

# Driver attitudes towards advanced driver assistance systems – a cross-cultural study

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## Abstract

Over the last years active safety has become an increasingly important factor within the automotive industry. Active safety systems, also known as Advanced Driver Assistance Systems (ADAS), have the function of actively assisting the driver in avoiding accidents by providing information about current and upcoming traffic situations and helping the driver take proper actions before a potential accident occurs. In this paper, differences and similarities in attitude towards three different ADAS were investigated. A set of three focus group discussions were conducted with Swedish, US American, and Chinese participants. The analysis of subjective data showed differences between the three groups regarding attitudes towards system feasibility, information presentation and need for system adjustability. Results also showed that factors such as driving conditions, infrastructure, and traffic regulations all seemed to influence the hypothesised usefulness of the different systems.

## Introduction

Although our roads are more congested now than ever, the number of people killed or seriously injured in Western countries has decreased by 50 percent since 1980. Much of this progress is done thanks to improved crumple zones, airbags, seat belt tensioners and other passive safety technologies (Curtis, 2004). However, even with these improvements a large amount of fatal injuries still occur across the world every day. Therefore, Advanced Driver Assistance Systems (ADAS) have become a growingly important factor when further developing the area of traffic safety. Today there are only a few ADAS available on the market but new systems are continuously introduced by car manufacturers' world wide. One of the major challenges is to integrate these systems in order to make them work optimally together with the driver. Research concerning system sensitivity, alarm signals and alarm modalities is therefore of vital importance. Besides these factors, Trivedi et al. (2001) points out the importance of considering cultural differences in order to improve safety of upcoming generations of automobiles. This means developing systems optimally suited for different types of drivers in different situations. It is hypothesised in this paper that there, besides individual physical and cognitive differences, also are cross-cultural differences in attitude towards ADAS concerning usage, system sensitivity

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