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Personalised Travel Plans in the Workplace: a Case-Study

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Abstract (198 words)

Workplaces are facing the challenge of sustainable auditing and reducing land dedicated to car parking. Personalised travel plans (PTPs) enable employees to evaluate the full range of alternatives to the car for their journey to work. However, the uptake and effectiveness of such a service may be strongly influenced by the social and organisational context of individual workplaces.

This paper draws out findings on the importance of social context from a case-study of user involvement in the development of an innovative, web-based tool to generate PTPs ('myPTP'). Interviews were held with the innovators, with travel coordinators and with users of the tool in three pilot organisations.

Travel coordinators saw the PTP tool from the perspective of a corporate strategy to reduce CO_2 emissions - in some cases as a 'carrot' to balance the 'stick' of higher parking charges. Among some employees, this made it a focal point for dissatisfaction with employers' wider transport measures. However, staff involved in change management saw it as an effective way of informing employees, often promoting its diffusion within workplace practice. The findings offer a number of good practice points to designers of innovative transport tools, and organisations interested in taking them up.

Key words chosen from ICE Publishing list

Transport planning; information technology; social impact.

1. Introduction

Personalised Travel Planning (PTP) is a targeted marketing technique involving the provision of travel advice to individuals, which:

"encourages people to make more sustainable travel choices. It seeks to overcome the habitual use of the car, enabling more journeys to be made on foot, bike, bus, train or in shared cars. This is achieved through the provision of information, incentives and motivation directly to individuals to help them voluntarily make more informed travel choices." (Department for Transport, 2008, p5).

Also known as *individualised travel marketing,* PTP has been implemented worldwide since the 1980s through residential, workplace and school-based projects. Within the workplace, information is usually collated for individual employees by a travel coordinator within the organisation, on a one-to-one basis. Thus, 'conventional' PTP generally incorporates an element of social interaction between the provider and recipient of information, allowing information to be tailored to an individual's circumstances and the specific context of their travel. PTP has been found to be effective in changing travel behaviour, but is resource-intensive.

This case-study concerned the development of an innovative web-based tool - 'myPTP' - by Liftshare, a social enterprise which runs the largest car-share network in the UK. The tool

combines data for public transport, car-sharing, car routes, walking and cycling, to generate personalised travel plans. MyPTP aimed to build on the benefits of 'conventional' PTP by combining it with the time and cost advantages of instant, online trip planning. It provides information on all the main transport alternatives from one postcode to another, including car-share offers, in a single step, thereby eliminating the need to draw on multiple information sources.

The initial target market was large organisations in the UK wishing to provide their employees with information on alternatives to single-occupancy car-use. Such employers are likely to have a workplace travel plan to encourage the use of sustainable modes for commuter and business travel (Enoch and Ison, 2012; Bradshaw, 2001). Therefore, a tool such as myPTP may be able to make *personal* travel planning more efficient within the context of a *workplace* travel plan.

Personalised travel plans using myPTP can be generated by a travel plan coordinator for individual employees, and delivered automatically by email. They can also be emailed in bulk to all employees living within the same postcode area, enabling travel coordinators to reach large numbers of people more quickly than current PTP processes typically require.

Figure 1: Excerpt of a travel plan generated by myPTP (screenshot)

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The research reported in this article was conducted in parallel with the early development and piloting of myPTP from July 2011 to April 2012. The pilots were conducted by Liftshare with employees in two UK local authorities and one university. MyPTP served as a case study of the role of user participation in the design of innovative information services to influence travel behaviour (Bartle and Avineri, 2012). This paper reports specifically on social and contextual factors which emerged during the pilots as important for the potential up-take of the tool and its anticipated effectiveness in motivating behaviour change. It highlights the importance of contextual effects in the design and implementation of transport innovations.

