TRAVELERS' MOTIVES FOR ADOPTING A NEW, INNOVATIVE TRAVEL SERVICE: INSIGHTS FROM THE UBIGO FIELD OPERATIONAL TEST IN GOTHENBURG, SWEDEN

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ABSTRACT

The aim of this paper is to introduce the UbiGo transport broker service developed in Gothenburg, Sweden, and to discuss insights from the six-month field operational test regarding motivations for and deterrents to users adopting new travel services. Results are presented from questionnaires, interviews, and travel diaries from participants, and contrasted with results from non-participant questionnaires and interviews. Findings suggest that potential early users (innovators/early adopters) are initially motivated by curiosity, but that this must be transformed into practical motivations such as convenience and economic advantage if the users are to remain motivated to using the service. Concern for the environment functions as a bonus rather than a primary motivator, meaning that the environmentally friendly choice must also be the practical choice in order to promote sustainability. However, perceived impracticalities can act as deterrents to adoption. Therefore, the service cannot be perceived as economically disadvantageous, inflexible or inconvenient, or difficult to use; and the alternative transportation infrastructure must be extensive enough to reach the users.

KEYWORDS

field operational test, multimodal, seamless travel, travel service, motive, innovator, early adopter

INTRODUCTION

From a transport perspective, the vision of a sustainable city requires changes in the inhabitants' mode choices and travel patterns. A large number of projects has been implemented to bring about such changes. In addition to economic and legal measures, commuters have for instance been the targets of information and education campaigns to raise awareness and change attitudes towards mode choice, mainly focusing on a shift from private car to public transport, but also to increase cycling and walking (e.g. 1-4). Other projects have tried to stimulate and motivate change through competitions or handing out free public transportation passes (e.g. 5-7). Considerable efforts have also been made to increase the attractiveness of public transport, for instance by introducing buses and trains with new designs and improved traveler information (e.g. 8-11). To alter people's travel habits is difficult, however, and the effects of the achievements are, albeit positive, too limited to meet the challenges ahead; a way to bring about more radical changes is required. A new type of solution is needed that will attract the attention of the public and be adopted into daily use.

The Go:Smart project is an attempt to create better conditions for sustainable travel, i.e. a reduced share of trips with fossil-fuelled vehicles, an increased share of travel by "collective"

transport (including public transport), and reduced emissions (noise, CO_2), by demonstrating how new business models and partnerships can reduce the need for private car ownership in favor of "mobility services".

The underlying assumptions behind the project were:
- Changes in travel behavior face hindering and motivating factors. Hindering factors include different efforts such as changing habits, a need for learning, economic investments, etc. Motivating factors are anticipated and perceived benefits, including economic gains, increased status, etc. These are characteristics of an innovation that, in accordance with Rogers' Diffusion of Innovation Theory (12), influence the diffusion of the innovation (whether idea, practice or technology). Different individuals adopt an innovation at different speeds; innovators being the fastest and laggards the slowest (12);
- Motivators can be intrinsic as well as extrinsic (13) in terms of punishments or rewards. Providing feedback in terms of some kind of reward can have a positive effect on encouraging and maintaining a desired behavior (cf. 14);
- Current shifts in individuals' attitudes and values (cf. 14) in a more environmentally conscious direction, and the trends towards joint/shared ownership or no ownership at all (including car- and bikesharing) open up new possibilities for new types of travel offers;
- The desired changes cannot be brought about by the development of a single transport mode or by focusing solely on a shift from fossil-fuelled, private cars to public transportation, but by the integration of different transportation services including both public and private solutions, i.e. "collective transport";
- The technological developments in the field of Information and Communication Technology (ICT) as well as the dissemination of mobile ICT has made it increasingly possible to create and test new types of offers.

The Go:Smart project has involved the development and Field Operational Test (FOT) of an innovative transport broker service, named UbiGo, for sustainable transportation of people in urban environments. The service has attempted to bridge the gap between private and public transportation by taking on the role of a commercial actor, "a broker of everyday travel", offering customized transport services (including public transport, taxi, car- and bikesharing, and rental cars) to fit the individual traveler's needs and requirements. More than 190 individuals became paying customers for a six-month period (November 2013 - April 2014).

