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Recommending transit: Disentangling users' willingness to recommend transit and their intended continued use

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ABSTRACT

During the past decade, transit agencies have been trying to increase ridership by attracting new passengers and retaining existing ones. One key strategy to attract new passengers is to encourage current transit users to promote the service to others. However, little is known about the factors that influence riders to become transit promoters. Therefore, this paper attempts to determine the factors that affect passengers' willingness to recommend public transit to a co-worker, friend, or family member. In addition, we aim to better understand transit promoters and non-promoters intentions to continue using the service in the future. The study uses a 2014 transit satisfaction survey of users of several bus routes in Montreal, Canada. Descriptive statistics and a logit model are used to understand the factors affecting passengers' willingness to recommend the transit service and their intentions for continued future use. Users' satisfaction with service attributes increase the odds of promoting the service, including satisfaction with their waiting time (3.32 times more), travel time (2.70 times more), and experience on board (1.93 times more). We also found that the intention to continue using transit in the future is not correlated with the willingness to recommend the service to others. The findings of this study can be of interest to marketing and planning departments at transit agencies as it provides new insight into transit passengers' behavior, specifically their willingness to recommend the service to others and their intentions to continue using the service in the future.

1. Introduction

Public transit systems are essential services needed to ensure the sustainability, equity, and livability of cities. During the past decade, transit agencies have expressed much interest in improving services and many have set goals to increase ridership both by attracting new passengers and retaining existing ones (Diab et al., 2015). Growth in ridership is ultimately important for transport operators, since it raises their revenues and financial efficiency and, in some geographic locations, also helps them apply for federal funding. Levinson and Krizek (2008), among others, illustrated the relationship between improved ridership, funding, and service as a positive feedback loop. For transit agencies, one of the main issues in the quest to maintaining high ridership levels is how new passengers can be attracted to the service. The transport literature tends to discuss the importance of promoting the transit service to non-users through various strategies

(Transportation Research Board, 1999, 2003). However, little is known about the factors that influence a users' willingness to recommend the service to others (e.g., to a co-worker, friend, or family member).

In addition to increasing ridership by attracting new users, transit agencies should work on retaining riders for longer periods of time. Individuals stop using transit for many reasons, including changes in income, family size, the availability of another mode, as well as reasons related to the quality of service (Evans, 2004; Grimsrud and El-Geneidy, 2013, 2014; Perk et al., 2008). Often, the ideal customer for transit agencies would be someone who is willing to recommend the service to others and who intends to continue using the service in the long term. Accordingly, this research focuses on determining the factors that affect passengers' willingness to recommend the transit service, and sets out to understand whether users who are willing to recommend the service also intend to continue using it in the future.

This paper begins with a literature review concentrating on factors that influence passengers' intentions of using a transit service and their willingness to recommend it to others and includes studies from the fields of transit and marketing. Next, the data and

methods are described. This is followed by an analysis and a discussion of the results of the statistical model. Finally, the paper concludes by outlining the major findings and by discussing relevant policy implications for transit planners and operators.

2. Literature review

2.1. Passengers' intentions of using a transit service and quality of service

One important objective of transit agencies is to increase usage through rider-retention (Murphy, 2014). Accordingly, in order to motivate riders to continue using the service, transit agencies and researchers have begun to recognize the benefit of applying market-oriented research to public transit. One example is an extensive literature review by Molander et al. (2012), which makes clear that public transit agencies must be market-oriented to meet the increasing competition of other modes. Findings from this study suggest that research on customer satisfaction, experiences, opinions and perceived quality have been useful to understand passengers' needs and positively contribute to improving transit as a public good.

Many studies have focused on the factors influencing public transit users' perceptions and satisfactions with service quality (Diab and El-Geneidy, 2014; Sadhukhan et al., 2014; Susilo and Cats, 2014; Watkins et al., 2011). For example, dell'Olio et al. (2011) investigated the quality of service desired by users of a public transport system by assessing the influences of service quality and placed an emphasis on the importance of wait time, travel time, level of occupancy, cleanliness, and comfort. In addition, Tyrinopoulos and Antoniou (2008) found that service quality improvements should focus on improving frequency, wait time, and cleanliness. Travel cost is also recognized as being an important aspect of service quality (Chen, 2008; Lai and Chen, 2011), as well as transit users' overall experience (Carreira et al., 2014; Friman and Fellesson, 2009). Several studies also develop methodologies intended to measure satisfaction with service quality over time (de Oña et al., 2016) while others investigate which service factors influence passengers to continue using specific transit services (de Oña et al., 2016).

