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Operationalizing Co-Production in Public Services Delivery: the Contribution of Service Blueprinting

Abstract

We have argued for public services to move away from product-dominant logic towards a service approach (Osborne et al. 2013). By taking a services orientation the experience, inter-organisational and systemic nature of public services delivery can be considered along with the role of the service user as a co-producer. In this paper we unpack how co-production can be operationalized through the application of service blueprinting. The paper presents an example within Higher Education where the creation of a blueprint brought together staff and students to focus on the design of student enrolment. Resulting in improved student experience and supporting co-production.

Operationalizing Co-Production in Public Service Delivery: the Contribution of Service Blueprinting

Introduction

In recent papers we have argued for public services to move away from a product-dominant logic where production and consumption are separated as discrete processes – and thus public services are conceptualized as products to be designed and produced by public policy makers and service professionals and consumed (relatively) passively by service users. Rather we have argued for the need to embrace a (public) services dominant logic that places the service experience at the heart of public services delivery (Osborne et al. 2013). By taking such an approach to public services the issue of the distinctiveness of the service experience, the often inter-organisational and systemic nature of public services delivery, and the issue of the role of the service user as the shaper, co-producer and evaluator of the service experience can be considered. Whilst co-production has been an aspiration of public management for several decades, only recently have attempts been made to understand and implement this through an application of services management knowledge (XXXX & XXXX 2013).

In this paper we aim to unpack a services approach to co-production in public services further by illustrating how it can be operationalized through the application of service blueprinting. In particular, the paper will present a re-analysis of an empirical example within Higher Education from the UK where the creation of a blueprint brought together staff and students to focus on the service design of student enrolment, and with positive impacts upon the quality and performance of this element of the higher education experience. This re-analysis will examine the potential of service blueprinting both as a conceptual tool through which to understand the co-production of public services and as a practice tool through which to map and enhance co-production in the provision of public services. As such the paper is a response to the call by, amongst others, Ferlie et al (2003), Andrews & Boyne (2010) and Head (2010) both to generate substantive public management theory and to make this theory relevant to policy and practice.

Paper overview. Co-production is an important debate within public management. It goes to the heart both of effective public services delivery and of the role of public services in achieving other societal ends - such as social inclusion or citizen engagement. However, we

would argue that currently the debate is based upon a partial and mistaken view of co-production, as something to be added to 'traditional' public service delivery for distinct ends. In contrast, a services orientation offers a very different perspective upon co-production. From this viewpoint, co-production is a core element of the service delivery process. It is an essential and intrinsic process of interaction between any service organization and its service users at the point of delivery of a service ((Gronroos 2007) has termed the 'moment of truth' of service delivery. From a service-dominant approach, the co-production of public services is not something additional to the delivery of public services but is unavoidable because it is an inalienable element of such services. The question thus is not how to 'add-in' co-production to public services but rather how to manage and work with its implications for effective public service delivery.

Normann (1991) encapsulated such co-production as 'the moment of truth' of services delivery. Service organisations can only 'promise' a certain process or outcome for their users – the actuality is dependent upon such co-production. Likewise, (Gronroos 1998) has argued that a common failure of services management is the attempt to deliver the 'missing product' of services delivery – that is the emphasis is upon the design of the material elements of a service rather than focusing upon the impact of the service delivery process upon service quality and outcomes. In actuality, services need to be designed to take into account the relationship between the service provider and service user. As Shostack (1984) argues, when we buy the use of a hotel room we take nothing away with us. Rather we buy the experience of using that room. It is that experience that we take away with us and which shapes the performance of the hotel. We would argue that public services management, particularly under the product-dominant influence of the New Public Management (NPM), has suffered from a an on-going pre-occupation with the missing product(s) of public services delivery, and that this has led to a fatal flaw. Too much energy has been expended upon the technical design of the service rather than upon governing the process of public services delivery in a way that puts co-production at their heart. We would emphasise that such a public service-dominant approach to public services delivery shares little in common with the consumerism that has dogged public services over recent decades. This latter phenomenon has extracted the service user from the overall service-dominant process and sought simply to satisfy them in a short term manner (Jung 2010, Powell et al. 2010). This is far from the reality of a public service-dominant approach - where the issue is not crass satisfaction but rather how to harness the service process, and the role of the service user in this process to

enhance both the quality and performance of that service. A good example of where such a public service-dominant has been applied to public services is in the field of oncology. In this case, putting the patient at the heart of clinical decision making and the delivery of oncology services has not only improved the quality of the experience of these services by patients but also clinical outcomes (Katz et al. 2005).

In delivering effective services, public or otherwise, we therefore need to codify the processes of service delivery. This could be done through a linear and one dimensional attention to procedures and policies (as is often the case in public services). However an alternative approach is to visualise the process of service delivery in a way that highlights the role(s) and relationship(s) of the service user within the service delivery system. This approach has become known in the service field as 'service blue-printing' (Shostack 1984). It is a framework that has had a significant impact upon the broader field of services management, but which, to date, has had only a limited application to public services delivery. This involves the creation of a service blueprint, a graphical tool used to draw a detailed map of the service process and which displays service user and service staff actions, the elements and points of interaction between the two and the processes that support service delivery. It also clarifies action and processes that take place in the 'front of house' and which are apparent o service users and those that take place in the 'back of house' and which are often not apparent. Critical aspects of the blueprint are thus the 'line of visibility' and 'line of interaction' which consider the points of interaction (or 'moments of truth') between the invisible and visible staff actions and the role of the user in the service process (Bitner et al 2008).

