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Attaining Social Value from Electronic Government

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Abstract: We define and elaborate a Social Value framework supporting evaluation and attainment of the broader socio-political and socio-economic goals that characterise many electronic government initiatives. The key elements of the framework are the willingness of citizens to (positively) recommend an e-government service to others, based upon personal trust in the service provider, and personal experience of the service, based upon experience of service provision and outcomes. The validity of the framework is explored through an empirical quantitative study of citizens' experiences of a newly introduced e-government system to allocate public social housing. The results of this study include evidence of generic antecedents of trust and willingness to recommend, pointing the way to more general applicability of the framework for designers and managers of electronic government systems.

Keywords: electronic government, social value, public value, recommendation, trust, evaluation.

1. Introduction

Expectations of electronic government (e-government) go beyond mere customer satisfaction – they encompass a desire for much broader social outcomes. For government, examples of such goals include social inclusion, community development, well-being and sustainability (ODPM 2004; 2005). Equally, citizens attach value to the entitlements of others, for example, in respect of the quality of health care, threshold standards of education, and access to civil and criminal justice (Kelly et al., 2002). Attainment of these socio-political and socio-economic goals depends both upon appropriate evaluative measures, which meaningfully link service provision to strategic outcomes, and upon high levels of citizen engagement with electronically-mediated access to government and public services.

For much of the period within which electronic government systems have been deployed on a large scale within the UK, evaluative measures have largely been informed by the paradigm of 'New Public Management' (NPM). NPM was premised on a belief that value would be created "by mimicking organisational and financial systems used by business" but, in the public sector, the result has been "an inappropriate emphasis on narrow concepts of cost-efficiency and a downplaying of non-functional objectives that are difficult to measure" (Kelly et al., 2002, p.9). In respect of this latter observation, it has also been observed that strategic goals were often reduced to simplistic contractual targets that lent themselves to manipulation and contrivance in their specification and attainment (see also Moore, 1995).

From an information systems (IS) perspective too, approaches to evaluation and management focus predominantly on functional alignment with specified formal requirements and economic performance measures such as cost reduction, profit, return on investment and so on (Willcocks & Lester, 1999; Irani & Love, 2002). Alternative approaches to evaluation have been espoused, most notably from a socio-technical perspective. These seek to enrich the work context for the user whilst addressing corporate goals (Mumford, 1983). Other approaches, such as interpretive evaluation (Walsham, 1999) and critical theory (Klecun and Cornford, 2005), attempt to draw upon a wider circle of stakeholder perspectives. Whilst all of the above approaches have something to

offer in the context of e-government, none are developed to the point where they offer a well articulated framework supporting the attainment of the *broader* socio-economic and socio-political goals that characterise so many e-government projects.

Recognising this perceived inadequacy of existing measures of value for e-government, local government politicians, officials, system developers, and managers have recently articulated a desire for better ways of evaluating and attaining what they term the “social value” of their programmes (Irani and Elliman, 2007). In moving away from NPM-style targets and accounting measures, many have turned to customer satisfaction, which recasts citizens and clients as customers (Clarke et al., 2007). But citizens have different expectations and, indeed, statutory entitlements, and they have expectations of public services and their governance that go beyond personal satisfaction. For example, value is attached to the entitlements of others, as outlined in the introduction, in respect of what Moore (1995) terms “normatively compelling collective purposes”. There is also evidence that people resist seeing themselves as mere customers when they become users of public services, and that public servants see users differently too (Clarke et al., 2002, p121-138). Thus, it seems probable that private sector measures of customer satisfaction are likely to be no better at evaluating the strategic value of e-government than NPM-style targets.

