4-3-2007

Global Sourcing of IT Services: Necessary Evil or Blessing in Disguise?

Jerry Cederlund
Motorola, Inc.

Robert J. Kauffman
University of Minnesota, RKauffman@csom.umn.edu

Rajiv Kohli
College of William & Mary, rajiv.kohli@mason.wm.edu

M. Lynne Markus
Claremont Graduate University, islynne@cityu.edu.hk

Nigel Melville
Boston College, nigel.melville.1@bc.edu

See next page for additional authors

Follow this and additional works at: https://aisel.aisnet.org/cais

Global Sourcing of IT Services: Necessary Evil or Blessing in Disguise?

Authors

Jerry Cederlund, Robert J. Kauffman, Rajiv Kohli, M. Lynne Markus, Nigel Melville, and Paul Pavlou

GLOBAL SOURCING OF IT SERVICES:
NECESSARY EVIL OR BLESSING IN DISGUISE?

Jerry Cederlund
Motorola, Inc.

Robert J. Kauffman
Arizona State University and University of Minnesota

Rajiv Kohli
College of William and Mary

M. Lynne Markus
Bentley College

Nigel Melville
University of Michigan
npmelv@umich.edu

Paul A. Pavlou
University of California, Riverside

ABSTRACT

Firms use information systems to reduce the costs of doing business and create innovative applications and products for competitive advantage. IT outsourcing, often to overseas locations, appears to have accomplished efficiency improvements. However, firms increasingly employ global sourcing of IT services for other purposes, such as to broaden the scope of provided services and for strategic considerations. Given the complexities of emergent forms of global IT sourcing – away from arm's length transactions and toward highly integrated relationships – the purpose of this panel, originally presented at the 2006 International Conference on Information Systems, was to shed light on the issue of global sourcing of IT services by examining three interrelated questions: 1) Is this more about efficiency or strategic considerations? 2) What new conceptual frameworks and theory bases are appropriate for studies of global IT sourcing? and 3) What skills are required of managers and what should we be teaching our students?

I. INTRODUCTION

The issue of global IT sourcing is hotly debated. Unfortunately, the discussion is replete with half-truths and rhetoric more suited to a reality television show than serious dialogue and debate. Given the importance of the issue to members of the International Conference on Information Systems (ICIS) community, where this panel was presented in 2006, and the broader community with interests in IS strategy and IT policy – educators, thought leaders, researchers, practitioners, and students alike – this panel attempted to shed light on the issue of global IT sourcing.

www.manaraa.com

The purpose of the panel was to assemble IS thought leaders with complementary and conflicting perspectives to debate whether global sourcing of IT is a sign of the diminishing strategic role of IT, or a blessing in disguise – an opportunity to create an IT-enabled collaborative advantage through *global collaborative work* (GCW). The panel was assembled to have broad appeal to IS academics who are interested in the impact of IT outsourcing on the IS profession as a whole. In particular, we sought to inform the IS community in terms of gaining specific insights on the issue from thought leaders. The debate was also pertinent to faculty members interested in forward-looking pedagogical approaches to enhance the relevance of the profession. Finally, the panel informed practicing IS executives, who are grappling with balancing the issues of cost and competitiveness in an increasingly dynamic and global marketplace. In sum, as the following panelist remarks indicate, the panel provided specific strategies for preparing for the changes that result from global IT sourcing. The panel discussion focused on three key debates.

Debate #1: Global Sourcing of IT – Necessary Evil or Blessing in Disguise?

Some argue that offshore outsourcing is a market response to a market need: firms outsource IT to reduce costs for consumers and to develop innovative products for the betterment of society. Others, in contrast, express deep-seated anxiety about job losses and global competitiveness. Despite the controversy, the forces of global competition continue to shape its evolution. IT outsourcing appears to have delivered on the goal of cost reduction for many organizations, while enabling in-house IT departments to focus on innovative strategic applications [DiRomualdo and Gurbaxani 1996]. However, it is now clear that firms are also outsourcing their strategic IT applications, with implications for sharing developed intellectual property as well as for associated risks.

Debate #2: Which theoretical lenses are appropriate for improving academic understanding that will also inform organizational leadership?

Depending upon the view of global IT sourcing, alternative conceptual approaches for analyzing research problems are appropriate. The cost reduction view raises questions related to the business value literature, with implications for appropriate theoretical frameworks. In contrast, the global collaborative work perspective involves wide-ranging theories spanning several fields, including inter-firm dynamic capabilities, innovation, and knowledge spillovers. Given the growth of global IT sourcing and its relevance to innovation, understanding the interlocking relationships between various dimensions of the issue and available theoretical paradigms is clearly salient.

Debate #3: What skills should managers develop to deal with the diverse requirements of global IT sourcing? What skills should we teach our students?

Global IT sourcing has significant implications for what we teach our students, from undergraduates seeking to enter the IT field through seasoned business executives demanding the latest knowledge of the who, what, when, where, and why of global IT sourcing in the larger context of top-line growth. Efforts are being made to provide new skills in line with the demands of global IT sourcing. However, change is slow in coming, and most institutions have yet to enhance curricula to add skills appropriate to the sourcing context.

The next section of this panel report includes remarks made by the various panelists during the ICIS presentation. The panelists and the order in which they presented were Rajiv Kohli, College of William and Mary; Paul A. Pavlou, University of California, Riverside; Robert J. Kauffman, Arizona State University and University of Minnesota; M. Lynne Markus, Bentley College; and Jerry Cederlund, Motorola, Inc. The panel was chaired by Nigel Melville of the University of Michigan. After panelist remarks, the report features selected questions from the audience and responses from the panel. The report ends with a discussion and synthesis of the views expressed during the ICIS presentation.

Global Sourcing of IT Services: Necessary Evil or Blessing in Disguise? By J. Cederlund, R.J. Kauffman, R. Kohli, M.L. Markus, N. Melville & P.A. Pavlou

www.manaraa.com

II. PANELIST REMARKS

RAJIV KOHLI

The argument whether IT outsourcing is a necessary evil or a blessing in disguise stems from the lack of clarity between two different concepts: *global collaborative work* (GCW) versus *outsourcing*. These are indeed two separate imperatives that have different value propositions. Whereas the objective of outsourcing is to drive down costs of doing business, GCW aims to gain access to talent. GCW does not necessarily imply that such access to talent will be cheap, although such may be the case. In other words, the goal of GCW is primarily to gain access to a knowledge pool, for example, when there is paucity of qualified personnel or time constraints, or both, and when time to market is of the essence.

