CONSUMER BEHAVIOUR PERSPECTIVES ON DIFFERENT ECALL PRODUCTS INSTALLED ON VARIOUS CAR BRANDS IN THE CONTEXT OF A EUROPEAN HARMONISED ECALL SERVICE IMPLEMENTATION

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ABSTRACT:
THE ARTICLE AIMS TO CAPTURE THE INDUSTRY'S AND CONSUMERS' OPINIONS ON ALREADY INSTALLED EMERGENCY CALL SYSTEMS ON VEHICLES. THE IMPORTANCE OF THE STUDIED TOPIC IS GIVEN BY THE FACT THAT AFTER MARCH 31ST, 2018, ACCORDING TO THE EU REGULATIONS, ALL NEW AUTOMOBILES WILL HAVE THE ECALL SYSTEM INSTALLED ON BOARD. CONSIDERING THAT INNOVATION IS NOT ALWAYS EASILY EMBRACED BY THE LARGE PUBLIC, A THOROUGH RESEARCH ON WHAT CONSUMERS THINK AND EXPECT FROM SUCH A SYSTEM IS VITAL FOR A SMOOTH ACCEPTANCE. SLOVENIA IS THE FIRST EU COUNTRY TO IMPLEMENT THE ECALL SYSTEM, BUT THERE ARE AUTOMOBILE PRODUCERS THAT HAVE ALREADY EQUIPPED THEIR VEHICLES WITH IDENTICAL OR SIMILAR TECHNOLOGIES, MANUFACTURERS LIKE BMW, MERCEDES-BENZ AND AUDI BEING SUITABLE EXAMPLES IN THIS REGARD. WHAT`S THE PUBLIC OPINION ON ECALL? HOW WELL WERE THE EMERGENCY CALL SYSTEMS RECEIVED BY CONSUMERS? IS THE EMERGENCY CALL SERVICE A DIFFERENTIATION ELEMENT FOR A CONSUMER WHEN CHOOSING A BRAND OR A GENERAL PUBLIC SERVICE FOR INCREASING ROAD SAFETY? IS THERE ANY COMMERCIAL INTEREST IN USING THE ECALL SERVICES? THESE ARE QUESTIONS THAT WILL SEEK ANSWERS IN THIS ARTICLE. BASED ON THE FINDINGS RECOMMENDATIONS ARE MADE.

KEY WORDS: ECALL, CONSUMER BEHAVIOUR, CONSUMER RESEARCH, MARKET RESEARCH, EU REGULATION.

INTRODUCTION

Considering the imminent implementation of IHero in Europe in 2018, the present paper aims to probe into the existing information on car accident alarm systems used by car manufacturers as well as pros and cons coming from drivers about these systems

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The authors performed a comprehensive secondary data research on existing sources pertaining to the automotive industry on one side and to the drivers (consumers) on the other side about the current car accident alarm systems as well as the behavior of drivers about these systems.

Since, 2004 when the EU started to grow interest in developing ways of reducing car crash fatalities (Carutasu, 2016), both the academic world and the business joined hands to develop, test and implement the new idea. The need is huge due to the fact that, worldwide more than 1.3 million people die because of road traffic accidents, and between 20 and 50 million are being injured and disabled each year[4]. Projects like I_HeERO (I_HeERO, 2017), in which 14 EU States Members and 1 associated are working together to analyze the feasibility and to ease the implementation of eCall service[5], are the ones that facilitate the information to the large public, because the acceptance on innovation is not always an easy path. Introducing a new technology will not affect only the industry and the individual users[6] but also might raise issues on personal privacy[7]. The privacy issues are highly researched[8] because of the fact that they have significant implications in the implementation of public policy, government regulations, business environment, internet of things and so on. The implications are coming from the fact that consumers' primary concern in this fast developing technological environment is for their personal privacy[9]. So, the question is how to best implement such a technology in order to be fully functional and also largely accepted by the consumers. In order to accomplish the two perspectives a thorough research on the already implemented solutions by different car producers and the publics` opinion on them will be performed to uncover whether there is a common path that can be widely accepted by both parts, and in correlation with the EU legislation.

