

Co-Creating Value from IT in a Contracted Public Sector Service Environment: Perspectives on COBIT and Val IT

Carla Wilkin

Monash University

John Campbell

Stephen Moore

University of Canberra

Wim Van Grembergen

University of Antwerp

ABSTRACT: Research that examines Information Technology (IT) value has called for studies to explore the co-creation of value, including in multi-firm environments. This study draws upon the practice of IT governance in a successful large-scale IT deployment, wherein private and public firms were involved as customer service providers with the principal, a large government department. Drawing on customer-centric co-creation concepts from marketing research, through comparative analysis and related application to our case study, we detail the merit of a service-oriented approach to co-creating value from IT and the assistance COBIT and Val IT can provide. Importantly, we identified determinates of co-created value in a multi-firm environment, although our analysis reveals some need to evolve COBIT and Val IT to improve guidance regarding the mechanisms required to achieve this in such environments.

Keywords: IT value; IT governance; case study; multi-firm environment; public and private sector; co-creation of value; COBIT 5; Val IT.

I. INTRODUCTION

Based on the perspective that value from investment in Information Technology (IT) arises from “what the organization can do with IT rather than the technology itself” (IT Governance Institute [ITGI] 2009, 8), this paper explores co-creating value from IT in use and reviews how well Val IT 2.0, COBIT 4.1,¹ and the new COBIT 5 frameworks guide the

The authors express their sincere gratitude to Roger Debreceeny and the reviewers for their insightful commentary during the review process.

Editor’s note: Accepted by Roger S. Debreceeny.

Published Online: November 2012

¹ Control Objectives for Information and related Technology.

mechanisms for such an approach. In our case study, co-creating value was central to successful deployment of IT that involved a major Australian government department known as the Department of Education, Employment, and Workplace Relations (DEEWR), whose replacement of its national IT Employment Services System (ESS) is widely acknowledged as having improved performance (DEEWR 2009b). Such findings are interesting, as creating value from investment in IT can be challenging (Simnet 2009), with “20 to 70 percent of large-scale investments in IT-enabled change [being] . . . wasted, challenged or fail to bring a return to the enterprise” (ITGI 2009, 7).

IT investment is even more perplexing when such deployments relate to multiple firms (Kohli and Grover 2008) or the provision of public sector services (Campbell et al. 2009; Irani and Love 2008). Examples of failure to create value include Belgacom, the leading telecommunications company in Belgium, which found difficulties with its IS project selection process that aimed to achieve value through investment in core projects that aligned with the company’s IS strategy. The Finance Director (Bouckennooghe) found significant issues in “that project risk and strategic value were not brought into prioritization discussions in an informed, structured way” (Viaene et al. 2007, 54). Similarly, in 2004, the U.K.’s National Audit Office criticized EDS regarding the IT system that it was supplying to the U.K.’s Child Support Agency. Problems included the rollout being two years late and failure to meet required outcomes when, following its introduction in March 2003, the Child Support Agency had to write off £1 billion in claims, while uncollected child support payments amounted to £750 million (BBC News 2004). In Australia, failures to create value from IT investment are equally apparent. Examples include Queensland Health, where management switched payroll systems without sufficient testing, leading to employees being significantly overpaid or underpaid, and an additional AU \$422 million being required to patch problems (Fynes-Clinton 2012). Similarly, the Myki smartcard transport ticketing system in Victoria is an “\$850 million [IT] project [that is] . . . \$350 million over budget, nearly three years overdue, and . . . projected to cost \$500 million to run over 10 years” (Sheridan 2009, 1). All illustrate the need to focus on value-in-use, rather than in an IT product.

In delivering value from IT investment, lessons from the private sector focus sharply upon IT governance (ITG) to direct and control IT within a firm (Cadbury 1992; Organisation for Economic Co-operation and Development [OECD] 1999). Here, a survey of 800 business and IT respondents reported that ITG practices generated lower IT costs (38 percent) and improved return on investments (27.1 percent) (ITGI 2011). Related research has shown that “companies with better than average IT governance earn at least 20 percent higher return on assets” (Weill and Ross 2004, 1). Furthermore, public sector government reports ascribe problems of poor returns to a lack of ITG (Gershon 2008).

ITG is regarded as integral to achieving improved returns through its role in ensuring a focus on the alignment of business and IT strategies, on risk and resource management, on delivery of value, and on measurement of performance (ITGI 2006). Frameworks such as Val IT and COBIT claim to provide comprehensive, practice-based structures for ITG that include guidance in making IT investment decisions and using IT to create enterprise value (ITGI 2006). Nonetheless, there are challenges in applying these frameworks, and most studies that have reviewed them usually examine private sector and/or single firms (De Haes and Van Grembergen 2010; Higgins and Sinclair 2008). Consequently, their application in the public sector is less known. This is a concern, as systemic differences exist between public and private sector firms and their operating environments. Further, there is complexity in co-creating value when it must encompass the needs and values of multiple stakeholders and firms. Given the increasing focus on inter- and intra-organizational scenarios, research that examines co-creating value through business/IT strategies in such contexts offers much-needed fresh insights (Wilkin and Chenhall 2010).

Thus, the aim of our study is two-fold. First, by exploring the efficacy of an alternative approach to understanding how value may be delivered by ITG in a multi-firm environment with public and private sector participants, we address an identified need, namely, that value delivery is under-researched in the context of practice (Wilkin and Chenhall 2010). Second, we review the extent to which Val IT and COBIT guide the processes and metrics required to co-create IT value in this practical setting. In doing so, our study addresses another identified research gap, namely, that very little research has investigated ITG as a whole (Wilkin and Chenhall 2010). While the frameworks provided by the IT Governance Institute (ITGI) are widely respected for their practical guidance concerning ITG, their merit in delivering *co-created* value² (particularly for ITGI's newly released COBIT 5) has not been comparatively explored (De Haes and Van Grembergen 2010). Thus, this is our focus.

We begin with a review of the literature about IT value, alignment, and governance, and related frameworks. Next, we outline factors that impact these in the public and private sectors. We then examine marketing research's mechanisms for co-creating value and evaluate the relevance of their service-dominant approach. The next section details the research method, namely, use of a case study to test the relevance of the chosen service-dominant framework to co-creating value from IT investment, the study's context, and documents analyzed. Through comparative analysis, we investigate the effectiveness of Val IT and COBIT 4.1 and comment upon the potential of COBIT 5 for the same purpose. Our findings demonstrate some need to evolve these frameworks to better acknowledge the strategies and processes required to ensure value creation for customer and principal stakeholders alike. We conclude by outlining the limitations of our study and related opportunities for future research.

II. LITERATURE REVIEW

IT and Accounting Information System (AIS) research have long recognized the importance of research into IT value. The foci here include IT productivity, organizational impact of IS (Information Systems) on economic performance, and assessing IS value through IT capability (Lim et al. 2011), as well as performance metrics like ROI and the Balanced Scorecard (Masli et al. 2011; Hirscheim and Klein 2012). Although the concept of IS as a service has evolved (DeLone and McLean 2003), the enabler of value creation is often conceptualized as strategic business/IT alignment to take advantage of arising business opportunities. Conversely, research into stakeholder participation, technology acceptance, and system use/perceived usefulness often considers IT effectiveness or efficiency. Of particular significance are calls in the literature that "the next generation of IT value studies should focus on the co-creation of value through IT rather than on IT value alone ... [Herein c]o-creation represents the idea that (a) IT value is increasingly being created and realized through actions of multiple parties, (b) value emanates from robust collaborative relationships among firms, and (c) structures and incentives for parties to partake in and equitably share emergent value are necessary to sustain co-creation" (Kohli and Grover 2008, 28).

While marketing research has demonstrated that successful outcomes can be achieved from a service-dominant approach for value co-creation, related research in IT is still lacking. Our application of this alternative approach offers a fresh perspective, for AIS research has been identified as being too dependent upon the use of contingency theory, agency theory, and transaction cost economics (Granlund 2011). Our contribution is strengthened in that Granlund's (2011, 8) review indicates the need for AIS research to use methods beyond quantitative

² Value created that is of benefit to all stakeholders, both internal and external to the firm.

measurements that “can hardly capture the multifaceted organizational life anywhere near to a comprehensive picture.”