In this paper we will argue that using service blueprinting can enhance the delivery of public services by clarifying and the role of co-production in this delivery. In doing this it will draw upon one recent, and rare, example of its use. This was at University of Derby where the service design of the student enrolment process was reviewed and subsequently enhanced through the process of service blueprinting. However, this approach resulted not only a redesign of one discrete element of this public service (i.e. higher education), but also resulted in a changed perception by university staff of students as the 'end-user designers and co-producers of their own student experience' (Baranova et al. 2010).

Consequently, the paper will first outline the nature both of co-production and of services blueprinting. It will then draw upon and re-analyse the empirical experience at the University of Derby to argue how the latter can be used to enhance the former – and thence also the overall quality and performance of public services delivery. It will conclude by drawing out some key propositions to underpin such an approach to public service reform, and to consider their import for theory and for practice.

Services Management, Co-production and Service Blueprinting

Previously (Osborne 2010)has argued that much public management theory is currently not fit for purpose. It derives from a larger body of generic management theory that has its roots in the experience of the manufacturing sector and which has invariably treated services simply as anomalous or fragmented industries (Nankervis 2005). This latter body of theory assumes a product-dominant logic where the production process is dominated by discrete transactions and where the production and consumption processes (and their associated costs and management) are entirely separate. This is not the case for services, however, where the production process is iterative, relational and where production and consumption occur contemporaneously – and consequently where it is often hard, if not impossible to untangle their costs and management. Crucially it is also the case for services that reducing costs of production (perhaps by a change in staffing levels and qualifications) can adversely affect the quality and performance of the service itself. This is not the case for manufactured products, where production and consumption are separated, not only as processes but also often in time and locus (Gronoos 2007).

A key element of service theory is the focus upon *service systems* rather than organisations (Gummesson et al 2010). This systemic approach goes beyond the inter-organisational focus of network approaches to public services. Rather it understands them as 'open systems' (Scott 1981), where the production of a service is dependent upon and is a product of a complex series of, often iterative interactions, between the service user, the service organisation and its managers and staff, the physical environment of the service, other organisations and staff supporting the service process, and the broader societal locus of the service. To take out earlier example of residential care, at the core of this service system is the service user (perhaps an elder), the physical environment of the residential home that they live and its service staff and managers. However this is not the totality of the service. Other professionals

will enter into the service at various times (such as health professionals), as well as individuals providing a discrete service input (hairdressers, for example). Other human inputs will include the family of a resident when they visit, suppliers of resources to the centre (butchers and bakers, though perhaps not the candlestick maker) and volunteers who come into provide social interaction. Beyond this will be the extent to which the home itself is integrated into the local community, the ease of access for residents to this community and it shops, and the attitudes of the local people towards the residents. Addressing the complexity of this iterative and interactive system is at the core of effective services management.

The grounding of public management theory in an aberrant, product-dominant, logic therefore has had profound and damaging consequences for the delivery of public services. It has obscured this service–based and systemic nature of public services. Rather, successive public management reform initiatives have attempted to find the 'missing product' of public services delivery instead of embracing and working with their service-dominant logic (XXXX et al 2013). In fact, as is apparent from the example above, most relationships between public service users and public service organisations (PSOs) are not characterised by a transactional or discrete nature, as they are for such products, but by on-going, iterative, processes (McLaughlin et al. 2009). The majority of 'public goods' (whether provided by PSOs in the public, third or private sector) are in fact not 'public products' but rather 'public services'. Social work, health care, education, economic and business support services, community development, refuse collection and regeneration, to offer but a few examples are all services rather than concrete products - in that they are intangible, process driven, require their co-production between service users and the PSO, and are based upon a service promise of what is to be delivered.

Two caveats are important. First, the delivery systems for different services, public or otherwise will vary. Some will be more complex than others. Second, public services can of course include concrete elements (a hospital or communications technology, for example). But these are not 'public goods' in their own right – rather they are secondary goods used to support and enable the delivery of public services themselves.

Yet despite the service core of public services delivery, the fatal flaw of public management theory over the last decade and beyond has been to consistently draw upon generic management theory derived from manufacturing and product-dominant experience. This has

tried to understand public services as if they were discrete tangible products rather than service processes. This product-dominant flaw has persisted despite the growth of a substantive body of services management and service-dominant theory that challenges this product-dominant approach to public services delivery (Normann 1991, Lovelock and Wirtz 2004, Gronroos 2007, Lusch et al. 2007). This product-dominant approach to public services reached its apotheosis in the doctrine of the NPM.