THE NEED

The need for implementing such a system is huge due to the high number of road accident fatalities each year. Even if the EU is one of the most safe regions with only 50 road fatalities per one million inhabitants, against 174 deaths per million globally[10].

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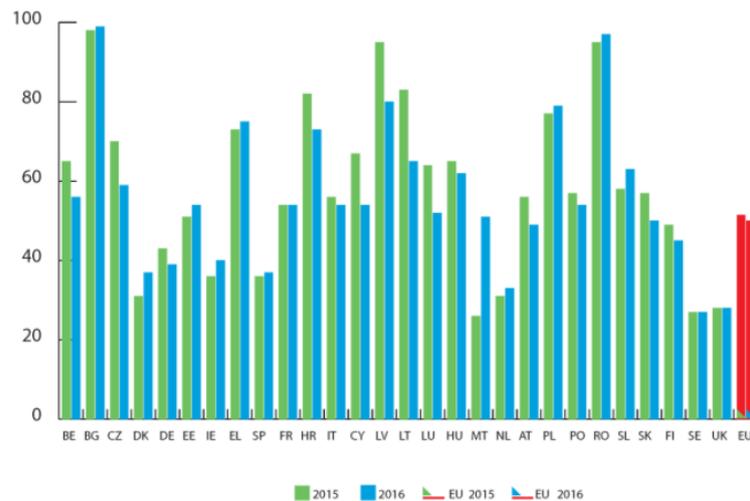
Fig. 1: Fatalities per million inhabitants by country - 2015 and 2016
(source: European Commission - Fact Sheet, 2016)

As seen in Fig. 1, there are countries that perform better than others but for the first time, for two years in a row, all the EU countries registered numbers under 100 deaths per million.

The EU average is lower than 30% of the global average due to the interest the EU is showing to this domain, by reviewing and monitoring of existing legislation, involving innovative technologies which have a huge road safety potential, and also financing studies and projects dedicated to further improving the knowledge on serious road injuries[11].

FIRST STEPS – FIRST ISSUES

The first European country that introduced the eCall system is Slovenia[12], which introduced the system in December 2015. The Slovenian solution is based on an Iskratel product SI3000 eCall Node.

Croatia is another country that is showing high interest in introducing the system, Marijan Rimac, the head of technical assistance at the Croatia Auto Club, is saying: "*The basic idea is to save human lives. It is estimated that the implementation of the eCall could save at least 2.000 lives a year in Europe and dramatically reduce the consequences of injuries,"[13]* but he is also concerned about the possibility of violating people's right to privacy if the measure is not properly implemented.

There are studies[14] that suggest that privacy concern regarding personal data or location identification can affect their subsequent consumer behavior, and companies

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should learn that harmful consequences can occur when sensitive location or personal information is revealed without users' consent[15].

To satisfy the users' need for privacy, the regulations require that the In-Vehicle System (IVS) remain dormant until a serious accident happens[16], also for more assurance no tracking or transitions will take place during normal activity, and the amount of data transmitted will be kept at minimum required.

THE PRODUCERS

Companies that already implemented the system also take their own safety measures to ensure the privacy requirements of their customers.

Mercedes-Benz[17] has implemented a system called Emergency Call System that is capable, due to the sensors mounted on the car's key points, to detect serious accidents and establish a voice call to the Mercedes-Benz emergency response center, sending them, details such as GPS position, direction of travel, time of the emergency call and the preferred language, or in the scenario of a lighter accident the driver can trigger the call by pushing an emergency button situated in the roof control panel or the SOS READY indicator on the telephone screen.

