

Comparison between Design Thinking, Service Design and Lean as methodologies

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ABSTRACT

The latest years Design Thinking, Service Design and Lean been established as industry standards as projects methodologies. Design Thinking and Service Design have been established from designers and lean have arrived from the entrepreneurial domain. But have do they all compare to each other, do they have any similarities, and differences or could they be regarded as the same process?

KEYWORDS: Design Thinking, Service Design, Lean Methodology, TPD4505

1. INTRODUCTION

The aim of this paper is to look further into similarities and differences between the methodologies: Design Thinking, Service Design and Lean. And then concluded upon whether they could be regarded as the same process

This have led to the following research questions

1. Do the different methodologies states any prescriptive process or an outline for a process?
2. Do the methodologies follow an iterative cycle? And is there any difference in cycle speed?
3. If there is prescriptive or a process outline, how do they compare to each other?
4. Do the methodologies have a centeredness for the design? How do this relate to the methodology domain and wanted ending for the project?

5. Do the literature suggest any tools? If so, how do the stated tools compare between the methodologies?

2. BACKGROUND

This article was created as a result to the Design Theory course TPD4505. The reason for having this course was to get more theoretical insight into the chosen topic of the Design 9 – Specialization Project course TPD4500. For the Design 9 course, the topic “Design Processes and Methods bases on Modes of Design Reasoning” was chosen. In the same course it has been given insight to a project done by the design consultancy firm EGGs Design. This project was described by EGGs Design as a project with both UX design and Service Design. From a system development perspective, Lean Methodology have become an industry standard for software developers. It was therefor interesting to look more into differences and similarities between

Design Thinking, Service Design and Lean Methodology.

3. METHODS

To get insight to the topics the following books where chosen to the topics:

Design thinking:

- Design of Everyday Things, by Don Norman, chapter 6: Design Thinking (Norman, 2013, p. 217)
- The Field Guide to Human Centered Design (*The Field guide to human centered design*, 2015)

Service Design

- This is Service Design Thinking (Schneider, Stickdorn, Bisset, Andrews, & Lawrence, 2015)

Lean Methodology

- The Lean Startup, by Eric Ries (Ries, 2011)
- UX For Lean Startups, by Laura Klein (Klein, 2013)
- Running Lean, by Ash Maurya (Maurya, 2012)

The books where read in full, except for Design of Everyday Things, by Don Norman, where only chapter 6: Design Thinking was taken into consideration.

When important notices were stated by the books, this noted in a Table (see Table 1). The same notices were also looked for in the other books, to see if they stated something different on the same topic. If the books stated any tools this was also noted in the Table (Table 1.).

After the table was created, the rows were moved to create clusters, which then resulted in the research question stated in the introduction.

4. RESULTS

The findings resulted in Table 1. The findings for the different processes corresponding to the topics in the leftmost column, are listed under the column for each methodology. If nothing could be found in the given topics, it was left blank.

	Topics	Design Thinking	Service Design	Lean
1	Domain	Design (Norman, 2013, p. 217)	Design	Entrepreneurship (Ries, 2011, p. 3)
2	Centeredness	Human (Norman, 2013, p. 218)	User (Schneider et al., 2015, p. 34)	Customer (Klein, 2013, p. 23) User (Maurya, 2012, p. xx)
3	Project Goal	Solve the right problem (Norman, 2013, p. 217)		Create a successful and innovative product (Ries, 2011, p. 8)
4	Is the process prescriptive	YES (Norman, 2013, p. 221)	NO (Schneider et al., 2015, p. 125)	YES (Ries, 2011, p. 9)
5	Is the process described as an outline	YES, the Double-Diamond model of Design (Norman, 2013, p. 220)	YES, the Double-Diamond model of Design (Schneider et al., 2015, p. 127)	
6	Is the process iterative	YES (Norman, 2013, p. 222)	YES (Schneider et al., 2015, p. 122)	YES (Ries, 2011, p. 9)

