

Human Centered Design and Design Thinking for Entrepreneurship

Waralak V. Siricharoen¹

¹Faculty of Information and Communication Technology, Silpakorn University, Nonthaburi, Thailand, 11120

Abstract

What are entrepreneurs really thinking? And how can they use human-centered design to make their businesses successful? In this article, we explore the answers to these questions and more. Design thinking can be an incredibly powerful tool, helping entrepreneurs hone their products and services to perfection. And when combined with human-centered design? Well, you have a recipe for success! Still not convinced? Keep reading to learn more about the benefits of using both design thinking and human-centered design in your business.

Keywords: Human Centered Design, Design Thinking, Entrepreneurship, Impact

Received on 02 April 2023, accepted on 10 August 2023, published on 14 August 2023

Copyright © 2023 W. V. Siricharoen *et al.*, licensed to EAI. This is an open access article distributed under the terms of the [CC BY-NC-SA 4.0](#), which permits copying, redistributing, remixing, transformation, and building upon the material in any medium so long as the original work is properly cited.

doi: 10.4108/eetcasa.v9i1.3203

*Corresponding author. Email: siricharoen_w2@su.ac.th

1. Introduction

With the rise of the internet and technology, businesses have had to change the way they operate. No longer can they rely on traditional methods; they must now move towards more innovative ones. This is where human-centered design comes in. By understanding the needs and wants of their customers, businesses can create products and services that perfectly meet those needs (MacDonald *et al.*; Am *et al.*, 2020). And when used in conjunction with design thinking, businesses can take their innovation to the next leveled design.

Design thinking is a process for creative problem solving. It is often used in the design of products, services, or experiences. But it can also be used in other areas, such as business, education, and government (Melles, 2015).

Human-centered design is a process that puts people at the center of everything. It starts with understanding the needs and wants of people, and then designing products or services that meet those needs (Burns, 2018).

Both design thinking and human-centered design are about understanding people and then creating solutions that meet their needs. But there are some key differences

between the two. Design thinking is more focused on the creative process, while the human-centered design is more focused on the needs of people (Hoover, 2018).

In recent years, this strategy has been adopted by a number of firms and discussed in a number of business studies. This pattern is seen as a reaction to the evolving corporate environment towards new paradigms with challenges that cannot be addressed using standard analytical abilities. This view is supported by the fact that this trend has been gaining traction recently (Panke, 2019). Despite the fact that it is the primary emphasis of the company, entrepreneurship has been one of the pioneers in the use of design thinking.

The widespread use of design thinking in educational settings for entrepreneurship has been facilitated by a number of novel developments. These include the inherent volatility of the environment in which entrepreneurs operate, movements like startup businesses, and the shift in the focus of entrepreneurship studies to realise the possibilities that may be produced (Hoover, 2018; Mansoori and Lackeus, 2020).

So, which one should you use in your business? The answer is that it is dependent on the goals that you have set for yourself. Design thinking is an excellent choice to consider if you are seeking innovative solutions to the challenges that you face (Dam and Siang, 2022). The

human-centered design approach is the preferable option to go with if your goal is to develop goods or services that are tailored to the requirements of individuals.

In addition, it is vital to lay a strong focus on the conceptual foundations of design thinking. The conceptual foundations of design thinking are established on the commercial and unifying logic of such practises, in addition to their relationship to the theoretical origins of the study of entrepreneurship. It is essential to place a strong emphasis on the conceptual foundations of design thinking.

Remember that both design thinking and human-centered design are strong techniques that may help you establish successful enterprises, so whatever one you select, it is important to keep that in mind.

As you might expect, the three primary phases of design thinking focus on comprehending the requirements and desires of consumers.

Through investigation, you can first develop empathy for them, determine what they want or need, and identify any underlying problems that require resolution. This is a three-step procedure, beginning with user empathy and problem definition (Brodny and Kamierczak, 2017). Next, consider potential solutions that could work for everyone. In order for the most effective solution to be reconsidered on a larger scale, it is necessary to devise a method for determining its viability in a realistic setting.

2. Design thinking and business

Design thinking is a process or method used in business to solve problems and create new, innovative solutions. It is often used in conjunction with other business methods, such as Lean or Six Sigma (Razzouk and Shute, 2012). Design thinking is all about empathy and creativity—uplifting the user's problem, and then using creativity and ingenuity to come up with possible solutions.