In addition to research focusing on quality of service, researchers have also evaluated the relationship between the intention to use transit and actual usage (Chen and Chao, 2011; Idris et al., 2014; Spears et al., 2013). For example, to evaluate a new university bus pass system in Victoria, Canada, Heath and Gifford (2002) used the Theory of Planned Behavior (Ajzen, 1985), to compare students' intentions to use the bus service to their actual usage. These researchers found a strong connection between the intention to use public transit, and actual usage (Heath and Gifford, 2002). Spears et al. (2013) investigated the impact of attitudes and perceptions on travel behavior in terms of transit use and frequency of use. Nevertheless, there has been little effort to explicitly focus on investigating the relationship between willingness to recommend and intended continued use.

2.2. Willingness to recommending the service

Because the turnover of people using public transit is constant, and transit users tend to be less loyal than users of other modes (Simma and Axhausen, 2003), it is equally important for transit agencies to retain existing customers as it is to attract new ones (Barlow and Clark, 2006; Perk et al., 2008). This means that transit agencies should not only focus on the needs and desires of exiting users, but also explore ways in which new users can be attracted to the public transport system. While traditional ways of attracting new users include various advertising strategies (Transportation Research Board, 2003), another approach is to assess how new users can become attracted to the service by word of mouth. With this in mind, it has become increasingly important to understand how current transit users can become promoters of the system by being willing to recommend it to a co-worker, friend, or family member.

Previous research has demonstrated that it is important for agencies to understand who is willing to recommend the product or service because companies where many users are willing to recommend also tend to have high growth rates (Reichheld, 2003). For public transit agencies, users who are willing to recommend the service to others are essential, as new users are constantly entering the system and others leaving.

In 2003 Frederick Reichheld published an article in the Harvard Business Review claiming that the question "How likely is it that you would recommend [company X] to a friend or colleague?" is the most important survey question determining continued use of a product. He made this claim after finding that the responses to this question were highly correlated with the responses concerning repeat purchases or referrals in 14 different case studies. Because the results were highly correlated in nearly all cases, he made the claim that the recommendation question could be used as a single indicator to assess a customer's loyalty to a firm (Reichheld, 2003). This measurement tool was intended to provide insight into a company's potential growth, as the customers of companies with high scores are likely to act as advocates who promote the product or service to others through word of mouth.

However, many researchers do not agree that a customer's loyalty or a company's potential profitability can be measured by a single question survey. For example, even before Reichhled's publication, Hayes (1997) warned against using single questions as he believed they could provide an inaccurate or unreliable evaluation. Today, researchers agree that using multiple, rather than single, question surveys only increase the accuracy of an analysis when all the content of the questions is valid and the question types are appropriate for what is being asked. Therefore, in this paper we attempt to understand which personal characteristics and aspects of an individual's bus trip may influence transit users to be willing to recommend the service. In the transport literature, TCRP Report 47 (Transportation Research Board, 1999) provides a framework for understanding and measuring users' dedication to using transit, with a focus on combining questions including the one related to the willingness to recommend the service to others and intended future use. This framework has previously been used by researchers to understand the impact of improvement strategies on users' perceptions and loyalty (Conlon et al., 2001; Imaz et al., 2015).

Nevertheless, understanding the factors that impacts users' willingness to recommend for others is a topic rarely presented in the public transport literature. In addition, in this paper, we also assess whether the individuals who are willing to recommend the service are also committed to continuing using it themselves. The results of this study provide insight into the relationship between willingness to recommend and the intention of continuing to use the service.

3. Methodology

3.1. Data collection

The data used in the analysis is derived from a short field survey that was performed along several bus routes in Montreal, Canada, to capture users' perceptions and satisfaction with the service, as well as their willingness to recommend it to others. Six bus routes