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Implementing a behavioural pilot survey for the stage-based study of the whole journey traveller experience

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Abstract

The European project METPEX aims to develop an evaluation tool for the whole journey experience from the passenger viewpoint. A pilot survey has been implemented to help identify what kind of information should be collected to this effect. Five categories of variables were identified and tested: individual attributes, contextual variables, attitudes, travel experience and satisfaction aspects. Administering the pilot survey resulted in a total of 554 interviews in eight different European cities. The gained experience was supplemented by consultation with 45 different stakeholders that reviewed the tool. Potentialities and shortcomings that emerged from these assessment activities are discussed.

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1. Introduction

Subjective determinants of mobility choices are increasingly being investigated to characterize the demand for transport and therefore to set up more effective analytical tools to support transport policies. Disaggregate behavioural demand models, representing the state of the art in transport modelling, are mostly based on the random utility theory. Their development has led to the analysis of related issues such as the effect of personal characteristics and individual taste variations (Ortúzar and Willumsen, 2011). However, recent research is focusing on the identification, operationalization, measurement and assessment of a wide range of self-related factors that are

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grounded in different behavioural theories and that have a deep influence on travel behaviours. These include preferences, opinions, attitudes and perceptions (Kuppam et al., 1999; Diana, 2008), intentions and motivations (Steg et al., 2001), social values and behavioural norms (Van Vugt et al., 1995), affective-symbolic motives (Jakobsson-Bergstad et al., 2011), perceived responsibility and control, emotional states, habits (Schlich and Axhausen, 2003), lifestyles, personality traits (Vredin Johansson et al., 2006), identities (Murtagh et al., 2012), and situational factors such as health conditions, well-being (Friman et al., 2013).

Beyond these promising avenues for research in mobility behaviours, a related trend in contemporary transport research is to contextualize travel as a part of individual daily lives, and to acknowledge that traditional planning methods which focus exclusively on travel itself mostly fail to fully explain observed mobility behaviours. The increase of activity-based approaches can be seen as a paradigm shift that is substantially improving the state of the art in the modelling domain (Ortúzar and Willumsen, 2011). However, there are also other analytical activities in the transport sector beyond demand modelling, which would benefit from a similar enrichment of their theoretical perspectives and enlargement of their study object. In particular, different stakeholders (service operators, planning agencies, policy makers, user groups etc.) are for example likely to be interested in efficiency, effectiveness and quality evaluations and in benchmarking activities.

The European project METPEX (A MEasurement Tool to determine the quality of the Passenger EXperience, www.metpex.eu), co-financed within the 7th Framework Programme, has among its objectives to empower this type of broader perspective in travel-related evaluation activities. The key concept that is being used to carry out research activities within METPEX is the notion of traveller experience (METPEX, 2013a), defined in the next section. Mobility phenomena that are particularly addressed by the project involve the use of either public and demand responsive transport or active (walk, bicycle) modes, along with needs of special user groups, including minorities, disabled, the elderly and travellers with dependents.

Specially tailored data collection activities are being designed to fully support the above mentioned holistic analytical perspective of the project. However, it is impossible to incorporate all the hundreds of variables and factors of concern in measuring the existing levels of service and in stakeholder's planning guidance. Therefore as a first step, a travel survey pilot has been implemented to help identify what kind of information should be collected to sufficiently characterize the different phases of the traveller experience. The focus on the whole journey experience thus represents the first distinguishing characteristic of our data collection effort. In addition, the inclusion of questions targeted to special user groups within a survey that is designed for the general public is an additional feature of the METPEX approach. The third innovative aspect is related to the collection of self-related information (attitudes, perceptions etc.) at the stage rather than at the trip level. Finally, the variable selection process needs to consider that several different survey instruments are envisaged for this project, namely a self-administered online questionnaire, a face-to-face interview, a web application and a game for smartphones and tablets, along with focus groups specific traveller profiles. The issues here was also to understand if a stage-based collection of self-related information can be achieved through self-administered questionnaires of if assisted interviews are needed given the complexity of the task.

The goal of this paper is therefore to describe the METPEX pilot survey and the related experimental framework, to present its innovative features and to discuss those outcomes that drove the consortium in the design of the final survey instrument. Beyond the feedback from the pilot survey implementation, its questionnaire was also reviewed by many stakeholders that assessed the utility of the different questions from their perspective.

In the next following section, a brief discussion of the notion of travel experience and the formulation of the experiment framework and variables selection are described. The survey design is discussed and followed by brief descriptions of the result outcomes and the stakeholders' feedback on the survey implemented.

2. The notion of traveller experience

The *traveller experience* is a generalization of the more customary "study objects" in transport-related models and evaluation exercises, usually represented by trips, eventually broken down into stages. According to current definitions (Axhausen, 2007), "a *stage* [or a trip leg] is a continuous movement with one mode of transport, respectively one vehicle. It includes any pure waiting (idle) times immediately before or during that movement" and "a *trip* is a continuous sequence of stages between two activities".