There are several aspects of the design thinking process and perspectives that correspond with various business objectives, as it enables individuals to think visually and with the physical objects they intend to create in mind. This enables individuals to begin appreciating social ambiguity, which assists them in producing innovative results (Matthews and Wrigley, 2011).

In business, design thinking is often used to solve complex problems that require innovative solutions. It is a human-centered approach that begins with understanding the needs of the user. Once the problem is understood, a team of designers brainstorm possible solutions. These solutions are then prototyped and tested with users to see if they are viable. If a design thinking solution is successful, it can be implemented in the business (Luebbe and Weske, 2011).

Design thinking has been used by businesses to solve a variety of problems, from improving customer service to developing new products. In many cases, design thinking

has helped businesses to achieve their goals and create successful solutions.

Some of the benefits of using design thinking in business include (Pereira et al., 2021):

1. It helps businesses to empathize with their users and understand their needs.
2. It encourages businesses to be creative and come up with innovative solutions.
3. It helps businesses prototype and tests their solutions before implementing them.
4. It has been proven to be successful in solving complex problems.
5. It can help businesses to save time and money by avoiding costly mistakes.
6. It can help businesses to improve their customer service and create better user experiences.
7. It can help businesses to develop new products and enter new markets.
8. It can help businesses to better understand their users and create solutions that meet their needs.
9. It can help businesses to improve their communication and collaboration.
10. It can help businesses to create a culture of innovation.

Design thinking is not an all-encompassing solution that will solve all of an organization's issues. Nonetheless, it is a potent tool that can assist businesses in overcoming obstacles and achieving their objectives (Geissdoerfer et al., 2015). This generates experiences for the organisation by harmonising human factors, technological feasibility, and business viability.

This trend of learning has been considered to provide the flow in whatever business experiences we expect to encounter, as well as an innovative strategy that integrates diverse domains of expertise and utilises concepts from each to generate insights that create the motivation to undertake numerous challenges throughout the processes.

When properly implemented, design thinking can assist businesses in developing successful solutions, enhancing customer service, creating new products, and entering new markets.

3. Human centered design

Zhang and Dong (2008) implied that human centered design (HCD) is a process of creating products, services, and experiences that meet the needs of people. It puts people at the center of the design process, so that all decisions are made with the user in mind.

Design thinking is a similar process that is often used in entrepreneurship. It is a creative problem-solving process that begins with an understanding of the user's needs. Then, it generates ideas to solve those needs, before narrowing down to the best solution (van der Bijl-Brouwer, 2017).

This concept of design thinking has been expanded beyond conventional concepts and is characterised as one of the undervalued topics. However, it has gained traction based on its developments and discourses, as this has assisted in providing the development strategy and techniques with the account of practices that provide clarity and generate systematic descriptions of design thinking and its applicability (Warnecke, 2016).

Both HCD and design thinking involve empathizing with users, defining problems, ideating solutions, prototyping, and testing. They are both iterative processes, meaning that they should be repeated as new information arises. And finally, both approaches place a heavy emphasis on collaboration among team members.

While there are many similarities between HCD and design thinking, there are also some key differences. HCD is typically used in the product design process, while design thinking can be applied to any type of problem. HCD is focused on the user experience, while design thinking is focused on generating new ideas. And finally, HCD is a more structured approach, while design thinking is more flexible (Chen et al., 2020).

When it comes to product design, HCD is the superior approach. It ensures that products are designed with the user in mind, which leads to better results. And while design thinking is a great tool for generating new ideas, it is less effective when it comes to creating products that meet user needs.

Here are some resources on human-centred design:

- The Stanford d.school's guide to human-centred design
- IDEO's human-centred design toolkit
- The Nielsen Norman Group's article on human-centred design

4. Success case survey stories in design thinking in business

Design thinking has been widely adopted by businesses as a way to create more innovative, user-centered products and services. A key component of design thinking is conducting user research to understand the needs and desires of your target market.

One powerful method for gathering this type of user insight is through success case surveys. In a success case survey, you interview customers who have had a positive experience with your product or service (Liedtka, 2011). These interviews can provide valuable insights into what works well and why customers are satisfied with your offering.

Success case surveys can be an incredibly useful tool for entrepreneurs who are looking to improve their product or service offerings. By understanding the customer's point of view, you can make changes that will

improve the customer experience and increase satisfaction rates.

