

Maciej Brzozowski, PhD

Uniwersytet Ekonomiczny w Poznaniu
Katedra Zarządzania Strategicznego

Design thinking and strategic thinking in business development

Myślenie projektowe i myślenie strategiczne w rozwoju przedsiębiorstwa

Abstract: *The purpose of this research is to clarify some of the salient issues surrounding the concept of design thinking. For example: what is design thinking? How do we recognize it? Is it different from alternative approaches to thinking in organization, especially to strategic thinking? If so, can it serve as a replacement for strategic thinking? Can design thinking and strategic thinking be placed within the same strategic regime of business development? In the first part of the paper, theoretical foundations have been reviewed and the term 'design thinking' has been defined according to contemporary design literature. Design thinking has been transferred from design theory into management science. Then, design thinking's characteristics have been compared to strategic thinking's characteristics. Finally, the recommendation of joint use of design thinking and strategic thinking has been formulated.*

Keywords: design thinking, strategic thinking, strategic planning

Streszczenie: *Celem artykułu jest wyjaśnienie wybranych nieodpowiedzi i sprzeczności towarzyszących koncepcji myślenia projektowego (ang. design thinking), a tym samym uzyskanie odpowiedzi na kluczowe pytania takie, jak: na czym polega istota myślenia projektowego? Jak można je zidentyfikować? Czy i jak różni się ono od innych sposobów myślenia wykorzystywanych w organizacji, szczególnie od myślenia strategicznego? Czy można oba te sposoby myślenia wykorzystywać zamiennie? Czy myślenie projektowe i myślenie strategiczne mogą być rozpatrywane w ramach jednego strategicznego procesu rozwoju przedsiębiorstwa? W pierwszej części opracowania omówiono teoretyczne podstawy myślenia projektowego oraz zdefiniowano samo pojęcie na gruncie dyscypliny wzornictwa. Następnie przetransponowano koncepcję myślenia projektowego na grunt nauk o zarządzaniu. W dalszej kolejności porównano cechy charakterystyczne myślenia projektowego oraz myślenia strategicznego. Na zakończenie przedstawiono rekomendację wspólnego wykorzystania obu omówionych sposobów myślenia.*

Słowa kluczowe: myślenie projektowe, myślenie strategiczne, planowanie strategiczne

Introduction

In recent years there has appeared in the literature of management science the concept of design thinking as a proposal for a new approach to dealing with organizational problems in modern enterprises.

Design is frequently found as the key competence and the instrument of achieving the competitive advantage, additionally, it has received a significant meaning in the academic research on management. The consequence of this

interest is popularization of the term 'design thinking'. The concept of design thinking is being at the preliminary stage of development, therefore it embodies limited academic reflection. There have been various approaches and views in the design discourse – starting from the emphasizing the artistic aspects, through technological, and finally the organizational ones – still the reflection synthesis, classificatory order, compound data concerning the implementation and its effectiveness, is being missed¹.

The global publications on design thinking are mostly dispersed and incoherent, they contain misinterpretations and statements, which are by no means proved by some scientific results. There has been a shortage of publications, which could present the holistic concept analysis, both at the theoretical and empiric level. As a result, the examined area might be described as a weakly structured, not enough defined, or too blurred. This is why is fairly easy to notice negative consequences both in the cognitive and application field.

Ambiguity of design has a direct impact on the way one defines design thinking. Design thinking is discussed on the basis of the discipline of design for decades, but a new challenge is to apply the term to other disciplines, including management.

The purpose of this research is to clarify some of the salient issues surrounding the concept of design thinking. It will be achieved by defining design thinking according to design and management literature. The characteristics of design thinking will be compared to characteristics of strategic thinking, to find out whether design thinking and strategic thinking can be placed within the same strategic regime of business development

The nature of design thinking

The range of design thinking meanings is significantly broad and different across various disciplines. Underdeveloped nature of design thinking appears to be a consequence of positioning design as a field on the verge of knowledge and practice². The first scientist who raised that issue was the winner of the Noble prize H. Simon who opposed the natural sciences against the science of design. Natural science becomes in his opinion focused on explaining existing effects, while design concentrates on pointing out how the examined processes should be formed³. This idea was further developed by L. March who stated that science examines the existing forms while design initiates new ones⁴. This difference results also from the overall goal which for the science is searching for objective truth, and for design it is searching for a change (implementation)⁵. Ch. Owen draws attention to the fact that project thinking can be somehow opposed to scientific approach – „*scientists sift facts to discover patterns and insights,*

¹ M. Brzozowski, *Istota design management*, [in:] Witczak H. (ed.), *Skrzynka narzędziowa menedżera*, Zeszyty Naukowe UE w Poznaniu, nr 148, Poznań 2010, p. 13.