In human and social terms, outsourcing and GCW often yield similar outcomes of diminished demand for previously sought after IS skill sets, changing underlying patterns of employment. In an attempt to be politically correct, academicians, politicians, and entrepreneurs dance around the practice, often making contradictory claims of outsourcing impacts, ranging from short-term sacrifices leading to long-term gains, to benevolence to developing nations, to the inevitability of outsourcing.

Analogous to how water flows from a higher to a lower point, outsourcing will continue as long as there is disparity in wages, living standards, and currency exchange rates. The conventional wisdom is that companies begin to rethink the utility of outsourcing when savings from outsourcing are moderate, e.g., 10 percent or less. However, given that the motivation for GCW is talent, not cost savings, the demand for GCW will continue as long as there is disparity in skill sets, availability of trained professionals, and demands for shorter product cycles.

We argue that outsourcing has been going on since time immemorial. When a farmer realized that he could get his tools sharpened at a blacksmith shop, outsourcing happened. Due to increased specialization of work and with IT support, outsourcing is likely to grow and even evolve into GCW. For many companies, cost reduction is sufficient. However, in the course of outsourcing, the parties may develop a stronger relationship, and GCW can bloom. In such an event, the very phenomenon that encouraged outsourcing – costs – can act as inertia against GCW in the form of higher transaction costs. Firms must then decide if they can bear the higher transaction costs. Ultimately, the choice will depend upon whether the need is that of cost savings or access to expertise.

PAUL PAVLOU

An appropriate theoretical lens for understanding the global outsourcing of IT must take into consideration both the basic rationale for why firms engage in IT outsourcing and what we already know as IS academics about the importance of closely integrating IT with business.

First, the reason firms outsource IT is to reduce labor costs; therefore, while IT outsourcing arrangements can be successful in achieving cost savings by outsourcing IT labor to countries with cheaper labor costs, they are not necessarily successful in achieving the flexibility needed to address changes in the environment.

Second, the IT literature has long stressed the importance of aligning IT with business, showing that a close integration between IT and business can have a positive impact on firm flexibility and performance. IT-business integration was indeed voted as the #1 priority among 139 CIOs in a recent survey conducted by the Society of Information Management (SIM) [McGee 2006].

Outsourcing and disassociating IT from the business side, due to physical distance and poor communication among IT and business people, can have adverse effects on the organization, particularly on firm flexibility needed to address today's turbulent environments; therefore, an appropriate theoretical lens must take into account the need for close IT-business integration to facilitate firm flexibility.

Global Sourcing of IT Services: Necessary Evil or Blessing in Disguise? By J. Cederlund, R.J. Kauffman, R. Kohli, M.L. Markus, N. Melville & P.A. Pavlou

www.manaraa.com

IT-Enabled Dynamic Capabilities in Turbulent Environments

To address turbulent environments, firms must develop dynamic capabilities that are able to reconfigure existing operational capabilities that no longer match the changing environment [Eisenhardt and Martin 2000; Teece et al. 1997].[1] A recent study has noted the importance of leveraging IT by business users to facilitate superior dynamic capabilities and competitive advantage, particularly in turbulent environments.

For the positive effects of IT on dynamic capabilities to materialize, business processes must be closely aligned with IT. What happens when IT is outsourced and there is poor integration between IT and business users? Will the global sourcing of IT impede a firm's flexibility and dynamic capabilities by distancing IT and business processes? Will outsourcing IT firms be at a greater disadvantage when they attempt to reconfigure their existing operational capabilities when these no longer match the environment? My contention is that the global sourcing of IT may have enhanced the static efficiency of operational capabilities, but it has yet to build inter-firm dynamic capabilities to reconfigure a firm's existing operational capabilities.

To address these concerns and help firms overcome a misalignment between their business and IT processes, and prevent a lack of strategic flexibility, IS research must stress the importance of IT-enabled dynamic capabilities and IT-business integration when firms outsource IT. Despite the fact that IT is delegated to a global firm that may be physically distant from the outsourcing firm, the IS literature must stress the need for building and integrating inter-firm IT and business processes in order to enhance the positive impact of IT on inter-firm dynamic capabilities.

Implications for Managing the Global Sourcing of IT

Building upon the *relational view* that calls for integrating inter-firm resources and processes to build a collaborative advantage [Dyer and Singh 1998], the global sourcing of IT must stress the development of inter-firm dynamic capabilities to help build a collaborative advantage in turbulent environments. This can be achieved by stressing the importance of global collaborative work and the close integration of business and IT processes and people. Failure to do so will result in a lack of firm flexibility, which will become evident in turbulent environments when firms will be forced to change their existing operational capabilities, but they will not have the necessary dynamic capabilities to accomplish change with the aid of their IT partners.

In conclusion, the IS literature must stress the importance of both enhancing the efficiency of existing operational capabilities by cutting costs through IT outsourcing and also enhancing dynamic capabilities by having a close integration between IT and business processes. There is a trade-off between focusing on the efficiency of existing operational capabilities through a clear distinction of labor between the two partner firms in the IT outsourcing relationship versus focusing on building inter-firm dynamic capabilities by achieving close collaborative work between the two partners in the IT outsourcing arrangement; therefore, firms that engage in the global sourcing of IT must become ambidextrous in managing the IT outsourcing relationship by simultaneously enhancing both their operational capabilities while building superior inter-firm dynamic capabilities. IS researchers are best positioned to help firms address this trade-off and take the maximum advantage of the global sourcing of IT.

ROB KAUFFMAN

In 2005, the Princeton economist, Alan Blinder, in an article in *Foreign Affairs* magazine, referred to IT outsourcing as "the next industrial revolution." In this context, the stage is set for the

---

[1] Operational capabilities are defined as the potential to effectively execute routine day-to-day activities (e.g., manufacturing, logistics) relative to the competition. Dynamic capabilities, on the other hand, reflect the potential to reconfigure existing operational capabilities to address turbulent environments.

introduction of new ideas and new approaches to management, so that organizations can get the most from the money they spend on IT outsourcing. To complement Paul Pavlou's reading of the issues and the applicable theories, I will frame my remarks in terms of financial and economic impacts and the relational risks of IT outsourcing, and then develop my point of view in terms of three areas of theory: the theory of industry agglomerations, the theory of incomplete contracts, and financial economics and financial risk management theory. I will also argue that these views seem to align well with recent developments in industry, especially the move toward "services science" among the large IT services vendors.

