



InnoDev Workshop: A One Day Introduction to Combining Design Thinking, Lean Startup and Agile Software Development

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Agenda



1. Introduction
2. InnoDev
3. Research Setup
4. InnoDev Workshop
5. Workshop Experiences
6. Discussion and Limitations
7. Summary



User Interviews and Observations

Design Thinking

Personas

Brainstorming

Prototyping

Business Model Innovation

Lean Startup

MVP

AARRR Metrics

Customer Development

Product Owner

Agile

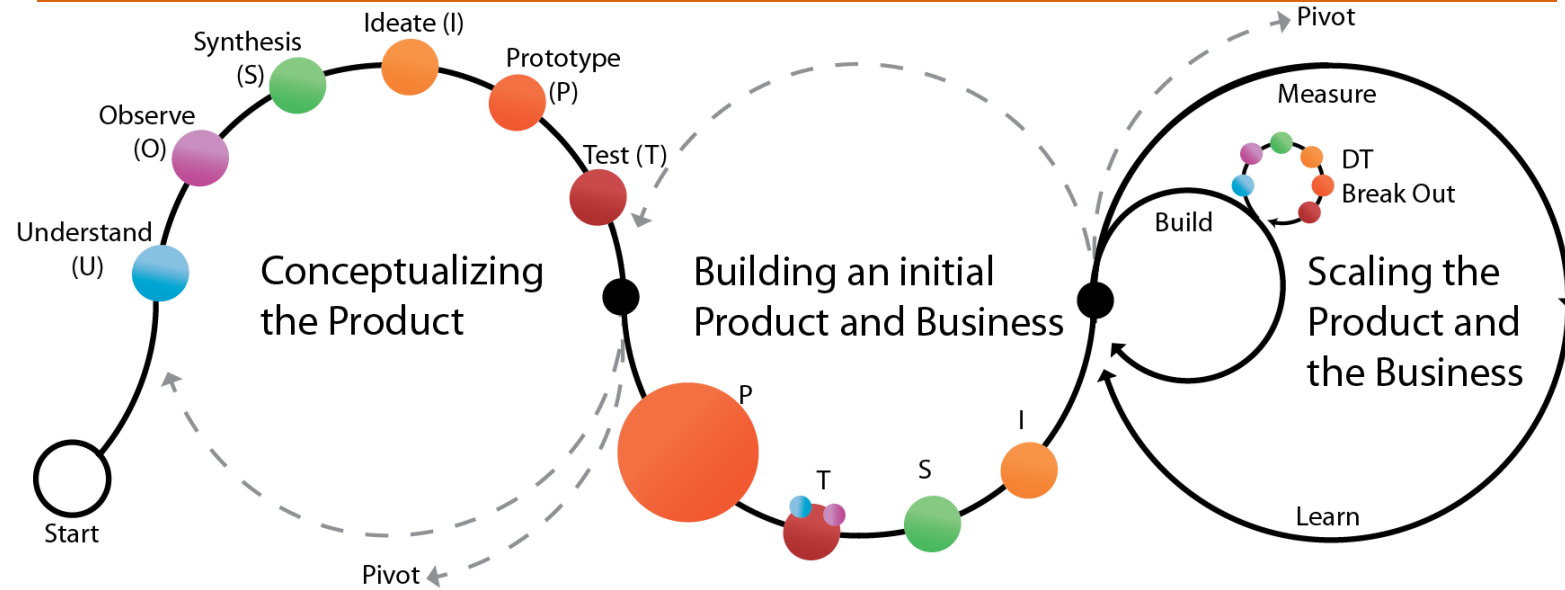
Scrum

Retrospectives

Kanban-Boards

eXtreme Programming

InnoDev



Design Thinking

Agile

Lean Startup

Chart 4

Research Setup



- Goal: Support IT professionals in learning how to intertwine Design Thinking, Scrum and Lean Startup and integrate them into their existing software development processes.

- 2-Parts:
 - Workshop Development
 - Workshop Evaluation

Research Setup - Workshop Development

- Training format should introduce the basics of Design Thinking, Scrum and Lean Startup and provide guidance on how to combine these approaches.

- The training was developed based on literature reviews of:
 - existing combined approaches to Design Thinking, agile software development and Lean Startup;
 - suggested important methods from each of the approaches;
 - and of existing research on training for software development practitioners.

Research Setup - Workshop Evaluation

- 3 Workshops with a total of 31 participants from 22 different companies.

- Mixed method research:
 - Observations
 - Collection of Artefacts
 - Group Interviews
 - Surveys

- One-day Workshop split into three “sprints”:
 - Sprint 1 represents the Conceptualize the Product Phase of the InnoDev Model.
 - Sprint 2 represents the Building an Initial Product and Business Phase of the InnoDev Model.
 - Sprint 3 represents the Scaling the Product and the Business Phase of the InnoDev Model.

