DESIGN THINKING VS. LEAN STARTUP: A COMPARISON OF TWO USER-DRIVEN INNOVATION STRATEGIES

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DESIGN THINKING VS. LEAN STARTUP:
A COMPARISON OF TWO USER-DRIVEN INNOVATION STRATEGIES

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This article analyzes two different strategies that both aim at creating innovative design or business concepts based on a user-centered approach: design thinking and lean startup. Both approaches involve customers, potential users, or other stakeholders into their development process. Although there are significant differences in both strategies, there are also several similarities in methodology and process design. This article compares process models for lean startup and design thinking and highlights the specific differences and similarities, based on a structured literature review. As a result specific modifications of both strategies are suggested. This article contributes to a better understanding of both—design thinking and lean startup, and it may help to improve either of the two strategies to foster innovative concepts.

Keywords: Design Thinking, Lean Startup, User-Driven Innovation

INTRODUCTION

Lean principles were developed in the early seventies by Toyota in Japan, called lean manufacturing, to optimize production processes (Womack, 2003). The idea of lean principles is to make the production process more efficient by reducing any sort of waste in the process—this could mean either the reduction of resources (human or material) or the elimination of needless or redundant activities or expenses, like the reduction of storage space. This strategy revolutionized production processes in the automotive industry. By now, lean principles have become also important for general management, and other disciplines like IT development, which make use of lean concepts but transfer them also to non-manufacturing contexts. One example is "lean startup" (Ries, 2011)—an innovation method for startup companies that claims that the most efficient innovation is the one for which there is an actual demand by the users. Or put in other words: the biggest waste is creating a product or service that nobody needs. This concept is highly relevant for any strategy or method that aims at creating innovations.

The term "lean startup" was developed in the IT industry for software startups, but is more and more commonly used also for other sorts of innovation projects in other disciplines (Ries, 2011). A startup is defined as "a human institution designed to create new products and services under conditions of extreme uncertainty" (Ries, 2011, p. 8). Therefore not all new companies are classified as a startup and on the other hand also an established

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department in a big company could be a startup. Lean startup evolved from the "customer development" method (Blank, 2006). The idea behind these methods is, that in addition to a process for "product development", a startup also needs a process for "customer development" to find and understand the customers. This leads to developing solutions based on a user-centered approach and adapting to customer needs. Within this article, we mainly use the term "lean startup" instead of "customer development", to highlight the lean aspects of the method. The aim of lean startup is to build a continuous feedback loop with customers during product development cycles (Maurya, 2012). It tries to test the core business assumptions early in the product development process, sometimes even before any product is built at all.

Another user-driven innovation strategy that has become more and more popular during the last decades is "design thinking". Based on designerly methods and principles, this strategy was developed by the design consultancy IDEO in the late 90s (Kelley & Littman, 2001). Although it is not referring to lean principles, the main idea behind it is similar: it tries to identify user needs in order to create appropriate solutions.

Similar to lean startup, design thinking is also focusing on users or customers. Based on a user-centered approach with multi-disciplinary teams, it aims at solving complex (wicked) problems (Buchanan, 1992; Rittel, 1972) and at generating innovative solutions. Design thinking makes use of extensive user research, feedback loops and iteration cycles. It is becoming more and more popular among business schools (e.g. the Rotman School of Management (Martin, 2009)), and it is applied in R&D departments of companies to foster innovation.

This paper provides a structured analysis and comparison of the two innovation strategies—lean startup and design thinking—with the goal to identify potentials to enrich either of the two by merging or adapting specific parts or aspects.

The article is structured as follows: The first section presents an extensive literature review that also provides short introductions of both, lean startup and design thinking, and which is then used as a basis for a comparison of the two strategies. The different characteristics are summarized in a structured framework, highlighting similarities, gaps, and differences in naming conventions of both strategies. In conclusion we suggest some modifications and intersections of the two processes, in order to reveal potential to enrich either of the two.

