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BPIR.com’s best practice reports are designed to provide you with information about best practices relating to a specific business topic. Each of our reports provides a succinct review of the topic, expert opinion, best practice case studies, latest research, benchmarks, and self-assessment resources. Various materials—such as e-books, reports, and infographics—are provided as downloadable links. Topics for these best practice reports are suggested by our members through our member-only Research Request Service. Why not join and become part of a dynamic community that is committed to continuous improvement and organisational learning?

Volume 9, Issue 4: Design Thinking 2

The Definition

Design thinking is a method used by designers to solve complex problems or issues, and to find creative solutions for customers. Unlike critical thinking, which aims to break down ideas, design thinking is a creative process based on the ‘building up’ of ideas. This is the second BPIR.com Best Practice Report on design thinking. The first report, written in 2014, is still available to members.

The Stage

Design thinking takes concepts and ideas – and makes them real and usable. For design thinking to work, organisations have to understand that creative abilities and confidence are not the sole preserve of a few select designers; every member of an organisation has the creative potential needed to deal with issues and contribute to problem solving. The most innovative organisations in the world have managed to embed design thinking into the DNA of their constituents. By doing this, they have developed products and services that are incredibly sensitive to the current and future needs of their customers.

Design thinking is extremely useful for tackling ill-defined or complex problems. It can help organisations re-frame these problems in human-centric ways, and enables solutions to be prototyped and tested. There are several generic steps involved in the process, including defining the problem; re-framing the problem; brainstorming for solutions; prototying; testing; and, implementing the most practicable solution. The design way of thinking is applicable to systems, procedures, protocols, internal users, and client experiences. Ultimately, it is meant to improve the quality of life for people and the planet.

In this Report…

1. What is “design thinking”?
2. Which organisations have received recognition for excellence in design thinking?
3. How have organisations reached high levels of success in design thinking?
4. What research has been undertaken into design thinking?
5. What tools and methods are used to achieve high levels of success in design thinking?
6. How can design thinking measured?
7. What do business leaders say about design thinking?

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Michael Adams, maag Consulting (Canada).
1. What is “design thinking”?

1.1 Explaining the Design Thinking Process
Source: Harvard Business Review & Stanford, United States (date of information: 2015)
Link (videos): Design Thinking by HBR & Stanford Design Thinking Process

Application/Key learning points: The first video provides an excellent, concise introduction to design thinking. The second video presents the Stanford design thinking process, and gives an example of how it is applicable to the work of a graphic designer.

1.2 Design Thinking: A Unified Framework for Innovation
Source: Forbes.com, United States (date of information: 2014)
Link: Design Thinking - A Unified Framework for Innovation

Application/Key learning points: This article by Reuven Cohen gives a brief overview of the genealogy and creation of the design thinking concept by Stanford’s Rolf Faste in 1980. The prime message of the article is that design thinking is still evolving – and the customer is at the centre of its focus.

1.3 Design Thinking… What Is That?
Source: Fast Company, United States (date of information: 2006)
Link: Design thinking… what is that?

Application/Key learning points: According to Fast Company, design thinking describes a repeatable process employing unique, creative techniques that yield guaranteed results – usually results that exceed initial expectations. This ‘quick-read’ article outlines a simple, four-step, problem-solving protocol for design thinking. It can be used in any business or profession to achieve extraordinary results.

1.4 Design Thinking for Innovation
Source: Creativity at Work, Canada (date of information: 2017)
Link: Design Thinking as a Strategy for Innovation

Application/Key learning points: Organisations are extremely keen to learn how to think like a designer, and thus apply design principles to the workplace scenario. Design thinking appears to be at the centre of innovative and effective organisational change. This framework gives a solid overview of the steps you will need to take to ensure a good design.

