

Implementing Inter-Organizational Systems (IOS) for Strategic Advantage: A *Value-Flow Framework*

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Abstract

Increasingly, organizations have been investing heavily in information systems for greater dyadic coordination and cooperation with each of their key business partners. In this regard, IS research has not kept pace with important theoretical developments in business strategy literature, with little cumulative work being done on the development of a corresponding “business value of IOS” theoretical framework.

Motivated by this void in the literature, we develop a value-flow framework that incorporates both a variance and process view of the organizational and inter-organizational dynamics of discovering, creating and realizing value from dyadic IOS implementations. Beyond its utility for research, this study may also provide valuable insights for management practice as it offers an evaluative framework with a focus on inflection points and key interactions during the course of such an implementation.

Keywords

Interorganizational systems, electronic data interchange, business value of IT, theoretical framework

1. Introduction

Increasingly, organizations have been investing heavily in information systems to support greater dyadic cooperation with each of their key business partners. While high

telecommunication costs and restrictive proprietary protocols have complicated bilateral business document exchange in the traditional Electronic Data Interchange (EDI) environment, the advent of the Internet and associated web-based technologies (with their open standards, lower costs and widespread availability) is facilitating more extensive communications, richer information exchanges and greater cooperation between firms and their business partners.

In this paper, we argue the need for a theoretical framework focusing on “business value of IOS”, instead of it being subsumed under the general category of “business value of IT” research. We are prompted by recent important developments in business strategy research related to the theoretical frameworks that assist in understanding sources of competitive advantage. Drawing a parallel with such developments is important because realizing business value from IT (or IOS) investments is ultimately about leveraging such implementations to help the firm reap operational/strategic benefits for competitive advantage.

2. Evolving Views of Competitive Advantage: drawing a parallel

For decades, two different views of competitive advantage have been dominant in business strategy research and have guided many empirical studies in that field: Environmental Models (or Industry Structure) view and the Resource-based view (RBV). These two perspectives have helped to explain, for example, why firms have been making heavy investments in IT for internal efficiencies and effectiveness.

More recently, a complementary “Relational” view has emerged (Dyer & Singh 1998) and it is beginning to provide new impetus for a growing stream of research focusing on cooperative interfirm relationships as sources of inter-organizational competitive advantage. Congruent with the Relational View, we note that as firms realize there are benefits to working more closely with a smaller base of strategic partners, they are starting to pay more attention to the implementation of IOS for facilitating greater cooperation with each of these partners (Bensaou & Venkatraman 1996).

Considering the unique issues related to dyadic inter-organizational relationships (as opposed to intra-organizational and multi-lateral relationships), we argue that a theoretical framework specifically devoted to dyadic IOS implementations may offer superior insights into the corresponding sources of business value. Similar to the complementary relationship between the Relational view and RBV, such a framework would greatly complement the good progress that has been made in “business value of IT” research at the organizational level.

In this regard, our arguments have come at an important time in history. In recent years, maturing Internet-related technologies have been rapidly replacing traditional EDI connections in the IOS arena, thus causing a need to re-examine the “business value of IOS” equation. In addition, such a dyadic framework may also provide a subsequent platform for related theoretical development on multi-lateral IOSs (e.g., electronic marketplaces).

3. Focus of this study

Using the firm as the unit of analysis and its relationship with a particular key business partner as the sub-unit of analysis, the focus of this research is to develop a theoretical framework that provides both a variance and process view of the life-cycle of a dyadic IOS

implementation. Specifically, it addresses the organizational and inter-organizational dynamics of discovering, creating and realizing value from such implementations. Employing both a variance and process theory perspective may be useful to capture the complexity of these activities while helping to magnify insights into the corresponding dynamics.

We begin by reviewing existing IOS typologies and frameworks.

4. IOS Typologies, Frameworks and Gaps

4.1 IOS Typologies

In the IOS literature, many typologies for classifying IOSs have been proposed. For example, Choudhury (1997) describes three types of IOSs: electronic dyad, electronic monopoly and multilateral IOS. On the other hand, Kumar and van Dissel (1996) suggest an interdependence-based typology for IOS (based on pooled, sequential and reciprocal dependency) while Benjamin et al. (1990) classify IOSs based on transaction processing versus task support. Finally, Premkumar (2000) identifies three levels of sophistication in IOS implementations (lowest to highest): communication, coordination and cooperation.

In this study, our specific focus is on electronic dyad implementations (Choudhury 1997) for either transaction processing or task support (Benjamin et al. 1990), and which may result in sequential or reciprocal dependency between the parties involved (Kumar & van Dissel 1996). Since this research revolves around leveraging such implementations for business value (which is usually associated with more sophisticated forms of IOSs), we focus on the adoption, implementation and use of systems that are meant to facilitate “coordination” or “cooperation” (rather than basic “communication”) between the firm and a particular key business partner (Premkumar 2000).

More specifically, we focus on IOS implementations using EDI protocols and which are enabled by either the Internet (i.e., Internet-based EDI) or a value-added network (i.e., traditional EDI). Such dyadic links may also increasingly include the use of XML to similarly support data interchange between companies. Such computer-to-computer connections typically would be used to facilitate greater business coupling between the firm and the partner through coordinating activities, sharing information and monitoring joint performance (Premkumar 2000). The IOS would also usually have integration with internal back-end IT systems in both the firm and partner organizations.