ITG aims to capture all elements related to maximizing benefits from IT investment through focusing on strategic business/IT alignment, risk management, resource management, as well as value delivery and performance measurement (ITGI 2006). Nevertheless, aspects of ITG are yet to be fully appreciated, for “just as all complex organizational initiatives require time to discover and capture the interactional scope of their identity, so too [does] . . . ITG,” with little research into the mechanisms for value creation and delivery (Wilkin and Chenhall 2010, 137).

Given that IT is increasingly regarded as a facilitator rather than a source of competitive advantage (Santhanam and Hartono 2003), it is increasingly perceived as being a service, wherein to be successful, the “services provided must be perceived by the customer to deliver sufficient value in the form of outcomes that the customer wants to achieve” (Cartledge et al. 2007, 12). This concept of value being derived in terms of value-in-use is relevant to ITG in both an intra- and inter-organizational context. Herein, marketing research has established the importance of a focus that defines value creation in terms of how customers create it through use, with firms as joint value-facilitators with customers (Gronroos 2008). In an ITG context, such customers (stakeholders) may, of course, be internal or external. These relationships are even more complex in an inter-organizational ITG context, as financial and strategic imperatives may create scenarios where the principal has considerable power over its customer counterparts (including mandating systems). This has implications for value-creating investment choices, processes, and performance outcomes.

IT Value, Alignment, and Governance

Value has been defined “as the total life-cycle benefits net of related costs, adjusted for risk and (in the case of financial value) for the time value of money” (ITGI 2009, 10). It is described in terms of the direct and indirect economic impacts on a firm or network of firms (Kohli and Grover 2008), and achieved through the consumption of labor and expenditure to adapt firms, their IT architectures, processes, and people, so that IT provides beneficial outcomes. Like its predecessors (Val IT 2.0 and COBIT 4.1), COBIT 5 aspires to achieve a firm’s “value creation through effective and innovative use of enterprise IT” (International Systems Audit and Control Association [ISACA] 2012, 15).

The Information Technology Infrastructure Library (ITIL), a widely adopted guide for IT service management, recognizes issues regarding delivery of value from IT. ITIL notes that “often this value is not realized. For an IT investment to provide benefit, the resulting IT service must be well planned, well designed, well managed and well delivered,” so that it is well received by all stakeholders (Kneller 2010, 3). This understanding, that value from IT investment is realized in its use as a service, is readily apparent in the previously noted failures where Myki, Queensland Health, and ITGI (2009) all reported heavy losses when IT investment failed to deliver usable services. Similarly, marketing research would argue that there is no value in product, only value-in-use (Vargo and Lusch 2008; Gronroos 2008) through the exchange of service (Kotler 1977). In heralding this service-dominant understanding of value, economist Penrose (1959) formulated the theory that resources are not the inputs to production; rather, inputs are the services that resources can supply. As such, it is through exchange that the potential services of resources are released and value arises (Håkansson and Prenekert 2004). Furthermore, “the importance of physical products . . . [resides] not so much in owning them as in obtaining the services they render” (Kotler 1977, 8).

With service defined as “the application of one’s resources for the benefit of another entity” and “the application of specialized competences (operant resources—knowledge and skills), through deeds, processes, and performances for the benefit of another entity or the entity itself”

(Vargo and Lusch 2008, 28, 26), such understanding is pertinent to IT investment across firms. Herein, the core to co-creating value is active collaboration, where customers must do more than customize, they must “collaborate with vendors to create unique value” (Schrage 1995, 154). Marketing researchers view this interactive mechanism as critical. They argue that in determining how to maximize service outcomes, the value foundation is not achieved without customers contributing knowledge through use or through adding resources or associated skills (Gronroos 2008). Further, without their input, value-in-use is minimized or unrealized. Thus, marketing research views the role of firms as being to provide customers with the necessary resources and the value foundation. Hence, firms are value facilitators that attain better results by actively facilitating and influencing value fulfillment, thereby becoming value co-creators (Gronroos 2008; Vargo and Lusch 2008).

In this study, we extend the idea of achieving co-created value through service delivery to the less well explored multi-firm environment, where principal and customer firms must exchange/create mutually acceptable processes and results in order to achieve mutually beneficial outcomes from the IT product in use. In retail, the more customers buy and use products (like grocery items), the more a firm achieves value. Alternatively, in an inter-organizational ITG context, both the principal firm and its customer stakeholders must beneficially use the IT product for value to be generated. Despite the powerful influence of multi-firms on economies and international relations, this complexity does not diminish the need for further research, with current literature demonstrably scant on how to optimize IT investment value in these environments.

Some recognition of value residing in use as an outcome of services exchanged is evident in the difficulty involved in articulating IT value (Goldstein et al. 2003). For example, timeliness and IT complexity are difficult to capture in single return-on-investment (ROI) formulas. There are similar problems in applying Activity-Based Costing (ABC), where IT investment costs are allocated to where the IT activity takes place, which may be different from where benefits arise (Peacock and Tanniru 2005). Equally, lagging value creation, which is captured by the Productivity Paradox (Brynjolfsson and Hitt 1998), relates to optimal use lagging initial implementation. Similar difficulties in understanding IT value are apparent in a survey of 1,217 IT professionals, in which two-thirds of firms are reported as failing to fully measure IT value (Strassmann 2004; *Information Technology Newsweekly* 2009), with 62 percent using ROI and 49 percent using payback period (ITGI 2005).

For marketing research, a central mechanism for value co-creation is interactivity in active collaboration. Such an approach accords with the ITIL’s view that value resides in utility and warranty or reliability of delivery (Cartlidge et al. 2007). IT research has established that in a multi-firm environment, performance appraisal requires mechanisms that facilitate sharing emergent value in ways that sustain collaboration and relational value. Accordingly, there is need for research that expands economic value to “include indirect and intangible value such as agility, flexibility, and first-to-market” (Kohli and Grover 2008, 33). The next section provides an overview of the ITGI frameworks whose relevance to value co-creation will subsequently be appraised by referencing our case study.

Val IT 2.0, COBIT 4.1, and COBIT 5

In response to business needs, the ITGI developed Val IT to “unambiguously measure, monitor and optimize the realization of business value from investment in IT” (ITGI 2006, 6). It advises that Val IT should be used in conjunction with COBIT 4.1, which sets “best practice for the means of contributing to the process of value creation” (ITGI 2006, 8). Accordingly, studies are needed that examine the required interactivity between these frameworks and their applicability in a multi-firm environment (De Haes and Van Grembergen 2010; Wilkin and Chenhall 2010).

Before evaluating their effectiveness in directing strategies and processes for co-creating value in a multi-firm environment, we provide a brief overview of their structures. Val IT assists with ITG by providing firms with guidelines that address assumptions, costs, risks, and outcomes related to IT investment portfolios. In doing so, it focuses on two fundamental questions, namely, whether (1) strategically, the right things are being done, and (2) the benefits (value) are being gained. COBIT 4.1 provides an internal control framework for IT by requiring firms to define their motivation for IT investment, the stakeholders, and the desired outcomes (ITGI 2007, 9). Its four interrelated domains (plan and organize, acquire and implement, deliver and support, and monitor and evaluate) provide detailed direction for processes and controls.

In 2012, building on the expertise acquired through prior frameworks, the International Systems Audit and Control Association (ISACA) released COBIT 5. Unlike COBIT 4.1, with its interrelated domains, COBIT 5's framework is built upon five basic principles: *Meeting Stakeholder Needs*; *Covering the Enterprise End-to-End*; *Applying a Single, Integrated Framework*; *Enabling a Holistic Approach*; and *Separating Governance from Management*. Further, the organizational resources for governance are called *Enablers*, and include *Principles, Policies and Frameworks*; *Processes*; *Organisational Structures*; *Culture, Ethics and Behavior*; *Information*; *Services, Infrastructure and Applications*; and *People, Skills and Competencies* (ISACA 2012). Insertion of these principles into COBIT 5 juxtapositions it between ISO/IEC 38500:2008 (International Standards Organization [ISO] 2008) and prior ITGI frameworks (COBIT 4.1, Val IT 2.0, and RISKIT). Similarities between these two include that *Evaluate*, *Direct*, and *Monitor* are the governance imperatives in COBIT 5, which closely relate to ISO/IEC 38500:2008's tasks of the same name, and that the six principles in ISO/IEC 38500:2008 and the five in COBIT 5 also show considerable commonality. However, COBIT 5's principles appear to afford a more process view in comparison to the avowedly guiding principles of ISO/IEC 38500:2008. Further, COBIT 5 extends guidance beyond governance with the additional management domains of *Align, Plan and Organize*; *Build, Acquire and Implement*; and *Deliver, Service and Support*. These purportedly relate to the governance imperatives via the five principles and seven enablers that are defined as factors that "individually and collectively, influence whether something will work—in this case, governance and management over enterprise IT" (ISACA 2012, 27).