1.5 Design Thinking: A 5-Stage Process
Source: Interaction Design Foundation, United States (date of information: 2017)
Link: 5 Stages in the Design Thinking Process

Application/Key learning points: This is a five-stage model proposed by the Hasso-Plattner Institute of Design at Stanford, which is probably the leading university in the field of design thinking. The five stages are empathise; define (the problem); ideate; prototype; and test.
2. Which organisations have received recognition for excellence in design thinking?

2.1 Examples of Design Thinking Awards

Sources and links: (dates of information: various)
- Design Management Institute: Design Value Awards, United States
- New Zealand Innovation Awards, New Zealand (includes design thinking)
- DBA Design Effectiveness Awards, United Kingdom
- German Design Award, Germany
- European Design Awards, various countries
- Africa Design Award, pan-Africa
- Good Design Award, Australia

Application/Key learning points: These are examples of design thinking services awards from around the globe. Most of them are international competitions. You will be able to see some of the world’s best organisations on these sites – and find out exactly what makes them exceptional. If you want to find out more, award winners are usually excellent organisations to contact and from which to learn.

2.2 The Service Design Network Winners

Source: Service Design Network, Germany (date of information: 2017)
Link: Service Design Award 2017 Finalists

Application/Key learning points: Service design is crucial for all public and private organisations wanting to innovate and improve their service strategies and offerings, as well as the experiences of their users. The Service Design Network is a platform to connect with like-minded passionate service designers from companies, agencies, and universities. It seeks to innovate and improve service strategies with curious innovators. A number of case studies from winners of the 2016 Service Design Network Awards have been selected below:

Philips Design - 2016 Winner for Best Professional Project. Philips Design used telehealth to reimagine healthcare for the most complex, highest-cost patient populations. The Intensive Ambulatory Care programme was designed to support chronically ill patients and enable them to manage their condition at home.

Transformator Design - 2016 Winner for Systemic and Cultural Change in the Public Sector. Arbetsförmedlingen, the Swedish Employment Agency, partnered with Transformator Design to tackle the decreasing trust levels felt by many of its customers and employees. The project aimed to develop a new and more engaging way of working, collaborate with customers, create better services, and in the end gain the trust of the Swedish people.

Deutsche Telekom - 2016 Winner for Systemic and Cultural Change in the Private Sector. Deutsche Telekom, one of the world’s leading integrated telecommunications companies, aimed to transform the organisation’s working culture and DNA by embedding design practices and defining seven strategic building blocks. This enabled a shift towards user-centricity and an innovation-driven mindset.

“In any world where you have a duopoly or more competitors, design thinking is a significant differentiator.”
—John Barratt, president and CEO of Teague, USA
2.3 Design Thinking Best Practice Report
Source: BPIR.com, New Zealand (date of information: 2014)
Download (PDF): Design Thinking 1: Best Practice Report

Application/Key learning points: This first BPIR.com Best Practice Report describes and explains design thinking methodologies. Under the Expert Opinion section, you will find the three key stages of the design thinking process: inspiration, ideation, and implementation. In addition, there are case studies on Nike, Pitney Bowes and ARDEX (United States), Naandi (India), and SAP and JS Humidifiers (United Kingdom).

2.4 The Design Foundation
Source: Ideas on Design, Australia (date of information: 2015)
Link: Design Awards and Shortlists

Application/Key learning points: This is an actual “design” website showcasing 2D and 3D artistic designs that have won international acclaim. The Design Foundation has now evolved to include design as a way of thinking in businesses, and effects social change through conferences, master classes, workshops, exhibitions, public programmes, and online resources. The website is worth browsing to get an idea of the latest trends and ideas in design thinking.

3. How have organisations reached high levels of success in design thinking?

3.1 Good Design Awards: Finalist
Source: China Australia Millennial Project (CAMP), Australia/China (date of information: 2015)
Link and video: CAMP Nomination for Good Design Awards

Application/Key learning points: CAMP is a social innovation project that brings together young leaders to participate in an experiential learning programme in design thinking and cross-cultural leadership. The video explains how the participants work in ‘think tanks’ to develop innovative human-centred solutions to real world problems that span international borders.