What is required therefore is that we now ask new questions of public management reform and delivery (Osborne 2010) and develop a body of theory rooted in a public service dominant-logic that is context-specific to public services (Pollitt 2013), embraces their true nature as services rather than products and provides fertile rather than sterile directions for the evolution of public services that are both internally efficient and externally effective (XXXX & XXXX 2013). Co-production is at the heart of such an initiative, to drive the development of public services-dominant logic. This is particularly if, as will be argued below, it is not perceived to be an 'add on' but an inherent part of the service design and delivery process and system.

Co-production. There is a substantial literature within the public administration and public management field concerned with 'co-production' in the implementation of public policy and the design and delivery of public services (Parks et al. 1981, Brudney and England 1983, Frederickson 1996, Ostrom 1996, Pestoff 2006, Alford 2009, Bason 2010). Whilst this literature includes a continuum of perspectives on co-production, it has often set the co-production of public services apart as a variation on the 'usual' model of public service delivery where "public officials are exclusively charged with responsibility for designing and providing services to citizens, who in turn *only* demand, consume and evaluate them" (Pestoff 2006), p. 506; our emphasis). Thus it discusses the ways in which user involvement can be 'added into' the operational process of service delivery (and as opposed to the up-stream, strategic, level of policy making).

Such an understanding of co-production, we would argue, is derived from product-dominant logic where production and consumption are separated as discrete processes – thus public services are conceptualized as products to be designed and produced by public policy makers and service professionals and consumed (relatively) passively by service users. Co-production can only occur at the behest of, and controlled by, service professionals.

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In contrast, a service-dominant approach offers a very different perspective upon co-production. Co-production is a core element of the service delivery process - an essential and intrinsic process of interaction between any service organization and its service users at the point of delivery of a service (Gronroos 2007). From a service-dominant approach, there is no way to avoid the co-production of public services because it is an inalienable element of such services. The question thus is not how to 'add-in' co-production to public services but rather how to manage and work with its implications for effective public service delivery. As discussed above, Normann (1991) encapsulates such co-production as 'the moment of truth' of services delivery. A classic example of this would be the co-produced experience of residential care by the interaction of staff and service users in a residential home for the elderly. The managers of this home may have a vision of what care they want to provide, but the actuality of it is enacted in the iterative interactions between service staff and service users, within the physical confines and artefacts of the home itself.

In reality, of course, such co-production of public services is more of a continuum than a steady state. Public services such as residential care and education are clearly instances where it is high, owing to the fact that consumption and production take place at the same point in time and with direct face to face contact between the service user and the service provider (in the care home or the classroom respectively). By contrast, they are rather lower for refuse collection that requires a limited form of co-production (for example, by requiring the user to collaborate in sorting their refuse into recyclable and non-recyclable elements and to cooperate in its collection. Yet even the latter public services do still exhibit co-production from a services management perspective – even if the co-production of such services is constrained.

Consequently, conceptualising co-production as a core characteristic of public services delivery fundamentally reframes our understanding both of the service delivery process and of the role of public management in achieving service outcomes. To take just one issue, a service-dominant approach to innovation in public services puts the service user rather than the policy maker or professional at the heart of this process (Gallouj 2002) and has profound implications for the management of the process – such as in terms both of how public service innovations are derived and of how risk is governed in the innovation process (Osborne and Brown 2011, Brown and Osborne 2013). A core element of a service-dominant approach to

the co-production of innovation is that it seeks to unlock the tacit or 'sticky' knowledge that service users possess in order to improve existing or develop new services (Von Hippel 1994, Von Hippel 2005). Here, the service organization proactively seeks to uncover, understand and satisfy 'latent (or future) needs', rather than simply reacting to existing or currently expressed needs - as has invariably been the case with public services. The service-dominant literature has highlighted a range of ways in which such service user co-production of innovation can be achieved (Alam 2006, Kristensson et al. 2008) as well as highlighting some of its drawbacks and dangers (such as over-customisation and its consequent financial implications). Such insights are a qualitative contribution to our understanding of the nature and process of innovation in public services.

Finally, acceptance of a service-dominant approach to co-production does not preclude the possibility of combinatory insights. Elsewhere, authors (e.g. XXXX & XXXX 2013) have sought to integrate a service-dominant approach with the specific concerns of public administration and management to produce a more holistic theory of the co-production of public services. It is precisely through such novel combinatory approaches, we would argue, that genuinely original and insightful public management theory can be generated which is legitimately rooted in the nature of public services as 'services' and which acknowledges the centrality of the service user to their performance – but which also takes cognizance of the public policy context of these services. XXXX and XXXX (2013) present three types of co-production:

- Consumer co-production (improving the quality and impact of existing public services)
- Participative co-production (improving the planning of existing public services often through citizen engagement)
- Enhanced co-production (bringing consumer experience together with participative planning to generate new approaches to public services – innovation).

Therefore, if we accept that co-production is at the heart of true public service delivery that embraces a public service-dominant logic, the question is not about how to 'add-on' co-production to public services but rather how to 'operationalize' it in a public service context in order to promote both its operational management and its contribution to service

improvement and innovation. We now argue that engagement with process improvement methodologies and tools can aid this endeavour. In particular we would argue for the utilisation of the specific approach of service blueprinting.

