

Study Unit 5

Introduction to Design Thinking

Module Outline

- Organizations and Design Thinking
- Design thinking as a method
- Systems of constraints

Study Unit Duration

This module requires a 40 hours of formal study time.

You may spend an additional 2-3 hours for revision

Introduction

This study unit will introduce you the concept of design thinking method. It also justifies why organizations are increasingly using the design thinking method of innovation. Besides, the systems of constraints on which design thinking projects are based will be dealt in this study unit.

Learning Outcomes of Study Unit-5

Upon completion of this study unit, you should be able to:

- 5.1 Define Design Thinking method.
- 5.2 Describe the relationship between organizations and design.
- 5.3 Illustrate the system of constraints on which design thinking projects are based.
- 5.4 Describe how to make effective business pitching.



Terminologies

Design Thinking	Human-centered method of innovation.
Design	is an interface between creativity and function. The designer gives perceivable shape to whatever is proposed and makes it apprehensible, comprehensible, and potentially attractive.

5.1 Introduction to Design Thinking

So far, you learned that there are new sources of innovation and there are a number of management tools and methods that would help you to tap the new sources of innovation and it should help you with the nonlinear and interrelated nature of innovation and entrepreneurship processes. In this topic you will be introduced to design thinking. Design thinking is a method for coming up with innovations. It consists of three overlapping spaces namely, inspiration, ideation and implementation which will be discussed later, in this chapter. Using this method, you are expected to come with innovations after this course. This approach is selected because it has become a popular method and it integrates and reflects many aspects you can use in your future career as entrepreneur/innovation manager. These aspects including understanding needs, nonlinear processes and team work to mention few.

The concept of design thinking is mainly attributed to the works of David Kelley and Tom Brown. It is inspired by the thinking of engineers operating within the new challenges of the industrial revolution. Before we look at the process of design thinking in more detail, let's briefly discuss design thinking in relation to an organization's innovation strategy. Companies around the globe, including the big corporations are becoming interested in design thinking and its main message is to take a human centered approach. Design thinking also makes a very good business case. If you understand your customers better you, will do a better job at satisfying the need which is the most reliable source of long term profitability. However, this is increasingly not just a one side of proposition of customers who just have to be understood and then organizations can exploit that.



Figure 5.1 Organizations and Design thinking: the business case

5.1.1 Organizations and design thinking: the new social contract.

On the other side, the reason why businesses are more and more taking a more human centered approach is because peoples' expectations are also evolving. These days we are facing very complex societal challenges and both organizations and consumers recognize that we all ends together. Design thinking also implies a new social contract between organizations and consumers driven by a shift in the dynamics between sales of goods and providers of services on the one hand and those who purchase them on the other hand. The industrial revolution brought us a wave of new products, sweeping innovations and technologies. Think of for example cars, radio, TVs and household goods led to growth in the manufacturing sector. Today's, industrial empires such as GE, or Siemens were born and efficiency gain a mass production, lowered costs and flooded with affordable products. Companies started to invest heavily into R&D labs to come up with more and more new products to continue to grow.

However, over time services started to gain importance. The shift from manufacturing to knowledge creation and service delivery led to an enhanced focus on service and process innovation. Increasing customer expectations and a growing market for retailing, food service, banking and insurance led to a growth in the service sector dealing with people. But, at the same time also industrial manufacturers started to focus on the service and process aspects of their product for a stronger focus on product use and product design. However, the argument so far is that improved product and services is not enough anymore. We are moving towards a new social contract between organizations and consumers- a contract in which experience and human centered innovations considered to deliver the experiences become the central component. According to the new social contract, you need to understand what people do and how they do it. This goes hand in hand with an emotional understanding. Taking a constructivist approach and understanding that we have different mental pictures about the same thing is in line with the shift towards experiences.

Within the systems paradigm, communication and understanding about what actors are people actually talking about is often the key to meaningful innovation that it is relevant for the organization-consumer interaction as well. Furthermore, experience also involves active participation. Consumers increasingly shift the way from passive consumption of mass production.

This implies that we are all together in the system planet and that creating the best possible experience also requires a holistic understanding of the social and environmental impacts of innovation. Thus, the design thinking method is designed for coming up with innovations that focus on this social contract.

5.1.2 Design thinking as a Method

In line with the new insights on the innovation process, design thinking is not a linear approach. It is a systematic tool instead of a linear approach. It consists of three overlapping phases/spaces. The first is inspiration space which is about the problem or the opportunity that motivates the exploration for solutions. Next, there is the ideation space which involves the process of idea generation, development and testing. Third, there is the execution/implementation space which is about the path from the project's area to the market. These three spaces overlap in the design thinking process. However, instead of a linear sequence from inspiration to ideation to implementation, design thinking is based on iterative cycles in which the three spaces overlap. This implies that there is no best single way to move for the project. Insight from the implementation phase may lead to new inspirations and initiates a new cycle.