3.2 dmi Design Value Awards: Winner
Source: dmi: design management institute, United States (date of information: 2016)
Link: EtiCCS Cervical Cancer Screening System

Application/Key learning points: Cervical cancer is the leading cause of death in Kenya. Using design thinking, the Heidelberg University Hospital in Germany partnered with the SAP Design & Co-Innovation Center in the United States to launch a new healthcare screening test, as well as a process to digitise the resulting data. Speed and ease of use were the main objectives, as this would enable nurses to test as many eligible women as possible. This is a useful study if you are trying to use technology in a relatively unstable environment.

“Most people make the mistake of thinking design is what it looks like. People think it’s this veneer – that the designers are handed this box and told, ‘Make it look good!’ That’s not what we think design is. It’s not just what it looks like and feels like. Design is how it works.” —Steve Jobs, Apple
3.3 How Samsung Became a Design Powerhouse

**Source:** Harvard Business Review (date of information: 2015)
**Link:** How Samsung Became a Design Powerhouse

**Application/Key learning points:** Samsung has more than 1,600 designers engaged in multi-disciplinary teams. It has won more awards for design than most companies in recent years. However, more than 20 years ago, Samsung was far from being innovative. The company’s focus was on its ability to churn out reliable, but inexpensive imitations of good products. Find out what changed and how Samsung has transformed itself into a mega-design thinker.

3.4 World Class Service Strategy by Norway Immigration

**Source:** Designit, Denmark (date of information: 2012)
**Link and video:** UDI: A world-class service strategy

**Application/Key learning points:** The new immigration strategy by Norway Immigration was intended to reduce bureaucracy, processing times, and stress on the police. At the same time the new strategy aimed to improve the experience of immigration applicants. This link shows a six-minute video of interesting insights into a new customer service design.

3.5 This is Design Thinking: World-Class Case Studies

**Source:** This Is Design Thinking, Germany (date of information: 2015)
**Link:** Design Thinking Case Studies

**Application/Key learning points:** This excellent blog captures real-life stories of how design thinking has moulded the way companies and organisations function. Three different success stories have been highlighted to show the multi-faceted nature of design approaches to solving deep-seated problems.

**Case Study 1 - The Truffle Hunt:** How the Adalbert Raps Stiftung used design thinking to help traditional German butchers develop new business concepts.

**Case Study 2 - Patient Experience Transformation Program:** How design thinking helped turn one hospital in the Netherlands in a bright and comforting place.

**Case Study 3 - Enterprise Content Management System:** How the Australian Taxation Office learned about design thinking the hard way.

3.6 International Best Practice Competition Award: Immigration & Checkpoints Authority (ICA) Singapore

**Source:** BPIR.com, New Zealand (date of information: 2013)
**Download (PDF & Video):** ICA’s “3M” Approach

**Application/Key learning points:** ICA has introduced a service principle called “3M” across its three services centres. 3M refers to the initial letter of the three principles: multiple channels, minimum visits and many benefits. Multiple channels refers to offering customers choices beyond the traditional channels; minimum visits means reducing the number of trips by customers to ICA’s services centres; many benefits refers to the enrichment of customers’ lives through the convenience of efficient and secured services. Such a customer-centric service principle has enabled ICA to develop many world-first game-changers and services. The video shows the transformation of the Singapore passport application/collection processes from a labour-intensive, counter-based model to a seamless suite of non-counter-based alternatives.
4. What research has been undertaken into design thinking?

4.1 Design Thinkers Academy
Source: Design Thinkers Academy, United Kingdom (date of information: 2017)
Link: Design Thinkers Academy Blog
Application/Key learning points: The academy’s website includes an explorative and varied blog (the ‘Department of Opinions’) that features design thinking issues such as culture, business ideas, and innovation. Its courses capture the creative elements required to forge an understanding of what it takes to be at the forefront of organisational progress.

