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Measuring good design in the public service

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This paper introduces a new concept for design and evaluation of public sector services. The approach is novel as it draws from multiple domains to construct and measure Administrative Effectiveness (AE) an alternative to traditional service quality. The paper explores the commonalities between services in public administration with those of the private sector. Administrative effectiveness is defined in terms of absence of citizen error, universal ease of access and the facilitation of the service objective.

The paper presents a review of existing literature from service management, human factors, universal design and new public governance to draw together the dimensions of Administrative Effectiveness. Initial results from the first of two studies are presented to show the practical application of the new model. In the taxation policy environment, we use starting an Australian small business as a process test case. Both the Administrative Effectiveness measurement model and the associated citizen-client design are evaluated. The results have significance for all areas of public sector administration. The research also demonstrates how good design can be a pragmatic alternative to enforcement as the principal approach to compliance management.

Keywords: Service design; client experience; public sector; effectiveness

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Introduction

This paper describes the development of a model to measure and evaluate Administrative Effectiveness: the quality of citizen-client experiences for public sector services. No framework currently exists to measure service quality at the behavioural level. Several previous attempts at evaluation are less than ideal (Chatzoglou, Chatzoudes, Vraimaki, & Diamantidis, 2013; Marvel, 2016; Osborne, 1992). Current performance indicators, such as revenue collection in the taxation environment, drive efficiency rather than effectiveness (Gomes & Yasin, 2013). Client satisfaction measures are insufficient for identifying the challenges of integration across a suite of services, which may lead to inconsistent and fragmented experiences. The current approach to evaluating citizen-client experiences is subjective, self-evaluative and open to political sway (OECD, 2014). Ideally, a framework for evaluation includes opportunities to objectively assess improvements and identify issues in the citizen-client experience.

Quality evaluation is necessary from two perspectives: both the production of good client experiences, as well as ensuring the effective management, change and accountability for inadequately designed services. This approach is particularly important in communities that rely solely on the government for service provision.

Our model embraces the service design approach and integrates important features from several disciplines to augment a method to measure the quality of client experiences in the public sector. We use the experience of a small business going through the start-up phase as a test of our model, with a particular focus on the role of tax administration.

Public sector organisations are increasingly aware of the importance of designing their services around citizens' experiences or journeys (Allan et al., 2011). Public sector organisations now create design blueprints of similar citizen-client experiences (Australian Taxation Office, 2015; Cruickshank, 2011). Blueprints outline possible future views of products and outcomes, articulated from the citizen-client point of view. However, many of these blueprints are focussed at the organisation's interaction with the public rather than understanding the lifecycle or leveraging the natural events of citizens. Although an increased focus on the user's experience is present, the public sector still expects citizens will change to fit their requirements.

Successful businesses demonstrate larger market share and greater profitability when they deliver well designed holistic experiences such as

“going on holiday” as opposed to product focussed touchpoints, such as an “airfare booking system” (Brief, 2011; Schmitt, 2010, p. 19). Organisations that follow service design approaches rapidly discover the return on investment for good design through improved brand and increased sales.

In contrast, the public sector has few natural consequences for the delivery of poor service. In most cases, governments provide experiences reliant on mutual obligations rather than one-way transactional services. Quality of life for many people relying on government is affected by arduous processes for rectifying mistakes that may be detrimental to citizens’ livelihood or wellbeing (Osborne, 1992). Public sector experiences require citizens to contribute towards the greater good through taxes, or to comply with rules or law to make the community safe. Such services although known, are complicated and require levels of trust and cooperation between the parties for success. When citizens fail to comply, they are penalised. When the public sector fails to deliver a good service, it requires immense effort from citizens to pursue compensation through courts or the applicable ombudsman.

Improved objective measures of the quality of public sector services are necessary. Unlike commercial organisations whose agency is unequivocally linked to profits and growth, the public sector is not held accountable for poor citizen-client experiences through natural systems. A model for evaluating the effectiveness of public administration is essential for regulating good citizen-client experiences. A measurement approach provides transparency around quality evaluation of aspects of the experience and empowers the community through evidence and knowledge.

Developing the model

Administrative Effectiveness in taxation

Previous research exploring compliance behaviour, shows taxpayers’ intention to comply with their obligations is moderated by the effect of Administrative Effectiveness (AE) (Figure 1) (Langham, 2011).

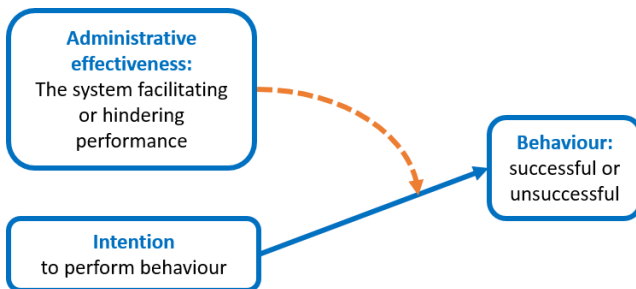


Figure 1 - The intention-behaviour relationship shown with the moderating effect of Administrative Effectiveness (Langham, 2011).

The research utilised the Theory of Planned Behaviour (Ajzen, 1991) with tax specific extensions. The model is known as the Compliance Behaviour Model (Langham, 2011). The study demonstrated that those individuals who were fully dedicated to compliance could still fail through lack of awareness of rules, mistakes or unforced errors when navigating the tax system. The administrative system significantly affected the overall compliance behaviour of the sample population: small business taxpayers. This exploration indicated the need for further investigation of ‘Administrative Effectiveness’: its composition, methods of measurement and evaluation.

Administrative Effectiveness, in this context diverges from the definition provided in the majority of the literature relating to overall organisational performance and revenue protection. Taxation authority effectiveness is often measured in terms of ‘Tax Gap’ revenue leakage (Blanthorne & Yance, 2006; Mohamed, 2012) or according to a number of benchmarks relating to structure and process (Gallagher, 2005). These indicators are macro performance measures and are inappropriate at the group or individual compliance behaviour level. Using the Principle of Compatibility (Fishbein & Ajzen, 2010, p. 44) all behavioural criteria must be measured at the same level of generality or specificity. Therefore, AE of the tax system in relation to the performance of a taxpayer’s behaviour must also be measured at the behaviour or task level.

Administrative Effectiveness relates explicitly to the performance of the behaviour being examined in the citizen-client experience. The effectiveness of an administrative agency such as the Tax Office should be determined by the extent to which it successfully facilitates compliance at the taxpayer

behaviour performance level. The definition of effectiveness in this context is based on the program logic model⁴. Therefore, AE relates to the tools, system and other supporting mechanisms that enable the individual to pay the required tax, for example the quarterly business activity statement (BAS)⁵. AE also encompasses the entirety of the tax compliance experience, which may require more than one tool or activity to interact with the system. In the case of making a tax payment, the behaviour would comprise incurring the liability, receiving the notice for payment, interacting with a payment system and receiving acknowledgement or receipt of payment. Citizen-client experiences have not been measured or evaluated in this manner.