The goal of this paper is to elaborate elements of an evaluative framework which begin to assure, more effectively and naturally, the achievement of broader socio-political and socio-economic goals such as those outlined. We focus on systems which mediate access to local government public services, choosing the allocation of public and social housing as our working domain. The key elements of this framework are firstly, citizens’ trust in service providers and secondly, their willingness to (positively) recommend an e-government service. Each of these elements is based upon individuals’ personal experiences of service provision and perceptions of service outcomes, including outcomes that benefit others and not themselves. The validity of the framework is examined through quantitative analysis of data drawn from a sample survey which explored citizens’ experiences of a newly introduced e-government system to allocate public social housing in a large borough council in Southeast England. Similar systems, collectively termed Choice-based Letting (CBL) schemes, have been deployed by most local councils in the UK. (Throughout this paper, we refer to the specific scheme we have studied using the generic acronym, CBL.)

The framework is intended to complement existing approaches to e-government evaluation, so elements which incorporate established functional, technical and economic measures of effectiveness and efficiency are not included here. The remainder of this paper is organised as follows. In Section 2 we respond directly to the needs of politicians, officials, system developers, and managers articulated above by developing a concept of Social Value in the form of a hypothesised model for its production. Section 3 outlines elements of the method we have used to explore and validate this model. Section 4 presents the results of empirical work undertaken. Section 5 includes a discussion and conclusion.

2. Social Value

In the introduction, we have described the perceived need for an evaluative framework that takes proper account of the broader socio-economic and socio-political goals that are fundamental to the strategic context of e-government. In responding to this expressed need, we advance a notion of Social Value which incorporates three broad collateral outcomes of peoples’ experiences of e-government services. The first is based upon the value attached to the collective social outcomes characterised by Moore (1995) as public value. The second is based upon the role played by citizens’ trust in service providers (Kelly, G., et al., 2002) in contributing to community well-being. The third is based upon peoples’ willingness to recommend the service to others.

2.1 Public value

The introduction has already alluded to the notion of public value, without so naming it. Although introduced as a concept in the mid 1990s, it has only really been examined in depth within the last five years, as scholars and practitioners have explored the philosophical and practical limitations of New Public Management in the context of public administration (O’Flynn, 2007). Public Value may be defined as the value attached by citizens and their democratically elected representatives to the

attainment of “normatively compelling collective purposes” (Moore, 1995). Examples of such purposes were given above; most notably, they encompass the entitlements of others and not just the self. Public value is ‘larger’ than managerially-oriented measures of public administration associated with New Public Management; it can be considered a measure of the extent to which citizens are satisfied that their civic aspirations are met (Kelly, JM., 2005). By incorporating Moore’s notion of public value, our concept of social value begins to encompass the broader strategic goals we have described.

2.2 Trust

Within society, individuals relate to a wide range of institutions: families, cultural and political associations, organisations providing public services and democratic and legislative fora. Relations with these institutions operate on the basis of some level of trust, which allows parties to avoid the social and psychological costs of engaging in low trust relations. Social costs of low trust include the transaction and opportunity costs associated with the regulating of co-operation through detailed contracts, mutual monitoring, and responding to breaches of agreement, which may entail litigation and related forms of dispute resolution (Smith, 2003). The psychological costs of low trust are articulated by Luhmann (1994), who sees trust as arising in situations of risk, where an individual must accept the “possibility of future loss as a consequence of one’s own action or omission” (p105). Luhmann further suggests that people attribute to themselves responsibility for misplaced trust and that they are “likely to enter sooner or later into the vicious circle of not risking trust, losing possibilities of rational action, losing confidence in the system, and so on being that much less prepared to risk trust at all”. Thus, Luhmann points towards a link between corrosion of trust, self-doubt, alienation and social exclusion.

As the social and psychological costs associated with the low levels of trust are reduced, so people are positioned to engage in new and more diverse community relations. In turn, if these new relations come to be conducted on the basis of trust, then there is the prospect of something of a ‘virtuous spiral’ of trust promulgation in the community. In this way, social trust relations are an expression (possibly the principal expression) of a community’s capacity to achieve a better quality of life than would otherwise be available if its members acted merely as individuals (Lin, 2001; Warren, 2001). Hence a fundamental attribute of trust is to make possible the achievement of community objectives that would not be attainable in its absence (Bourdieu, 1985, Coleman, 1990; Fukuyama, 1995).

