

INFORMATION-SHARING, COMMUNITY-BUILDING AND TRUST: A CASE STUDY AMONGST COMMUTER CYCLISTS

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Abstract

Research into the use and behavioural effects of travel information has concentrated on top-down information from transport providers, but little is known about the role of informal information, shared through word-of-mouth, in everyday travel behaviour. Through our social interactions about travel we may exert not only an informational influence on one another (building our knowledge of other people's experiences into our active travel choices), but also a more subtle normative influence: conveying information about norms of behaviour within a particular social milieu.

Drawing on theories of normative and informational social influence and self-categorisation, this paper explores some of the social processes occurring when a small group of commuter cyclists interacted with one another through a specially designed, map-based website over six weeks, sharing their routes and other cycling-related information. A mixed-method approach was adopted, comprising observation of website interactions, participant questionnaires and in-depth interviews. Although the main narrative on the website and in participants' subsequent reflections concerned the practical use of the information posted, a key finding was the role which the case-study system also played in building, or reinforcing a sense of "community" (group identification). Different, but overlapping aspects of this concept were detected: belonging to a community of cyclists generally, an emerging community of cyclists within the project, or a work-based community in which participants identified with one another as fellow workers rather than "cyclists". Community-building was found to be associated with high levels of trust amongst group members. Thus it was found that the process of sharing information could perform not only a functional role in diffusing practical travel information, but also a social one whereby perceived in-group membership reinforced positive views of cycling as a commuter mode. Both roles were thought to offer particular encouragement to those who were new to cycling or new to a particular workplace, suggesting that web-based information-sharing might be developed as a useful tool within contexts such as workplace travel plans.

1. Introduction

The case study reported in this paper arose from exploratory, qualitative research into the influence of informal types of travel information, conveyed through word-of-mouth, on everyday travel behaviour (Bartle et al., 2009a and 2009b). The role of word-of-mouth has been studied in fields as diverse as consumer studies, health and tourism, where it has been found to exert a significant influence in areas such as choice of holiday destination and consumer purchasing, but little is known about the ways in which word-of-mouth information might be influencing the beliefs, attitudes, and intentions which contribute to everyday travel behaviour. The initial research, undertaken through interviews and focus groups, sought to

understand the context and content of travel information-sharing, as well as people's perceptions of how far they had influenced, and been influenced by others through word-of-mouth, drawing out some of the social psychological factors underlying these processes of influence. One area where the findings were thought to have practical relevance was that of advanced traveller information, where technology now offers considerable scope for the diffusion of informal, user-generated content alongside the more familiar types of travel information provided by government and transport operators.

Findings from the initial research revealed the value attributed to informal information obtained from other people with first-hand experience of a particular trip, and its role in improving awareness of different travel alternatives and/or improving the trip experience. "Local knowledge" of this type was deemed trustworthy primarily because it was based on the other person's direct experience – an "instrumental-reasoned" or "calculus" explanation of trust, but trustworthiness could also be improved by social and psychological factors such as the degree of familiarity or similarity with the information-giver, or social proximity through shared membership of a particular community ("relational" or "emotional trust"; Rousseau et al., 1998; Johnson-George and Swap, 1982). These themes were explored in relation to all the common forms of transport, but word-of-mouth information-sharing, particularly about routes, was reported to be especially important for trips by bicycle, compared with other transport modes; this was explained by the view that many features of a cycle trip cannot be obtained from "conventional" information sources such as static maps or even on-line cycle journey planners. Whilst many of the features reportedly communicated through word-of-mouth might be described as instrumental, concerning matters such as topography, traffic volumes and infrastructure, interactions with other cyclists had also served a motivational purpose for some people when first considering or taking up cycling. Consistent with research into social identity amongst cyclists (e.g. Skinner and Rosen, 2007; Fincham, 2007), some participants experienced a degree of group identification with other commuter cyclists within their workplace. Thus, it appeared that route-sharing amongst current and potential cyclists was not limited purely to the transfer of instrumental information (cycling as a means of transport to get efficiently from A to B), but also "social information", through which attitudes and behaviour might be influenced - for example, encouraging positive attitudes to cycling and greater confidence in doing so due to a sense of mutual support. An associated element of *normative* social influence was implied within these interactions, in addition to the more expected *informational* effects of traveller information (concepts to be discussed in the next section). Commuter cycling therefore offered a fruitful area for further enquiry.

