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Version: Version of Record

Link(s) to article on publisher's website:

<http://dx.doi.org/doi:10.1016/j.destud.2023.101187>

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Design thinking: What just happened?



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Something extraordinary happened with design thinking in recent times. The past decade saw an immense growth in publications on design thinking. Figure 1 shows the recent steep rise in the occurrence of the phrase ‘design thinking’ within English language print media since 1950 – almost none at all until 2005 when a rise began and then accelerated away from 2010. A search for the publication of books with ‘design thinking’ in their title also shows a big increase in the past decade (Figure 2). It has become the topic of books from ‘Business Design Thinking’ to ‘Health Design Thinking’ and even ‘Design Thinking for Dummies’. Most of the recent growth has been within the business/management field, but there has also been notable growth in other fields, such as education. In addition to books that have ‘design thinking’ in their titles there are quite a few more that are about design thinking but don’t use the phrase in their titles.

Within academic journals, growth in use of the phrase ‘design thinking’ also appears to have increased dramatically in the last decade. For example, just within *Design Studies*, Figure 3 shows the number of research articles that included the phrase ‘design thinking’, from the inception of the journal in 1979 (one occurrence) to 2022 (eleven), with more than twenty per year published in 2016 and 2018. Of the total of 285 articles using the phrase ‘design thinking’ in the 43

years since 1979, more than half of them have been published in the twelve years since 2010. And, as with books, there are many academic articles that are about design thinking but do not use that phrase, referring instead to design ability, design expertise, design cognition, or designerly ways of knowing.

However, across the board, not only the use but also the meaning of ‘design thinking’ has notably changed in the past decade. Some traditional uses of ‘design thinking’ were implying or referring to design intentions, goals or styles, such as ‘using contemporary design thinking’ or ‘our design thinking on this was to keep it minimal’. A different usage and meaning then began to appear within academic studies of how designers think and work – i.e., referring to design cognition and design processes. More recently, though, design thinking has come predominantly to mean the use of design or design-oriented approaches in business, management, and even social innovation. There has been some cross-over between these two different discourses, with some business/management-oriented books being called toolkits, handbooks, workbooks or playbooks, offering how-to-do-it advice and lessons in design thinking.

1 Origins and early usage of ‘design thinking’

The contemporary uses of the term ‘design thinking’ can be traced back to the 1950s, when some of the very earliest uses were referring to it in business and management contexts. For example, in 1954 the USA Government Office

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www.elsevier.com/locate/destud

0142-694X *Design Studies* 86 (2023) 101187

<https://doi.org/10.1016/j.destud.2023.101187>

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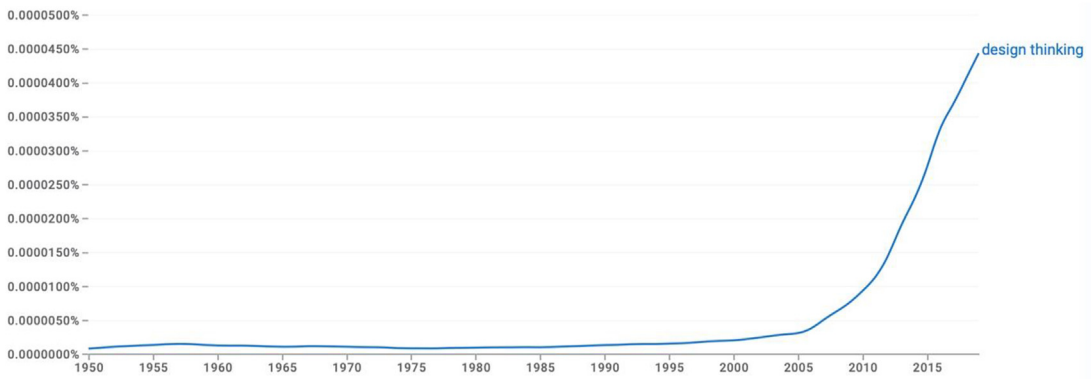


Figure 1 Google N-gram of the use of the phrase 'design thinking'

of Information and Managerial Assistance published a booklet in its Small Business Management series with the title 'Design is Your Business' (USA Government, 1954). It included this advice on 'Consulting the customer':

Although a program of obtaining comments and suggestions from customers and from dealers should be more than a public relations gesture, it is rare to get design ideas of any real value from such sources. . . The customer's reactions are important to you as raw material for your design thinking, not as a fund of ideas. (p. 5)

This seems to be an indication of how design thinking for 'your business' started with the customer or user response to products and new product proposals and later grew into studying interaction design more thoroughly, eventually developing into user-centred design.