4.2 IOS Frameworks

In the IOS literature, a few frameworks have been suggested for the study of implementing inter-organizational systems for operational and strategic benefits. For example, Kumar and Crook (1999) propose a multi-disciplinary framework that highlights collaboration, organization and technology issues for effective inter-organizational systems, while Johnston and Vitale (1988) suggest a practice-oriented framework to guide companies in leveraging IOS for competitive advantage. Drawing on three theoretical perspectives, Bensaou and Venkatraman (1996) propose a framework for inter-organizational coordination that is based on the information processing model and the degree of fit between information processing needs and the corresponding capabilities.

While these frameworks provide different and interesting perspectives on IOS, we note that collectively, they are missing three key elements related to the dynamics of dyadic implementations: the “flow of events across time”, a simultaneous “flow of value across events” and an “interplay between inhibitors and facilitators of value”. In fact, we argue that

it is the latter that may materially influence the trajectory and speed of the flow of value (thus causing starts, pauses, re-starts and even stops).

4.3 The flow of Events across time

In IS research, one way to provide a process view of IS implementations has been to depict them as happening in stages (e.g., Cooper & Zmud 1990). While such stage models have been criticized in the literature, we take the argument further by embracing the reality that there may be complex and rich intervening processes taking place between each of the discrete stages, as part of a dynamic flow of interdependent events.

4.4 The flow of Value across events

Concurrent with the flow of events during the implementation, a flow of value may be taking place across events (Davern & Kauffman 2000; Chircu & Kauffman 2000). We argue that this flow of value is facilitated or inhibited by various factors during various events and at various levels of analysis.

In IS literature, some researchers use the terms “inhibitors” and “facilitators” to refer to those factors that either negatively influence or positively influence the ability of an organization to leverage IT for business value (e.g. King & Teo 1996).

In this regard, while the existing IOS frameworks do identify key facilitators, they do not consider the corresponding issue of key inhibitors (barriers). In IS research in general, barriers to the adoption, implementation and use of IT innovations have been discussed but these inhibitors have been studied much less frequently than the corresponding facilitators (King & Teo 1996). This is surprising because without concurrently overcoming barriers, all efforts aimed at facilitating such implementations may only be able to achieve limited success (Chircu & Kauffman 2000). Clearly, inhibitors (barriers) act counter to facilitators, and thus merit due consideration.

4.5 Interplay between facilitators and inhibitors of value

In this study, we use the terms “inhibitors of value” and “facilitators of value” to refer to those key factors that influence the flow of value by reducing or increasing value at key points in the implementation process. In Figure 1, we frame this discussion by presenting a preliminary framework that conceptualizes the foregoing discussion.