The paper presents the status in the FOT regarding recruitment and (non-)participation, as well as initial responses regarding motivations of interest. Questions posed were: Who has become a participant (and who has not)? What is motivating (or deterring) participation? From the beginning it was hypothesized that the environment would be a strong motive for garnering interest and participation in the project, but has this turned out to be the case? Is the possibility of giving up ownership of a private car a motivation or a deterrent?

THE UBIGO TRANSPORT BROKER SERVICE

The UbiGo service offered its users one-stop access to a range of travel services through a web-interface adapted to smartphones (subsequently referred to as the app). It was built up as a subscription service where a household (which may be comprised of multiple persons, both adults and children) held a monthly subscription to their desired combination of, and amount of credit for, the following travel services:

- Public transportation – credit in the form of daily tickets for four zones. If one requires a different zone on a particular day, one can upgrade for an additional cost per additional zone, or downgrade with a rebate.
- Carsharing – credit is in the form of hours (e.g. one day costs 12 hours). The price is the same no matter the car model. Fuel and 10 km per rental hour are included, where additional kilometers incur fees per 10 km.
- Car rentals – credit is in the form of hours (e.g. a 24-hour minimum rental costs 18 hours of credit). Additional rental days cost less (e.g. 12 hours per day for days 2 to 4). The price increases for larger car models and there is a fixed fuel fee (per 10 km and liter) and daily insurance fee.
- Bikesharing – the subscription covers the access fee. Bike rental is free for the first 30 minutes, with additional fees per extra half hour (invoiced). The bikesharing system was not available from December, 2013 through February, 2014.
- Taxi service – the subscription offers bookings at a reduced price, which are invoiced at the end of the month.

During the FOT, the minimum limit for prepaid credit was set at 1200 SEK/month (as of February 2014 approximately €135/$185). If the household ran out of credit for a particular travel service during the month, additional credit could easily be purchased through the app and appeared on the next invoice. If all the monthly credit for a particular travel service was not used up, the credit rolled over to the next month (or was refunded at the end of the FOT). The subscription could also be modified on a monthly basis.

To access their travel services, the UbiGo traveler logged into the app via a Google- or Facebook-login (see Figure 1), where they could activate tickets/trips, make/check bookings, and access already activated tickets (e.g. to prove to a public transportation ticket controller that they had a valid ticket). The app also allowed them to check their balance, bonus, and trip history, and get support (FAQ/customer service). Each participant received a smartcard, used for instance to check out a bicycle or unlock a booked car, but also charged with extra credit for the public transport system in case there was any problem using the UbiGo service. UbiGo also included a customer service line open 24 hours per day and if they could not help, persons working within the project were contacted to resolve the issue.

The broker service included some additional benefits, such as:
- An "improved" travel guarantee. The travel guarantee came into play if the public transportation service was delayed by at least 20 minutes. The UbiGo traveler could then use the app to order a taxi, which would be paid for by UbiGo, who would also deal with the paperwork with the public transportation provider to reclaim the extra expenditure, saving the traveler a lot of hassle.
- A more generous public transport zone system. The zone system had expanded zones in relation to the current system, which meant cheaper public transport for those travelling outside of the current inner zone.
- A bonus system for "eco-friendly" travel. The UbiGo traveler was also rewarded for "eco-friendly" travel mode choices and accumulated points based on reduced kg of CO_2 compared to making the same trip by private car. The points could be exchanged for other goods and services provided by sponsors, such as various tickets to museums, the opera, or a swimming hall, gift cards, access to audio books, lunch rebates, borrowing an electric bicycle, etc. Eco-friendly, non-UbiGo travel was not integrated, i.e. a traveler was not rewarded for using a private bicycle or walking.
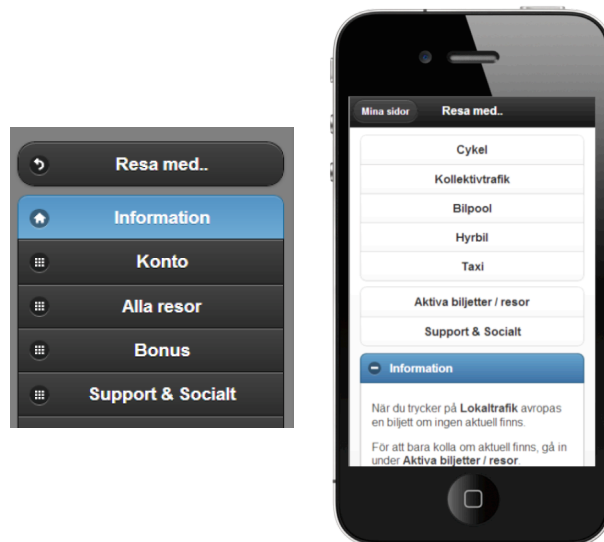
Figure 1: UbiGo website-based app. Left = main menu (top to bottom) travel with, information, account, all trips, bonus, support & social. Right = "travel with" menu (top to bottom) bicycle, public transportation, carsharing, car rental, taxi, valid tickets/trips, support & social.