The case study was also devised in the context of rapid developments in "digital word-of-mouth" (Dellarocas, 2003) and in particular the diffusion of user-generated content via the internet. Nearly all participants in the initial research had expressed an interest in the idea of a web-based source of local, informal travel information, where users could share hints and travel advice with one another. Whilst there is a growing body of research into the use, effects, and underlying social psychological processes associated with both *bottom-up*, web-based content in the field of leisure travel such as www.tripadvisor.com, (e.g. Gretzel et al., 2007), and *top down* information delivered by "advanced traveller information systems" such as online journey planners (e.g. Chorus and van Wee, 2006; Lyons et al., 2007), little is known about the role of digital word-of-mouth in utility travel behaviour. Thus, the idea of developing an online environment in which a small group of cyclists in a particular location might share their knowledge of routes and other cycling-related issues, communicating with one another by means of an interactive map, began to take shape. A key aim of the case study research was to explore in depth some of the social and psychological factors associated with the use and behavioural effects of information-sharing, such as group identification and trust, using observation of actual behaviour as well as participant accounts, and validating the earlier general findings within a specific, applied context – an innovative traveller information system.

2. Theoretical Background

The participants in the case study comprised a small group of people (23) who either cycled, or were considering cycling, to work or study at five neighbouring organisations (3 public

sector, two private sector) in North Bristol. The study population was limited to a small number of neighbouring organisations because findings from the social interactions literature (e.g. Kramer and Brewer, 1984), as well as the exploratory findings reported above, suggest that cooperative behaviour - essential for information-sharing - is more prevalent within a defined community due in part to ingroup identification. Even where participants in the exploratory research did not directly articulate feelings of group identification, they expressed a preference for "local knowledge" from others within their community. Although this was principally because their peers were likely to have relevant experience and this was the main reason cited for regarding their information as trustworthy, it was hypothesised that this form of instrumental reasoning might, to some degree, be acting as a proxy for unarticulated social factors such as group identification and normative influence.

Both the group context and the focus on word-of-mouth as a channel for social influence led to the application of two related areas of theory: the dual process theory of social influence (Deutsch and Gerard, 1955), and self-categorisation theory (Turner et al., 1987). Deutsch and Gerard (1955) reinterpreted some of the "classic" experimental studies of social influence of the 1930s to 1950s by differentiating between *informational* and *normative* social influence. Self-categorisation theory, a development of Tajfel and Turner's (1986) social identity theory, adds the concept of *referent informational influence* to those of normative and informational influence. It may be useful to clarify at this point that, in drawing on this area of social psychological theory, we use the term *information* in its broadest sense – that is, raw data which require interpretation in order to derive meaning (Floridi, 2010). Thus, we encompass the diverse forms of information, both "factual" (for example, "the cycle path starts here") and "social" (for example, "*people like us* cycle to work") which are communicated through social interaction, and not just the factual "semantic information" such as one finds in a railway timetable (Floridi, 2010). The latter definition is the one which is usually associated with "travel information", so it is perhaps unsurprising that the theories used to conceptualise the current research have rarely been used in the study of travel information. Exceptions can be found in the fields of tourism, business and information systems research; for example, the concept of informational and normative influence informed recent studies of online (leisure) travel information use by Arsal et al. (2009); Casalo et al. (2010), and Mendes-Fihlo and Tan (2009). Dholakia et al. (2004) built a social identity variable into their social influence model of consumer participation in virtual communities. Cheung et al. (2009) categorised the consistency and rating of online recommendations as normative determinants of information credibility, and found these factors to be influential alongside informational determinants such as argument strength and confirmation of prior belief.

According to Deutsch and Gerard's dual process theory (1955), informational influence is based on the acceptance of information obtained from others as *evidence about reality*, whereas normative influence is based on the need to *conform with the positive expectations of others*, particularly in a group environment. Both processes may operate in parallel, although the relative importance of each will vary according to the situation. The former process reflects a dependence on others for the reduction of uncertainty, whilst the latter reflects the need for social rewards such as acceptance and approval. In the field of word-of-mouth travel information, an individual might accept information from cyclists about the lighting levels on a particular cycle route as evidence of reality (informational influence), because these cyclists have experience of using the route after dark, so their opinion is to be trusted. However, they may also be subject to a more subtle normative influence – that it is quite "normal" behaviour within this group of cyclists to use this route after dark.