The use of a new meaning of 'design thinking' as referring to cognition and working processes began to appear in the 1960s, linked with the emergence of design methodology. For example, in outlining his 'Systematic Method for Designers', Archer (1965) argued that technological

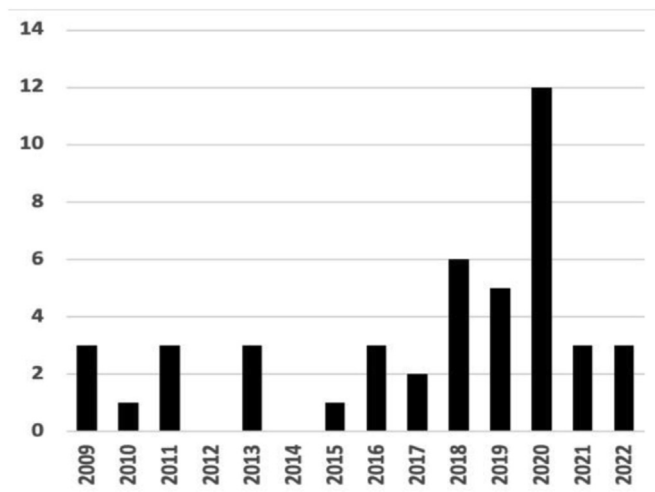


Figure 2 The publication of books with 'design thinking' in their titles

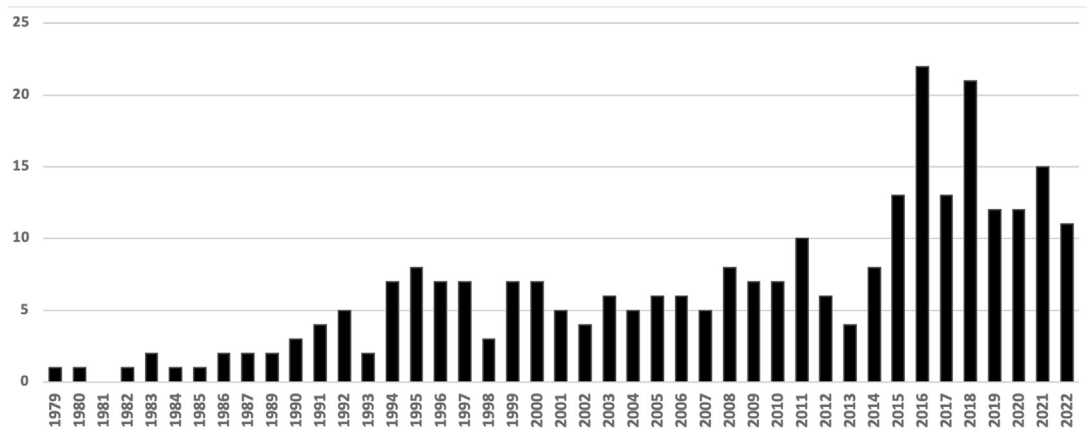


Figure 3 The number of research articles in Design Studies that mention 'design thinking'

developments at that time meant that 'design thinking' had to be expanded in scope to incorporate the new knowledge coming from fields such as ergonomics, cybernetics and management science. [McKim \(1967\)](#), in a paper on 'Visual Thinking and the Design Process', identified a move from traditional visual and 'concrete' thinking in conventional design practice towards more abstract thinking:

Before the advent of systematic design methodology, designers rarely used verbal and mathematical languages for design thinking. . . A primary benefit of the "Science of Design", to my mind, is simply the expansion of design thinking into the verbal and mathematical realm. (p. 34)

In his book on 'Design Methods: Seeds of human futures' [Jones \(1970\)](#) claimed that new design methods offered the potential for designing to become more transparent and open, extending and making designing available to a wider range of people:

A major advantage of bringing design thinking into the open is that other people, such as users, can see what is going on and contribute to it

information and insights that are outside the designer's knowledge and experience. (p. 45)

This is a quite different view of users' involvement in designing than that expressed in the early USA government advice, now suggesting participatory and co-designing.