Presentation Title

Speaker, Job
Description, Date if
needed
Chart **8**

InnoDev Workshop – Sprint 1



TABLE III
OVERVIEW OF ACTIVITIES, TECHNIQUES AND OUTCOMES FOR SPRINT 1

Activity	Tools & Techniques	Outcomes
Planning	Project and Sprint plan	Overview of what to do
Understand / Observe	Team Discussion	Collection of experiences from different team members
Synthesis	Needs, Insights, PoV, Persona	Defined Problem and user for which to find a solutions
Ideate	Silent Brainstorming with Mind map, followed by sharing and group brainstorming	One or more solution ideas
Prototype	low-fidelity prototype, e.g. paper UI, Storyboards	Tangible Idea and testable prototype
Test	Cross testing with other teams, Feedback Capture Grid	initial Feedback from "Users"
Review and Retro	Test Card Start, Stop Continue	experiment design for a quantitative test of the idea feedback on sprint, team and techniques

InnoDev Workshop – Sprint 2



TABLE IV
OVERVIEW OF ACTIVITIES, TECHNIQUES AND OUTCOMES FOR SPRINT 2

Activity	Tools & Techniques	Outcomes
Planning	Project and Sprint plan	Overview of what to do
Transition to development	User Story Mapping	most essential features as user stories ready for development
Business Model Creation	Lean Canvas	initial ideas how to market and sell the product
Business Model Validation	Test Card	experiment design how to validate business model assumptions
MVP Development	Team discussion	decision on must have functionalities
	High Fidelity Prototyping	MVP prototype
MVP release	Cross test with another team, Feedback Capture Grid	feedback to MVP
Establish metrics	AARRR	decision on what to measure and track after MVP release
Review and Retro	Speedboat metaphor	feedback on sprint, team and techniques

InnoDev Workshop – Sprint 3



TABLE V
OVERVIEW OF ACTIVITIES, TECHNIQUES AND OUTCOMES FOR SPRINT 3

Activity	Tools & Techniques	Outcomes
Planning	Project and Sprint plan	Overview of what to do
Improve existing features	team discussion	what to change in the next release based on feedback
Increment the product	high-fidelity prototype	testable prototype of a new feature
Validate product increment	cross-test with another team, Feedback Capture Grid	Feedback on the new feature
	Test Card	experiment design for a quantitative test of the new feature
Review and Retro	Peaks and Valleys Timeline	feedback on sprint, team and techniques

