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SOURCING INFORMATION TECHNOLOGY SERVICES
Past research and future research directions

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Introduction

Information technology (IT) sourcing is the sourcing of IT services, including application development, application support, systems integration, data management, data center management, telecommunications and network management, and distributed computing services (Lacity et al. 2017). In its simplest conceptualization, an IT sourcing decision entails the fundamental "make or buy" decision (Williamson 1975), which results in insourcing or outsourcing of IT services. In reality, sourcing options are more complex; IT sourcing decisions may result in several types of "make" decisions, including insourcing to the internal IT function (e.g., Hirschheim and Lacity 2000), creating shared IT services across organizational units (e.g., McKeen and Smith 2011), offshoring to a client-owned captive center (e.g., Oshri and Van Uhm 2012), or bringing a previously outsourced IT service back in-house, that is, back-sourcing (e.g., Veltri et al. 2008). IT sourcing decisions may result in several types of "buy" decisions by outsourcing to a domestic provider (e.g., Pearce 2014), outsourcing to an offshore provider (e.g., Poston et al. 2010), multi-sourcing to several providers (e.g., Su and Levin 2011), or outsourcing to a rural-based provider (Lacity et al. 2010b). In its simplest conceptualization, IT sourcing outcomes result in "success" or "failure." In reality, outcomes are multi-faceted and include outcomes associated with organizational performance, strategic enablement of business objectives, IT costs, service quality, service responsiveness, scalability, and user satisfaction, to name some common outcome measures (e.g., Agarwal et al. 2006; Agrawal and Haleem 2013; DiRomualdo and Gurbaxani 1998; Goo et al. 2009; Grover et al. 1996; Lee et al. 2004; Saunders et al. 1997).

During the last few decades, researchers have dealt with this complexity by examining many types of IT sourcing decisions and outcomes. What did we learn from all this academic work? There is great value in conducting a literature review that finds a succinct way to summarize findings across studies, and indeed prior literature reviews summarized the information technology outsourcing (ITO) research in terms of research methods used (Dibbern et al. 2004), theories used (Dibbern et al. 2004; Mahnke et al. 2005), critical success factors (Fjermestad and Saitta 2005), and the most influential articles and researchers (Alasuair and Dwivedi 2010). The most comprehensive review of empirical findings on the sourcing of IT services was published in Lacity et al. (2010). In that article, we analyzed 365 empirical findings on
the determinants of ITO decisions and 376 empirical findings on the determinants of outcomes from 164 quantitative and qualitative articles published between 1992 and the first quarter of 2010. In this update, we examined new empirical IT sourcing articles across 66 academic journals, bringing the total research base to 540 empirical findings pertaining to ITO decisions and 630 empirical findings pertaining to ITO outcomes. These two models serve as robust foundations on what we know to date on ITO decisions and outcomes. ITO researchers can be proud of this body of research as it clearly informs the practice of outsourcing by helping clients with ITO decisions and by helping both clients and providers better manage outsourcing relationships (Lacity et al. 2009).

After presenting the empirical results, we switch perspectives to future research. Here we aim to further challenge ourselves as IS scholars to do even more impactful research going forward. In Lacity et al. (2016), we proposed a few rather audacious future research directions. We revisit four in this chapter.

Sourcing remains an important issue to study, in part, because the market continues to grow in size. Gartner, for example, estimated that global ITO was worth $281 billion in 2015 and $424 billion in 2014, with a compound annual growth rate of 4.4%. Another consulting firm, Horses for Sources, sized the 2013 ITO at $648 billion. This spend must be managed well, not only from the client and provider perspectives, but from the vantage point of being global citizens in a world with limited resources.

IT sourcing decisions and outcomes: past research

This chapter serves as an update of Lacity et al. (2010) by adding new findings up through 2014. We present the combined results of a massive review and coding of the ITO empirical findings spanning 23 years of research from 1992 until 2014. In total, we coded 257 articles from 66 refereed journals (see Table 20.1). The most frequent outlets were the Journal of Management Information Systems with 16 empirical articles, Information & Management (15 articles), MIS Quarterly (13 articles), Information Systems Research (11 articles), and Sloan Management Review (11 articles). Across the 23 years of research, we coded 118 empirical articles that used a qualitative method (e.g., interviews and case studies), 126 articles that used a quantitative method (e.g., surveys and archival data), and 13 mixed-methods papers that used both qualitative and quantitative methods. We coded a total of 1,179 empirical relationships between independent variables (IV) and dependent variables (DV) across the 257 articles. We sorted the relationships by DV type, either ITO decision or ITO outcome. The full data set comprises 540 relationships pertaining to ITO decisions and 630 relationships pertaining to ITO outcomes.