Perhaps in what Jones wrote we can also see a suggestion of the user's potentially greater role in 'design for business', and the beginning of an adaptation of the design process discourse into the design business discourse. But it was not until forty years later, in 2009, that this potential for new adaptations and interpretations of design thinking eventually kicked off the massive growth of interest in 'design in business' with books by [Martin \(2009\)](#): 'The Design of Business: Why design thinking is the next competitive advantage', [Brown \(2009\)](#): 'Change by Design: How design thinking transforms organisations and inspires innovation' and [Lockwood \(2009\)](#): 'Design Thinking: Integrating innovation, customer experience and brand value'.

In the interim period, the design cognition and process discourse on design thinking had considerably matured, with the introduction of journals

Design thinking

of design studies and books on ‘How Designers Think’ (Lawson, 1980), ‘Design Thinking’ (Rowe, 1987) and ‘Research in Design Thinking’ (Cross et al., 1992). The symposium that lay behind the latter book also initiated the continuing series of books from the Design Thinking Research Symposia (Cross, 2018), where issues around the recent expansion and wide adaptation of the concept of design thinking were addressed at the 2022 symposium (Goldschmidt & Tarazi, 2022).

Also during the 1980s and 1990s the role of design in assisting the economic performance of businesses was already being acknowledged, at least in the UK and Europe, with books such as ‘Winning Ways: How companies create the products we all want to buy’ (Pilditch, 1987) and ‘Winning by Design: Technology, product design and international competitiveness’ (Walsh et al., 1992). The extraordinary growth in book publishing on design thinking in the past decade has come predominantly from authors and publishers in the USA. So what took the business community in the USA so long to catch up, before they began publishing their books on the importance of design thinking in 2009? Or what was it that suddenly caught their attention? Surely it couldn’t have all been down to the launch of the Apple iPhone in 2007, could it?

2 *The new design thinking*

It was at the start of the last decade that I was writing my own book on design thinking, published in 2011, based on my empirical and interview studies of expert designers, and linking and setting them into the wider context of the design studies research literature in design thinking. Last year I was preparing a new edition of the book, updating and expanding it with material from the intervening decade, for publication this year (Cross, 2023). In the course of the preparation the publishers sent my outline proposal for the new edition to several reviewers for their comments and feedback. A common message that

came back was that I needed to differentiate my book from the many others that had been published with apparently similar titles during the intervening decade. The great majority of those others were presenting a different view of ‘design thinking’ – perhaps even a different kind of design thinking altogether – and addressed to a different audience.

Those other books were often presenting design thinking as ‘for’ something other than design: ‘For [Business] Growth’, ‘For Strategic Innovation’, ‘For Training and Development’, ‘For Entrepreneurs’ or, more ambitiously, ‘For the Greater Good’. Mostly, these books are addressed to audiences in business and management seeking ‘the next competitive advantage’. These audiences are looking for quick guides to apparently powerful approaches to maintaining and maximising their businesses’ competitiveness and profits, all with the ‘design thinking’ buzzphrase in the title.