Our view of the role of trust, above, suggests that promoting high-trust relations between members of a society and its institutions should be counted amongst the strategic goals of e-government. This view is echoed by Kelly *et al.* (2002) who analyse what it is that clients and citizens value in respect of government and public services. They identify three ‘value’ categories: positive personal experience of public services, positive perceptions of service outcomes (in the sense of Moore’s public value), and trust. Thus, incorporating trust in our concept of social value ensures that it encompasses measurement of one the prerequisites for attaining the higher level strategic goals of e-government described in the introduction.

2.3 Engagement

Alongside the need to develop appropriate measures of strategic value, there is a concomitant imperative to identify how it may be attained through the design and management of e-government systems which promote engagement. This is not least because of the centrality of achieving social inclusion as an overall goal. Our concept of social value is extended to include the value of (positive) recommendation passing between citizens as prospective service users. Our justification for including willingness to recommend is that we consider positive recommendation between citizens as a likely promoter of wider engagement and inclusion. By contrast, in the absence of recommendation, either positive or negative, a service will be engaged with at a minimal level consistent with acute need. And a service that is “negatively” recommended is likely to be distrusted and, as such, will serve to exclude some of the more vulnerable citizens, and possibly entire communities, even when they are in very appreciable need (Duffy et al., 2003).

2.4 Framework for production of Social Value

This analysis of the elements of what we term Social Value leads us to hypothesise a framework which relates peoples' direct experiences of using public services to trust and willingness to recommend (Figure 1). This framework features five distinct pathways (A-E) which respectively relate experience of service provision and experience of service outcomes to Social Value outcomes. Elsewhere, we have examined the production of client satisfaction and trust *mediated* by intermediate measures of empowerment: well-informedness, personal control/autonomy and influence/contingency (Grimsley and Meehan, 2007). In this complementary paper, we examine pathways which relate *directly* to the production of trust and willingness to recommend.

We describe the pathways of Figure 1 in turn.

- Pathway A accounts for changed trust in service providers based upon personal experience of the e-government service as a client or service user.
- Pathway B accounts for changed trust in service providers based upon outcomes as they relate both to themselves and to others.
- Pathway C accounts for willingness to recommend arising from personal experience of the e-government service as a client or service user.
- Pathway D accounts for willingness to recommend in respect of outcomes as they relate to themselves and to others. In this relation, people have a dual identity. Valued outcomes may relate to them directly, in which case their identity or role is that of client; alternatively, outcomes may relate to others, in which case their identity or role is that of citizen.
- Pathway E infers that trust (or trust change) is a driver for willingness to recommend.

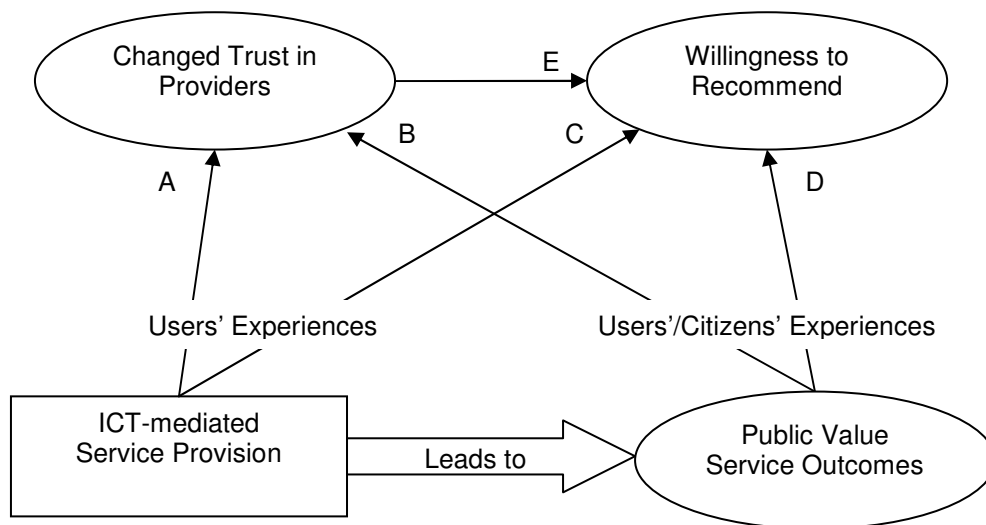


Figure 1: Framework for production of Social Value as trust and engagement derived from service experience and service outcomes (pathways labelled A-E)

Taking this framework as "a hypothesis", the following section explores the pathways of Figure 1 in respect of their contribution to the production of Social Value.