² M. Brzozowski, *Myślenie projektowe w pracy menedżera*, [in:] „Zeszyty Naukowe Politechniki Łódzkiej, s. Organizacja i Zarządzanie”, nr 49, Łódź 2013, p. 89.

³ H. Simon, *The Sciences of the Artificial*, MIT Press, Cambridge 1969, p. 5.

⁴ L. March, *The Logic of Design*, in: Cross N. (ed.), *Development of Design Methodology*, John Wiley, New York 1984, p. 266.

⁵ D. Mahdjoubi, *Design Methodology as a Migration from Analytic Methodology*, Design Management Review, Fall, 2007, p.50.

designers invent new patterns and concepts to address facts and possibilities"⁶. G. Glegg has developed the idea by comparing the nature of work of a designer and a scientist. In his concept, „*the designers and researchers follow the same path but often in the opposite directions - the designer from the abstract to the concrete, and the scientist from the concrete to the abstract*"⁷. Ambiguity of design has a direct impact on the way one defines design thinking. Design thinking is discussed on the basis of the discipline of design for decades, but a new challenge is to apply the term to other disciplines, including management⁸.

Discussion primarily concerns the nature of design thinking, its origin and the possibility of using it in an innovative business management⁹.

The analysis of the literature can identify different ways of defining design thinking. At its core, the term is used to describe designer's cognitive strategies in the process of solving problems¹⁰. V. Margolin and R. Buchanan stress out that although design thinking must take into account the achievements of many disciplines (i.e. psychology, sociology, anthropology, engineering sciences), the core of design thinking remains the ability to conceive, clarify, develop and present new solutions¹¹.

In a broader definition the term "design thinking" refers to the concept of using methods and design culture in areas which go beyond the traditional application of design, such as in business management¹². One of the most eager supporters of design thinking, T. Brown, describes it as a specific methodology encompassing the entire innovation activities, which makes human being a reference point. Design thinking is a discipline that uses the designer's sensibility and methods to match people's needs with what is technologically feasible and what a viable business strategy can convert into customer value and market opportunity¹³.

Nowadays another approach to design thinking is getting on popularity, and it defines design thinking as a tool to searching and implementing innovations in organisations¹⁴. That broader way of defining project thinking is widely used by well-known design consulting companies, such as IDEO or Frog Design. Design thinking

⁶ Ch. Owen, *Design Thinking: Notes on its Nature and Use*, Design Research Quarterly, Vol. 2, No. 1, 2007, p.17.

⁷ G. Glegg, *The Science of Design*, Cambridge University Press, Cambridge 1973, p.1.

⁸ van Zyl R., *Buchanan's design thinking matrix: implications for SMMEs*, International DMI Education Conference "Design Thinking: New Challenges for Designers, Managers and Organizations", 14-15 April 2008, Cergy-Pointoise France, p.2.

⁹ J. Gloppen, *Perspectives on Design Leadership and Design Thinking and How They Relate to European Service Industries*, Design Management Journal, 2009, p.37.

¹⁰ R. Bousbaci, "Models of Man" in *Design Thinking: The "Bounded Rationality" Episode*, Design Issues, Vol. 24, No. 4, 2008. Lindberg T., Noweski Ch., Meinel Ch., *Evolving discourses on design thinking: how design cognition inspires meta-disciplinary creative collaboration*, Technoetic Arts: Journal of Speculative Research, Vol. 8, No. 1, 2010.

¹¹ V. Margolin, R. Buchanan, *The Idea of Design*, The MIT Press, Cambridge 1995.