7	Project start point	Initial problem is given "One of my rules in consulting is simple: Never solve the problem I am asked to solve" (Norman, 2013, p. 217)	"The very first step of service design process is to design the process itself, since the process ultimately depends on the context of the service being designed and thus varies from project to project" (Schneider et al., 2015, p. 125)	"We do customer interviews and research in order to develop a hypothesis about what a customer might want, and then we test that hypothesis in various ways to see if we were right, and we keep doing that every time we make a change to the product" (Maurya, 2012, p. xvii)
8	Stage 1	Observation (Norman, 2013, p. 222)	Exploration (Schneider et al., 2015, p. 126)	Build (Ries, 2011, p. 9)
9	Stage 2	Idea generation (Norman, 2013, p. 222)	Creation (Schneider et al., 2015, p. 126)	Measure (Ries, 2011, p. 9)
10	Stage 3	Prototyping (Norman, 2013, p. 222)	Reflection (Schneider et al., 2015, p. 126)	Learn (Ries, 2011, p. 9)
12	Stage 4	Testing (Norman, 2013, p. 222)	Implementation (Schneider et al., 2015, p. 126)	
12	Data Driven	YES (<i>The Field guide to human centered design</i> , 2015, p. 25)		YES (Maurya, 2012, p. xxii)
13	Toolkit	YES (<i>The Field guide to human centered design</i> , 2015, p. 12)	YES (Schneider et al., 2015, p. 148)	YES (Maurya, 2012, p. 52)

Table 1: Process comparison

	Tools	Design Thinking	Service Design	Lean
1	Interviews	YES (<i>The Field guide to human centered design</i> , 2015, p. 39)	YES (Schneider et al., 2015, p. 8)	YES (Klein, 2013, p. 54)
2	Idea Generation/ Brainstorming	YES (<i>The Field guide to human centered design</i> , 2015, p. 94)	YES (Schneider et al., 2015, p. 9)	YES (Klein, 2013, p. 23)
3	The five Whys	YES (Norman, 2013, p. 219)	YES (Schneider et al., 2015, p. 8)	YES (Klein, 2013, p. 191)
4	Storyboard	YES (<i>The Field guide to human centered design</i> , 2015, p. 113)	YES (Schneider et al., 2015, p. 9)	YES (Maurya, 2012, p. 69)
5	Prototype	YES (<i>The Field guide to human centered design</i> , 2015, p. 119)	YES (Schneider et al., 2015, p. 9)	YES (Klein, 2013, p. 96)
6	Agile Development	YES (Norman, 2013, p. 222)	YES (Schneider et al., 2015, p. 9)	YES, presented as "Continuous development" (Klein, 2013, p. 114)
7	Co-Creation	YES (<i>The Field guide to human centered design</i> , 2015, p. 109)	YES (Schneider et al., 2015, p. 9)	YES (Klein, 2013, p. 58)
8	Business/LEAN Model Canvas	(<i>The Field guide to human centered design</i> , 2015, p. 123)	YES (Schneider et al., 2015, p. 9)	YES (Klein, 2013, p. 5)

9	Service Blueprints	YES, presented as “Create Framework” (<i>The Field guide to human centered design</i> , 2015, p. 89)	YES (Schneider et al., 2015, p. 9)	
10	Service Roleplay	YES (<i>The Field guide to human centered design</i> , 2015, p. 118)	YES (Schneider et al., 2015, p. 9)	
11	Group Interview	YES (<i>The Field guide to human centered design</i> , 2015, p. 42)		YES, presented as “Focus Group” (Maurya, 2012, p. 22)
12	Minimum Viable Product	YES, presented as “Create a Concept” (<i>The Field guide to human centered design</i> , 2015, p. 108)		YES (Klein, 2013, p. 17)
13	High-Concept Pitch	YES (<i>The Field guide to human centered design</i> , 2015, p. 149)		YES (Klein, 2013, p. 31)
14	A/B Testing	YES, presented as “Monitor and Evaluate” (<i>The Field guide to human centered design</i> , 2015, p. 153)		YES (Ries, 2011, p. 137)
15	Determine What To Prototype	YES (<i>The Field guide to human centered design</i> , 2015, p. 101)		YES (Maurya, 2012, p. 72)
16	Mobile Ethnography		YES (Schneider et al., 2015, p. 8)	YES (Maurya, 2012, p. 8)
17	Personas		YES (Schneider et al., 2015, p. 9)	YES (Ries, 2011, p. 89)
18	Storytelling		YES (Schneider et al., 2015, p. 9)	YES (Klein, 2013, p. 86)
19	Frame your Design Challenge	YES (<i>The Field guide to human centered design</i> , 2015, p. 31)		
20	Create a Project Plan	YES (<i>The Field guide to human centered design</i> , 2015, p. 34)		
21	Build a Team	YES (<i>The Field guide to human centered design</i> , 2015, p. 35)		
22	Recruiting Tools	YES (<i>The Field guide to human centered design</i> , 2015, p. 36)		
23	Secondary Research	YES (<i>The Field guide to human centered design</i> , 2015, p. 37)		
24	Define Your Audience	YES (<i>The Field guide to human centered design</i> , 2015, p. 44)		
25	Conversation Starter	YES (<i>The Field guide to human centered design</i> , 2015, p. 45)		
26	Analogous Inspiration	YES (<i>The Field guide to human centered design</i> , 2015, p. 53)		
27	Extremes and Mainstreams	YES (<i>The Field guide to human centered design</i> , 2015, p. 49)		
28	Immersion	YES (<i>The Field guide to human centered design</i> , 2015, p. 52)		
29	Card Sort	YES (<i>The Field guide to human centered design</i> , 2015, p. 57)		
30	Peers Observing Peers	YES (<i>The Field guide to human centered design</i> , 2015, p. 60)		
31	Collage	YES (<i>The Field guide to human centered design</i> , 2015, p. 61)		
32	Guided Tour	YES (<i>The Field guide to human centered design</i> , 2015, p. 64)		
33	Drawing It	YES (<i>The Field guide to human centered design</i> , 2015, p. 65)		