For coming up with the solution this naturally raises two questions. First of all, does that mean that it is not systematic at all? Second, will it take forever to come up with something? When do you stop? The design thinking approach claims that both answers are No. It does not mean that it is not systematic and it does not mean that it is never going to stop. Design thinking is a project based approach and deadlines have to be kept. The mechanisms that help controlling the iterations are prototyping, testing and refinement. Design thinking is about experimenting with the tentative solutions in the very early stages of the process. It means that developing basic prototype very early on and integrating the feedbacks to change or find a solution. Regarding the time of the design thinking project, it can even lead to a faster result, because prototyping and testing initiates self- correcting mechanism that will help to avoid pushing a less promising idea to the very end of the project.

5.1.3 System of constraints

Let's move on to the second main element of the design thinking method which is to base the project on a system of constraints. The reason is that best design often happens within severe constraints. It is much more challenging to come up with an affordable yet well-functioning product. So, let's look at the system constraint design thinking proposes. The central idea of design thinking is to aim for a combination of useful design with feasible technology and viable business strategies.

Feasibility is about functional possibility within the foreseeable future. In other words, it deals with the technological aspect. Viability is about the likelihood to become part of a growing/sustainable business model. So, it is about the business aspect. Desirability is about what makes sense to people, so is about the human aspect. Depending on the project, some system constraints might be emphasized but the overall purpose is to search a solution which balances and harmonizes the system constraints. However, design thinking claims that it is harmonization to add the thinking into the design and has the potential for radical innovation. It is not about resolving the solution for each system but about balancing the solution across the systems. This means that we might have to start back from using the best possible technology if it is not viable and or desirable.

In reality, what often happens is if the company over emphasizes one of the system constraints, for example it may overemphasizes on what fits into the business model. It focuses on what is efficient right now to the current business model and just copy what the competitors do: do it a little bit better and wait for their response. The risk here is that you will end up with incremental innovations and uniform products. A good example is the car industry. Companies may also over emphasize technological feasibility. This often happens to engineering and drafting companies that focus on the R & D. They would do R & D and only then see how it fits into the existing system. The problem is that technological innovations usually involve a high risk and that R & D projects are very expensive. So what they are going to do is that they will focus on a small and very targeted number of projects again risking on coming up with incremental innovations.

Finally, companies and organizations may also sometimes overestimate human needs and desires. They may create an artificial demand for meaningless products. Vitic Pupnek, a designer and educator, once said that "they persuade people to buy things that they do not need with money they don't have to impress neighbors who don't care." At the same time, even if some solutions may pursue a meaningful goal, for example clean water supply for rural communities in developing countries. If the solution can't be sustained either technologically or/and on the financial side, it will ultimately not become a successful innovation.

"Good design is good business." Thomas Watson, president IBM (1950)

Self-Review Questions

1. What is design thinking?
2. Why is Design thinking important for innovation and entrepreneurship?
3. What are the three spaces of design thinking?

References

- Brown, T. (2008). Design thinking. *Harvard business review*, 86(6), 84.
- Dunne, D., & Martin, R. (2006). Design thinking and how it will change management education: An interview and discussion. *Academy of Management Learning & Education*, 5(4), 512-523.
- Kaner, S. (1996). Facilitator's Guide to participatory decision making. Montpelier, Vermont: New Society Publishers.
- Meloche, A., & Katz-Buonincontro, J. (2018). Creativity-integrated art history: A pedagogical framework. *Art History Pedagogy & Practice*, 3(1), 2.
- Osterwalder, A., Pigneur, Y., Oliveira, M. A. Y., & Ferreira, J. J. P. (2011). Business Model Generation: A handbook for visionaries, game changers and challengers. *African journal of business management*, 5(7), 22-30.

Sarasvathy, S. D. (2001). Causation and effectuation: Toward a theoretical shift from economic inevitability to entrepreneurial contingency. *Academy of management Review*, 26(2), 243-263.

Sarasvathy, S. D., Dew, N., Read, S., & Wiltbank, R. (2008). Designing organizations that design environments: Lessons from entrepreneurial expertise. *Organization Studies*, 29(3), 331-350.

Wilson, K. E., Vyakarnam, S., Volkmann, C., Mariotti, S., & Rabuzzi, D. (2009, April).