COBIT 5 makes two claims that are relevant to this study, namely, (1) "to provide a comprehensive framework that assists enterprises in achieving their objectives for the governance and management of enterprise IT," and (2) "to help enterprises create optimal value from IT . . . [by governance that encompasses] considering the IT-related interests of internal and external stakeholders" (ISACA 2012, 13). In recognizing the merit of these, we now explore what is meant by co-created value and whether Val IT and/or COBIT provide the necessary guiding mechanisms.

Co-Creation of IT Value and Factors that Impact this in the Public and Private Sectors

Prior research into creating business value from IT has almost exclusively focused on the private sector (Irani and Love 2008). Yet, significant differences are apparent between public and private sector firms regarding specific issues, like control implementations (i.e., Wallace et al. 2011), and generic issues, like complexity, lack of integration of IT strategies, attitude to decision-making, propensity to learn from experience, and risk foci (see Table 1).

While the public and private sectors face similar managerial-level IT issues and challenges, systemic differences suggest the importance of exploring value co-creation in public-private partnerships. In public sector environments, IT investment and value issues must contend with a range of influences both economic and societal. These include government agendas (including reducing unemployment and the provision of education), political cycles and influence, multiple—

TABLE 1
Systemic Differences between Public and Private Sector Firms Regarding Issues for IT Initiatives^a

Significant Issues for IT Initiatives	Characteristic Focus in the Public Sector ^b	Characteristic Focus in the Private Sector ^c
Complexity	4+ dimensional world (government, citizens, political imperatives, and the media) increasing demand for “joined up” projects.	3-dimensional world (shareholders, the organization, and regulatory bodies). Projects require consistent ICT infrastructure but, generally, the scope of access is more restricted.
Initiatives	Emphasis on announcements and initiatives can proliferate with little or no integration and prioritization.	Market responses drive value: related to integration and prioritization of initiatives, i.e., strategic planning.
Culture	“Make decisions correctly” versus “make the right decisions.”	Focus on decision-making related to strategic planning, not a political audience.
Learning from Experience	Weak institutionalized learning as accountabilities are ill-defined.	Financial accountability and demands of regulatory compliance encourage organizational learning.
Risk	Focus on managing political risk rather than operational risk.	Focus on operational and financial risk.

^a Adapted from Wilkin et al. (2012).

^b Drawn from Gershon (2009).

^c Drawn from Wilkin and Chenhall (2010).

even competing—stakeholder interests, with little scope for incentive mechanisms, and difficulty in justifying more risky IT investments (Campbell et al. 2009). Thus, exploring a scenario that entails public-private interaction in successful IT deployment should contribute knowledge about the co-creation of value from IT.

In marketing research, there has been less emphasis on the product-dominant approach and more on the service-dominant aspect of value delivery, where value co-creation is shaped by social structures, processes, and forces (Vargo and Lusch 2008; Edvardsson et al. 2011). Herein, the customer is central, being perceived as “connected, informed, and active” to the extent that “the system of company-centric value creation” no longer yields optimal results (Prahalad and Ramaswamy 2004, 4). This service-dominant aspect ascribes co-creation to: “self-service, where there is a transfer of labor to the customer”; “where the supplier provides an experience and the customer is part of this context,” and “when the customer self-selects, using the supplier’s prescribed processes, to solve a particular problem” (Payne et al. 2008, 84). Value is not co-created through outsourcing activities to customers; rather, it is generated through actively engaging with customers. Prahalad and Ramaswamy (2004) summarized this in their seminal DART model (Dialogue, Access, Risk assessment, and Transparency) for value co-creation. By deploying these mechanisms, companies including Procter and Gamble, Linux, and Nike have successfully achieved business value (Juergen 2011). Given such evidence of suppliers generating greater value by interacting proactively with customers (Blocker et al. 2011), there is merit in understanding service exchange processes that accommodate individual and collective needs. This understanding

is equally relevant in a multi-firm IT deployment environment, wherein the principal firm consults and delegates ideas involving IT investment and use through engaging with its stakeholder (customer) counterparts.

According to [Payne et al. \(2008\)](#), the key concept in co-creation of value concerns the nature of interaction and guidance regarding how to structure customer involvement so that the service-dominant philosophy allows the customer to be equally as important as the firm in co-creating value. Their conceptual co-creation of value framework captures the service-dominant proposition wherein, by developing customer-supplier relationships through communication and interaction, the supplier ensures that the customer contributes substantially to value co-creation. Equally, for IT investment in a multi-firm environment where IT value lies in use, value should be created for both parties and long-term relationships sustained through the principal substantially engaging with its customer firms to establish a value proposition. With its three interactive and recursive value-creating processes (customer, encounter, and supplier), marketing's service-dominant framework conceptually provides a fresh approach to understanding of IT value co-creation (see Figure 1) that aligns with a defined research gap ([Kohli and Grover 2008](#); [Wilkin and Chenhall 2010](#)).

Before applying the components of [Payne et al.'s \(2008\)](#) framework to our case study (see Table 2), we establish the relevance of these components to co-creating value by comparing them with [Prahalad and Ramaswamy's \(2004\)](#) seminal model.

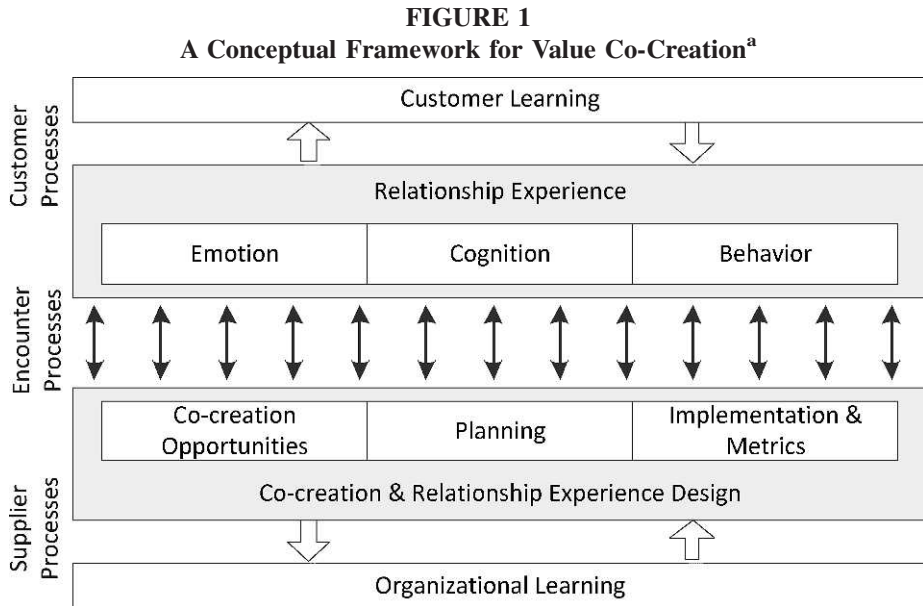
The demonstrated strong relationship between the conceptual DART model ([Prahalad and Ramaswamy 2004](#)) and [Payne et al.'s \(2008\)](#) Service-Dominant Framework for Value Co-Creation (see Table 2) provides confidence in testing the capacity of [Payne et al.'s \(2008\)](#) framework to measure co-created value in a practical ITG case study. Herein, principal/stakeholder interactions, including preemptive stakeholder participation, were fundamental to achieving the acknowledged success ([Wilkin et al. 2012](#)). Having used this comparison to establish the relevance of [Payne et al.'s \(2008\)](#) framework, we are then able to review the guidance afforded by the Val IT and COBIT frameworks in facilitating such outcomes. This step addresses our second research aim, namely, to explore the relevance and merit of these frameworks for guidance in co-creating value in the practice of ITG in a multi-firm environment. Before reviewing these frameworks, we report on our research method and setting.

III. RESEARCH METHOD, CONTEXT, AND DOCUMENTS

Research Method

Acknowledging the established usefulness of the case study approach ([Lee 1991](#); [Gable 1994](#)), we used it to investigate the mechanisms for co-creating IT value in our complex setting. The case study approach has been widely used in IS research and shown as being particularly beneficial in understanding complex social interactions that enable successful outcomes, and in deriving associated theoretical understanding ([Eisenhardt 1989](#); [Feller et al. 2011](#)). In analyzing this case study, our methodology had both interpretive and positivist components. This facilitated identification of “descriptive richness and analytic insight into people, events, and passions as played out in real-life environments” ([Yin 2005](#), xiv).

