Local public service productivity and performance measurement

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Abstract: A premise of new public management (NPM) is that productivity in public services is lower than the private sector, justifying the transfer of tools and techniques born in private sector manufacturing. Our focus is on public service effectiveness i.e. performance, while recognising that efficiency is always important. We believe attention to effectiveness will grow since new public governances (NPG; Osborne et al., 2010, 2015) including the service management perspective (Normann, 2002) are likely to result in new performance metrics including innovative ways of cross-departmental and inter-organisational working to deliver integrated services. The purpose of this conceptual paper is to suggest a new performance framework for evaluating local public service productivity and performance: efficiency and effectiveness. We follow Carrillo and Batra (2012) in rejecting the reduction of performance simply to financial metrics. Our contribution is to suggest ways in which public value as a metric of performance can be measured by socially (and contextually) migrating public values into performance value.

Keywords: local public service; productivity; services-as-a-system; SAAS; performance; service systems learning and innovation.

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1 Introduction

In recent years, IJKBD has developed frameworks for understanding how knowledge relates to performance in units of analysis including the economy, city-region and firm (Yigitcanlar et al., 2010); this paper introduced a new unit of analysis: the service system. Following Carrillo and Batra (2012) we explore a new approach to non-financial performance metrics, in our case migrating values into value by coproducing local public services.

1.1 Performance important

Since Nelson and Winter’s (1982) evolutionary theory, embedding Penrose’s (1959) resource-based view, thinking on performance at firm, regional and economy levels gives prominence to knowledge capital as a factor of production. Whereas in classical theory, such as Solow (1956, 1987) physical capital additions necessarily results in diminishing returns; an alternative emphasis on learning, knowledge stocks and knowledge flows (Romer 1990, 1994; Rebelo 1991; Mankiw, 1995) envisions increasing performance returns, especially where knowledge spillovers, network effects and complementarities amplify the results of learning on performance. Hence simple and
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linear input-transformation-output models offer less predictability when learning is introduced as a variable in performance.

However, pronouncements of the death of the neoclassical production function need qualifying when scaling is introduced (von Krogh and Roos, 1995). As Raval (2015) argues, when aggregated, labour and capital are highly elastic and substitutable, however at a micro scaling this is not the case: small scale and time introduce inelasticity lowering substitutability; this is especially so for services, if as Baumol (2000, 2001), Baumol and Bowen (1966) and Bowen et al. (1989) argues, automation opportunities are limited.

Yigitcanlar (2011) is undoubtedly correct in arguing that developed economies in moving from extractive and manufacturing industries towards the primacy of services, economies also switch from exploiting natural endowments or manufacturing technological artefacts towards the pre-eminence of knowledge. This switch is reflected in Romer’s (1986, 1990) growth model, Castells and Hall (1994) and Sassens (2015) work on cities as cauldrons of innovation and Yigitcanlar’s (2011) approach to knowledge-based urban development. Reiterating Schumpeter’s (1934) emphasis on diffusion as the source of growth, Salleh (2013) calls attention to his further point that each new technological wave brings in its wake new governances, models of financing and types of organisation. Like all deep socio-economic change, shifting towards a more knowledge-based economy is grounded in fertile social space leading Yigitcanlar et al. (2010) to emphasise the importance of city-region development, characterised as Vigoda (2002) notes by seeking new effectiveness rather than simply more efficiency benefiting from knowledge spillovers (Franz, 2010) for which participation in vibrant, localised knowledge networks may be even more important than innovative managers for SMEs (Mellor, 2015). Such perspectives now align with progressive discourse on growth, represented by Stiglitz et al. (2009) and the World Bank (2015). Our discussion of performance is not at the level of the economy, city-region or firm, instead, we focus on the performance of service systems – in particular systems delivering public services.

We follow Carrillo and Batra (2012) in rejecting the reduction of performance simply to financial metrics. Our contribution is to suggest ways in which public value as a metric of performance can be measured by socially (and contextually) migrating public values into performance value.

1.2 NPM to NPG

A premise of new public management (NPM) is that performance in public services is lower than the private sector, justifying the transfer of tools and techniques born in private sector manufacturing. We believe that public service performance and productivity are simply badly measured, noting that after six decades of research on measuring productivity in services [from Baumol and Bowen (1966) to Djellal and Gallouj (2008b)] there is still no dominant framework for measuring inputs, outputs, efficiency and effectiveness.

Our focus is on public service effectiveness i.e. performance, while recognising that efficiency is always important. We believe attention to effectiveness will grow since new public governances (NPG; Osborne, 2010; Osborne et al., 2015) including the service management perspective (Normann, 2002) are likely to result in new performance metrics including innovative ways of cross-departmental and inter-organisational working to deliver integrated services.
1.3 Our contribution

Our research question is: can the creation of new knowledge surrounding public values help evaluate the value performance of local public service systems? Our conceptual paper suggests a new performance framework for evaluating local public service productivity and performance: efficiency and effectiveness. In doing so we make two arguments. Firstly, co-production of local services embeds user and front-line provider values into value creating service solutions. Evaluation metrics therefore must recognise both the values input and effort input of service users, and service users role in subjectively experiencing and evaluating service outputs: values migrate into value. Note that this implies locally negotiated performance metrics, beginning at the level of individual service users with qualitative metrics. Evaluation of effectiveness includes local service innovations arising from coproduced service practice and evaluation of efficiency includes (quantitative) cost and time metrics. Our second argument is that performance evaluation begins at the level of individual service delivery and use, what Laitinen et al. (2017a) term services-as-a-system (SAAS). These systems include feedback learning-cycles. Our contention is that the practice of co-producing local public services involves some degree of commitment to innovation by formal providers (which we term positive emotional labour) and by coproducing service users. This conceptual paper presents these ideas as a normative framework, however both Laitinen et al. (2017a) and Kinder (2012) have presented empirical evidence supporting their application.