BMW has a more evolved system which was implemented starting with 2016 also on motorcycles, that has a three step system[18]. First the system is automatically triggered, in case of a very serious collision facilitating the possibility of communication until help arrives. Second, it triggers automatically, but if the sensors established that the collision is not very serious, the driver has a 25-second window to cancel the call, and third the driver can trigger the SOS signal by pushing the distress button. This system gives more liberty to drivers to determine if they really need help, making it more easily accepted by the end consumer.

Under the name of "My Audi cares for me"[19], the producer is introducing, alongside with other facilities, driver assistance and safety systems, allowing the car to execute a piloted emergency stop and place an emergency call via the eCall system.

Giving the fact that from 2018 the system will be mandatory other producers, like Volkswagen[20], Toyota[21] or Honda[22], are introducing the system prior to 2018.

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THE CUSTOMERS

Another dimension to be researched is regarding the customers' opinion on the eCall car systems.

A study[23] conducted in 2003 proved that this kind of system, if implemented, can prevent around 3.6% of the road fatalities that were investigated, and the percent can increase if the emergency call is made within 5 minutes after the accident. The percent can increase up to 10 percent of the fatalities in motor crash accidents[24], given the fact that most of the time this kind of accidents is with single victims, influencing significantly the delay in which the accident is reported.

Another study[25] shows that more than 55% of the respondents are putting safety issues the first when choosing a new car.

And yet the costumers' perception is not the expected one. A research[26] shows that out of 418 people that were involved in car accidents, in France, only one considered eCall systems as being vital, 2 persons as being urgent, 11 call it useful, and 404 say that it is unnecessary.

But the perception on cars' eCall systems tends to be different among drivers as regarding to the intelligent systems[27] mounted on the vehicles. More than 50% of the respondents put the eCall system on the third place among the most important intelligent safety systems, being surpassed only by the ABS and ESP systems.

The mixed fillings about this kind of system are due to the fact that sending private info without the drivers' consent is an ongoing discussion. Even if the data is sent for the safety of the motorists, the benefits of that action are not quite accepted as they actually are, but are seen as a way of monitoring one's actions without his/her consent. In theory, the systems' benefits are understood and accepted as they should be but in real life having some device mounted on the car that can provide to third parties real time location is perceived as an uncomfortable device. This is why, even if the benefits are quite clear and the system is nominated as one of the cars' important intelligent systems, yet the necessity of introducing it on all cars is seen as unnecessary.

Showing the advantages of using such a technology alongside with the safety benefits, the fact that the system is responding to a real need, understanding the complex network of sensors that ensure the correct decision, the fact that the system already exist on different car models and was tested on various markets, and the proven fact that it can actually save lives, are the key factors[28] that communicated correctly can ensure a smooth and wide acceptance of eCall systems.

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CONLUSIONS

Even the need to introduce such a system is high, some issues must be solved prior to its EU introduction. Some questions must be answered for ensuring an easy acceptance of such a system, because of the privacy issues that orbit around it. Which is the best way to introduce such a system in order to maximize the acceptance rate? Should an intermediary evaluate the emergency of the event first, like in Mercedes-Benz's system, or should it be transmitted directly to the unique emergency call center? In case of an event, should the system be the one to evaluate the damage and make the call or should the people involved have the opportunity of making the final decision, like BMW's three steps system? What strategy is more reliable and easier to be accepted by the consumers? Giving the fact that the article is a secondary data research, a more reliable means of answering these questions would be a direct research. A mix between a qualitative research, focus groups, and a quantitative research, survey, would be the next step in determining the best way to deal with these issues. These can be considered both as recommendations as well as future research plans for the authors. Seeking the answers directly from the consumers would provide the optimal solutions to the acceptance problems.

Another strategy in easing the way to acceptance is to communicate the benefits of such a system. A mix between traditional communication and innovative communication is advisable. Both official institutional communication and drivers' testimonials are adequate, the former growing the confidence and reliability in such a system and the later lowering the concerns about the privacy issues and also increasing the benefits of such a system.

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