

The effect of ICT on social travel behavior: modeling communication frequency and communication mode choice

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Introduction

New information and communication technologies (ICT's), such as the Internet and mobile phones, have provided new ways of communicating and maintaining social networks. However, thus far relatively little is known on the effect of ICT-use on social activities. Many studies into ICT-use have focused on internet use rather than on electronic communication, while cell phone conversations, SMS and email play an important role in social network maintenance. Recognizing that more knowledge is needed about social interaction behavior, the aim of this paper is to explore the factors influencing individuals' communication frequency and choice of communication mode.

Data

For this study data were collected among 747 respondents between January and June 2008 in a number of neighborhoods in and around Eindhoven. The data collection instrument consists of a paper and pencil social interaction diary, in which the respondents were asked to record all their social interactions during two days.

Analyses

Using the data from the social interaction diaries, a negative binomial regression model is estimated to analyze the number of social interactions in two days, as a function of a number of personal and household characteristics. To analyze the choice of a communication mode used for the social interaction, a mixed logit model is used. Explanatory variables are personal characteristics of the ego as well as characteristics of the contacted person.

Results

The analyses provide interesting results on social interaction behavior. The results suggest that younger, higher educated people and people with children on average have more social interactions. Social network size and club membership have a positive effect as well. Work and living with a partner were found to have a negative effect.

The results for communication mode choice indicate that younger people are faster in adopting new ICT-based modes, whereas older people tend to hold on to familiar modes. People who spend more time at home (people who work less, have children, and no car), tend to choose the landline phone. Gender, education, social network characteristics and day of the week also found to affect communication mode choice. Moreover the results show the importance of including characteristics of the contacted person(s) to explain communication mode choice.

The findings allow us to reconstruct the generation of social activities and the relationship between face-to-face and ICT-mediated communication. In addition, the results are relevant to an understanding of social travel demand. Although we found the frequency of face-to-face communication (and trips) to decrease with geographical distance, our data show that (occasional) physical meetings tend to take place with most contacts. As the access to and the use of ICT's is still increasing, long distance contacts can be maintained better, which may imply that long distance trips will increase in the near future.