4.2 Design Thinking for Social Innovation
Source: Stanford Social Innovation Review, United States (date of information: 2010)
Link: Design Thinking for Social Innovation
Application/Key learning points: Tim Brown, CEO and president of IDEO, one of the world’s leading global innovation and design firms, has written this excellent research article to show how designers are now using design techniques to tackle more complex social problems. The article contains many examples of how design thinkers have transformed societies and communities by positive deviance, deploying practical solutions that already exist within the people groups.

4.3 Select the Right Team Members and Start Facilitating
Source: Interaction Design Foundation, Denmark (date of information: 2017)
Link: Design Thinking: Select the Right Team Members and Start Facilitating
Application/Key learning points: This article discusses the process of design thinking; a process that can be exhilarating, yet disconcerting at the same time. Members of a design thinking team need to be adaptable, open-minded, and ready to step into unknown territory – as a team. To arrive at the desired destination, you need a good facilitator – someone who knows how to foster great team spirit.

4.4 Design Thinking for Public Service Excellence
Source: UNDP Global Centre for Public Service Excellence, Singapore (date of information: 2014)
Download (PDF): Design Thinking for Public Service Excellence
Application/Key learning points: This paper illustrates how design thinking approaches have contributed to solving public service challenges, and explores the potential that is yet to be tapped. It also outlines the forms and degrees to which design thinking has been institutionalised within public service administrations.

4.5 Modernising and Streamlining the Legal Immigration System for the 21st Century
Source: Obama Whitehouse Archives, United States (date of information: 2015)
Download (PDF): Final Visa Modernization Report
Application/Key learning points: This United States government report discusses the modernisation of the country’s immigration system for efficiency and accessibility. It also discusses difficult issues such as enhancing the integrity of the system. If fully implemented, it was expected to boost the nation’s gross domestic product (GDP) by between $100 billion and $250 billion. While official policies may change within a national government, the design thinking behind this report means that it remains relevant.
4.6 The Role of the Customer in New Service Development

Source: Department of Business Studies Uppsala University, Sweden (date of information: 2015)
Download (PDF): Customer Involvement in New Service Development

Application/Key learning points: This thesis provides a good overview of how customers can be involved in the design process. Pages 6-14 relate to service development, i.e. the design phase, the analysis phase, the development phase, and the launch phase. Page 27 onwards describes the findings from the research into how Sweden’s Skandia Bank involved customers in its service design process. It suggests that while there is a high level of innovation, there is a need for a well-structured guide for customers in order to manage and implement a good, sustainable design.

4.7 Benefits of Co-Design in Service Design Projects

Source: Delft University of Technology, Netherlands (date of information: 2011)
Download: Benefits of Co-Design in Service Design Projects

Application/Key learning points: The authors of this paper present an overview of the benefits of co-design in service design projects. It includes a description of three case studies, and identifies three types of benefit: for the service design project; for the customers or users of the service; and, for the organisations involved.

5. What tools and methods are used to achieve high levels of success in design thinking?

5.1 Ten Tools for Design Thinking

Source: University of Virginia, United States (date of information: 2014)
Link (SlideShare): Tools for Design Thinking

Application/Key learning points: This is a straightforward, practical set of ten tools that design managers can deploy for growth and innovation within any company. These tools are visualisation; journey mapping; value chain analysis; mind mapping; rapid concept development; assumption testing; prototyping; customer co-creation; learning launches; and, storytelling.

5.2 Ideation in Design Thinking: Tools and Methods

Source: Designorate, United Kingdom (date of information: 2017)
Link: Ideation in Design Thinking: Tools and Methods

Application/Key learning points: The ideation phase is in the middle of the design thinking process, somewhere between the inspiration research and the implementation phases. In the ideation stage, the design team is given the opportunity to use a suite of tools. This article will show you how to apply some of these tools and methods, which include brainstorming, reversed brainstorming, the Lotus Blossom diagram, scamper, rapid prototyping, SWOT analysis, and task analysis grids.