Service Blueprinting

Service design is an approach where the end-users are the main focus of service delivery and their experience of the service is viewed holistically rather than concentrating on the discrete elements that make up the service. The concept of a 'service blueprint' was suggested first by Shostack in 1982. She argued that *"a service blueprint allows a company to explore all the issues inherent in creating or managing a service"* (Shostack, 1984; p. 135). Service blueprinting is a graphical representation of the service process and shares similarities with other process modelling approaches including value stream mapping (Womack and Jones 1996, George 2003), scenario based service design (Carroll 1995) and, Process-Chain-Network (PCN) diagrams (Sampson 2012). It is a visual representation of the key activities in the service delivery process and the detailed sub-processes and sub-systems which impact upon the delivery of a service. Shostack argues that this visual representation of a service is far more precise that a verbal definition can be (Shostack 1982). Processes are made more transparent by this approach and, for practitioners it is a powerful tool to encourage creativity and problem solving (Shostack 1987). More recently, Bitner et al (2008) have outlined the development of service blueprinting over the past two decades. They argue that it has now evolved to include not just the process elements of a service but also its physical artefacts, and has also come to integrate other process methodologies into its application – such as critical incident and process modelling approaches. Notwithstanding these developments, though, they maintain that the core of service blueprinting is the creation of the graphical blueprint which should be kept simple as possible and include all human elements of the service system – including service users, service staff, managers and support/ancillary staff. Its prime purpose is both to evaluate the position of the service user in the service delivery process managers and to promote user integration and impact at the centre of these processes.

The Service Blueprint. The service blueprint is a living document. At its most effective it is not simply a descriptive tool that captures the reality of a service system at one point in time. Rather it is an evaluative and prescriptive tool that can be used to refine and enhance the service delivery system and its constituent element and processes. It can assist in identifying what these constituent element and processes are, and also where there are 'fail-points' that

are impacting upon the quality and performance of the service. Identifying and resolving these fail-points therefore cannot fail but to increase the quality of the service execution (Shostack, 1982). Typically there are five main components in a typical blueprint:

- user actions (at different stages of the service process, including their timing and relationship to other actions),
- the 'front-stage' of the service system, including its participants and actions,
- the evidence and artefacts of service delivery (tangible and intangible);
- the 'back-stage' of the service system, including its participants and actions, and
- the support systems, actor s and processes required to enable the successful functioning of the service system itself (Bitner et al. 2008).

The complete service blueprint includes all these elements of the service delivery system and focuses upon those 'touchpoints' where the service user interacts with other elements of the service system. In his work (Kuniavsky 2010) stresses the importance of information availability and choices at each touch-point so the user feels engaged. In a blueprint these touchpoints are plotted in a sequential order from left to right at the top of the blueprint. Subsequent levels of the blueprint then 'drill down' below the surface level of the service system to obtain a greater level of detail of its functioning and interactions.

The blueprint is further divided into two zones: front-stage and back-stage, separated by the line of visibility. Everything that appears above the line of visibility are those service elements that a user comes into direct contact with during the service delivery process. Below the line of visibility are the backstage elements of the service system, which are needed in order to support the front-stage activities. In a blueprint both the front and back stage are shown to be equally important for the success of the service delivery process, both need to be properly resourced and managed, and both need to be made aware of the importance of the other for the delivery of effective, high quality services (Lovelock et al, 2009). This need to separate and understand the front and back stage is supported by (Goldstein et al. 2002) who emphasise the need to align information between front and back office at point of service decision points. After identification of the key touchpoints each stage of the service system is analysed in depth providing details for the respective front-stage and back-stage dimensions of this system.

In order to utilise service blueprinting as a service improvement methodology it is invariably important to explore the 'target' (intended) and actual timing for each stage of the service process. The comparison between these target and actual timings can form a useful starting point for defining minimum standards of service and whether or not they are achieved. The next stage is to identify points where users may perceive failure in the service delivery process. Perception is a key element of this methodology. In service terms, how a service users perceives the implementation and effect of a service is as important as its actuality – and will have a direct impact upon the quality and performance of the service, irrespective its technical specification and utility (Gronroos 1998). The fail-points are thus those critical incidents upon which users base their perception of their quality of their service experience (Palmer, 2008).

The blueprint can also display the 'areas of excessive wait' (AEW) in the service system and which often contribute to significant 'fail-points' within a service. This is because flow is interrupted either by 'batch and queue' service design or failure of information flows to reach decision points. The task of service redesign then subsequently becomes one of how to eliminate these AEWs from the service system if possible, or to minimise their negative impact on user perceptions of service quality and performance. This redesign might include setting standards for task completion within the service system, clarifying the maximum 'wait time' that service users should expect at different stages of the service system and the maximum wait times between different elements of the service system. A coherent approach to addressing risk within the system is also needed. This has to be based upon an understanding of risk as an inevitable part of service delivery, and especially for public services, and which seeks to govern this risk by negotiation between the key actors involved, rather than to imagine it can be 'managed' out of existence (see Brown & Osborne 2013 for the application of such a risk governance approach to innovation in public services).