We differentiate our approach from Vargo and Lusch’s (2004, 2006, 2008) and Vargo et al. (2008) service-dominant logic, which we argue is a marketing perspective of less use in design, delivery or evaluation of local public services. Since our interest is in providing a framework for measuring productivity and performance, we find less useful the wellbeing approach of transformative service research (Pettigrew et al., 2011), which focuses on loose network organisations, whereas SAAS are closely-coupled systems delivering services. Researchers such as Demirkan et al. (2011a, 2011b) and Davis et al. (2014) argue that service systems are constituted by organisations and computer-based processes, with little room for active agency; we argue for the wider perspective of SAAS including Neely’s (2007) idea that strategic objectives are dynamically renegotiated by lessons from practice; in our case, practice involving co-producers.

We begin by reviewing literature on productivity and performance in services, in particular whether efficiency and effectiveness are alternatives, the relevance of private sector tools to local public services and the importance of unit of analysis, and timescale. We then build up a new performance framework critically appraising the work of Grönroos and Ojasalo (2004) and Grönroos and Voima (2013), notions of public value (Moore, 1995) and the implications for local public services of Normann’s (2002) service management perspective.

2 Lessons from previous research on service performance

Boyne’s (2003a, 2003b) discussion on public service performance highlights the importance of differentiating efficiency from effectiveness and choice of unit of analysis (implying boundaries and timescale). Here we show how these important variables fit into a public value performance framework, based on knowledge of public values.
2.1 Efficiency and effectiveness

Efficiency equates marginal productivity across units of output (Achabal et al., 1984) an internal measure minimising input for maximised output (Clark, 1921; Moran and Ghoshal, 1999). Effectiveness is closer to performance and maximises stakeholder impact, including change over time (Gaertner and Ramnarayan, 1983). Micro-economic theory focuses on short-term efficiency (Moran and Ghoshal, 1999) even if sacrificing long-term effectiveness (Johnson and Kaplan, 1987). Japanese lean producers introduced the idea that efficiency and effectiveness need not trade off (George, 2003), summarised in the adaptation of Mouzas (2006) shown in Figure 1.

Figure 1  Efficiency and effectiveness relationship

Although our focus is upon effectiveness, it is important to reiterate that efficiency too is important recognising the conceptual separation of the two. Following Behn (2001) and Andrews et al. (2013) we argue while maximum efficiency, effectiveness and equitable access that in practical terms to some degree these outcomes trade off.

2.2 Unit of analysis

As Mark (1982) shows, cost attribution depends upon choice of unit of analysis; inadequate justification of which disables accounting for total factor productivity (Barbot et al., 2008). Afonso et al. (2003, 2005) for example, shows that at economy level, small size correlates with better performance. Models of service productivity 3Es (economy-efficiency-effectiveness) and inputs-outputs-outcomes (IOO) adopt cross-organisation financial metrics (Ostrom et al., 2015) and return on investment (Harjit et al., 2016). This can lead to distortions, such as Douglas’s (2000) work on hotels focusing on room occupancy and discounting yield from other sales (see Neely, 2007). At
high levels of aggregation, indexation can give useful comparative data, though it is less useful in identifying what and how to change. As McLaughlin (1990) argues, investigating service productivity requires fine-grained data; hence SAAS is at the level of the individual service recipient (or small groups with the same problem). We recognise with Prasad et al. (2014) that productivity and performance metrics also needs multi-level analysis.

2.3 Timescale

Contrived shortened timescales may not only distort productivity figures, they may also exclude innovation. For example, Smith and Sach’s (2010) endorsement of the UK’s NICE cost benefit framework examines pharmaceuticals but excludes medical innovations over time: including both in multi-temporal evaluations. As McCraken et al. (2007) notes, project time and what Linna et al. (2010) term time-to-solution often differ: the difference being external satisfaction, i.e., the user’s problem is solved. Our proposed framework suggests multiple timeframes.

2.4 Measuring the holistic service footprint

The hospital may efficiently address a patient’s medical needs, but if discharge is delayed because social care is unavailable, from the patient perspective the service system is ineffective; similarly bed-occupancy performance indicators rise the more patients die. Productivity models, such as Fisk et al.’s (1993) IHIP model (intangible, heterogeneous, inseparable and perishable) look only at internal process efficiency. Sahay (2005) points to the difficulty of using the same metrics (financial cost) to adjudge process efficiency and user-satisfaction; we cannot agree with Vuorinen et al.’s (1998) insistence that user satisfaction can be priced. As Franz (2010) notes, any performance evaluation begins by choosing clear system boundaries; our choice of service system is from the service user’s vantage point.

User perceptions of local service performance involve bringing together services provided across organisational boundaries, which often have differing process metrics, some of which hold dubious face validity in the eyes of practitioners and users (Pronovost and Lilford, 2011). We therefore propose a framework where the user needs define service solution. Table 1 notes accountability systems, mostly citing organisations, giving choice of performance criteria to wider stakeholders: their validity is for other than our purpose. Similarly, recent transformative service research (Anderson, 2013; Sanchez-Barrios et al., 2015) taking wellbeing as the performance footprint may also be a valid macro-level technique to analyse issues other than our chosen problem, which is the individual service user’s evaluation of services solving their individual problem.