COMPARATIVE LITERATURE REVIEW

For re-engineering the two strategies, we analyze two types of data sources about lean startup and design thinking: 1) published literature and case studies, and 2) process models for the two different processes. We are aware that design thinking as well as lean startup are not just processes but consist also of tacit elements, like practices, experiences, specific mind-sets, and company cultures (Thoring & Müller, 2011a). These intangible elements are important and not everything in both methods can be made explicit and reduced to a process description. However, we think that a detailed comparison of the process steps is still useful to better understand both innovation approaches.

The insights from these two data sources, such as similarities and differences, are then summarized in a structured framework, which can be found in Table 1.

PUBLISHED LITERATURE AND CASE STUDIES
First, we analyze relevant literature and published case studies for both strategies (e.g. Blank (2006), Blank & Dorf (2012), Brown (2008), Brown (2009), Cooper & Vlaskovits (2010), Kelley & Littman (2001), Kelley & Littman (2005), Kolko (2011), Martin (2009),

Maurya (2012), Plattner, Meinel & Leifer (2011), Plattner, Meinel & Weinberg (2009), Ries (2011), Sims (2011), and Thoring & Müller (2011a, 2011b, 2011c)). The literature review reveals that the two communities of lean startup and design thinking do not interact and cite each other very often. They use similar methods and tools, but have developed different names for them. This reveals potential for learning from each other strategy.

ABSTRACT PROCESS MODELS

As the second step, we compare the two strategies based on process models. However, for both methods there is not one defined process model available. Moreover, the descriptions of the processes are often informal and there exist various versions of the process because of adjustments and further developments. Therefore we use different types of process models: We compare two abstract models—a design thinking process model by Plattner et al. (2009) and the "lean learning cycle" (Ries, 2011), see Figure 1. These abstracted models allow for the comparison of the two strategies on a meta level: the number of process steps, order, alignment, labeling, frequency, and direction of the different activities can be checked against each other.
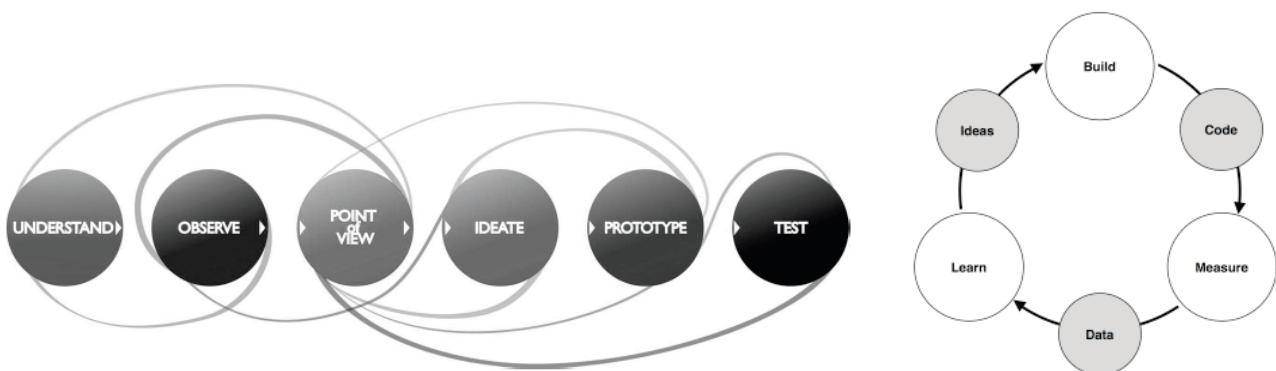

Figure 1: Comparison of abstracted process models for design thinking (left) and lean startup (right). (Plattner et al., 2009; Ries, 2011),

Both process models make use of six process steps. The most significant difference is that the lean learning cycle is arranged in a circular form, while the design thinking process is arranged in a linear way. This might suggest that design thinking should be executed in subsequent steps, while lean startup appears to be more flexible. Unlike the design thinking process, which begins with the "Understand" phase, the lean learning cycle has no clear beginning or ending—the circular alignment of the steps suggests that they are supposed to be executed in a continuous and repeatedly manner.

The goal of the build-measure-learn cycle is learning (Ries, 2011). What is built is based on a problem or solution hypothesis. The test of a hypothesis is therefore the intended learning step. For testing the hypothesis, appropriate metrics must be defined (measure step). For generating these metrics and then test the hypothesis, an experiment has to be designed (build step). Therefore the build-measure-learn cycle could also be regarded as a classical scientific hypothesis-metric-experiment cycle that starts with the learning goal (theory or hypothesis) and ends with an experiment (prototype) to test the hypothesis.