Informational influence is associated with a private acceptance of, and trust in, others' opinions (conversion), whereas normative influence is believed to encourage public conformity (compliance) without an internalised change to an individual's private attitudes. A strong normative influence, as conceived by Deutsch and Gerard (1955) might therefore, in certain situations, help to explain why expressed intentions to change behaviour, such as switching from driving to cycling to work, may not materialise into actual behaviour change (the "attitude-behaviour gap"), or may effect only a temporary change. Hence social psychologists have tended to regard only informational influence (within this specific conceptualisation) as "true influence" (Turner et al, 1987). This is consistent with concepts of

impression management and self-presentation, which suggest that people comply with group norms in order to create a positive self-image in social interactions (e.g. Leary, 1995).

The experimental work of Deutsch and Gerard and other early social influence researchers elucidated specific social processes in a group context, but Tajfel, Turner and colleagues were interested in what happens to people's *identity* in group settings; they argued that in such settings people's psychological processes are qualitatively transformed (Wetherell, 1996), as personal identity gives way to social identity through a process of "depersonalisation". Whilst still maintaining their identity as unique individuals in interpersonal comparisons, people can also perceive themselves as members of a social group with the characteristics of that group, and may modify their attitudes and behaviour to comply with norms within the ingroup (reference group). Perceptions of group membership are fluid, allowing an individual to categorise him or herself as a member of, and identify with, different groups, at different levels of abstraction, as they become more or less salient. Self-categorisation theory is thus a general theory of group behaviour which emphasises the effect of self-definitions (self-stereotypes) in the context of social groups. Thus, an individual may categorise him or herself, for example, as a man or woman, a student, a parent, a car-driver or a cyclist at different times in different circumstances, and may alter his or her behaviour depending on the saliency of a particular social identity.

Turner identified a form of social influence called *referent informational influence*, whereby people adjust their identity, attitudes and behaviour to correspond with the collectively defined attributes of their social groups (Wetherell, 1996). He argued that normative and informational influence were not as easily distinguishable as Deutsch and Gerard's theory suggested, and that referent informational influence integrated both concepts: the basic influence process is one where the normative position of people categorised as similar to self tends to be subjectively accepted as valid (Turner, 1991). Thus, it is not the informational content *per se* of others' opinions and actions which matters, but the extent to which it is validated by ingroup consensus (Turner et al. 1987). So, returning to the earlier example of shared information about lighting on a cycle path, Turner's theory would suggest that consensus amongst a "reference group" of cyclists (e.g. work colleagues) about the safety of using the path after dark would exert more influence on an information-seeker within the same group than factual content about the lighting itself. Both dimensions of the information would be deemed more trustworthy than information provided by an outgroup (for example an unidentified cyclist or information from an "official" source such as the local council). However, this interpretation might be questioned as one which underestimates individual differences in personality and behaviour, particularly in terms of susceptibility to group influence, and is especially incongruent with the concept of the "individual rational decision-maker", within which the design and study of traveller information systems has traditionally been framed.

By framing the present research within the theories discussed in this section, we offer an alternative, social perspective which may complement conventional individualist understandings of travel information use. We explore ways in which factors such as social identity might play a role in specific travel information use contexts, and how this might differ from the more traditional approach in which the individual user is seen as an 'information processing unit', applying instrumental reasoning but with little or no interaction with, or influence from others.

3. Methodology

Much of the classic social psychology theory outlined above has been developed and tested through experimental methods in the laboratory, although some studies of ingroup identification were also carried out in natural settings (e.g. Festinger et al., 1950). Qualitative research is unusual in this field, and is indeed the weaker partner compared with quantitative methods within travel behaviour research. However, strong arguments for the qualitative approach have been advanced within both psychology (e.g. Smith, 2008, Banister et al., 1994) and travel behaviour research (e.g. Clifton and Handy, 2003, Goulias, 2003), because of its role in improving understanding of the complexity of human behaviour within specific, real-life contexts and where "key variables" may still be undefined. The present research required a qualitative approach because it sought exploratory understanding of social

psychological processes which could be studied most effectively through observation of behaviour in a “natural” (non-laboratory) environment, supplemented by an exploration of people’s own understandings through interview.

Consistent with the case study approach, several data collection methods were combined: observation of interactions within a case study “traveller information system”, questionnaires (open questions) and in-depth interviews with participants. This provided an opportunity to analyse both the observed behaviour and participants’ own accounts of the experience of using the system, thereby strengthening the validity of the findings. The case study system needed to exhibit a number of features in order to make it suitable for the study of the social mechanisms underlying the exchange of information. Users should be free to interact with one-another electronically (as they might, for example, through an internet discussion forum), and the case study should be limited to a specific community in order to provide opportunity for the study of trust and in-group identity, and to concentrate on the sharing of “local knowledge”.

