



An empirical model for the psychology of deliberate and unintentional fare evasion



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ABSTRACT

Fare evasion is a major source of revenue loss for public transport systems worldwide. In difficult economic times, it is more important than ever for public transport systems to reduce revenue loss through fare evasion to better target income and service supply to available budgets. This paper reports the results of a major project seeking to reduce fare evasion by better understanding the psychological factors causing evasion. The focus of the research is Melbourne Australia where some \$Aust55M/€35Mp.a. (average 2005–2011) is lost through fare evasion representing 11.6% of ridership (in May 2012). The major aim of the research is to identify, using empirical, research the factors influencing passengers to either deliberately or unintentionally fare evade.

A web-based survey was administered to residents of Melbourne, Australia with a total sample size of 1561. The questionnaire was introduced as a survey about transit travel and ticketing but included questions about various aspects of fare evasion behaviour. The research developed a new framework for fare evasion psychology based on the concept of ‘Consumer Misbehaviour’ and the Theory of Planned Behaviour to explain intention to fare evade as a function of attitudes, norms, perceived control, “servicescape” perceptions and personality factors. The framework is tested using Structural Equation Modelling

Two statistically significant models were developed to explain ‘deliberate’ and ‘unintentional’ fare evasion. The ‘deliberate’ evasion model showed that honesty attributes, perceived ease of evasion and permissive attitudes to evasion were the key explanatory factors. For ‘unintentional’ evasion, honest and permissive attitudes were also significant however ‘ticketing competence’ was also influential.

The paper explores how the findings are to be used to reduce evasion rates including areas for future research. The research has been applied by authorities to considerably reduce fare evasion rates in Melbourne, Australia.

1. Introduction

Fare evasion has been one of many concerns for recent transit policy as budget constraints put pressure on financial deficits. However almost all studies of fare evasion have illustrated significant problems with objectively measuring of levels of fare evasion (Lee, 2011; Reddy et al., 2011; Larwin and Koprowski, 2012). What studies there have been have also tended to focus on people who have been caught fare evading, on fare evasion as a share of ridership and on types of behaviours which are used to avoid fare payment (Multisystems INC et al., 2002; Lee, 2011; Reddy et al., 2011; Larwin and Koprowski, 2012). Fare evasion behaviours are rarely (if ever) seen from the point of view of the motivations of and influences on riders. Yet it is these

factors which act to create behaviours leading to revenue loss through fare evasion.

This paper reports the results of a major project seeking to reduce fare evasion by better understanding the psychological factors motivating people to fare evade. The focus of the research is Melbourne, Australia where some \$55 M/€35Mp.a. (Average 2005–2011, Victorian Auditor Generals Office, 2012) is lost through fare evasion representing 11.6% of ridership in May 2012. The major aim of the research is to identify, using empirical research, the factors influencing passengers to either deliberately or unintentionally fare evade.¹

This paper is structured as follows. The next section outlines the limited research literature relevant to motivations and influences on fare evasion behaviours. A conceptual model for how fare evasion

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might be influenced by attitudes and the context of fare evasion is then presented. A description of the research methodology then follows followed by an outline of key results. The paper concludes with a discussion of implications for revenue protection practices. Future areas for research in this field are also presented.

2. Research context

The research literature on fare evasion is limited and of the little published research available focusses almost exclusively on either the methods that authorities use to protect revenue loss from fare evasion (e.g. Lee, 2011; Reddy et al., 2011) or the impact of ticketing system design on fare evasion rates (e.g. Dauby and Kovacs, 2006). More open, honour-based or proof of payment ticketing systems (such as adopted on many light rail systems) are known to have higher fare evasion rates compared to controlled or fully staffed systems (such as metros with turnstiles); higher inspection rates also tend to reduce fare evasion (Kooreman, 1993; Dauby and Kovacs, 2006; Lee, 2011).

Research on fare evasion tends to make two basic assumptions about rider attitudes regarding fare evasion: one, that fare evasion includes any circumstance where someone should have paid but didn't, and two, that fare evaders do this deliberately. However, almost no published research explores these assumptions from the perspective of public transport users. What behaviours do public transport users consider to be fare evasion? Is all fare evasion deliberate, and what motivates some people to fare evade?

One of the few published journal papers on fare evasion attitudes is a French ethnographic study of ticket inspectors; Suquet (2010) found that ticket inspectors classified fare evaders into six categories:

- People who cannot afford the fare
- Gamblers who know they're unlikely to get caught
- Ideological opponents who challenge the legitimacy of inspectors
- Dissatisfied clients who use fare evasion as a protest against poor service
- Cheats who pretend to comply but do not pay the fine they are given
- People who don't understand the ticketing system.

