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Abstract Template

Paper title: Choice factors in the adoption of alternative fuels and new technology vehicles: results from a pilot survey (REVISED)

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Abstract (300 words maximum):

Current transformations in vehicle technologies and fuels accelerated by concerns around rising petrol prices, pollution and climate change issues seem to lead to two potential outcomes. One is the technological ideal of a hydrogen fuelled vehicle fleet and the other is a fleet still powered by internal combustion engines with either conventional drive trains or hybrid drive with intervening battery and electric motor. Already available fuels such as LPG, biodiesel and ethanol, as well as advances such as biobutanol (a superior replacement for ethanol) seem to be favouring the internal combustion engine, in the medium term at least, until hydrogen becomes a viable alternative. However, unfamiliarity with the alternative technologies seems to create an inertia effect preventing the move away from the traditional petrol driven motor. In Australia, the most common alternative fuel is liquefied petroleum gas (LPG), used mainly by taxis but the uptake of LPG vehicles by private motorists has been limited despite the demonstrable savings.

This paper presents results from an early pilot study administered on a small sample of students at The University of Western Australia (UWA) in October 2005. The aim is to assess the influence of various choice factors in the decision to purchase a new vehicle: type and size of vehicle, type of fuel, operating cost, vehicle purchase price, and cargo space within a discrete choice model framework. The model also accounts for individual characteristics and latent lifestyle and belief factors.

Preliminary results confirm the a priori hypotheses regarding the negative impact of fuel price and vehicle price. The pilot allowed us to identify design problems and provided suggestions towards further improvements or changes in the survey instrument: clearer presentation of information, use of pictures, and increasing the number of scenarios provided to each respondent.