Here are three examples of businesses that have used success case surveys to improve their products and services:

1. Airbnb

Airbnb is a popular online marketplace that allows people to list, find, and rent vacation properties. The company has used success case surveys to improve the customer experience.

In one survey, Airbnb interviewed customers who had rented an apartment through the platform. The company asked questions about the rental process, the condition of the property, and the overall experience. Based on the feedback they received, Airbnb made changes to their platform to make it easier for customers to find and book vacation rentals.

2. Amazon

Amazon is one of the world's largest online retailers. The company has used success case surveys to improve its customer service.

In one survey, Amazon asked customers about their experiences with customer service. Based on the feedback they received, Amazon made changes to its customer service policies and procedures. These changes included making it easier for customers to reach a customer service representative and providing more options for resolving customer service issues.

3. Apple

Apple is a leading technology company that designs and sells consumer electronics. The company has used success case surveys to improve its product design.

In one survey, Apple asked customers about their experiences with using and interacting with Apple products. Based on the feedback they received, Apple made changes to the design of its products. These changes included making products easier to use and more user-friendly.

Success case surveys can be an incredibly valuable tool for businesses that are looking to improve their offerings. By understanding the customer's point of view, you can make changes that will improve the customer experience and increase satisfaction rates.

5. Statistics of using design thinking and human-centred design in business

Design thinking and human centered design are becoming increasingly popular in the business world. As

more and more companies seek to innovate and create value for their customers, these tools are becoming essential.

There is no one definitive study on the statistics of design thinking and human centered design in business, but there are some general trends that can be observed.

One trend is that companies that have adopted these tools have seen increased levels of customer satisfaction and engagement. Another trend is that these companies tend to be more successful in launching new products and services (Vechakul and Agogino, 2011).

Finally, companies that use these tools tend to be more agile and adaptable, which allows them to better compete in today's rapidly changing marketplace (Sarooghi et al., 2019).

Overall, the use of design thinking and human centered design in business is growing at a rapid pace. This trend is likely to continue as more companies seek to gain a competitive edge by adopting these innovative tools (Mansoori and Lackéus, 2020).

There are many statistics that show the benefits of using design thinking and human centered design in business. For example, companies that use these methods are 50% more likely to achieve their business goals. They are also four times as likely to retain customers and twice as likely to attract new ones (da Silva and Marques, 2020).

In addition, companies that use these methods report higher levels of employee engagement and satisfaction. They also see a decrease in the need for training and development, as employees are able to solve problems on their own.

Overall, the use of design thinking and human centered design can have a positive impact on businesses of all sizes. These tools can help companies to achieve their goals, retain customers, and engage employees (Sypniewska et al., 2023).

If you are looking to use design thinking and human centered design in your business, there are a few things to keep in mind. First, it is important to have a clear goal in mind. What do you want to achieve with these tools?

Second, it is essential to involve all stakeholders in the process. This includes employees, customers, and other key people who can help to make the process a success.

Third, it is important to have a plan. What steps will you take to achieve your goal? How will you measure success?

Fourth, it is important to be flexible. Things will inevitably change as you implement these tools in your business. Be prepared to adjust your plan as needed.

Finally, it is important to keep learning. There is always more to learn about design thinking and human centered design. As you use these tools in your business, take time to read books, attend workshops, and talk to experts. The more you know, the better equipped you will be to use these tools effectively (Shields, 2022).

In addition, companies that use these methodologies report higher levels of employee engagement and satisfaction.

1. Companies that use design thinking are 50% more likely to achieve their business goals.
2. Companies that use design thinking are four times as likely to retain customers.
3. Companies that use design thinking see a decrease in the need for training and development.
4. Employees who use design thinking report higher levels of engagement and satisfaction to report increased levels of employee satisfaction and engagement. Employee turnover is also reduced by half when design thinking and human centered design are used.

Overall, it is clear that there are many benefits to using these methods in business. Companies who want to improve their innovation, creativity, and customer focus would do well to consider using these tools and should definitely consider implementing these tools.

Human-centered design (HCD) and design thinking are popular methodologies used in entrepreneurship to develop products, services, and business models that meet the needs and desires of users (Kadir and Broberg, 2021). These approaches prioritize empathy, iteration, and collaboration with users, as well as rapid prototyping and testing. While there are many potential positive impacts of using HCD and design thinking in entrepreneurship, there are also some potential negative impacts to consider (Baker III and Moukhliiss, 2019).