When comparing the individual steps of both processes, some interesting similarities become obvious: e.g. "learn" in lean startup could be interpreted as "understand" or as "point of view" in design thinking. "Build" in lean startup might be similar to "prototype" in design thinking. And "measure" in lean startup can either be "observe" or "test" in design thinking. This is in-line with the before-mentioned assumption that the lean learning cycle could start at any step of the process model.

And finally, the lean learning cycle might be applied to different levels of a project. On a meta-level, it could be applied to the entire process, and on a micro-level, it could be applied to specific details (like the color of a signup button). That means, it is possible to zoom into sub-processes and execute the lean learning cycle also for smaller design decisions. The design thinking process model, however, seems to be only applicable to the entire problem; not to specific sub-problems.

DETAILED PROCESS MODELS
In addition to these abstract process models, two more detailed process models along with the related process descriptions are compared: a process model for design thinking based on method engineering by Thoring and Müller (2011b), and a process model of lean startup by Cooper and Vlaskovits (2010), see Figures 2a and 2b. These detailed process models along with the descriptions provided by the respective authors allow for a content-related comparison of the two strategies: What is happening within each specific step, what kind of methods and tools are used, and what is the outcome of each step?
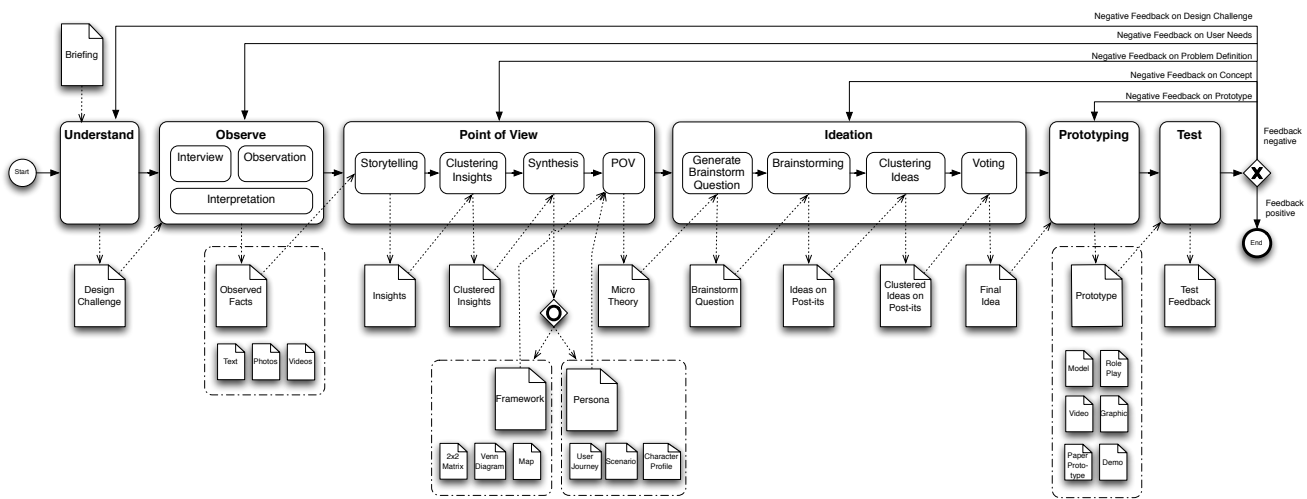