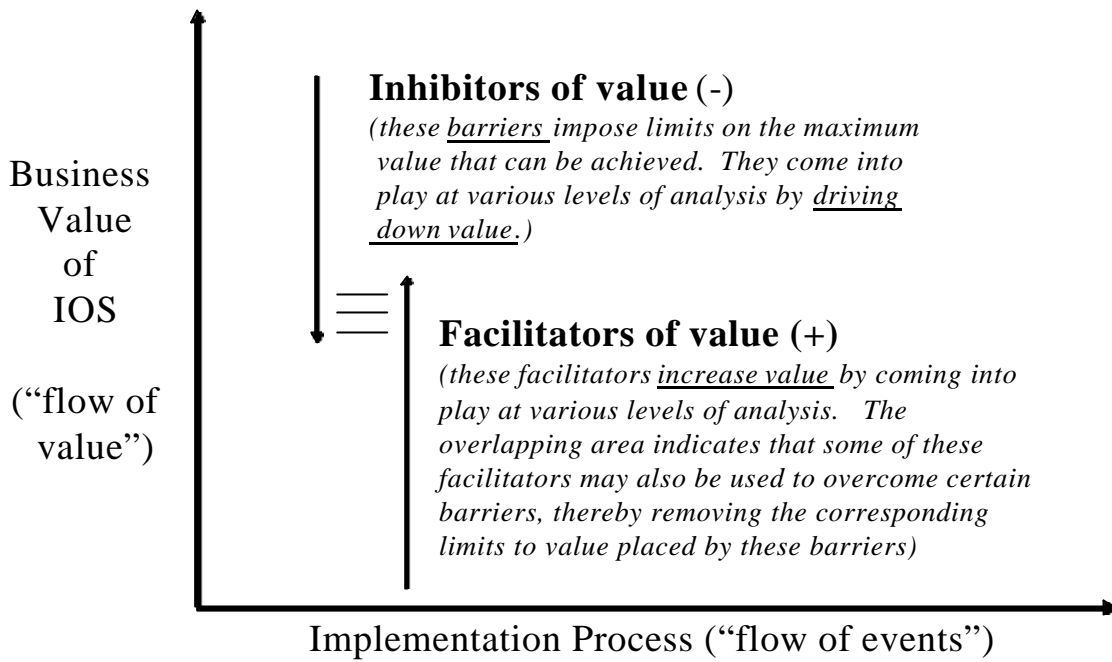


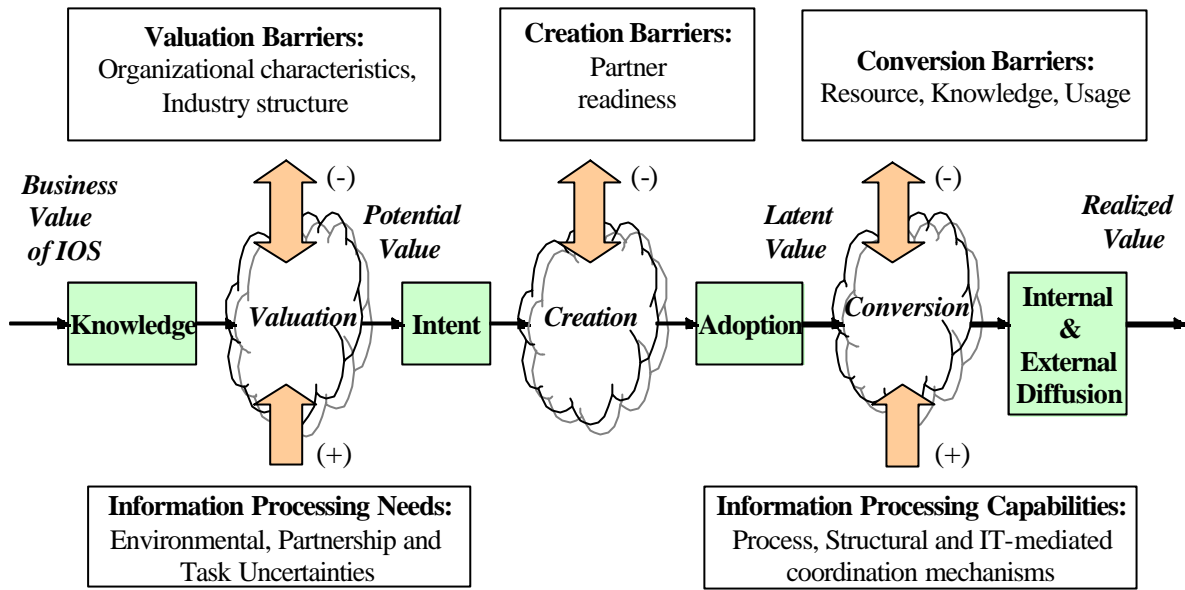
Figure 1. The interplay between Inhibitors and Facilitators of value in a dyadic IOS implementation

5. A Value-Flow Framework

In Figures 2, 3 and 4, we expand the preliminary framework (Figure 1) into a value-flow framework for dyadic IOS implementations. We accomplish this by: firstly offering a variance view (integrating a representative but yet parsimonious set of “facilitators and inhibitors of value” from the IOS literature), and secondly capturing a process view (“flow of events across time”, with corresponding “flow of value across events”) of the organizational and inter-organizational dynamics of such implementations.

5.1 Discrete stages with intervening processes

The discrete stages depicted in the three figures reflect a clear consensus in the literature regarding the major stages of an IOS implementation (see Table 1). Many studies (e.g., Hart & Saunders 1997, 1998; Crook & Kumar 1998; Massetti & Zmud 1996) have focused on “use” (by initiator and/or adopter), but this concept has a strong parallel with both “internal” and “external” diffusion. Similarly, some studies have focused on realizing benefits from such implementations using concepts like “implementation success” (Premkumar et al 1994), “organizational performance” (Ramamurthy et al 1999), “impact” (Iacovou et al. 1995) and “strategic payoff” (Chatfield & Yetton 2000), but again, these concepts have a strong parallel with “realized value”. More importantly, the figures highlight the existence of intervening processes between these discrete stages.



* The thick double arrows suggest that specific actions can be taken to overcome the barriers.

Figure 2. A Value-Flow IOS Theoretical Framework: the interplay between facilitators and inhibitors of value