2.1 *Criticisms*

The rapidly wide-spreading promotion of design thinking in the 2010s soon led to a shower of criticisms. Some of these didn’t spare their language, labelling design thinking as ‘bullshit’ (Jen, 2017) or ‘a boondoggle’ (Vinsel, 2018) (Note for non-USA readers: a ‘boondoggle’ is a pointless, time-wasting exercise.) Jen’s criticism was in the form of a short conference speech to a design audience, briefly but forcefully expressing her objections to the superficiality of much that has been presented as ‘design thinking’. Jen is a professional graphic designer, preferring to rely on her experience or ‘intuition’, rather than engage in the prolonged processes of ‘design thinking’. Vinsel’s criticism was originally an irate blog post (in another post he headlined design thinking as being ‘like syphilis’), later repurposed for an education journal, providing a very broad and loose critique but with an emphasis on objecting to ‘design thinking’ being presented as having a key role to play in higher education. Vinsel is an

historian of technology, very sceptical of ‘the innovation delusion’ and its ‘obsession with the new’ (Vinsel & Russell, 2020).

The language and forcefulness of the commentaries from Jen and Vinsel drew some attention but neither of them can be regarded as serious, considered criticism. A more considered criticism came from Iskander (2018), who claimed in an article for the *Harvard Business Review* audience that, for design thinking, ‘the bloom is off the rose’. Iskander is an urban planner and management consultant working on large issues of socio-economic development. In the article she argued that design thinking privileges the role of the designer and tends to preserve the status quo rather than offering the promised radical innovation. Instead, she offered her own approach of ‘interpretive engagement’ with participants engaging in complex issues of social innovation in a collaborative process ‘with no clear beginning and end’ and no explicitly defined goal. However, Iskander’s criticism of design thinking was based on her interpretation of it as ‘a new name for an old method’, based on a ‘rational-experimental’ approach to problem solving – an interpretation which suggests a lack of awareness of the development of design thinking.

A more soundly-based critique was offered by Kolko (2018), who rebutted the simplistic criticisms of Jen and Vinsel and identified the two diverging and divisive, radically different interpretations of design thinking – one rooted in designing and one rooted in business. Kolko, an interaction designer, suggested that the design way of thinking has three strong foundational ‘pillars’: *empathy*, with its roots in participatory design, in which users and consumers can become co-designers; *problem exploration*, with its creative blend of divergent and convergent modes of thinking; and *making*, the practical knowledge and skills of transforming abstract into concrete

through the physical modelling, testing and communicating of propositions. For Kolko, the popularised versions of design thinking are based on a very restricted interpretation of real design abilities, and downplay or even ignore the extensive knowledge, skills and expertise that professional designers have.

However, other commentators have argued that these professional design practices have inherent limitations that restrict their applicability into ever-broader issues extending into social change and innovation. Julier and Kimbell (2019) echoed Iskander’s criticism of design thinking as ‘preserving the status quo’, seeing it as ‘keeping the system going’. They were referring to the economic system of neoliberalism, and they critiqued attempts to change or ameliorate it through ‘social design’, questioning whether professional design practices are equipped to address socio-economic issues such as inequality. They argued that the approach and methods of ‘social design’ can actually draw the focus away from the problems they seek to address. Traditionally, designing is focused on physical objects, whereas ‘the outcomes of social design are typically not objects but are things such as adjustments to policies or new systems of support whose value is in their use, rather than in their physical presence’.

The origins of design thinking within a design-as-making paradigm may well limit its range of applicability, as analysed in a critique by Lee (2021) with respect to its adoption within business organisations. Lee argued that design thinking in business has been promoted as going beyond the traditional making or *technē* paradigm into ‘non-product’ designing, but design thinking practices still remain situated within that paradigm. He supports the view that this means such design thinking tends to be relatively conservative, but goes further and suggests that it precludes ‘genuine innovation and real transformations’ within organisations and within social change

Design thinking

more widely. This is a fundamental criticism of the limits of design thinking for addressing systemic organisational, social or environmental problems, suggesting that its methods – indeed, its very world-view – may not be appropriate, not powerful enough nor inclusive enough for addressing such complex issues.