Inevitably, such targets can always be subject to 'game playing' and manipulation by staff if used in isolation (Radnor & McGuire 2004). They therefore need to be implemented as part of a broader package of service improvement that includes training for staff to inculcate an understanding of the significance of these targets for effective service delivery and that addresses how to undertake service recovery when failure does occur. No service system and its processes can ever be perfect. Consequently, successful service recovery is a core feature

of effective service delivery (Hart et al 1990) – and is often neglected within the public service arena.

The main objective of service blueprinting is to create a solid foundation for service improvement across the service system as a whole - through enhancement, redesign or re-engineering. Because of its prime focus upon the service user as being at the heart of the service delivery system, we also argue in this paper that it can be a powerful tool for embedding co-production at this heart also. By allowing for a clearer understanding of the co-production touchpoints of public service delivery, it can offer two things previously missing from the theory and practice of co-production. First, it can open these co-production touchpoints up to a sharper analysis and evaluation than has previously been the case. For the first time it can offer clarity about the spatial and temporal locus of co-production with public services delivery and its impact upon the quality and performance of these services. Second, it can become a tool through which service users, staff and managers can operationalize co-production in practice. This can then point the way towards both enhancing the co-production of public services and utilising it to improve their quality and performance. This is a novel and important contribution to public management theory and practice. The case study below offers one discrete example of how this might be enacted for public services, in the context of the co-production of higher education in the UK.

Operationalizing Co-production: Service Blueprinting at the University of Derby[1]

In 2009-2010, the University of Derby (UoD) undertook a project to review their student experience of the enrolment process at the university. This early, and often unrecognised, stage of the student life-cycle can be essential in establishing the perceptions and expectations of students about their experience of the university as a whole. The specific focus was upon the University enrolment and registration processes (Baranova et al. 2011). The remit of project argued that

> '…modes of study at Derby run into double figures attracting a very diverse student
> body. Given that processes which could affect the efficiency and effectiveness of
> enrolment begin months before any students even enroll on a programme, there were

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[1] See http://www.jisc.ac.uk/media/documents/programmes/bce/derbicasestudy.pdf for the original case study upon which this secondary analysis is based.

a lot of potential potholes. However, we started from the perspective that relationships are all about the student, not the system.' (Baranova et al. 2010)

As a result of this perspective, the UoD project aimed to improve the quality of the student experience from pre-entry, with an intent to prepare students to engage in learning and teaching from the outset of their university careers. Enrolment was defined as the point at which an individual's status changed from an applicant to a student. It was argued to be a significant point at which to commence a review of service design and student relationship management for the university – because of its significance in establishing the expectations of students about their future university experience as a whole.

The objectives of the project were:

- To use service improvement strategies (and specifically service blueprinting) to map the student lifecycle from pre-entry to readiness for learning and teaching and to scrutinise the workings of these these with the key stakeholders and

- Subsequently, to develop a blueprint of the enrolment process from the student's point of view considering the main stages of the process. This blueprint would include both the timing and participants in the stages of the enrolment process and the tangible and intangible elements of the student experience of them. This analysis would form subsequently the basis of a service improvement plan (Baranova et al. 2011).

The five key stages of the enrolment process that this blueprinting exercise uncovered at the UoD are described below, and illustrated in Figure 1. At the heart of this process was an expressed commitment from UoD to engage fully with all the stakeholders to the enrolment process (including students, academic staff and university administrators).
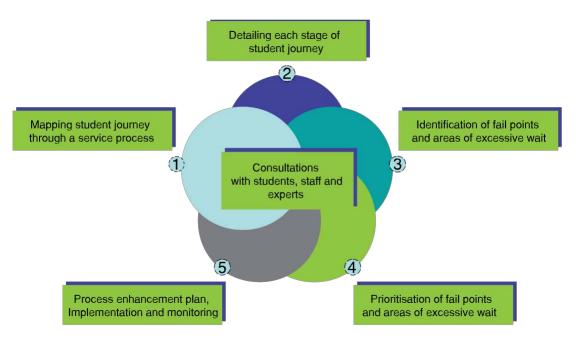
Figure 1: Stages of the blueprinting process at the UoD (Baranova et al. 2010)

Service delivery enhancement approaches, such as service blueprinting, require a wide range of methods to inform the development of the actual blueprint and the ensuing enhancement activities. Creating the blueprint was therefore undertaken with both students and university personnel (back-stage and front-stage to the enrolment process). As enrolment touched many aspects of University business processes: Finance (fees and invoicing), Quality (validation and programme audit and review), Registry (the Student Finance Company, student records etc), and Faculties (academic and administrative support) personnel from all these departments were involved as well as students with the support from the Students' Union. The approach adopted was one of inclusivity and research was conducted with the key stakeholders using primary and secondary data sources and of qualitative and quantitative data provided multiple insights through which to triangulate student perceptions and expectations of service quality in the enrolment process. Primary data included: Staff and student focus groups; one - to - one interviews; pilot/trialling; video feedback; mystery shoppers; timing techniques (queuing, time-cards etc) and observation. Secondary research involved considering the outcomes from previous staff and student questionnaires, evaluating a selection of programme and subject area annual monitoring reports and, External Examiners reports and, reviewing enrolment Planning Group minutes and action plans.

