CUSTOMER COLLABORATION IN SOFTWARE PROJECTS

This briefing reports scientific evidence from a Rapid Review on the benefits, challenges, and strategies to establish fruitful customer collaboration in software development projects.

FINDINGS

All the findings presented in this briefing are a synthesis of results of 17 scientific studies. For instance: an analysis with two teams from a large company in Europe with presence in 11 countries; a study with small and medium companies in China; a survey with managers of 18 software projects of a medium-sized Norwegian company; a survey with 87 software engineers working in USA; a case study with 30 agile practitioners from 16 different organizations in New Zealand and India; a multiple-case study with 17 software companies, and 31 projects; a case study with two Nord-European software companies; a longitudinal case study with large global companies with teams in Ireland, USA, and India. For more details about those studies, look the "Primary Studies References" section on the bottom of this document.

BENEFITS OF CUSTOMER COLLABORATION

- It drives **agile behavior**;
- It permits an **evolutionary model of system design and deployment**;
- It leads to **greater productivity**;
- It leads **Customer satisfaction**;
- It increases **system quality**;
- It **reduces project costs**;
- It produces systems that **meet or exceed customer expected function**;
- It is associated with projects that experienced a **lesser magnitude of effort overruns**;
- It impacts on the **overall success of the requirements elicitation process**.

PROBLEMS DUE TO LOW CUSTOMER COLLABORATION

- Problems in **Gathering and Clarifying Requirements**
- Problems in **Prioritizing Requirements**
- Problems in **Securing Feedback**
- **Loss of Productivity**
- **Business Loss**

CHALLENGES TO ESTABLISH CUSTOMER COLLABORATION

Absence of repeatable patterns: Interactions with customers are highly situated, which hinder the possibility to define repeatable patterns and reuse in different projects.

The customer representative is rarely ideal: this affects the nature of customer collaboration and communication. For example: how much authority the customer has in making decisions; how much knowledge of the domain the customer has; where (geographically) the customer is located relative to the developers.

Skepticism and hype: some skeptic customers don't understand agile practices such as 'fail fast' and its intended benefits. A customer stated to

"Forget about fail early, we don't want to fail at all!" On the other extreme, customers treat agile as a buzzword and are eager to apply agile without fully understanding their own collaboration responsibilities.

Lack of time commitment: software teams realize that the customer representatives' operational job may sometimes take precedence over their involvement on agile projects. Customer representative's ability to devote time for collaboration is dependent on his/her boss.

Abundance of indirect links: the indirect links are customer surrogates. Indirect links are less desirable due to information filtering and distortion.

STRATEGIES TO ESTABLISH CUSTOMER COLLABORATION

- **Social events** with the customer;
- **On-site** customer;
- **Face to face** communication;
- Assure that the **roles of the customer are clear**;

Changing Priority: change priority of user stories that were awaiting customer clarification. Such stories are usually pushed further down into the product backlog.

Risk Assessment Up Front: allows the team to discover if the indicated level of customer involvement is a potential risk to the project. To overcome this problem it is necessary to negotiate with the customer for freeing up the customer representative's time.

Story Owners: The practice of assigning story owners is an adaptation to the Scrum practice of allocating a product owner. Story owners are responsible for particular stories (less than a week long), instead of all the stories in the product backlog. Having multiple story owners means no one person from customer's side is expected to be continuously available.

Customer Proxy: Some agile teams use a customer proxy — a member of the development team coordinating with the customers — to secure requirements and feedback.

Just Demos: Despite customer's reluctance or inability to attend other meetings, almost all customers are interested to attend demonstrations (demos) as it gave them an opportunity to see new software's functionalities. Thus, they are opportunities to discuss features and receive feedback.

E-Collaboration: it is a popular mean of regularly communicating with customers using video/voice conferencing, phone, email and chat. Teams used web-conferencing and chats to conduct stand-up meetings and demos over the web.

Extreme Undercover: In an effort to avoid extreme consequences of lack of customer involvement such as business loss, teams chose to follow agile practices internally at the team level while keeping the customer unaware.

PRIMARY STUDIES REFERENCES:
http://bit.ly/2shck4O