Exploring Administrative Effectiveness in the literature

We reviewed the following literature to understand relevant constructs and to develop a theoretical model for “Administrative Effectiveness”. Many fields of study have progressed incrementally towards principles and possible measurement approaches. In general, the successful delivery of citizen focused service and the new design methods employed by organisations have evolved from a multitude of fields including:

- New Public Management and New Governance
- Service design and management
- Design
- Universal Design
- Information technology
- Human Factors and Ergonomics
- Usability
- User-centred design
- Human reliability assessment

These disciplines have various methods for assessing effectiveness of the design as well as the quality of the client experience. The following outlines key considerations from the literature in the development of AE.

⁴ **Program logic** is a theory about the causal linkages among the various components of a program: resources; activities, outputs; and short and long term outcomes (Funnell, 1997).

⁵ Australian businesses are expected to report the Goods and Services Taxes (GST) collected on behalf of the government through their Business Activity Statement (BAS). BAS is lodged periodically depending on the arrangement with the Tax Office.

New Public Management (NPM)

The New Public Management provides views on organisations that have a monopoly on services (Farnham & Horton, 1993, p. 37), the necessity of interpersonal interactions despite budget restrictions, resourcing cuts (Gabbott & Hogg, 1998, p. 68) and the nature of essential long term relationships that are enduring over different periods of the citizen's life (Pollitt, 1993, p. 128). Deficient service leads to disengagement, resistance and in extreme cases, defiance (Braithwaite, 2009). Techniques used for evaluation include the critical incident technique (Carvalho & Brito, 2012), perceived quality model (Gronroos, 1984), SERVQUAL/SERVPERF (Parasuraman, 1991; Parasuraman, Zeithaml, & Berry, 1988) and Total Quality Management (Deming, 1986).

New Governance

Reconciliation between the New Public Management and the services management literatures (Osborne, 2006, 2009; Osborne, Radnor, & Nasi, 2013) lead to the New Governance perspective (Osborne, 2006). In this new domain, public services are considered as complex, multifaceted interactions not only between the consumers of the services (citizens) and the public administration, but also amongst the numerous government organisations that contribute to the citizen-client experience (Osborne et al., 2013). The recognition of the holistic citizen experience is a considerable step forward in public administration theory.

Additionally, 'coproduction' of services is intrinsic to the New Governance approach (Bingham, Nabatchi, & O'Leary, 2005; Osborne, 2010). The services literature has advanced theorising of co-production and incorporates an understanding of how the users of the service, as they interact with the service, respond and shape future experiences (Bitner, Faranda, Hubbert, & Zeithaml, 1997; Gabbott & Hogg, 1998).

Service design and management

The services management field is well established in understanding the effectiveness of various contributors to a quality service experience for customers including interactions with organisations and the quality of the tangibles produced. In turn, these tangible outcomes contribute to the effectiveness of the organisation (Subramony & Pugh, 2015),

The field uses a well-known scale (SERVQUAL) for measurement of service quality (Kakouris & Meliou, 2011; Lewis, 1989). SERVQUAL measures the customer expectations, whether these expectations have been met and

serves as a measure of good service (Bryslund & Curry, 2001; Parasuraman et al., 1988). Research evaluating public sector Citizen Service Centres in Greece demonstrated the value of SERVQUAL but also the limitations that this scale had in identifying specific issues in the user experience (Chatzoglou et al., 2013). Further research in this field has also offered alternatives to service evaluation (Gronroos, 1978; Rhee & Rha, 2009). Other measurement schemes include the Net Promoter Score (Reichheld, 2006) and the Triple Bottom Line (Elkington, 1997).

Substantial debate surrounds the use of SERVQUAL for public sector management (Brady & Cronin, 2001; Wisniewski, 2001). However for several reasons, we believe that the existing SERVQUAL scales should not be used solely for evaluation with the Compliance Behaviour Model. Humans have cognitive biases which distort reasoning. Biases such as cognitive fluency (Unkelbach, 2006) lead people to trust or believe in experiences due to fluency or the framing effect (Sunstein & Thaler, 2003), which create false conclusions based on the way information is presented. Such blind-spots in human thinking mean that self-judgement of an absolute or intrinsic value of quality of service will be shaped by a number of biasing factors. Secondly, objective self-reporting of behaviour is well known to be unreliable (Hessing, Elffers, & Weigel, 1988). Self-reported behaviour is also affected by issues such as common rater bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003), social desirability, imperfect attention (Johnson, 2010, pp. 87-105) and poor memory (Loftus & Palmer, 1974). Therefore to improve the reliability of the SERVQUAL scales in this context, they should be supplemented with additional complementary data.

Design

Disagreements around how to evaluate the quality of design and the related user experience still exist in the design field (Hertenstein, Platt, & Veryzer, 2013). A good design may deliver a good client experience but the two concepts are not interchangeable. Determining the quality of a design must account for individual taste, cultural ambiguities as well as perception (Veryzer, 2000). Hertenstein, Platt and Veryzer (2013) provide a scheme of possible dimensions as identified by expert industrial designers. The results revealed 24 themes of which 14 were related to the customer experience.

Human Factors and Ergonomics (HFE) and Universal Design

The majority of research in this field is focussed on insights and extensions from the cognitive sciences, and the development of research

and design methods from engineering (Nickerson, 1999). Most of the literature focusses on the quality of the outcomes based on design principles or heuristics in the field. McCormick provided an initial scheme of 18 principles in 1964 and these have been republished (McCormick, 1964; Sanders & McCormick, 1998). Universal Design (Erlandson, 2008; Gassmann & Reepmeyer, 2011) is a methodology that also evolved in this field. Lenker, Nasarwanji, Paquet and Feathers (2011) used research conducted by Beecher and Paquet (2005) to create a 12 item usability assessment tool known as Rapid Assessment of Product Usability and Universal Design (RAPUUD). Human Reliability Assessment theory (Spurgin, 2010), an emerging field of human factors, focuses on understanding how humans can be positioned to succeed or fail in task performance.

The work of HFE researchers has shown that many accidents ranging from simple and frustrating errors to fatalities, can be the direct consequence of poorly designed or implemented systems. These outcomes reflect a lack of understanding of the real world use of the design subject and the potential for human error. Many limitations exist in human behaviour, which cause inadvertent error. Performance is affected by internal considerations as well as stressors that can lead to unforced errors. A number of professionals in the field of human factors and ergonomics have called for more research on effectiveness assessment for this field (Committee on Human Factors, 1985; Meister, 1986). This call has been met with research on methods and standards (Nemeth, 2004; Rodrick, Karwowski, & Sherehiy, 2012).