5.3 Tools/Toolkits for Design Thinking

Source: WE THINQ, United Kingdom (date of information: 2017)
Link: 7 Tools for Design Thinking

Application/Key learning points: This blog points you to several great tools that will help you start your design thinking project. These tools/toolkits are used by renowned organisations such as IDEO, Google and Frog Design. Among the tools described are the Innovation Flowchart; the Question Ladder; the design thinking tool kit; the IDEO design kit; the Google ventures design sprint; and, the design thinking mix tapes.
5.4 d.school (Stanford Design School) Resource Library and Virtual Crash Course

Source: The Stanford d.school, United States (date of information: 2017)

Link: The d.school Resource Library
Link (Video): The d.school Virtual Crash Course

Application/Key learning points: Stanford is where the concept of design thinking all started. This is a superb collection of resources to get you started on your design journey. These include guides, challenges, ideation tools, inspirational reads, and frameworks. The 90-minute video challenges you to be a student and to learn what it takes to be a design thinker, the Stanford way. It is extremely fast-paced, so be prepared!

5.5 The Human-Centred Design Toolkit of IDEO

Source: IDEO, United States (date of information: 2015)

Link: The IDEO.org Design Kit

Application/Key learning points: IDEO.org is a non-profit design organisation that launched out of IDEO in 2011. This latest field guide is a comprehensive human-centred design (HCD) approach to help the poor and vulnerable. It comprises 57 design methods, worksheets, and case studies to show HCD in action. A simple one-minute sign up will allow you to download the field guide for free, and also get access to this world-renowned company’s resources.

5.6 Stakeholder Engagement Tools for Co-design

Source: Center for the Study of Social Policy, United States (date of information: 2013)

Download (PDF) Stakeholder Engagement Tools for Action

Application/Key learning points: While this Stakeholder Engagement Toolkit was developed by the Los Angeles Department of Children and Family Services, the concepts and materials are adaptable for any organisation seeking to co-design solutions. Page 11 provides an overview of the four levels of stakeholder participation: inform; consult; involve; and, collaborate and empower. This is useful in helping organisations decide the suitable level of engagement for its stakeholders. In addition, there is a self-reflection tool and a stakeholder engagement framework. The section on co-design will also be of interest.

5.7 UX Is the Future

Source: Co.Design, United States (date of information: 2014)

Link: Move over Product Design, UX Is the Future

Application/Key learning points: This is a short, interesting article that looks at innovation in the customer design process. It emphasises the need to map out and understand the customer journey and consider how it can be improved.

5.8 Quality Function Deployment: A Comprehensive Review

Source: Department of Management, University of Isfahan, Iran (date of information: 2008)

Download (PDF): Quality Function Deployment

Application/Key learning points: This paper examines the capacity of a customer-focused quality engineering technique called Quality Function Deployment (QFD). QFD is a useful tool for understanding customer needs and can be used as an input for design thinking. There is a comprehensive overview of QFD and its potential areas for improvement. Among the most significant areas for improvement are ambiguity in the voice of the customer; managing the house of quality; and, conflicts between customer requirements.
6. How is design thinking measured?

6.1 Design Thinking Assessment
Source: Henry Ford Learning Institute, United States (date of information: 2010)
Link: d.school Design Thinking Assessment

Application/Key learning points: The Henry Ford Learning Institute created this prototype detailed assessment to provide students with feedback on their progress in design challenges. Since design thinking is filled with emergent techniques, skills, and processes, some of the features of the assessment are formative, summative or a mixture of both.

6.2 The Journey Towards Becoming a Design Thinker
Source: Stanford University School of Education, United States (date of information: 2012)
Link & download: Assessing d.learning: Capturing the Journey of Becoming a Design Thinker

Application/Key learning points: This research explores the relationship between learning design thinking and assessing that progress. Learning a design thinking mindset is an emergent journey – one with varying levels of sophistication, transformation, application, and integration. The paper shows a useful rubric which help assess progress towards becoming a design thinker.