34	Resource Flow	YES (<i>The Field guide to human centered design</i> , 2015, p. 67)		
35	Share Inspiration Stories	YES (<i>The Field guide to human centered design</i> , 2015, p. 78)		
36	Top Five	YES (<i>The Field guide to human centered design</i> , 2015, p. 79)		
37	Find Themes	YES (<i>The Field guide to human centered design</i> , 2015, p. 80)		
38	Create Insight Statement	YES (<i>The Field guide to human centered design</i> , 2015, p. 81)		
39	Explore Your Hunch	YES (<i>The Field guide to human centered design</i> , 2015, p. 84)		
40	How Might We	YES (<i>The Field guide to human centered design</i> , 2015, p. 85)		
41	Bundle Ideas	YES (<i>The Field guide to human centered design</i> , 2015, p. 97)		
42	Get Visual	YES (<i>The Field guide to human centered design</i> , 2015, p. 101)		
43	Mash-Up	YES (<i>The Field guide to human centered design</i> , 2015, p. 104)		
44	Design Principles	YES (<i>The Field guide to human centered design</i> , 2015, p. 105)		
45	Gut Check	YES (<i>The Field guide to human centered design</i> , 2015, p. 110)		
46	Get Feedback	YES (<i>The Field guide to human centered design</i> , 2015, p. 126)		
47	Live Prototyping	YES (<i>The Field guide to human centered design</i> , 2015, p. 135)		
48	Integrate Feedback and Iterate	YES (<i>The Field guide to human centered design</i> , 2015, p. 127)		
49	Roadmap	YES (<i>The Field guide to human centered design</i> , 2015, p. 136)		
50	Resource Assessment	YES (<i>The Field guide to human centered design</i> , 2015, p. 137)		
51	Build Partnership	YES (<i>The Field guide to human centered design</i> , 2015, p. 140)		
52	Ways To Grow Framework	YES (<i>The Field guide to human centered design</i> , 2015, p. 141)		
53	Staff Your Project	YES (<i>The Field guide to human centered design</i> , 2015, p. 144)		
54	Funding Strategy	YES (<i>The Field guide to human centered design</i> , 2015, p. 145)		
55	Pilot	YES (<i>The Field guide to human centered design</i> , 2015, p. 146)		
56	Define Success	YES (<i>The Field guide to human centered design</i> , 2015, p. 147)		
57	Sustainable Revenue	YES (<i>The Field guide to human centered design</i> , 2015, p. 152)		
58	Stakeholder maps		YES (Schneider et al., 2015, p. 8)	
59	service safaris		YES (Schneider et al., 2015, p. 8)	
60	shadowing		YES (Schneider et al., 2015, p. 8)	
61	Customer journey maps		YES (Schneider et al., 2015, p. 8)	
62	Cultural Probes		YES (Schneider et al., 2015, p. 8)	
63	A Day in the Life		YES (Schneider et al., 2015, p. 8)	