Our view, agreeing with Tangen (2004) on this point, is that local service systems are the appropriate unit of analysis for performance since they provide practitioners and users with information relevant to improving services.
<table>
<thead>
<tr>
<th>Unit of analysis</th>
<th>Who computes</th>
<th>Timescale</th>
<th>Users co-producing essential?</th>
<th>User subjectively evaluating (from experiencing service)?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost accounting</td>
<td>Productive unit, cost centre or organisation</td>
<td>Service provider</td>
<td>Short-term, e.g., hourly/weekly</td>
<td>No</td>
</tr>
<tr>
<td>Productivity</td>
<td>Productive unit, cost centre or organisation</td>
<td>Service provider</td>
<td>Short-term, e.g., hourly/weekly</td>
<td>No</td>
</tr>
<tr>
<td>Performance</td>
<td>Productive unit, cost centre or organisation plus passively involved users</td>
<td>Service provider</td>
<td>Longer-term, e.g., annual</td>
<td>Passive</td>
</tr>
<tr>
<td>Social accounting</td>
<td>Interested community</td>
<td>Service provider agrees goals and metrics with interest groups</td>
<td>Long-term, e.g., annual reporting of triple bottom line or balanced scorecard</td>
<td>If provider agrees</td>
</tr>
<tr>
<td>Social accountability</td>
<td>Wider community</td>
<td>Wider community sets goal/metrics</td>
<td>Periodic</td>
<td>Possibly interest groups</td>
</tr>
</tbody>
</table>
3 The challenges in measuring public service performance

Bouckaert and Halligan (2006) differentiate models of public management performance by levels of aggregation; here we argue that knowledge of public values embedded into outcomes as a result of co-production at the level of service systems, is an alternative perspective.

3.1 NPG: strategies and structure

NPG is a post-structuralist approach emphasising service user outcomes above the sectoral heritage of providers, i.e., appropriately mixing public, private and third-sector providers in service management arrangements characterised by effectiveness from a user perspective: strategy trumps structure. For our purpose we emphasise two points flowing from this perspective relating to the meaning of strategy and to innovation.

Conventional accountability focuses on the organisation given stewardship over resources. From a NPG perspective accountability is for (user-defined) outcomes achieved in addition to efficiency. For the school child or elderly citizen, needs are cross-disciplinary and often organisational or departmental boundaries. Siloed accountability is less relevant in a SAAS context. All-purpose financial metrics have the advantage of generalisation, their relevance (to users) is limited, since they are interested in service solutions: their contexts differ widely (Hope, 2007). Neely et al.’s (2007) point is that strategy and performance ought to be causally linked. As performance in a service system become apparent (qualitative and quantitative data), strategy should alter inviting decisions such as shift resources from here to there, closer integration here. Within the NPG perspective, strategy is dynamically informed and led by (user and provider) evaluations of performance across the range of services coming together to solve user’s problems.

The services management perspective challenges some of the axioms of conventional economics such as Baumol and Bowen’s (1966) argument that services have diminished productivity, what Griliches (1992) terms a cost disease. Similarly Engels Law (Clark, 1921) that rising incomes increase demand for luxury services is disputed, since the demand for (basic) public services is rising. Also, (Kuznets, 1966) proposition that rising costs of one production factor will lead to its substitution is inapplicable in many face-to-face services. The services management perspective, like Nelson and Winter (1982), anticipates continuous incremental and period radical innovations. Unlike manufacturing where a dominant product model gives rise to process innovation (Utterback and Abernathy, 1975), services anticipate both product and process innovations impacting upon outcomes and performance (Scitovsky, 1976), an exception as Pine and Gilmore (1999) note are commodity services delivered directly by ICTs (payments, bookings). Why are services so innovative: precisely because they are coproduced and therefore users are invested in their improvement: co-production results in commitment and direct communication directly with formal providers? These general points feature prominently in our argument below.
3.2 Public and private service differences and their importance for innovation

Our comments above refer to services in general: intangible solutions to problems characterised (Normann, 2002) by intangibility, proximate/immediate consumption, being subjectively experienced by users and being co-produced by provider and user. Classifications of services abound, for example Soete and Miozzo (1989) divide services into supplier dominated, scale intensive and science based. Our focus being on local public services, Table 2 notes ways in which they differ from private services.

Table 2 Contrasting public and private services

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality, demand and costs</td>
<td>Increases in public service quality, may increase demand, without rising additional income (Kinder, 2002)</td>
</tr>
<tr>
<td>Rights</td>
<td>Individuals have legal rights to some public services</td>
</tr>
<tr>
<td>Serviced area confined</td>
<td>Public service authorities are confined in the geographic area and/or social segment to which they can offer services and accountable to specified tax-payers, interest groups or electors</td>
</tr>
<tr>
<td>Choice of customers</td>
<td>Often public agencies cannot choose service recipients despite their cost or risk</td>
</tr>
<tr>
<td>Captive customers</td>
<td>Often public service users have no choice of provider, face unequal power relationships (Emerson, 1962); and are dependent for basic needs, e.g., housing transport (Rienzer and Testa, 2003), social services (Ylvisaker, 2013)</td>
</tr>
<tr>
<td>Access varies</td>
<td>Access changes transformative (Ostrom, 2010; Sanchez-Barrios et al., 2015); de-marketing (Osborne and Kinder, 2011)</td>
</tr>
</tbody>
</table>

Market-orientation offers private services choices based on price not available in the public sector; however, public service can gain advantages for innovation from the emotional attachment providers and users have for public services.

Simply transferring productivity assessment techniques from the manufacturing sector is doomed to fail (Biege et al., 2013); in particular transfers from private sector manufacturing as Corsten (1994) attempts, since as Johnston and Jones (2004) note productivity from the viewpoint of internal operations is quite different from the service user’s perspective of productivity. Perversely as Grönroos and Ojasalo (2004) note increasing operational productivity may decrease user satisfaction were users feel depersonalised; Luria et al. (2014) point out that channels of communication for quality may be quite separate from those for productivity. OECD reports in 2001, suggest no unique productivity measurement for services. Since public service solutions often reach across department or organisations, Putnam (1993, 2000) argues, this means including variables over which responsible managers have no control.