2. Background

Most of the PTP evaluations which have been undertaken concern residential, rather than work-based projects. The results from residential PTP projects carried out in the UK between 2002 and 2006 are reported by Chatterjee (2009). There was a mean decrease in the number of car driver trips of 11% across all the projects for which results were available, and a mean decrease of 12% in car distance travelled. These results are not generally disaggregated by journey purpose, as the contribution of residential-based PTP to decreased car *commuting* has not been a focus of attention of evaluation studies. There are few reported examples of the impact of workplace-based PTP. Fujii and Taniguchi (2006) report on two workplace projects in Japan, where PTP measures are known as travel feedback programmes. One of these, in Kanazawa, led to an increase in

public transport and bicycle-use, but had no effect on car use, whilst the other, in Toyonaka, led to a reduction in car-use of 10%.

The underlying paradigm of conventional PTP is the traveller as 'rational decision maker', who deliberates about his or her travel behaviour when exposed to information about transport options, and chooses the option most beneficial to him/her. However, PTP is not an exclusively individual, cognitive process, but one which benefits from social processes effected by the interactions between the travel adviser and the information recipient, and which takes place in a specific social context. For example, the impact of the information in terms of prompting deliberation might be enhanced by factors such as the adviser's perceived expertise, trustworthiness, and familiarity. Positive feedback from the travel adviser may help to reinforce any changes in behaviour which are made in response to the information.

Parker et al. (2007) cite a few examples of PTP projects which have attempted to capitalise on such processes, such as 'In Motion': a community-based social marketing programme, run since 2004 in Seattle, USA (Cooper, 2007). This programme selects target areas and assembles a local action team, drawn from community organisations, in each area. Community-based approaches to PTP may also improve the diffusion, through word-of-mouth, of travel behaviour change within that community. For example, Bartle et al. (2013) showed how word-of-mouth information reinforced positive views of cycling as a commuter mode within particular workplaces. Diffusion can be defined as a process in which an innovation is communicated through certain channels over time among members of a social system (Rogers, 2003).

On the one hand, a large workplace is a form of ready-made 'community' through which an innovation such as myPTP, and the sustainable travel choices which it seeks to encourage, might be efficiently diffused. On the other, the loss of face-to-face social interaction in an online information service, compared with conventional PTP, might reduce its potential impact on travel behaviour. Whilst the myPTP pilots were too small in size and duration to allow a full quantification of such effects, this study aimed to provide an initial exploration of these issues.

3. Methods

A qualitative methodology was used in order to obtain an in-depth understanding of the innovation process within its social context. Additional quantitative data were obtained through a user survey. The following semi-structured interviews were undertaken:

- Three 90-minute interviews with Liftshare ('the innovator/s') at the beginning, mid-point and end of the nine-month project. (Note: In this paper, 'the innovator' in the singular refers to the director of Liftshare, whilst the plural 'innovators' refers to views expressed by more than one of the Liftshare interviewees).

- Six interviews of 30-45 minutes with travel plan coordinators in three organisations where myPTP was piloted (i.e. one pre-pilot interview and one post-pilot interview with the travel

coordinator in each organisation). Two interviews were conducted face-to-face and four by telephone.

- Interviews with 8 ‘users’ (employees receiving a PTP) across the pilot sites. Five were individual interviews, and one was a group interview with three people.

The three pilots covered in this study were undertaken at a Council in Northern England (‘Council A’; 35 PTPs delivered), a University in the Midlands (‘University A’; 36 PTPs) and a Council in Eastern England (‘Council B’; 48 PTPs) in February-March 2012.