The project was successful because of the experience of the core project team, the fit with the established strategic focus of the Student Experience Strategy, the governance established

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through the Project Management Committee and the steps taken to ensure students were fully engaged with the project. Student engagement was achieved through having a placement student as part of the project team, focus groups, surveys and mystery shoppers. This rich collaboration ensured students co-produced the project and go on to co-produce the induction and enrolment service.

In order to begin to define the process steps and student touchpoints which make up the journey from applicant to enrolled student, two training sessions were held on the theory of service design and techniques for blueprinting. Using local knowledge, key staff from each of the critical areas were personally invited to attend one of these sessions. Following each session, these staff then worked with the Project Manager to map out the roles which they and their departments had in the student transition process. The interoperability of the processes began to emerge and the actors and actions, both above and below the line of end-user visibility, were mapped out and connections made. In the end three such workshops were held, to ensure that all relevant aspects of the service were captured.

Not only did this process deliver data to inform the blueprinting process, in its own right it was also felt to have heightened staff awareness of enrolment as a service delivery process, the significance of student perceptions of their needs for a successful enrolment process, and the potential for service recovery when problems occurred (Baranova et al 2010). In total consultations were carried out with over one hundred academic and administrative staff engaged in both the back-stage and front-stage of enrolment. These revealed the detailed operations that lay beneath the identified student touchpoints in the process (Figure 2). At the core of the approach to blueprinting adopted by the UoD was an espoused belief in the role of the student as the co-producer of their university experience:

> '…it is important that, throughout the development of the blueprint, [that] the end-user remained the focus. Blueprinting participants should not be too engrossed with the steps in the process, operational issues and 'blame' talk. They need to be constantly reminded of the student being at the centre of service improvements, experience design and quality." (Baranova et al. 2010)

Blueprinting stage 1: Mapping the student experience. The first stage was to map the student experience of enrolment. However, as the project progressed, it became clear that the

original scope of the project was too generic and ambitious in seeking to map out the experience of the totality of students in the enrolment process. It was calculated that there were actually more than fifteen different student profiles with differentiated experience through the enrolment process, such as international, undergraduate and postgraduate, mature, part-time, collaborative, and e-learning students. All these student profiles had different routes through enrolment, and consequently expectations and experiences of the process. Therefore, when it came to drawing up the blueprint it became apparent that the level of detail required in the blueprint would necessitate refining the initial focus to one particular cohort of students in the enrolment process. In this case the eventual decision was to focus in the initial project upon undergraduate students on a Joint Honours programme. Despite this refined focus, though, the service blueprint that emerged was still immensely complicated, demonstrating the interoperability and interaction of the range of discrete service sub-processes within the overall enrolment process. Figure 2 is an example of just a small part of the service blueprint that emerged out of this service blueprinting exercise.

Blueprinting stage 2: Detailing the stages of the student journey. The Service Blueprint (Figure 2) explored the linkages between staff and activities on both sides of the line of visibility and illustrated the following components of 'the student journey' through enrolment*:*

- *Touchpoints***:** the stages of transition from applicant to student were plotted from their initial attendance at a university Open Day to the point where a student received an enrolment completion e-mail. Target and actual service delivery times were identified for each of the stages.
- *Front-stage participants and their principal actions:* all front-stage university staff (such as academic staff, administrative and support staff, reception staff and university porters) with whom students came into direct contact (through face-to-face, telephone or virtual means of communication) were identified and listed, together with the activities that they undertook. Crucially students were identified at the outset as a core front-stage participant and their role as co-producers was essential to the performance of the enrolment system.
- *Evidence (tangible and intangible):* two differing locations for enrolment on the main campus were considered to provide evidence of two quite distinctive enrolment experiences - the library (a modern air-conditioned building) and a nondescript

university corridor (with no natural light and which could get very stuffy, especially when the queues of students waiting to enrol grew).

- *Back-stage participants and their principal actions:* all support staff (such as ICT, Registry, Disability Services, and University Finance staff) were identified together with the activities that they undertook to support the front-stage staff and activities.

- *Support systems:* the ICT systems supporting the enrolment process were displayed at the bottom of the blueprint, and in some instances connected by vertical lines with other areas of the blueprint to show interoperability links.
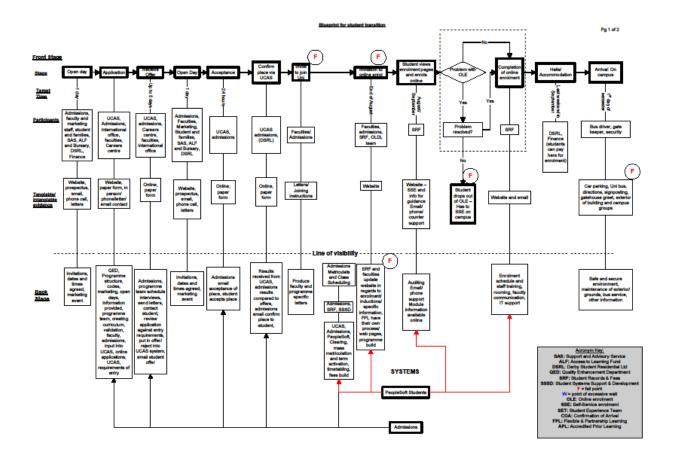