3.3 Effectiveness: Grönroos on learning and innovation

Recent research aligning with the NPG perspective such as Grönroos and Ojasalo (2004) argues that service productivity depends upon providers learning from users; a point central to our argument. Their point that services face capacity efficiency is particular
appropriate to on-demand public services. However, we disagree that productivity only measurable at a high level of aggregation, especially since as Stiglitz et al. (2009) argue, productivity growth is inequitably distributed. Like Djellal and Gallouj (2008a) we too argue for a more holistic metrics of productivity, however, while they mention co-production and emotional commitment (values), these do not play a central role in their analysis.

Citing Moore’s (1995) point that public service managers are often emotionally committed to their work outcomes, Power (1997) derides the replacement of professional judgement by *tick-boxing* process compliance as a way of reducing risk and enhancing efficiency. His point is that gaming influences what is measured and distracts attention away from effective services, towards compliant services. He goes on to show that locally negotiated service goals are possible and rational.

We have argued above that the NPG perspective implies effectiveness and innovation and comfortably aligns with Neely’s view linking performance and strategy; quite different from the neo-classical economics perspective informing manufacturing sector productivity measurement. Noting sharp differences between public and private sector services, we are that co-production, close communications and commitment support public service innovation, especially where as Grönroos argues clear and frequent learning feedback occurs, as is the case in SAAS. We now turn to more closely examine the original arguments we have sign-posted building up our new framework for analysing local public service performance.

4 Key variables in new framework

Here we explore five novel arguments building up our new framework beginning by exploring how service characteristics effects service processes, why conceptualising SAAS makes learning and innovation visible, and then exploring how public value is created. We then unpack the nature of positive emotional labour in local public services and suggest some of the tools users and front-line providers can employ to measure performance.

4.1 Service characteristics and process model

Table 3 summarises the effects on service input, processes and output of the characteristics of services identified by Normann (2002) underscoring the importance of emotional labour input and emotional (subjectively experienced) user evaluation. These are unpacked in the rest of this section. It is important to note how emotional engagement by users and front-line providers influences each phase of the service production process.

4.2 Local SAAS as structures pulling efficiency and effectiveness

Laitinen et al. (2017a) builds upon Maglio and Spohrer’s (2008) notion of service systems composed of people, technology and organisation adding a fourth variable (arising from co-production) learning and innovation (see Figure 2): the SAAS approach. From this perspective, users ‘pull’ service configuration using new public governances that draw cross-organisational and cross-disciplinary solutions to provide integrated service solutions. Unlike loosely-coupled (organisational) networks, SAAS are tightly
coupled in order to deliver reliable services to (often) vulnerable people. Laitinen et al. (2017a) and Kinder (2012) empirically demonstrate these roles and relationships in practice; while our framework is not empirically validated, nor is it entirely normative.

Table 3  Service characteristics and process model

<table>
<thead>
<tr>
<th>Intangible</th>
<th>Inputs related to performance</th>
<th>Process related to performance</th>
<th>Outputs related to performance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Some inputs (emotional labour and co-producer’s commitment) only measurable in context</td>
<td>Cost/time of some process parts indeterminate</td>
<td>Plurality of outputs</td>
</tr>
</tbody>
</table>
| Immediate consumption | • Service provider physically present OR online at point of customer contact  
• For users, production and consumption are immediate | Service provider physically present OR online at point of customer contact implies bringing decision-taker to front-office | • Service cannot be stored and stock used to meet demand, but demand smoothing  
• SAAS size and time-scale influenced by service complexity |
| Subjectively experienced | Emotional labour input important | Emotional touch points in service aligned with physical aspects of service | User subjectively evaluates success of service |
| Co-produced | Service is a system pulled by user who also helps prescribe service content and goals | Provider aligns service flows user assists in service delivery | User able to configure service content, i.e., influence design and delivery |

Figure 2  SAAS (see online version for colours)
Circle-1 in Figure 2 frames service planning and strategising and circle-2 represents organisation and technology and their behaviour. Note how this is a part of the systems and not the entire system as in computer-based service systems (Demirkan et al., 2011a, 2011b; Davis et al., 2014). Active agents (circle-3) are senior and team managers and user co-producers – the relationships that migrate values into value. Circle-4 is a learning and innovation loop (connecting via arrows-A and B), where co-production practice results in service redesign (effectiveness) and improved delivery (efficiency). The SAAS has stability and change: service solutions coupled with continuous improvements, represented on the right of Figure 2 by efficiency and effectiveness metrics. Users ‘pull’ (integrated) service solutions in SAAS: their co-producer is essential to crystallising public value, to which we now turn.

4.3 Public value

Services are effective because they resolve users’ problems – they add public value. Having conceptualised local public SAAS and explored what the nature of being services means for the transformation of inputs into outputs, here we explore public value. Whereas for Grant and Chuang (2013) general knowledge stock and flow characterising city-level performance, our chosen context is on specifically on knowledge of public values embedded into privileged public service outcomes.

