***2.2. Research status of insight methods***

The insight method is a method of finding and solving problems through the intuition and insight of the researcher. At present, some studies have explored the application of insight-based methods in research. For example, some researchers have proposed research methods based on intuition and insight, emphasizing the role of researchers' subjective initiative and intuition in finding and solving problems. Some researchers have explored case-based insight methods, which improve researchers' insight and innovation ability by analyzing problems and solutions in cases.

## **3. An Insightful Approach to Design Thinking**

Design thinking is a unique type of problem solving in which insight plays a key role. It helps designers gain insight into problems, discover new opportunities, and provide inspiration for innovation. Here are some ways to improve your design thinking insights. First, observation and careful listening are the basis for insight. Designers should be observant and pay close attention to people's behavior and reactions. By listening carefully, designers can gain insight into the needs and expectations of users and discover the problems and challenges they may face. Second, questioning and exploration are the keys to developing insight. Designers should be good at asking targeted questions and exploring the nature of the problem through deep digging. This helps reveal the real needs of users, as well as potential needs they may not have expressed. In addition, empathy is a core element of enhanced insight.

Designers need to empathize with users by understanding how they feel and think. Through empathy, designers are able to gain a deeper understanding of the needs and motivations of their users, thereby designing solutions that are more in line with their expectations. Finally, continuous iteration and reflection is also an important way to cultivate insight. Designers should adjust the design direction in time through rapid prototyping and iterative testing to see how users react to the solution. At the same time, designers should also maintain a reflective attitude, constantly summarize experiences and lessons, find their own shortcomings in insight, and seek improvement. The insightful methods of design thinking include observation and listening, questioning and exploration, empathy, and iteration and reflection. These methods complement each other, helping designers gain a deeper understanding of their users, discover new opportunities, and provide a constant source of inspiration for innovation.

The study of the insightful approach to design thinking focuses on how to gain a deep understanding of users' needs, behaviors, and motivations through the practice of design thinking. Insight refers to the deep insights gained from user research that reveal the real problems and potential needs of users and guide design innovation. The following are several research methods commonly used to gain insight in design thinking.

The study of insight methods in design thinking emphasizes the importance and diversity of user research. It requires designers to adopt an open and curious attitude, willing to delve deeply into the user's world. Through these methods, designers can not only collect data, but also discover the stories and patterns behind it, so as to guide innovative design directions. These insights are ultimately translated into innovative products, services and experiences that meet user needs.

### ***3.1. Observation method***

By observing how users behave in their natural environment, designers can capture needs that users may not be able to express directly. This non-intrusive research method allows designers to understand the user's daily life and interaction patterns from the perspective of an observer.

Observation is the basic method of acquiring insight. Designers can gain a deep understanding of user needs and expectations by observing factors such as user behavior, environment, and context. Specifically, designers can use participatory or non-participatory observation to understand the real experience and feedback of users when using a product or service. At the same time, designers can also discover potential market opportunities and competitive advantages by observing competitors and industry trends in the market.

### ***3.2. Interview Method***

Interview is an effective way to gain insight. Designers can communicate with users in depth to understand their needs, pain points, expectations and other information. Specifically, designers can use structured or unstructured interviews to guide users to express their needs and expectations. At the same time, designers can also deeply understand the real needs and expectations of users by co-creating products or services with users. In-depth one-on-one interviews can help designers gain detailed information about the user's personal experiences and feelings. Through open-ended

questions and emotional resonance, designers can tap into users' motivations and values.

### ***3.3. Scenario simulation method***

The situational simulation combines observation and interview, and the designer observes and asks questions while the user performs the task. This approach reveals users' needs and challenges in a specific use context.

Situational simulation is a method to gain insight by simulating real situations. The designer can simulate the user's use scenario and deeply understand the problems and needs encountered by the user in the use process. Specifically, designers can simulate the actual use scenarios of products or services by making prototypes or models, and observe the reactions and feedback of users in the use process. At the same time, the designer can also simulate the user's situation through role playing or storyboarding to understand the user's needs and expectations.