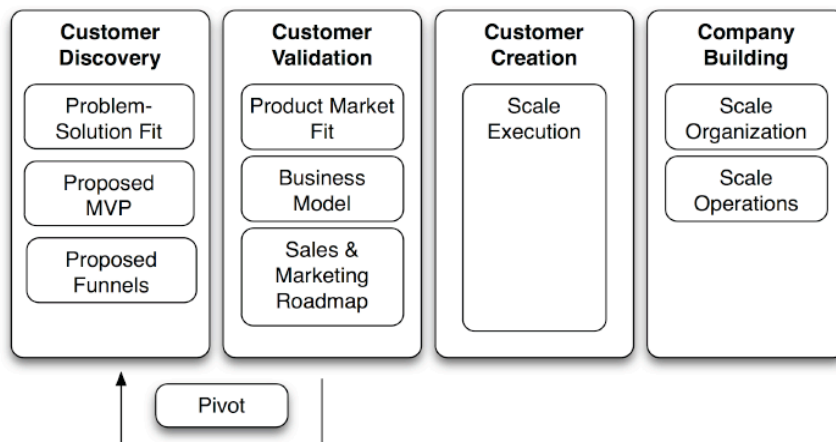Figure 2a. Detailed process model for design thinking (Thoring & Müller, 2011b).

Figure 2b. Detailed process model for lean startup (Cooper & Vlaskovits, 2010).

The model of the design thinking process (Figure 2a) describes the six steps of the process and the iteration loops that result from the last step 'test'. Notably about this process is that it does not start with an idea, but with a problem or a question, instead. Usually the ideas are developed within the process, in the fourth step 'ideation'. Before that, there is an extensive

focus on the research, where 'understand' means secondary research and 'observe' means user research. Here, design thinking makes use of research methods from other disciplines such as ethnographic methods and other qualitative methodology. The acquired knowledge is then condensed into a sort of micro-theory about the problem or the user needs, the 'point of view' (POV) that is afterwards used to develop solution concepts in the 'ideation' step. It is here where innovative ideas are developed that aim at solving that previously identified problem or address the users' needs. The selected idea is then visualized or built ('prototype') in order to test it and gather feedback from prospective users ('test'). According to the feedback the concept is iterated, by returning to one of the previous steps. See (Thoring & Müller, 2011b) for a more detailed description of the design thinking process.

Figure 2b shows a process model, adapted from the four steps of the "customer development" process. Lean startup is a trademark by Eric Ries and combines customer development with ideas of agile software development, lean management (Womack, 2003), and open source software (Ries, 2011). Since there is no explicit process model for lean startup, we refer to the customer development process, which consists of four steps: 'customer discovery', 'customer validation', 'customer creation', and 'company building' (Blank, 2006). In the customer discovery phase, the founders discover the appropriate customer group and market segment and validate if the product solves a problem for the customer group. This phase tries to find indications of a so-called 'problem-solution fit'. The goal is to discover a customer problem and to test if the problem is worth solving (Blank, 2006). Central to this is finding the minimal set of features for solving the core problem: the so-called Minimal Viable Product (MVP). An MVP "is that version of the product that enables a full turn of the build-measure-learn loop with minimum amount of effort […]" (Ries, 2011, p. 77). In early stages of the process, this can be tested and feedback of potential customers can be gathered with e.g. minimal landing pages, paper-prototypes, or early working prototypes. In the customer validation phase it will be checked if the market is saleable and large enough for a viable business (Cooper & Vlaskovits, 2010). The goal is to find some validation of a 'product-market fit' and to answer the question if the developed product is something that people want (Maurya, 2012). A product-market fit means that 1) the customer is willing to pay for the product, 2) there is an economically viable way to acquire customers, and 3) the market is large enough for the business (Cooper & Vlaskovits, 2010). After this step, the innovation is validated. The company creation phase is concerned with building a scalable business through a repeatable sales and marketing roadmap (Cooper & Vlaskovits, 2010). In the company building phase, departments and business processes are defined to support scale (Blank, 2006).

ANALYSIS

The following section presents a detailed comparison of both innovation strategies, based on the aforementioned data sources (related literature and case studies, and process models). Table 1 provides an overview and comparison of the important aspects in design thinking and lean startup. We compare the general goals and the specific focus of both methods, the approaches, methods, specific process steps, as well as the respective target groups. More detailed descriptions of the respective similarities and differences of both strategies are provided in the two following sections.