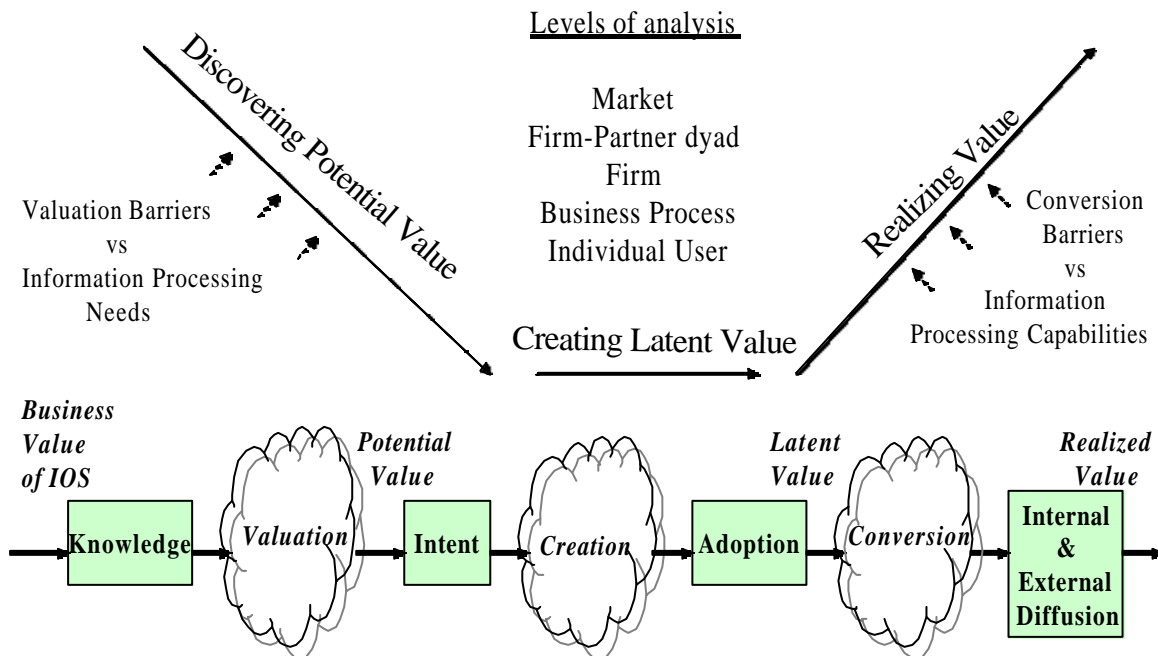


Figure 3. A Value-Flow IOS Theoretical Framework: the dynamics of discovering, creating and realizing value

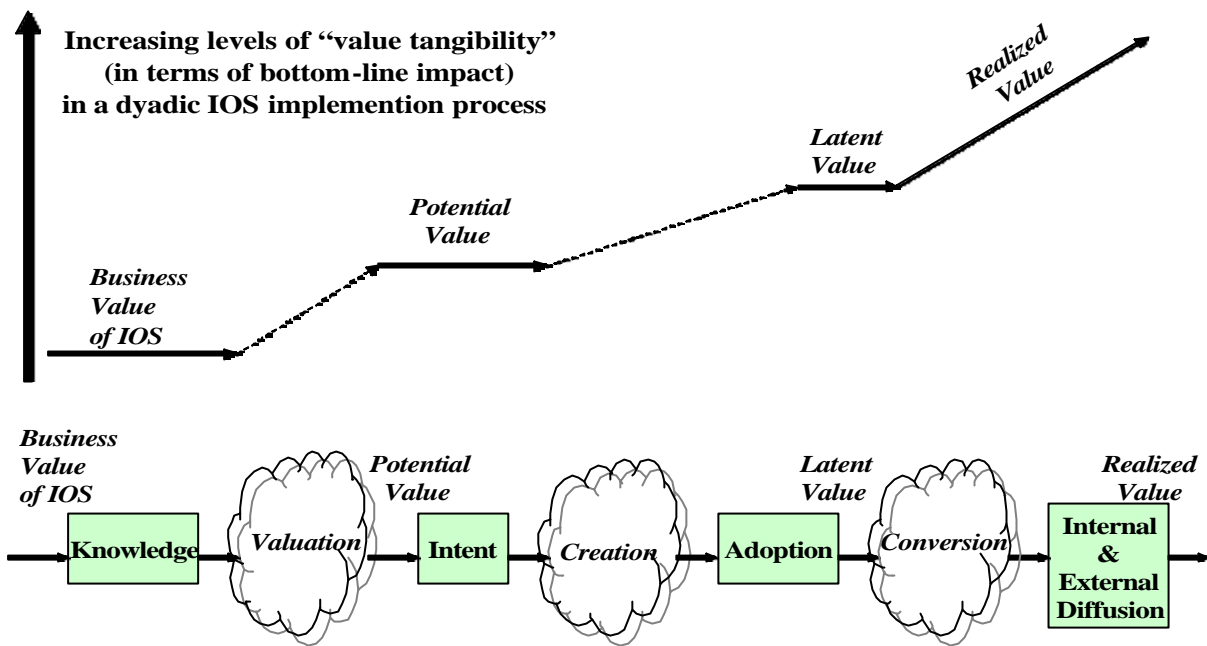


Figure 4. A Value-Flow IOS Theoretical Framework: the stepped trajectory of the “flow of value”

STAGE / OUTCOME	Examples of Past Studies
Intent to adopt	Chwelos et al (2001)
Adoption	Iacovou et al (1995), Hart & Saunders (1997), Premkumar & Ramamurthy (1995), Premkumar et al (1997)
Internal & External Diffusion (use)	Premkumar et al (1994), Ramamurthy et al (1999), Hart & Saunders (1997, 1998), Crook & Kumar (1998), Massetti and Zmud (1996)
Realized Value (implementation success, organizational performance, strategic payoff, impact)	Premkumar et al (1994), Ramamurthy et al (1999), Chatfield & Yetton (2000), Iacovou et al (1995)

Table 1. Focus of Key Related Studies in Past IOS Research

5.2 Conceptualizing the “flow of events” and the “flow of value”

Our conceptualization of the flow of events and the flow of value as depicted in the three figures is built on a stream of research by Kauffman and associates (Kauffman & Weill 1989; Chircu & Kauffman 2000; Davern & Kauffman 2000). Collectively, they introduce the concepts of potential value, realized value, valuation process/barriers and conversion process/barriers to IS implementation research. In addition, we also build heavily on the work of Bensaou & Venkatraman (Bensaou 1997; Bensaou & Venkatraman 1995, 1996) related to information processing needs and information processing capabilities in the dyadic IOS context.