Error prevention and the understanding of real world context must be included in any evaluation of service design for the public sector. AE has many shared characteristics with the human factors and ergonomics domain. Principally, AE is directed at understanding and overcoming the obstacles to performance. Error prevention and recovery are critical considerations for both AE and HFE.

Usability and user-centred design

Usability, which is a predominant component of universal design and the user-centred design methodologies, has a set of design principles mainly associated with the design of websites and graphical user interfaces. Nielsen (1996) identifies 11 usability principles. A fundamental issue to understanding and applying usability is the inability of users to self-assess 'usability'.

Modelling Administrative Effectiveness

Subsequent to the literature review, we compared and cross-matched the primary variables used in each of the domains above and categorised them to reduce duplication. We condensed this set of factors based on their contribution to a service-dominant understanding of public administration, their role in co-production, and their similarity with user-centred design: all aspects considered necessary in Administrative Effectiveness. We thematically coded these factors to develop the proposed model. A number of missing constructs were evident in the cross comparison. Where gaps were obvious in the dimensions, we included additional factors into the proposed model of AE.

Notable absences exist in the literature in regards to the measurement of particular constructs. These include: usefulness of service, awareness, completeness or seamlessness of the experience, complexity, the effect of context, temporal considerations, the interactive effect and emotion. Additionally, the literature did not provide connections to the outcome of an improved client experience or compliance. These elements must also be considered in a model of AE.

From this initial review of the literature and categorisation process, three categories emerged as sub-dimensions of Administrative Effectiveness: people-product (*product*); people-process (*process*) and people-service (*service*). The final set of possible dimensions to measure AE are shown in Table 1. Figure 2 shows the AE model and the relationship between the factors.

Table 1 - Final set of variables to be used to measure AE

People-Product	People-Process	People-Service
Cognition	Flexibility	Responsiveness (two way)
Perception	Error management	Competence
Ergonomics	Efficiency	Courtesy
Aesthetics	Stability and predictability	Credibility
Accessibility	Security	Equity
Usefulness	Complexity/simplicity	Co-production
Awareness	Completeness/seamlessness	Interactive expectations
	Context	Emotion
	Temporal considerations	

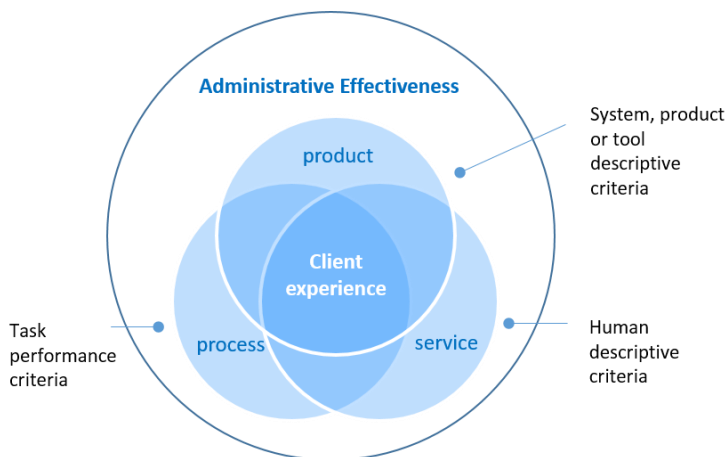


Figure 2 - Model for Exploring Administrative Effectiveness, showing the relationships between the factors and the impact on the citizen-client experience

Study – Evaluating the AE model

Participants, context and test case

To validate the dimensions in the model and ensure that the complexity of AE was fully described, we designed a qualitative study using a test case scenario. The test case for a client experience reflects the practical application of the model and determines its real world applicability. We used a small business “start-up” process as our test case. We used this particular experience because of the complexity of the service ecology, its heterogeneity and criticality of the sample population in the taxation context, as well as the potential high risk of administrative failure. Tax administration provides an organisational context to evaluate the AE model. An organisational view is necessary as the model is intended as a practical tool for the public sector to evaluate the effectiveness of their services. A test case provides real-world demonstration of the model’s value.

Test case: Tax administration in Australia

Tax administration is distinctly different from other public sector organisations. Revenue authorities are geared to promote compliance either

through encouragement or when necessary, enforcement. The currency used to drive compliance is respect, trust and cooperation (Kirchler, Hoelzl, & Wahl, 2008).

Even though taxpayers may want to comply, many struggle to achieve this goal. In Australia, each year many complaints are made to the Tax Office and external scrutineers such as the Inspector-General of Taxation and parliamentary committees⁶. These complaints relate predominantly to inadvertent non-compliance. The tax system itself is what often leads well-meaning taxpayers to make unforced or accidental errors. Evidence indicates that the tools, education materials and the interfaces to various tax systems are difficult to use, hard to interpret and may actually impede compliance (Hasseldine et al., 2012).

Regardless of the difficulty of law, even theoretically simple tasks, such as paying a known amount of tax, can be made complex through poorly designed administration. For example, online services such as internet banking can still be clumsy and error prone in public sector experiences. When a taxpayer attempts to pay their taxes through an online system they may accidentally pay the wrong account (such as: Goods and Service Tax [GST] rather than the Pay as You Go [PAYG] account)⁷. Such an accident is compounded as the system does not automatically inform the taxpayer of the location of the deposit, as a Statement of Account (SOA) is not issued unless requested by the taxpayer. The taxpayer may continue to incur interest and penalties due to non-payment until a certain threshold is reached (approximately \$12,000) and only then will a statement be despatched. By this time, the debt is critical and the taxpayer may be unable to pay (Australian Taxation Office, 2014).

This example shows the impact of introduced administrative complexity on taxpayer behaviour. System inhibitors or obstacles to compliance, such as poor usability, directly influence not only the decision making process, but also the ability for the taxpayer to correctly comply.

⁶ In 2013–14 the Taxation Ombudsman received 1,369 complaints about the Tax Office (Commonwealth Ombudsman, 2014).

⁷ information as at April 2014 (Australian Taxation Office, 2014).

Population: small business in Australia

In 2016, approximately 2.1 million businesses actively trade in Australia. Eighty nine percent of these are small businesses⁸, of which 61% are sole traders. Small businesses are unlikely to contact a professional to assist during the start-up process. Twenty five percent will contact an accountant, 13% will use previous connections in their industry and only 1% will contact the Tax Office (Rutley, Elliot, & Tatarynowicz, 2016).

However, small businesses are the backbone of the Australian economy. They employ almost half of the working population (47%) and are essential for innovation (Connolly, Norman, & West, 2012). This critical part of the economic ecosystem has significant challenges to overcome if they are to survive. This group endure many trials due to insufficient resources in the face of bureaucratic morass. First time business owners need to navigate multiple levels of government regulation, become tax collectors and develop skills in financial and human resource management. Government departments are moving towards improving their individual service offerings but little has been done to create holistic client centred views of the services that the government provides. Any one business may have to deal with three or more federal government departments when commencing (in some cases five or more) as well as state and local councils. This level of interaction is quite daunting for many small businesses owners.