In addition to the qualitative research, which formed the major part of the study, an online survey of users at each pilot site was conducted following delivery of travel plans. This was completed by 55 of the 119 people who were provided with a PTP during the pilots. Whilst the survey provided additional data on various aspects of the innovation process (for example, feedback processes, usefulness of the tool and quality of the information provided by it) the quantitative findings reported in this paper are restricted to those related to the social context of the innovation. This includes the impact of MyPTP on participants' intentions and behaviour regarding their transport mode of choice for the commute. For example, respondents were asked whether they were considering other options for their current journey to work, and whether they had actually changed their commute mode after receiving their travel plan. These findings are presented, in section 4.4, within the context of qualitative findings about changes occurring at one of the workplaces. Also included in the survey were questions on the expectations of others at the workplace and word-of-mouth diffusion of the MyPTP experience among colleagues.

4. Findings

4.1 Workplace travel cultures

Attitudes to the myPTP tool among the travel coordinators and users were strongly influenced by a range of contextual, transport-related factors in the three organisations. Understanding of these factors by the innovators had some impact on the development of myPTP. The single most important contextual influence was the desire within Council A to furnish 1,800 employees with a PTP in time for its major office move to a city-centre location. The impending loss of the free parking to which employees were accustomed was a cause of some discontentment, and the travel coordinator was keen to ensure that all were informed about alternative modes for their journey to work. This provided the innovator with a particularly strong impetus for pressing on with the early development of myPTP.

The major contextual factor at University A was a planned increase in parking charges, aimed at reducing single occupancy car-use as part of its corporate strategy to reduce CO_2 emissions - an issue which was proving to be contentious among employees. MyPTP could be seen as one of the ‘carrots’ which might be offered to employees to balance the ‘stick’ of higher parking charges.

At Council B there appeared to be no dominant transport issue motivating the provision of PTPs to employees at this particular time; rather, it was regarded as part of the Council's overall CO_2 reduction strategy. Hence, myPTP was seen by the travel coordinator as one of a suite of information tools which employees would ultimately be able to access for themselves on the web, as they would with a journey-planning website.

In all three organisations, norms of travel behaviour among users were influenced by factors encouraging car-use, such as geographical location and related parking issues, and established practices for business travel. Many employees, especially at the two councils, travelled frequently in the local area as part of their job. The norm was to use their own car for this, making it difficult for them to travel to and from work by any other means - although both councils were encouraging the use of pool cars and pool bicycles for business travel.

In addition to the planned increases in parking charges at two of the sites, a variety of other 'hard' measures were being employed by the three organisations to encourage alternative modes, such as: public transport discounts; participation in the 'Bike2Work' bicycle purchase scheme (Avineri and Steven, 2013); and improvements to cycling infrastructure. Two of the organisations were also overtly engaged in 'soft' behaviour change measures to try to build a workplace culture of environmental sustainability, of which transport was seen as a key part (for example, Council B had an internal campaign for staff called 'Switch to a Low Carb Diet'). Travel coordinators at Council B and University A saw myPTP as a tool to use within this context of promoting behaviour change, although at Council A the main concern was ostensibly a more practical one of solving immediate transport problems created by the office move.

Unsurprisingly, perceptions of the 'travel culture' at their workplace differed among the myPTP users. One interviewee who worked in marketing believed there to be strong culture of environmental sustainability, which incorporated transport, whilst another, who worked in transport planning within the same organisation, believed the organisation to have a car-dominated culture. Interviewees at Council A agreed that the Council is too disparate an organisation to have a single 'workplace culture' with regard to sustainability:

"People tend to have priorities that relate to their own roles, so we tend to have highways-related ones, environmental ones, whereas if you go and talk to a group of people who work for education or social services, you get a completely different set of cultural values as a result of what they do". (myPTP user, female, post-pilot group interview).