Financial and Economic Impacts, and Relational Risks

Global IT sourcing relationships need to be managed with knowledge of their financial and economic impacts and a clear understanding of the implications of relational risks. Firms leverage IT outsourcing to reduce their costs of doing business and also to create innovative applications for strategic advantage. The outsourcing of IT, often to overseas locations, appears to have accomplished the goal of cost reduction, especially in terms of labor costs. It has also enabled in-house IT departments to refocus on the development of innovative strategic applications. However, it is now clear that firms are also outsourcing their strategic IT applications as well, which ought to change their strategic calculus – for example, in terms of their sensitivity to information poaching [Clemons and Hitt 2004], and the exploitation of intellectual property in business processes and customer relationships [Han et al. 2004a]. Firms also outsource IT to access talent pools for enhancing their R&D capabilities and to bring innovative products to market more rapidly than they otherwise might be able to accomplish alone – strategic value-creating functions that heretofore were managed in-house. These changes have compelled firms to reevaluate how and where IT can contribute to the firm's success in the future. They also encourage IS researchers, industry leaders, and government policy makers to consider the role of IT services as intermediate inputs in the business economy, and to reach a better understanding of their contributions in various industry sectors [Han et al. 2007].

Agglomeration, Disagglomeration and Corporate Access to Strategic Resources

One interesting new theoretical vector for IS research related to accessing talent pools can be found in the literature on industry agglomerations and knowledge spillovers. *Agglomeration*, the result of collocation of similar and dissimilar firms – such as the Silicon Valley or Route 128 near Boston with their high-tech corporate participants, and the Chinatowns in large American cities with their tight cultural embrace of a myriad of smaller immigrant businesses – gives rise to a number of kinds of benefits for their participants [Kauffman and Kumar 2006]. *Collocation* brings proximity and access to labor, knowledge, innovation, and ready funding for new entrepreneurial ventures. These *centrifugal forces* draw companies in to reap these benefits, and to take advantage of other knowledge spillovers. Krugman [1991] also has written of the *centripetal forces* that technology brings, as enhanced and technology-supported communications capabilities make it less necessary for a workforce to be in one physical location for its work to be coordinated. These forces also work to spin companies off to other geographic locations, where it is possible for them to take advantage of different degrees of resource availability. The related outcome, in contrast, is *disagglomeration*. The drivers include cheaper land and facilities, a different tax environment, access to different resources for management, and so on. From the point of view of the new economic geography of agglomeration, global sourcing for IT services may be as much a matter of access to strategic resources for innovation, as it is a matter of finding inexpensive resources. Bardhan, Whitaker, and Mithas [2006] remind us that business process outsourcing is an equally important trend that may be interpreted through the general lens of strategic location of the provision of IT services.

Incomplete Contracts and Financial Risk Management Theories

Two other bodies of theoretical knowledge also should be given additional consideration by IS research for their implications in IT global services management. One is the *incomplete contracts theory* of Grossman, Hart, and Moore [Grossman and Hart 1986; Hart and Moore 1990]. The

Global Sourcing of IT Services: Necessary Evil or Blessing in Disguise? By J. Cederlund, R.J. Kauffman, R. Kohli, M.L. Markus, N. Melville & P.A. Pavlou

www.manaraa.com

central premise of the theory is that relational risks need to be taken into account relative to issues of joint investments in interorganizational systems, collaboration in business processes, joint product design, and co-production in manufacturing, and value-sharing for the outcomes of alignment across different firms. The central risks stem from the fact that not all aspects of interorganizational relationships can be codified and defined (although it is fair to say that IT services contracts in the past ten years have been tightened up dramatically in terms of quality-contingencies and services delivery terms and conditions). In the presence of value-diminishing relational risks to interorganizational exchange, it is natural for senior managers to apply a "discount" to their expectations about the levels of value that will accrue from the global IT services outsourcing arrangements that they make. A corollary of this recognition is that they will also under-invest in outsourced services [Han et al. 2004b].

The other relevant theoretical perspective comes to us from financial economics – financial risk management, in particular. The essence of *financial risk management theory* is that is possible to gauge the extent of the potential loss in value associated with IT outsourcing, by viewing the set of activities that are outsourced from the perspective of investment portfolio management [Jorion 2001, 2005]. As investment managers know very well, when financial investments are held in a portfolio, they tend to exhibit variance and correlation in their returns and prices in the market. To some extent, it may be beneficial for senior managers to think about the IT vendor services that they receive in terms of the properties of expected risks and returns that are likely to be observed in the marketplace for IT services. Just this past month, January 2007, for example, there was news of labor unrest in Bangalore, India, and this led to immediate speculation and concerns in the business IT press about the security of IS outsourcing arrangements made by American companies there, even though there seems to have been little cause for concern. Nevertheless, this example points to a new impetus for considering dynamic risks in outsourcing, and for thinking through new managerial approaches for leveraging and controlling them to ensure the maximum long-term value of the firm.

"Financifying" IT Outsourcing Management and the Move to Services Science

In this context, I see an impetus for new ways to manage interorganizational relationships involving the global sourcing of IT services. The shift, in my view, will be from relationship management for outsourcing in a broad sense to more of a *valuation-based approach* to outsourcing [Kauffman 2007]. In the latter, outsourcing contracts and relationships will be managed and controlled over time like value-producing assets in finance. This is similar to what financial services do with the day-to-day monitoring of their financial assets, whose volatility and returns properties are closely watched. This view also is in line with how organizations increasingly look at in-house IT operations -- as revenue centers, instead of cost centers. I think of the more general trend here as the *financification* of outsourcing management. We also have seen this trend with the collectibles markets through the development of online markets like eBay, and the financification of retail pricing on the Internet through data mining, algorithmic price-setting, and revenue yield management [Bergen et al. 2005].