Workshop Experiences – Qualitative Results

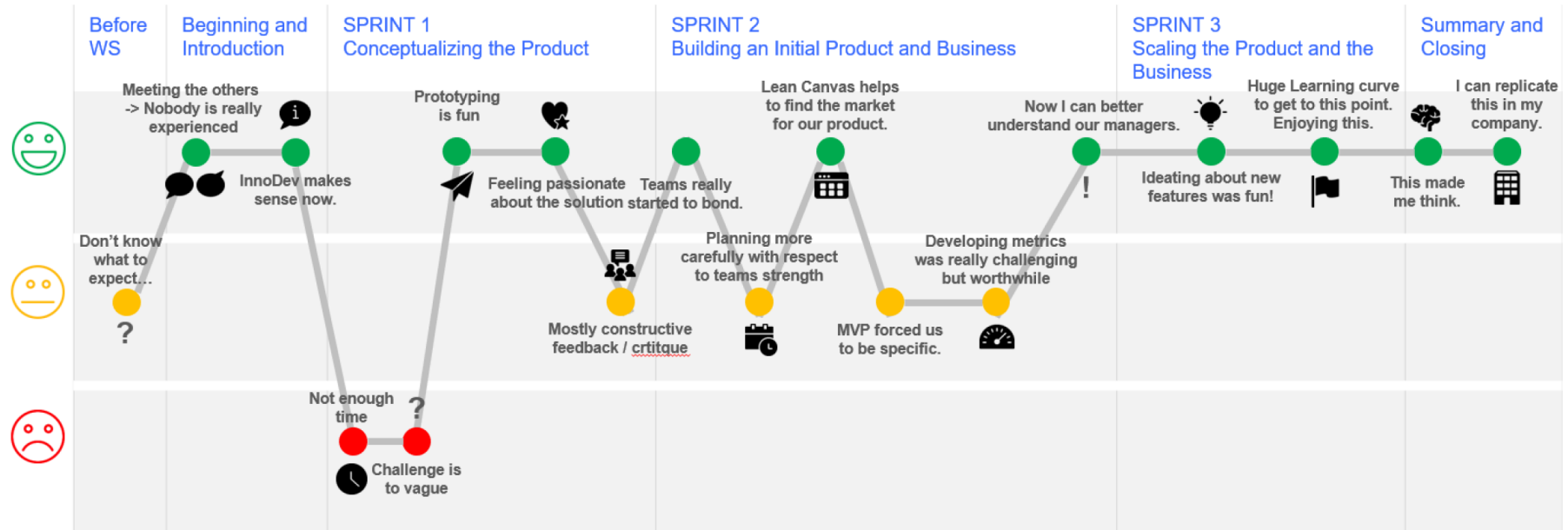
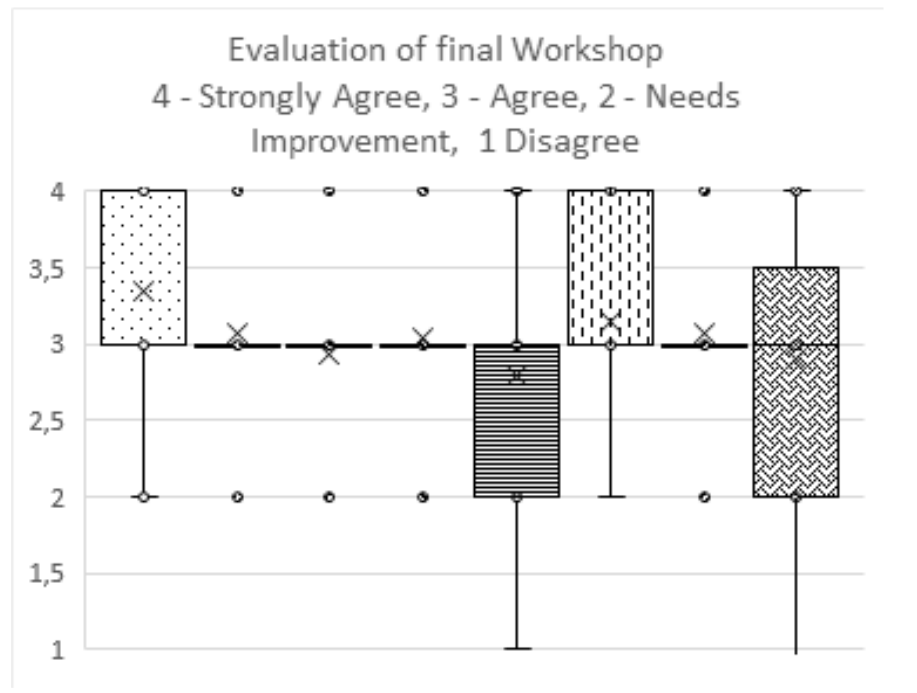










Fig. 1. Journey Map for Workshop Participants (based on a free template from <https://kerrybodine.com/product/journey-map-template/>)

Workshop Experiences – Survey Results



-  Utility: [InnoDev could be of value for software innovation in my company]
-  Consistence: [The phases described throughout InnoDev provide a clear guideline for my company.]
-  Completeness: [InnoDev address all of the key appropriate parts in software innovation for my company.]
-  Simplicity: [InnoDev is easy to understand]
-  Clarity: [It is clear how I could adopt InnoDev in my company]
-  Coherence: [InnoDev brings about focus on quality of being logical and consistent in software innovation.]
-  Instrumental: [The tools and techniques presented for each phase of the InnoDev Model could add value to our process]
-  Forecast: [InnoDev provides an approach to better calculate or estimate for future events in software innovation.]

Discussion and Limitations



- The materials and knowledge from this study provide researchers and practitioners with the opportunity to replicate the workshop in other companies.
- The techniques were easy to understand, pitched at the right level for the workshop format, and participants felt that they could contribute to the software development process within their companies.
- The presentation and the materials were mentioned positively as practical resources.

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Description, Date if
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Discussion and Limitations II

- Only 3 Workshops with a total of 31 participants from western culture.
 - Cultural and gender differences might have affected some of the findings of our study
 - Follow-up study to understand how participants use the new knowledge and the provided materials back at work
- One-day workshop
 - Time pressure was repeatedly mentioned (+ and -)
 - None of the participants suggested a longer running workshop.
 - One-day workshop seems sufficient to introduce the basic contents we aimed for.

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Summary



- We presented a one-day training workshop, that introduces the basics of Design Thinking, Scrum and Lean Startup and how these three approaches can be intertwined.
- Our results indicate:
 - a one-day training is a good means to introduce multidisciplinary and complex innovation approaches to software engineers, even though it is short and can only communicate basics.
- Overall, our research demonstrates how a one-day InnoDev training workshop can successfully spark interest in software innovation and train key concepts of different innovation approaches.

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Thank you
for your attention!

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Institute