METHOD

Recruitment

Potential participants were recruited via various methods including advertisements in local newspapers (paper and internet) and radio, postal advertisements, social media, internal communication to employees of the project partners, booths at local events, and popular lunch areas. Interested parties were encouraged to provide basic information such as address, number and ages of adults and children in the household, car and smartphone ownership, use of mobility services (public transportation card, carsharing member, etc.), and main transportation mode to work for each adult. So that private car owners would dare to participate, the project also included money to compensate people for not using their private car(s) during the FOT, i.e. to offset insurance, parking, etc., up to a fixed limit.

Using the information gathered from over 400 persons/households, recruiters followed up with a selection of interested parties based on the following criteria:
- Not using public transportation exclusively but using a car sometimes;
- Living within a reasonable distance from a carsharing site (reasonable as judged by the persons themselves);
- Living within a certain geographic area (originally three sections of Gothenburg; later broadened in order to recruit more participants).

These follow-ups ultimately resulted in 138 interested persons/households attending evening information meetings. At the end of each meeting, recruiters discussed one-on-one with each household in order to develop a greater understanding of their mobility needs. Personalized offers were sent to 119 households.

The resulting original participant group consisted of 83 customer subscriptions covering 195 persons: 173 adults and 22 children (under 18 years of age at the start of the FOT), of which five adults (in five subscriptions) were associated with the internal workings of the FOT. A total of 21 private vehicles were deliberately not used during the FOT, which ran from

November 1, 2013 to April 30, 2014. As of January 2014, two adults (one subscription) had dropped out completely, and two adults had become passive participants. However, the rest of the participants continued for the entire FOT.

Data Collection and Analysis

In order to evaluate the project, data was collected from the participating households via a mixed-methods approach including questionnaires, interviews, focus groups, and travel diaries, as well as workshops and logging of questions to and problems addressed by customer service. As it is just as important to evaluate and contrast the opinions of those who did not become customers, data was collected from non-participating households as well via both questionnaires and in-depth interviews.

Of the original participant group, 19 adults volunteered to be in an "advance" group of testers starting one month earlier (i.e. on October 1, 2013), and this included testing the "before" and "during" questionnaires before being sent to the main group (and any cases of question modification are duly noted in the text). The three questionnaires were sent out to all participants, although they were optional for those under 18 years of age. Although agreeing to participate in the project included agreeing to fill out the project questionnaires, not everyone complied (despite multiple reminders). The "before", "during" and "after" questionnaires were respectively completed by 164 participants (162 adults plus two children); 161 participants (159 adults plus two children); and 160 participants (159 adults plus one child), with 151 adults completing all three questionnaires. Post-FOT, in-depth interviews were carried out with 14 individual participants as well as with three households, where the two adults in the household were interviewed together. The interviews allowed the participants to elaborate around topics from the questionnaires and they were probed to give more in-depth information on the reasoning behind their opinions and to explain their experiences more thoroughly. The interviews each took 60-90 minutes. Three post-FOT focus groups, two hours each, were also conducted. One-week travel diaries ("before" and "during") were completed by 40 and 36 participants, respectively.

A "follow-up" questionnaire was developed in order to follow up with individuals who had expressed an interest in the project, but who never became participants for various reasons. Of 329 such persons, 316 were invited (via e-mail or letter) to participate in the questionnaire (the remaining had not provided an e-mail or postal address). As of March 3, 2014, 145 persons had completed the "follow-up" questionnaire. In addition, the "non-participants" were invited to partake in individual interviews regarding their interest in the travel service, the reasons they did not join the project, and their travel needs in general; 24 interviews were carried out, each lasting 30-60 minutes.