### ***3.4. Data Analysis***

Data analysis is a method of gaining insight through in-depth mining and analysis of data. Designers can find the potential demand of users and the changing trend of the market by analyzing the behavioral data and feedback data of users. Specifically, designers can use descriptive statistical analysis, cluster analysis, association rule analysis and other methods to dig and analyze the data. At the same time, designers can also discover hidden patterns and trends in data by using data mining and machine learning techniques.

In short, we need to cultivate curiosity: curiosity is the engine of insight. Remain curious about things, actively ask questions and questions, and constantly seek new knowledge and understanding. Through exploration and inquiry, we are able to discover new perspectives and ways of thinking. Thinking from multiple perspectives: Thinking from multiple perspectives fosters insight. We should think from different dimensions, try to think from others' point of view and put ourselves in others' shoes, so as to discover diverse perspectives and solutions. Stimulate creativity: Creativity is one of the most important forms of insight. By stimulating and enhancing creativity, we can break through the shackles of traditional thinking and discover new problems and solutions. By collaborating and brainstorming with others, we can stimulate creativity and generate new insights. Learn about different fields: Learning across fields is one of the most effective ways to develop insight. Learning different fields of knowledge and understanding the development trends of different industries and fields can help us broaden our horizons, identify problems and opportunities, and generate unique insights.

## **4. Application of Insightful Methods of Design Thinking**

Taking smart home product design as an example, this paper discusses the application of insight method based on design thinking. Through in-depth observation and interview of users, it is found that users' demand for smart home products mainly focuses on convenience, safety, comfort and other aspects. At the same time, through the analysis and prediction of market trends, it is found that the smart home market is gradually developing in the direction of intelligent, personalized and green environmental protection. Therefore, designers can apply design thinking methods to come up with innovative solutions. Specifically, a smart home product that integrates

intelligent control, safety protection, environmental monitoring and other functions can be developed to meet the needs of users for convenience, safety, comfort and in line with market development trends. Through the use of insight methods based on design thinking such as observation, interview, situational simulation and data analysis, designers can deeply understand user needs, find potential market opportunities, and propose innovative solutions to improve product competitiveness and user experience.

#### ***4.1. Service Design***

Service design is a design activity that effectively plans and organizes related factors such as people, infrastructure, communication and materials involved in a service, so as to improve user experience and service quality. Service design for customers to design and plan a series of easy to use, satisfaction, trust, effective service for the goal of a wide range of services. Service design can be both tangible and intangible; Service design integrates people with others, such as communication, environment, behavior, materials, etc., and carries the people-oriented concept throughout.

#### ***4.2. Course Design***

Curriculum design is a purposeful, planned and structured systematic activity to produce curriculum plans, curriculum standards and teaching materials. More and more researchers regard curriculum design as a kind of plan or scheme. It is a program with educational experience in the school education environment, which aims to enable students to acquire, promote their migration, and then promote the all-round development of students.

#### ***4.3. Social Innovation***

Social innovation is a kind of action or trend of spontaneous civil power, which promotes the solution of social problems and improves the living conditions of a certain range of people through the way of book arrangement. Youcheng Foundation was the first in China to explicitly put forward the concept of social innovation and support social innovation as one of the core businesses of the foundation.

### **5. Conclusion and Prospect**

This paper discusses the insight method based on design thinking and puts forward specific methods such as observation method, interview method, situation simulation method and data analysis method, and takes smart home product design as an example to carry out application case study. However, the research of insight method based on design thinking is still in the process of continuous development and improvement, and further exploration and innovation are needed in the future. For example, advanced technologies such as artificial intelligence and big data can be combined to improve the accuracy and efficiency of insight, and insight methods based on design thinking can be applied and put into practice in more fields and industries to provide more ideas and methods for product innovation.

### **Conflicts of Interest**

The author declares that there is no conflict of interest regarding the publication of this article.

## Funding

This research received no specific grant from any funding agency in the public, commercial or not-for-profit sectors.

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