Our starting points are Ostrom’s (1974) dictum that public value is what the public values and Moore’s (1995) argument that the state is value-creating not only redistributive; it also creates value for collective customers. Accepting Moore’s idea of the value-creating state, like Fountain (2001) we avoid viewing public service users as customers, since it obfuscates complex relationships between service users and professionals such as doctors and teachers. SAAS have an individual service user (or group with the same problem); since only at a personal (cognitive) level does learning feedback occur. We reverse the logic in Ostrom’s dictum that public value is what the public values, arguing that public values are what create public value. It is the embedding of user values into the SAAS that results in value creation. This not semantic ambiguity [Aligica and Tarko, (2013), p.728]; like Kelly et al. (2002, p.4) our view is that for a user to regard a service as valuable, s/he must contribute (give something up). Abstract user values embedded in SAAS result in public value to that user. Note how this argument avoids the contortions of ranking values (Schreurs, 2005) or divergence over contexts (Rutgers, 2008) and cultures (Schein, 1987). Our public value relates to individual service users, not as Mitchell and Carson (1989) argue ‘commons’ or public goods in an economist’s sense. In Marx’s (1968) terms these are use-values not exchange values, valuable to the user not the market.

Migrating values (preferred standards) into value (impact/benefit) as Figure 3 illustrates enables senior managers, service managers and users to create value in context, in the mind of the user. Including user-effort and their values in coproducing the service ensures that values transform into value, connecting values with value creation on the right hand side, shown by the arrow entitled transformation by co-production. On the right of the figure, (for example) users gain the value of resolved problems (effectiveness) and managers also compute efficiency.
Whilst our approach appears similar to Vargo et al. (2008) a key difference is that we conceive of SAAS as practical service delivery structures and relationships, pulled by users to create integrated service solutions, rather than only conceptual frameworks. We might add that the value-in-use idea they use (from Adam Smith) is a building block for market prices, whereas the use-value we prefer is entirely non-market and as we show below in the usability quadrant a much deeper term. Moreover, as Bowles and Edwards (1993), use-value connects production and consumption systems; here too local public service providers and their users are connected by the values they jointly transform into public value, with immediate consumption. We now explore more closely the labour input of service users and front line staff into service to which they invest both effort and emotional labour.

4.4 Positive emotional labour

Using Goffman’s (1959) dramaturgical perspective, Hochschild (1983) argues that many service occupations require workers to deeply perform roles aimed at creating positive experiences for service customers. She cites examples such as Delta Airlines stewardesses dealing with difficult customers performing what she terms emotional labour, which is close to Ekman’s (1973) display rules.

For Hochschild, emotional work perniciously exploits workers by commodifying emotions in the labour market [close to Marx’s (1844) alienation theory]. Noting that all work featuring learning (Vygotsky, 1934) and social interaction (Fabianowska and Hanlon, 2014) involves emotions, our view is that many public service staff and their
co-producers far from being exploited willingly choose to invest positive emotions in providing services; adopting what Dweck (2006) terms a positive mindset and others term cognitive empathy (Baron-Cohen and Wheelwright, 2004; Blair, 2005; de Waal, 2008). Following Ashforth and Humphrey (1993) and Bolton (2005) we differ from Hochschild’s onesided perspective and instead argue that many local public service workers, and perhaps especially those working with co-producers, are characterised by shared destiny, the commitment-based human relations Lincoln and Kalleberg (1982) found in Japanese manufacturing and Memon and Kinder (2016a) term close psychic distance between employed service staff and co-producers. We therefore use the term positive emotional labour to signify a positive commitment to services and service users by some local public sector managers and practitioners. This commitment is the oil in the engine creating learning and innovation featured in (Figure 2) SAAS. Our challenge is not only to identify the presence of positive emotional labour in SAAS; it is to create metrics capturing its impact on efficiency and effectiveness.

4.5 Qualitative tools capturing coproduced service solutions

We note from Laitinen et al. (2016; see also 2017b) the idea of four degrees of co-production in services: passive, voice, participant and champion each of which corresponds to scales of service footprint: individual, small group, service system and service system within a democratic local community. These degrees of co-production in turn associate with low to high quality of interactivity and involvement and therefore support engagement ranging from consultation over personalised service package to the highest level of working closely with formal service providers in the deliver and continuous redesign and innovation of the services.

Of course, simply generating new effectiveness ideas is insufficient, as Ghobadian and Ashworth (1994) and Villarreal (2010) show, middle managers and users need the support of senior managers (and the resources they command) to implement new service design ideas. Here our interest is with service team managers, their staff and service users. Our point is that efficiency of delivery and effectiveness of re-design result from positive emotional labour (empathy, commitment) by managers and team members and user co-producers. Taking up Lönnqvist and Laihonen’s (2013) point on the difficulties of negotiating shared language in multidisciplinary contexts, an important aspect of negotiating values and their embodiment in service value, is agreement between providers and users on language and meanings.

Levels of staff commitment are measurable, as Herzberg (2010) shows using self-assessments, gathering anecdotal evidence, staff stories and/or questionnaires in addition to qualitative and quantitative data on process efficiency and effectiveness, from a staff viewpoint, referencing multiple levels of activity (such as organisation and service system). The point is that these metrics are best not imposed top-down, but rather negotiated (and regularly reviewed) by staff teams and their managers, in the light of agreed strategic objectives for the service systems and involved organisations. Reviews of service delivery might be frequent (weekly), with perhaps monthly incremental design changes and annual evaluations of performance.

One of the difficulties of broadening services research into the wider scope of wellbeing, as transformative service research suggests, is how practically to measure it. We agree with Crockett et al. (2013) about getting up close and using inter-disciplinary research teams, however, in the absence of market signals (price, demand) in local public
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services where as Anderson et al. (2013) acknowledges there are many wellbeing outcomes. For local public services the key signals are communications channels; discourse over service delivery and jointly designing services. Though complex, these signals are less problematic than computing either wellbeing or happiness as Hupper et al. (2008) show, though to be fair Ostrom et al. (2015) lists this issue as a research priority.