The questionnaire data was summarized and statistical analyses comparing participants and non-participants were performed with the software package IBM SPSS. The recordings of all of the four types of interviews were transcribed in full. Statements about the motivations for and deterrents to joining the trial were sought out in the participant as well as the non-participant interviews and then compared to find similarities and differences between the groups. The participant interviews were also searched for any statement regarding why participants continued with the service, and how their perceptions of the service, including motivators and deterrents, changed with experience. All trips recorded in the "before" travel diaries were summarized and the UbiGo participants' choices of travel mode were compared with the averages for Gothenburg.

Table 1: Socio-demographics of the participant and non-participant groups.

Demographic	Category	"Before" (UbiGo participants) n = 164	"Follow-Up" (non-participants) n = 145
Gender	*Female*	50.6% (83)	44.1% (64)
	Male	49.4% (81)	55.9% (81)
Age		$\bar{x}$ = 38.4, range [21,73]	$\bar{x}$ = 44.1, range [20,75]
Main occupation	*Employed (self; full- or part-time)*	79.9% (131)	87.6% (127)
	Student	11.0% (18)	4.1% (6)
	Retired	1.2% (2)	3.4% (5)
	Other	7.9% (13)	4.8% (7)
Residence*	*Apartment*	80.5% (132)	73.8% (107)
	House	19.5% (32)	26.2% (38)
Household (HH) Type*	*Single Adult, no child*	13.4% (22)	22.1% (32)
	Multi-Adult, no child	50.0% (82)	30.3% (44)
	Single Adult, child(ren)	6.1% (10)	10.3% (15)
	Multi-Adult, child(ren)	30.5% (50)	37.2% (54)
Driver's License	*Yes*	87.8% (144)	95.9% (139)
	No	12.2% (20)	4.1% (6)
Daily Personal Access to a Car (as % of licensees)	*Yes*	41.0% (59 of 144)	58.3% (81 of 139)
	No	59.0% (85 of 144)	41.7% (58 of 139)
Car Ownership in Household*	*No car*	52.4% (86)	37.9% (55)
	One car	36.0% (59)	49.7% (72)
	Two or more cars	11.6% (19)	12.4% (18)
HH Membership of Carsharing Scheme*	*Yes*	30.5% (50)	22.1% (32)
	No	69.5% (114)	77.9% (113)
Bicycle Ownership	*Yes*	81.1% (133)	85.5% (124)
	No	18.9% (31)	14.5% (21)
Member of Bikesharing Scheme	*Yes*	19.5% (32)	13.1% (19)
	No	80.5% (132)	86.9% (126)
Public Transportation Card	*Yes*	87.8% (144)	92.4% (134)
	No	12.2% % (20)	7.6% (11)
Gross Monthly Income of Household (SEK) (Exchange Rate ≈ 6.5 SEK/USD or ≈ 8.8 SEK/EUR)*	*0 - 25,000 SEK*	8.6% (14)	10.7% (15)
	25,001 - 40,000 SEK	28.2% (46)	27.1% (38)
	40,001 - 55,000 SEK	16.6% (27)	15.7% (22)
	55,001 - 70,000 SEK	19.6% (32)	25.7% (36)
	more than 70,000 SEK	27.0% (44)	20.7% (29)
		n = 163	n = 140
Internet on computer	*Daily Use*	88.4% (145)	90.3% (131)
Internet on tablet or smartphone		90.9% (149)	86.2% (125)
Apps on tablet or smartphone		90.2% (148)	86.9% (126)

Note! The demographic items (indicated by a * in the table) are household-based and that the 164 "before" questionnaire participants do not represent 164 unique households, unlike the 145 "follow up" questionnaire participants who likely represent 145 unique households. In these cases, direct comparisons between the two groups are not recommended, although some general trends can be observed.

RESULTS

Socio-demographics and Pre-FOT Travel Behavior

Table 1 compares the demographics of the respondents in the "before" questionnaire of project participants and the "follow-up" questionnaire of interested persons who had not become project participants.