4.2 Influence of workplace context on user attitudes to the myPTP tool

Contextual factors such as those described above inevitably affected attitudes to myPTP among those who were provided with a PTP during the pilots. Interviewees expressed positive attitudes to myPTP, generally seeing it as a useful tool to help employees make better informed travel choices in the light of unavoidable pressures on single occupancy car-use. However, the anonymous

questionnaire responses revealed that for some, myPTP was deeply enmeshed in wider transport concerns. This was particularly the case at University A, where the pilot unleashed strong sentiments which had little to do with the tool itself:

"This whole process has left me feeling very angry. I feel that I contribute to the success of the University but am completely disregarded when they have compiled the new car park charges. My experience of myPTP has just confirmed and compounded these feelings". (myPTP user, female, survey)

There was a belief among some respondents at University A that the proposed parking charges threatened to penalise lower-paid and part-time staff, particularly those with young children. The PTPs served to confirm that, for some of this group, there was no viable alternative to commuting by car if work and child care were to be combined:

"The PTP which was sent to me took no account of my needs other than getting from A to B. There are many people who work in the Uni who have more complicated needs than this. I have a child who needs to get to school and another who needs to get to nursery, myPTP paid no attention to this so was completely useless other than proving I have very little choice as most of the other part time working Mums in the Uni, other than coming by car and being penalised by the new car park charges." (myPTP user, female, survey)

The innovators had received feedback from users on the problem of journeys involving 'trip-chaining', and were consequently considering, in their future development plans, enabling users to generate point-to-point trip plans on the map: i.e. from A to C, via B. However, in the case of the respondents quoted above, the underlying issue was, arguably, not one which a tool such as myPTP could solve.

Paradoxically, awareness of negative attitudes to wider transport issues (and sometimes, by association, to myPTP) was one of the reasons why some of the pilot participants in managerial positions were positive about myPTP. For example, at Council A, one interviewee said she wished to promote it among her staff because:

"...there's a little bit of negativity with staff moving out to the new building, because they're so used to being able to drive to work, park up, and it's a matter of price. (My aim is) letting them know that there are other options." (myPTP user, female, post-pilot group interview)

4.3 Social diffusion of myPTP within the workplace

Innovations require 'diffusion' in order to be to permeate into social practice (Rogers, 2003). Interestingly, many of the myPTP users who were interviewed saw themselves as having a role in the diffusion process within their organisation. Often this related to their professional roles: for example, as managers, transport/highways specialists or, in one case, a trades union

representative. Reflecting on his interest in raising awareness of different travel alternatives through myPTP, one interviewee commented:

"My own sense of what a university is, is that it's a community in which people exchange ideas and interact with each other. It's meant to be a kind of cross fertilisation and the sharing of this sort of information and these possibilities, and just getting people conscious of them." (myPTP user, male, post-pilot interview)

Diffusion of myPTP was not seen by the interviewee as an end in itself, but part of a process of diffusing information about alternatives to single-occupancy car travel, to encourage behaviour change wherever this was seen as beneficial to both individuals and the organisation. In Rogers' (2003) terminology, these people represent 'early adopters' of the innovation, although this term might be better applied to the institutional travel coordinator, or the organisation as a whole.

The interviewees with managerial roles believed that they should not only be promoting the use of myPTP among staff, but also "leading by example" - showing that they were considering their own travel options and travelling sustainably where possible.

"I think you've got to. You've got to be a cultural architect. You've got to be a champion of things, and if your staff sees you doing it, there's a chance that more of them will think, yes, we might have a go". (myPTP user, male, post-pilot group interview)

At the same time, word-of-mouth diffusion about myPTP appeared to be happening in a less directed and more conversational way among colleagues. Sixty seven percent of respondents to the survey said that they agreed or agreed strongly with the statement: "*I have discussed myPTP with colleagues"*. An interviewee at Council A said he thought that people were particularly receptive to receiving travel information now because conversations about travel options were occurring naturally in the light of the office move. In other words, travel information about different alternatives for the commute was extremely salient.