In this context, IBM, Intel, Compaq, and other large IT services vendors have been driving for the development of new approaches to the management of IT services – what they call *services sciences* [Horn 2005]. This vision calls for new management science-based approaches to measurement, control and management of IT services. It especially focuses on the interdivisional and interorganizational delivery of different kinds of computing, data, infrastructure, telecom, and security services. The provision of services-oriented architecture is one often-discussed current focus. The arguments in its favor suggest that services-oriented architecture will make senior IS managers better able to provide flexible support and dynamic capabilities in the face of changing business conditions, business strategy, and organizational form. With this new vantage point on the relational risks, and the financial and economic outcomes of outsourcing IT on a global basis, IS researchers and senior managers will be able to make joint strides forward to achieve a better understanding of how to implement the *move-to-the-middle strategy* discussed by Clemons, Reddi and Row [1993] and to take advantage of changes in *risk-augmented transactions costs*, as discussed by Kauffman and Mohtadi [2004]. In addition, I expect them to gain a much more

Global Sourcing of IT Services: Necessary Evil or Blessing in Disguise? By J. Cederlund, R.J. Kauffman, R. Kohli, M.L. Markus, N. Melville & P.A. Pavlou

www.manaraa.com

precise understanding of the economics and relational dynamics of IT service level agreements – to the point where IT services contract design becomes much more of a risk-managed design activity. With these ideas, and some of the other new thinking related to the management of IT portfolios [Bardhan et al. 2004; Bardhan et al. 2006] and IT services value-at-risk [Kauffman 2007; Kauffman and Sougstad 2007], the global sourcing of IT services will take on a leadership role in the best IT management practices for the 21st century.

M. LYNNE MARKUS

I take issue with two of the premises used to frame our ICIS panel discussion: that the challenge to be addressed is the "global sourcing of IT" and that the challenge is either a "necessary evil or a blessing in disguise." When the premises of our discussion are revised, there are clear implications for the kinds of knowledge and skills we need to impart to our general business and specialist IS students.

It Is about Labor

In my view, the challenge that faces us is the remote sourcing of labor, not of IT per se. You may argue that only global IT sourcing is relevant to IS academics, but I disagree. Two brief examples illustrate that IT is deeply involved in remote labor outsourcing and that we IS academics have much that is relevant to say about it.

Eighteen months ago, I had the opportunity to join a CIO study tour visiting a business process outsourcing center in Shanghai. We observed a team performing all back-office financial services—from accounts receivable to fixed asset accounting—for a large company with offices around the world. Three shift and language groups were organized to interact with client employees (and vendors) in particular geographic regions. (In all, team members spoke twenty languages.) Team members used the client company's SAP system, but the outsourcing company had written workflow routines to make business processes more efficient. Client personnel in, say, Houston, would scan invoices from local vendors. The outsourcer's Shanghai team members would then enter data into the SAP system, perform reconciliations, and enable payments to be authorized and printed or disbursed electronically back in Houston. If questions arose, Shanghai team members communicated synchronously with client employees or suppliers via VOIP.

My second example is somewhat closer to home. The fast-food company Wendy's recently began a trial in which customers' orders at drive-in windows in California and Florida are taken by operators in a Nashua, NH-based call center. By the time customers arrive at the payment window, local personnel are filling the orders transmitted to them by the remote call center. With the new business process, many more cars are served per hour per store, and errors are reduced [Abelson 2006].

In both cases we see business processes radically redesigned through the use of IT, enabling certain tasks to be performed by remote personnel. Labor is outsourced, not IT, but IT and IT specialists are central to the transformation. Thus, labor outsourcing, both global and local, is a phenomenon that should keenly interest our field.

It Is a Mixed Blessing

Our panel discussion was framed in terms that suggest the inevitability of global offshoring and that the choice facing business and IT leaders is how to make the best of it. This oversimplification is dangerous, because it minimizes the degree of choice leaders have in business process design, and because it glosses over the ethical issues raised by particular design choices.

Global labor sourcing affects many stakeholders: large businesses that operate in locations around the globe, entrepreneurial startups that face severe local talent shortages, foreign workers, domestic workers, national governments, and both individual and institutional investors.

Global Sourcing of IT Services: Necessary Evil or Blessing in Disguise? By J. Cederlund, R.J. Kauffman, R. Kohli, M.L. Markus, N. Melville & P.A. Pavlou

www.manaraa.com

Global labor sourcing has benefits, and it has downsides, but the benefits and the downsides are not equally distributed across the stakeholder groups [Aspray et al. 2006]. A business decision that benefits a large company, foreign workers, and local investors may disadvantage local workers and the local business economy. A business decision that benefits local managers today through short-term investment returns may contribute to a long-run worsening of those same managers' lives through lower retirement income and poorer socio-economic conditions in the countries and communities in which they retire.

Despite such possibilities, negative effects are not inevitable. They depend heavily on the specific choices business and IT leaders make about how to redesign business processes and why. As a trivial example, one can sometimes outsource labor to lower-wage communities in one's own country rather than in another, as in the Wendy's example. Because ethical issues are deeply embedded in decisions about how to redesign work with the use of IT, our field must not shy away from discussions of negative consequences at any level (global, national, organizational, or individual), nor from discussions of policy decisions that could prevent or improve the consequences.

Our Students Need New Skills

It follows that our business and IS students need new knowledge and skills to address the challenges of remote labor sourcing. Following I present five categories of knowledge and skills in the form of a hierarchy. Entry level students need less emphasis on the higher categories; IT students need more emphasis on the related technical topics. But all business and IS students need a firm grounding in the lower two categories, and all advanced business and IS students require some knowledge of the higher ones. Underlying this framework is the assumption that all students must be prepared to work effectively virtually with people from other organizations, countries, and cultures.

- Level 1—How to use IT-supported collaboration tools effectively. This involves not only how to operate software such as email, meeting systems, and document databases, but also how to manage the interpersonal aspects of use. When should such systems not be used? When should asynchronous or text media be supplemented with synchronous or video media or travel? How can negative consequences be reduced when work is entirely mediated by technology? How are online discussions well moderated and online archives well managed?
- Level 2—How to collaborate effectively in a distributed work environment. More than just the use of tools is involved in virtual collaboration. One must also understand and know how to manage projects, team dynamics, and cultural differences.
- Level 3—How to design or redesign effective distributed work processes and support them effectively with IT. What tasks have to be co-located? Which tasks can only be distributed at the cost of extensive worker travel? How important for work design is the choice of one software package or service over another? What are the organizational consequences of designing jobs that involve extensive travel or that do not involve frequent face-to-face interaction with other organizational members?
- Level 4—How to design effective governance for work processes that are distributed across organizational lines. How are the costs and benefits of the work processes divided? Who can make what kinds of decisions? Who owns the technology? Who manages it? Who can access data?
- Level 5—How to design strategies and policies for distributed work. When should we outsource, when shouldn't we, and why? Who do we partner with? What are our responsibilities toward our workforces and our local communities?