Looking at the individual-level variables, one can see (in Table 1) that the two groups are similar in terms of the gender and age variables. In the UbiGo participant group (compared with the non-participant group), there are slightly more students and slightly fewer employed and retired persons, as well as fewer licensed drivers with less daily personal access to a car. A large majority of both groups own bicycles and have public transportation cards, and are not members of the local bikesharing scheme. In terms of the household level variables, one can generally observe that most respondents (in both groups) live in apartments and there is a mix of household types and income levels. Also, a fair number of households own cars and the majority are not members of carsharing schemes.

A large majority of both groups are also highly connected, where they use the internet and apps on computers, tablets, and smartphones on a daily basis. (Here one should note that one needs a smartphone in order to run the UbiGo app.)

Although the project did not intend to target innovators, this was likely the case. The "before" and "follow-up" questionnaires included a series of questions related to interest in technology and change-seeking. Both groups (participants and non-participants) stated that they were interested in new technology and preferred to seek after and try new things rather than follow routines and habits (no statistically significant differences were found between the groups). Furthermore, participant interviews revealed that the adults in the household were likely innovators, or a combination of an innovator, who may have been the primary driver behind joining the project, and an easily convinced early adopter.

Table 2: Mode share of participants compared to averages for Gothenburg & Central Gothenburg.

Mode	"Before" Travel Diary from UbiGo participants, n = 40	Average Gothenburg Resident	Average Central Gothenburg Resident
Car	27%	42%	24%
Public Transportation	34%	25%	26%
Walk	24%	24%	39%
Bicycle	10%	6%	8%
Other	5%	4%	4%

An initial analysis of the "before" travel diaries (from 40 participants – 24 women and 16 men – covering 846 trips) revealed that the participant group differed somewhat from the average Gothenburg resident (15) (see Table 2). In terms of car use, the participant group was most similar to the average person living in Central Gothenburg. However, the use of alternative modes differed somewhat in that more participants used public transportation and fewer walked. Compared with the average Gothenburg resident, the participants used public transportation more and the car less, while walking was about the same. Therefore, one can

generally observe that the UbiGo participant group had an overrepresentation of public transportation users, the implications of which will be discussed below.

Motivations

What motivates people to adopt more sustainable travel behavior, or to join schemes, such as UbiGo, designed to facilitate more sustainable travel behavior? One of the assumptions that the environment would be a strong motivator, or that economy, potentially saving money by using the service, would attract participants, or the implemented bonus system. However, when asking participants about their *primary* motive for joining UbiGo ("before" questionnaire), we found very different results. Of the UbiGo participants, *curiosity* was by far the strongest motivator, with 62.8% (103 of 164) claiming this as their primary motive. In fact, all other motives – *convenience/flexibility, economy, environment, family member, gaining access to cars, test living without a privately owned car* – significantly lagged behind curiosity (Figure 2, second row). Curiosity was also the most common motive among the non-participants (Figure 2, first row), although the trend was not as strong. Here, convenience or an interest in flexible travel was the strongest contender, with wanting to test living without a privately owned car coming in third place. The post-FOT interview results also revealed that participants felt motivated by the desire to support a research project, by the opportunity to learn more about themselves and reflect on their personal and their family's transportation habits, and by the transportation smorgasbord concept with everything included in one package.
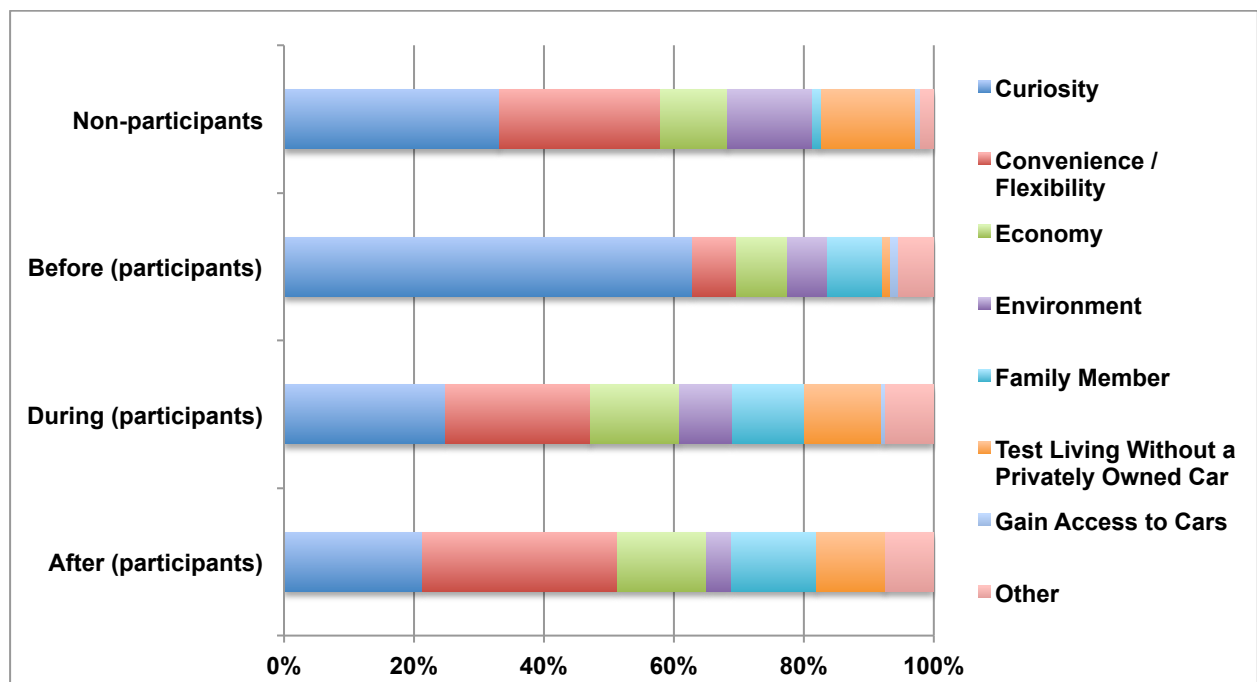

