Defining e-Government as Rules for Social Action

Tim Turner

School of Information Technology and Electrical Engineering,
University of New South Wales, Australian Defence Forces Academy
Campbell ACT 2600, Australia
e-Mail: tim.turner@adfa.edu.au

This paper briefly outlines Wittgenstein's view of social action described as sets of rules of a game to set the scene for defining a theoretically sound role for e-government. Initially, the 'rules' in this consideration are drawn from 'rules' of government; already well-understood and widely applied. E-government is seen to be entirely a set of 'regulatory' rules that provide guidance on how to 'play the government game'. On this basis, a novel market segmentation and its consequent service design guidelines are described to illustrate how regulatory 'rules' might apply to the government 'game'.

1   Introduction

The definition of e-government remains problematic in the information systems (Gronlund, 2005) and the public administration literature (Brown, 2005). The wide variety of elements that might be included within the definition has not yet coalesced into some broadly accepted statement. Some elements appear common; for example, the idea of using the Internet as a basis for government service delivery. But even these commonalities do not really allow us to understand exactly what someone means when they speak of e-government. It is important to have a clear, meaningful, definition of e-government for at least two reasons. A single, clear definition will act as a core for a collection of disciplined research that can be clearly linked to the central proposition (a definitive field of study). A clear definition will also allow researchers and practitioners to connect their ideas and experience meaningfully to reinforce and expand this field of study. This paper attempts to establish what the concept of e-government is given the obvious context of government *per se.*

In his *Philosophical Investigations* (Wittgenstein, 1953), Ludwig Wittgenstein describes social action as 'games' (Hollis, 1994). His central argument focuses on the ideas of language games, but he specifically likens such games to more commonly understood games; notably, Chess. Wittgenstein claims that games are made up of three sets of 'rules': those that define the game, those that regulate the play, and those used to train players in the game (Wittgenstein, 1953, p27e). He says that if we can identify the rules of the game, we can understand the game (Wittgenstein, 1953, p42e). He contrasts coming to understand with discovering anything new through this process (Wittgenstein, 1953, p42e).

This framework for viewing social action provides us with a means of positioning the concept of e-government within the broader field of government on a philosophical basis. This paper will attempt to identify 'rules' that relate to the social action of e-government. In so doing, the definition of e-government might be narrowly located. The paper then goes on to discuss a particular refinement of such rules and show how a novel market segmentation approach might be used in designing e-government services for citizens.

2   Social Actions as a Game

Wittgenstein says that one cannot meaningfully ask for the name of something before understanding what it is (Wittgenstein, 1953, p15e). Furthermore, he says that the name of something represents "[w]hat cannot be destroyed; what remains the same in all changes" (Wittgenstein, 1953, p29e). However, he also claims that "[f]or a *large* class of cases—though not all—in which we employ the word 'meaning' it can be defined thus: the meaning of a word is its use in language" (Wittgenstein, 1953, p20e - original emphasis). So, we are unable to ask for the name of something until we understand it, yet we can come to know what using its name means by the use of that name in language. Surprisingly, this seems to exactly mirror the emergence of "e-government"—many people used the term without understanding what it meant and others have defined the term on the basis of

its use in language. Clearly, a more substantial basis than this is needed if there is to be any serious academic study of the field (Gronlund, 2005).

Hollis (1994) describes two of Wittgenstein's fundamental 'rules' of 'games' as: 'constitutive' rules—those rules that define the game and how to play it—and 'regulatory' rules—those 'rules' that describe how to play the game well, or appropriately. Constitutive rules might involve defining the playing field, the number of players, or the taking of turns and the moves of particular pieces, penalties for incorrect play, etc. Regulatory rules seem to involve strategies and tactics, timing and coordination, as well as etiquette, dress code, etc. If you do not follow the regulatory rules, you are not playing the game well or 'properly'. If you do not follow the constitutive rules, you are not playing the game at all (Hollis, 1994, p153). Wittgenstein goes on to "distinguish between the essential and the inessential in a game too. The game, one would like to say, has not only rules but also a *point*" (Wittgenstein, 1953, p150e - original emphasis)

E-government is a social action. It involves individuals and organisations participating in interactions which, as Wittgenstein suggests, are usually characterised by rules. And e-government has a point, or the efforts of most governments over the last ten years in e-government are an extravagant waste. So, can we see the constitutive rules and regulatory rules that make up e-government?