¹² J. Utterback, B. Vedin, E. Alvarez, S. Ekman, *Design-Inspired Innovation*, World Scientific Publishing, London 2006.

¹³ T. Brown, *Design Thinking*. *Harvard Business Review*, June 2008, p. 91-92.

¹⁴ S. Beckman, Barry M., *Innovation as a Learning Process: Embedding Design Thinking*, California Management Review. Vol. 50, No. 1, 2007; Brzozowski M., *Istota design management*, [in:] Witczak H. (ed.), *Skrzynka narzędziowa menedżera*, Zeszyty Naukowe UE w Poznaniu, nr 148, Poznań 2010; Lindberg T., Noweski Ch., Meinel Ch., *Evolving discourses on design thinking: how design cognition inspires meta-disciplinary creative collaboration*, Technoetic Arts: Journal of Speculative Research, Vol. 8, No. 1, 2010., Wylant B., *Design Thinking and the Experience of Innovation*, Design Issues, Vol. 24, No. 2, 2008.

is being acquainted with such terms as open innovations¹⁵, user-driven innovations¹⁶ and design-driven innovations¹⁷.

The most popular definition, which refers to implementing design thinking to management, is the one proposed by R. Martin according to which design thinking is about “*approaching managerial problems as designers approach design problems*”¹⁸. Although such a simplified, tautology-like definition does not explain exhaustively the core meaning of the term, it identifies two key concepts developed in the literature concerning the specific problems of design and designers’ particular approach to problems¹⁹.

The first of the mentioned issues concerns classifying problems connected with applying design to so called, wicked problems. Wicked problems cannot be explained easily and objectively, since they are ill-formulated and they can be interpreted in many ways. It also affects possible solutions – there are no ready patterns of solutions to pick up the best ones. The stopping rule does not fit in here either (if A does not work, try B”), since there is no direct and the final test to the learned solution²⁰. The consequence of assuming problems as wicked ones is an assumption that defining and solving such kind of problems belongs first and foremost to creative action²¹.

In order to cope with wicked problems designers worked out a certain type of thinking, which does not remind the conventional (and rational) of manager’s and can be discussed in two aspects: interpersonal and attitudinal²².

Design thinking in terms of interpersonal aspect makes use of deductive and inductive reasoning, typical for manager’s tasks, but also considers specific for designer’s job abductive reasoning. Abduction was defined by Ch. Peirce as a type of reasoning which aim is to formulate general predictions, which leads from examining facts to formulating theory which could introduce its explanations²³. Peirce described deduction, induction and abduction as three stages of one research method. According to him, abduction is the preliminary stage and the only logical action which creates new quality. On the basis of abduction, deduction creates predictions, which can be tested by using induction²⁴. The most important is that abduction does not guarantee the genuity of the generated idea (of the conclusion), merely postulates a state of affair and that is why it is just hypothetical²⁵.

¹⁵ H. Chesborough, *Open Innovation: The New Imperative for Creating and Profiting from Technology*, Harvard Business School Press, Boston 2003.

¹⁶ von Hippel E., *The Sources of Innovation*, Oxford University Press, New York 1988.

¹⁷ R. Verganti, *Design-Driven Innovation*, Harvard Business Press, Boston 2009.

¹⁸ D. Dunne, R. Martin, *Design Thinking and How It Will Change Management Education: An Interview and Discussion*, Academy of Management Learning and Education, Vol. 4, No. 4, 2006, p.512.

¹⁹ A. Rylander, *Design Thinking as Knowledge Work: Epistemological Foundations and Practical Implications*, Design Management Journal, Fall, 2009, p. 10.

²⁰ T. Ritchey, *Wicked problems. Structuring Social Mess with Morphological Analysis*, Swedish Morphological Society, 2011, www.swemorph.com (access 05.02.2013).

²¹ B. De Wit, R. Meyer, *Synteza strategii*, PWE, Warszawa 2007, p. 71.

²² D. Dunne, R. Martin, *Design Thinking and How It Will Change Management Education: An Interview and Discussion*, Academy of Management Learning and Education, Vol. 4, No. 4, 2006.

²³ Ch. Peirce, *Collected Papers*, Harvard University Press, Cambridge 1958.