Procedure

The research study must overcome deficiencies in the existing literature to validate the AE model design. The challenge occurs due to the ontological perspectives of existing research, as well as practical limitations of certain data collection approaches. Judgements about the administrative effectiveness of a public sector service are personal to the individual involved. The context or environment in which a client experiences occurs, also contributes to the success or failure of performance. For example, business owners may believe they are well organised and capable with no apparent issues in their administrative procedures. However, their office space may reveal disorderly filing methods, out-of-date copies of formulas and wage rates, and/or intrusive levels of noise, interference and interruptions. This contextual information is valuable, rich data for

⁸ Small businesses are classified as those with a Total Business Income (TBI) of less than \$10 million.

anchoring the experience and determining the effectiveness of the systems to support the related service.

Similar approaches have been undertaken to access data from other perspectives of the citizen-client experience, including service staff and tax professionals. Figure 3 demonstrates the alternative perspectives necessary to fully understand and measure AE.

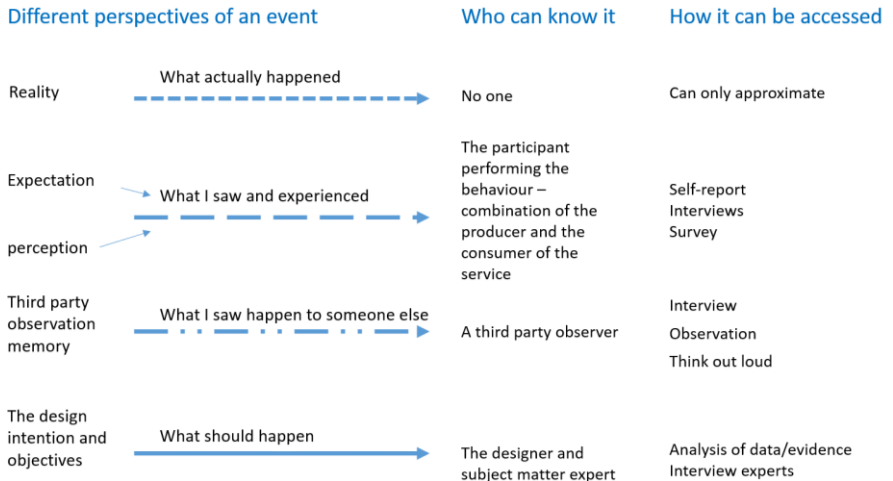


Figure 3 - Conceptualisation of the multiple perspectives required to understand and measure AE

When a citizen-client participates in activities to perform a desired behaviour (e.g., registering a business), the complete service interaction must be viewed from a number of perspectives in order to gain a balanced understanding of the event. Each view is in itself a ‘truth’ of the experience, but not the whole reality. Only through the reconstruction of all the separate elements can a thorough, but incomplete truth be known. Each of these views is a potentially discrete but also a differentially insightful source of information. This simultaneous and multi-viewpoint perspective also performs a cross validation through triangulation (Moran-Ellis et al., 2006). The ontology of the inquiry aligns with post-positivist views of a single reality that cannot be fully known, but only estimated through research and the data (Lincoln, Lynham, & Guba, 2000). Due to the need for multiple perspectives, the research was conducted from a pluralist view using a

pragmatic bricolage (Barker & Pistrang, 2005; Frost, 2011; Todd, Nerlich, McKeown, & Clarke, 2004). Observing both the subjects and the activities in context was necessary to genuinely explore AE.

Consequently, the study followed a sequential exploratory strategy (Creswell, 2009, p. 211). Ethnographic techniques were used to gather contextual information as well as synthesise material from existing data sources. Evidence from these activities was used to validate knowledge on design principles and performance measures that apply to AE. Thematic coding of the data was conducted and process maps of individual experiences were developed. The first author combined the process maps and the coded data to create a client experience map. Emotions, questions, attitudes, errors and fail points were also identified in the experience.

The following activities were used for data collection:

1. **Interviews** with tax professionals and tax technical/knowledge specialists were conducted to check the validity of factors included in the model, to gather their perceptions of the sub-dimensions, and to determine any other factors that we should include in the model of AE. At the end of each interview participants were asked to evaluate the small business start-up experience using a prototype tool utilising the AE scale.
2. **Contextual inquiries or observations** of taxpayers performing common tasks and using verbal protocol analysis (van den Haak, De Jong, & Schellens, 2003). Observations were mapped with participants using collaborative mapping (Figure 6). This process involved the researcher eliciting details about the experience of starting a business and creating a map of the various thoughts, issues and activities with the help of the participants. Participants were encouraged to interact with the map and make changes to elaborate on their experience. The visual aid prompted some participants to add further detail and use the individual items on the map as anchors for their story. In addition, the researcher observed experienced and first time business owners undertaking tasks relating to starting a small business. At the end of each inquiry, business owners were asked to rate parts of the experience according to the AE prototype tool.

3. **Qualitative and quantitative data** were collected and analysed. This data consisted of complaint reports and existing research into specific administrative design functions.

Sample

Stratified random sampling was used for the participants in this study. Business owners from micro or small and medium enterprises were invited to participate in individual sessions. Tax officers, tax professionals and design experts were also interviewed to gain an understanding of the obstacles encountered when working with taxpayers. Tax professionals were randomly sampled from those who represent small business taxpayers. Table 2 outlines the different activities and the related samples.

Table 2 - Samples for research study

Contextual inquiries and observations	Interviews
4 new small business 8 experienced business operators (> 3years)	12 tax officers in small business 5 tax administrative designers Inspector General of Taxation 4 tax agents for small business operators

Analysis

Relevant themes were coded to create a core set of dimensions to describe AE and to challenge the dimensions identified from the literature review. Data from each of the contextual inquiries, collaborative maps and the interviews were analysed individually as process maps and then synthesised to create a low fidelity prototype of the client experience journey map (Figure 4). The full citizen-client experience journey map was documented for sharing and further analysis (Figure 5). Each of the AE components were clustered to provide visibility for rating and evaluation. Journey maps provide a visualisation of the experience and enable documentation of issues, gaps or potential citizen-client errors (Kimbell, 2014).

The first author evaluated each component of the experience (or sub-experience) using the AE variables for *product*, *process* and *service* (Table 1).