3 Rules for e-Government

The constitutive rules of e-government must be the same as the constitutive rules of government. There is nothing in the examples and implementations of e-government to date that is some new function of government. There is a large literature in the public administration field about 'what is government?' that will not be repeated here. Suffice it to say, the constitutive rules of e-government are founded in and a subset of the constitutive rules of government; a subset because not all constitutive rules of government are amenable or applicable to e-government (Alan Siu, Singapore Government quoted in Deloitte Research, 2001) (e.g. perhaps, foreign diplomacy).

So, is e-government just government as some pundits say? No; e-government is constituted by an additional rule: "The act of government is mediated by the Internet". This is a 'regulatory' rule of government, but is a 'constitutive' rule of e-government. Importantly then, e-government is a regulatory rule-set for government that shares constitutive rules with government and has a single additional, defining, rule. It is a means of conducting government well, or better (if you believe the e-vangelists), by mediating government through the Internet.

The choice of "…mediated by the Internet" is deliberate. If the rule said, say, "…conducted electronically", it would certainly encompass activities such as telephone-based service delivery that are frequently included in the scope of e-government. However, it would also encompass all computer-processing within government, for which there is a long tradition already established as well as a substantial body of literature. This is not, typically, what practitioners or academics think of when they say "e-government" (although consulting firms usually do!) and, as noted earlier, we are looking for the meaning of the word in its use. Similarly, "…mediated by electronic networks" would include mobile phone-based interactions that are generally discussed under "m-government" (albeit, mostly by consulting firms). To the extent that the Internet is available through wireless connectivity, e-government would include such interactions and the distinction is not required.

"Mediate" is used here in the sense: "To effect or convey as an intermediate agent or mechanism" (from www.dictionary.com). The Internet provides a mechanism by which the act of government is carried out or effected. The Internet itself plays an infrastructural role forming an electronic channel between government and its constituents. However, in the e-government context there is an implication in the use of the word "Internet" (or common-use synonyms such as "World Wide Web") of applications that the parties manipulate as part of the act of government, hosted on, accessible through, but separate from the Internet itself.

In summary then, the constitutive rules of e-government are the well-established set of rules that describe government with the additional rule that the act of government is mediated by the Internet.

What, then, are the regulatory rules of e-government? In the same way that the constitutive rules of government apply to e-government, so do many regulatory rules of government become regulatory rules of e-government? That is, e-government will not (necessarily) waive regulatory rules already established through the operation of government; rules around eligibility, timing, authority delegation, etc. Such regulatory rules in government are usually instantiated in policy. But Wittgenstein warns that regulatory rules may not be "set down in a list of rules. One learns the game by watching how others

play" (Wittgenstein, 1953, p27e). In this case, part of the role of e-government as a set of regulatory rules for government is to decide how many of the unwritten (regulatory) rules of government action are to be maintained. This means that e-government tends to make explicit how government action is to be conducted. Formal policy and informal practice must be specifically integrated. That, in turn, can lead to ethical or moral outcomes such as a reduction in corruption or nepotism through enhanced transparency. The introduction of e-government in developing countries is often seen as a means of eradicating corrupt and inefficient practices of officials (Economic and Social Council, 2003).

Taking a different view, e-government regulatory rules might include many of the regulatory rules that apply to any Internet-based activity; rules around useability, accessibility, managing throughput, attracting attention, 'stickiness', etc. But these are not definitive of e-government and might only really be regulatory rules of e-government if there are specific variations that apply to internet-based government activities (in contrast to similar private sector activities, say). I have previously established that there is a small set of such rules (Turner, 2002b).

There are examples of regulatory rule-sets that are e-government-specific; for example, delivering e-government services through portals (Deloitte Research, 2000; Di Maio, 2002; Jupp & Shine, 2001) in contrast to through individual agency websites, or constructing service packages around 'life events' (e.g. "having a baby", "going to school", "moving home", etc) or particular demographic characteristics (e.g. "youth", "aged", "family", etc). None of these rule-sets are definitive, nor have any been shown to be 'best'. But they are all called e-government. They are all variations on the e-government 'game'. Equally, because of their influence on organisational structures and processes 'behind' the Internet front-end, they can become regulatory rule-sets for government *per se*.