We coded the nature of the relationships between study IV and DV variables using the method used in Jeyaraj et al. (2006), Lacity et al. (2010; 2011; 2016) and Schneider and Suny-aev (2016). A positive “significant” relationship was coded as “+1,” a negative relationship was coded as “−1,” and a “not significant” relationship was coded as “0.” The code “M” was used to indicate a relationship that “mattered.” The “M” code was needed because some significant relationships were categorical (i.e., not ordinal, interval, or continuous), but a relationship clearly mattered between the independent and dependent variable. For example, Langer et al. (2014) found that project type (maintenance vs. new development) had significantly different effects on offshoring project success in terms of client satisfaction. The relationship between transaction type and offshore outsourcing success was therefore coded as “M” for “mattered” (Lacity et al. 2016). In essence, the method uses a voting scheme that gives equal weight to each finding (Lee 2016). The scheme allows for the coding of both qualitative and
Table 20.1  Empirical articles used in review

$L =$ Qualitative article; $T =$ Quantitative article, $M =$ mixed methods

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quantitative empirical findings. Significance was determined at \( p < .05 \) for quantitative studies and by strong arguments by authors for qualitative studies.

The three authors coded articles individually and met weekly to discuss their codes. Once consensus was achieved for each IV, DV, and the relationship between them, we recorded that relationship into our master database. After the first round of coding was completed, the third author then manually examined the codes to identify inconsistent codes and/or data entry errors. Any issues raised were resolved with input from all authors.

To extract the major determinants of ITO decisions and outcomes, we followed the decision rules from prior reviews to extract the most robust findings of IVs that have been repeatedly examined and produced consistent results (Jeyaraj et al. 2006; Lacity et al. 2010; 2011; 2016; Schneider and Sunyaev 2016). In terms of multiple examinations, we replicated the decision rule to extract the relationships that have been examined by researchers at least five times. In terms of consistent results, we also replicated the decision rule to extract variables in which at least 60% of the evidence was consistent. This minimum threshold ensures that more than half the evidence produced the same finding. These rules are admittedly arbitrary, but other authors may rerun the analyses using different decision criteria.

In all, we extracted 21 determinants of ITO decisions and 31 determinants of ITO outcomes that were repeatedly examined (at least five times) and produced consistent results (at least 60%). We organized the 21 IVs into a model of ITO decisions that include categories of independent variables associated with transaction attributes, outsourcing motivations, influence sources, client characteristics and capabilities, relationship characteristics, and environmental variables (see Figure 20.1). The model of ITO outcomes includes 31 independent variables associated with transaction attributes, relational and contractual governance, client and provider capabilities, client characteristics, and decision characteristics (see Figure 20.2).
Figure 20.1  Independent variables that determine ITO decisions

Figure 20.2  Independent variables that determine ITO outcomes
The models serve as solid foundations based on strong empirical evidence. We discuss the determinants of ITO decisions next.

**Determinants of ITO decisions**

Figure 20.1 depicts the 21 significant IVs within the seven broad categories of independent variables that determine ITO decisions. A positive relationship between an IV and ITO decision in Figure 20.1 means that the IV was positively related to “outsourcing” decisions of some kind (domestic outsourcing, offshore outsourcing, multisourcing, or rural sourcing). A negative relationship between an IV and ITO decisions means that the IV was negatively related to outsourcing or positively related to “insourcing” decisions of some kind (insourcing to an internal IT function, internal IT shared services, client-owned offshore captive centers, or backsourcing). We explain each IV category and significant IVs within it in the next section.

**Transaction attributes**

When researchers investigated transaction attributes, they explored how the generic attributes of the IT service affected ITO decisions. We uncovered five transaction attributes that were examined at least five times and produced consistent results: (1) the critical role of IS, (2) transaction costs, (3) business risk, (4) service complexity, and (5) service interdependence. The critical role of IS is defined as “the degree to which a client organization views the IS service as a critical enabler of business success” (Lacity et al. 2010, p. 423). This variable was examined 17 times, and 12 times (71%) it was found to be negatively associated with IT outsourcing decisions. This finding indicates that clients more frequently insourced IT services that were perceived as critical to business success. Transaction costs are defined as “the effort, time, and costs incurred to search, create, negotiate, monitor, and administrate a contract between a client and provider” (Lacity et al. 2010, p. 427; e.g., Levina and Su 2008). Transaction costs were examined 13 times and found to be negatively associated with ITO decisions 11 times (85%), which is consistent with transaction cost economics (Williamson 1991; e.g., Dibbern et al. 2012; Gefen et al. 2011; Gonzalez et al. 2010). Business risk is “the probability than an action will adversely affect an organization” (Lacity et al. 2010, p. 422). Examined five times, four times (80%) it was negatively associated with ITO decisions. Service complexity is “the degree to which a service or project requires compound steps, the control of many variables, and/or where cause and effect are subtle and dynamic” (Lacity et al. 2016, p. 43; e.g., Ventovuori and Lehtonen 2006; Penfold 2009). Among six empirical examinations, five negative relationships (83%) were found between service complexity and ITO decisions (e.g., Aubert et al. 2012; Poston et al. 2010). Service interdependence is “the level of integration and coupling among tasks; services that are highly integrated are tightly coupled and difficult to detach” (Lacity et al. 2016, p. 43). Examined five times, it was always found to be negatively associated with ITO decisions (e.g., Susarla et al. 2010).