Our analysis entailed reviewing data collected over an 18-month period, including a wide range of printed and electronic materials (see below for details). Documents play a critical role in communicating individuals' needs and motivations, and so they provide knowledge and insight about organizational activity ([Hasselbladh and Kallinikos 2000](#)). As advocated by [Wright \(2011\)](#), these documents and records made organizational and social behavior visible and interpretable ([Prior 2003](#)).



^a Source: Payne et al. (2008, 86).

Context

The focus firm, DEEWR, is a department within the Australian Public Service that administers services on behalf of the Australian government. While state and local governments have their own public services, this national public service had approximately 164,596 public servants employed under the Public Service Act in the 2009–2010 financial year, with 5,000 in DEEWR. As the key department for funding services in education and workplace training, transition to work, and conditions and values in the workplace, DEEWR's appropriated departmental budget for 2011–2012 was AU \$832,480,000 (DEEWR 2012). DEEWR works closely with the Department of Human Services (DHS), which delivers a range of payments and support services for retirees, unemployed or disadvantaged persons, and people from diverse cultural and linguistic backgrounds. In the context of our case study, DHS is the first point of contact for unemployed job seekers.

The IT investment in our case study involved DEEWR's redevelopment and redeployment of its complex ESS. Although funded and developed by this government department, the ESS was designed to be the interface with DHS systems, as well as to external public and private firms contracted to deliver employment service programs on behalf of the Australian government. These customer providers relied on the ESS to service their clients (both employers and job seekers) and record related activities for payment. The ESS exercise required consideration of the Australian government's needs and social inclusion agenda, as well as the needs of 45,000 users from over 100 service providers who deliver services to those who are seeking jobs. Deployment of the ESS is widely regarded as successful, delivering value to public and private sector stakeholders (Ministers' Media Centre [MMC] 2010). Comparison of the old Employment System (ES) with Job Services Australia (JSA), which was delivered by the new ESS, indicates this widespread success. For example, the new IT system focuses on the individual needs of job seekers and

TABLE 2
Comparison of Two Service-Dominant Approaches

Building Block	Description	Payne et al.'s (2008) Service-Dominant Framework for Value Co-Creation^b
Dialogue	Characterized by interactivity, engagement, and willingness by both parties to act. It is more than listening and creates loyalty.	Encounters between the customer and the supplier are such that each contributes knowledge to maintaining and improving value. Suppliers maintain excellent knowledge about customers' value-creating processes, and customers know that their needs are consistently met and their knowledge is valued.
Access	This involves sharing of information and tools. For example, firms may share their knowledge and design data with suppliers.	Suppliers should seek to influence customer choices through valuing the relationship and focusing on enhancing the positive outcomes from encounters. By understanding customer needs, the service-dominant approach will enhance co-creation of value. Suppliers must deliver relevant customer experiences through careful design of the process.
Risk Management	Given customers' active role in co-creating value, there is need to inform them of associated risks. Besides the risk data, they should be provided with a means to assess it.	Given the broad base of the dialogue, trust is vital, and if this is to be sustained, then any risks or downsides should be disclosed. For example, if a travel agent is co-creating value with a customer about a travel package, then insurance, travel warnings, and vaccination needs should be openly explored.
Transparency	Earlier business strategies of opaque pricing, costs, and profit margins should, as customers become more engaged, be increasingly replaced with transparency.	The pivotal encounter process involves two-way interactions between the supplier and the customer related to communication, use, and service. These should support emotion, learning, and behavior for building relationships.

^a Adapted from [Pralhad and Ramaswamy \(2004\)](#).

^b Adapted from [Payne et al. \(2008\)](#).

employers, instead of a top-down "one size fits all approach" to job placement and recruitment (see Table 3). For job-seeker customers, JSA delivers more tailored assistance to facilitate securing employment; for employer customers, there is greater emphasis on finding work-ready and appropriately skilled job seekers through initiatives such as employer brokers and more timely payment for services.

TABLE 3

Comparison of the Old ES's Shortcomings with Positives from the New JSA via its ESS
(source: DEEWR 2009a)^a

Shortcomings of the Old ES	Resolutions Provided by the New JSA via its ESS
Poorly targeted assistance	Assistance to the most disadvantaged and wider access to the EPF. ^b
Continuum too rigid	An EPP ^c based on individual job seekers' needs.
Lack of incentives for skills and training to address skill shortages	Bonus for outcomes achieved after accredited training. Provision of 238,000 training places.
Employment services too complex and fragmented	Combining seven contracts into one.
Excessive red tape	Streamlined programs and simplified EPF administrative arrangements.
Insufficient employer focus	Higher outcome payments for provider-brokered outcomes and creation of specialist employer brokers.
Inadequate services for remote job seekers	1.7 multiplier for service fees and EPF to reflect broader definition of outcomes to encourage further education.
Under-utilized	More flexible use of EPF.
A counterproductive compliance system	Greater use of compliance systems based on "No Show/No Pay."
Poor performance management	Streamlined contract management and monitoring via a Charter of Contract Management (to be developed with providers).
System not regarded as "fit for purpose"	IT system rebuilt in consultation with stakeholders.

^a Adapted from Wilkin et al. (2012).

^b EPF = Employment Pathway Fund.

^c EPP = Employment Pathway Plan.

Documents

We classified the 192 documents collected (text and multimedia files) into six project information categories (see Table 4). Content validity was assured, as multiple sources of evidence were used to define constructs (Eisenhardt 1989), while the publicly available nature of the majority of the ESS documents (accessible through DEEWR's IT consultation web pages) meant document authenticity was well established and source criticism not an issue.

In analyzing the relationship between DEEWR's IT deployment and Payne et al.'s (2008) value co-creation framework, we were conscious of the potential for bias (Yin 2003). Although analyzing qualitative data relies on interpretations and classifications imposed by researchers, the source of documents effectively made us outside observers. This removed perceptions that we may have a stake in the results. Additionally, we supplemented our analysis by extended discussions with the principal, who verified that the documents were a true and accurate record of the events and processes. Similarly, our use of underlying theoretical reasons supported the existence of structures in the data, which contributed to internal validity (Eisenhardt 1989). We also compared results, discussing inferences drawn and the extent that our conclusions were substantiated. Further,

TABLE 4
Project Information and Research Resources^a

Project Information Genres	Relevant Dates	Events/Items	Research Resources
ESS Consultation and Planning Documents	Various dates	11 documents	11 report files
IT Advisory Group	Jul. 8, 2008–Jun. 18, 2009	16 meetings	16 sets of meeting minutes
Face-to-Face Consultations	Dec. 17, 2008–Mar. 20, 2009	13 meetings	13 summary reports and 5 sets of presentation slides
LiveMeet Web Conferencing Sessions	Jul. 23, 2008–Jun. 19, 2009	79 online presentations, each with an interactive Q&A component	73 session recordings consisting of more than 53 hours of audio-visual material, 24 summaries of key LiveMeet sessions detailing dates, project team, number and role of attendees, polls taken, and discussion topics
ESS Transition Reports	May 4, 2009–Aug. 17, 2009	21 reports	47 files containing report layouts, report metadata, claim rate codes, mapping, and Q&A lists
User Feedback Surveys	Aug. 2008, Jul. 2009, and Aug. 2009	3 surveys	3 report files

^a Adapted from [Wilkin et al.\(2012\)](#).

by consulting with the principal about derived conclusions and discussing their theoretical implications, we were able to triangulate findings.

IV. RESULTS

Comparison of Payne et al.'s (2008) Service-Dominant Framework for Value Co-Creation with the Case Study

With the theoretical relevance of Payne et al.'s (2008) service-dominant co-creation framework established (see Section II), we now seek to establish its capacity to highlight the dynamics of value co-creation in practice. In so doing, we consider the extent to which each of their tripartite value-creating processes relate to the actual dynamics present in our case study. Herein, we structured this, as per Payne et al. (2008), as follows:

- *Customer processes*: the processes, resources, and practices used by customers to manage their activities;
- *Supplier processes*: the processes, resources, and practices used by suppliers to manage their activities; and
- *Encounter processes*: the interactive processes and activities within the customer/supplier relationships that must be managed for successful value co-creation.