What	Design thinking	Lean Startup
Goal	Innovations	Innovations
Scope, Focus	General innovations	High-tech innovations for Startups
Approach	User-centered	Customer-oriented
Uncertainty	Solve wicked problems	Unclear customer problem
Testing	Fail early to succeed sooner	Pivoting is at the heart of the 'fail fast' concept. The sooner you realize a hypothesis is wrong, the faster you can update it and retest it.
Iteration	Yes ("Iteration")	Yes ("Pivoting")
Ideation	Ideation is part of the process, solutions are generated in the process	Ideation is not part of the process, product vision is initially provided by company founders
Qualitative Methods	Strong focus: elaborated ethnographic methods, user research, observations, etc.	Not a focus
Quantitative Methods	Not a focus	Strong focus: metric-based analysis; provides matrices, and testing
Business Model	Not a focus	Focus
Adaption of deployments	Not a focus	Five Whys Method
Typical Methods	Shadowing, Qualitative Interview, Paper Prototyping, Brainstorming (with specific rules), Synthesis, etc.	Qualitative Interview, Smoke Test, Paper Prototyping, Innovative Accounting, Split (A/B) Tests, Cohort Analysis, Funnel Metrics, Business Model Canvas, Five Whys, etc.
Hypothesis Testing	Not a focus	Focus
Prototype Testing	Yes	Yes
Rapid iteration	Yes	Yes
Target Group	Users (usually end users, sometimes other stakeholders)	Customers (distinguished between Users, Influencers, Recommenders, Economic Buyers, Decision Makers)

Table 1. Comparison of important aspects of design thinking and lean startup

SIMILARITIES

Innovation Focus: Both concepts have the same goal, which is to foster innovations. Hence, we first take a look at innovations in general. Other than an invention, an innovation is not only something new, but it also proves to be economically viable, technically feasible, and therefore it is successful in the market. Brown (2009, p. 19) describes three criteria for successful innovations. According to this, an idea must be desirable, viable, and feasible (see Figure 3). Many companies focus too much on the latter two—they start either with a new technological invention, or with a business model, but forget to consider the user's view. Many of these concepts fail, because the developed products do not solve an actual problem for the user. Those products are not desirable—nobody really needs or wants them, and hence nobody is going to buy them.
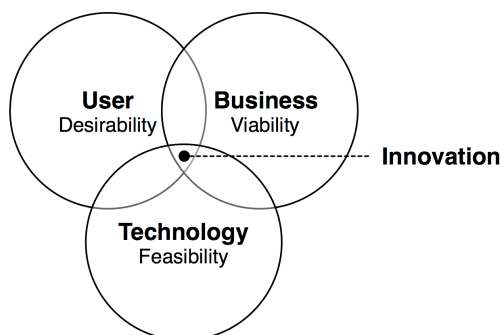

Figure 3.   Criteria for a Successful Innovation, adapted from Brown (2009)

User-centered Approach: Both, design thinking and lean startup, take the perspective of the users and other stakeholders into account and focus on extensive user testing in order to improve their respective concepts.

Test Prototypes: Both concepts try to gather user feedback in early stages of the process, in order not to waste lots of resources by building something that nobody wants. Rough prototypes (Buchenau & Suri, 2000; Coyette, Kieffer, & Vanderdonckt, 2007; Walker, Takayama, & Landay, 2002), which can be used for user testing, are a significant similarity of both strategies.

Rapid Iteration: For both strategies, the solution and the problem are quite unclear in the beginning. Both teams work under extreme uncertainty, and the developed prototypes undergo extensive iteration within the process. 'Fail early to succeed sooner' is the credo of design thinking, while lean startup describes the 'fail fast' concept. Both means, that the sooner you realize an idea is not working, the faster you can update it and retest it, which in fact saves time and money. Lean startup emphasizes the importance of small batch sizes to improve "the speed at which startup find validated learning" (Ries, 2011, p. 188).

DIFFERENCES

Scope: While lean startup is mainly targeting at startups, design thinking is seeking for innovations in general (that could then be turned into startups or be utilized somehow else).

Project Initiation: The initial business idea in lean startup is already there from the beginning. It is then tested to check its validity, and can therefore be changed considerably during the project. In design thinking, however, the project starts with a challenge, not with an idea. Typical for design thinking is the goal to solve a so-called wicked problem (Buchanan, 1992; Rittel, 1972), which means that the solution may be quite ambiguous. The problem is not defined until an extensive phase of user and secondary research has been conducted, and the ideas are then generated during the process.