Some of these questions may appear distant from traditional IS concerns. Yet every entry-level person in business and IT needs knowledge and skills at the bottom of the hierarchy, and every senior business and IT leader needs knowledge and skills at the top. The question facing our field

is what role we want to play in preparing future workers and leaders for the world of globally distributed work.

JERRY CEDERLUND

When the team of ICIS panelists discussed the idea of "global sourcing of IT," we sometimes substituted the term "outsourcing of IT." I believe the discussion and the resulting written proposal reflects the difficulty for both business leaders and the academic community to distinguish the subtle difference. While speaking with Lynne Markus, I immediately agreed with her position that there is a lot more to the concept of "global sourcing of IT" than the initial two-sided argument: "necessary evil" or "blessing in disguise."

Lynne approaches this subject academically from a business ethics, work design, and multicultural viewpoint. As an active business leader who often participates in IT sourcing decisions, I would like to offer my operational approach.

It Starts with Labor Cost

In the early stages of any form of outsourcing, labor cost is often the prime driver for sourcing decisions. My argument is that IT professionals and academics may be constructing the concept of global sourcing of IT too narrowly. The focus for outsourcing may start with cost, but that focus changes rapidly as the outsourcing effort is implemented.

The speed of this change in focus reflects the specialist communities' biases and values. Thirty years ago, U.S. manufacturing leaders strongly resisted contract manufacturing, particularly off-shore. Ten years ago, U.S. logistics leaders resisted outsourcing of logistics services. Now IT leaders and academics must deal with the same evolution, which is happening at a much faster rate, in this field.

Today contract manufacturing is a given. And the process for managing the entire product delivery lifecycle is well established; the basic philosophy is to let the firm that holds the expertise or cost advantage in a given part of the workflow own that particular phase.

For example, a mobile cellular handset goes through ten broad phases from ideation to finished product; design the look, design the functionality, engineer the look, engineer the functionality, define the bill-of-materials, source the materials, build subassemblies, assemble subassemblies, test, and package for consumer purchase. This process was often vertically integrated. These steps are now integrated across several companies starting and ending with the "brand owner." The process might start with the brand owner and move to the contractor and back several times during the development and delivery of the final product.

The Role of the Brand Owner

Often, sourcing professionals in the brand-owner company find pockets of excellence outside of the brand-owner company. This is becoming evident in the IT community as we outsource portions of the system development lifecycle.

Outsourcing must take on a process view of the work to be done. I would call the company's in-house IT team the brand owner. The overall company architecture, application approach, and business requirements definitions are owned by the brand owner. Understanding this responsibility adds another level of skill requirement to the IT professional. How much intellectual property do we share with our contractors? What parts of the process can be managed independently by one company or the other and which critical parts need to be managed collaboratively? Answering this question is part of the skill set needed for global collaborative work.

Global Collaborative Work

Technology offers the ability for two or more companies to collaboratively bring a product (including IT applications) or a service to market through sharing the best capabilities of each company in ways never conceived just a few years ago. Improvements in cost, cycle-time, solution diversity, creativity, and more recently quality often far outweigh the initial fears offered by the community that resists this change.

Strong GCW skills will help the IT professional successfully understand requirements, design the appropriate flexibility and standards into the solution, and be able to negotiate the necessary differences across regions and cultures.

Another key skill for the IT professional is the ability to design a governance scheme that appreciates cultural differences, to develop and build on standards, and clearly outline the rules of engagement across multiple organizations and countries.

Ultimately a Blessing

It is my belief that global sourcing of IT will turn out to be a blessing in disguise in most ways and a necessary evil in a few risk areas that can be mitigated over time. What originally started as a way to outsource the labor of IT development is morphing into a global collaborative workflow that takes advantage of global capacity, diversity of thought and best value for the rupee, dollar, or pound spent.

III. QUESTIONS FROM THE AUDIENCE

The remarks by the panelists provided multiple perspectives on each of the three debates and elicited a lively discussion among audience members and panelists.   The audience highly valued the remarks of our industry panelist, Jerry Cederlund, and expressed interest in learning additional details of Motorola's approach:

Question 1: What is the geographic location of Motorola's "Plan Team"?

> **Jerry Cederlund replies**: *IT consists of four primary teams: Plan, Build, Run, and Solutions. The Plan team captures demand for capabilities and drives overall delivery and is composed of account relationship managers and business analysts. Motorola's "Plan Teams" usually work in the same region as the businesses they support, as they need face-to-face interactions in order to be effective. "Run Teams," in contrast, have a hub-and-remote-monitoring approach. We can afford to have them distributed across multiple operating regions, and save on staffing but still achieve the outcomes that we desire. Our "Plan Teams" also usually consist of about 70 percent IT people and 30 percent business people, which ensures that our approach is sufficiently aligned with our processes so that we have business value and operational effectiveness in our gun sights, and can adjust as necessary to meet our business goals.*

This perspective from Motorola is interesting, as it suggests the new ways that organizations are making adjustments to match the transforming business landscape of global sourcing. There are other "fixed points" in the business environment, however, and these also need to be considered in the global sourcing environment. For example, we know that horizon scanning and business intelligence for strategic advantage are all about making sense of the continuous flow of information that is pervasive in the marketplaces in which large corporations operate. For several decades now, we have known that strategy is partly the science of effective "organizational adjustment," just as much it is a matter of distinguishing between traditional marketplaces that support incremental changes, versus transforming markets that require revolutionary transformations on the part of successful organizations. Not all adjustments are so easily made though. In this context, the panel was asked:

Question 2: Capital moves more easily than labor. How do you see global sourcing in this light?