**Motivations to outsource**

Researchers have uncovered many motivations behind IT sourcing decisions. Ten sourcing motivations were examined at least five times and produced consistent results: (1) cost reduction, (2) access to expertise/skills, (3) focus on core capabilities, (4) business/process performance improvement, (5) technical reasons, (6) political reasons, (7) concern for security/
intellectual property, (8) fear of losing control, (9) access to global markets, and (10) flexibility enablement. Cost reduction, “a client organization’s need or desire to reduce the costs of providing an IT service” (Lacity et al. 2010, p. 423), was examined 50 times and 47 times (94%) it was positively associated with ITO decisions (e.g., Beverakis et al. 2009). Overall, costs are an important driver of sourcing decisions, but clearly not the only motive, because nine other motives were also repeatedly found to be significant. A client organization’s desire or need to access provider skills/expertise was examined 25 times, and 23 times (92%) it was positively associated with ITO decisions (e.g., McLellan et al. 1995). There is also strong evidence that clients wished to focus on core capabilities, which led to the outsourcing of presumably non-core capabilities (e.g., Currie and Seltsikas 2001; Premuroso et al. 2012). Clients were also motivated by business/process performance improvement, “a client organization’s desire or need to improve the performance of the client’s business, processes, or capabilities” (Lacity et al. 2010, p. 422). Examined 18 times, it was always found to positively motivate ITO decisions. Technical reasons are “a client’s desire or need to engage in an outsourcing relationship in order to gain access to leading edge technology available through providers” (Lacity et al. 2010, p. 427). Examined 10 times, it was always found to positively motivate ITO decisions. Political reasons, a “client’s desire to use an outsourcing decision to promote a personal agenda” (Lacity et al. 2010, p. 426), was examined eight times and found five times (63%) to be a significant factor motivating ITO decisions (e.g., Hall and Liedtka 2005; Gonzalez et al. 2010). Concern for security/intellectual property, “a client organization’s concerns about security of information, transborder data flow issues, and protection of intellectual property” (Lacity et al. 2016, p. 38) was examined seven times and five times (71%) it was negatively associated with ITO decisions (e.g., Sobol and Apte 1995; Wullenweber et al. 2008). Fear of losing control over the IT service was negatively associated with outsourcing seven out of the nine times (78%) it was examined (e.g., Bhagwatwar et al. 2011; Patane and Jurison 1994). A client organization’s desire or need to gain access to global markets by outsourcing to providers in those markets was another robust finding (Lacity et al. 2016; e.g., Premuroso et al. 2012), with six empirical examinations all positively related to outsourcing. Finally, flexibility enablement, “a client organization’s desire or need to increase the flexibility of the use and allocation of resources for IT services” (Lacity et al. 2016, p. 40), was examined six times and it was always found to be an important driver of ITO decisions (e.g., Ceci and Masciarelli 2010).

**Influence sources**

Within the broad category of influence sources, two independent variables were repeatedly examined and found to be positively associated with outsourcing decisions: (1) external and internal influences and (2) mimetic influences. External and internal influences are defined as “the combination of external media, provider pressure, and internal communications at the personal level among manager(s) in charge of a sourcing decision” (Lacity et al. 2010, p. 424). Examined six times, it was always found to influence ITO decisions. Mimetic influences “arise from the perception that peer organizations are more successful and by modeling behavior based on peer behavior, the mimicking organization aims to achieve similar results” (Lacity et al. 2010, p. 424). Mimetic influences were found to be positive and significant determinants of IT outsourcing decisions four of the five times it was examined (e.g., Ang and Cummings 1997; Loh and Venkatraman, 1992). From the theory of institutional isomorphism (DiMaggio and Powell 1991), mimetic influences were the only influence source that was repeatedly examined; coercive and normative influences were only studied one time each.
Client firm characteristics

Are certain types of clients more likely to make particular sourcing decisions for IT services than others? One client firm characteristic produced consistent results after repeated examinations: prior IS department performance. Prior IS department performance was typically measured as an organizational members’ perceptions of the IT function’s performance or competence in the past (e.g., Beulen and Ribbers 2003; Pinnerton and Woolcock 1995). Examined 16 times, 11 times (69%) it was negatively related to ITO decisions, meaning the worse the IS department’s past performance, the more likely it was to be outsourced.