"But last night I was down at the depot.....and I was talking to project engineers about the travel plan, the moving to the new building, and that was interesting because people are ripe for the picking now, to be honest. You know? They've got to a stage where they now understand they're going to have to change and they just say, you know, what are the options?" (myPTP user, male, post-pilot group interview)

The innovators were clear from the beginning about the importance of 'champions' in promoting myPTP within organisations, if the service was to be a taken up. They believed that the future 'success' of myPTP, once it had been rolled out commercially, was partly dependent on there being a *"supportive, involved, engaged, enthusiastic, collaborative and positive person"* on site to champion it. This was likely to be a central travel coordinator within the organisation. This study suggests, however, that diffusion via a wider network within an organisation is also important.

4.4 Influence of contextual factors on travel behaviour among participants in the pilots

Although behaviour change, or consideration of more sustainable travel options, among those provided with a PTP, had not been an overt objective of the myPTP pilots, it was a matter of interest to the innovators and travel coordinators at the pilot sites, as this was an underlying goal of the tool. Questions about the impact of the PTPs on the intentions and behaviours of the pilot users were therefore included in the short online survey conducted by the authors during the week following each pilot.

At Council A, the survey was completed by 19 of the 35 people who had taken part in the pilot. For this group, the survey asked whether any change had occurred to their intended transport mode for the journey to work *after* the office move. Six people said that, after receiving their PTP, they were now considering other options for their commute after the move. Bus and train were the most frequently considered alternatives, although two people were also considering single-occupancy car among their options, and one was also contemplating cycling. Before receiving their travel plan, most of this group had previously intended to continue driving to work on their own.

At University A (n=15) and Council B (n=21), respondents were asked whether they were considering other options for their current journey to work, or whether they had actually changed their commute mode after receiving their travel plan. At Council B, one individual had implemented a change but had switched route rather than mode. Those considering changing mode were now thinking about travelling by bus, bicycle or car share, although three of the four were already using a variety of modes, and only one was considering changing from single occupancy car-use alone. At University A, two people had made changes to their commute by doing more car-sharing rather than driving on their own. One person was now considering car-sharing rather than driving on his own, and another who car-shared was now thinking about walking.

Although this survey was of a small scale, and could not reveal whether people actually followed through on their intentions or maintained any changes in the longer term, it supports an intuitive assumption that people are more likely to give serious consideration to information on travel alternatives if there is external pressure on them to do so. This was clearly the situation at Council A because of the office re-location, and it is unsurprising that a higher proportion of respondents were re-considering their modes of travel at Council A than at the other two pilot sites. Similarly, it is unsurprising, given the location of new office in the city centre next to the railway station, that bus and train were the main alternatives now being considered by survey participants from Council A.

This again raises the matter of information salience: it was suggested that the travel plans were especially salient at Council A because people were being forced to re-think their travel habits in the light of the office relocation; immediate salience of the information service across the organisation was therefore created by the context of use.

4.5 Social aspects of the design and delivery of the myPTP tool

An important feature of 'conventional' PTP is that it generally incorporates a degree of one-to-one interaction between information provider and recipient. The reasoning behind myPTP included the notion that the one-to-one conversations involved in generating standard PTPs contribute to the time required to deliver them, and hence to their cost. Considerable time and money can be saved if travel plans can simply be emailed to employees based on knowledge of their home postcode. The travel plans generated by myPTP are 'personalised' in the sense that the travel information relates to the time and geography of an individual's commute. However, it was accepted by the innovators that some of the personal aspects of personalised travel planning would inevitably be lost. There is a danger, therefore, that the PTP process might lose some of its effectiveness with regard to encouraging behaviour change. To mitigate this risk, the innovator believed that a degree of personalisation could be achieved through both the content of the PTPs and accompanying emails, and through the manner in which PTPs are provided.

Travel plans generated by myPTP can be customised at the level of the organisation, if not personalised for the individual. Customised features are likely to include the contact details of the travel coordinator, as well as transport-related information specific to the organisation, such as: discounts from local bus operators, cycling events and incentives; and links to the organisation's travel plan and other related policies.

