Integrating service design principles and information technology to improve delivery and productivity in public sector operations: The case of the South Carolina DMV

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Abstract

One relatively unanswered question regarding operational efficiency and effectiveness is whether and how public sector or government operations can employ service strategy and design concepts to deal with the conflicting objectives of minimizing expenditures while providing for an increasing number of “causes” [Haywood-Farmer, J., Nollet, J., 1991. Service Plus: Effective Service Management, G. Morin Publisher, Quebec]. In this paper, we argue that the mechanism that permits or enables simultaneous success on these dimensions in public sector operations is information technology applied in conjunction with a unified set of service operations concepts. To demonstrate this contention, we employ an adaptation of the Goldstein et al. [Goldstein, S.M., Johnston, R., Duffy, J., Rao, J., 2002. The service concept: the missing link in service design research? Journal of Operations Management 20 (2), 121–134] service planning design framework, taking issue with some interpretative aspects of their strategic model. The modified planning framework was applied to an initiative in South Carolina state government to improve operations and technology deployment at the Department of Motor Vehicles (DMV). The detailed and ongoing case study illustrates the utility of a broad service-based, IT-enabled approach to designing a government service, while simultaneously demonstrating that operational service alignment is the key to avoiding results that have long been labeled a dilemma in the public sector.

Keywords: Service design; Public sector operations; Information technology; Case study

1. Introduction

Torn by a variety of stakeholders and changing missions, public agencies have typically been unable to achieve enduring efficiency in their operations (Corri-gan and Joyce, 2000). Coupled with a need to provide socially equitable outcomes, the inconsistent definition of, and concern for, accountability leaves organizations with a ‘productivity paradox’ and a service dilemma wherein years of spending on structure and infrastructure do not seem to have led to long-term gains in either productivity or effectiveness.
Despite these well-known and historical difficulties, recent pressures on public expenditures have made it essential that public administrators continue to search for ways to increase productivity while simultaneously enhancing responsiveness to citizens’ needs (Lee and Perry, 2002; Lenk, 2002). Interestingly, the debate about how to best accomplish these things has increasingly been couched in terms of business and process management terminology and has focused upon information technology (IT) as the principal enabler. Despite intense criticism from many authors in the public administration realm (e.g., Fountain, 2001), attention continues to be focused upon the citizen as customer, with federal and state agencies attempting to develop service or quality-based models that wisely employ current information technologies and simultaneously guarantee “effective, efficient, and responsive government” (Danziger and Andersen, 2002).

At the same time, the problems of government services and public service operations have historically been understudied in the operations management literature. In a comparison of modern OM research and practice, Slack et al. (2004) recently noted that there are gaps between research and practice in terms of both sectoral and content priorities. Their discussion is focused more broadly on the relative paucity of research oriented more generally toward services, while their data demonstrate that government services typically account for a substantial portion of GDP (in 2001, approximately 12.7 and 24.0% of GDP in the US and UK, respectively). Yet very few studies in the OM journals report on the application of theories to government services and virtually none have developed specific theories to help guide public administrators. On the other hand, the service operations literature would seem like a logical place to find and refine theories and concepts that can help to structure and improve public sector operations through the effective use of information technology.

In this paper, we illustrate, using a detailed case study, how service operations concepts and information technology can be synergistically employed to attain the operational goals of public sector organizations. In particular, we review the relevant literatures in the services area and explain how we adapted and tested a framework for designing an approach to strategic planning and service delivery for the South Carolina Department of Motor Vehicles (SC DMV). Using the detailed case, we highlight how government operations may be able to leverage existing service management models in combination with information technology solutions. We conclude the paper with a proposed framework to classify government services and a discussion of insights into directions for future OM research to understand and improve public service operations.

2. Productivity, effectiveness and IT

In this section, we describe the public sector performance dilemma, and elaborate on the purported role of and difficulties associated with IT in providing a solution. We also describe the limited research in operations that currently applies to this issue.

2.1. The productivity and performance imperatives in public services

Though routinely characterized as inefficient, government agencies have been under siege in recent years to cut costs. Some entities that are very heavily transaction-based (e.g., the IRS) have had considerable success, though most have wallowed in mediocre performance and with a poor public image. A number of authors have acknowledged the ongoing problem, but prefer to accept it as an important aspect of dealing with multiple constituencies and objectives (see, e.g., the arguments of Fountain, 2001 or Roy and Seguin, 2000), arguing de facto that productivity will need to remain a step-child to “serving the public” or meeting customer-service goals.

As implied above, the issue is not only one of productivity, but also of effectiveness. Services need to be effective in delivering a level of performance that meets customer needs or expectations (Sasser et al., 1978). While sometimes intertwined with productivity, effectiveness or customer service typically refers to “doing the right things” and measures constructs like customer satisfaction on dimensions, such as service quality, speed, timing, and human interaction. A service is effective whenever its outcomes or accomplishments are of value to its customers, and the “constituent as customer” is a rapidly evolving tenet of public sector management.
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