Figure 2: Extract from the Service Blueprint for Student Enrolment at the UoD

Stage 3: Identification of the fail-points in the enrolment process. The focus of any blueprinting project is upon the experience of the service system and process by the service user. In the UoD project, therefore, the focus was consistently upon the experiences of applicants/students in the processes of enrolment. In Stage 3, the project sought to identify the fail-points experienced by students, where the system failed to meet expectations or to

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address needs. These were captured by a range of approaches, including 'mystery shoppers', real-time student video diaries, focus groups and surveys. Those stages of the enrolment process identified by academic and administrative staff as posing the highest risk of service failure were also examined in greater detail - these are identified as a red 'F' in the Blueprint (Figure 2).

Stage 4: Prioritisation of the failpoints. Through focus groups with students and staff fail-points were highlighted that needed the most immediate action in order to enhance the enrolment process. One of the key fail-points identified, for example, was the non-completion of the on-line enrolment process by students, and which forms a vital part of the success of the overall enrolment process. The focus upon this fail-point generated a number of suggestions to minimise its risk in future. These included the redesign of the web-layout for the on-line enrolment interface, rephrasing the instructions on the screen to avoid future misunderstandings, and the use of a progress bar as a tracking tool in the process. All of these suggestions sought to improve the experience of the on-line process by the student and hence its successful performance by them as part of the overall enrolment process.

Stage 5: Creation of a Process Enhancement Plan. The final stage of the blueprinting project at the UoD was the creation of an integrated Process Enhancement Plan for enrolment at the University. This addressed activity by both front-stage and back-stage staff on both sides of the line of visibility. In their reflections on the service redesign process, the UoD project team reported that the service blueprinting approach had proven powerful in shifting the perceptions of both university staff and managers about the nature and impact of the enrolment process upon the totality of the student experience. For the first time, they could see clearly, in diagrammatic form, the complexity of the enrolment system from the students' perspective. The identification of fail-points and wait-points for students also proved a very powerful means by which to focus enhancement effort upon those points in the system where process improvements would have the most significant impact both upon student experience and upon enrolment performance. Crucially, service blueprinting for the first time put the student, rather than the university, at the centre of the enrolment process. This was a profound insight for university staff, and one that the project team has argued has subsequently transformed their approach to other processes (administrative and pedagogic) across the university:

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'…the fundamental change has been in rather than assuming that what we knew, or thought we knew, would be best for the students, we have actively sought their input as end-user designers and co-producers of their own student experience." (Baranova et al. 2010)

Discussion

For the UoD, service blueprinting was as a powerful tool for appreciating the centrality of the student (the service user) to the performance of university systems. It also proved effectual in redesigning university systems to perform more successfully in the light of this new appreciation. The complexity of the enrolment system could also be presented in a diagrammatic form, highlighting and identifying fail-points and wait-points, hence offering an influential approach to focus service process enhancements upon those points where the most substantial impact would be made upon both the student experience and the performance of the university system.

It was argued earlier that, within public administration, co-production has traditionally been considered as an 'add on' to delivering public services. In this paper we have contended that service blueprinting can lay bare the reality of the 'unavoidability' of the co-production of public services, as well as pinpointing areas where either a PSO might engage more effectively in this co-production or where the process itself might be enhanced. The evidence from the UoD case study is that service blueprinting can indeed be a powerful tool for the reform of public services. In this case study, it provided an important tool to reveal the role of students as the co-producers of the enrolment process, and to make extant both the experiences and expectations of applicants/students within this process and the impact of these expectations and experiences upon the performance of the enrolment process. This was evident in many of the comments from university staff involved on the project:

'I attended one of the Service Design workshops, and worked on the initial Blueprint for our enrolment process. It was really enlightening to place myself as the student and imagine the experience from their standpoint, rather than putting process first, which we do too often. After seeing the outcomes broken down into a service design plan with such tangible elements I can really see where I can apply this to other processes that my team work on'.' (Programme Advisory Service Co-ordinator, University of Derby, quoted in Baranova et al 2010)

Subsequent evaluation of the impact of the redesigned enrolment system at the UoD found its performance to be improved across a number of dimensions – from the academic and administrative point of view, for example, the enrolment system performed more efficiently in 'processing' a large number of matriculating students, whilst students themselves reported a positive reduction in waiting times during enrolment. Most encouraging, though, was a substantive increase in student satisfaction with the performance of the enrolment process as a whole from 2009 to 2010 – from 32% to 68%. The university is now working upon how this increased engagement of students and increased level of satisfaction at an early stage of their career can form the basis for enhancing their engagement and satisfaction throughout their university careers (Baranova et al. 2011).

The student enrolment project at the UoD undoubtedly allowed improvement in service delivery through the use of service blueprinting – and the project evaluation team certainly believed that the results of the project were only achieved by recognising that student co-production was at the core of the enrolment service process and that their experience was hence central to the performance of the enrolment system. Co-production was not an add-on to service delivery, but rather was at the heart of the service delivery system and its processes. This case therefore supports the significance for public services delivery of understanding the essential reality of the centrality of co-production to public services delivery. It also supports the utility of service blueprinting in operationalizing the concept of co-production, in theory and in practice, and in placing the service user at the centre of public service reform.