6.3 How to Measure the ROI of Design Thinking
Source: Azul Seven, United States (date of information: 2016)
Link: How to Measure the ROI of Design Thinking

Application/Key learning points: The article acknowledges the difficulty in measuring the impact of design thinking. It identifies the work of Stanford’s d.school (Design School) as being a sound exploration of the key drivers and their possible derived measures/perspectives for design thinking return on investment.

6.4 The Design Maturity Matrix and Design Value Map
Source: Design Management Institute, United States (date of information: 2015)
Link: The Value of Design

Application/Key learning points: The Design Management Institute has created a Design Value Index to measure the value of design in companies. This index is the result of intensive research and monitoring of several design-led companies. Two important components of the index are the Design Maturity Matrix and the Design Value Map. The matrix provides a simple mapping tool to measure the maturity of design in any organisation, while the map pinpoints the functional areas in which design adds value across four parameters: revenue; customer experience; organisational learning; and, process.

6.5 Design Maturity Survey: From Self-Assessment to Action
Source: Artefact Group, United States (date of information: 2017)
Link: Artefact’s Design Maturity Survey

Application/Key learning points: The Design Maturity Survey is a tool to help organisations evaluate their level of design maturity, gain insights, and devise strategies to strengthen the role and impact of design across the organisation. It is easy and quick to complete.
7. What do business leaders say about design thinking?

“Design thinking is a human-centred approach to innovation that draws from the designer’s toolkit to integrate the needs of people, the possibilities of technology, and the requirements for business success.”
—Tim Brown, president and CEO, IDEO

“Design thinking draws upon logic, imagination, intuition, and systemic reasoning, to explore possibilities of what could be, and to create desired outcomes that benefit the end user. A design mindset is not problem-focused, it’s solution focused, and action oriented. It involves both analysis and imagination.”
—Creativity at Work, 2014

“Most people make the mistake of thinking design is what it looks like. People think it’s this veneer – that the designers are handed this box and told, ‘Make it look good!’ That’s not what we think design is. It’s not just what it looks like and feels like. Design is how it works.”
—Steve Jobs, Apple

“Design is the action of bringing something new and desired into existence – a proactive stance that resolves or dissolves problematic situations by design. It is a compound of routine, adaptive and design expertise brought to bear on complex dynamic situations.”
—Harold Nelson, The Design Way

“Everything we have around us has been designed. Design ability is, in fact, one of the three fundamental dimensions of human intelligence. Design, science, and art form an ‘AND’ not an ‘OR’ relationship to create the incredible human cognitive ability.”
—Nigel Cross, Designerly Ways of Knowing

“Design-thinking firms stand apart in their willingness to engage in the task of continuously redesigning their business...to create advances in both innovation and efficiency—the combination that produces the most powerful competitive edge.”
—Roger Martin, author of the Design of Business

“In any world where you have a duopoly or more competitors, design thinking is a significant differentiator.”
—John Barratt, president and CEO of Teague, USA

“Design thinking is an approach that uses the designer’s sensibility and methods for problem solving to meet people’s needs in a technologically feasible and commercially viable way. In other words, design thinking is human-centred innovation.”
—Tim Brown, president and CEO of IDEO

Conclusion

This report outlines the best practices research undertaken by BPIR.com in the area of design thinking. The best practices have been compiled under seven main headings. This layout is designed to enable you to scan subjects that are of interest to you and your organisation, quickly assess their importance, and download relevant information for further study or to share with your colleagues.

Disclaimer: Recent information has been included in this report to ensure our readers are kept up to date with the latest research; where possible, permanent links have been provided. All links were live at the time of publishing. We apologise in advance for any broken links that might occur after publication due to matters beyond our control.
We hope you have enjoyed this latest BPIR.com Best Practice Report.

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