As an existing traveller information system which met these criteria had not been identified, it was necessary to create a web 2.0 platform specifically for the study, and recruit participants to use the system for an experimental period. The task of creating a case study setting was undertaken by the designer of a local map-based website, www.bristolstreets.co.uk, which provides a variety of community information, including transport in the city of Bristol. A distinctive feature is that all the information is based on a Google map, overlaid with different categories of information (e.g. a cycling layer, a bus layer, an events layer). The transport component combines formal travel information, such as bus routes and timetables, with an interactive cycling layer on which people may draw routes and add comments. A secure layer of the website, with a number of bespoke, interactive features, was created for the purposes of the current research. As explained in the introduction, user-generated cycling information was selected as a focus for the study; hence the project was given the name *Cycology*.

The group comprised 23 participants (13 women, 10 men) who all worked or studied at five neighbouring organisations in North Bristol. Participants were selected purposively in accordance with a number of criteria: gender, age, workplace, area of residence, and degree of cycling experience. Frequency of cycling to work varied from every day to very occasionally, and one participant was considering cycling to work but had not yet done so. The group size was limited to this number so that all participants might gain an impression of one another through the website interactions (at the start almost all participants were unknown to one another), and, importantly, to allow the first author the opportunity to meet and interview all participants. Participants were asked to use the *Cycology* website over a period of 6 weeks. They were invited to mark their favourite cycling route/s on the interactive map, post comments or photographs, discuss local cycling matters, and respond to one another’s questions. Each marker appeared on the map as a balloon identifying the person who had created it. Clicking on the marker revealed a comments box, to which subsequent comments (posts) could be added, in the manner of a discussion thread. As well as the geographical markers, it was also possible to create “floating markers” for comments and responses not relating to a specific location. To personalise the messages, participants could submit a thumbnail image such as a personal photo or avatar. In the manner of a discussion forum, participants were sent an email digest every day, containing any markers which had been created, or comments added to existing markers during that day.

All the interactions were observed and recorded. The first author also had site administration rights which allowed her to analyse participants’ browsing activity: which markers they were looking at and when, which meant that descriptive statistics pertaining to usage of the website were also collected (e.g. frequency of logging-in and number of comments boxes opened by each participant). A questionnaire comprising open-ended questions was issued to participants at the end of the case study period in order to elicit their immediate thoughts on the experience of participating in the project. Questionnaire responses were used to help inform the subsequent one-to-one interviews with participants. Website posts, questionnaires and interview transcripts were coded and analysed, using both thematic (horizontal) analysis across all participants and data sources, and holistic (vertical) analysis of data sources pertaining to each individual.

4. Findings

A numerical overview of activity on the Cycology website is presented by way of introduction. Over the six week period of the project, 132 postings were added to the site by the 23 participants, of which 67 elaborated on routes drawn on the map, and 65 comprised general comments, questions or responses. The average number of posts per day was similar to the number appearing on two “real-world” cycling discussion forums observed for comparison. 80 postings formed part of 29 short discussion threads. The mean number of posts by each participant was 5.8 (highest = 14, lowest = 1). Four participants accounted for 34% of the postings. Viewings of markers on the website numbered 1059 over the six weeks. 89% of these markers were posts, or groups of posts (discussion threads) created by participants, the rest being markers already present on the website, such as those showing the location of cycle shops. The number of markers opened per individual ranged from 1 to 127 (mean: 46).