> **Lynne Markus replies:** *It is certainly true that capital moves more easily than labor. But when the point is phrased in this way, the process of global sourcing seems both impersonal and inevitable. Yet, the process is neither impersonal nor inevitable. And it is not without potentially negative consequences for the organizations that engage in it and for their employees and national economies.*
>
> *For example, I understand that some companies are starting to experience human resources problems because they have redesigned work in such a way that people working together virtually while performing the identical job in different parts of the world are paid wages that differ by an order of magnitude or more. Employees have difficulty accepting such differences as equitable, despite arguments that local labor costs vary.*
>
> *Issues such as these call for research to inform corporate and public policy. Although these concerns may appear distant from traditional IS research, I believe our field must begin to address them. The field of social informatics is as much within the domain of the information systems field as it is within the domains of computer science, sociology, and so on.*
>
> **Rob Kauffman replies:** *To follow up on Lynne's remarks, there are human resources and equity issues when two people get paid differently for exactly same work. Up until just recently though, it was rare that labor markets with different wage rates were brought into such close proximity to one another. Today, we don't just have "proximity" – we have "markets in collision." I have been living in an area in the southwestern metro of Minneapolis, where there are many people from India and other countries. Many of them are foreign workers and are talented and welcome participants in the software development and network engineering activities of some of the largest companies in our region of the United States (e.g., Target Corporation).*
>
> *The fact of the matter is that labor can and does move more flexibly than at any other time I can think of in history. But it's also correct to assert that capital moves even more easily. So it has become common for large American firms to invest in subsidiaries that organize indigenous technical workforces in far-flung places such as Bangalore, Beijing, Hyderabad, and Novosibirsk for the production of IT and R&D services. We not only want to benefit from the cost reductions of IT global sourcing, we also want to benefit from the new sources of profits it offers. So it's no wonder that we see firms which rotate their outsourcing providers through corporate headquarters, gaining experience with many potential strategic partners, and coming to understand the real capabilities of the workforces of these new IT service markets. Clearly, cost reduction is not the only motive anymore. Instead, achieving maximal returns in global sourcing operations is all about finding the multiple new facets of business value.*

Finding appropriate ways to take away the greatest benefits from outsourcing IT must first reflect an understanding of the IT service vendor capabilities in both local and regional markets. This broad perspective is required as extending to the global market requires much more knowledge and sophistication with vendor management, as well as sensitivity to the changing political economy of risk management in different countries and economies. In this context, an audience member asked the panel:

Question 3: In e-commerce, B2C activities, such as retail sales and purchases, are localized and regionalized typically, while B2B activities, involving large-scale procurement, can be national and even international in scope. Is this the same true for outsourcing?

> **Nigel Melville replies:** *A recent analysis of the e-commerce environment across eight economies worldwide does support the idea of localization of consumer-facing online*

Global Sourcing of IT Services: Necessary Evil or Blessing in Disguise? By J. Cederlund, R.J. Kauffman, R. Kohli, M.L. Markus, N. Melville & P.A. Pavlou

www.manaraa.com

commerce processes and globalization of back-office supply chain processes [Kraemer et al. 2006]. But it's not completely clear how this plays out in the outsourcing context. Comparative advantage would suggest that if an innovation cluster in country A produces something with a cost advantage relative to country B, it ought to be done in country A. I think it's an unresolved empirical question.

Rob Kauffman adds: *Following up on the innovation cluster idea, Paul Krugman, the economic theorist and New York Times columnist, has spoken of the "new economic geography" that seems to be in play, suggesting that innovation clusters will continue to be important, and so firms from Europe and North America and elsewhere should participate in their development.*

It's natural to think of long-distance IT sourcing as having its own economic rationale. For example, the services that are provided and consumed should be of a long-term nature, so that the fixed costs of contracting and building a long-term operating relationship can be defrayed. By the same token, when the cost differences between local and global sourcing are large, the higher fixed costs for the latter will be more easily covered. On the other hand, it's unlikely that short-term, unpredictable and nonrepeating needs will be appropriate to handle through global sourcing – unless the services vendors set up shop nearby their customers (as we have actually seen with Wipro and other Indian IT services vendors in the past few years).

This discussion further brings up the issue of the capabilities that firms have to adjust to the changing trends in the marketplace – different workforce capabilities, different absorptive capacity for diffusing innovations, different managerial capabilities, and different local operating conditions. As a result, IT infrastructure and the contributions of globally-sourced systems capabilities are especially important. Still, it is hard to know how much to spend on creating the requisite capabilities, and also, what are the proper kinds of investments to make. In this vein, several audience members pointed out the limited state of our knowledge, further demonstrating the salience of these issues for future research.

In sum, we hope that this modest sample of audience interactions provides the reader with a sense of the "flavor" of the discussion that ensued after the formal presentations of the panelists concluded. They are not verbatim quotes, but they nevertheless provide additional perspectives on the importance of theory, the state of our knowledge of IT global sourcing, and the important agenda that we can develop going forward to enhance best practices in industry.

IV. DISCUSSION AND SYNTHESIS

Panelist remarks spanned a variety of issues, including considerations of different business conditions and environments, the roles of new theoretical perspectives, a challenge to the premises of the debate, and additional pragmatic concerns about how to make organizations work well in the presence of external sourcing of systems, people, and processes.

Kohli emphasized an implicit dichotomy between outsourcing for cost reduction and global collaborative work for achieving strategic objectives. Each approach should be employed to match the requirements of specific business conditions. Building off of these ideas, Pavlou stressed that IS researchers must incorporate the various reasons for global IT sourcing when identifying appropriate analysis frameworks. In particular, given the turbulence engendered by the global business environment, inter-firm dynamic capabilities might be a useful conceptual framework for unraveling relevant phenomena.

Complementing and extending this perspective, Kauffman suggested three areas of theory appropriate to the global IT sourcing context: 1) industry agglomeration; 2) incomplete contracts; and 3) financial economics and financial risk management theory. The first – agglomeration – stresses the role of networks of collocated firms harnessing knowledge spillovers to develop centers of IT services excellence. The second – incomplete contracts – relates to the risks

Global Sourcing of IT Services: Necessary Evil or Blessing in Disguise? By J. Cederlund, R.J. Kauffman, R. Kohli, M.L. Markus, N. Melville & P.A. Pavlou

www.manaraa.com

associated with joint investment in interorganizational systems, that is, does each party extract a return proportionate to its investment, and what forces, such as lack of transparency, act as economic frictions that lead to inefficient outcomes. Finally, financial risk management theory stresses risk and return in viewing global IT sourcing in investment portfolio terms. Kauffman concluded by suggesting the "financification" of IT outsourcing management together with a services science approach, consistent with moves by IBM and leading IT sourcing companies.

