

Attitudes of public bus drivers towards technology integration in the dashboard design

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Abstract

Integration of technological features, such as navigation and information displays, automation of manual controls and digitalization of displays, into the public bus can be promising in terms of providing solutions for the critical contextual problems of bus drivers, such as undesired interactions with passengers and increased cognitive workload caused by the necessity of checking time frequently for complying with the schedule. However, if these systems are not accepted by bus drivers, the solutions they provide become useless and they may even constitute critical threats for safety. Therefore, in this paper the aim is to investigate bus drivers' views towards technology integration in the bus, to provide technological functions, which correspond better to their needs. To achieve this aim, (1) drivers' attitudes towards general technology, (2) their attitudes towards current technology integration in the bus dashboard, and (3) degree of involvement with the current technological products were questioned with a structured questionnaire that was delivered to 30 respondents in interview format. The paper outlines the findings of the study by describing bus drivers' attitudes towards technology, identifying design features that lead to perception of technology in the dashboard, and making associations between the drivers' characteristics and their attitudes towards technology integration.

Introduction

Due to stressors which exist in the work environment of the bus driver, such as heavy traffic conditions, inflexible time schedules, interaction with passengers and crowdedness, etc., both cognitive and physical workload dramatically increase. In order to reduce the impact of these stressors, apart from the organizational improvements, workspace of the bus driver should be properly designed (Grosbrink & Mahr, 1998, Tse et al., 2006). The problem is attempted to solve by integrating technological equipments in the cabin design, e.g. navigation and information systems, which are designed to reduce the workload of the driver by providing information about conditions of the bus, the route, passenger load, etc. However integration of technological systems may ease the driver's tasks, if it can be successfully used by the driver. He should accept these systems, in order to utilize them and engage with them, while carrying out his tasks.

In D. de Waard, J. Godthelp, F.L. Kooi, and K.A. Brookhuis (Eds.) (2009). *Human Factors, Security and Safety* (pp. 317 - 329). Maastricht, the Netherlands: Shaker Publishing.