Client capabilities

How do a client’s capabilities affect ITO decisions? Only one independent variable – a client’s technical and methodological capability – was examined enough times and produced consistent results to be included in Figure 20.1. A client’s technical and methodological capability is defined as “a client organization’s level of maturity in terms of technical or process related standards, and best practices” (Lacity et al. 2016, p. 38). Examined five times, five times it was found that higher levels of a client’s technical and methodological capability were associated with outsourcing (e.g., Bardhan et al. 2007; Dedrick et al. 2011). This finding seems to contradict the finding that client firms outsourced for “technical reasons,” but maturity is related to processes, not specific technologies.

Relationship characteristics

As a broad category, relationship characteristics examine the features of a particular client-provider pair. Only one independent variable, cultural distance, defined as “the extent to which the members of two distinct groups differ on one or more cultural dimensions” (Lacity et al. 2010, p. 423), was examined five times and four times it was negatively associated with ITO decisions. It seems that substantial cultural differences deter clients from outsourcing or influence their selection of offshore destinations (e.g., Gefen and Carmel 2008).

Environment

As a broad category, environmental factors are factors that “exist in the external environment for which parties have little control, such as the level of competition and public opinion about outsourcing/offshoring, that can affect sourcing outcomes for clients or providers” (Lacity et al. 2016, p. 22). Only one independent variable, provider competition, defined as “the presence of multiple, reputable and trustworthy service providers which can provide a range of choices for the clients” (Lacity et al. 2016, p. 42), produced enough consistent results to be included in Figure 20.1. Examined six times, four times (67%) it was positively associated with ITO decisions (e.g., Fisher et al. 2008; Levina and Su 2008). High levels of provider competition keeps prices at market value and gives clients more choices at the initial decision and may help clients switch providers if the incumbent performs poorly.

Determinants of ITO decisions

Figure 20.2 depicts the 31 significant IVs within the seven broad categories of independent variables that determine ITO outcomes. A positive relationship between an IV and ITO
decision in Figure 20.2 means that the IV was positively related to ITO outcomes of some kind (cost savings, better IT service, better organizational performance, etc.). A negative relationship between an IV and ITO outcomes means that the IV was negatively related to ITO outcomes (cost increases, worse IT service, worse organizational performance, etc.).

**Transaction attributes**

Researchers have studied transaction attributes to determine whether outsourcing certain types of transactions were more or less likely to result in positive outcomes. Overall, (1) uncertainty, (2) measurement difficulty, and (3) service complexity were negatively and significantly related to ITO outcomes. Uncertainty is defined as “the degree of unpredictability or volatility of future states as it relates to the definition of IT requirements, emerging technologies, and/or environmental factors” (Lacity et al. 2010, p. 427; Williamson 1991; e.g., Poppo and Zenger 2002; Aubert et al. 2004). Of the 20 times uncertainty was studied, 14 times (70%) researchers found that uncertainty adversely affected ITO outcomes (e.g., Barthélemy 2001).

Measurement difficulty, “the degree of difficulty in measuring performance of exchange partners in circumstances of joint effort, soft outcomes, and/or ambiguous links between effort and performance” (Lacity et al. 2010, p. 425; e.g., Eisenhardt 1989), was examined nine times and was found to adversely affect ITO outcomes six times (67%) (e.g., Poppo and Zenger 2002).

Service complexity, “the degree to which a service or project requires compound steps, the control of many variables, and/or where cause and effect are subtle and dynamic” (Lacity et al. 2016, p. 43; e.g., Ventovuori and Lehtonen 2006; Penfold 2009), was examined five times and was found to adversely affect ITO outcomes four times (80%).

**Contractual governance**

Contractual governance is the formal, written rules that govern client-provider relationships (Lacity et al. 2016). Three IVs were repeatedly tested with consistent results: (1) contract detail, (2) contract type, and (3) control mechanisms. Detailed contracts that defined the scope of services, prices, service levels, and responsibilities of both parties and prescribed how parties would adapt to changes in character, volume, or market best practices had better outsourcing outcomes than contracts with fewer details (e.g., Pinnington and Woolcock 1995; Poppo and Zenger 2002). Contract detail was positively related to ITO outcomes in 15 of the 19 times it was examined (79%). Contract type is a term denoting different forms of contracts used in outsourcing. Examples from the ITO literature include customized contracts, fixed price contracts, time and materials contracts, fee-for-service contracts, and partnership-based contracts (Lacity et al. 2010). Contract type mattered or was positively related to ITO outcomes 16 of the 21 times (76%) it was examined (e.g., Gopal et al. 2003). Control mechanisms are certain means or devices a controller uses to promote desired behavior (Lacity et al. 2016). Some ITO researchers assessed the types of controls while other researchers assessed the number of controls. Considering the evidence from both, control mechanisms mattered or were positively related to ITO outcomes in 9 out of the 10 times it was examined.