Notwithstanding these positive lessons, one substantial limitation of the approach of the UoD project can be identified by the application of the conceptual model of co-production of XXXXX & XXXX (2013) presented earlier. This model enabled the distinction between consumer, participative and enhanced modes of co-production in public services delivery.

In the UoD case, the blueprinting approach adopted was powerful in making explicit both the central role of the student (service user) in co-producing the enrolment process and the impact that this role had upon the efficiency and effectiveness of this process. In this sense it was essential in providing a descriptive understanding of how public services are co-produced between service users and service staff. This is a necessary step in putting service

users at the heart of public services delivery and reform. The approach adopted also displayed clear elements of consumer and participative co-production. However it stopped short of enhanced co-production.

In terms of *consumer co-production*, a range of methods were used to capture the experience of students as the co-producers of their university careers. These included student feedback questionnaires, focus groups, student video diaries of their experiences and student reflective logs and the employment of student volunteers as 'mystery shoppers' in the enrolment process. This evidence made explicit the extent to which their service experiences were co-produced by the student and the university and actively used this experience to shape the reform of the enrolment system to better meet their needs. This feedback was used by university staff subsequently to enhance the co-production of the enrolment process and the student experience of it.

In terms of *participative co-production*, it is also clear that students were engaged in the blue-printing process itself. This went beyond using co-production to improve the existing system through feedback and used student co-production as part of the reform process of the enrolment process as a whole. This was through such mechanisms as a student placement as part of the project team and the engagement of Students' Union in the university committee that subsequently developed a Student Experience Strategy for the UoD. Thus not only was co-production recognised at the service level by the UoD, but it was also used to promote the reform of this enrolment system. Students were brought into the project groups to participate in the reform process.

This participative co-production was important and did lead both to a shift in the understanding by university staff of the role of students in co-producers their university careers to meaningful reform of the existing enrolment process. However it did not represent enhanced co-production. Students were indeed invited to participate in a reform process and made a significant contribution. However the reform process was still one dominated by university staff and who used this participation to improve their reform of the enrolment process. For *enhanced co-production*, the reform process would have to be one owned and led by the students themselves rather than by the university staff. Thus students would not be 'invited' to participate but would rather by equal partners in the reform process and with the power and resources to initiate reform themselves (such as through being the leaders in

drawing the service blueprint and through student improvement forum to use this information to design service innovaitons. This would then offer a powerful tool for the co-creation of service innovation for the future.

This is not to say that consumer and participative co-production are unimportant for PSOs. This is far from the case. We would argue that they are the essential for the successful management and delivery of public services 'fit for purpose' to meet the needs of their service users. Co-production, though, has the potential not just to improve the provision of existing public services but to make a real contribution to the co-creation of public services innovation and improvement for future users. It may well be that the appreciation of consumer and participative co-production by the staff of PSOs is an essential first step in placing co-production at the heart of public services delivery, and as an inalienable element of effective practice. The experience of the UoD certainly suggests so. What is required now is further work to make a reality of enhanced co-production that will move beyond public service improvement to public service innovation as a core element of effectual public services reform. This paper has argued that service blueprinting is a vital tool for uncovering the extent of the consumer co-production of public services and for engaging service users in the participative co-production of public service reforms. What now needs testing is its efficacy in enabling the enhanced co-production of public services and the co-creation of public services innovation.

Conclusions

This paper has taken a multi-disciplinary approach to understanding the co-production of public services. It has drawn together public management, services management and operations management in order to generate an improved understanding of the nature of such co-production, to demonstrate how service blueprinting can assist in operationalizing co-production in practice and to explore the contingencies of effective public services reform and innovation through co-production. In doing this it has rooted our argument in an understanding of public services delivery based within the systemic paradigm of the New Public Governance (Osborne 2010c) and its associated public service-dominant business logic (XXXX et al 2013).

We would suggest three propositions on a basis of this analysis. *First,* an understanding of the inalienable role of consumer co-production in public services delivery is a necessary but

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not sufficient condition for effective public service reform. It is important to go beyond this initial descriptive and operational management stage to embrace the potential of participative and enhanced co-production to produce meaningful public services reform and innovation. *Second,* public services need to be understood not simply as inter-organisational networks but rather as complex service systems, with a range of human, organisational and technical elements and processes. This systemic complexity has to be embraced in order to properly manage and improve public services. *Third,* service blueprinting can be a key technology in enabling both this initial understanding of co-production and of public service systems and their subsequent enactment and fulfilment in practice. Its graphical and visual tools lay bare the role of co-production in these complex systems and processes and can drive forward both conceptual understanding and implementation in practice. This is essential for effective public service reform and innovation. What is required now is threefold:

- further theoretical development of co-production that is based within a public service-dominant business logic for public services delivery,

- further research to explore the potential, contingencies, and limitations of this novel understanding of co-production, and

- further work to develop the application of methodologies such as service blueprinting both to improve our understanding of the co-production of public services and to provide robust tools to support its governance in practice.

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