# experimentation for business-to-business mission critical systems: a case study

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INTRODUCTON:

Business-to-Business is a situation where one business make a commercial transaction with another for example one business connected to many business, it`s type of marketing strategy another example, in the telecommunication domain, mobile networks are continuously evolving to support new user equipment (such as consumer electronics, medical equipment, payment and navigation systems) and to improve the quality of the delivered service to their customer and final users.

Large-scale web-facing companies (such as Google, Amazon, Microsoft, Netflix among others) continuously reporting success stories and the competitive advantage the continuous experimentation (CE). Introduction of (CE) in a business to business (B2B) context [14, 21, 22], no publications explore or discuss the industrial usage of experimentation on business to business mission critical systems.

A mission critical system is a system that is essential to the survival of a business or organization. The work refers to mission-critical system as in the presence of the failure or degradation in the system can lead to lead to property damage, as well as the main task to be fully success (to achieve a particular goal) HURRIER(High valued software through continuous experimentation) we describe the process as a set of generic activities organize in main areas implemented the organization as well as the customer.

**METHODOLOGY:**

The purpose of this methodology is to understanding of the continuous experimentation process, when it is applied in mission-critical functionalities in business to business domain. We allow the researcher to study about the case study and understand the phenomenon of the mission-critical and B2B system. There are five steps for a case study as are follow.

1. Case study design: the objectives are defined and the study is planned
2. Preparation for data collection: procedures and protocols for data collection are define
3. Collecting evidence: execution with the data collection on the study case
4. Analysis of the collected data
5. Reporting of the result

**CASE COMPANY**:

This research was conducted at Ericsson AB, which is a multinational networking and telecommunications company that develops, produces and sells telecommunication equipment, services, software and infrastructure to telecommunication operators in both mobile and fixed broadband. Experiments in Ericsson are used in a large number of use cases ranging from innovation and new feature development to legacy assurance and performance optimization.

**DATA COLLECTION**: The data collected in this case study consists of a mix of different data sources, including transcripts of semi-structured interviews, notes from meetings, emails, documentation and presentations. He was involved in several of the project meetings and was also responsible for the selection of the interviews for this study. We utilized a combination of criterion sampling with convenience sampling, where we interviewed the practitioners who were knowledgeable and accepted to participate in this study.

**DATA ANALYSIS**:

All data collected described previously were added to the qualitative analysis software NVivo, where a thematic coding analysis was utilized, according to the six-phase process.

1. The phase consists of familiarizing with the data.
2. The phase, we generated the first set of codes, representing interesting concepts and ideas captured in the interviews or discussed in the additional documents.
3. The phase, we discussed potential themes for the identified codes.
4. The phase, we reviewed the potential themes and merged similar codes when possible and classified them as part of the theme-groups: experimentation activities, B2B challenges, mission-critical challenges, perceived advantages, customer involvement, etc.
5. The phase, we analyzed each theme individually, generating the main results and discussion points to answer each research question.
6. The last phase consists of this publication, where the results are presented and the research questions explicitly answered in the discussion.

**HURRIER PROCESS:**

The HURRIER process was identified and formulated based on the current experimentation practices of different teams inside Ericsson. is used in its entirety or just a subset of its activities depending on the scope and area of the development project. The process is composed of a set of generic activities that can be organized in four main areas around two feedback channels. The areas are:

1. The R&D organization, is responsible for the development of the feature or change that is going to be deployed.
2. The internal validation, consists of quality assurance activities.
3. Single customer validation, provides software with enough quality and verification to be deployed in the field.
4. Multiple customer validation, If the field experiments with the first customer already provide enough coverage and confidence in the solution, in terms of quality or value, the R&D organization can decide to mark the feature for general availability (GA) which means that the feature has the adequate quality and therefore ready to be deployed by any customer.

**CONCLUSION:**

In collaboration with Ericsson, we conducted a case study to understand how to CE can be used in the B2B domain, and investigate how this process can be used with mission-critical features. This process describes the deployment of experiments within the B2B domain and also takes into account considerations for running experiments with mission-critical features.