**Relational governance**

Relational governance comprises the informal rules used to manage client-provider relationships. In scholarly works we reviewed, ten IVs were repeatedly examined and produced consistent results: (1) knowledge sharing, (2) communication, (3) trust, (4) relationship quality,
(5) partnership view, (6) relational governance (generic IV), (7) commitment, (8) social capital, (9) interface design, and (10) cultural distance. Knowledge sharing, “the degree to which clients and providers share and transfer knowledge” (Lacity et al. 2016, p. 40) was examined 23 times and was positively related to ITO outcomes 21 times (91%). Communication, “the degree to which parties are willing to openly discuss their expectations, directions for the future, their capabilities, and/or their strengths and weaknesses” (Lacity et al. 2010, p. 423; e.g., Klepper 1995), was examined 14 times and was always positively related to ITO outcomes. Trust, “the confidence in the other party’s benevolence” (Lacity et al. 2010, p. 427; e.g., Dibbern et al. 2008) was examined 16 times and was positively related to ITO outcomes 13 times (81%) (e.g., Sabherwal 1999). Relationship quality, “the quality of the relationship between a client and provider,” was found to positively affect ITO outcomes five out of six times (83%). A partnership view, defined as “a client organization’s consideration of suppliers as trusted partners rather than as opportunistic vendors” (Lacity et al. 2010, p. 426; e.g., Saunders et al. 1997; Kishore et al. 2003) also positively affect ITO outcomes five out of six times (83%). Within the broad category of “relational governance” there is a general independent variable that is also called relational governance. This is because some studies measured an independent variable that was simply called relational governance (e.g., Srivastava and Teo, 2012). Examined 11 times, relational governance positively affected sourcing outcomes 9 times (82%). Social capital is “the sum of the actual and potential resources embedded within, available through and derived from the network of relationships” (Lacity et al. 2016, p. 43; e.g., Nahapiet and Ghoshal 1998). Higher values of social capital were positively related to higher values of ITO decisions in four of the five times (80%) it was examined. Client/provider interface design is the planned structure on where, when, and how client and provider employees work, interact, and communicate (Lacity et al. 2010; e.g., Rottman and Lacity 2006). Studied eight times, six times (75%) client/provider interface design mattered. Cultural distance hurt ITO outcomes, but this, in theory, could be offset with higher levels of a cultural distance management capability (Lacity et al. 2016).

**Provider capabilities**

Which provider capabilities contribute to positive outsourcing outcomes? The four most frequently studied and most important provider firm capabilities were (1) technical and methodological capability, (2) human resource management capability, (3) domain understanding, and (4) client management capability. The provider’s technical and methodological capability in terms of technical or process related standards, including the Capability Maturity Model (CMM), Capability Maturity Model Integrated (CMMI), and the Information Technology Infrastructure Library (ITIL) and best practices such as component reuse (e.g., Davenport 2005, Rottman and Lacity 2006; Kotlarsky et al. 2007), was found to affect outcomes positively in 15 out of 17 examinations (88%). A provider’s human resource management capability, the “ability to identify, acquire, develop, and deploy human resources to achieve both provider’s and client’s organizational objectives” (Lacity et al. 2010, p. 424), was found to positively and significantly affect client outcomes 12 of the 16 times (75%) it was examined. Domain understanding is the extent to which a provider has prior experience and/or understanding of the client organization’s business and technical contexts, processes, practices, and requirements (Lacity et al. 2016; e.g., Clark et al. 1995; Gopal et al. 2002), and was positively related to ITO outcomes in four out of six examinations (67%). The general client management capability, defined as “the extent to which a provider organization is able to effectively
manage client relationships” (Lacity et al. 2010, p. 423) was always found to positively affect ITO outcomes in nine examinations.