In essence, the integrated mapping of these processes (see Table 5) should provide insight into the co-creation of value.

As demonstrated above, there is evidence that in its successful IT deployment, DEEWR actively engaged with its customer stakeholders through interactive communication and consultation strategies. DEEWR's emphasis was upon delivering good service to stakeholders. Its focus was that the ESS had no value unless (1) it served the needs of its customer stakeholders, and (2) these customer stakeholders agreed with the value provided by the new ESS. Contextually, co-creation of value was about value-in-use, a concept that goes to the heart of the service-dominant approach to value generation.

Equally, DEEWR effectively managed customers' needs. Our analysis, in terms of Prahalad and Ramaswamy's (2004) DART model, showed that DEEWR's ITG exercise addressed all of DART's building blocks. Effective *Dialogue* commenced with DEEWR's request that stakeholders review the shortcomings of the old ES and provide input into its future direction, with acceptance of responses indicating willingness to listen. Dialogue was subsequently enhanced through inclusive communication strategies like LiveMeet and Q&A sessions (where stakeholders could interactively verbalize), use of the designated ESS person at each site, and through job seeker surveys. *Access* was fostered through use of public consultations and LiveMeet, whereby stakeholders at dispersed locations could interact and engage with discussion in the present tense.

Exposure to the functionality of the new ESS was equally important, including that stakeholders' comments were invited, meaning they felt empowered as they had input into the final functionality. Evidence of *Risk Management* includes early consultation about what was wrong with the old ES and desirable in the new ESS (which reduced resistance to change and shared understanding about what was possible), as well as through the breadth of representation on advisory boards. An ESS person at each provider site and DEEWR's funding of such training reduced risk with transition to the new system. *Transparency* was achieved through regular public consultations and through retention of LiveMeet and other documentation on DEEWR's website, so that stakeholder providers could access past promises. The morality of retaining the information acquired from its customers on DEEWR's website, so that stakeholders could assess delivered outcomes against promises made, was empowering.

TABLE 5
A Comparison of Payne et al.'s (2008) Service-Dominant Conceptual Framework with Our Case Study

Processes	Description of the Processes from a Service-Dominant Perspective	Supporting Evidence from Our Case Study
Customer Value-Creating Processes	<ul style="list-style-type: none"> • Customers are active in their relationship with suppliers • Experience of the relationship is more important than the product • Delivery should acknowledge and build customers' competence and capability regarding resources • Processes should be dynamic and responsive • Customer satisfaction and involvement are vital to maintaining the relationship • Customer engagement will be enhanced by suppliers who encourage them to reflect on their behavior and responses 	<ul style="list-style-type: none"> • Customer stakeholders were regularly consulted, including how they wished communication to occur and the value of new functionality • Customer stakeholders' initial reflections on problems in the old system fostered thinking about what was wanted in the new • Through consultation and use of LiveMeet, DEEWR was able to reach dispersed stakeholders, making it very apparent that their opinions were valued • Communication strategies were built around accountability and ease of access (LiveMeet was available on the web after the event for later referral) • Adequate training of businesses (service providers) was prioritized • In the later stages of the project, each stakeholder had an identified person at their work site who was the contact point for the new ESS

(continued on next page)

TABLE 5 (continued)
Description of the Processes from a Service-Dominant Perspective

Processes	Supporting Evidence from Our Case Study
Supplier Value-Creating Processes	<ul style="list-style-type: none"> • Suppliers should review co-creation opportunities regularly • In appraising performance, suppliers should plan, implement, and select metrics that, first, are based on customer needs and, second, on the extent to which what has been promised meets those needs • Suppliers should take a cross-functional focus within their organization to ensure alignment between what is promised and what is delivered • The key metric for appraising value concerns actual delivery of value • Suppliers must develop tools and strategies for knowledge management about customers. These tools/strategies must be cross-functional and extend beyond satisfaction to behaviors and motivation
	<ul style="list-style-type: none"> • DEEWR held regular sessions with the Advisory Board and face-to-face meetings with customer stakeholders in order to gain feedback. This was then reviewed and demonstrably affected later activities • Initial reflection on the old ES facilitated agreement about what was desired in the new ESS, and regular communication extended this knowledge for action in deployment of the new IT • Sessions and Q&A published on the IT consultation web page increased transparency regarding outcomes • Compilation of a transition reference group, which was supported by secretariat assistance from DEEWR. The group comprised: a DEEWR chairperson, a NESAs representative^a, four provider organizations nominated by NESAs and invited by DEEWR (spanning large/small, metropolitan/remote, and small specialist organizations), a representative from the peak body of nonprofit providers, a representative of indigenous employment service providers, and others as invited by DEEWR • Provider/supplier consultation via third-party software and a Data Integration Survey identified priorities for work effort by the government (supplier) that adds value to the businesses/providers (customers) • The tender process, wherein stakeholders were sought to become providers of employment services, requested that each bidder have an IT contact person • Decisions regarding limited priorities for reengineering and system enhancements were based upon feedback received during the consultation process and were reviewed by the Employment Services IT Advisory Group

(continued on next page)

TABLE 5 (continued)
Description of the Processes from a Service-Dominant Perspective

Processes	Description of the Processes from a Service-Dominant Perspective	Supporting Evidence from Our Case Study
Encounter Value-Creating Processes	<ul style="list-style-type: none"> • Encounter processes involve interaction between customers and suppliers that may be initiated by either party. These encounters involve communication, use, and service • Suppliers should set goals that achieve desirable outcomes for both parties and then use them to evaluate performance • Some encounters are critical, and suppliers must identify and actively manage these • By highlighting touch points where value has been identified or failed to be delivered, suppliers should map opportunities, failures, and the direction for reengineering and for improving value 	<ul style="list-style-type: none"> • LiveMeet, surveys, and Q&A sessions meant information and communication were interactive and open • Stakeholders continued to be involved in LiveMeet and face-to-face consultation during the testing phase. They also participated in usability and acceptance testing • Training timeframes, products, and events were published on the government's website so that potential service providers could plan and ensure their consultants had the required skills and knowledge to deliver the service from the roll-out date (July 1, 2009) • Decisions regarding limited priorities for reengineering and system enhancements were based upon feedback received during the consultation process. These were subsequently reviewed by the Employment Services IT Advisory Group

^a National Employment Service Association.

While some would argue that the service-dominant approach is essentially a bottom-up strategy, DEEWR was overwhelmingly the principal party in terms of setting agendas for outcomes (which had to match with the government agendas for Social Inclusion and unemployment targets), providing funds, and defining the processes. Yet, despite its top-down capability, DEEWR fostered an inclusive, service-oriented approach that delivered and continues to deliver successful IT services. Given that (as evidenced above) a service-dominant approach did facilitate understanding co-creation of value mechanisms in successfully deploying IT at DEEWR, we can now retrospectively evaluate the extent to which Val IT and COBIT would provide related guidance.

Comparison of the Chosen Service-Dominant Framework with Val IT 2.0, COBIT 4.1, and COBIT 5

To recapitulate, Val IT's (ITGI 2009, 7) primary aim is to "help management ensure that organizations realize optimal value from IT-enabled business investments at an affordable cost and acceptable level of risk." Consequently, its focus is top-down, with its strategic imperatives (principles) applied in three domains: Value Governance (VG), Portfolio Management (PM), and Investment Management (IM). VG "addresses the structures and processes required to ensure that value governance practices are embedded in the organization," PM "addresses the processes required to manage the whole portfolio of IT-enabled investments," while IM "is situated at the level of one single IT-enabled investment" (Van Grembergen et al. 2009, 186–187).

COBIT 4.1 supports these goals by setting "best practices [that contribute] . . . to the process of value creation" (ITGI 2009, 8). With its four domains of Plan and Organize (PO), Acquire and Implement (AI), Deliver and Support (DS), and Monitor and Evaluate (ME), its process-oriented framework offers a reference model for managing IT activities.

COBIT 5's Principle 1, which is common to the framework's governance and management objectives, concerns *Meeting Stakeholder Needs*. Defined as "[e]nterprises exist to create value for their stakeholders by maintaining a balance between the realization of benefits and the optimization of risk and use of resources" (ISACA 2012, 14), this principle establishes stakeholders at the heart of value creation. Further, COBIT 5 acknowledges that "any enterprise—commercial or not—will have value creation as a governance objective . . . [and as enterprises] . . . have many stakeholders . . . creating value means different—and sometimes conflicting—things to each of them" (ISACA 2012, 17). Given that these differing stakeholders' value interests may contribute difficulties in negotiating outcomes, COBIT 5 directs that decision-making should consider who benefits, who bears the risk, and what resources are required. Despite acknowledging the breadth of identified stakeholders, COBIT 5 leaves the extent of inclusivity for firms to determine, while assertively claiming to deliver stakeholder value into actionable strategy via the cascade of enterprise goals, IT-related goals, and process (enabler) goals.