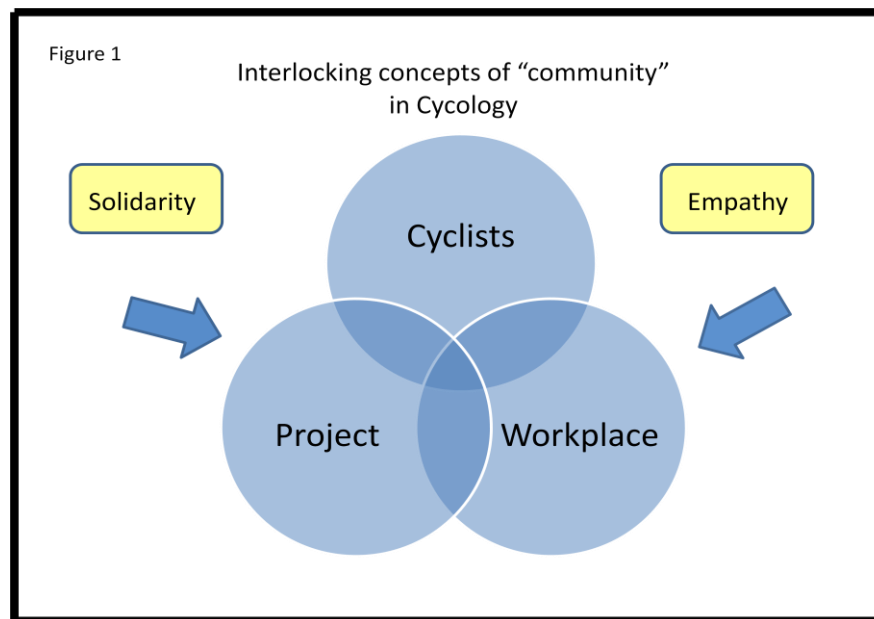
The major topic of discussion on the Cycology site was cycle routes between the participants’ areas of residence and their places of work. Other postings generally took the form of up-to-date warnings, such as an incidence of bike theft or broken glass on a roundabout, discussion of general cycling issues such as taking bikes on trains, notification of a cycling event, and observations about the cycling experience in general or specific occurrences on the journey to or from work. As well as providing their own information and observations, many participants also posted questions to other members of group.

A number of changes to participants’ intentions and behaviours were revealed in the interviews, and to a lesser extent through website posts (for example when participants announced an intention to try out another person’s suggested route, or reported back after they had actually done so). Most significantly, of the 23 participants, 13 people tried a new cycle route which they had seen on the site, two re-tried a route they knew but had not used for some time, and a further three said they intended to try a new route. This provides direct evidence of social influence arising from the online information-sharing, expressed through new intentions and behaviour (albeit in the narrow field of cycle route choice). Many reported in the interviews that the project had also reinforced existing “pro-cycling” attitudes, although there was little indication of actual *changes* in attitudes towards cycling or transport in general. Other reported effects of the project were a greater propensity to take action on cycling matters (e.g. reporting problems along a route to the city council, or commenting on proposals), and for some, qualitative changes occurred to the way in which they experienced their regular cycle commute, as they looked out for features remarked upon by others, and also actively looked for interesting or “newsworthy” aspects of their trip to report to others (for example recommending a scenic view, or warning others of broken glass). In the following sections we consider some of the inter-related social psychological factors which may account for the social influence which occurred amongst group members within the Cycology project, in the light of the theories reviewed in the previous section. Interviews and questionnaires provided the main sources of data for these parts of the findings.

4.1 Concepts of community

Phrases such as *community-building*, *cycling community* and *virtual community* arose without prompting in many of the interviews and questionnaire responses, and these were interpreted within a framework of social identity and self-categorisation theory. Three types of “community” were identified within participant accounts: a community of cyclists generally, a work-based community, and a community of cyclists within the project. Self-categorisation theory posits that group identification contributes to cooperation (in this case, the sharing of information) and allows referent informational influence to occur within the group. As Figure 1 suggests, these different communities were often felt to overlap, although they were ascribed different levels of importance – or salience - by different people. For some participants, cycling was the common factor which generated a sense of association within the project (group identification):

“I definitely feel that, being a cyclist, I definitely feel more of a community link with them somehow, because I know they’re cyclists”.



For others, a greater sense of community arose from the knowledge that the participants worked for the same organisation, or a small group of neighbouring organisations. Over half of the participants worked for the same employer, and these people were most likely to link a sense of workplace identity to the project. For others, a sense of community ensued from the project itself: *"I think the project gave it a sense of community. I think it transcended where you work or anything"*. Not all participants believed that a sense of community had been created within the project, but did make general observations about "the cycling community", although in a small number of cases there was little personal identification with this group – two such participants described themselves as being, by nature, unsociable or unattracted by the idea of belonging to a group. Significantly, the person who had not yet cycled to work said she felt excluded from the project because she perceived the other participants to be confident and experienced cyclists. The Cycology group did not, therefore, act as a reference group for her through which referent informational influence might occur.

The high level group categorisation of "all cyclists" was more likely than the project or workplace group categorisations to generate a sense of intergroup contrast with the users of other transport modes (especially motorists). Several participants spoke of a "them and us" mentality:

"And so you've become, you create this sort of "us against them" mentality, just to keep yourself safe. So everybody then clamours together. Because of power in numbers and everything."