**Client capabilities**

Which client capabilities contribute to positive outsourcing outcomes? Seven client capabilities were frequently studied and found to be important determinants of ITO outcomes. Clients with strong capacities in (1) technical and methodological, (2) provider management, (3) contract management, (4) risk management, (5) outsourcing readiness, (6) transition management, and (7) absorptive capacity capabilities had better ITO outcomes compared to clients with weak or immature capabilities. A client’s technical and methodological capability was an important determinant in both ITO decisions and ITO outcomes. Examined 12 times, it positively affected ITO outcomes nine times (75%). We also see that the technical and methodological capability was needed by both parties in order to deliver good outcomes (see provider capabilities). Clients must become good at managing providers by shifting their capabilities from managing resources and processes to managing inputs and outputs. The provider management capability was examined 14 times and was always found to significantly ITO outcomes. Clients also need a strong contract management capability to effectively bid, select, and negotiate effective contracts with providers (e.g., Feeny and Willcocks 1998). Examined 11 times, it always positively affected ITO outcomes. A client also needs to be able to identify, rate, and mitigate potential risks associated with outsourcing (risk management capability) (e.g., Smith and McKeen 2004), as evidenced by the five times out of seven (71%) that it positively affected ITO outcomes. Clients needed to be ready to outsource by having realistic expectations and a clear understanding of internal costs and services compared to outsourced costs and services, as supported by all 12 empirical examinations. Transition management capability, defined as “the extent to which a client organization effectively transitions services to or from outsourcing providers or integrates client services with provider services” (Lacity et al. 2016, p. 44), was examined six times and always positively affected ITO outcomes. Finally, a client’s absorptive capacity, the ability to scan, acquire, assimilate, and exploit valuable knowledge, was significant in four out of five examinations (80%) (e.g., Lee 2001; Lin et al. 2007).

**Client firm characteristics**

Are certain types of clients more likely to get better outsourcing outcomes for IT services than others? One client firm characteristic produced consistent results after repeated examinations: client experience with outsourcing. Prior IT outsourcing experience of clients was associated with better outcomes in five out of six examinations (83%) (e.g., Barthélemy, 2001; Gopal et al., 2003).

**Decision characteristics**

The way clients made ITO decisions also mattered in that the (1) provider evaluation process and (2) top management support affected ITO outcomes. The evaluation process for evaluating and selecting providers mattered in seven out of eight examinations (88%) (e.g., Kern et al., 2002; Lacity and Willcocks 1998). Top management commitment/support, defined as “the extent to which senior executives provide leadership, support, and commitment
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to outsourcing” (Lacity et al. 2010, p. 427), was positively related in all six examinations (e.g., Baldwin et al. 2001; Koh et al. 2004).

ITO decision

Finally, we report that client organizations that decided to outsource IT services reported positive outcomes in 63% of findings. In the past, this metric has been called the ITO “batting average” (Lacity et al. 2016). Essentially this tells us that ITO outsourcing led to good outcomes more often than not, but success is not guaranteed. The variability in outcomes is explained largely by the variation in the other 30 IVs that determined outcomes.

Impactful future research opportunities

What are promising areas for future research? As further contributions to “normal science” (Kuhn 1970), IS scholars may continue to help clients with ITO decisions and to help clients and providers successfully manage ITO relationships by continuing to study the determinants of ITO decisions and outcomes. We made specific recommendations in these areas in Lacity et al. (2016). For example, we called for more empirical studies on:

- **Innovation in ITO delivery**: How can clients incentivize IT service providers to deliver innovations beyond the standard service levels agreed to in contracts?
- **Environmental factors**: How do environmental factors affect ITO decisions and outcomes? We need studies to better understand how shifts in political regimes affect offshoring decisions. We know very little about how public opinion on outsourcing/offshoring affects sourcing decisions and outcomes for clients or providers, despite the media filling the airwaves with politicians espousing the evils of worker visa programs and sending jobs out of a country.
- **Client and provider capabilities**: While we have a good understanding of client capabilities and provider capabilities as independent sets of capabilities, we do not have a good understanding of how they affect each other. What really determines whether outsourcing results in capabilities lost or capabilities gained for each party?
- **Pricing models**: While there are many studies that examine the determinants and effects of fixed-price versus time and materials contracts, we have little understanding about other pricing models like utility pricing, gainsharing, and outcome-based pricing.

Beyond “normal science” contributions, what research might be truly impactful? In Lacity et al. (2016), we proposed some rather audacious future research directions. Here we revisit four questions sought to elevate the research agenda from client and provider perspectives to societal issues.

What roles do sourcing clients and providers have in uplifting marginalized populations around the world?

According to the US Census Bureau, world population exceeded seven billion people in 2012. The World Bank estimated that 80% of the world’s population – 5.6 billion people – were below the poverty line, living on less than $10 per day. In 2011, 2.2 billion people lived in extreme poverty, living on less than $2 per day. Caring leaders from the sourcing community realize that all the spending that occurs in sourcing can help alleviate poverty by employing
marginalized populations to provide business services. The Global Sourcing Council, for example, was created as a non-profit organization to help organizations source goods and services by uplifting humanity through jobs while protecting the environment.