²⁴ M. Urbański, *Rozumowania abdukcyjne. Modele i procedury*. Wydawnictwo Naukowe UAM, Poznań 2009.

²⁵ M. Hoffmann, *Is there a “Logic” of Abduction?* Proceedings of the 6th Congress of the IASS-AIS, International Association for Semiotic Studies in Guadalajara, Mexico, July, 13-18, 1997, <http://user.uni-frankfurt.de/~wirth/texte/hoffmannabdu.htm> (access 05.02.2013).

The attitudinal aspect of design thinking concentrates on identifying differences between designers and managers in approaching to problems. R. Bolland and F. Collopy claim that so called decision-oriented approach, prevailing in management is focused on solving relatively defined problems with many possible alternative solutions, which can be carefully analysed²⁶. In design thinking, a problem is not considered to be so clear-cut – its scope is modified, even its basic assumptions are questioned in order to achieve the best solutions (though sometimes they are far from the previous assumptions). Manager identifies existing limitations treating them as undesirable difficulties in achieving goals and takes them into considerations, while designer questions the existing limitations and considers them to be a pretext to finding innovative solutions. Referring to the classical (in the management science) division of alternative means of improving organizational systems – typical managerial activities are in close relation to a diagnostic approach (descriptive-improving) while designers – to the prognostic approach (functional-designing).

The nature of strategic thinking

Terminology in the field of strategic management is highly contentious with different writers using similar terminology in different ways trying to present their concepts as new and innovative²⁷. The introduction of the term strategic thinking to the management literature has increased the confusion with an interesting debate on what actually strategic thinking is. Although the concept of strategic thinking has been in the literature for more than three decades, the term is often improperly used interchangeably with other aspects of strategic management, including “strategy” and “strategic planning”²⁸.

E. Goldman indicates two major origins of the problem with classifying strategic thinking²⁹: (1) differences among theorists about how strategy is defined (different schools of thought on strategic management, i.e. planning, learning, positioning and resource-based); and (2) the lack of a clear definition of strategic thinking in the literature.

Most of writers concentrate on the interrelations between strategic planning and strategic thinking, and the exploration of the literature reveals that there is no agreement on what this relation should be. L. Heracleous identified following views on the relationship between strategic thinking and strategic planning³⁰:

- 1) Strategic planning and strategic thinking are two distinct thinking modes, and strategic thinking should precede strategic planning (view associated with H. Mintzberg³¹). This view emphasizes that strategic thinking and strategic planning involve distinct thought processes, where strategic planning is analytical and convergent, whereas strategic thinking is synthetic and divergent.

²⁶ R. Bolland, F. Collopy (eds), *Managing as designing*, Stanford University Press, Stanford 2004.

²⁷ T. O'Shannassy, *Modern Strategic Management: Balancing Strategic Thinking and Strategic Planning for Internal and External Stakeholders*, Singapore Management Review, Vol. 25 No 1, 2003, p. 54.

²⁸ I. Bonn, *Developing strategic thinking as a core competency*, Management Decision, Vol. 39 No.1, 2001, p. 63-71.

²⁹ E. Goldman, *The Power of Work Experiences: Characteristics Critical to Developing Expertise in Strategic Thinking*, Human Resources Development Quarterly, Vol. 19, No. 3, p. 219.

³⁰ L. Heracleous, *Strategic Thinking or Strategic Planning*, Long Range Planning, Vol.31 No 3, 1998, p. 481-487.

³¹ H. Mintzberg, *The fall and rise of strategic planning*, Harvard Business Review, Jan-Feb, 1994, p. 107-114.

- 2) Strategic thinking is (and should be) analytical (view associated mainly with M. Porter³²). This view claims that strategic thinking is achieved by utilizing analytical tools. In this view the term 'strategic thinking' is not being used as a synthetic and divergent thought process, but as a convergent and analytical one; in the same way as other authors would use the term 'strategic planning'.
- 3) The real purpose of strategic planning is to improve strategic thinking (view represented by D. Nadler³³, P. Wack³⁴ and A. De Geus³⁵). This view recommends to use strategic planning tools (i.e. scenario planning) to aid creative strategic thinking.
- 4) Strategic planning has over time evolved into strategic thinking and became less exclusive in its roots and more complex in its methods. This view identifies strategic planning and strategic thinking more with the organizational practices surrounding them rather than thought process involved.

