Continuous Experimentation in the B2B Domain: A Case Study

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RCoSE 2015
Overview

- Problem and research goals
- Approach
- Findings
- Conclusion
- Future research
Problem

Digitalisation is greatly increasing the amount of software being produced. However, the return-on-investment of products and features is often unclear, and evaluation itself might be expensive.

- Missing knowledge on what customers value
- Development ideas based on guesswork
- Only generic methodologies available

80% of the time you/we are wrong about what a customer wants. -Avinash Kaushik, Ex Director of Web Research & Analytics, Intuit

Netflix considers 90% of what they do to be wrong. -Mike Moran, Senior Strategist at Converseon
Characteristics of Continuous Experimentation

- Guide the R&D process by constantly conducting experiments derived from the business strategy
- Test ideas with customers to drive the development process
- Fail fast
- Technical infrastructure that supports designing, executing and analysing experiments
Research goals

• RQ1: What are the B2B specific challenges of Continuous Experimentation?

• RQ2: How does Continuous Experimentation benefit the case company?

• RQ3: How can Continuous Experimentation be systematically introduced in the B2B domain?
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Approach

Case study analysis paired with literature review:
• A software company operating in the B2B domain, with two different products
• Semi-structured interviews with 2 teams and management working with the products
• Developers, managers, team leaders

Interview topics:
• Development process
• Deployment process
• Interaction with customers
• Properties of the software products
• Future ways with continuous experimentation

RQ1: Use interviews and available literature to map the first set of challenges

RQ2: Match benefits of the approach from literature to problems found in the case company

RQ3: Map the Fagerholm et al. model of Continuous Experimentation to the case company and identify deviations
Context

Medium-sized Finnish consulting and software company that specialises in customer data management.

Two mass-market software products with customisable features: Dialog and CDM.

- **Dialog**: a marketing automation
  - Extensive user interface
  - ~5 users per customer

- **CDM**: Master Data Management software
  - Integrated background application
  - No human users
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RQ1: What are the B2B specific challenges of Continuous Experimentation?

RQ1 findings organised to three areas: technical challenges, customer challenges and organizational challenges

- Not having a user interface limits the scope of experiments
- Low end-user volume limits the scope of experiments
- Data has to be collected from and stored in customer environments
- Experimentation infrastructure has to be implemented on top of a matured project
- Metrics that provide value need to be identified
- Product that is only usable via API calls has a limited scope of experiments

Continuous experimentation
RQ1: What are the B2B specific challenges of Continuous Experimentation?

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Feature alpha, usage metrics, usage behaviour tracking, participatory design, ..
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- Experimentation infrastructure has to be implemented on top of a matured project
- The end-users might be customers’ customers
- A pro-active lead customer is required to develop the experimentation process
- Customers have to be informed of major changes
- Proper legal agreements to collect usage behavior are needed
- The software has to be acceptance tested by customers before production release
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Continuous experimentation

Customer challenges

Technical challenges
RQ1: What are the B2B specific challenges of Continuous Experimentation?

Acceptance testing can become cumbersome if deployments are done often.

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Technical challenges

Continuous experimentation

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- Shorter feedback cycle
- Data-driven decisions
- Focus resources on features increasing value

- Low knowledge of how users are using the system
- Quantify business hypotheses and analytically derive answers

- Creating a culture of innovation within the organization
- Competence in experimentation is not high, and requires education
- Transitioning towards experimentation culture affects other teams, including sales

Customer challenges:
- Customers perform routine tasks that cannot be interrupted

Organizational challenges:
- Requirements by customers are prioritized over product development

Technical challenges:

Continuous experimentation
RQ3: How can Continuous Experimentation be systematically introduced in the B2B domain?

**Required steps for continuous experimentation**

- Finding a pro-active lead customer
- Implementing an infrastructure for experimentation
- Identifying metrics in the software products that increase the value for customer
- Investigating required legal agreements associated with data collection
- Educating employees to increase the competence in experimentation
- Allocating time and resources for product development
DESIGN
• Form an assumption from the business strategy
• Form a hypothesis based on the assumption
  • Define the type of the experiment
  • If running a controlled experiment, define an Overall Evaluation Criteria that can be collected and used to provide an answer to the hypothesis
• Implement the MVF or MVP
• Implement the instrumentation to collect the metric

Design -> Execute -> Analyse
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EXECUTE
+ Deploy the version to user acceptance testing environment
+ Perform acceptance testing in the user acceptance testing environment if necessary, and negotiate the production deployment
• Deploy the version to production environment
• Run the version for a period of time, and collect the data into a database

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ANALYSE
• Upload the data from the database and analyze it through the infrastructure
• Draw conclusions from the data to validate the hypothesis. Based on the validity of the initial assumption, make a decision whether to develop the new feature or product further, keep it as it is, or to cease it and revert back to the unmodified version.
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Conclusion

• Technical challenges are only one part of the challenges a company faces in this transition.

• Customers businesses have unique properties - due to the customisable nature of the products, experiments that provide value for a single customer might not provide as much value for another customer.

• The speed by which experiments with customers can be conducted is relative to the speed by which production deployments can be made.

• Moving towards continuous experimentation requires an organizational culture shift towards an experimental mindset.
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Future research

• How to build an effective back-end infrastructure for experimentation.

• Identify to what extent the core findings of this study can be generalised to other companies working in the B2B domain with different software products.
Reference of the article

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http://www.sserg.org/publications/uploads/2c5388fe73be6af84375b196c8d5b5d097464396.pdf