3. Validating the hypothesised framework – elements of method

We have undertaken a survey of people using information and communication technology within a newly deployed CBL system, which mediates peoples' engagement with their local council's housing department. The latter is responsible for the allocation of public and social housing. We begin this section with a brief description of this context, followed by an account of the survey instrument and the analytical methods used.

3.1 Choice-based letting (CBL)

In the UK, local government authorities (councils) maintain a stock of public housing which serves a number of economic and social functions. Many local councils administer their housing stock through a housing department, accountable to the elected council, but managed and staffed by professional council officers. Historically, many housing departments have been organised as bureaucracies. That is to say, they adopt professional attitudes to clients, administering housing stock 'in the public interest'. In doing so, they have been the locus of expertise, power and authority in relation to their clients. E-Government systems embodying choice-based letting (CBL) represent a significant departure from the traditional approach to allocation of public housing. They have sought to increase the extent to which clients are more routinely involved in the work of finding a solution to their accommodation needs, thus seeking to address a perceived tendency of NPM to diminish citizens' abilities to solve complex problems (Dunleavy et al., 2005).

The client group for CBL schemes is very diverse, reflecting the economic and ethno-demographic history of a locality. In many areas (including the study area) demand is far in excess of supply. Allocations are prioritised according to criterion-referenced need which reflects many factors, including the size of the family, clients' health quality and disability levels. Most of those seeking accommodation will have to wait for long periods of time, and many will not succeed in being allocated a home from their local borough housing stock.

Recognising that the strategic outcome in this context is not simply allocation of public housing but, more generally, the solution of peoples' accommodation needs, CBL schemes seek to promote consideration of alternative forms of housing and alternative locations, including moving into the private sector or relocating to parts of the UK where there is relatively low demand, or even surplus housing.

Even cursory consideration of the factors outlined above will make it evident that CBL schemes are particularly demanding in respect of attaining social value.

CBL schemes routinely use the Internet as an initial access point to a re-engineered, personnel-based system. A CBL system's principal functions enable clients to: explore their eligibility for housing, search for suitable properties, apply for properties, monitor the progress of their application relative to others, receive basic feedback on outcomes, and reflect upon their application histories. Officials still make the initial assessment of need, respond to clients' queries, receive applications for specific properties from clients, and determine the allocation of each property.

3.2 Survey and analysis

The validity of our Social Value framework was explored by means of a survey of user experiences in August and September 2006. A questionnaire was designed which recorded a number of aspects of users' experience of the CBL system and their attitudes towards it. The instrument was designed in a way that reflected the design of the system itself, but also included collections of items to explore the Social Value Model of Figure 1, above. (A generic version of the full questionnaire is available at <http://grimsleymeehan.co.uk>, or by email from the authors.)

The questionnaire was sent to all 2315 clients registered to use the ICT-mediated system of whom 244 (11%) responded. This is a relatively low, though not unusual, response rate for a self-completion postal survey, for which returns of between 10% and 30% may be expected. Factors which may have influenced response rates include the length of the survey form (70 items over

nine pages), the time of year (the survey coincided with the end of the summer holiday period and the return of children to school), the relatively short period within which to respond, and the fact that no reminder letters were issued due to time and resource constraints. Nonetheless, the numbers of clients who did respond enable us to be confident about statements we make about the experiences of respondents, though less so about statements concerning all clients.

The survey questionnaire featured a number measurement items and derived measures related to client experiences of services and outcomes. We group them in line with the major elements of Figure 1.