Figure 2: Primary motive of the non-participant group and of the participant group over time.

Of great interest is how the participants' primary motives changed over time, as curiosity is something that fades away with experience. From the "during" questionnaire results (Figure 2, third row), we can see that curiosity lost its dominant position (from 62.8% to 24.8%), while convenience/flexibility (22.4%) and economy (13.7%) increased as motivators for why one continued to be a customer. The "after" questionnaire (Figure 2, fourth row) revealed that convenience/flexibility became the dominant motivator (30.0%), followed by curiosity

(21.3%) and economy (13.8%). Throughout the entire FOT, environment was rarely viewed as the primary motivator. Interview results revealed that participants were first attracted to the concept of UbiGo and felt that it was an added bonus if it meant potentially more environmentally friendly travel as well. Related to this is another aspect of the UbiGo service that did not particularly motivate the participants as expected, namely the bonus system tied to potentially saved CO_2. Most did not exploit the rewards offered by the bonus system, and those who did tended to do it at the very end of the FOT. Participants felt that if there was a bonus system, it should be tied to the service itself by giving transportation-related rewards, such as more car hours or public transportation tickets, rather than external rewards.

Also of note is that the participant group's motivations fell more in line with the non-participant group after they had gained experience with the UbiGo service. Although no significant differences were found between the two groups in terms of interest in technology and change-seeking, as discussed above, perhaps the questions did not completely capture the participants' innovativeness. That curiosity would be such a strong initial motivator in the participant group could indicate a higher level of innovativeness among that group, and perhaps this higher level of innovativeness acts as a distractor from the more practical factors of economy and convenience/flexibility, at least until one gains hands-on experience.

Deterrents

It is also possible to gain insight from the non-participants regarding deterrents for participating. Of the 145 non-participants who answered the questionnaire, 26.9% (39 persons) had stayed at the stage of expressing interest. The remaining 106 persons who had moved further in the recruitment process (i.e. been contacted by the project, participated in an information meeting, received an offer) were asked about their reasons (maximum three) for *not* joining UbiGo. Although there was a broad range of reasons, which are further explored in the interviews, most can be grouped into broader categories such as economy, a perceived mismatch between customer and service (e.g. between current travel patterns or lifestyle and what UbiGo offered), and a (perceived) lack of "alternative" transportation infrastructure. For example, the most common reason offered for not joining was that UbiGo would have been more expensive than the current transport solution (39.6%). This is likely correlated with the second most common reason, namely that the person travels too little, or usually bikes and walks (30.2%). Naturally UbiGo is not the better solution for everyone; particularly those who have no or little need for a car. However, it can also be the case that the current "alternative" transportation infrastructure does not meet the needs of everyone. Carsharing systems, for example, are not widespread it Gothenburg and 15.1% felt that the carsharing sites were too far away for practical use. There are also issues regarding access to child seats in these shared cars (especially if one has more than one small child). Furthermore, on a very practical level, 16.0% claimed that they were too busy, e.g. that it was too difficult to find time to participate in an information meeting, to learn more about the project, etc. One person commented that they "did not have time to undertake yet another 'life improvement' project".

