

Data Donation: Sharing Personal Data for Public Good?

Anya Skatova

Horizon Digital Economy Research,
University of Nottingham,
Jubilee Campus, NG8 1BB
anya.skatova@nottingham.ac.uk

Esther Ng

Horizon Centre for Doctoral Training,
University of Nottingham
Jubilee Campus, NG8 1BB
esther.ng@nottingham.ac.uk

James Goulding

Horizon Centre for Doctoral Training,
University of Nottingham
Jubilee Campus, NG8 1BB
james.goulding@nottingham.ac.uk

ABSTRACT

With the advancement of digital technology, large amounts of our personal data is being recorded and retained by third parties, constituting an invaluable asset to both governmental and private organizations. Nonetheless, there is now increasing interest in whether such data might also generate *public good*. Could it be used to illicit environmental consequences upon behaviour? Could it determine the contribution of nutritional effects upon illnesses such as asthma and diabetes? Before we can address such questions, we must first understand what motivations (if any) would underpin people's donation of personal data. To this end, we present the results of two online studies. We isolate two distinct factors relating to motivations to donate personal data, the opportunity to achieve self-benefit and prosocial concern for others, resulting in two distinct behavioural groups. We further provide evidence for the strong effect that public reception of the "recipient" research organization has on such decisions, and discuss the implications of these results in terms of data sharing practices.

Keywords

Personal Data, Prosocial Behaviour, Donation, Public Good.

1. INTRODUCTION

In the new global digital economy, personal data is increasingly being recognized as an invaluable business asset. Although there exists research focusing on what value people place on personal data (Skatova et al, 2013), we know very little about peoples' motivations to share such data freely for purposes of *public good*. Would individuals would be willing to risk donating their personal data for prosocial purposes, even when such a decision might potentially jeopardize their privacy? Are their cases where such concerns might be outweighed by potential benefits to society (e.g. supermarket loyalty card data being donated along with customers' self-reports of health issues, in order to uncover hitherto unknown nutritional patterns associated with various diseases). In this paper we examine these issues, investigating what factors might motivate, or preclude, the decision to donate personal data to socially beneficial research causes.

2. BACKGROUND

Prosocial behaviour is an umbrella term used to describe actions undertaken to benefit other people or society as a whole (Schwartz & Bilsky, 1990). It includes volunteer work (Foster et al, 2001), money (Frey & Meier, 2004) or blood donation (Piliavin & Callero, 1991), and helpful interventions (Batson, 1987). Given the high frequency of prosocial behaviours in our society, extensive research has explored the individuals' motivation to benefit others (Weinstein & Ryan, 2010) and it has been demonstrated that, apart from various objective factors such as person's income or attitude to specific cause, people are

highly motivated both by the desire to help others (e.g. "by donating blood I will contribute to the good of society") and to receive direct benefit (e.g. "by donating blood I will get days off work") (Evans & Ferguson, 2014). Similar factors may well influence an individual's willingness to donate personal data. Such differences in motivations will have large implications for any campaigns that encourage the sharing of personal data for social good. Research has shown that those induced toward a communal orientation are more likely to help (Clark et al, 1986) and pay more attention to recipients' needs, resulting in greater benefits to both parties (Clark et al, 1987). However, it is not currently clear whether these conclusions can also be applied to prosocial behaviour in data donation. Via two initial investigatory studies, we examined people's dispositions to the sharing of personal data for *purposes of public good*, and investigate the motivations underpinning those decisions.

3. STUDY 1: Donators' Motivations

Our first study focused on an examination of potential drivers for personal data donation, and the issues that might preclude such behaviour. 125 volunteers were recruited via departmental mailing lists and word of mouth to complete an online survey. Participants were incentivized by £20 prize draw, with the survey being distributed via the *Qualtrics* platform. The mean age of respondents was 29.32 (21-57) years old; 72% - female, 28% - Male. Of these 14% said they were not familiar with the concept of personal data is, with 65% reporting the converse. 34% reported dealing with other people's personal data at work in some form, and 4% consider themselves experts in the area.

Participants were first supplied with a paragraph describing how retail transactional data might be recorded, with the possibility then being raised that such data could be donated to charitable or research organizations (e.g. Cancer Research UK, to facilitate research of illness/disease and thus contribute to the public good). Participants were subsequently asked to rate how likely they would be to consent to such a request using a seven point scale ranging from unlikely to likely, with additional option to comment. Participants were next presented with 37 questions, each containing a statement reflecting a reason to donate/not donate personal data (e.g. *I would donate data to charity/health organizations: due to genuine concern about social issues; if research would benefit a family member; based on how it would be used.*). Questions were based on previous literature on prosocial behavior (e.g., Evans & Ferguson, 2014), and participants were instructed to rate how strongly they agree or disagree using a five point Likert scale.