Experience of service provision was measured via a number of derived measures covering use of the website and the local housing office. These are outlined as follows.

- Ease of use of the website was measured using a summated score over six specific items: ease of searching for properties, ease of performing a (secure) login, ease of making an application, ease of monitoring progress of an application, ease of finding properties in other boroughs, and ease of finding information on alternative sources of accommodation. Note that these measures explicitly extend usability to address dimensions of what the user needs in order to secure the overall goal of finding some solution to their need for accommodation. The derived measure was obtained by partitioning the scores into three categories: easy to use (1), fairly easy to use (2), difficult to use (3).
- Use of the local housing office was measured in terms of how easy it was to speak to a housing officer when needed and whether the officers answered queries in a reasonable length of time. The derived measure has two categories corresponding to easy (1) and difficult (2).
- A third aspect of service provision looks at the quality of the information made available to help the user. As such, this measure spans both ICT-mediated and housing office-mediated information. The items used were the perceived quality of information on properties and the extent to which it helped users be selective in making applications. The derived measure has two categories corresponding to easy (1) and difficult (2).

Perception of service outcomes was measured using three items designed to focus upon the extent to which experience of the CBL system led to wider public value oriented outcomes rather than positive personal outcomes. In each case the derived measure has two categories corresponding to helpful (1) and unhelpful (2).

- The first measure reflects the extent to which experience has helped the user to appreciate why other applicants experience positive outcomes when they do not.
- The second measures the extent to which users have been helped to think of alternative solutions to their accommodation need.
- The third reflects the extent to which experience has helped to inform their understanding of issues in public housing 'in general'.

Trust in service providers was measured using a derived score which was the summed responses on three individual survey items. Respondents were asked to state whether, as a result of their experience of the system, their level of trust in local housing officers, the council as a body, and its elected councillors was more, the same or less. The summed score takes values in the range 3-9, with a score of 3 reflecting a loss of trust in all three and 9 an enhancement of trust in all three.

Willingness to recommend was measured by a single item categorised as 'would recommend', 'unsure', 'would not recommend'.

4. Results

Completed questionnaires were electronically scanned. The above coding of original and derived measures was designed to facilitate multinomial logistic regression modelling of the relationships ('pathways') between the elements of our framework. Use of multinomial logistic regression is appropriate when dependent variables have more than two (nominal) categories. Here our key outcomes are ordered, but results from ordinal logistic modelling have not been given because the

proportional odds assumption was contravened. Use of multinomial logistic regression is a more conservative but robust approach, and one is able to observe whether the natural ordering of categories is reflected in the relative magnitudes of the estimated regression parameters (Agresti, 1990; Blank et al, 2007). Logistic regression makes no assumptions in respect of the linearity in the modelled relationship between the independent and dependent, the normality of the distribution of variables, or of the statistical equivalence of the variances of levels of independent variables (homoscedasticity). These assumptions are rarely plausible when modelling categorical outcomes, making 'conventional' regression techniques inappropriate. The contribution of independent (predictor) variables to dependent is commonly reported in terms of odds ratios (see below for illustration of interpretation).

4.1 Model Estimates

We present the results in a series of tables (Tables 1 - 3). Each table contains one or more multinomial regression models relating to the pathways in Figure 1.

The focus of Table 1 is relationship between experience of CBL and changes in the level of trust reported (pathways A and B). Table 2 examines the relationship between direct experience of CBL and willingness to recommend the system to others (pathways C and D). Models 1-3 of Table 1 and models 5-7 of Table 2 examine experience of interacting with the service itself; model 4 in Table 1 and model 8 in Table 2 considered clients' experience of service outcomes. Table 3 describes the relationship between changed trust and willingness to recommend (pathway E).

It is not feasible to describe each and every entry in the tables and so we provide a guide to their interpretation in order to enable the reader to consider them in detail. Section 4.2 provides a summary of the main points gleaned from the three tables.