User Research: Design thinking is focusing on extensive user research in the beginning of the project. For this inductive approach it makes use e.g. of ethnographic methods (Kelley & Littman, 2005). In lean startup, however, the use of qualitative research methods is not as elaborate. The project starts with a product vision of the founders.

Synthesis: Design thinking suggests several sophisticated methods for synthesizing insights from the user research (Kolko, 2011). Among these frameworks are 'Personas', '2-Axis Mappings', 'User Journeys', or 'Causal Maps'. They help to align the researched information in a qualitative way, in order to condense them into a so-called 'Point of View'—a kind of micro theory about the user needs, which determines the further direction of the process. Lean startup does not work with synthesis methods and/or qualitative frameworks.

Customers, Users, and Stakeholders: The name of the Customer Development method (which also applies to lean startup) already indicates one of its unique characteristics: To develop its own customers means to find out who might be the early adopters or lead users (Hippel, 1994; Lilien, Morrison, Searls, Sonnack, & Von Hippel, 2002), and what kind of problems they might have that could be solved by the suggested product. Unlike classical 'product development' which pretends to know the problem and searches for a (technical) solution to solve this problem, in Customer Development the customer problem that should be solved is not fixed but can be changed and discovered. However, the starting point in lean startup and Customer Development is normally a business idea. Also in design thinking there is no preconceived user problem. However, the process starts with extensive ethnographic user research before any ideas are generated. Lean startup and customer development distinguish between different types of customers ('users', 'influencers', 'recommenders', 'economic buyers', and 'decision makers') (Maurya, 2012) and market

types ('new markets', 'existing markets', and 're-segmented existing markets') (Blank, 2006). Design thinking only refers to 'users', which usually means 'end users' or sometimes 'stakeholders' and does not use any market typology.

Ideation: Design thinking makes extensive use of classical ideation techniques, borrowed from other creative disciplines, to generate ideas (for example brainstorming and brainwriting). Since lean startup usually starts with a business idea, no ideation techniques are explicitly applied.

Iteration/Pivoting: Both strategies identified the need to modify ideas or prototypes according to user feedback. 'Iteration' in design thinking starts usually after the 'testing' step, towards the end of the whole process, and is performed on the prototype. In lean startup, however, 'pivoting' could be applied much earlier. Even early hypotheses are tested, not only the prototyped idea. Therefore it is possible to determine whether a specific assumption about the problem or user need is correct or not, even before a prototype is created. This might save a lot of time, and resources. In design thinking it may happen, that this insight comes not until the end of the process so that the process has to start over from scratch.

Adaption of deployments: Lean startup has adapted the concept of the *andon* cord of the Toyota production system. In Toyota, the *andon* cord will stop the whole assembly line in case of a quality problem ("Stop the production so that the production never has to stop") (Ries, 2011, p. 227). The equivalent to the assembly line in software development is continuous deployment, which pushes code changes automatically into production. This reduces the cycle time and therefore increases the learning speed. However, even with unit tests that check for errors, unexpected problems might occur. For analyzing problems, lean startup promotes the "five whys" method (Ries, 2011, p. 229). It asks not only for a reason of a problem, but also for the reasons behind the reasons. Then proportionally investments in all these reasons are made. This will help to learn from mistakes and accelerate or decelerate the speed of new deployments.

Quantitative Evaluation: Lean startup is using metric-based evaluation techniques. There are several suggestions of how hypotheses can be tested in a quantitative way (e.g. evaluating the customer acquisition costs by minimal landing pages at a small scale), and there are checklists for product-market fit and MVP definitions (Blank, 2006). Ries (2011) presents "innovation accounting" to measure the progress in validated learning. He warns against "vanity metrics" and defines actionable metrics that are linked to the specific business models. He distinguishes between three "engines of growth" (viral, sticky, and paid) and suggests metrics for each of them. For the measurement of the effectiveness of design solutions often split-test experiments (A/B test) are used. For understanding the longitudinal effect of a design decision on the metrics, cohort-based analyses are suggested. Design thinking does not suggest such metric-based evaluation techniques.