Markus took the discussion in a new direction by questioning the basic premise of the debate focused on global IT sourcing. The challenge is less about IT and more about labor, remote labor outsourcing, to be precise. Two examples – business process outsourcing in Shanghai and remote fast-food order taking – illustrate that what is outsourced is labor, enabled by information and communications technology. Markus raised important issues rooted in business ethics, concluding with a framework of five categories of skills and knowledge required by our students.

Finally, Cederlund provided a grounded business perspective, consistent with the position taken by Markus that the issues are myriad and complex, extending to other non-IT areas. Though the focus of IT sourcing may begin with costs, it often evolves well beyond such a narrow focus. One model for thinking about the complex relationships of client and provider, IT and business manager, is via the notion of a brand owner. As an in-house IT group "brand owner," a process approach is needed to own and manage all aspects of an IT sourcing arrangement, including company architecture, application approach, business requirements definitions, and so on.

In sum, the panelists provided a multi-layered perspective on what might appear to be a relatively straightforward concept. Their forward-looking comments, running the gamut from economic theory to business ethics to IT brand ownership, might best be viewed as a set of starting points from which to develop next-stage practices in global IT sourcing arrangements. In this way, we hope that the ideas expressed herein provide the impetus and the motivation to improve the theory and practice of IS management.

REFERENCES

Abelson, J. (2006). "Miles Away, 'I'll Have a Burger': Fast Food Drive-Throughs Go Long Distance," *Boston Globe*. Boston, MA. November 5.

Aspray, W., F. Mayadas, and M. Y. Vardi (eds.) (2006). "Globalization and Offshoring of Software, ACM Job Migration Task Force," http://www.acm.org/globalizationreport/.

Bardhan, I, J. Whitaker, and S. Mithas, (2006). "Information Technology, Production Process Outsourcing and Manufacturing Plant Performance," *Journal of Management Information Systems*. (23)2, pp. 13-40.

Bardhan, I., S. Bagchi, and R. Sougstad. (2004). "Prioritizing a Portfolio of Information Technology Projects," *Journal of Management Information Systems*. (21)2, pp. 33-60.

Bardhan, I., R. J. Kauffman, and S. Narapanawe. (2006). *Optimizing an IT Project Portfolio with Time-Wise Interdependencies*. In R. Sprague (ed.), Proceedings of the 39th Hawaii International Conference on Systems Science, Kauai, HI, Los Alamitos, CA: IEEE Computing Society Press 2006.

Bergen, M., R. J. Kauffman, and D.W. Lee. (2005). "Discovering Price Rigidity and Price Adjustment Patterns on the Internet: Evidence from the E-Bookselling Industry," *Journal of Management Information Systems*. (22)2, pp. 57-90.

Clemons, E. K. and L. M. Hitt. (2004). "Poaching and the Misappropriation of Information: Transaction RRisks of Information Exchange," *Journal of Management Information Systems*. (21)2, pp. 87-107.

Global Sourcing of IT Services: Necessary Evil or Blessing in Disguise? By J. Cederlund, R.J. Kauffman, R. Kohli, M.L. Markus, N. Melville & P.A. Pavlou

www.manaraa.com

Clemons, E. K., S. P. Reddi, and M. C. Row. (1993). "The Impact of IT on the Organization of Economic Activity: The 'Move to the Middle' Hypothesis," *Journal of Management Information Systems*. (10)2, pp. 9-35.

DiRomualdo, A. and V. Gurbaxani. (1996). "A New Strategic Framework for IT Outsourcing," *Sloan Management Review*. pp 67-80.

Dyer, J. H. and H. Singh. (1998). "The Relational View: Cooperative Strategy and Sources of Interorganizational Competitive Advantage," *Academy of Management Review.* (23)4, pp 660-679.

Eisenhardt, K. M. and J. A. Martin. (2000). "Dynamic Capabilities: What Are They?" *Strategic Management Journal.* (21)10-11, pp. 1105-1121.

Grossman, S. F. and O. Hart. (1986). "The Costs and Benefits of Ownership: A Theory of Vertical and Lateral Integration," *Journal of Political Economy*. (94)4, pp. 691-719.

Han, K., R. J. Kauffman, and B. Nault. (2007). "Returns to IT Outsourcing" Working paper, Desautels Faculty of Management, McGill University, Montreal, Canada.

Han, K., R. J. Kauffman, and B. Nault. (2004a). "Information Exploitation and Interorganizational Systems Ownership," *Journal of Management Information Systems*. (21)2, pp. 109-135.

Han, K., R. J. Kauffman, and B. Nault. (2004b). "Who Should Own 'IT'? Incomplete Contracts and Interorganizational Systems," CORS/INFORMS, Banff, Canada, May.

Hart, O. and J. Moore . (1990). "Property Rights and the Nature of the Firm," *Journal of Political Economy.* (98)6, pp. 1119-1158.

Horn, P. (2005). "The New Discipline of Services Sciences," *BusinessWeek Online*. January 21.

Jorion, P. (2005). *Financial Risk Manager Handbook, 3rd Edition*, New York, NY: John Wiley and Sons.

Jorion, P. (2001). *Value-at-Risk: The New Benchmark for Controlling Market Risk, 2nd Edition*, New York, NY: Irwin.

Kauffman, R. J. (2007). *Looking Ahead: A Contributor's Perspective on the Next-Stage Advances in Competitive Strategy, Economics and Information Systems Research*, In R. Sprague (ed.), Proceedings of the 40th Hawaii International Conference on Systems Science, Waikoloa, Big Island, HI, Los Alamitos, CA, 2007: IEEE Computing Society Press.

Kauffman, R. J. and H. Mohtadi. (2004). "Proprietary and Open Systems Adoption: A Risk-Augmented Transactions Cost Perspective," *Journal of Management Information Systems.* (21)1, pp. 137-166.

Kauffman, R. J. and R. Sougstad. (2006). "R. Value-at-Risk in Systems and Information Technology Investments: A Framework for Managing Project Portfolio Uncertainties*,"* Presented at the 2006 E-Services Conference, University of Alberta, Edmonton, Alberta, Canada, September.

Kauffman, R. J. and A. Kumar. (2006). *A Combined Scale-and-Scope Theory of IT Industry Cluster Growth.* In Proceedings of the 2006 IEEE International Society for Engineering Management Conference, Salvador, Bahia, Brazil, September 17-20, 2006, Los Alamitos, CA: IEEE Computing Society Press.