For users, measuring subjective experience of service solution is best done at the level of the service system, perhaps with a regular service system team review (including coproducing users) and a periodic independent review: an example being an overall quality development team, see Kinder (2012). Involving users in reviewing quantitative efficiency data and interpreting individual to service system qualitative data entails negotiating standards and evaluating possible system redesigns. Bringing experiential and emotional evaluation data into service appraisals, may involve developing new tools for data gathering or re-using old tools. For example, for users subjectively appraising performance outcomes may use a version of the usability quadrant (Figure 4).

Figure 4  Usability quadrant

<table>
<thead>
<tr>
<th>USE</th>
<th>USABILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>* Who uses what service, for what reason (why), where (in what social and economic space, and when (time and duration).</td>
<td>* The ease of use of the service from the user’s perspective, to achieve the desired outcome.</td>
</tr>
<tr>
<td>* Was the solution offered appropriate to my problem?</td>
<td>* Was the service easy to use?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>USEFULNESS</th>
<th>USAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>* The perception of output stimulating the user to use the service, and the actual use to which the product/service is put over time.</td>
<td>* The patterning or crystallised habits of use over time in the particular circumstances facing the individual user.</td>
</tr>
<tr>
<td>* Usefulness is output achieved relative to alternatives.</td>
<td>* Is the service solution repeatable?</td>
</tr>
<tr>
<td>* Did the service solve my problem?</td>
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</tr>
</tbody>
</table>

Source: Kinder (2002)

Quantitative tools that seem promissory include versions of Johnson and Kaplan’s activity based costing and qualitative tools a locally-negotiated hierarch using Neely’s (2007) performance prism. We suspect that as NPG give rise to a multitude of new governances arrangements and their accompanying performance metrics, that over the next years local services will be highly innovative in both quantitative and qualitative performance metrics and data gathering techniques.

To help build our new performance framework this section contributes four novel arguments. Firstly, we show that the four characteristics of services (intangible, immediately consumed, subjectively experienced and co-produced) effect each phase of processes creating services: input, process and output. We then conceptualised services as systems, showing the interaction between components and why active agency by users and providers is critical to learning and subsequent innovation. Thirdly, we argued that coproducing local services migrates values into value: use values the efficiency and effectiveness of which can be evaluated. We then argued that users and front-line providers input effort and positive emotional labour into local service delivery, the result of which are strong knowledge flows supporting continuous innovation, including
subjective/experiential evaluation of qualitative outcomes by users and quantitative evaluation by providers. Finally, we briefly indicate some of the tools that users might employ in their subjective evaluations of services, suggesting that NPGs will give rise to significant innovations in evaluation techniques. We are now able to bring these arguments together in a new framework for measuring local public service performance and productivity.

5 Framework for measuring local public service performance

Our unit of analysis (Section 2 above) is an individual service user pulling the variety of services necessary to resolve her/his problems, taking a service cycle time-frame while noting that evaluations of innovation cycles and periodic (e.g., annual) will occur. Evaluations are likely to be aggregated periodically with efficiency and effectiveness comparisons to other SAAS. Noting the difficulties of apply private sector (especially manufacturing) productivity techniques to local public service performance (Section 3) and the importance of qualitative user evaluation of service solutions from their own (subjective/emotional) experience, we emphasise learning and knowledge flows within the framework as catalysts of continuous improvement and innovation in both design and delivery of services. From Section 4 we argue that an evaluation framework recognises that service characteristics influence the entire process, which is best conceptualised as SAAS. Migrating values into value occurs because of the coproducing contribution of users and their commitment to service deliver and improvement, which is shared by frontline providers.

Our evaluation framework, develops from Laitinen et al.’s (2017) SAAS, an exemplar of new public governance, which builds on Maglio and Spohrer’s (2008) idea of service systems (though includes learning as a fourth variable) and Kinder’s (2012) idea of learning and innovation cycles arising from co-production in local public services. As Figure 5 illustrates, flows in the SAAS framework readily adapt learning feedback loops to include the measurement and response to efficiency and effectiveness metrics. On the left of Figure 5 is the service context, giving rise to four variables: (1) represents strategy and planning, which (Neely, 2007) adjusts as providers and user co-producers deliver services; (4) represents the feedback loop in which re-designs are learned from the practice of co-production. Context, as always is a social construction (Yigitcanlar et al. 2010) in which new knowledge is created and used: in our case new knowledge of values and subsequent value in coproduced service systems.

(2) Is the organisation and technologies used to deliver services and (3) the people systems and ways-of-working in the SAAS. All four sub-systems (three inverted squares) represent the four sub-systems delivering and re-designing services and the evolved NPGs (structures, rules and accountabilities). In each case, these three connect to qualitative and quantitative data on efficiency and effectiveness; this in turn links to other service systems and is open to ideas from the wider environment. Data on efficiency and effectiveness is shown in arrows (A) and (B) to feed back into the service sub-systems, evolving new strategies, organisations and technologies, ways-of-working and innovations.

Referring back to Section 2, we note that the SAAS framework operates at multiple levels of analysis (sub-systems, SAAS and links to wider systems and organisations), and is inter-temporal, having feedback loops over time. As a holistic representation of local
public services, SAAS has service outputs (delivery/design/governances) and system outputs (efficiency and effectiveness metrics, looping back into future delivery cycles. Efficiency and effectiveness data includes quantitative data (financial, solutions delivered) and the positive emotional labour of providers (3) and users, along with the subjective experienced (emotional responses) of users to the solutions provided (arrow-B). Like Mellor (2015) we believe that smartness, in the sense of effective use of newly created knowledge, is often valorised because the surrounding network is fertile and not simply because individual managers are visionary.

SAAS is non-deterministic since (for example) ways-of-working could fail to take advantage of staff commitment or potential user co-producing contribution. It is also non-linear since feedback from the environment or from learning may result in system failure. SAAS is a system of service delivery, pulled by coproducing users and are unlikely to be coterminous with organisations; indeed, SAAS is a post-organisational conceptualisation of service delivery: focus is on organising rather than organisations and their relationships.