Right: client experience map

Below: one participant's experience



Right: multiple journeys

Figure 4 - Low fidelity maps of the client experiences created through the observations and during the analysis phase of the research study

Where possible existing measurement scales were used to create ratings. Based on these scores, each variable was given a rating out of 10 (1-low or poor, 10-high or strong) across each of the AE dimensions of *product*, *process* and *service*. Ratings were given to each section based on evidence gathered by the first author. These ratings were compared with information provided through interviews with tax design and subject matter experts. The ratings were then compared with the data captured in the prototype tool. Figure 6 depicts the assessment for each stage.

Measuring good design in the public service

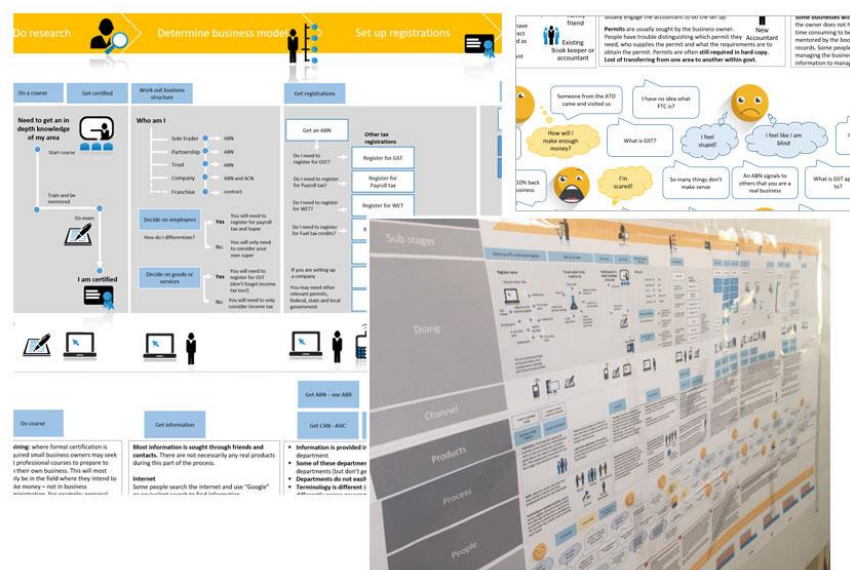


Figure 5 - Digital client experience map with the products, processes and services shown for each phase. Issues and pain points as well as thoughts, questions and emotions are depicted

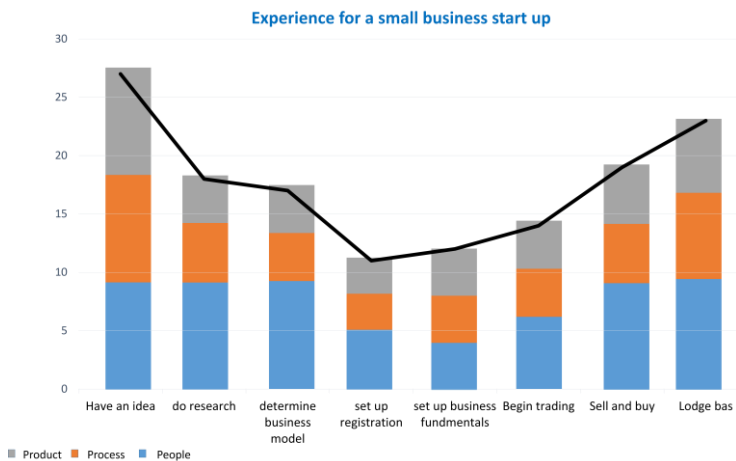


Figure 6 - Graph depicting the quality of the client-citizen experience of business start-up

Results

Table 3 shows the comparison of quality ratings for each stage of the starting a small business experience using the AE framework.

Table 3 – Researcher/observer ratings of each aspect of the starting a small business experience (rating out of 10)

	Have an idea	Do research	Determine business model	Set up registrations	Set up business fundamentals	Begin trading	Sell and buy	Lodge BAS	Mean
Product	9	4	4	3	4	4	5	6	4.87
Process	9	5	4	3	4	4	5	7	5.12
Service	9	9	9	5	4	6	9	9	7.5
Total score (out of 30)	27	18	17	11	12	14	19	21	

The total ratings given by the first author were compared with the early results from the prototype tool for each of the different participant perspectives. These ratings are shown in Table 4 and Figure 7. Only basic statistical analysis has been conducted on these results due to the early nature of the research. Therefore, quantitative results should be viewed as early indications of trends rather than as definitive measures.

Table 4 - Comparison of the ratings across the different start-up experience perspectives

	Product	Process	Service	Mean
Small business	4.5	3.51	6	4.67
Subject matter expert	3.59	3.4	5.9	4.2
Researcher/observer	4.87	5.12	7.5	5.87

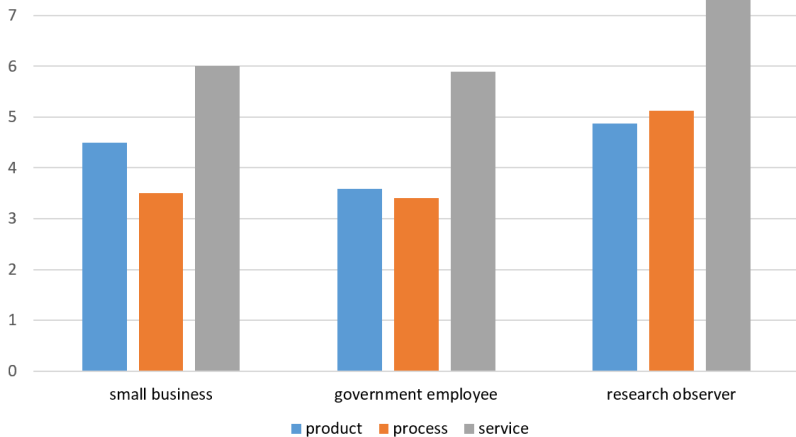


Figure 7 - Scores for three perspectives of the start-up experience (scale 1 low/poor to 7 high/very good)

The first author rated the overall experience higher than both the users and the subject matter experts. However, the ratings given by the subject matter experts and the users were more closely aligned.

Seven sub-experiences are included in the start-up business client experience journey: *have an idea; do research; determine business model; set up business registrations; set up business fundamentals; begin trading; buy and sell*. An additional phase was included in the research to understand the impact of the set-up process on business operations: *Lodge BAS*⁹. These sub-experiences were compared with a separate mapping created by ATO subject matter experts to determine gaps and duplications (Australian Taxation Office, 2016). Categories were thematically consistent¹⁰.

⁹ The Business Activity Statement (BAS) is used to report Goods and Services Tax (GST) collected by business.

¹⁰ The comparison was conducted after the full map had been created by the first author to prevent any distortion or confirmation bias in the results. The ATO document uses different phrasing for the categories created in first person perspective for example "I need a business structure".