Two factors which contributed to the sense of community in all three forms, and a consequent willingness to share information, were a sense of solidarity and empathy with other group members (see Figure 1):

"I mean, I kind of got a sense that everybody doing it, you know, we're all cycling, everyone kind of had an attitude of, you know, being willing to share information, help each other. It was a nice feeling of solidarity in a way(...). So it was quite a nice feeling of community."

Some types of posting to the website were particularly associated with community-building, and these often involved sharing experiences and emotions rather than simply functional information:

"I think that, you know, if you're creating a sense of community, it's not only the information that is getting across, but also the feelings and motivations. You know, "I

had a good day, I had a bad day". And those sort of shared experiences that make a sense of community. If it's just sort of "I go from point A to point B this way", it's not nearly as..., it doesn't touch you as much."

One person - the most active contributor to the website - reported that the process of interacting with other Cycology participants had, in itself, helped her to feel part of a wider cycling community, and that this had in turn encouraged her to continue cycling:

"When people responded to my comments I did feel quite excited about being involved in the cycling community, and was therefore encouraged to write more (...). Participation in this project made me feel part of the cycling community which was quite nice. When I felt bad about it, e.g. in rubbish weather, I knew there were others who had gone through the same, which encouraged me to keep cycling- I am now an "all-weather cyclist!"

Interestingly, this participant had only recently started cycling to work. The sense of community in its various forms, and related sense of "social support", was indeed most likely to be expressed by those who had switched to cycling from other commuter modes relatively recently (within the past two years). Participants who had been cycling to work for many years implied that social support for cycling was not something they particularly required, because cycling was simply part of their routine: a habitual behaviour; hence attitudes (and intentions and behaviours) were likely to be more stable and less likely to be influenced by others. In social identity terms, it might simply be the case that people's "cyclist social identity" becomes less salient as it becomes a more habitual transport choice.

4.2 Trust

Closely linked with theories of social identity and social influence is the degree of trust in information provided by other members of the group. Trust is a pre-condition for informational social influence (accepting information from others as evidence of reality), although not necessarily for normative influence (conforming with group norms to gain approval). Deutsch and Gerard's dual process theory (1955) suggests that members of a group are more likely to take the judgments of other group members as trustworthy evidence of reality (compared with non-group members), and, hence, are more susceptible to informational social influence. They add that this greater trustworthiness usually reflects more experience of the reliability of the judgments of other members and the "benevolence of their motivations". How far was this borne out in the Cycology study? Interviews and questionnaire responses revealed that all participants considered the information posted on the website to be reliable and trustworthy, and this was validated by the finding that the majority had used a cycle route suggested by another participant. Consistent with earlier findings outlined in the introduction, participant accounts indicated a predominantly calculus-based reasoning for this trust (Rousseau et al., 1998) relating to the intrinsic quality of the information: because the other participants had real experience of the routes, because the information was up-to-date and inaccuracies could quickly be corrected by others, and finally, because a level of detail could be provided which was absent from other (formal) information sources such as static cycle maps. One participant summarised the calculus-based trust she had in the information on the website as:

"Reliable because it was current, real and open to comments - so if there were inaccuracies someone would pick it up, or if there was a better alternative then that would be suggested."

In this sense, an online group format such as the Cycology website was thought to offer advantages over one-to-one interactions because inaccurate information could be swiftly corrected by others, and in cases where opinions differed, the reader might be guided by the consensus or majority view. Hence, information appeared to be perceived as more reliable if it represented a group norm.

"It becomes a discussion, doesn't it, of things. So in a sense, if somebody put something that is outrageously incorrect, it's not a bad thing, because it does encourage other people to refute it. And give you good information".

Many participants were also able to compare some of the posted information with their own experience, or were prepared to test the reliability of information by simply trying out a suggested route. This was aided by the belief that trying out a new route in a familiar area is a low risk activity, so it is easy to give other people's suggestions the benefit of the doubt. This corresponds with Deutsch and Gerard's (1955) assertion that greater trustworthiness is possible where the reliability of other group members' judgements can be checked. However, Turner (1991) later argued that group formation, and social categorisation of others as an appropriate reference group, produces shared expectation of agreement *prior* to any process of influence, so trust in other group members should *precede* any validation of their reliability.