It is important to note that whereas NPGs reliant on (loosely-coupled) networking between public and other organisations (such as private firms and the third-sector) may deliver policy outcomes or contractual relationship outcomes, SAAS are pulled by the needs of users for reliable and accessible services that solve problems. SAAS then are then tightly-coupled systems of service delivery in which coproducing users are an integral part.

Figure 5  Framework (see online version for colours)

Finally, to return to the left side of Figure 5; degrees of emotional labour, degrees of coproducing commitment by users can only be evaluated and metrics negotiated in context. Whilst (A) and (B) are likely to include traditional performance metrics such as
unit-cost and time indices, each service system must evolve the value derived from emotional labour and emotional commitment by users. This is our solution to the riddles associated with performance measurement in circumstances where emotions figure prominently – such measurement can only be negotiated in context, for each SAAS.

We began by asking whether public service productivity and (wider) performance is really lower or simply badly measured and how it might be better measured? Our pilot testing of our new framework contrasts forms and depths of measurement from a NPM to a NPG situation. We are search not only for the presence of emotions (user and provider commitment and user feedback) but also for the result of emotions operant in the service system – new effectiveness.

6 Conclusions

Our conceptual paper answers our research question; can the creation of new knowledge surrounding public values help evaluate the value performance of local public service systems, positively? We now show how the new framework might operate in practice and why it is more promissory than alternative frameworks. We then summarise the theoretical contribution of the paper, its implications for practice and consider further research in the field, in particular validation of the framework usefulness adding a service system dimension to the KBUD approach at a city level, developed in IJKBDS.

6.1 How the new framework might operate in practice

Taking the dataset used in Kinder (2012) what follows is an example of our framework operating. Mrs Smith is a widow staying in technologically-assisted independent living in Scotland. She worked as a nurse but retired early with medical conditions. Her integrated service needs assessment calls for services from housing (alerts and alarms), social services (home care; meals-on-wheels), community nursing (medications), local doctor (medical condition), community education (fitness and Finnish language classes), fire service (assessment and installations), police (security check) and community transport. All contacts with Mrs Smith are recorded in her online file, accessible to all carers, including her (informal carer) daughter by consent. Mrs Smith is ‘pulling’ a SAAS by actively coproducing in service delivery.

Mrs Smith coproduces her own care by helping the home care assistant with cleaning and some cooking, recording her own blood pressure and pressing ‘OK’ after using her security checklist for police records. She carefully communicates with all carers and is keen to help with suggestions. Voluntarily she gives feedback on how she feels about services in the monthly and annual performance reviews. She helped re-configure her needs, for example by sharing community transport, altering the frequency of home care visits and substituting her daughter’s cooking for some meals and helping her neighbour with the security check; unknowingly, Mrs Smith improved efficiency. She suggested an incremental innovation improving effectiveness, block booking her and neighbours for medical check-ups, which was accepted. Along with other users, a more radical innovation (interactive TV) is now being piloted. Although unaware, Mrs Smith’s, feedback and ideas feature in each of the providing organisation’s monthly and annual service review in aggregated qualitative and quantitative data and subsequently in national statistics.
6.2 What parts the framework reaches that other frameworks do not

Referencing Table 1, Table 4 illustrates how our framework differs from others measuring efficiency and effectiveness. Techniques such as cost accounting, productivity and performance indicators (PIs) are enriched by a framework that includes qualitative data from users and frontline staff and records productivity and performance enhancing changes in the system of service design and delivery. Using the SAAS concept allows deeper digging into everyday service delivery and its costs, building up cost profiles from a deep base and identifying productivity improvements users suggest or find acceptable in negotiation.

Table 4 Contrasting frameworks

<table>
<thead>
<tr>
<th>Framework</th>
<th>What framework does</th>
<th>What our framework does differently</th>
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<tbody>
<tr>
<td>Cost accounting</td>
<td>- Computes financial metrics</td>
<td>- Qualitative and quantitative metrics</td>
</tr>
<tr>
<td></td>
<td>- Uses organisational cost-centres</td>
<td>- SAAS unit of analysis</td>
</tr>
<tr>
<td></td>
<td>- Compiles comparable (financial, time, artefact) data</td>
<td>- Migrates values into value</td>
</tr>
<tr>
<td></td>
<td>- Managerial parameters</td>
<td>- Users, frontline staff and managers negotiate PIs</td>
</tr>
<tr>
<td></td>
<td>- May or may not drive innovation</td>
<td>- Learning and innovation cycle</td>
</tr>
<tr>
<td>Productivity</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Computes input/output efficiency using cost/time/quality metrics</td>
<td>- Gathers efficiency and effectiveness data including user subjective evaluations</td>
</tr>
<tr>
<td></td>
<td>- Managerial parameters</td>
<td>- Negotiated parameters (including users)</td>
</tr>
<tr>
<td></td>
<td>- Questionable ‘face validity’ for practitioners</td>
<td>- Emotional labour commitment of practitioners</td>
</tr>
<tr>
<td>Performance</td>
<td></td>
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<tr>
<td></td>
<td>- Outcome-focused qualitative and quantitative data</td>
<td>- Input, process and output data</td>
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<tr>
<td></td>
<td>- Parameters set by managers of accountability organisation</td>
<td>- Users and frontline staff involved in PI setting</td>
</tr>
<tr>
<td>Social accounting e.g., balanced scorecard</td>
<td>- Management and stakeholders (include users) set PIs</td>
<td>- SAAS pulled by (integrated) user needs</td>
</tr>
<tr>
<td>e.g., triple bottom line</td>
<td>- Users one of several (competing?) interest groups</td>
<td>- Solving user problems drives system</td>
</tr>
<tr>
<td></td>
<td>- Provider publishing service delivery</td>
<td>- Users pull effective solutions</td>
</tr>
<tr>
<td></td>
<td>- Weighting of new solutions driven by management</td>
<td>- Users involved in setting innovation priorities</td>
</tr>
<tr>
<td>Social accountability e.g., wellbeing e.g., environment</td>
<td>- Gathers data on wider social interests</td>
<td>- Gathers data users deem relevant to their problems</td>
</tr>
<tr>
<td></td>
<td>- Users interests compete with other (social) interests</td>
<td>- Resources deployment decisions include users</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Tightly-coupled delivery system not loosely-coupled network</td>
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</table>
User acceptance rather than cost-downs drives a tightly-coupled system, which when combined with user and frontline staff emotional labour creates effective service solutions: services are delivered to needs not pushed as packages. Performance measures are grounded in bottom-up data flows, which can then aggregate into top-down targets and indeed help shape the top-down targets and budgets. Unlike social accounting and accountability, our framework centre-stages coproducing users at each phase of the service system (see Kinder, 2010 for this argument). Users and frontline staff accept responsibility for the practical design and delivery, which the servicedominant logic vision may inspire, but does not deliver. Boundaries and causal relationships in SAAS are visible, not obfuscated in the more generic performance footprint of wellbeing.