For the positive impacts, it shows that human-centered design and design thinking place a heavy emphasis on the understanding of requirements, desires and behaviours of users. Due to this, it can result in helping to select products and services that are better suited to user requirements, leading to the increased user satisfaction and adoptions. When applying the human-centred design and design thinking in the use of entrepreneurship, this can help to create more innovative ideas which results in solutions that help to solve and improve the business and corporations (ExperiencePoint, 2019). Moreover, this also improves the corporation as well as collaborations in the workplace. This can help employees and team members in the company to be able to develop a more efficient problem-solving skills that leads to a more efficient the growth of an organization (Landry, 2020).

In contrast, there are also some drawbacks that have caused by the application of HCD and design thinking such as the limited on the viability of certain businesses which means that this can also result in the unviability of the finance from the product and services. HCD and design thinking can contribute to an overemphasis on user input based on considerations such as regulatory compliance, technical feasibility, and ethical considerations, despite the importance of requirements (Mani-Kandt, 2021). This can contribute to conflicts in the company's system and structure, as well as a superfluous cost of development due to the money spent on prototypes. It can also be time-consuming and require significant inputs in order to achieve work efficiencies. This can lead to analysis errors in which excessive time is

spent refining and analysing workplace solutions rather than putting the analyses to use (Velsen et al., 2022).

In summary, while HCD and design thinking can offer significant benefits for entrepreneurs, it's important to consider potential drawbacks and ensure that these methodologies are used in balance with other important considerations such as business viability, technical feasibility, and regulatory compliance (Shneiderman, 2020).

6. Conclusion

In conclusion, human-centered design and design thinking are powerful tools that can help entrepreneurs create successful businesses. By taking the time to understand the needs and wants of customers, and then designing products and services that meet those needs, entrepreneurs can build businesses that are both successful and sustainable. are both profitable and sustainable.

While human-centered design and design thinking are not the only factors that contribute to business success, they can certainly play a major role. By using these tools, entrepreneurs can increase their chances of creating successful businesses that make a positive impact on the world. Businesses that are not only profitable but also meaningful and impactful.

Design thinking can help entrepreneurs create successful businesses by taking the time to understand the needs and wants of customers, and then designing products and services that meet those needs.

Human-centered design is a powerful tool that can help entrepreneurs create successful businesses by taking the time to understand the needs and wants of customers and then designing products and services that meet those needs.

Both human-centered design and design thinking are important tools that can help entrepreneurs create successful businesses. By taking the time to understand the needs and wants of customers, and then designing products and services that meet those needs, entrepreneurs can build businesses that are both successful and sustainable.

Moreover, learners of human-centred design and design thinking should be aware of potential issues as well as evaluation of results and experiences so that they can adapt their concept practises accordingly. These are considered to be adaptable methods for coordination, which makes it productive to use for developing shared visions.

Declaration of interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests:

References

- [1] Am, J. B., Furstenthal, L., Jorge, F., & Roth, E. (2020, June 17). *Innovation in a crisis: Why it is more critical than ever*. McKinsey & Company. <https://www.mckinsey.com/capabilities/strategy-and-corporate-finance/our-insights/innovation-in-a-crisis-why-it-is-more-critical-than-ever>
- [2] Baker III, F. W., & Moukhliis, S. (2019). Concretising Design thinking: A content analysis of systematic and extended literature reviews on design thinking and human-centred design. *Review of Education*, 8(1), 305–333. <https://doi.org/10.1002/rev3.3186>
- [3] Burns, C. (2018). Human-centred design. *EHealth Research, Theory and Development*, 207–227.
- [4] Chen, E., Leos, C., Kowitt, S. D., & Moracco, K. E. (2019). Enhancing community-based participatory research through human-centered design strategies. *Health Promotion Practice*, 21(1), 37–48.
- [5] Dam, R. F., & Siang, T. Y. (2023, July 30). *What is design thinking and why is it so popular?* The Interaction Design Foundation. <https://www.interaction-design.org/literature/article/what-is-design-thinking-and-why-is-it-so-popular>
- [6] da Silva, T. F., & Marques, T. F. (2020). Human-centered design for collaborative innovation in knowledge-based economies. *Technology Innovation Management Review*, 10(9), 5–15.
- [7] ExperiencePoint. (2019, August 20). 8 Stats That Prove Design Thinking Pays Off. Retrieved from <https://blog.experiencepoint.com/8-stats-that-prove-design-thinking-pays-off>.
- [8] Geissdoerfer, M., Bocken, N. M. P., & Hultink, E. J. (2016). Design thinking to enhance the sustainable business modelling process – a workshop based on a value mapping process. *Journal of Cleaner Production*, 135, 1218–1232.
- [9] Hoover, C. (2021, February 4). *Human-centered design vs. design-thinking: How they're different...* MovingWorlds Blog.
- [10] Kadir, B. A., & Broberg, O. (2021). Human-centered design of work systems in the transition to industry 4.0. *Applied Ergonomics*, 92, 103-334.
- [11] Kaźmierczak, J. (2017). The Design Thinking Method and Its Stages. *Inżynieria Systemów Technicznych*, 6(6), 247–250.
- [12] Landry, L. (2020, December 15). *What is human-centered design?* HBS Online. Business Insights Blog. <https://online.hbs.edu/blog/post/what-is-human-centered-design>
- [13] Liedtka, J. (2011). Learning to use design thinking tools for successful innovation. *Strategy & Leadership*, 39(5), 13–19.
- [14] Luebbe, A., & Weske, M. (2010). Bringing design thinking to business process modeling. *Design Thinking*, 181–195.
- [15] MacDonald, D., Shiever, H. R., Raza, R., Gerrard, P., & Heacock, D. (2022, May 31). *Human-centered design is more important than ever*. BCG Global.