We extend these significant streams of research by conceptualizing the notion of value flowing through the various discrete stages and intervening processes (valuation, creation and conversion) of a dyadic IOS implementation. This flow of value starts with knowledge of the business value of IOS, the discovery of potential value in the firm’s own organizational context (which motivates intent), its transformation into latent value (upon adoption), and finally, conversion into realized value (based on the extent of internal/external diffusion). At various points in time, this process is impacted by the interplay between facilitators and inhibitors of value (as in Figure 2), thus influencing the ebb and flow as well as the trajectory of value (as in Figure 4, which depicts how value becomes more and more tangible in its bottom-line impact on the firm). During the temporal course of such an implementation, value flows into each of the intervening processes (e.g., valuation process) as a certain kind of input (e.g., business value of IOS) and is transformed by that process into a certain kind of output (e.g., potential value).

More specifically, as per Figure 3, discovering potential value within the firm’s own organizational context involves working down from the market and firm levels of analysis to the business process and individual user levels (where value becomes concrete enough to be measured via a valuation process), while being constrained by valuation barriers and facilitated by information processing needs.

The potential value thus discovered is transformed into latent value when the firm materializes its intent in the form of actual dyadic adoption with the potential partner (via a creation process), while overcoming creation barriers.

Converting this latent value into realized value requires careful IOS planning and execution (via a conversion process) to ensure that the implementation efforts leverage information processing capabilities and overcome the conversion barriers that can arise at multiple levels of analysis. Value has to move up the various levels of analysis as part of the realization process.

5.3 Navigating the “flow of events” and the “flow of value”

In the theoretical framework, the flow of value therefore starts with the firm’s knowledge of the “business value of IOS”. This refers to the advantages that can be reaped through leveraging various IOS configurations (e.g., transaction processing, task support, sequential or reciprocal dependency, etc) to facilitate greater dyadic coordination and cooperation with key business partners, as well as the benefits of accompanying electronic integration.

This “knowledge” stage is therefore akin to the “agenda-setting” stage of the Rogers (1995) model and precedes the “valuation process”, as the firm must first have the recognition of the business value of IOS, before it proceeds to do a valuation of the benefits of implementing alternative configurations of such systems for greater cooperation with a particular partner. This valuation arrives at the “potential value” of the selected configuration, and is akin to the “matching” stage of the Rogers (1995) model. At this point, a match is found (which leads to

definite plans being worked out) or there is a mismatch (which leads to termination of the flow of value).

“Intent” therefore refers to the situation where the firm has definite plans for adoption of a dyadic IOS with a particular partner, usually with project scope/timeframe identified and budget being allocated (Chwelos et al. 2001).

“Adoption” refers to a joint decision being made by the firm and the partner to materially proceed with the implementation (Cooper & Zmud 1990). At this stage, potential value becomes transformed into latent value. This is value that becomes visible but does not have any beneficial impact as it still “lurks” below the business process level awaiting realization up the multiple levels of analysis. The transformation of potential into latent value happens as a result of the creation process (during which the firm obtains the potential partner’s commitment to adopt).

The “conversion process” thus corresponds to the continuum that spans Cooper and Zmud’s (1990) stages of adaptation, acceptance and routinization within both the initiator’s and partner’s organizations, while “internal/external diffusion” corresponds to the infusion stage (Premkumar et al. 1994).

“Internal Diffusion” refers to the initiating firm and is characterized by the extent to which the IOS is used in a comprehensive and integrated manner to support work processes, and the degree of interfacing with other system applications within the organization (Premkumar et al 1994; Ramamurthy et al 1999).

“External Diffusion” refers to the firm’s electronic connections to the participating partner organization (Premkumar et al. 1994). Four variables can be used to express the extent of the firm’s IOS connection to its partner: volume, diversity, breadth and depth (Masseti & Zmud 1996).

Therefore, the outcome of the conversion process will determine the extent of “internal diffusion” and “external diffusion”, which will in turn impact the eventual level of “realized value” (Ramamurthy et al. 1999).

In this study, “realized value” refers to actual strategic and operational benefits accruing to the firm as a result of implementing and using the IOS in concert with its partner.

5.4 Inhibitors of value

For inhibitors of value, we build on and extend the work of Chircu and Kauffman (2000), who introduce the concept of limits to value that are imposed by valuation and conversion barriers.

Figure 2 depicts how valuation barriers (industry structure and organizational characteristics) negatively impact the valuation of potential value, while conversion barriers (resource, knowledge and usage barriers) negatively impact the conversion of latent value into realized value. Clearly, in a dyadic IOS implementation, resource, knowledge and usage barriers can arise at multiple levels of analysis (e.g., individual, organizational and inter-organizational) in limiting realized value from the “conversion process”, unless they are successfully overcome.