3.1 Study 1 Results

60% of participants stated that they would be willing to donate transactional personal data to research if it could lead to public good, with only 25% stating that they would not (see figure 1 for the distribution of results). While these results strongly

evidenced prosocial data sharing behaviour, 90 participants also chose to comment on this decision. The majority of these were justifications of positive responses (e.g. “*I see no reason to object to this data being used, as long as it is anonymized*” / “*all manner of things are already being done with my shopping data... it can't hurt to contribute to public good*”). Several participants, however, provided clear qualification that decisions were dependent on how data would be treated (e.g., “*This depends on who was leading data collection and their policies*” and “*this would depend on the research involved*”).

We then applied Exploratory Factor Analysis (Fabrigar et al, 1999) to the 37 motivational items, uncovering that individuals appeared willing to donate personal data for 2 distinct reasons: (i) concern about others or society and (ii) concern about personal benefits (e.g. tokens and reputation). Results showed that the higher the concern an individual declared for others, the more likely they were to donate (see Figure 2). On the contrary, the self-benefit motivation was stronger in those who stated low likelihood to donate (see Figure 3). Projecting participant responses onto the two exploratory factors also revealed two distinct behavioural groups (see Figure 4): a group of individuals with high prosocial motivation acting independently of self-benefit, and a group with lower prosocial tendency exhibiting a strong linear relationship with self-benefit motivations. Experience of working with personal data did not appear to affect such motivations or likelihood to donate.

4. STUDY 2: Donators' Perceptions

An interesting output of participant comments from Study 1 was that the perception of receiver organization was stated as an important factor in the decision to donate personal data. Study 2 therefore examined how different “receiving” organizations were perceived, concentrating on the attributes by which individuals differentiated them most significantly. 65 volunteers were recruited via departmental mailing lists and word of mouth to fill in an online survey for no monetary incentive. The survey was again distributed via Qualtrics software. The mean age was 32.25 years old, with a range of 21 to 67; 48% of participants were female; 40% were born in UK and 50% have resided in UK for more than 5 years. 12 items were presented to participants to assess their perception of various organizations. Items represented dimensions of trustworthiness (e.g. “I have confidence and trust in this organization”) and familiarity (e.g. “This organization is well-known”). Participants were requested to rate 12 items using five-point Likert scale. Each participant had to separately rate 3 randomly chosen organizations out of list of 14 (e.g., Cancer Research, Experian, UK Government, etc. - see Figure 5 for the full list), using the set of twelve items.

4.1 Study 2 Results

Applying factor analysis on the twelve items demonstrated that we only needed two dimensions (which we were able to characterize as “familiarity” and “trustworthiness”) to succinctly explain how people differentiated between organizations. We found that some organizations were rated as both “trustworthy and well-known” (e.g. Cancer Research UK), while others were “well-known but untrustworthy” (e.g., UK Government) or “trustworthy but not well-known” (e.g., Institute of Food Research UK). Finally, there were organizations, which were rated as not well-known and not trustworthy (e.g., Mintel Marketing Research Company; see Figure 3).

5. CONCLUSIONS

The main contributions of this paper were to demonstrate that (a) a majority of respondents were willing to donate personal data to research intended to lead to public good, and (b) participants associated their motivations to donate their personal data with self-benefit and concern for others. These motivations were associated with the likelihood to donate: those who were likely to donate made these decisions mostly in order to help others; participants who were less likely to donate were motivated by guaranteed direct personal benefits. Our results also showed that the way people perceived the “recipient” research organization that would analyze the donated data was key to their decision to donate. In Study 2 we explored public perceptions of different organizations and demonstrated that two aspects were the most relevant: the trustworthiness and familiarity of the organization.

Our findings would appear to find that the concept of Data Donation holds promise as a useful tool in digital economy, providing value to third sector and well-being researchers as well as marketing and the private sector. We further demonstrated that motivation to donate personal data for public good match those identified in previous research on prosocial behavior in domains such as blood donation (Evans and Ferguson, 2014), as well as with more generic motivational constructs (Skatova, 2011). We suggest that self-benefit and other-regarding dimensions of motivation should be accounted for when prompting people to provide their personal data for public good. Future research could look into whether the way organizations are perceived (e.g., high on trust and familiarity versus low on trust and familiarity) will influence the likelihood to donate personal data and the reasons behind it.