Using the concepts applied in Table 5, we subsequently evaluate the extent to which the service-dominant approach to co-creation of value is evident across these three frameworks (see Table 6).

Val IT (V) and COBIT 4.1 (C4) emphasize that the IT investment decision should be made in terms of its alignment with and capacity to serve/deliver strategic business goals (C4/PO, V/VG1.5, V/PM1.4, V/IM1). Val IT scopes what value means to the enterprise in V/VG1.4 as a "clear and shared understanding of what provides value for the enterprise" (ITGI 2009). Both frameworks suggest that performance outcomes should "monitor performance against the business and IT strategies and goals" (V/IM9.2, C4/AI, C4/ME4.3). However, more overt recognition of value being derived *through* engagement with all stakeholders, rather than *for* them, would increase the focus on service-dominant mechanisms like those successfully used in marketing (Gronroos 2008; Payne et al. 2008). Nevertheless, within COBIT 4.1 and Val IT 2.0, there are some processes and

TABLE 6

A Comparison of the Chosen Service-Dominant Framework with Val IT 2.0, COBIT 4.1, and COBIT 5

Components of the Service-Dominant Framework (from Payne et al. 2008)	ITGI's Frameworks for ITG		
	Val IT 2.0 (V/refers to Val IT)	COBIT 4.1 (C4/refers to COBIT 4.1)	COBIT 5 (C5/refers to COBIT 5)
Customer Value-Creating Processes	<ul style="list-style-type: none"> • V/VG1.3 • V/VG2.6 • V/PM1.4 • V/PM3 	<ul style="list-style-type: none"> • C4/PO7 • C4/PO10.4 • C4/AI4 • C4/DS7 	<ul style="list-style-type: none"> • C5/APO01 • C5/APO02 • C5/APO07 • C5/APO08 • C5/BAI07
Supplier Value-Creating Processes	<ul style="list-style-type: none"> • V/PM6 • V/VG6 	<ul style="list-style-type: none"> • C4/PO4.6 • C4/PO4.10 • C4/PO6 • C4/PO8 • C4/PO5 • C4/PO8.4 • C4/DS3 • C4/ME1–4 	<ul style="list-style-type: none"> • C5/APO06 • C5/APO07 • C5/APO09 • C5/APO11 • C5/BAI05 • C5/BAI06 • C5/BAI07 • C5/BAI08 • C5/BAI09 • C5/DSS04
Encounter Value-Creating Processes	<ul style="list-style-type: none"> • V/VG6 • V/IM2 • V/IM3 	<ul style="list-style-type: none"> • C4/PO4 • C4/PO4.14 • C4/DS1 • C4/DS8 • C4/PO10 	<ul style="list-style-type: none"> • C5/APO07 • C5/BAI02 • C5/BAI05 • C5/DSS02 • C5/DSS03

guidelines that are attuned to the service-dominant approach that made DEEWR's ITG so successful. For example, customer value-creating processes are acknowledged through articulation of the need for stakeholder commitment (C4/PO10.4—but more with reference to project management than ITG) and human resource planning (V/PM3). Emphasis on stakeholder training as a key component of value creation (C4/AI4, V/PM1.4, and V/PM3) also certainly alludes to the value that can arise from ITG residing in IT value-in-use.

Unsurprisingly, the top-down focus of Val IT and COBIT 4.1 acknowledges the supplier value-creating processes. With respect to delivering value, there are concerns about communicating aims (C4/PO6), defining roles and responsibilities (C4/PO4.6, C4/PO4.10), and appraising against the external environment (V/PM6). There is less recognition that ITG must deliver on its promises and more on internal management of change (i.e., C4/A16 details the establishment of procedures to standardize, assess, and track all requests for changes) and quality management (C4/PO8), although V/VG6 requires reflection on performance C4/PO5 provides direction regarding benefit management. The best encouragement for the principal (supplier) to consider its customer stakeholders as part of the value creation process lies in C4/PO8, particularly C4/PO8.4, which refers to the need to focus on determining such needs and improving relationships.

With respect to *encounter* value-creating processes, there is some direct reference. COBIT 4.1 requires suppliers to institute transparent and responsive structures (C4/PO4) and to optimize communication/liaison inside and outside the organization (C4/PO4.14) through transparent

structures (C4/PO4). Similarly, Val IT requires the involvement of all stakeholders in determining value (V/IM2) and defining such relationships (V/IM3).

In summary, while building a service-dominant approach to value creation using COBIT 4.1 and Val IT 2.0 is achievable, at present, there is little overt direction about the mechanisms to include either customer stakeholders or multi-firms in an ITG project.

With the release of COBIT 5 (C5), we retrospectively evaluated the extent to which the service-dominant approach to co-creation of value is evident and actionable (see Table 6). Certainly in the governance processes, the service-dominant approach would appear to be supported, particularly in C5/EDM05, *Ensure Stakeholder Transparency*, C5/EDM04, *Ensure Resource Optimisation*, C5/EDM03, *Ensure Risk Optimisation*, and C5/EDM02, *Ensure Benefits Delivery*.

Through its five principles, COBIT 5 emphasizes that the IT investment decision should be made in terms of its alignment with and capacity to serve and deliver strategic business needs (C5/EDM01–05) through *Meeting Stakeholder Needs*, *Covering the Enterprise End-to-End*, *Enabling a Holistic Approach*, and *Separating Governance from Management*. Whereas COBIT 4.1 and Val IT 2.0 suggest that performance outcomes should “monitor performance against the business and IT strategies and goals,” COBIT 5 seems to require evaluation through the governance processes, C5/EDM01–05. Thus, implicitly, there is a wider focus on stakeholders, as well as on business performance for ITG touch points. Firms can and do frame their conceptualization of IT value creation through inclusive interaction like DEEWR’s approach, but this may be harder for private firms who are answerable to investor shareholders with financial imperatives.

COBIT 5 contains some acknowledgement of the inclusive service-dominant approach. First, it would seem that COBIT 5’s Principle 1 aligns with DEEWR’s strategic imperative, namely, to focus on the needs of its stakeholder cohort. The management component of COBIT 5 is less explicit (or framed more broadly) than earlier frameworks, although there are aspects where co-creating value through stakeholder (customer) interaction would appear to be supported without being explicitly directed (see Table 6). For example, whereas COBIT 4.1 specifically acknowledged articulation of the need for stakeholder commitment (C4/PO10.4) and emphasis on stakeholder training as a key component of value creation (C4/AI4), COBIT 5 is more general (C5/BAI05—*Manage Organizational Change Establishment*).

With respect to delivering value through customer-centric co-creation of value-in-use, there are some inconsistencies. For example, in mapping the stakeholder need of acquiring value from IT and related user satisfaction with IT, COBIT 5 relates this to goals such as achieving stakeholder value from business investments, customer-oriented service culture, and skilled and motivated people, but not optimization of business process functionality or operational and staff productivity (ISACA 2012, 55). Similarly, concerning stakeholder need for managing IT performance, related goals include financial transparency and optimization of business process functionality, service delivery, and costs, but not a customer-oriented service culture nor business service continuity and skilled and motivated people.

Concerning stakeholder needs to exploit new technology in pursuing new strategic opportunities, goals include stakeholder value in business investments, agile responses, skilled people, and a culture of innovation, but not interactional goals like a customer-oriented focus and operational and staff productivity. There are also related concerns in discussion around *Enablers*. For example, in *Process Enablers*, examples of good practice are lacking despite stakeholders being acknowledged as customers, shareholders, and staff (much like DEEWR’s stakeholders). In the enabler *Organizational Structures*, good practices are more defining of boundaries for control and authority than of fostering the diversity of stakeholders (ISACA 2012, 75). However, the enabler *Culture, Ethics and Behaviour* appears more related to creating a service-dominant environment, with goals including ethical values (which partly relate to DART’s *Transparency*) and good practices, including “creating, encouraging and maintaining desired behaviour” through

communication and awareness of desired outcomes (although DEEWR was rather more subtle in how it achieved this result).