In addition, there is a third category of barriers that may arise: “creation barriers”. In the dyadic IOS context, adoption depends on both the initiating firm and the partner, who must first agree to participate. Therefore, lack of partner readiness (with regards to the proposed IOS) is an impediment to adoption, where partner readiness is defined as the willingness and ability of the partner to jointly participate in the implementation (Chwelos et al. 2001). For example, the firm may have this intent to adopt the IOS with a particular partner, but the partner may not have the same level of perceived benefits and organizational readiness (in terms of financial resources and IT sophistication).

Therefore, lack of partner readiness is a barrier to the flow of value during the creation process, as it may prevent potential value from being transformed into latent value and

subsequently flowing into the conversion process. Indeed, such a creation barrier reduces potential value to zero realized value if adoption does not take place as a result. Even if adoption takes place under such circumstances (e.g, participating partner turns out to be much less enthusiastic than initially envisaged by the firm, but is still willing to adopt due to its dependence on and pressure from the initiating firm), the IOS implementation may not be of the same scope and nature that the initiating firm initially envisages when the potential value was assessed.

Proposition 1. Lack of partner readiness is likely to result in latent value being lower than potential value, if adoption takes place.

5.5 Facilitators of value

For facilitators of value, we build on and extend the work of Bensaou and Venkatraman (Bensaou 1997; Bensaou & Venkatraman 1995, 1996). Based on the information processing model, their work revolves around the fit between a firm's information processing needs and its corresponding capabilities, and the resulting impact on business performance. In the context of a dyadic IOS implementation, such information processing needs and the corresponding information processing capabilities are therefore key facilitators of value.

Information processing needs are derived from a set of sources of uncertainty (environmental, partnership and task) with the dyadic relationship, while information processing capabilities are derived from an array of available coordination mechanisms (structural, process and IT-mediated).

Firstly, the different types of uncertainty provide the motivation for the firm to contemplate an IOS implementation, as information technology is a mechanism that can be used in synergy with other coordination mechanisms to increase information processing capabilities so as to reduce uncertainty. During the "valuation process", greater levels of uncertainty lead to greater information-processing needs, which in turn positively influence the potential value of the proposed IOS if the implementation can be expected to indeed (partly or fully) address these needs. Similarly during the "conversion process", the firm can leverage all the three coordination mechanisms to maximize realized value from the IOS implementation.

While lack of partner readiness has been posited to be an inhibitor of value during the creation process, we assert that strong partner readiness is not necessarily a facilitator of value at this time, although it is likely to facilitate adoption (Chwelos et al. 2001). This is because strong partner readiness does not *increase* potential value (which is largely "locked in" once a particular configuration is selected as a result of the valuation process) – by "facilitating" adoption, it merely increases the likelihood of potential value flowing into the conversion process, initially as latent value. Certainly, by being willing and able to participate in the implementation, the partner may help the firm to fine-tune the proposed IOS configuration (for mutual benefit), but this high level of readiness is unlikely to materially influence the potential value for the firm.

Proposition 2. Strong partner readiness is a facilitating factor at the adoption stage, but is not necessarily a facilitator of value.

6. A "Business Value of IOS" Research Agenda

Using this theoretical framework, future researchers can therefore begin to more comprehensively address the rich dynamics that come into play when organizations engage in the process of discovering, creating and realizing business value from dyadic IOS implementations. In this regard, we suggest a research agenda that pays particular attention

to the influence of business value complementarity and towards opening up insights into the intervening processes (valuation, creation and conversion).

6.1 Business Value Complementarity

In IS research, perhaps the most notable work in this area has been done by Barua and associates, and they coin the term “business value complementarity” (BVC) to refer to the value synergy among the “combination of factors, objects, processes, people and technologies” (e.g., Barua and Mukhopadhyay 2000). To reap maximum value, IT investments in general must therefore be complemented by appropriate investments in human capital, business process redesign, strategies, incentives and control, among other factors.

In the IOS context specifically, a high level of cooperation (a process mechanism) of the people in both the firm and partner organizations in leveraging the use of the IOS for business process reengineering (an IT-mediated mechanism) can greatly facilitate implementation success during the “conversion process”. Similarly, the appropriate use of inter-organizational teams (a structural mechanism) may provide the structure to facilitate this cooperation (a process mechanism) in the first place.

As such, an important area for future research may revolve around empirical testing of the concept of “business value complementarity” at the inter-organizational level, as part of a larger study on the “business value of IOS”.

Proposition 3. Pair-wise (business value) complementarities between process, structural and IT-mediated mechanisms are likely to have a synergistic positive influence on the initiating firm’s realization of value in a dyadic IOS implementation.

6.2 Methodological implications for empirical research

A retrospective reflection of our discussion in earlier sections reveals possible ways forward for future research to “open” up insights into the intervening processes.

For example, a close examination of the conversion process reveals the possible existence of an “adaptation gap”, an “acceptance gap” and a “routinization gap” between the initiating firm and the participating partner organizations (Figure 5). While the “adaptation gap” may be small, the other two gaps may be significant enough to have possibly important implications for future research.

In this regard, we note that much of past IOS research has been focused on factors facilitating each of the discrete stages instead of examining the intervening processes. More importantly, the notions of an intervening process and an interplay between inhibitors and facilitators of value suggest the viability of using a “logic of opposition” (Robey & Boudreau 1999) approach towards theory building in IOS research. Adopting such an approach has four methodological implications: identify opposing forces, incorporate opposing hypotheses, process research and multiple interpretations.

