Would Saudis drive Hybrid vehicles? An application of Theory of Planned Behavior

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Abstract

Many countries instituted policies to promote Hybrid Electric Vehicles' (HEV) adoption. Yet, many of these countries still did not achieve what policy makers wanted to achieve. It is not an easy task for HEV to challenge the dominant Internal Combustion Engine (ICE) vehicles even for consumers in countries with high fuel prices such as UK and USA.

Oil abundant countries have its reasons too to promote HEV, but how can such countries succeed in doing so with low fuel prices? For example, Saudi Arabia subsidize vehicle's fuel generously. At the same time, the country recently proposed a Corporate Average Fuel Economy standard (CAFÉ) as part of an ambitious national plan to reduce fuel's consumption. Almost all vehicle owners in Saudi Arabia drive Gasoline ICE vehicles. This research effort meant to assess the behavior change of choosing to adopt HEV over ICE in Saudi Arabia. This research objective has been achieved by applying the Theory of Planned Behavior (TPB) through analyzing more than 800 questionnaire responses to identify factors that might facilitate the behavior change from adopting ICE to HEV. The results indicate that attitude, subjective norm and perceived behavioral control are all significant in explaining the intention to adopt HEV. Moreover, subjective norm is found to have more than twice the effect of attitude and perceived behavioral control on adopting HEV.

Keywords (12 font)
Theory of Planned Behavior, hybrid electric vehicles, alternative fuel vehicles, efficient vehicles, Saudi Arabia

Biography

Khalid Alzahrani is an assistant professor in the mechanical engineering department at Albaha University, Saudi Arabia. He earned B.S. in Industrial Systems Engineering and Operations Research from King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia, Masters in Manufacturing Engineering, Masters of Business Administration and PhD in Manufacturing Engineering from Worcester Polytechnic Institute, Massachusetts, USA. Dr. Khalid has worked in different industries, including: oil and gas for Saudi Aramco in Saudi Arabia, industrial construction for SNC LAVALIN in Canada, and in management consulting for Oliver Wyman in United Arab Emirates. He is a certified project management professional (PMP) from PMI, Lean Six Sigma green belt from Saudi Aramco, and interim cost consultant (ICC) from AACEI.