Although these six categories highlight that fare evasion is likely to be motivated by a variety of factors, they were created from ticket inspectors who have a very specific perspective. It is quite likely that public transport users would have a very different perspective on fare evasion. However this paper was also notable in openly acknowledging that 'offenders' do not necessarily consider themselves fare evaders.

2.1. Fare evasion as consumer misbehaviour

Because so little transport-based research has been conducted on attitudes toward fare evasion, a wider search was conducted on the 'consumer misbehaviour' literature sourced from criminology based disciplines. Fare evasion, like minor theft, can be seen to be a form of consumer misbehaviour, or 'behavioural acts by consumers which violate the generally accepted norms of conduct in consumption situations' (Fullerton and Punj, 1997, p. 336). The literature on consumer misbehaviour could provide a framework for studying fare evasion attitudes and behaviours.

Surveys suggest that consumer misbehaviour is quite common; for example a survey in the UK found that 30% of respondents admitted to consumer misbehaviour in a hospitality setting, such as complaining without genuine cause, knowingly stealing or vandalising property or using facilities without intending to pay (Reynolds and Harris, 2009). Consumer misbehaviour can be classified into three types (Daunt and Harris, 2011b):

- Petty norm infringement: failing to inform of a mistake in their favour; making complaints without genuine cause

- Felonious norm infringement: non-violent criminal acts such as theft, failure to pay for services or rudeness to employees
- Belligerent norm infringement: intentional damage and aggression toward employees

Fare evasion would be considered a form of 'felonious norm infringement'. Felonious infringements are more likely to occur where customer satisfaction is somewhat low and vulnerability (i.e., the opportunity to infringe) is moderate (Daunt and Harris, 2011b).

Many other factors have been found to influence whether or not someone will commit a form of consumer misbehaviour. The Theory of Planned Behaviour has shown that intention to shoplift can be predicted by attitudes, subjective norms (perception of social pressures) and perceived control (how easy or difficult performing the behaviour is seen to be) (Tonglet, 2006). Personality factors such as honesty, sensation-seeking and aggression can also predict some aspects of consumer misbehaviour (Daunt and Harris, 2011a). And finally, aspects of the 'servicescape' can also impact consumer misbehaviour; the servicescape refers to both the physical design of infrastructure used by consumers as well as the customer-staff interactions. Past research has identified strong links between negative perceptions of servicescape, customer dissatisfaction and consumer misbehaviour (Daunt and Harris, 2011b).

2.2. A conceptual model of fare evasion

Research into the motivations for shoplifting provides some important insights into why consumers 'misbehave'. The Theory of Planned Behaviour has shown that intention to shoplift can be predicted by attitudes (positive or negative feelings), subjective norms (perception of social pressures) and perceived control (how easy or difficult performing the behaviour is seen to be) (Tonglet, 2006). Fig. 1 presents a model developed by the authors which synthesises the above possible influences into a theoretical model for the Psychology of Fare evasion. It incorporates constructs from the Theory of Planned Behaviour including the role of Attitudinal Factors, Social Norms and Perceived Controls on the Intention to Fare Evade. Perceived Control is conceptualised in terms of the risks of being caught and the level of fines if a fare evader is caught. Concepts from 'consumer misbehaviour' research are adopted to suggest Intention to Evade might be influenced by personality factors. The same research is used to suggest Servicescape perceptions might be influential with regard to Fare Evasion intentions.

The concepts in Fig. 1 are entirely theoretical and based on a synthesis of previous research sources. The research presented in this paper aims to explore this conceptualisation using empirical data. This analysis should be considered purely exploratory as it is the first attempt in the fare evasion literature to measure the possible relationships between such a wide range of explanatory variables.

3. Methodology

The aim of the analysis was to develop a structural equation model exploring the relationships outlined in Fig. 1 from the point of view of 'Intentional' and 'Unintentional' fare evasion. This approach was based on an empirical survey of fare evasion practices. This method is one component of a wider research program which also informed the research in this paper. This included a series of focus groups and (anonymous) on-line discussion groups including both people who had and had not admitted to engaging in fare evasion within the last year. Reported elsewhere are the results of the qualitative research (Delbosc and Currie, in press) and a series of cluster analysis of typologies of fare evasion (Delbosc and Currie, 2016).

In outline, the methodology involved a quantitative field survey of self-reported user behaviours which were then tested using a Structural Equation Model to explore links between the components theorised in

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