Indeed, there is considerable room for such inductive development of dyadic IOS theory, which would greatly complement “factor research” and “deterministic logic” approaches. The limitations of the former (when used in isolation) are well documented in the literature, while the latter approach has led to some conflicting findings in IS research (Robey & Boudreau 1999). We caution that in “business value of IOS” research, such findings may indeed confound if different studies simply focus on facilitators of value without studying the opposing impact of the inhibitors of value (since the latter may vary greatly with differences in context).

In this regard, we argue that this processual interplay between inhibitors and facilitators of value is taking place within “ramified webs of externalities and interdependencies”, and that such organizational and inter-organizational dynamics may be best understood using

interpretive approaches and appropriate theories from a variety of fields: from economics and complexity theory, to the social studies of science and technology (Ciborra et al. 2000).

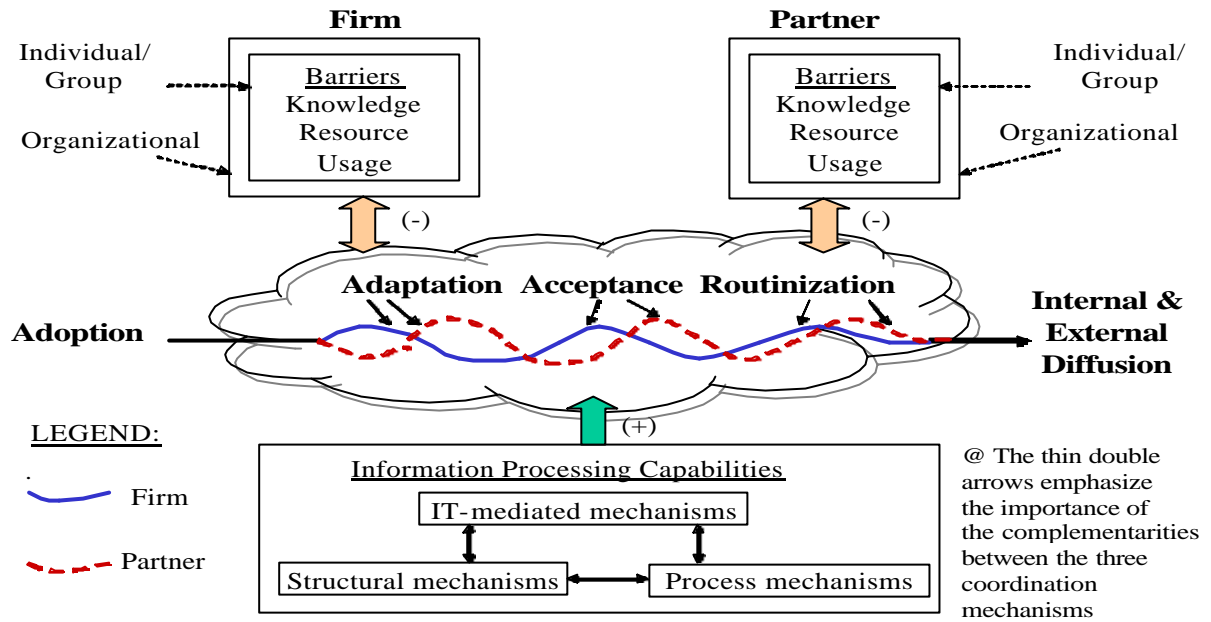
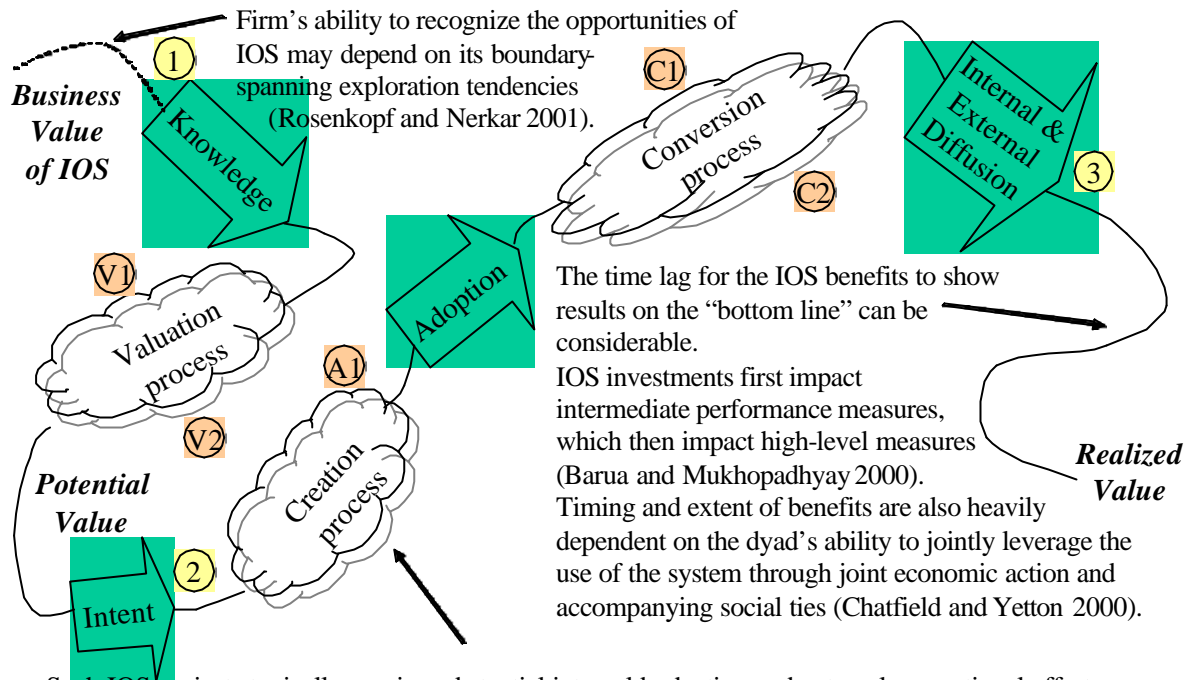