Interviews with both participants and non-participants revealed other types of deterrents as well. The recruitment process could have been more effective and practiced. Potential participants found it hard to understand the concept of UbiGo, especially its practical implications, and felt it took too much time to understand the material and go to information meetings. Neither did recruiters always follow up with interested parties, or rebook missed information meetings or calls, despite the desire for more participating households. The service, information material, sales pitches, etc., being "under development" undermined

impressions of the seriousness of the project as well. Some interested parties got the impression that they were uninteresting for the project as their travel habits did not match the UbiGo offer, and thus UbiGo would not be able to make money, although some decided to participate anyway for more ideological reasons, e.g. supporting the project, self-reflection, etc. (see above).

The Future of UbiGo

In the "after" questionnaire, participants stated that they used private car less and public transportation, walking, and cycling more often than before, and they also felt more negative towards private car and more positive towards public transportation, etc., than before. In fact, 78.8% of the respondents said they would be interested in becoming a UbiGo customer if/when it starts up again, while 18.1% said yes, under certain conditions, and 3.1% said no.

Aspects of UbiGo that have provided an added value for the participants include: the transportation smorgasbord concept; the type of subscription (many people, one monthly invoice); the type of public transportation ticket (daily, the ability to upgrade zones, activated once rather than tap-in/out); 24-hour customer support with only one telephone number; and that it is in the smartphone ("I can forget my public transportation card, but I cannot forget my phone").

Although the participants are very positive towards UbiGo, many have made comments along the lines of "if this had been a 'real' service…", revealing the necessity of making improvements if commercialization is to prove successful. Criticisms and/or requirements for future use include, but are not limited to:
- The website pretending to be an app – that there needs to be a real app with better functionality and interface design, and that is reliable and easy to use. For example, there is currently an issue with showing a valid ticket when there is no network. Also, that one should have the opportunity to create a dedicated UbiGo login;
- The lack of personalized decision support and feedback – that UbiGo should include a travel planner that will also provide priced alternatives, e.g. the cost of rental versus carsharing, especially as the pricing schemes are not very transparent for the customer. Also that the app should provide feedback about one's travel patterns;
- That the service remains economically advantageous, e.g. cheaper than using each subservice separately, and preferably that the subscription becomes even more flexible, e.g. paying at the end of the month instead of before, so that one does not feel "locked" into using a certain amount of each subservice per month;
- That the smorgasbord of transport alternatives remains at least as good, but preferably expands, e.g. to other major towns, to include more carsharing and taxi companies, as well as train companies for longer trips. Also, that the carsharing, and even bikesharing, sites increase in number and are accessible in more areas of town.
- That the ticket controllers and bus drivers are better informed, as there have been issues with having to explain oneself and the project;
- That price models are modified to cover certain situations that are currently perceived as problematic under the current system, e.g. trips that take a few hours to one day, or wanting a car only during the long summer holidays.
- Professionalism, e.g. information that is easy to understand so that the service is easy to adopt, efficient communication with customers, skilled salesmanship, etc.

DISCUSSION AND CONCLUSIONS

The UbiGo service was designed and implemented with the intention to contribute to a more sustainable transportation of people. Obstacles associated with changing travel behavior and habits, in particular a shift from private car to other modes of transport, have been emphasized in several studies (e.g. 7, 16-18). The results of the UbiGo FOT suggest that the main barrier may not be giving up one's private car, but rather giving up a certain level of access to a car. By a more mode neutral approach and by offering a service that includes also access to a car, the environmental impact of a broker service such as UbiGo could still have positive effects in terms of reduced use of the car and, when so, as a shared resource. If the carsharing/rental cars are non-fossil-fuelled as well, the impact could be even more positive.