Turner's position is supported by a finding pertaining more to "relational trust" than the calculus trust discussed above (Rousseau et al. 1998). Some participants indicted a more social dimension to their trust in the website information, associated with their relationship with other members of the group because: *"actual people 'with faces' had posted them"*. Sometimes this involved a judgement being made about attributes (especially fitness level) of an individual participant – the greater the perceived similarity between the giver and receiver of information, the greater the credibility attributed to it by the latter. However, more usually trust was based on assumptions about the good intentions of the group as a whole:

"There's nothing to be gained from putting any misleading information in there. Everyone is actually trying to help each other really and trying to improve their own experience of cycling, I suppose".

"Knowing that these are real people and that it was a relatively small group, I felt in no way that I needed to doubt any information".

Assumptions were therefore being made about the benevolence of people's motivations within the group (Deutsch and Gerard, 1955). An association between small group size and an "automatic" trust in others - despite not knowing the individuals involved - was made by a number of people. For example:

"I didn't really know anyone in advance. Because it was such a small group of us, in a sense, (...) well, I automatically trusted them, really, and their advice."

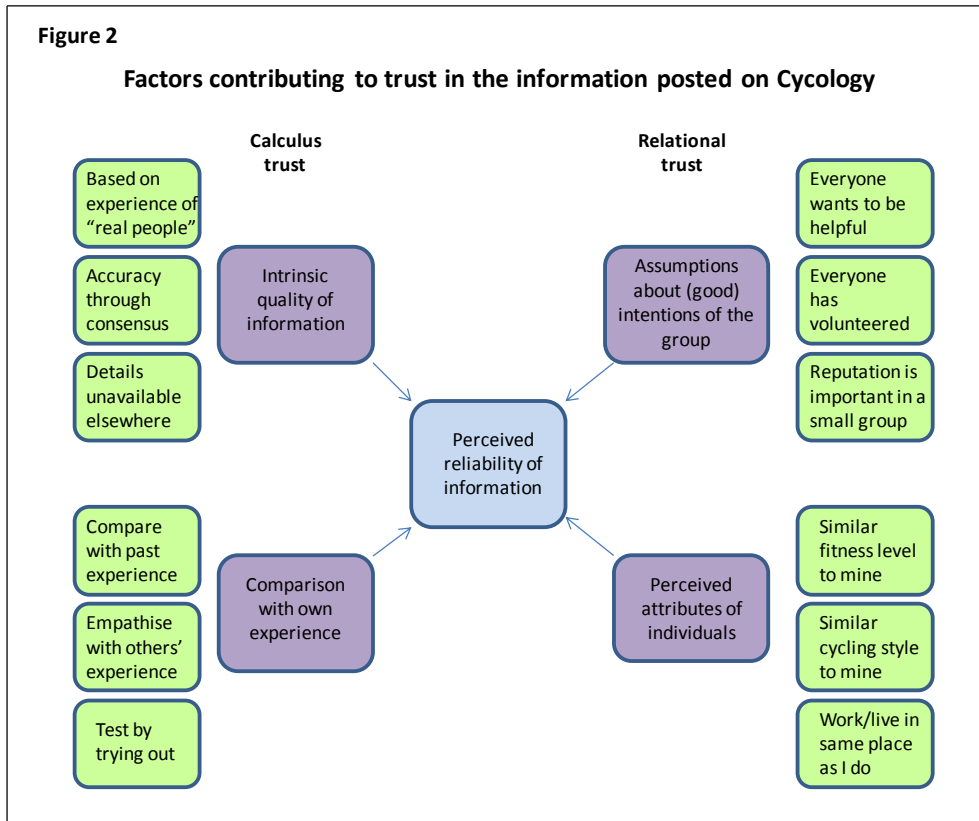
However, most participants believed that the Cycology group could have been bigger without losing its sense of "intimacy" and corresponding sense of community and reliability, and this might be maintained even if an information system such as this were to be open to participation by anyone in an organisation of several thousand people.

Although trust did not, for most people, appear to move beyond a heuristic, generalised trust in the group as a whole, some people remarked that they began to recognise individual names and came to trust particular contributors, largely through experiencing their routes and observations firsthand. Hence, trust could both be detected as both a function of the group *per se* (c.f. Turner, 1991), and as a consequence of the experience of using information provided by others.

For some, trust was associated with accountability and reputation within this small group. Here trust appeared to be part of a social exchange, or "reciprocal helping" (Bierhoff, 2002).