Business Model: Lean startup makes use of Osterwalder's Business Model methodology (Osterwalder & Pigneur, 2010) that helps to systematically align stakeholders (partners, customers), value propositions, required resources, cost and revenue structure, channels, etc. for a startup business model. The business model elements of the canvas are considered as hypotheses that must be tested as early as possible (Blank & Dorf, 2012). Maurya suggests an adapted business model framework called 'lean canvas' (Maurya, 2012). Design thinking does not suggest such a focus on the business model of an idea.

Qualitative Evaluation: Design thinking uses elaborated qualitative evaluation techniques. Testing and user feedback are mainly gathered through qualitative interviews and ethnographic methods. Even though also in lean startup open interviews are used, there is not such a focus on qualitative data. Also the methods to conduct and evaluate these qualitative research methods are not as developed as in design thinking.

SUGGESTED MODIFICATIONS

The literature review revealed that, even though both communities have similar goals, they do not cite and refer much to each other. This shows an opportunity for learning from each other method. Each strategy has its specific target group. It is not suggested to interchange both strategies arbitrarily, since they both focus on specific requirements. If someone has already a business idea that he/she wants to bring on the market, then lean startup might be the right choice. Design thinking, on the other hand, is the better strategy if you are still looking for the right business idea for founding a company, or if the user problem is still very vague. Still, we believe that both strategies could benefit from each other, since they both involve specific features that the respective other strategy is not considering, but that might be helpful, though. To improve either of the two, the following adaptations are suggested:

POTENTIAL TO IMPROVE DESIGN THINKING

There is potential to improve the design thinking process by converging the two strategies in terms of the iteration. Pivoting as it is practiced in lean startup seems to be a promising opportunity to strengthen the design thinking process. This means to implement feedback testing and iteration loops earlier in the process, even before there is a prototype. This could happen for example after the Point of View or after Ideation. The testing of early problem hypotheses, that can be falsified or validated, might save time and resources, and could result in a better output of successful project results.

Moreover, it is suggested to implement metric-based evaluation techniques as they are commonly used in lean startup. For example, testing in design thinking is mostly performed qualitatively in the analyzed literature. Therefore, checklists or specific test environments that allow for quantitative measuring of user feedback (such as landing page design, smoke-test, etc.) should be implemented in the design thinking process.

Also, it is suggested to develop a business model in addition to the prototype, to validate the viability of the concept.

POTENTIAL TO IMPROVE LEAN STARTUP

Unlike design thinking, lean startup does not describe specifically how customer input could be collected. Qualitative research methods—e.g. ethnographic methods—could be applied to improve the definition of the targeted customers and to identify their needs and problems. Similarly, we suggest adapting the synthesis methods from design thinking. Structured frameworks or the generation of a qualitative persona might help lean startup to better understand and develop their customers and their respective needs and problems. Both should be scheduled at the beginning of the process.

Lean startup could also benefit from the use of ideation techniques, as they are applied in design thinking, to develop concept variations. Although lean startup usually starts with a concrete business idea, it might be helpful to use structured ideation methods to iterate that idea within the process, specifically before the problem-solution fit is achieved.

Consequently, pivoting should be applied earlier (already on the initial concept). And finally, qualitative feedback evaluation, such as qualitative user interviews, could be implemented in the pivoting steps, in addition to the metric-based evaluation techniques.

LEAN DESIGN THINKING

Based on the analysis of the two data sources (literature review and process model comparison), as well as on the before mentioned ideas to improve both strategies, a more radical merging of both processes suggests itself. As a consequence, we propose an interlaced process model that combines the main aspects of both innovation strategies, which we call "lean design thinking". This suggested adaptation of the two methods combines the most promising aspects of both strategies and addresses the identified gaps.

Figure 4 shows this model of lean design thinking, highlighting the respective aspects, adapted from the two original processes.