In the academic community, there are several researchers beginning to study how sourcing clients and providers alleviate poverty through meaningful work. This research stream is called “impact sourcing” and it is defined as “the practice of hiring and training marginalized individuals to provide information technology, business process, or other digitally enabled services who normally would have few opportunities for good employment” (Carmel et al. 2014, p. 397). Impact sourcing may employ as many as 561,000 people and may generate as much as $20 billion worldwide (Accenture 2012; Avasant/Rockefeller Foundation 2012; Everest Group 2014; Monitor Group/Rockefeller Foundation 2011). The small amount of research that does exist provides case studies on companies aiming to help such varied marginalized populations as the poor, Native American tribes, ultra-orthodox Jewish women who are not allowed to work with men, and prisoners, of whom there are six million worldwide (e.g., Gino and Staats 2012; Heeks 2012; Heeks and Arun 2010; Lacity et al. 2012). More research on impact sourcing is needed to convince customers of the value of such services and to inspire other entrepreneurs and established service providers to pursue social missions.

What roles do sourcing clients and providers have in sustaining the planet?

Environmental sustainability is the idea that human survival and well-being depends on the natural environment. Over-population, depletion of natural resources, pollution, and nuclear proliferation are all serious threats to environmental sustainability (Rosa et al. 2010). Companies that source IT services certainly affect the environment through power consumption in data centers, employees’ global travel, consumption of water, and disposal of e-waste, to name a few (Babin and Nicholson 2011). One way that companies can protect the environment is to meet standards set by such organizations as the Global Reporting Initiative, the Carbon Disclosure Project, the UN Global Compact and the ISO environmental and social responsibility standards. Babin and Nicholson (2011) assessed the environmental maturity of 19 major ITO and Business Process Outsourcing (BPO) providers, and found that Accenture, Infosys, TCS, Wipro, and HP had the most mature sustainability profiles. Beyond this isolated study, we did not find any empirical research that assessed how sourcing clients and providers specifically help or hurt the physical environment. This is perhaps because environmental sustainability is usually not an isolated goal, but rather part of a three-pronged approach known as corporate social responsibility (CSR). CSR aims to simultaneously balance economic, social, and environmental objectives (Porter and Kramer 2006; 2011). A few academic researchers have begun to study CSR capabilities of both sourcing clients and providers (Babin 2008; Babin et al. 2011; Babin and Nicholson 2009; 2012; Li et al. 2014; Madon and Sharanappa 2013). Clearly, more work is needed.

What are the implications of threats to cybersecurity on sourcing and vice versa?

Arguably, cybersecurity is currently one of the most critical issues facing individuals, organizations, governments, and society (Hoffman et al. 2015), as evidenced by yet another year filled with a spate of spectacular data breaches. An interesting stream of work has recently emerged that examines the outsourcing of information security management (i.e., managed security

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services) (e.g., Cezar et al. 2014). While studying managed security services as another type of business service being outsourced is certainly important, we believe there are at least two other aspects that deserve urgent attention. First, given most, if not all, business services are IT-enabled and IT services are a major portion of outsourced business services (Lacity et al. 2010; 2011), it appears critical to better understand the impacts of outsourcing of business services on organizational security postures, exposure to cyber threats, and their abilities to effectively manage information security. For example, Reitzig and Wagner (2010) argue that as organizations outsource upstream activities, they face the possibility of losing knowledge on conducting downstream activities through the mechanism of “forgetting by outsourcing vertically related activities” (p. 1196). As organizations continue to disintegrate value chains via globally dispersed service providers, do they risk “forgetting” how to effectively manage information security in the process? On the other hand, how does increased management focus on cybersecurity shape outsourcing decisions and management of outsourced services?

Second, as both the breadth and depth of outsourcing of business services increase, how can organizations effectively build security into the outsourcing process? How can they effectively stipulate security-related expectations in outsourcing contracts, and more importantly govern and monitor outsourcing relationships to ensure security and compliance? While the first set of issues may be more difficult to address empirically, we believe that outsourcing practice can benefit immensely from research-based guidance on these complex and murky issues.

How will service automation affect workers around the globe?

In 2014, Brynjolfsson and McAfee published a best-selling book called The Second Machine Age. They argued that the “first” machine age occurred during the Industrial Revolution when machines replaced humans doing physical labor. During the “second” machine age – the age happening now – machines are increasingly replacing humans doing highly perceptual tasks (like driving cars) and highly cognitive tasks (like designing financial portfolios to balance risk). According to the authors, some of the positive consequences will be an explosion in the variety and volume of consumption. One huge unanswered question relates to the nature of work: as computers increasingly take over jobs, what work will humans do? This question has been splattered on the covers of such publications as the Harvard Business Review (Davenport and Kirby 2015; Reeves et al. 2015; Frick 2015), the Atlantic (Thompson 2015), and the Wall Street Journal (Davenport and Iyer 2015).