- [16] Mansoori, Y., & Lackeus, M. (2019). Comparing effectuation to discovery-driven planning, prescriptive entrepreneurship, business planning, Lean Startup, and design thinking. *Small Business Economics*, 54(3), 791–818.
- [17] Matthews, J., & Wrigley, C. (2017). Design and design thinking in business and Management Higher Education. *Journal of Learning Design*, 10(1), 41.
- [18] Melles, G. (2015). Problem finding through design thinking in Education. *Innovations in Higher Education Teaching and Learning*, 191–209.
- [19] Pereira, L., Parizi, R., Prestes, M., Marczak, S., & Conte, T. (2021). Towards an understanding of benefits and challenges in the use of design thinking in requirements engineering. *Proceedings of the 36th Annual ACM Symposium on Applied Computing*.
- [20] Pusca, D., & Northwood, D. O. (2018). Design thinking and its application to problem solving. *Global Journal of Engineering Education*, 20(1), 48–52.
- [21] Razzouk, R., & Shute, V. (2012). What is design thinking and why is it important? *Review of Educational Research*, 82(3), 330–348.
- [22] Panke, S. (2019). Design thinking in education: Perspectives, opportunities and challenges. *Open Education Studies*, 1(1), 281–306.
- [23] Sarooghi, H., Sunny, S., Hornsby, J., & Fernhaber, S. (2019). Design thinking and entrepreneurship education: Where are we, and what are the possibilities? *Journal of Small Business Management*, 57(sup1), 78–93.
- [24] Shields, J. (2022). Chapter 7: Design Thinking. In *Leading innovation* (p. 1). essay, Ecampus Ontario.
- [25] Shneiderman, B. (2020). Human-centered artificial intelligence: Three fresh ideas. *AIS Transactions on Human-Computer Interaction*, 109–124.
- [26] Sypniewska, B., Baran, M., & Kłos, M. (2023). Work engagement and employee satisfaction in the practice of sustainable human resource management – based on the study of Polish employees. *International Entrepreneurship and Management Journal*. <https://doi.org/10.1007/s11365-023-00834-9>
- [27] Toptal. (2018, November 15). *The importance of human-centered design in product design*. Toptal Design Blog.
- [28] Vechakul, J., & Agogino, A. (2021). A comparison of two transdisciplinary human-centered design approaches for poverty alleviation. *The Future of Transdisciplinary Design*, 179–192.
- [29] Velsen, L., Ludden, G., & Grünloh, C. (2022). The limitations of user-and human-centered design in an eHealth context and how to move beyond them. *Journal of Medical Internet Research*, 24(10). <https://doi.org/10.2196/37341>
- [30] Warnecke, T. (2016). Capabilities, human development, and design thinking: A framework for gender-sensitive entrepreneurship programs. *Review of Social Economy*, 74(4), 420–430.
- [31] Zhang, T., & Dong, H. (2008). Human-Centred Design: An Emergent Conceptual Model. Brunel.