The tables are organised as follows:

- The left-most columns give the explanatory variables and their categories which feature in each of the models.
- The right-most columns give parameters for the modelled outcomes 'change in trust' or 'willingness to recommend'.
- In multinomial logistic modelling, results are expressed relative to a reference (ref) category. For example, in Table 1 the reference category for 'Ease of use of CBL website' is 'difficult' (36 respondents) and the other categories are 'fairly easy' (43 respondents) and 'easy' (38 respondents). For 'Changed Trust Level', the reference category is 'Decreased trust' (35% of respondents), and the other categories are 'Increased Trust' (12.6% of respondents) and 'Unchanged Trust' (52.4% of respondents). Table 3 is presented slightly differently (see section 4.2, below).
- The model parameters are Odds Ratios (OR), with 95% confidence intervals [95% CI], adjusted for the age and gender of the respondent. The values of odds ratios given in italics and marked *** are significantly different from the reference category (ref) at the 0.05 (or 5%) level. The odds ratios may be interpreted ('translated') according to the following example for Pathway A (Model 1) in Figure 1:

"the 38 respondents who found the website easy to use were, on average, more than nineteen times as likely to report an increase in trust arising from use of CBL, compared with those reporting decreased trust, than were the 36 respondents who found it 'difficult' to use (OR=19.31, which is significantly greater than the reference value of 1.00 at the 0.05 or 5% level)."

Table 1: Changed level of trust arising from experience of CBL (pathways A and B in Figure 1) - Multinomial Logistic models: Odds Ratios (OR) and 95% confidence intervals (95% CI) (adjusted for age group and gender)

Explanatory variables	Categories	N (max)	Outcome: Changed Trust Level (ref: Decreased Trust: 35.0%)	
			Increased Trust (12.6%) OR [95% CI]	Unchanged Trust (52.4%) OR [95% CI]
<i>Pathway A (Model 1)</i>				
Ease of use of CBL website.	Easy	38	19.31*** [1.79 - 208.34]	4.14*** [1.14 - 15.01]
	Fairly easy	43	5.00 [0.50 - 49.84]	1.25 [0.42 - 3.68]
	Difficult (ref)	36	1.00	1.00
<i>Pathway A (Model 2)</i>				
Housing Officer easy to contact when needed.	Yes	96	12.38 [0.99 - 155.25]	3.36 [0.98 - 11.50]
	No (ref)	64	1.00	1.00
Housing Officer able to answer queries within reasonable time.	Yes	76	2.36 [0.40 - 13.96]	1.86 [0.54 - 6.38]
	No (ref)	76	1.00	1.00
<i>Pathway A (Model 3)</i>				
Information provided on properties is helpful.	Yes	143	2.71 [0.63 - 11.70]	2.06 [0.90 - 4.71]
	No (ref)	96	1.00	1.00
CBL helps me be selective when applying for properties.	Yes	119	4.85*** [1.12 - 20.99]	1.67 [0.72 - 3.84]
	No (ref)	103	1.00	1.00
<i>Pathway B (Model 4)</i>				
CBL helps me appreciate why others allocated and I am not.	Yes	57	22.81*** [3.81 - 136.68]	6.77*** [1.41 - 32.43]
	No (ref)	173	1.00	1.00
CBL helps me consider alternatives.	Yes	71	1.99 [0.56 - 7.10]	0.67 [0.28 - 1.62]
	No (ref)	160	1.00	1.00
CBL has made me better informed about housing in general.	Yes	115	6.70*** [1.49 - 30.12]	2.79*** [1.32 - 5.91]
	No (ref)	115	1.00	1.00

Table 2: Willingness to recommend CBL arising from client experience (pathways C and D in Figure 1) - Multinomial Logistic models: Odds Ratios (OR) and 95% confidence intervals (95% CI) (adjusted for age group and gender)