The opportunity for those who need further advice to contact the travel coordinator renders the system, in the innovator's words: *"personal on demand"*. There was agreement in the user group interview that this option was essential, particularly where journeys were more complex:

"I think that sort of scenario probably lends itself better to more than there being a sort of self-service thing, you know (….), it lends itself more to it being talked through with someone like a travel planning coordinator – somebody who will find out that, you know, those are your personal circumstances - that you need to factor in the journey to school." (myPTP user, female, post-pilot group interview)

Other suggested ways of personalising the information delivery included running travel workshops, and the participation of the travel coordinator in staff induction sessions.

"People get an email but it just becomes overload, whereas it's the personal that will work. If there's a personal connection, if you can put a face to an email address, people are probably more likely to take it up and that's why I'm suggesting the induction of new members of staff….." (myPTP user, male, post-pilot interview)

The innovator believed that the effectiveness of different approaches would vary depending on the size and nature of the organisation: it would be a case of "know your audience", but recognised that the 'messenger' was important, and not just the 'message' contained in the travel plan.

5. Discussion and conclusions

This research provided specific case-study evidence of the requirement for transport innovators to understand the needs of potential users and the contextual factors which shape these needs. The most active user-contributor to the development of myPTP was a travel plan coordinator facing an immediate need to provide employees with travel information in the light of a large-scale office relocation. Similarly, it was in this organisation that myPTP stimulated the highest degree of consideration of non-car travel options. Regarding the role of information in behaviour change, this research added further evidence to the established knowledge that information can play a role in encouraging people to reduce their single occupancy car use, but only in confluence with other supporting factors. Information is likely to be a facilitator, rather than a generator, of a process which is already underway.

The research showed how an information tool can become enmeshed in wider, contextual issues and even a focal point for resentment about matters which have little to do with the information itself. This was the case at the pilot site where some respondents believed that the proposed increases in parking charges threatened to penalise lower-paid and part-time staff, particularly those with young children. Feedback from users on the problem of complex journeys was consequently considered by the innovator in the future development plans for myPTP. However, this highlights the limitations of one specific tool (or measure), to address some car-centric issues which have become embedded in social practice.

Finally, the research demonstrated the importance of 'champions' in promoting and diffusing a new technology through organisational structures and social networks within an organisation. An engaged and enthusiastic champion with a central transport role is essential, as are other 'diffusers' with an interest in travel behaviour change, such as managers wishing to assist and encourage their staff in making changes. This also creates a more 'personal' dimension to the PTP delivery process, which, alongside measures such as staff workshops, might mitigate the somewhat impersonal nature of web-based PTPs, particularly those sent out through bulk emails.

This case study might offer several good practice points to innovators, and to organisations promoting innovative tools and measures to encourage sustainable travel. For innovators, it highlights the importance of:

- Consulting with potential users (e.g. travel plan coordinators) from an early stage to ensure that the innovation will meet a genuine and recognised need.
- Seeking a detailed understanding of contextual issues affecting travel behaviour culture within target client organisations (e.g. organisational drivers and barriers for travel behaviour change).
- Seeking understanding of specific factors affecting groups of individual users (e.g. dropping children off at school on the way to work) and whether/how the innovation might accommodate such requirements.

For both innovators and travel plan coordinators, the case study suggests that the following factors can contribute to the uptake of the innovation within an organisational setting:

- Ensuring that the innovation is 'championed' by a figurehead within the organisation and promoted face-to-face at events such as staff induction sessions, or travel workshops.
- Encouraging diffusion across the organisation by convincing managers and other influencers of the value of the innovation and encouraging them to 'lead by example'.
- Ensuring that the innovation is 'personalised' as far as possible by the organisation (e.g. branding, promotion of local travel schemes), and that additional, one-to-one travel advice can be obtained.
- Encouraging social interaction about the innovation and associated travel choices among users and potential users at all levels in the organisation.

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Figure Caption (TIFF file appended)

Figure 1: Excerpt of a travel plan generated by myPTP (screenshot)