AE evaluation: starting a small business

The areas rated lowest were *set-up registrations* and *set-up business fundamentals*. Within each of the sub-experiences *products* and *processes* were rated significantly lower than services. The lowest rated *process* variables were: lack of short-cuts, flexibility of process, inability to use existing tools, large amount of effort, and the large number of steps to complete the process. The lowest rated *products* variables were: amount of focussed attention required, a heavy reliance on memory and use of specialist jargon.

A number of weaknesses exist in the touchpoints for the business start-up experience. The lowest rated sub-experience was the registration process for businesses. Businesses were aware of basic requirements but were unaware of industry specific registrations until they were in urgent need of a particular registration or permit. Many owners described the experience as *"walking through the dark and bumping into objects that you didn't know existed"*. Clear issues included lack of connection between government services and a lack of responsibility across levels and parts of government for assistance. The fragmented service created reverse workflows, duplication of information as well as general confusion for small businesses.

All business owners, including those who considered themselves knowledgeable and experienced, struggled through this process. Many expressed frustration at the apparent lack of logic in the process and high degree of specification required by government for tasks with little consequence on safety, risk or good business management. One participant produced a local council regulation in regards to a permit and said *"I have measured this and its 2.5cm thick. How am I expected to know all of this?"* Delays for this participant had been caused by a local council examining the minutia of his business operations. The acquisition of the permit delayed trading for over 12 months. The local council showed no understanding or empathy in regards to the financial consequence on the business. The AE model and rating system clearly identified these elements and demonstrated the weaknesses in the citizen-client experience.

A number of government facilities are available to assist small businesses including the business.gov.au website which has a checklist of requirements for new businesses¹¹. This facility provides an overview of services.

¹¹ <http://www.business.gov.au/business-topics/starting-a-business/pages/default.aspx>.

However, the research revealed few businesses searched for “starting a small business” information. Online discovery did not form part of their natural thinking process. Instead, accountants and related industry professionals were their predominant source of information. Business owners considered these professionals to be trusted authorities. The public sector recommended site business.gov.au, which had a list of new to business requirements, was unexplored and unseen. This failure in the service design is mainly due to a lack of understanding of the entire client experience as well as underutilisation of natural triggers and client touchpoints. The identification of experience touchpoints and evaluating the success of these interactions are essential in evaluating AE.

The research demonstrated a number of factors that were improved by the use of the AE model. Firstly, data gathered from the different perspectives of user, subject matter expert and observer provided clear understanding of the relative importance of different aspects of the experience. Subject matter experts focussed on lack of preparation, poor planning and cash flow issues of small businesses owners. Small business owners described their confusion and could not articulate many of the aspects of the complete process. The researcher or third party observer was able to synthesise this information and pull together the overall picture. An outside perspective also provided a critical understanding of the fail points in the process and enabled identification of the best points for remedy. Further, evaluating each aspect of the system as categorised by *products*, *process* and *services* (and the related variables) allowed identification of systemic issues such as failures in process between government departments. The use of the AE model provides greater sensitivity in identifying issues and dependencies to be addressed in the experience.

Improvements for future research

The AE model can be refined to address a number of issues encountered during this study. Firstly, the unit of analysis pertaining to the citizen-client experience must be reconsidered. One subject matter expert noted the ambiguous nature of the relationships between various products and processes in the experience and questioned whether the law itself should be evaluated as part of AE.

Consideration must also be given to the objective complexity of parts, or whole citizen-client experiences. If compared against some of the other parts of a business experience, such as managing complex Fringe Benefits

Tax (FBT)¹² obligations, the current test case of business start-up would be judged as simple. A measure of legal complexity should be included to provide additional context to the rating of AE. For example, if the FBT experience received ratings of similar value to the start-up experience, the experience as a whole may need to be scaled as the effectiveness of the service might be higher due to design characteristics that mask the complexity of the law.

Clear definition of sub-experiences (tasks and activities) in the journey is also critical in improving rating and measurement. Participants found it difficult to differentiate process, products and service aspects, which were categories of service created in the model for the purpose of measurement. Having a third party observer involved in moderating measurement across the different participants is necessary.

A number of areas were also problematic to control and measure such as context, co-production and awareness. The literature review and preliminary data analysis indicated additional measures that could be developed for future studies to capture data in both the prototype tool as well as the observer evaluation process.

Discussion and conclusions

Citizens do not have a clear understanding of the various functions of government and how to navigate these structures, nor should they. Public sector services should be designed to make the most of the way citizens automatically manage their lives. Designs should be created based on an understanding of the experience and the services shaped to integrate into the user's world. Instead, public administration largely requires citizens to think like public servants and respond like public sector organisations. As long as this assumption remains, problems will emerge in the perceived effectiveness of public sector services.

A further challenge for the public sector is to genuinely co-design experiences by putting the citizen first. Government departments struggle to disassociate their services from their organisational structures. Creating holistic, departmentally agnostic experiences is still beyond the current administration. Digital services are leading the way in this regard. However,

¹² "Fringe benefits tax (FBT) is a tax employers pay on certain benefits they provide to their employees, including their employees' family or other associates."
[https://www.ato.gov.au/General/Fringe-benefits-tax-\(FBT\)/](https://www.ato.gov.au/General/Fringe-benefits-tax-(FBT)/)

the focus on digital products reduces the experience to one that assumes the necessity of IT products rather than accommodating preferred channels of citizens.

This research demonstrates that taking an organisational perspective of the client experience, such as tax administration, was also confounding. Although the tax authority has a significant role to play in the start-up of a small business experience, the authority is still only a bit player in the overall performance. The citizen sees the experience through an unadulterated lens, and therefore experiences first hand all of the discord between various levels of bureaucracy. This experience plays out as inconsistent terminology, duplication of process and lack of ability to navigate through government services. Even if the experience through one government service is exemplary, the connection with other related services can dilute and distort the overall experience. This result forces us to question the standard approach to designing public administration led by individual departments. Consideration should be given to service design that is agnostic of agency or government structure. Client experiences should drive the design, not be the outcome of departmental negotiation or a government funding model.

At the same time, the use of tax administration as a case study was illustrative. Although some Tax Office products were well designed, many did not provide a consistent experience across channels and the timing of services were not aligned to the natural rhythms of business. Business owners were also anxious about approaching the Tax Office as they feared drawing attention to themselves. The perception of the Tax Office as a firm enforcer is still pervasive for the general populace. This enduring view undermines the opportunities available to the Tax Office in grooming business for success. All successful small businesses had a long term view of good financial management. They also had mitigation strategies for cash management, were well organised, and had reliable, trusted accountants. These important components could be leveraged to improve the client experiences for all businesses. The Tax Office should utilise these credible partners to assist and provide early support for small businesses.

Developing holistic seamless experiences that support citizens is necessary. However, the political will to make changes across government is missing. Until a conscious decision is made to evaluate the success of government based on the experiences and the services provided to the community, services will remain fragmented, reliant on departmental outcomes and difficult to consume. The intention of this research is to span this divide. Providing a feasible way of assessing a holistic view of a client

experience will equip the community to measure what we as citizens expect from our government – good public services.