The final enabler, *People, Skills and Competencies* (which is interesting, given that the first principle relates to people), refers to the need to identify required skills and competencies, and usefully categorizes these. The challenge is that those listed focus very much on the enterprise and/or its management rather than human resources. For example, typical categories include business analysis, IT policy formulation, IT operations, and availability management (ISACA 2012, 88). Certainly, issues like the need to focus on determining stakeholder needs and improving relationships are not readily evident.

V. DISCUSSION

In this exploratory study, we sought to contribute to contextual understanding about mechanisms for co-creation of IT value in a multi-firm environment through a service-dominant approach adopted from marketing. After evaluating the merit of the marketing concept in an IT context by reflecting on the practice of ITG in a multi-firm environment, we investigated the extent of guidance on the issue of co-creating value from IT that is present in three major ITG frameworks (Val IT 2.0, COBIT 4.1, and COBIT 5). Our findings here raise several key issues.

Fundamentally, the service-dominant approach requires the principal (supplier) to acknowledge that value from investment in IT lies in value-in-use, i.e., inclusive of its service to customer stakeholders. This leads to prioritization of the customers' role in determining and optimizing IT capability and processes. Herein, Val IT and COBIT 4.1 require direction in both the strategy-building and related performance-appraisal processes, although this is more explicit in COBIT 4.1 than in Val IT (see Table 6). As the focus in both is implicitly on an individual firm, the frameworks rarely mention external stakeholders except, for example, in COBIT 4.1's PO domain and Val IT's IM. For COBIT 5, this approach is more explicit in the principles than in the enablers. While service-dominant concepts can harmoniously be included in the domains and processes of all three frameworks, more specific direction would be beneficial. This need is significant because as ITG focuses on decision-making and performance in relation to a firm's own strategic business/IT alignment, the concept of creating value *through*, rather than *for*, customers (stakeholders) is easily overlooked. Yet, findings from our case study demonstrate that a focus on human needs complements, rather than detracts from, such strategic imperatives, and can optimize the co-creation of value. This new approach may address the identified uncertainties in many firms regarding value-related processes (De Haes et al. 2009).

Further, the *prima facie* evidence from our study suggests that all three frameworks could be usefully enhanced by providing explicit guidance, either within each framework or through supporting documentation, to ensure equitable alignment of the goals, objectives, desires, and needs of all stakeholders involved in a multi-firm ITG initiative, including a mix of public and private sectors. In particular, the frameworks would be advantaged by more explicit activity indicators. This would not only result in greater task-technology fit, but would also facilitate greater buy-in on the part of the customer stakeholders, potentially leading to improved perceived usefulness and perceived ease of use. In other words, value-in-use would be better co-created.

Limitations

There are several limitations to our assessment of the role and impact of Val IT 2.0, COBIT 4.1, and COBIT 5 in framing the co-creation of IT value in a multi-firm environment with its private and public stakeholder needs. First, assessment was restricted to a single case study. Although consistent with past research that has examined related concepts (e.g., Sanford and Bhattacharjee 2008),

understanding of the issue would benefit from further case studies in other public sector or not-for-profit firms. Equally, our focus on such environments is a limitation. We encourage researchers to conduct similar case studies in other environments, for equally interesting comparisons.

Second, reliance on publicly available information does limit our assessment. While DEEWR's information was transparent and generally comprehensive, we acknowledge the concern of not directly sourcing information from key stakeholders. Nevertheless, metrics used to assess co-creation of IT value need to be objective, and the approach adopted in this study was consistent with this principle.

Opportunities for Future Research

Rich opportunities exist for future research into the role and impact of ITG in co-creating IT value. First, while all three frameworks guide good practice regarding value creation, our findings suggest that for effective application in a multi-firm environment, better processes need to be built into their underlying domains to allow greater alignment of the goals, objectives, desires, and needs of all stakeholders involved in an IT deployment. Once evolved, the frameworks would need to be validated through practical testing.

While our case study has shown the value of a service-dominant approach in a multi-firm environment, there is potential to explore the benefit of this emphasis for ITG within a single firm. When firms seek to achieve value from new IT investments, their own end-user stakeholders become, in effect, their customers. Therein reside opportunities to evaluate how a bottom-up focus can be married with the more strategic ITG focus evident in COBIT 5 and ISO/IEC 38500:2008.

VI. CONCLUSION

Although research into IT value has appeared in the literature for many years, calls remain for research that explores value co-creation in multi-firm environments (Kohli and Grover 2008). In this paper, we make a number of important contributions. First, by investigating the relevance of marketing's service-dominant approach to co-creating value from IT, we demonstrate the relevance of alternative theories and methodologies by which to frame AIS research (Granlund 2011).

Second, using evidence from our case study and these concepts from marketing research, we provide an initial platform for research that explicitly bridges the identified research gap concerning co-creating value from IT (Kohli and Grover 2008). Herein, through comparative analysis between marketing research's customer-centric co-creation concepts and the successful practice of ITG in a case study, we establish determinates of co-created IT value. In so doing, we contribute new theoretical and practical knowledge related to realizing value from IT.

Finally, by comparing concepts of the service-dominant approach for value co-creation with ITGI's three ITG frameworks (Val IT 2.0, COBIT 4.1, and COBIT 5), we highlight the need for further research to refine the frameworks to ensure success in complex multi-firm environments with their interrelated service agendas. Accordingly, our resultant suggestions for enhancement of ITGI's three frameworks offer promise in generating the required guidance and fresh perspectives for creating value from IT for all stakeholders.

REFERENCES

- BBC News. 2004. CSA chief resigns amid criticism (November 17). Available at: http://news.bbc.co.uk/2/hi/uk_news/politics/4018317.stm
- Blocker, C. P., D. J. Flint, M. B. Myers, and S. F. Slater. 2011. Proactive customer orientation and its role for creating customer value in global markets. *Journal of the Academy of Marketing Science* 39 (2): 216–233.

- Brynjolfsson, E., and L. M. Hitt. 1998. Beyond the productivity paradox. *Communications of the ACM* 41 (8): 49–55.
- Cadbury, A. 1992. *The Committee on the Financial Aspects of Corporate Governance*. London, U.K.: Gee and Company.
- Campbell, J., C. McDonald, and T. Sethibe. 2009. Public and private sector IT governance: Identifying contextual differences. *Australasian Journal of Information Systems* 16 (2): 5–18.
- Cartlidge, A., A. Hanna, C. Rudd, I. Macfarlane, J. Windebank, and S. Rance. 2007. An introductory overview of ITIL V3. The ITIL Infrastructure Library. Available at: http://www.best-management-practice.com/gempdf/itSMF_An_Introductory_Overview_of_ITIL_V3.pdf
- De Haes, S., and W. Van Grembergen. 2010. Analysing the impact of enterprise governance of IT practices on business performance. *International Journal of IT/Business Alignment and Governance* 1 (1): 14–38.
- De Haes, S., W. Van Grembergen, and H. Van Brempt. 2009. Demonstrating the value of COBIT and Val IT IT governance practices. *ISACA Journal* 5: 1–6.
- DeLone, W. H., and E. R. McLean. 2003. The DeLone and McLean model of information systems success: A ten-year update. *Journal of Management Information Systems* 19 (4): 9–30.
- Department of Education, Employment and Workplace Relations (DEEWR). 2009a. *Job Service Australia—People, Skills, Jobs*. Available at: <http://deewr.gov.au/how-job-services-australia-was-established>
- Department of Education, Employment and Workplace Relations (DEEWR). 2009b. *Portfolio Overview—Education, Employment and Workplace Relations*. Available at: <http://home.deewr.gov.au/Budget/documents/PortfolioOverview.pdf>
- Department of Education, Employment and Workplace Relations (DEEWR). 2012. *Budget 2012–13. Portfolio Budget Statements 2012–13*. Available at: <http://www.deewr.gov.au/Department/Budget/Pages/1213PBS.aspx>
- Edvardsson, B., B. Tronvoll, and R. Höykinpuro. 2011. Complex service recovery processes: How to avoid triple deviation. *Managing Service Quality* 21 (4): 331–349.
- Eisenhardt, K. M. 1989. Building theories from case study research. *Academy of Management Review* 14 (4): 532–550.
- Feller, J., P. Finnegan, and O. Nilsson. 2011. Open innovation and public administration: Transformational typologies and business model impacts. *European Journal of Information Systems* 20: 358–374.
- Fynes-Clinton, M. 2012. It's a little Frankenstein with patches all over it. *QWeekend, The Courier Mail* (September 8-9).
- Gable, G. 1994. Integrating case study and survey research methods. An example in information systems. *European Journal of Information Systems* 3: 112–126.
- Gershon, P. 2008. Review of the Australian government's use of information and communication technology. Department of Finance and Deregulation, the Australian Government Information Management Office. Available at: <http://www.finance.gov.au/publications/ict-review/index.html>
- Gershon, P. 2009. *Is World Class IT Governance in the Public Sector an Impossible Dream?* Presentation at the Oceania Computer Audit Control Society (CACCS) Conference on Facing the Future, National Convention Centre, Canberra (September 6–11).
- Goldstein, P., R. N. Katz, and M. Olson. 2003. Understanding the value of IT. *Educause Quarterly* 3: 14–18.
- Granlund, M. 2011. Extending AIS research to management accounting and control issues: A research note. *International Journal of Accounting Information Systems* 12 (1): 3–19.
- Gronroos, C. 2008. Service logic revisited: Who creates value? And who co-creates? *European Business Review* 20 (4): 298–314.
- Håkansson, H., and F. Prenekert. 2004. Exploring the exchange concept in marketing. In *Rethinking Marketing: Developing A New Understanding of Markets*, edited by Håkansson, H., H. Harrison, and A. Waluszewski, 75–97. Chichester, U.K.: John Wiley and Sons Ltd.
- Hasselbladh, H., and J. Kallinikos. 2000. The project of rationalization: A critique and reappraisal of neo-institutionalism in organization studies. *Organization Studies* 21 (4): 697–720.