For example, the first steps of the design thinking process (understand, observe, point of view, ideation) are maintained, prototyping is merged with customer discovery from lean startup (adding aspects like business model generation or funnel proposition), and customer validation from lean startup are added to the end of the process. Testing should be executed after each step, instead of only once at the end of the process, as it is proposed in design thinking, and it should involve both—qualitative and metric testing methods.
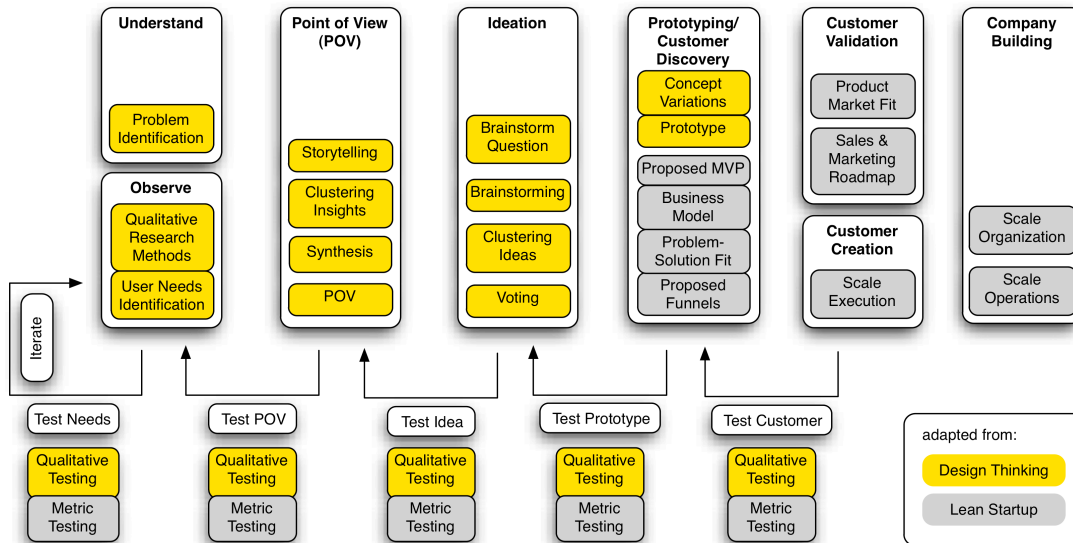

Figure 4. Suggested model of "lean design thinking": Adaption and merging of promising aspects of both innovation strategies.

Creativity and innovative processes can be understood using the evolutionary metaphor (Campbell, 1960; Thoring & Müller, 2011c). The creativity of evolutionary processes can be explained by the combination of generation (variation) and selection of ideas (Simonton, 1999). The previous analysis showed that design thinking has advantages in the generative step (ideation). Even though both processes emphasize the importance of testing, in lean startup the selection of ideas based on quantitative metrics is more rigorous. Because in innovation, generation and selection of ideas are both important, the interlaced "lean design thinking" process, which combines the strengths of both methods, seems promising.

DISCUSSION

The work presented in the article may contribute to a better understanding of both—design thinking and lean startup, and it may help entrepreneurs and intrapreneurs to utilize either of the two strategies for improving their innovation projects. Practitioners from both fields can use it as a source of inspiration to enrich their innovation strategies by adopting the identified relevant tools and methods of the respective other strategy. For entrepreneurs, innovators, and startups who may want to develop high-tech innovations, it provides a more complete view on innovation strategies in general. For researchers, this article provides an analytical deconstruction of both methods through method engineering, including a comparison, a mapping of both methods, and the identification of gaps, differences and intersections. Educators who may want to teach one of the two methods will also benefit from the detailed analysis. And finally, the article highlights the relevance of innovation strategies in general for management, business innovation, and user-centered design.

LIMITATIONS OF THE PAPER

We rely our analysis and suggestions mainly on the mentioned literature and published process models. This may not reflect the actual application of the respective processes in practice. It might be that e.g. qualitative ethnographic methods are already well established in lean startup, or that the business model is already addressed in design thinking projects, but since this is not yet explicitly defined in the respective process models and descriptions, these questions warrant further research. Also, we did not analyze the tacit elements of both strategies, such as specific mind-sets, team constellations, or company culture. The influence of such intangible aspects needs further research.

FUTURE WORK

The presented process model of "lean design thinking" is intended as a first step towards a better cooperation between the two communities of design thinking and lean startup, with the goal to adapt and merge interesting approaches of both strategies. Future work will include the application of the suggested process model in a case study, in order to validate its advantages over the separately applied individual processes, as well as structured interviews with practitioners from both communities to analyze the actual application of both methods in practice.

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