6.3 Theoretical contribution

To the growing body of work on performance and knowledge in IJKBD we add a new framework at a local service systems unit of analysis, in which a critical element of new knowledge is the negotiation of how service user values can be embedded into public services. Our framework responds to Carrillo and Batra’s (2012) call for more non-financial metrics for knowledge-related change, which we demonstrate is possible at a service system unit of analysis scoping.

In the field of NPG, within which we have placed effectiveness under the microscope, using the notion of SAAS as one example of how NPGs might evolve: there are and will be many other examples. We view NPG as post-structural, part of the behavioural turn in social sciences represented by Kahneman (2011) and Osborne (2010), which meaningfully insists upon active agency: the inclusion of subjective, emotional agents in social discourse. Our work cannot answer how productivity and performance in public services compares with private services; it does, however suggest that given co-production, user and staff commitment and high levels of communications, it is possible to argue that performance levels in public services and high and rising by improved effectiveness in service design and delivery (Memon and Kinder, 2016).

Following Yigitcanlar et al.’s (2010) highlighting of the dematerialisation of value creation, we show that it is possible for public service users and providers to coproduce an agreed set of values and then to measure their performance as value embedded in services.

It is difficult in an academic paper to convey the difference that active agency (users, frontline staff co-production, communications and commitment) make in a service system without straying between a normative, descriptive and theoretically robust presentations. Our paper is not about labour process or labour theory of value. We note however that the key to understanding effectiveness in NPG is rejecting Taylorist notions of labour input and instead focusing on the commitment of staff to improve services, a point missing from Vargo and Lusch’s (2008) discussion of value.

Arguing the reverse of Ostrom and Ostrom’s (1971) notion that public value is what the public value, our contention is that migrating values into value as a result of co-production helps explain why and how NPGs can result in improved effectiveness. In doing so we introduce the idea of positive emotional labour (building on Hochschild, 1983) and argue that values created in part by co-producing users can be qualitatively measured in performance metrics (though not converted into monetary value).
Building on Normann’s (2002) service management perspective, we have argued that the four characteristics of services influence each phase of service delivery and that coproducing users contributing effort and emotional commitment in SAAS, working alongside committed staff can produce continuous innovation cycles resulting in enhanced effectiveness.

In doing so we have criticised not only the transfer from private sector manufacturing of productivity tools, but also some of the tools transferred from private services. We argue that while service-dominant logic provides a (marketing) vision, it falls short of offering guidance for practical public service design and delivery. Additionally, we suggest that transformative service research, circles around a unit of analysis (wellbeing) that is more difficult to measure and less of a driver of innovation than SAAS.

Our conceptualisation of SAAS is quite distinct from the technically-oriented systems presented by Davis et al. (2013, 2014), including as it does emotive, affective agency, cognitively active in producing knowledge flows the result of which are learning and innovation cycles. Unlike loosely-coupled (transactional or policy) networks, SAASs are tightly coupled in order to deliver reliable services: tight-coupling encourages information and knowledge flows. We argue that new qualitative tools, such as the usability quadrant and locally-negotiated hierarchies using Neely’s (2007) performance prism are ideally suited as performance metrics for SAAS.

6.4 Contribution to practice

Only in airport books is change transformative and quick. Empirical work on service systems (Laitinen et al., 2017) and learning and innovation cycles (Kinder, 2012) demonstrates the time, experimentation, improvisation and leadership necessary to envision and implement new governances and service systems. Having tested out some of these ideas with the Finnish Association of Local Government, we believe that engaging with co-producing users and frontline staff is the way into enhancing effectiveness. Our framework may help pose questions; we would expect service systems to take quite different locally-negotiated forms and governances in different contexts and cultures. In that sense the ideas in our framework are generalisable, whereas its particular form may not be.

6.5 Further research and validation

The usefulness of our framework and approach to NPG in the form of SAAS featuring extensive co-production will be test in further research in Finland and Scotland. In particular we want to explore not only the presence of subjectivity and coproducing users, but also the impact this has on service effectiveness. Both Finland and Scotland enjoy democratic governances and mixed economy public services. It may be that contexts with less democracy, not wishing to adopt market governances, will find our framework useful to test-bed democratic engagement at the service system level. As with Väinämöinen’s journeys in Finland’s national poem, The Kalevala, we expect a long journey and hope for surprises.
References


Local public service productivity and performance measurement


