

AIRCOM project: Optimization on the civil aeronautics' procedures for emergency calls: Critical Success Factors and Prototype Design.

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Introduction

Arturo Merino Benítez Airport (AMB airport) is the largest aviation facility and the busiest international airport in Chile. AMB airport is located among the most modern and efficient in America and involves a complex organizational work environment with multicultural, multilingual and multidisciplinary aspects as well as technical factors which influence overall work efficiency [1]. The AIRCOM project emerged from the need to optimize the emergency call response procedures (ECRP) at AMB airport [2, 3].

Proposed Solution

This project focusses on the analysis of ECRP through a user-centred Sociotechnical System (STS) approach to propose a technical solution and define critical success factors (CSF) as causal effects on the success of optimization. The STS approach of ECRP is considering (1) the technical issue: medical and civil aeronautics emergency protocols, available communication channels and technology; and (2) the social issue: a multidisciplinary, multicultural and multilingual environment. Based on the requirements and the CSF identified, a functional prototype was developed.

Methodology

Following the STS approach, Dynamic System Development Method (DSDM) techniques such as Key informant interviews, group interviews, brainstorm sessions and requirements workshops were performed. A qualitative analysis of workflows, information flows between stakeholders and hierarchical relations was performed and CSF derived. Prototype development was then based on these requirements.

Main objective

Develop a prototype and define critical success factors revealed by the Sociotechnical System approach for the optimization of the civil aeronautics procedures for emergency calls in the context of the AIRCOM project.

Objectives

1. Analyse the national- and international state of the art of procedures, protocols and existing solutions regarding the emergency call response protocols using a STS approach.
2. Develop a functional prototype, using an iterative and human centred development approach.
3. Define Critical Success Factors and possible Key Performance Indicators.

Expected Results and *Outlooks*

Based on the process model analysis CSF as an integrated communication system that allows availability of critical data for primary and secondary use and possible KPI as the time needed to response to the emergency were established. A prototype was developed and could be an adequate tool to measure the impact dealt to the success factors. Through a change in the choreography of human-computer interactions in ECRP, technology may be able to increase efficiency significantly. More research is needed to find out the impacts on quantitative variables as KPI, user satisfaction and usability.

REFERENCES

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- 3 Chandra A, Conry S. In-flight Medical Emergencies. *West J Emerg Med* 2013;14(5):499–504.