Figure 5. The “Conversion Process”: further insights for future research



Such IOS projects typically require substantial internal budgeting and external promotional efforts upfront (projects are usually costly and require cooperation from partners, who must be willing to make a similar investment). Partner's willingness and ability to participate may be crucial (Chwelos et al. 2001) and therefore, timing of adoption may be dependent on achieving a common favorable timing for both parties.

Figure 6. Value-Flow IOS framework: a meandering river of value

Inflection Point 1.	The higher the firm's perceived <i>business value</i> of IOS, the greater is the likelihood that the firm will perform an assessment of the potential value of implementing particular configurations of a dyadic IOS with a particular partner.
Inflection Point 2.	The higher the <i>potential value</i> of the selected configuration, the greater is the likelihood that the firm will have the <i>intent</i> to adopt the proposed IOS.
Inflection Point 3.	The greater the extent of <i>internal</i> and <i>external diffusion</i> , the higher will be the <i>realized value</i> of the IOS.

Key Interaction V1.	<i>Valuation barriers</i> reduce the <i>potential value</i> of the proposed dyadic IOS implementation, unless they are successfully overcome.
Key Interaction V2.	<i>Environmental, Partnership</i> and <i>Task Uncertainties</i> positively influence the <i>potential value</i> of the proposed dyadic IOS implementation.
Key Interaction A1.	<i>Creation barriers</i> reduce the likelihood of <i>adoption</i> of a proposed dyadic IOS implementation (even if the <i>intent</i> exists), unless they are successfully overcome.
Key Interaction C1.	<i>Conversion barriers</i> reduce the extent of <i>internal</i> and <i>external diffusion</i> of a dyadic IOS implementation, unless they are successfully overcome.
Key Interaction C2.	<i>Structural, Process</i> and <i>IT-Mediated Mechanisms</i> positively influence the extent of <i>internal</i> and <i>external diffusion</i> of a dyadic IOS implementation.

Table 2. *Inflection Points and Key Interactions along the flow of value*

7. A “Business Value of IOS” Evaluative Framework

Due to constraints of space, the value-flow framework as depicted in Figures 2, 3 and 4 may give the mistaken impression that the flow of value in a dyadic IOS implementation moves in an orderly and direct manner across the different discrete stages and intervening processes.

The reality may be very different. In fact, this flow of value may be likened to a long meandering river, where the stream of water flows faster at certain places/times (e.g., the firm may be quick to recognize the opportunities of IOS once apprised), and slows down at other places/times where it has to navigate around obstacles that impede its flow (e.g., lack of partner readiness for the implementation which may take time to address).

Figure 6 provides a graphical illustration of this analogy. Inflection points (numbered as 1, 2 and 3) and key interactions (V1, V2, A1, C1 and C2) are also featured, with corresponding explanatory notes tabulated in Table 2.

8. Contributions

This study makes a few important contributions by offering new research, evaluative and methodological perspectives in an increasingly important area of IS research.

Firstly, we develop a value-flow framework that incorporates both a variance and process view of dyadic IOS implementations. The variance view comes from asserting the relationships between the inhibitors/facilitators of value and the constructs related to potential, latent and realized value. The process view comes from conceptualizing the notion that there is a flow of events across time and a simultaneous flow of value across the various events of the implementation.

We argue that in dyadic IOS research, there has been more focus on realizing value than discovering and creating value, and more focus on the movement of discrete stages than the flow of events and value. This framework therefore addresses important gaps in the literature. In offering new research perspectives, this study underscores the importance of theory generation in IOS business value research. We argue that there is a need to shift the focus in IOS research towards opening up insights into the intervening processes instead of just examining the discrete stages. To aid in theory building, we have suggested the use of a blend of complementary methodological approaches that can best operate within the value-flow framework.

By stressing theory building, this study may thus help to shift current research focus away from excessive reliance on “isolated input-output black-box approaches” that has been characteristic of many past “business value of IT” studies (Chan 2000).

Finally, this research may also have valuable implications for practice, as it offers an evaluative framework to help companies become more proactive in working with their partners to overcome barriers and institute the necessary joint mechanisms during the implementation.

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