The regulatory rules of e-government are not wholly defined; indeed, Wittgenstein warns that they may never be. This vagueness underlies the uncertainty in the definition of e-government itself. What we can say is that e-government is a collection of regulatory rule-sets for government mediated by the Internet. Some of these rule-sets already exist (even if not rigorously defined). Furthermore, e-government as a field of study involves identifying where alternative rule-sets apply, their consequent influence on government practice, and recommending what actions to take.

4   An Illustration of Regulatory Rules in Government and e-Government

A trivial example will illustrate the application of regulatory rules, and particularly e-government rules, to an act of government. The example is the registration of dogs. A constitutive rule of government is that governments protect the health and safety of their constituents by, *inter alia*, regulating what animals may be kept as pets. The regulatory rules applied to this constitutive rule usually involve maintaining a register of permitted pets and only allowing certain pets on the register.

Drawing on work the author has done with the Australian Local Government Association (ALGA) and the Local Government Association of Tasmania (LGAT), the following is a high-level abstraction of a typical process to register a dog for the first time. The process sketched in Figure 1 is: the government publishes information about the requirement to register dogs as pets within its jurisdiction; the constituent assimilates that information, completes a dog registration application and submits it to the government; the government verifies the identity of the constituent (this is an eligibility test); receives and processes the application, usually deciding to register the dog; receives payment from the constituent; and issues a dog registration. (Obviously, this is a highly-abstracted process description.)
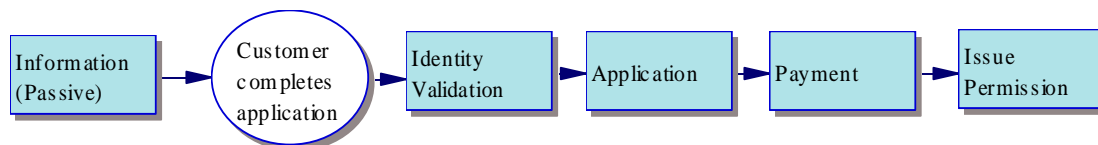

Figure 1: New Dog Registration Process

The 'Information (Passive)' process step means that information is produced and disseminated 'just-in-case' there is a need for it. This will usually be in the form of leaflets/brochures at office counters and (perhaps) available through local veterinary practices. Each of the other shaded boxes represents a 'common' step in a government administrative process. This kind of construction can ultimately articulate all the services of government. The United States Federal Government has published a high level set of government services (Executive Office of the President of the United States of America, 2005) and the author is working on developing abstractions for all citizen-oriented services.

This brief analysis suggests that the 'service' offered by the government (Dog Registration) actually involves at least two processes. Clearly, there is a temporal gap between the first part of the process—providing information about dog registration requirements—and the latter part—registering the dog for the first time. The temporal gap ('Customer completes application') is probably usually sufficiently large that it is only in theory that the two parts are connected; i.e. the service actually starts with the unshaded circle.

Before discussing at more length the regulatory rule influences of e-government, the renewal of dog registrations is introduced to illustrate different effects of the same rules. The process sketched in Figure 2 is: the government sends a reminder to the registered owner of the dog; the dog owner determines if any changes are necessary to the details of the registration (e.g. a change of address, de-sexing of the dog, etc); if changes are needed, then the government verifies the identity of the owner (to ensure only authorised persons amend registered details) and makes the change to the register; the constituent pays the registration renewal fee; and the registration is renewed/re-issued.
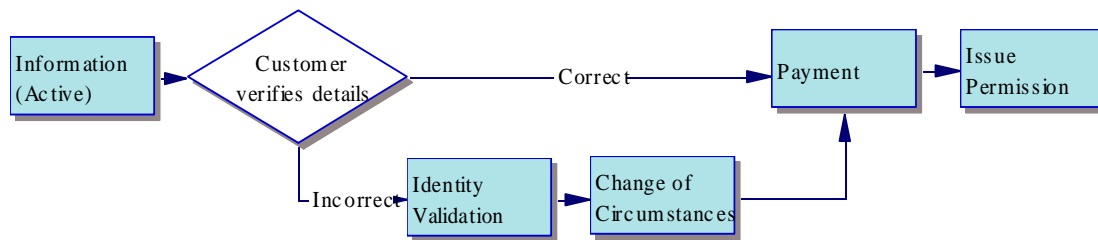

Figure 2: Dog Registration Renewal Process

The 'Information (Active)' transaction represents the government producing and disseminating specific information 'just-in-time' to the targeted recipient (i.e. sending a reminder note to the dog owner one month, say, before the registration renewal is due). The unshaded diamond is a choice made outside the process and may represent a substantial temporal gap. However, as the government initiated the service, there are not two processes here.