Administrative Effectiveness as an evaluation model is a sound concept. It provides useful insights across the entire client experience but also gives measures and evidence to evaluate individual components of the experience. The adoption of measurement at the client experience level provides visibility for administrators in assessing the role they play in the broader citizen-client experience and also the impetus for departments to work closely together to hide bureaucratic complexity from the community.

References

- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211. doi:10.1016/0749-5978(91)90020-t
- Allan, P., Katsigiannis, T., MacDonald, M., Stewart-Weeks, M., Suggett, D., & Tacy, L. (2011). *Getting serious on client service*. Sydney: IPAA.
- Australian Taxation Office. (2014). *Preventing debt: Personas and pathways*. Canberra: Australian Taxation Office.
- Australian Taxation Office. (2015). *Reinventing the ATO: Program blueprint March 2015*. Canberra: Commonwealth of Australia.
- Australian Taxation Office. (2016). *Reinventing education strategies for small business 2015-18*. Canberra: Commonwealth of Australia.
- Barker, C., & Pistrang, N. (2005). Quality criteria under methodological pluralism: Implications for conducting and evaluating research. *American Journal of Community Psychology*, 35(3), 201-212. doi:10.1007/s10464-005-3398-y
- Beecher, V., & Paquet, V. (2005). Survey instrument for the universal design of consumer products. *Applied Ergonomics*, 36(3), 363-372. doi:<http://dx.doi.org/10.1016/j.apergo.2004.10.014>
- Bingham, L. B., Nabatchi, T., & O'Leary, R. (2005). The new governance: practices and processes for stakeholder and citizen participation in the work of government. *Public Administration Review*, 65(5), 547-558. doi:10.1111/j.1540-6210.2005.00482.x
- Bitner, M., Faranda, W., Hubbert, A., & Zeithaml, V. (1997). Customer contributions and roles in service delivery. *International Journal of Service Industry Management*, 8(3), 193-205. doi:10.1108/09564239710185398

- Blanthorne, C., & Yance, K. (2006). The tax gap: Measuring the IRS's bottom line. *The CPA Journal*, (April). Retrieved from <http://www.cpajournal.com/2006/406/essentials/p40.htm>
- Brady, M., & Cronin, J. (2001). Some new thoughts on conceptualizing perceived service quality: A hierarchical approach. *Journal of Marketing*, 65(3), 34-49. doi:10.1509/jmkg.65.3.34.18334
- Braithwaite, V. (2009). *Defiance in taxation and governance: Resisting and dismissing authority in a democracy*. Cheltenham, Glos: Edward Elgar Publishing Ltd.
- Brief, B. (2011). What it takes to win with customer experience. Retrieved from <http://www.bain.com/publications/articles/what-it-takes-to-win-with-customer-experience.aspx>
- Brysland, A., & Curry, A. (2001). Service improvements in public services using SERVQUAL. *Managing Service Quality*, 11(6), 389-401.
- Carvalho, C., & Brito, C. (2012). Assessing users' perceptions on how to improve public services quality. *Public Management Review*, 14(4), 451-472. doi:10.1080/14719037.2011.649976
- Chatzoglou, P., Chatzoudes, D., Vraimaki, E., & Diamantidis, A. (2013). Service quality in the public sector: The case of the Citizen's Service Centers (CSCs) of Greece. *International Journal of Productivity and Performance Management*, 62(6), 583-605. doi:10.1108/IJPPM-12-2012-0140
- Commonwealth Ombudsman. (2014). *Commonwealth Ombudsman annual report 2013-14*. Canberra: Commonwealth of Australia.
- Connolly, E., Norman, D., & West, T. (2012). Small Business: An economic overview. Retrieved from <http://www.rba.gov.au/publications/workshops/other/small-bus-fin-roundtable-2012/pdf/01-overview.pdf>
- Creswell, J. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches*. Thousand Oaks: Sage Publications.
- Cruickshank, P. (2011). *Customer journey mapping (Smart Cities guide no. 12)*: Smart Cities Project.
- Deming, W. E. (1986). *Out of the crisis*. Cambridge, Mass Massachusetts Institute of Technology, Center for Advanced Engineering Study.
- Elkington, J. (1997). *Cannibals with forks: The triple bottom line of 21st Century business*. Oxford: Capstone.
- Erlandson, R. (2008). *Universal and accessible design for products, services, and processes*. Boca Raton: CRC Press.

- Farnham, D., & Horton, S. (1993). *Managing the new public services*. Basingstoke, England: Macmillan.
- Fishbein, M., & Ajzen, I. (2010). *Predicting and changing behavior: The reasoned action approach*. New York: Psychology Press (Taylor & Francis).
- Frost, N. (2011). *Qualitative research methods in psychology: Combining core approaches*. Maidenhead: McGraw-Hill Education.
- Funnell, S. (1997). Program logic: An adaptable tool for designing and evaluating programs. *Evaluation news and comment*, 6(1), 5-17.
- Gabbott, M., & Hogg, G. (1998). *Consumers and services*. Chichester; New York: J. Wiley.
- Gallagher, M. (2005). Benchmarking tax systems. *Public Administration and Development*, 25(2), 125-144. doi:10.1002/pad.353
- Gassmann, O., & Reepmeyer, G. (2011). Universal design: Innovations for all ages. In F. Kohlbacher & C. Herstatt (Eds.), *The silver market phenomenon: Marketing and innovation in the aging society* (pp. 101-116). Berlin, Heidelberg: Springer.
- Gomes, C. F., & Yasin, M. M. (2013). An assessment of performance-related practices in service operational settings: Measures and utilization patterns. *Service Industries Journal*, 33(1), 73-97. doi:10.1080/02642069.2011.600441
- Gronroos, C. (1978). A service-oriented approach to marketing of services. *European Journal of Marketing*, 12(8), 588.
- Gronroos, C. (1984). *Strategic management and marketing in the service sector*. Kent, England: Chartwell-Bratt.
- Hasseldine, J., Evans, C., Hansford, A., Lignier, P., Smulders, S., & Vaillancourt, F. (2012). *A comparative analysis of tax compliance costs and the role of special concessions and regimes for small business in Australia, Canada, South Africa and the United Kingdom*. Paper presented at the National Tax Association Conference, Providence, Rhode Island.
- Hertenstein, J., Platt, M., & Veryzer, R. (2013). What is "good design"? An investigation of the complexity and structure of design. *Design Management Journal*, 8(1), 8-21. doi:10.1111/dmj.12000
- Hessing, D. J., Elffers, H., & Weigel, R. H. (1988). Exploring the limits of self-reports and reasoned action: An investigation of the psychology of tax evasion behavior. *Journal of Personality and Social Psychology*, 54(3), 405-413.