In the sourcing industry, we are certainly witnessing the shift from labor to automation for the provisioning of business services. Consider these bellwether events:

- In September 2014, Wipro announced it will reduce headcount by one-third over the next three years because of disruptive technologies like automation and artificial intelligence.6
- In December 2014, Frank Casale launched the Institute of Robotic Process Automation (IRPA) in New York City.7 In his keynote speech at the event, Casale, also the founder of The Outsourcing Institute8 in 1993, said he launched the IRPA because he saw that automation technology was going to be the next game changer in outsourcing.
- In May 2015, The REV America conference,9 designed to build a vibrant business services industry in the United States, presented a panel on why robotic process automation (RPA) is great for American jobs.
- In June 2015, The WorldBPO Forum10 and the National Outsourcing Association11 added keynotes and panel discussions on RPA to their agendas.
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- In July of 2015, the IAOP launched a chapter dedicated to RPA. One major Indian provider estimated that going forward, 70% of its IT services would be automated and 30% would be labor based.
- During 2014–2015, the major sourcing advisors started developing RPA practices, including the Everest Group, Alsbridge, HfS, KPMG, and ISG.

The research questions are daunting. If ITO services will be increasingly provided by technology, what happens to countries with labor arbitrage advantages? For example, what will happen to India’s middle class, which was largely built on this sector? Will automation lead to more reshoring back to high-cost destinations? Will opportunities to uplift marginalized populations by employing them in the services sector diminish? Bringing all these research issues together, we ask: how can sourcing clients, providers, and advisors protect jobs, protect the environment, and ensure security in an increasingly automated world?

Conclusion

We aimed to accomplish two goals with this chapter. First, we aimed to succinctly review the entire empirical record on the determinants of ITO decisions and ITO outcomes. While the chapter presented the findings at the detailed level of specific IVs, we conclude by abstracting the 23 years of empirical research to the categories of determinants in Figure 20.3. This figure represents our collective learning on ITO. There is something immensely elegant and gratifying to depict over 1,170 findings in such a simple picture. Second, we aimed to inspire ourselves and our colleagues with ambitious goals for future research by proposing studies on the role of IT sourcing in addressing poverty, environmental sustainability, security, and the nature of human work in the age of software robots.

The key empirical findings suggest that client organizations clearly had a rich set of motives driving ITO sourcing decisions in addition to cost savings, including the desire to improve

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**Figure 20.3** Categories of independent variables that determine ITO decisions and ITO outcomes
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performance and to increase flexibility. Many clients pursued outsourcing as part of a strategy to focus in-house staff on critical services. Clients also used outsourcing to access a provider’s expertise, technical assets, and global markets. When clients feared losing control of the IT service or feared security or intellectual property leakages, they tended to select insourcing options. When making sourcing decisions, client organizations also considered a number of transaction attributes that hindered outsourcing and favored insourcing, like high transaction costs, high business risks, and high service complexity and interdependence. Clients tended to also insource IT services deemed critical to the business. Client decisions were influenced by a number of external and internal sources and tended to outsource when they perceived other competitors were successful in doing so, thereby hoping to mimic their competitors’ success. Clients felt more confident outsourcing services when they themselves had mature technical and methodological capabilities. Clients were also more likely to outsource when they perceived a high level of provider competition, perhaps to avoid lock-in or to get a competitive price, but clients tended to avoid selecting providers that were deemed to have a wide difference in culture.

On the determinants of ITO outcomes, the empirical evidence suggested that sourcing decisions were also complex, as demonstrated by the 31 significant independent variables that were found repeatedly to influence sourcing outcomes. Client organizations struggled to get good sourcing outcomes when transactions had high levels of uncertainty, measurement difficulty, or service complexity or when the client organizations had little prior experience with outsourcing. Capabilities were also important determinants of sourcing outcomes. Clients with strong technical and methodological, provider management, contract management, risk management, transition management, and absorptive capacity capabilities had better sourcing outcomes compared to clients with weak or immature capabilities. Also, clients needed to be ready to outsource by having realistic expectations and a clear understanding of internal costs and services compared to outsourced costs and services. Provider capabilities were also important; providers with strong technical and methodological, human resource management, domain understanding, and client management capabilities produced better outcomes for clients and for themselves compared to providers with weak capabilities. Contractual and relational governance were powerful influencers on sourcing outcomes. When clients signed detailed contracts and used more control mechanisms, they experienced better sourcing outcomes compared to clients with loose contracts and fewer controls. Contract type also influenced outcomes in that fixed-price contracts had different effects on risks, success, and financial performance than time and materials contracts. Higher levels of the following relational governance variables were associated with better sourcing outcomes: knowledge sharing, communication, trust, relationship quality, partnership view, commitment, and social capital. The interface design also mattered—clients and providers need to actively design how the parties will work together. Cultural distance hurt sourcing outcomes, but this, in theory, could be offset with higher levels of a cultural distance management capability. Like most organizational decisions, outsourcing decisions were more successful when the evaluation process was extensive and when senior management was committed and supportive of the decision.

Notes
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