Kraemer, K. L., J. Dedrick, N. P. Melville, and K. Zhu. (2006). (eds.) *Global E-Commerce: Impacts of National Environment and Policy*. Cambridge: Cambridge University Press.

Krugman, P. (1991). "Increasing Returns and Economic Geography," *Journal of Political Economy*. (99)3, pp. 483-499.

McGee, M. "CIOs Worry about Speed and Agility," in: *InformationWeek*. 2006.

Pavlou, P. A. and O. A. El Sawy. (2006). "From IT Competence to Competitive Advantage in Turbulent Environments: The Case of New Product Development," *Information Systems Research*. 17(3), pp. 198-227.

Teece, D., G. Pisano, and A. Shuen. (1997). "Dynamic Capabilities and Strategic Management," *Strategic Management Journal.* (18)7 pp 509-533.

ABOUT THE AUTHORS

Jerry Cederlund is currently the Senior Director of Business Operations Strategy for Motorola, Inc. In his current position, Jerry oversees global distribution strategy for the mobile handset business as well as business system architecture and analysts for business operations. Jerry has over 25 years experience in fulfillment operations, customer service operations, business forecasting, and fulfillment strategy.

Robert J. Kauffman is currently the W.P. Carey Chair in Information Systems at the W.P. Carey School of Business, Arizona State University, where he holds joint appointments in Information Systems, Finance, and Supply Chain Management. He also is Director of the MIS Research Center, and Professor in the Information and Decision Sciences Department at the Carlson School of Management, University of Minnesota (on leave), and served as department chair there (2000-2006). Rob previously worked in international banking (1979-1983), and served on the faculty of New York University (1988-1994) and the University of Rochester (1992), before moving to Minnesota in 1994. His graduate degrees are from Cornell University (M.A., 1979) and Carnegie Mellon University (M.S., Ph.D., 1988). His current research focuses on senior management issues in IS strategy and business value, financial evaluation and technology investments, technology adoption, e-commerce and electronic markets, pricing strategy and supply chain management issues. His research has been published in *Organization Science, Journal of Management Information Systems, Communications of the ACM, Management Science, MIS Quarterly, Information Systems Research, Decision Sciences*, and other leading IS, economics and computer science journals and conferences. He recently won or was runner-up with his doctoral students and faculty colleagues for "best research awards" at the INFORMS Conference on IS and Technology in 2003, 2004, 2005, and 2006, the Hawaii International Conference on Systems Science in 2004 and 2007, and the International Conference on Electronic Commerce in 2005. In addition, in 2006 he won an "outstanding research contribution award" from the IEEE International Society for Engineering Management, for an article on standards drift in technology adoption and product launch published in the *IEEE Transactions on Engineering Management*.

Rajiv Kohli is an associate professor of Management Information Systems at the College of William & Mary. He received his Ph.D. from the University of Maryland, Baltimore County. For over 15 years, he has worked or consulted with IBM Global Services, SAS Corporation, United Parcel Service, AM General, MCI Telecommunications, Westinghouse Electronics, Wipro Corporation, and Godrej Industries (India), in addition to several healthcare organizations. Prior to joining full-time academia in 2001, he was a Project Leader in Decision Support Services at Trinity Health. Dr. Kohli's research is published in *MIS Quarterly, Management Science, Information Systems Research, Journal of Management Information Systems*, and *Communications of the ACM* among other journals. He is a co-author of *IT Payoff: Measuring Business Value of Information Technology Investment* published by Financial Times Prentice-Hall. Dr. Kohli has been a recipient of several grants in information systems research.

M. Lynne Markus is the John W. Poduska, Sr. Professor of Information and Process Management at Bentley College. Dr. Markus was formerly a member of the Faculty of Business

at the City University of Hong Kong (as Chair Professor of Electronic Business), the Peter F. Drucker Graduate School of Management at Claremont Graduate University, the Anderson Graduate School of Management (UCLA) and the Sloan School of Management (MIT). Professor Markus's three primary research areas are enterprise and interenterprise systems, IT and organization change, and knowledge management. Dr. Markus has received research grants and contracts from the National Science Foundation, The Advanced Practices Council of SIM International, the Financial Executives Research Foundation, the Office of Technology Assessment (US Congress), and Baan Institute. She is the author of five books and numerous articles in journals such as *MIS Quarterly, Information Systems Research, Organization Science, Communications of the ACM, Sloan Management Review* and *Management Science*. She currently serves as Senior Editor of MIS Quarterly's Theory and Review Department and has served as AIS VP for Education, SIM VP for Academic Community Affairs. She was named Fellow of the Association for Information Systems in 2004.

Nigel Melville is assistant professor of Business Information Technology at the Stephen M. Ross School of Business, University of Michigan, and a Special Sworn Status researcher of the U.S. Census Bureau. His research focuses on the economic impact of information technology and digital commons problems. Professor Melville's articles appear in *Communications of the ACM, Communications of the AIS*, *Decision Support Systems, Information Systems Research*, *International Journal of Electronic Commerce*, and *MIS Quarterly*. He is an editor of the volume *Global E-Commerce: Impacts of National Environment and Policy* (Cambridge University Press). Professor Melville holds a B.S. in electrical engineering from UCLA, an M.S. in electrical and computer engineering from UC Santa Barbara, and a Ph.D. in management from UC Irvine.

Paul A. Pavlou is an assistant professor of Information Systems at the University of California at Riverside. He received his Ph.D. from the University of Southern California in 2004. His research focuses on online marketplaces, e-commerce, and information systems strategy. His research has appeared in *ISR*, *MISQ*, *JAIS*, *Decision Sciences*, and others. His work has been cited over 250 times by the Institute of Scientific Information (ISI) Web of Science and over 700 times by Google Scholar. Paul won multiple research and reviewing awards, such as the "Best Doctoral Dissertation Award" of the 2004 International Conference on Information Systems (ICIS) Conference, the 2003 *MISQ* Reviewer of the Year award, and the Best Reviewer award of the 2005 Academy of Management Conference. He sits on the Editorial Board of *MISQ, JAIS*, and *Database*.

Global Sourcing of IT Services: Necessary Evil or Blessing in Disguise? By J. Cederlund, R.J. Kauffman, R. Kohli, M.L. Markus, N. Melville & P.A. Pavlou

www.manaraa.com

www.manaraa.com