- Johnson, J. (2010). *Designing with the mind in mind: Simple guide to understanding user interface design rules*. Boston: Morgan Kaufmann.
- Kakouris, A., & Meliou, E. (2011). New Public Management: Promote the public sector modernization through service quality. Current experiences and future challenges. *Public Organization Review*, 11(4), 351-369. doi:10.1007/s11115-010-0134-3
- Kimbell, L. (2014). *The service innovation handbook: Action-oriented creative thinking toolkit for service organizations*. Amsterdam, Netherlands: BIS Publishers
- Kirchler, E., Hoelzl, E., & Wahl, I. (2008). Enforced versus voluntary tax compliance: The "slippery slope" framework. *Journal of Economic Psychology*, 29(2), 210-225. doi:10.1016/j.joep.2007.05.004
- Langham, J. (2011). *Good intentions aren't good enough*. (Master of Philosophy), University of Queensland, Brisbane.
- Lenker, J., Nasarwanji, M., Paquet, V., & Feathers, D. (2011). A tool for rapid assessment of product usability and universal design: Development and preliminary psychometric testing. *Work: A Journal of Prevention Assessment & Rehabilitation*, 39(2), 141-150. doi:10.3233/wor-2011-1160
- Lewis, B. (1989). Quality in the service sector: A review. *International Journal of Bank Marketing*, 7(5), 4-12. doi:10.1108/02652328910134590
- Lincoln, Y. S., Lynham, S., & Guba, E. (2000). Paradigmatic controversies, contradictions, and emerging confluences, revisited. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 97-128). Thousand Oaks, CA: Sage Publications.
- Loftus, E., & Palmer, J. (1974). Reconstruction of automobile destruction: An example of the interaction between language and memory. *Journal of Verbal Learning and Verbal Behavior*, 13(5), 585-589. doi:10.1016/S0022-5371(74)80011-3
- Marvel, J. D. (2016). Unconscious bias in citizens' evaluations of public sector performance. *Journal of Public Administration Research and Theory*, 26(1), 143-158. doi:10.1093/jopart/muu053
- Mohamed, M. (2012). Estimating the underground economy from the tax gap: The case of Malaysia. *Malaysian journal of economic studies*, 49(2), 91-109.
- Moran-Ellis, J., Alexander, V., Cronin, A., Dickinson, M., Fielding, J., Slaney, J., & Thomas, H. (2006). *Triangulation and integration: Processes,*

- claims and implications. *Qualitative Research*, 6(1), 45-59.
doi:10.1177/1468794106058870
- Nemeth, C. (2004). *Human factors methods for design: Making systems human-centered*. Boca Raton, FL: CRC Press.
- Nickerson, R. (1999). Engineering psychology and ergonomics. In P. A. Hancock (Ed.), *Human performance and ergonomics* (pp. 1-45). San Diego: Academic Press.
- Nielsen, J. (1996). Usability heuristics. *Health Management Technology*, 17(11), 34.(October). doi:10348025
- OECD. (2014). *Measures of tax compliance outcomes: A practical guide*. Paris: OECD.
- Osborne, S. (1992). The quality dimension. Evaluating quality of service and quality of life in human services. *The British Journal of Social Work*, 22(4), 437-453.
- Osborne, S. (2006). The new public governance? *Public Management Review*, 8(3), 377-387. doi:10.1080/14719030600853022
- Osborne, S. (2009). Debate: Delivering public services: Are we asking the right questions? *Public Money & Management*, 29(1), 5-7.
doi:10.1080/09540960802617269
- Osborne, S. (2010). *The new public governance: Emerging perspectives on the theory and practice of public governance*. London: Routledge.
- Osborne, S., Radnor, Z., & Nasi, G. (2013). A new theory for public service management? Toward a (public) service-dominant approach. *The American Review of Public Administration*, 43(2), 135-158.
doi:10.1177/0275074012466935
- Parasuraman, A. (1991). Refinement and reassessment of the SERVQUAL scale. *Journal of Retailing*, 67(4), 420-450.
- Parasuraman, A., Zeithaml, V., & Berry, L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of quality. *Journal of Retailing*, 64(1), 12-40.
- Podsakoff, P., MacKenzie, S., Lee, J., & Podsakoff, N. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879-903. doi:10.1037/0021-9101.88.5.879
- Pollitt, C. (1993). *Managerialism and the public services: Cuts or cultural change in the 1990s?* (2nd ed.). Cambridge, MA: Blackwell Business.
- Reichheld, F. (2006). *The ultimate question: Driving good profits and true growth*. Boston, MA: Harvard Business School Press.

- Rhee, S., & Rha, J. (2009). Public service quality and customer satisfaction: Exploring the attributes of service quality in the public sector. *The Service Industries Journal*, 29(11), 1491-1512.
doi:10.1080/02642060902793441
- Rodrick, D., Karwowski, W., & Sherehiy, B. (2012). Human factors and ergonomics standards. In G. Salvendy (Ed.), *Handbook of Human Factors and Ergonomics* (pp. 1509-1549): John Wiley & Sons, Inc.
- Rutley, R., Elliot, S., & Tatarynowicz, R. (2016). *Report: ATO small business engagement*. Sydney: TNS Social Research Consultants.
- Schmitt, B. (2010). *Customer experience management: A revolutionary approach to connecting with your customers*: John Wiley & Sons.
- Spurgin, A. (2010). *Human reliability assessment: Theory and practice*. Boca Raton: CRC Press.
- Subramony, M., & Pugh, S. (2015). Services management research: Review, integration, and future directions. *Journal of Management*, 41(1), 349-373. doi:10.1177/0149206314557158
- Sunstein, C., & Thaler, R. (2003). Libertarian Paternalism is not an oxymoron. *The University of Chicago Law Review*, 70(4), 1159-1202.
- Todd, Z., Nerlich, B., McKeown, S., & Clarke, D. (Eds.). (2004). *Mixing methods in psychology: The integration of qualitative and quantitative methods in theory and practice*. New York: Psychology Press.
- Unkelbach, C. (2006). The learned interpretation of cognitive fluency. *Psychological Science*, 17(4), 339-345.
- van den Haak, M., De Jong, M., & Schellens, P. J. (2003). Retrospective vs. concurrent think-aloud protocols: Testing the usability of an online library catalogue. *Behaviour & Information Technology*, 22(5), 339-351. doi:10.1080/0044929031000
- Verzyer, R. (2000). Design and consumer research. *Design Management Journal*, 1(1), 64-73. doi:10.1111/j.1948-7177.2000.tb00006.x
- Wisniewski, M. (2001). Using SERVQUAL to assess customer satisfaction with public sector services. *Managing Service Quality*, 11(6), 380-388. doi:10.1108/EUM0000000006279