Having considered the different views Heracleous and other authors (i.e. J. Leidtka³⁶ F. Greatz³⁷) suggest that strategic thinking and strategic planning are distinct, but interrelated in a dialectical process, where both are complementary thought processes that must support one another for effective strategic management, and each mode on its own is necessary but not sufficient.

Having reviewed the literature on strategic management it is possible to indicate two possible ways of defining strategic thinking: a "broad" and a "narrow"³⁸. A narrow definition of strategic thinking highlights generative, creative, synthetic, divergent thought processes and is usually associated with such writers as H. Mintzberg³⁹ and K. Ohmae⁴⁰. A broad definition of strategic thinking combines generative, creative, synthetic, divergent thought with a rational, analytical, convergent approach to problem solving. Most of writers prefer a "broad" definition of strategic thinking. Representative examples of such definitions include:

- Strategic thinking is a boundary-spanning activity that cuts across any discipline that involves decision making Strategic thinking is a way of thinking about issues, problems, and a wide range of business and nonbusiness activities. Strategic thinking provides a rational component to decision making that balances the use of intuition⁴¹;
- Strategic thinking is a way in which people in an organization think about, assess, view, and create the future for themselves and their associates" Strategic thinking is a planning process aiming to create a strategy that is coherent, unifying, integrative framework for decisions especially about direction of the business and resource allocation. It is conscious, explicit, and proactive

³² M. Porter, *Know Your Place*, Inc., Sep. 1, 1991, p. 90-93.

³³ D. Nadler, *Collaborative strategic thinking*, Planning Review, Sep-Oct, 1994, p. 30-31.

³⁴ P. Wack, *Scenarios: Shooting the rapids*, Harvard Business Review, Nov-Dec, 1985, p. 2-14.

³⁵ A. De Geus, *Planning as learning*, Harvard Business Review, Mar-Apr, 1988, p. 70-74.

³⁶ J. Liedtka, *Strategic thinking: Can it be taught?* Long Range Planning, Vol. 31 No.1, 1998, p. 120-129.

³⁷ F. Greatz, *Strategic thinking versus strategic planning: towards understanding the complementarities*, Management Decisions, Vol. 40 No 5, 2002, p. 456-462.

³⁸ T. O'Shannassy, *Modern Strategic Management: Balancing Strategic Thinking and Strategic Planning for Internal and External Stakeholders*, Singapore Management Review, Vol. 25 No 1, 2003, p. 54.

³⁹ H. Mintzberg, *The fall and rise of strategic planning*, Harvard Business Review, Jan-Feb, 1994, p. 107-114.

⁴⁰ K. Ohmae, *The Mind of the Strategist*, McGraw-Hill, New York, 1982.

⁴¹ I. Kutschera, M. Ryan, *Implications of Intuition for Strategic Thinking: Practical Recommendations for Gut Thinkers*, SAM Advanced Management Journal, Summer 2009, p.15.

and defines competitive domain for corporate strategic advantage over its rivals. Strategic thinking is “what” and “why” of the planning process⁴²;

- Strategic thinking is a particular way of solving strategic problems at the individual and institutional level combining rational and generative thought processes. In strategic thinking, thought and action can be intertwined or linear or something in between depending on the strategy context confronting the organization. There is no single formula to strategic thinking for the individual or organization and it is evident from the lesson of the evolution of strategy that practicing managers need some flexibility in problem solving style⁴³;
- Strategic thinking can be recognized as being (1) conceptual, in that it reflects ideas, models, and hypotheses; (2) systems-oriented, taking into account the interaction of the organization’s parts, as well as their relationship with the external environment; (3) directional, affording a sense of an aimed-for future state that is different from the present; and (4) opportunistic, taking advantage of the organization’s past achievement and present competitive and environmental conditions⁴⁴

All of listed definitions leave open to judgment if certain thinking is strategic or not. They also suggest that there are degrees of how strategic one’s thinking can be. J. Liedtka indicated five major attributes which can be used to assess strategic thinking⁴⁵:

- systems perspective – refers to being able to understand implications of strategic actions,
- focus on intent – refers to being more determined and less distractible than competitors,
- thinking in time – refers to being able to hold past, present and future in mind at the same time to create better decision making and speed implementation,
- being hypothesis driven – refers to ensure that both creative and critical thinking are incorporated into strategy making,
- intelligent opportunism – refers to being responsive to appearing opportunities.