A change in behavior will however not come about only as a consequence of such an offer. The initial analysis of the results shows that it is vital to generate interest and excitement about new transportation schemes. This is the primary reason that people have been attracted to the project or been willing to become customers in this FOT, with all that entails. At the same time the data suggest that the participants could be described as innovators and/or early adopters (12), i.e., in general, individuals who have high social status, more advanced education, are well-informed, and, in the case of innovators, are also willing to take risks. The results support also the notion that the innovation (here in terms of a practice) must offer some relative advantage (cf. 12) to be adopted, i.e. the service must appeal to the users on a practical level and facilitate their daily travel. When it has not been curiosity motivating people, it has been convenience and economy, and it is these practicalities that will keep the users, also innovators, motivated to continue using the service after the novelty and curiosity fade. The innovators and early adopters testing the innovation and proving its feasibility are essential for reaching the early and late majorities.

The results suggest furthermore that relative advantages cannot by replaced by rewards. In fact, the reward system appears to have played a minor role (if any) in the adoption of the UbiGo service. Moreover, although the environment is of concern for many, it has not proven to be a primary motivator (despite the participant group already having relatively more sustainable travel behavior based on the initial analysis of the "before" travel diaries). We hypothesize that the improved eco- and urban-friendliness of UbiGo (compared with private car ownership), is a bonus for the users, which they appreciate. In this specific case, it is possible that informational feedback (cf. 19) on how "green" your travel patterns are could be just as, or even more, important to users. However, the eco-friendliness is not enough to attract a sufficient number of customers and a pro-environmental attitude will not suffice as a motivator for change, at least not for majority of travelers. If the environmental impact of transportation is to be reduced, then reductions must be achieved by making more sustainable travel behavior the *practical* choice, rather than the idealistic choice.

Relative advantage is a matter of perception – why different individuals may assess the same offer differently, depending e.g. upon how they assess the effort associated with adopting the innovation. Cost is an example of such an effort and hence a possible deterrent. The travel service cannot be more expensive than the user's existing solution, not without enough added value to outweigh the increase in price. Second, it cannot be perceived as "inflexible" or "inconvenient" compared to the user's existing solution, e.g. as public transportation and carsharing can be perceived by those who are on call at their job, who live "too far away" from a carsharing site, or who have small children. In the case of the UbiGo concept, it is important to examine how e.g. the carsharing network or the business model of the carsharing

enterprise help or hinder use of the service, and the implications of this on facilitating a move away from privately owned vehicles in urban areas. Third, the infrastructure network (carsharing sites, public transportation stops/routes, etc.) must be extensive enough to reach the users. If a carsharing site is perceived as too far away, people will not join the scheme. Fourth, learning is yet another effort and the results indicate that travel service must be perceived as "easy enough" to understand and use (cf. Roger's notion of complexity/simplicity as an intrinsic factor of the innovation) as it is difficult for people to find time in their busy lives to go to informational meetings and read manuals about how to e.g. use an app or change their subscription. If it is perceived as too difficult or time consuming, potential users will be deterred.

Barriers aside, the UbiGo broker service has been very well received; more importantly, it has been used and almost 80% of the participants in the FOT stated that they definitely wanted to continue using the service. The design of the FOT has allowed participants to, e.g., test everyday travel without owning a car, but also allowed non-participants to observe the feasibility of the scheme. Both triability and observability are, according to the Diffusion of Innovation Theory (12), factors that have significant impact on the rate by which an innovation spreads, but so do peers and change agents. The questions are if the UbiGo FOT participants will act as change agents and if the concept will spread to a wider range of individuals; if they will share the participants' ideas of the relative advantages of the service or if adaptations have to be made? UbiGo is not and has never intended to be a service for all, but will it be a service for the early and late majority?

FURTHER WORK

A majority of the analysis is still ahead. Planned analyses include: deeper analysis of the results and ideas introduced here, the users' motivational process and its implications for sustainable development, the motivational process of the participating transport providers, the overlap between personal trips and "freight" trips in the urban environment, the added value of the travel broker service, etc. Also, to follow up with the participants regarding the sustainability of any changes in their travel behavior due to the FOT, and, assuming UbiGo continues in the future, to follow up with new customers if possible.

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