The *government* regulatory rules that usually apply to these services might include: which dogs can be registered and which cannot; how long a dog is registered for; how much a registration costs; the form of the register (a book or file); the specific details that are to be recorded in the register; the form of the registration application; the nature of the evidence of registration (e.g. a piece of paper, a dog tag, or a microchip); and how soon before expiry is the dog owner reminded of the need for renewal (if at all).

The *e-government* regulatory rules that might apply to this service might include: delivering dog registration requirement information through the government's website; creating an electronic version of the application form (either for download, completion and submission, or for direct online submission); reducing the amount of required data on the application form by drawing on other government data using the dog owner's identity as a key (especially for renewals); changing the form of the register from a book/file to an electronic database; changing the means of notifying the dog owner of the need to renew to e-mail; and receiving payments over the Internet.

Even this trivial service example illustrates that e-government regulatory rules can influence government regulatory rules directly (e.g. the form of the register). Importantly, it also illustrates that there are variations on e-government regulatory rules for a given constitutive rule. For example, the alternative application form approaches (download or online), or the decision to retrieve dog owner details from existing data stores to pre-populate the renewal form.

5   A Novel e-Government Rule-Set

I have previously described and verified a novel market segmentation for e-government (Turner, 2002a; Turner & Schwager, 2005; Turner, Schwager & Guo, 2005; Turner, Schwager & Imran, 2005) that attempts to respond to the intent in the mind of the constituent when interacting with government. This paper does not explore the details of the segmentation approach or its consequent recommendations for how to implement e-government; these details are and will be presented elsewhere. Suffice it to say, the segmentation underpins regulatory rules incorporating: where any government-to-constituent (G2C) transaction fits within the segments; describes characteristics typical of successful transactions for each segment; and will offer design guidelines for (electronic) transactions in each segment. The segmentation is a valid element of e-government as it offers
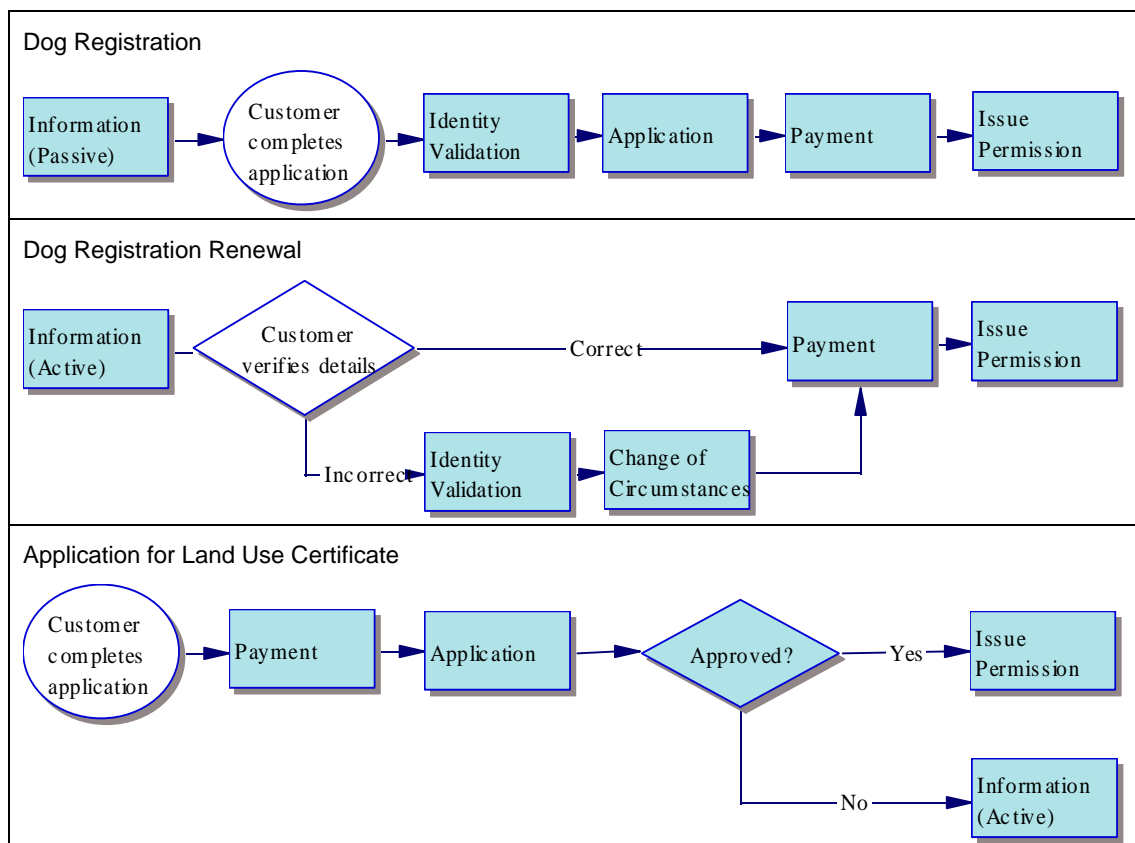
alternatives for the mediation of government by the Internet and recommendations about which alternatives to choose. Figure 3 summarises the segmentation:
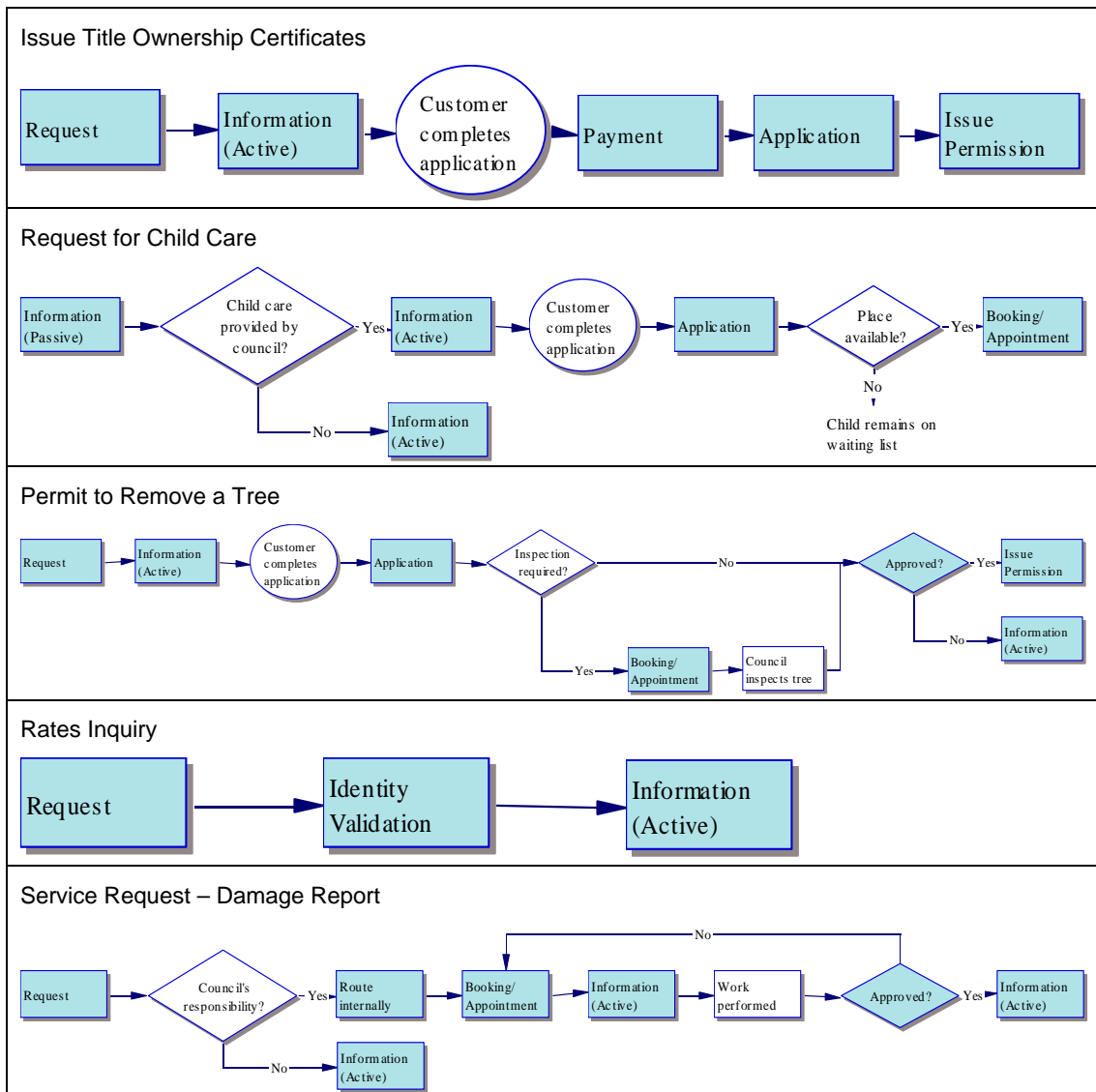
Segment	Brief description
Customer	Customers are those constituents of government that purchase commodities from government agencies; for example, utilities, lottery tickets, etc
Client	Clients are constituents that purchase or receive professional services from government over a period of time, possibly over their whole lifetime; for example, health services, education, job location services, etc
Citizen	Citizens are constituents that receive services from the government at a broad level; for example the provision of infrastructure such as sewerage, roads, air traffic control, etc
Subject	Subjects are constituents that receive mandatory service from government, without the opportunity to influence the parameters of service provision; for example, prison inmates, tax payers, and national service conscripts