2.2 *Beyond design as making*

There is some evidence of the development of new methods or approaches that may stretch design thinking beyond the ‘design-as-making’ paradigm, for example in the form of ‘interpretive engagement’ as offered by [Iskander \(2018\)](#). [Lloyd \(2019\)](#) suggested viewing design thinking as a ‘way of working’, rather than a method, a way of creating ‘a space that enables a “design-erly” conversation to take place’:

The underlying concept is that everyone’s experience and ability to think creatively is valued equally when it is shared in the site of structured creative exploration. Design thinking facilitates a process of collaboration that involves posing questions and proposing answers to multi-dimensional problems. Politically then, design thinking perhaps reads as a democratic process allowing multiple voices to participate and contribute. (p. 175)

That view was reflected in some of the contributions to the recent Design Thinking Research Symposium 13 on the expansion of design thinking. For example, [Dorst and Watson \(2022\)](#) drew on change theory to identify where design thinking needs to be augmented by other practices to become effective in ‘strategic design’ and social innovation, and [Christensen et al. \(2022\)](#) pointed to the development of ‘adaptive cognition’ through both design and business education as indicating the potential for overlap and synthesis between the domains, and for clarifying ‘the roles that designers believe they can play in entrepreneurship and other fields outside of traditional design’.

The concept of ‘adaptive cognition’ relates to [Sternberg’s \(2021\)](#) broader ‘theory of adaptive intelligence’ (‘the intelligence one needs to adapt to current problems and anticipate future problems of real-world environments’), based around a set of human creative skills and attitudes that can produce ‘novel and compelling work that results from individuals or groups creating, designing, inventing, imagining, discovering, or innovating’. This in turn is similar to the idea of design ability being seen as a form of natural intelligence ([Cross, 1990, 2010](#)).

3 *Seeking clarification*

In light of the growing critical view of the limited but popularised and business-oriented versions of design thinking, and in response to the reviewers’ comments on my new book edition proposal, I thought it necessary to add a new introduction to my book, pointing out that it has become clear that there are currently two quite different, generally understood interpretations of ‘design thinking’. Both are based on the practices of designers, but one (the original formulation of ‘design thinking’) is focused firmly within design practice, whereas the other (the more recent and popular but perhaps transient formulation) is focused outside the normal design domain, notably in business. The latter formulation has been attractive within businesses that have realised the financial and competitive benefits of design-led technology, and has also been applied in a diversity of other fields, but may have fundamental limitations.

However, while some of the business-oriented formulations have drawn upon some aspects of design practice, such as creative thinking, it is often applied through a simplified version of design processes, adapted by consultants many of whom do not come from nor work within the design domain. These two different formulations and applications have led to confusion simply because they both use the term ‘design thinking’, therefore requiring some clarification. As the

reviewers of my book had pointed out, it follows the original formulation of design thinking, which grew from the academic study of design reasoning, design cognition and design processes: as expressed in the book's sub-title, 'Understanding how designers think and work'.

3.1 DesignThinking 1 and 2

Some authors have pointed out that the two different versions are sometimes distinguished by how they are written: 'design thinking' for the original, within-design version, and the grander seeming 'Design Thinking' for the new, within-business version. However, that fine distinction is not always applied intentionally or even consistently and is by no means universal nor meaningful.

For the moment, let's call the cognition and processes formulation DesignThinking 1 and the more recent business applications formulation DesignThinking 2. These two versions now provide two distinct discourses on design thinking: one in the design-based, scholarly literature, and the other in more widely accessible, especially business-oriented media. There have been attempts to differentiate between the two formulations, not just by capitalising the initial letters, but by giving them slightly different names. For example, Johansson-Sköldberg et al. (2013) suggested calling DesignThinking 1 'designerly thinking':

This refers to the academic construction of the professional designer's practice (practical skills and competence) and theoretical reflections around how to interpret and characterize this non-verbal competence of the designers. Designerly thinking links theory and practice from a design perspective, and is accordingly rooted in the academic field of design. (p. 123)

Johansson-Sköldberg et al. accepted the original name of 'design thinking' as now *de facto*

representing the second kind of discourse (DesignThinking 2):

We reserve this term [design thinking] for the discourse where design practice and competence are used beyond the design context (including art and architecture), for and with people without a scholarly background in design, particularly in management. 'Design thinking' then becomes a simplified version of 'designerly thinking' or a way of describing a designer's methods that is integrated into an academic or practical management discourse. (p. 123)