"I think there's a high bit of accountability with this sort of thing (...) I mean, when I was writing mine I was thinking, I'm posting a good route, I want to give a good description, I want people to be able to use my route (...). So I just tended to trust them, I had no reason not to".

The factors which we have discussed above, which contributed to the perceived reliability (trustworthiness) of the shared information, are summarised in Figure 2.



Which of these trust factors, which emerged from participant accounts in a “grounded” manner, might be conceptualised as channels of normative, informational or referent informational influence? The factors on the left of Figure 2 (intrinsic quality of the information and comparison with own experience) can be linked to accepting others’ advice as evidence of reality, so influence ensuing from them might be categorised as straightforward informational influence. The trust factors to the right (assumptions about the benevolent motives of the group and perceived similarity with group members) incorporate a social identity dimension; trust is enhanced through positive expectations about the reliability of a “reference group” of fellow cyclists: hence referent social influence may ensure. Normative social influence, in the manner defined by Deutsch and Gerard (1955): compliance to seek approval and acceptance within the group, provides an unconvincing explanation, *on its own*, of the mechanisms of trust and influence within the Cycology case-study, but would seem, nonetheless, to be an intrinsic element of several trust factors. For example, the concept of “reputation building” within the group (appearing in the upper right of Figure 2) implied a normative pressure to provide trustworthy information and to be regarded, as one participant articulated, “as a trusted member of the community”. The link made between group consensus and information reliability also suggested a process of accepting agreed norms of opinion within the group, and here a parallel can be drawn with recent literature on the credibility of electronic word-of-mouth in the context of online consumer recommendations (e.g. Cheung et al., 2009). The role of group consensus in assuring accuracy is identified in the upper left of Figure 2.

5. Discussion

In presenting findings from a case study of information-sharing amongst within a group of commuter cyclists, we have argued that theories of social influence can be helpful in elucidating some of the underlying processes which occur when people seek and offer travel information through word-of-mouth. This body of theory offers a tool for understanding the use and effects of traveller information from a perspective which has hitherto been neglected: the role of informal information, its transmission through social interaction, and

related influences on everyday travel behaviour. Whereas “conventional” understandings of travel information focus on “facts” about times, routes, costs and so on, provided by official sources to help the individual make utility-maximising travel choices, our analysis has conceptualised travel information as something broader in which “facts” are overlaid with subjective opinions, emotions and normative messages as they are communicated between people. The addition of a “social layer” to the travel information means that social processes (such as referent social influence) may operate alongside well-documented processes of individual, instrumental reasoning. In our case study, the interactive nature of the website, together with the limited size and composition of the user group created an environment for processes of group identification, trust and social influence which could not ensue if individuals were simply provided with “standard” cycling information such as static maps and data about cycling facilities.

At this point a note of caution should be sounded. This paper has focussed on findings from the case study pertaining to social influence, informed by relevant theories, but this is not to deny the importance of individual factors such as personality differences, instrumental factors, and conventional notions of utility-maximising travel behaviour which were also apparent in the findings (in fact, social identity theory has been criticised for assuming too sharp a distinction between personal and social identities; Wetherell, 1996). Further research would be required to ascertain whether or not there is a direct and significant relationship between the social factors we have discussed and people’s propensity to follow the travel advice of others (such as others’ route suggestions, as occurred in the case study). Moreover, it might be conjectured that cyclists are particularly susceptible to notions of ingroup identification, so further work is required to explore these theories amongst users of other transport modes and in different social contexts.

6. Conclusion

Caveats aside, the present research showed that the process of sharing information could perform a community-building role whereby positive views of cycling as a commuter mode were reinforced, alongside the more obvious functional role of diffusing practical travel information. Both roles were thought to offer particular encouragement to those who were new to cycling or new to a particular workplace, when identification with other cyclists appeared to be especially salient. This raises the question of whether it is possible to stimulate “sustainable transport identities” as a means of encouraging sustainable travel behaviour within defined communities such as the workplace. One challenge is to stimulate such identities in a way which draws people in, rather than creating exclusivity; for example, a reference group of people who walk, cycle or use the bus occasionally may be more conducive to travel behaviour change overall than the existence of stereotypical “hardcore cyclist” ingroups. The Cycology case study showed that web-based information-sharing can stimulate social processes which support cycling in a specific small group environment; as technological possibilities in the field of user-generated content continue to grow, the effects of this form of travel information may warrant further investigation in greater breadth and in different contexts.

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