Explanatory variables	Categories	N (max)	Outcome: Willingness to recommend CBL (ref: Would not recommend: 26.7%)	
			Would recommend (49.1%) OR [95% CI]	Unsure (24.1%) OR [95% CI]
<i>Pathway C (Model 5)</i>				
Ease of use of CBL website.	Easy	38	5.61*** [1.45 – 21.66]	1.63 [0.40 - 6.61]
	Fairly easy	43	1.96 [0.61 - 6.30]	0.59 [0.17 - 2.02]
	Difficult (ref)	36	1.00	1.00
<i>Pathway C (Model 6)</i>				
Housing Officer easy to contact when needed.	Yes	96	5.40*** [1.46 – 19.98]	1.44 [0.36 - 5.82]
	No (ref)	64	1.00	1.00
Housing Officer able to answer queries within reasonable time.	Yes	76	2.02 [0.56 - 7.31]	2.03 [0.47 - 8.76]
	No (ref)	76	1.00	1.00
<i>Pathway C (Model 7)</i>				
Information provided on properties is helpful.	Yes	143	1.43 [0.58 - 3.53]	1.11 [0.41 - 3.04]
	No (ref)	96	1.00	1.00
CBL helps me be selective when applying for properties.	Yes	119	3.91*** [1.56 - 9.78]	1.81 [0.65 - 5.08]
	No (ref)	103	1.00	1.00
<i>Pathway D (Model 8)</i>				
CBL helps me appreciate why others allocated and I am not.	Yes	57	3.62 [0.90 - 14.55]	0.74 [0.14 - 3.93]
	No (ref)	173	1.00	1.00
CBL helps me consider alternatives.	Yes	71	4.21*** [1.36 – 13.00]	2.72 [0.84 - 8.86]
	No (ref)	160	1.00	1.00
CBL has made me better informed about housing in general.	Yes	115	10.24*** [4.15 - 25.27]	3.35*** [1.31 - 8.62]
	No (ref)	115	1.00	1.00

Table 3: Willingness to recommend CBL arising from level of trust induced by client experience (pathway E in Figure 1) - Multinomial Logistic model: Odds Ratios (OR) and 95% confidence intervals (95% CI) (adjusted for age group and gender)

Explanatory variables	Categories	N (max)	Outcome: Willingness to recommend CBL (ref: Would not recommend: 26.7%)	
			Would recommend (49.1%) OR [95% CI]	Unsure (49.1%) OR [95% CI]
<i>Pathway E (Model 9)</i>				
Trust level (covariate) less to more	Trust Score: 3 (low) to 9	206	3.96*** [2.64 - 5.96]	1.91*** [1.33 - 2.75]

5. Summary of Results and Discussion

Model 1 (Table 1) and model 5 suggests that ease of use of the website has a particularly large impact on reported changes in trust and an appreciable impact on willingness to recommend, respectively. (We notice in passing that, in terms of the magnitudes of the odds ratios, the 'expected ordering' of the usability categories emerges in the statistical analysis, rather than having been enforced by any assumption - see section 4, above, in respect of this observation.) Naturally, we have sought to explore the individual contributions of each of the six items usability items used to create this derived measure (see section 3.2). However, the numbers of respondents reporting difficulty with the basic measures of functional usability (search, login, submitting an application) were so small that it was not sensible to pursue analysis of these items as drivers of value. To be clear, this is to say that the usability of the CBL website was very good indeed for nearly everyone attempting to engage with it, and so responses to these items contributed little to any explanation of how trust and recommendation vary with website experience.

A further aspect of CBL service experience which appears significant in driving both change in trust and willingness to recommend is the perceived helpfulness of the information in respect of enabling the user to be selective when making an application (models 3 and 7). Making inappropriate applications is not only likely to increase the proportion of disappointing outcomes, but it also tends to incur appreciable opportunity costs for clients who have invested time in evaluating possible properties, for example travelling to view them informally, before applying.

A third aspect of CBL service experience driving willingness to recommend, is ease of speaking to a housing officer when needed (model 6). Although appreciable in magnitude, this factor is of marginal statistical significance (at the 5% level) in respect of promoting trust change (model 2).

Turning to measures of outcome as drivers of trust and recommendation, we see that the extent to which they have become more knowledgeable about housing in general is significant in both cases. The degree to which people feel that they understand why others are allocated a property when they are not has a very appreciable impact on reported trust change (model 4).