Figure 3: Summary of Citizen Segmentation (Turner, 2002a)

An example will reinforce the concept of regulatory rules applying to government from e-government and to illustrate how some of the regulatory rules of the market segmentation work. Drawing further on the work with ALGA and LGAT, Table 1 presents high-level process flows for eight typical (local) government processes. (Note: these processes, though drawn from real process maps provided by the Tasmanian Local Government Association to the author in 2004, represent early work on developing 'typical' process models and should not be seen as definitive, or even indicative, of real government processes in Australian (local) government.)

Table 1: Nine Typical (Local) Government Services

Issue Title Ownership Certificates

Request → Information (Active) → Customer completes application → Payment → Application → Issue Permission

Request for Child Care

Information (Passive) → Child care provided by council? — Yes → Information (Active) → Customer completes application → Application → Place available? — Yes → Booking/Appointment

Child care provided by council? — No → Information (Active)

Place available? — No → Child remains on waiting list

Permit to Remove a Tree

Request → Information (Active) → Customer completes application → Application → Inspection required? — No → Approved? — Yes → Issue Permission

Inspection required? — Yes → Booking/Appointment → Council inspects tree

Approved? — No → Information (Active)

Rates Inquiry

Request → Identity Validation → Information (Active)

Service Request – Damage Report

Request → Council's responsibility? — Yes → Route internally → Booking/Appointment → Information (Active) → Work performed → Approved? — Yes → Information (Active)

Council's responsibility? — No → Information (Active)

Approved? — No → Booking/Appointment

The initial guidance that the proposed market segmentation can provide is which services belong to which segment. I have previously defined criteria for classifying services into segments (i.e. a regulatory rule-set by which services are classified), summarised in Figure 4 below.

Segment	Interactions Single	Interactions Multiple/Repetitive	Differentiation Commodity/'Menu'	Differentiation Individually Tailored	Reliance on None	Reliance on Complete
Customer	Don't care		✓		✓	
Client	Don't care			✓	✓	
Subject		✓	Don't care			✓
Citizen	✓		Don't care			✓

Figure 4: Summary of Criteria for Assigning Services to Segments (Turner, Schwager & Imran, 2005)

The application of these criteria to the list of processes is summarised in Table 2, below.