64	Expectational Maps		YES (Schneider et al., 2015, p. 8)	
65	What if		YES (Schneider et al., 2015, p. 9)	
66	Design Scenarios		YES (Schneider et al., 2015, p. 9)	
67	Desktop Walkthrough		YES (Schneider et al., 2015, p. 9)	
68	Service Staging		YES (Schneider et al., 2015, p. 9)	
69	Customer Lifecycle Maps		YES (Schneider et al., 2015, p. 9)	
70	Landing page			YES (Klein, 2013, p. 16)
71	Value Proposition			YES (Klein, 2013, p. 29)
72	Surveys			YES (Klein, 2013, p. 72)
73	Problem Ranking			YES (Klein, 2013, p. 87)
74	Product Analytics			YES (Klein, 2013, p. 121)
75	Kanban			YES (Klein, 2013, p. 147)
76	Sean Ellis Test			YES (Klein, 2013, p. 159)
77	Cohort Analysis			YES (Ries, 2011, p. 123)
78	Actionable Metrics			YES (Ries, 2011, p. 130)
79	User Stories			YES (Ries, 2011, p. 132)
80	Wizard of Oz			YES (Maurya, 2012, p. 22)
81	Product Stubs (Fake Doors)			YES (Maurya, 2012, p. 22)
82	Brain Imaging			YES (Maurya, 2012, p. 22)
83	Guerilla User Tests			YES (Maurya, 2012, p. 22)
84	Click Tests			YES (Maurya, 2012, p. 22)

Table 2: Tools Comparison

6. DISCUSSION

From the research questions, it has been found:

Research question 1.

From Table 1. Row 4 it has been found that Design thinking and Lean is a prescriptive methodology. Service Design on the other hand

states that it is not a prescriptive methodology. Even though Design thinking is described as a prescriptive methodology it also states that it follows the outline of the Double-Diamond model of design (Table 1, Row 5). From table 1, row 5 it has also been found that Service Design follows the outline of the Double-Diamond model of design, and that no outline have been described of the Lean Methodology.

Research question 2

From table 1, row 6 it is found that all, Design Thinking, Service Design and Lean are iterative methodologies.

Service Design on one hand does not say anything about the iteration speed. Design Thinking and Lean on the other hand states that they are data driven (Table 1, Row 12) and by that states that the iteration should happen fast.

Research question 3

From table 1, Row 8-12 They all have stated that they follows some stages in the process.

By comparing Design Thinking and Lean as iterative cycles, and by combining stage 2 and stage 3 in design thinking methodology, it is found that they describe the same iterative cycle. The only difference is that Design thinking separate the build phase in lean (Table 1, row 8) into Idea Generation and Prototyping (Table 1, row 9 and 10)

Service Design on the other hand describe the same iterative stages (Table 1, row 8-12) the only difference is that it allows to jump between the stages by not being prescriptive (Table 1, row 4)

Research question 4

By looking at Table 1, row 2 they are all different by the centeredness. Design thinking is human-centered, Service Design is user-centered and Lean could be looked on as both customer-centered and user-centered.

The reason for difference in the centeredness could be answered by they operate in different domains (Table 1, row1). Whereas Design Thinking and Service Design lies in the domain Design, lean on the other hand is Entrepreneurship (Table 1, row 1). And by that the project goal also differs (Table 1, row 3). Design thinking are focused on solving the right question (Norman, 2013, p. 217), Service Design is focused on Creating a successful and innovative product (Ries, 2011, p. 8), while in

Service Design the goal is something that has to be determined in the process as a tool (Table 2, row 56)

Research question 5

Design Thinking, Service Design and Lean all suggests a lot of tools (Table 2), they also all have the toolkit analogy to tools (Table 1, row 13). This also means that all the tools could be used by all methodologies, if it is found reasonable. On the other hand, if it not is mentioned in a specific methodology, it also might not be viable enough to be used. By that it was found necessary to look more in to the similarities and differences by the methodologies.

Despite the same look at tools they all suggests a lot of tools. From Table 2 row, 1-8 are the tools that are found to be common. This Cluster could be categorized as key activities to the iterative cycles.

From Table 2, row 9-10 is the found tool similarities of Design Thinking and Service Design. The only differences between those two is that they not are directly product related as a Lean methodology would liked it to be.

From Table 2, row 11-15 are the similar tools between Design Think and Lean. The main similarity in this cluster is that it is very product related. As in Service Design, the service itself is in focus.

From Table 2, row 16-18 are the similarities in tools between Service design an Lean. This three tools are: Mobile Ethnography, Personas and Storytelling. Which very much are related to human centered design.

From table 2, row 19-57 are the only tools described under Design Thinking. As a cluster they are tools that goes deeper into the inspiration and ideation than might be feasible for a Service Design project and a Lean project.

From Table 2, row 58-69 are the only tools described under Service Design. As a cluster they are all found to be very service related. And might be too service related for the product development of Design Thinking and Lean.

From Table 2, row 70-84 are the only tools described under Lean. As a cluster they could be described as very analytical relevant for quantitative data.

CONCLUSION

As a conclusion between Design Thinking, Service Design and Lean Methodology. It is found that they all are very like each other. The main difference lies not in the processes itself but the intention of the project, and through the intention of the project tools should be chosen to fit the wanted goal.

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