The responses to items recording ease of finding information on council accommodation in other boroughs and on alternative solutions to accommodation needs were analysable and, individually, these were found to be important drivers of trust and recommendation. We consider it particularly interesting that these are both measures of the capacity of the system to support attainment of the much broader goal of solving accommodation needs, as opposed to the narrower goal of being allocated a property of choice.

Model 9 (Table 3) examines the effect of trust change on willingness to recommend. Interpretation of Table 3 differs slightly from the previous tables. The interpretation is as follows: for each unit (one point) increase in the changed level of trust (from 3 to 15), there is, on average, a near four-fold increase in willingness to recommend the service, compared to not recommend (OR=3.96). Trust is clearly a very powerful driver for willingness to recommend. Our hypothesised framework (Figure 1) infers that trust drives willingness to recommend and not *vice versa*. In reality, there is likely to be a feedback effect; if a positive recommendation is borne out by the subsequently reported experience then one's confidence in the trustworthiness of the service is likely to be reinforced. And, of course, if one's recommendation is not subsequently endorsed, then trust (and future willingness to recommend) is likely to be diminished. On this occasion, the data available from the survey do not facilitate the analysis required to confirm any bi-directional effect.

We have explored a particular domain (CBL) within which to explore the validity of the Social Value framework, however, we suggest that the level of description used for service experience, service outcome outcomes, trust in providers, and willingness to recommend, means that the framework is likely to be more generically applicable in other electronic government systems which interface to public services. Public housing is just one example of a public service where people seeking to address complex goals are likely to have to agree to an outcome which may be less than some ideal, and may not have been imagined initially. In the UK at least, applications for school places (in the public sector) provides a second example of a local government service where it is important to maintain the trust of citizens whose children may not be allocated to any of their preferred schools. Peoples' interactions with doctors and with hospitals providing care for chronic or terminal diseases are another example of situations in which the quality of the relationship must be maintained in the face of a less than ideal outcome. Thus, we expect that context specific analogues of the prominent drivers of social value identified here, and especially those with large odds ratio values, will apply in other applications of electronic government. The magnitudes of their relative contributions, however, can be expected to vary from case to case. This hypothesised 'transferability' needs to be explored in further work and comparative studies.

An additional aspect of future work is to explore how trust and social value are produced as public services are 'transformed' from a model in which they have been provided by relatively monolithic public institutions to a model in which networks and service supply chains of both public and private organisations feature prominently as providers. For example, in the case of public housing, an increasing proportion of the allocated stock is provided by housing associations as social landlords. In this context, an increasingly important issue will be the impact that a citizen's relationship with third-party service providers has on trust in government and vice versa. In earlier work within this research programme we have undertaken studies that address this issue, but in anticipation of, rather than part of, the electronic government agenda (Grimsley et al., 2003). This work demonstrated that, within communities taken as a whole, trust in a multiplicity of community institutions, including government, public services and the workplace, contributes to a single form of community trust, so-called vertical trust.

6. In conclusion

This paper has responded to an expressed need from those responsible for e-government systems who seek a means of evaluating and attaining the wider social value of their initiatives. It has done so by articulating the concept of Social Value which incorporates the value of broadly defined social outcomes from services (public value), the value of trust in service providers as a key enabler of community well-being and sustainability, and the value of recommendation in respect of citizen engagement and social inclusion.

We have examined how citizens' personal experiences of service provision and experiences of service outcomes contribute to the production of these elements of social value. We summarise the important drivers of social value as:

- ease of use of the website;
- the availability of housing officers when needed;

- the extent to which users are able to avoid unnecessary effort (in this domain, being selective in applying for properties);
- helping people become more informed about the service (in this case, housing allocation) in general;
- helping people to appreciate why others may have positive outcomes even if they do not.

In terms of promoting engagement and inclusion via recommendation, we have demonstrated the powerful influence of clients' trust in service providers on the attainment of this key objective. From the point of view of e-government system design and management, these results provide guidance on attaining Social Value as defined.

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