Table 2: Allocation of Services to Segments (using rules from Turner & Schwager, 2005)

Service \ Segment	Customer	Client	Citizen	Subject
Dog Registration	—	—	✓	—
Dog Registration Renewal	—	—	—	✓
Application for s337 Certificate	—	—	✓	—
Issue s132 Certificate	—	—	✓	—
Request for Child Care	—	✓	—	—
Permit to Remove Tree	—	—	✓	—
Rates Inquiry	—	—	—	✓
Service Request – Damage Report	—	—	✓	—

A brief explanation of these segment allocations is warranted, for clarity. A Dog Registration is a *Citizen* transaction because it is a singular action that must involve the government as one party. Dog Registration Renewal, on the other hand, is a *Subject* transaction because it is repetitive and must involve the government as one party. (There is also a sense in these two 'services' of the *Citizen* making themselves a *Subject* of the government by identifying themselves as falling under the Dog Registration law.) Although *Citizen* transactions are dominantly concerned with the receipt of 'public goods', there are services where *Citizens* interact at an individual level in the context of this segmentation. As the segmentation deals with the intent in the mind of the service recipient, a characteristic of *Citizen* services is that the *Citizen* intends to display 'good citizenship' by voluntarily complying with government requirements for the public good.

The Issue of Land Use and Title Ownership certificates, obtaining a permit to remove a tree, or asking the council to repair a length of road or footpath, are *Citizen* transactions because each is seen as a one-off that must involve the government. Making an inquiry about one's rates is a *Subject* transaction as it is likely to occur many times and must involve the government. In contrast, requesting a child care space is a *Client* transaction because it will require addressing specific constituent requirements and is a transaction that might occur wholly in the private sector.

As indicated in the earlier discussion about the dog registration and renewal processes, there are e-government 'regulatory rules' that can be suggested. Their application becomes more broadly applicable when those rules are made within the context of the market segments. So, for example, the proposed rule to use data already held by the government in the dog registration renewal process is actually broadly applicable to all similar *Subject* activities (Information (Active) that involves an application form) because the *Subject* would expect the government to know these details, would accept the use of them 'pro-actively' by the government, and would value the saving in time and effort for both parties that such use would imply. In contrast, using the same idea to pre-populate data for a permit to remove a tree (for example) would arguably not be recommended as it is unlikely to meet *Citizen* expectations. Each instance is a singular activity so the data would be drawn from unrelated sources (albeit all held by the same government), with which the *Citizen* might be quite uncomfortable. Similarly, the *Citizen* is less likely to value any perceived convenience as this is a singular transaction.

One process that shows how the different segments influence the same or similar processes differently is Identify Verification. In *Citizen* transactions, Identity Verification probably involves collecting demographic information such as name, date of birth, and address. These facts can then be used to verify that the person is a constituent of the government involved. In *Subject* transactions, Identify Verification would also include, or even solely rely upon, some identity number issued by the government to the person (e.g. rate payer number, dog registration number, etc). The government can expect and require the *Subject* to use this identifier because it is issued by the government. The person, as a *Subject*, would expect to use such an identifier, given the prescriptive or coercive nature of their relationship with the government. *Citizens* might baulk at such identifiers as they pre-suppose some longer-standing relationship and the convergence of (probably) un-related data held by the

government, which still seems too 'Big Brother' (in the Orwellian sense); at least, for most Australians. Of course, if the person in a *Citizen* transaction offers such a government-issued identifier it can and should be used.

Other areas where the segmentation can provide guidance include the extent of decision-making required (and hence the level of authority required) for application processes, the form of 'permissions' (e.g. electronic tokens versus documents) and levels of security for different segment transactions. This very brief introduction to how to apply the market segmentation provides an illustration of how e-government 'regulates' the acts of government mediated by the Internet.

6   Summary

In summary, Wittgenstein's ideas about social actions as games defined by rule-sets are a powerful metaphor for defining the existence and application of e-government. E-government is constituted by the same 'rules' that define government, with the additional 'rule' of "The act of government is mediated by the Internet". E-government as a whole is a regulatory rule-set for government. Although e-government draws on rules about good Internet practice, the more powerful aspects of e-government are formed when rule-sets establish guidance on how to implement e-government. This paper has briefly described a set of regulatory rules derived from a novel market segmentation that are proposed to guide e-government service design for services aimed at constituents as an example of such a rule-set.

This has only been a brief introduction to the idea of viewing e-government as a regulatory rule-set for government. Work is currently underway to make these examples more robust and to build a set of generically-applicable e-government regulatory rules around the proposed segmentation.

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