6. ACKNOWLEDGEMENTS

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7. REFERENCES

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8. FIGURES

How likely are you to donate your data from loyalty cards (e.g., Tesco) to research that may lead to public good?

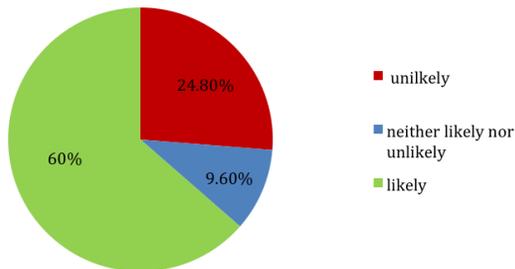


Figure 1. Percentage of participants who are likely, unlikely and neither likely nor unlikely to donate their personal data from loyalty cards to research that may lead to public good

I am likely to donate my personal data, because...

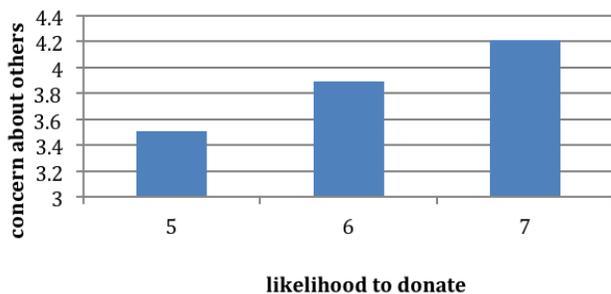


Figure 2. Likelihood to donate personal data versus concern for others.

I am likely to donate my personal data, because...

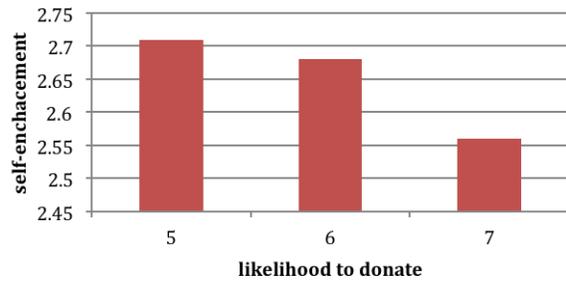


Figure 3. Likelihood to donate versus desire for direct benefits.

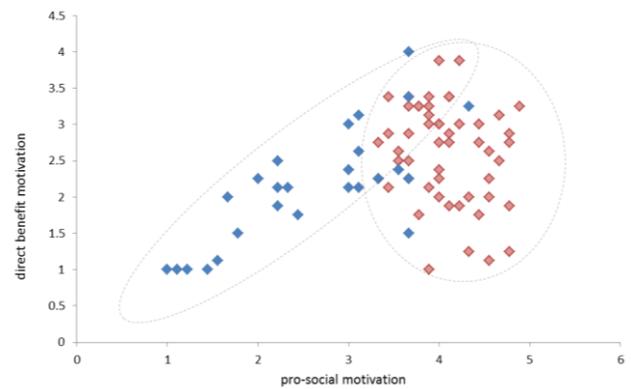


Figure 4. Cluster Analysis of the two explanatory factors underpinning motivation to donate, illustrating distinct motivational groups.. Blue dots represent individuals with a low willingness to donate (3 or less); Red dots individuals with a high willingness to donate (5 or more).

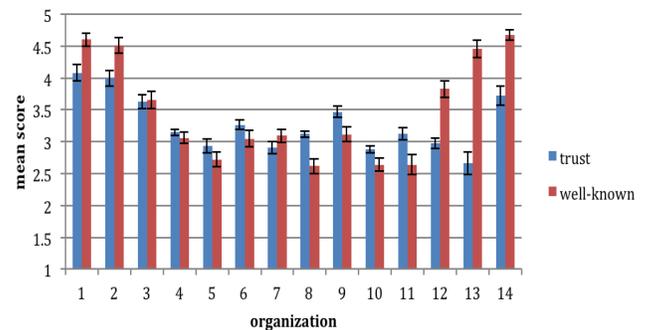


Figure 5. Perception of different organizations on trustworthiness and familiarity: (1) Cancer Research UK; (2) British Heart Foundation; (3) Alzheimer's Society; (4) Diabetes Foundation UK; (5) Defense Science and Technology Laboratory UK; (6) National Institute for Medical Research, UK; (7) Department for Business Innovation and Skills, UK; (8) Institute of Food Research UK; (9) School of Medicine, University of Nottingham; (10) Mintel Marketing Research Company; (11) International Institute for Environment and Development; (12) Experian Plc; (13) UK Government; (14) National Health Service (NHS).