A distinction between 'designerly thinking' and 'design thinking' was also drawn by Laursen and Haase (2019), who compared the underlying theoretical structures, based on the two different corpora of key literature, of the two different concepts. They used this analysis to identify a fundamental weakness of 'design thinking' that could explain the criticisms that have been made of it. This weakness is the lack of a sound methodological basis to DesignThinking 2, leading to its reliance upon cookbook 'suggestions for actions'. They believe that this may explain why there are complaints that 'design thinking does not work':

When a non-designer applies a 'cookbook' recipe to a problem situation, the recipe will not necessarily fit that problem situation. . . They probably applied 'suggestions for actions' that were not really situated and fitted to the problem at hand. This represents a significant challenge, since the 'suggestions for actions' gave them the confidence that they could tackle the problem, whereas in reality they missed one of the key aspects of design expertise, namely the ability to fit tools and techniques to a specific problem area. (p. 828)

It is this superficial version of design thinking that has led to the astonishing growth of

Design thinking

literature on and around it. An unfortunate outcome is that this version – DesignThinking 2 – has now become a general, widespread interpretation of design thinking across many media and in many fields. It is this version that has attracted criticism – but that criticism can spill across and detract from and colour perceptions of the DesignThinking 1 version. It may be that DesignThinking 2 will run its course, as other business/management ‘next competitive advantage’ fads have in the past, and soon may be seen as a bubble that burst. But, in the process of its rise and demise, it may severely damage perceptions and understanding of DesignThinking 1.

4 Conclusion

The two current versions of design thinking need to be clearly distinguished. It may be that DesignThinking 2 has irretrievably become recognised as the dominant and broadly accepted meaning of ‘design thinking’; in which case, ‘designerly thinking’ may have to be adopted as the name for DesignThinking 1. In fact, the phrase ‘designerly thinking’ was widely used in the DTRS13 (2022) symposium on the expansion of design thinking, where it was also extended into designerly behaving, intervening, talking, approaches and spaces.

A wider recognition of the relevance and value of design thinking has been welcome and often productive, and we are beginning to see more nuanced and developed interpretations of design thinking. It is possible that another, third version of design thinking – as a way of acting within complex, problematic issues – may be emerging. This new version could extend design thinking out of the making paradigm of professional design practice, towards a competency, a way of thinking and working that embodies a broader form of strategic, adaptive, co-operative intelligence for engaging with wicked problems.

Meanwhile, as this expansion of design thinking progresses, within discussion and presentation of the design studies (cognition and processes) version of design thinking we need to be clear about what we do mean by this version, and to acknowledge the scope of its role and potential applicability. It is not a relatively simple but universalisable method or ‘way of thinking’ that has limitless applications. It does have potential for being developed more widely, but so far it remains grounded in the discipline of design, in the suite of designerly ways of knowing, thinking and acting.

Every experienced designer has learned, practiced and honed these designerly ways of knowing, thinking and acting. Designers know about technical aspects of their professions, about the habits and preferences of the users of their products and systems, about precedents and exemplars and emerging possibilities within their field, and about organising and managing project work in creative teams. Designers think strategically within and around the problems they are given and the solutions they are creating, developing together both an interpretation of the problem and the possibilities for its solution, to reach a satisfactory, matching resolution of both, using patterns and types of constructive reasoning. Designers act in ways that are creative but constrained by the requirements set by their clients, guided by the goals, abilities and desires of the potential users of their products and systems, and facilitated and enhanced by their own powers and processes of imagining, modelling, evaluating and developing ideas for partial, interim and final proposals.

These designerly ways of knowing, thinking and acting are certainly relevant to tackling a broad range of problems, but they are not a universal issue-resolving cure-all. Nor are they something that can be gained adequately just from a workbook, a seminar, a one-day workshop, or even a four-day ‘bootcamp’ in Design Thinking.

Declaration of competing interest

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

Data availability

No data were used for the research described in the article.

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