All of those attributes should be provided to achieve the major purpose of strategic thinking, which is to seek innovation and to discover novel, imaginative strategies which can change the rules of the competitive game, and to integrate these back into business.

Design thinking characteristics versus strategic thinking characteristics

Having reviewed literature on design thinking and strategic thinking it is possible to compare the characteristics of those two ways of thinking. They’ve been brought together in table 1.

Listed characteristics represent contemporary dominant way of defining design thinking and strategic thinking. The comparison has indicated both - common features and differences.

⁴² Q. Baloch, M. Inam, *Strategic Competitiveness: Creating Firm’s Future*, Journal of Management Sciences, Vol. III No1, 2010, p. 91.

⁴³ T. O’Shannassy, *Modern Strategic Management: Balancing Strategic Thinking and Strategic Planning for Internal and External Stakeholders*, Singapore Management Review, Vol. 25 No. 1, 2003, p. 55.

⁴⁴ E. Goldman, *The Power of Work Experiences: Characteristics Critical to Developing Expertise in Strategic Thinking*, Human Resources Development Quarterly, Vol. 19, No. 3, p. 220.

⁴⁵ J. Liedtka, *Strategic thinking: Can it be taught?* Long Range Planning, Vol. 31 No. 1, 1998, p. 120-129.

The way of defining both of terms continuously evolves and on this basis it can be concluded that the scope of these concepts is constantly unifying and the gap between them is shrinking.

Contemporary meaning of design thinking is far away from its original meaning established on the basis of the discipline of design. The same happened to strategic thinking, which is no longer related only to strategic planning. By comparing the two different perspectives on problem solving, the analysis above exposes gaps where the two ways of thinking could cross-fertilize each other.

Table 1. Common characteristics of design thinking and strategic thinking

Design thinking	Strategic thinking
<ul style="list-style-type: none"> - systems perspective - qualitative - focus on innovation - future oriented - abductive reasoning (idea generation) in addition to the deductive and inductive reasoning - an expectation of wicked problems - celebrating creativity - using constraints as a source of inspiration - solution oriented - practical, reflection-in-action - intelligent opportunism - domination of interactive skills, especially collaboration and empathy - dominant visual sense making mode - multidimensional - non-linear - project and organization oriented - risk orientation 	<ul style="list-style-type: none"> - systems perspective - qualitative - focus on intent - thinking in time - being hypothesis driven but reliance on deductive and inductive reasoning - an expectation that problems will be recognizable and solvable with precedent methods - celebrating rationality but also using creativity to aid strategic planning methods - dealing with constraints - problem oriented - intellectual, theory guided - intelligent opportunism - domination of self-contained roles - dominant verbal sense making mode - multidimensional - mainly sequential with non-linear elements - organization oriented - risk awareness

Source: self-elaboration

Conclusions

Design thinking and strategic thinking have both evolved from different epistemological roots and research tradition of the fields of design and strategic management but they are both terms being used today to define a way of thinking that produces transformative innovation and business development. They both address the same fundamental challenge: creative solving of strategic problems.

The common characteristics of design thinking and strategic thinking include: system perspective, qualitative and multidimensional approach, intelligent opportunism and creativity. Both of analyzed ways of thinking seek similar success factors: the importance of leadership expressed through flexibility and the ability to learn, environments and markets created to fit the organization,

anticipation of client and market needs, extended problem-solving paradigms to find out what might exist, skills-based organizational structures with no boundaries, availability of information and ongoing dialog, focus on core activities, and contextual evaluation.

Conducted analysis suggests that design thinking and strategic thinking are different sides of the same coin and each one on its own is necessary, but not sufficient for an efficient business development. Therefore, design thinking and strategic thinking must work hand-in-hand in order to improve growth, competitiveness and to achieve maximum benefit.

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