- Higgins, L. H., and D. T. Sinclair. 2008. A new look at IT governance. *Journal of Corporate Accounting and Finance* 19 (5): 31–36.
- Hirscheim, R., and H. K. Klein. 2012. A glorious and not-so-short history of the information systems field. *Journal of the Association for Information Systems* 13 (4): 188–235.
- Information Technology Newsweekly. 2009. Nine-country ISACA survey: Two-thirds of firms failing to measure IT value, adversely impacting competitive advantage. *Information Technology Newsweekly* (August 18): 82.
- International Standards Organization (ISO). 2008. *Corporate Governance of Information Technology*. ISO/IEC 38500:2008. Available at: http://www.iso.org/iso/catalogue_detail?csnumber=51639
- International Systems Audit and Control Association (ISACA). 2012. *COBIT 5. A Business Framework for the Governance and Management of Enterprise It*. Rolling Meadows, IL: International Systems Audit and Control Association.
- Irani, Z., and P. Love. 2008. Evaluating information. *Systems: Public and Private Sector*, Oxford, U.K.: Butterworth-Heinemann.
- IT Governance Institute (ITGI). 2005. *Measuring and Demonstrating the Value of IT*. Rolling Meadows, IL: IT Governance Institute.
- IT Governance Institute (ITGI). 2006. *Enterprise Value: Governance of IT Investments—The Business Case*. Rolling Meadows, IL: IT Governance Institute.
- IT Governance Institute (ITGI). 2007. *COBIT 4.1*. Rolling Meadows, IL: IT Governance Institute.
- IT Governance Institute (ITGI). 2009. *Enterprise Value: Governance of IT Investments—The Val IT Framework 2.0*. Rolling Meadows, IL: IT Governance Institute.
- IT Governance Institute (ITGI). 2011. *Global Status Report on the Governance of Enterprise IT (GEIT)—2011*. Rolling Meadows, IL: IT Governance Institute.
- Juergen, M. 2011. Co-creation: How to harness it for your business. Available at: <http://www.entrepreneur.com/article/220051>
- Kneller, M. 2010. *Executive Briefing: The Benefits of ITIL*. Office of Government Commerce, U.K.: The Stationery Office.
- Kohli, R., and V. Grover. 2008. Business value of IT: An essay for expanding research directions to keep up with the times. *Journal of the Association for Information Systems* 9 (1): 23–39.
- Kotler, P. 1977. *Marketing Management: Analysis, Planning, Management and Control*. Third Edition. Upper Saddle River, NJ: Prentice Hall.
- Lee, A. S. 1991. Integrating positivist and interpretive approaches to organizational research. *Organization Science* 2 (4): 342–365.
- Lim, J-H., B. Dehning, V. J. Richardson, and R. E. Smith. 2011. A meta-analysis of the effects of IT investment on firm financial performance. *Journal of Information Systems* 25 (2): 145–169.
- Masli, A., V. J. Richardson, J. M. Sanchez, and R. E. Smith. 2011. The business value of IT: A synthesis and framework of archival research. *Journal of Information Systems* 25 (2): 81–116.
- Ministers' Media Centre (MMC). 2010. Government action helps more people into jobs. Media release (July 2). Available at: <http://ministers.deewr.gov.au/arbib/government-action-helps-more-people-jobs>
- Organisation for Economic Co-operation and Development (OECD). 1999. *OECD Principles of Corporate Governance*. Available at: http://www.ecgi.org/codes/code.php?code_id=89
- Payne, A. F., K. Storbacka, and P. Frow. 2008. Managing the co-creation of value. *Journal of the Academy of Marketing Science* 36 (1): 83–96.
- Peacock, E., and M. Tanniru. 2005. Activity-based justification of IT investments. *Information and Management* 42 (3): 415–424.
- Penrose, E. T. 1959. *The Growth of the Firm*. White Plains, NY: Sharpe.
- Pralhalad, C. K., and V. Ramaswamy. 2004. Co-creating unique value with customers. *Strategy and Leadership* 32 (3): 4–9.
- Prior, L. 2003. *Using Documents in Social Research*. London, U.K.: Sage.
- Sanford, C., and A. Bhattacharjee. 2008. IT implementation in a developing country municipality: A sociocognitive analysis. *International Journal of Technology and Human Interaction* 4 (3): 68–93.

- Santhanam, R., and E. Hartono. 2003. Issues in linking information technology capability to firm performance. *MIS Quarterly* 27 (1): 125–153.
- Schrage, M. 1995. Customer Relations. *Harvard Business Review* (July-August): 154–156.
- Sheridan, A. 2009. New Myki ticket system rolls out. *Caulfield Glen Eira Leader*. Available at: <http://caulfield-glen-eira-leader.whereilive.com.au/news/story/new-myki-ticket-system-rolls-out/>
- Simnet. 2009. *Society for Information Management: Delivering business value through IT leadership*. Available at: <http://www.simnet.org>
- Strassmann, P. A. 2004. Six rules for finding IT value. *Cutter IT Journal* 17 (8): 5–9.
- Van Grembergen, W., and S. De Haes. 2009. Enterprise governance of information technology: Achieving strategic alignment and value. New York, NY: Springer.
- Vargo, S. L., and R. F. Lusch. 2008. Why “service”? *Journal of Academy and Marketing Science* 36: 25–38.
- Viaene, S., S. Fagan, and S. Almeida. 2007. Belgacom: IT project selection 2005. *Communications of the Association for Information Systems* 19 (1): 47–60.
- Wallace, L., H. Lin, and M. A. Cefaratti. 2011. Information security and Sarbanes-Oxley compliance: An exploratory study. *Journal of Information Systems* 25 (1): 185–211.
- Weill, P., and J. Ross. 2004. *IT Governance: How Top Performers Manage IT Decision Rights for Superior Results*. Boston, MA: Harvard Business Review School Press.
- Wilkin, C. L., and R. H. Chenhall. 2010. A review of IT governance: A taxonomy to inform AIS. *Journal of Information Systems* 24 (2): 107–146.
- Wilkin, C. L., J. Campbell, and S. Moore. 2012. Creating value through governing IT deployment in a public/private-sector inter-organisational context: A human agency perspective. *European Journal of Information Systems* 19 (June).
- Wright, A. 2011. Watch what I do, not what I say: New questions for documents in international business case research. In *Rethinking the Case Study in International Business and Management Research*, edited by Piekkari, R., and C. Welch, 361–382. Cheltenham, U.K.: Edward Elgar Publishing.
- Yin, R. K. 2003. *Case Study Research: Design and Methods*. 3rd edition. Beverly Hills, CA: Sage Publications.
- Yin, R. K. 2005. *Introducing the World of Education: A Case Study Reader*. xii–xxii. Thousand Oaks, CA: Sage.

Copyright of Journal of Information Systems is the property of American Accounting Association and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.