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## Journal of World Business

journal homepage: [www.elsevier.com/locate/jwb](http://www.elsevier.com/locate/jwb)

# Governance decisions for the offshore outsourcing of new product development in technology intensive markets

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## ARTICLE INFO

## Keywords:

Governance  
Offshoring  
Outsourcing  
New product development  
Technology intensive markets

## ABSTRACT

This study addresses how buyers organize their offshore outsourcing new product development relationships. Building on transaction cost economics and resource dependence theories, we propose a model of the influence of key new product development offshore outsourcing factors on two important buyers' governance decisions (i.e., supply concentration and degree of supplier involvement). The antecedents, drawn from the marketing, management, and international business literatures, include: three sources of asset specificity (degree of modularity, strategic value of the project, and technology specificity) and two sources of uncertainty (cultural distance and technological discontinuity). The results, derived from an analysis of 200 offshore outsourcing new product development relationships, provide new insights for academics and practitioners.

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## 1. Introduction

The study of globalized, rapidly changing technology-intensive (TI) markets has attracted research attention in the marketing, management and international business disciplines (John, Weiss, & Dutta, 1999; Matthews & Cho, 1999; Stremersch, Allen, Benedict, & Ruud, 2003). TI markets are characterized by uncertainty due to heterogeneous and rapidly changing technologies, and by the fact that buyers frequently lack relevant prior experience. To survive, firms increasingly build new product development (NPD) capabilities and achieve strategic flexibility by outsourcing and building close supplier relationships in offshore markets (Carson, 2007; Kotabe & Murray, 1990;

Yalcinkaya, Calantone, & Griffith, 2007). For example, IBM, Accenture, Electronic Data Systems, Computer Sciences Corp. and HP all recently signed global sourcing contracts exceeding \$1 billion in value; growing foreign companies, such as TCS, Infosys and Wipro, are rising in the top 10 supplier ranks (12 July 2006 in *The Wall Street Journal*; 28 December 2007 in *Business Wire*).

Offshore outsourcing creates avenues for inter-firm learning and provides for global leverage. Building NPD partnerships with offshore suppliers provides buyer firms with substantial advantages, such as the ability to increase product variety, decrease necessary NPD resources and costs required to bring new products to market, and speed up the introduction of innovative products. Partnering with offshore suppliers, however, can also create supplier-buyer dependence, risks of leakage of tacit know-how, and loss of knowledge-based capabilities (Heide & Weiss, 1995; Stremersch et al., 2003). Dependence on suppliers for product design may put intellectual property (IP) in jeopardy, casting doubt on how much intellectual property the firm really owns. This threat increases when collaborating on a global scale due to differences in IP protection

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across markets, cultural distance, and so on; for example, business press discusses security risks and breaches of negotiated contracts (e.g., counterfeit and/or over-quota production; *Fortune*, 1 May 2006). Surprisingly, little research has investigated governance structures of these relationships, and thus we investigate how buyers organize offshore outsourcing NPD relationships in the face of asset specificity and uncertainty.

Based on the rationale of transaction cost economics (TCE) and resource dependence theory (RDT), we model buyers' governance decisions of their NPD offshore outsourcing by theorizing the influence of asset specificity and uncertainty (two categories of independent constructs) on supply concentration and degree of supplier involvement (two focal governance decisions; Heide & Weiss, 1995; Rindfleisch & Heide, 1997; Stremersch et al., 2003). We argue that NPD offshore outsourcing is a managerial decision to market exchange (as opposed to internalization) in order to (1) reduce transaction costs and resource dependence, and (2) enhance efficiency and effectiveness. After laying the theoretical foundation, we discuss the research design, secondary data sources from 200 NPD relationships, and analysis techniques. We then present the findings and implications for international marketing academics and practitioners.

## 2. Theoretical foundation

Much of the buyer–supplier governance literature derives from TCE (e.g., Brush & Rexha, 2007; Chen & Chen, 2003; Dong, Zou, & Taylor, 2008). TCE focuses on matching transaction characteristics with governance mechanisms to minimize transaction costs (Rindfleisch & Heide, 1997). Early TCE research was criticized for a number of reasons, in particular for ignoring the interrelatedness in multiple exchanges (Heide & John, 1992). RDT has been employed to account for inter-firm relationships. These are viewed as sources for distinctive resources (e.g., Heide & John, 1992). However, RDT-adapted TCE is still challenged; specifically, Williamson (1991) notes that fast changing markets (e.g., TI markets) create additional contextual concerns not considered by extant TCE perspectives.

Consistent with Williamson (1991), these are two fundamental problems in TI markets from a buyer's perspective. First, rapid technological change and intense competition create the risk of obsolescence of knowledge and capabilities (Kotabe & Murray, 1990; Lehrer & Asakawa, 2002; Swan & Allred, 2003). Buyers seek to outsource NPD activities and to combine suppliers' R&D resources and capabilities with their knowledge base (Howells, James, & Malik, 2003), resulting in enhanced flexibility and productivity as well as lower transaction and production costs. Second, buyers face multiple costs and threats (Appleyard, 2003; Kotabe & Murray, 1990). These include functional mismatches and coordination difficulties; switching costs due to earlier commitments to technologies or suppliers (Heide & Weiss, 1995; Stump & Heide, 1996); external dependence, possibly including the gradual loss of internal NPD and other knowledge-based capabilities (Appleyard, 2003; Mikkola, 2003). The most important risk may be leakage through suppliers of

technical and marketing know-how to competitors (especially at the design stage; Dutta & Weiss, 1997; Williamson, 1991).

Governance in TI markets has become more important due to increasing globalization, heightened competitiveness, and the dramatic growth of TI markets. Surprisingly, there is a paucity of studies on how global NPD processes in TI markets should be governed to maximize outcomes and minimize risks (Kotabe & Murray, 1990). We embed our theoretical arguments in TCE and RDT, which emphasize the costs and the risks associated with inter-organizational relationships. Based on the assumptions that parties are motivated by economic self-interest, may engage in opportunistic behavior, and are limited in their cognitive capabilities (i.e., bounded rationality), TCE examines how firms match transactions of different characteristics with governance mechanisms to minimize costs and risks (Williamson, 1985). Opportunism and bounded rationality give rise to problems of safeguarding, adaptation, and performance evaluation because: (1) the relationship may be supported by transaction-specific assets (i.e., assets are not redeployable); (2) environmental uncertainty leads to the inability to specify *ex ante* the conditions surrounding an exchange; and (3) behavioral uncertainty, or uncertainty related to the outcome of the transaction partner's behavior. Transaction costs include the actual and opportunity costs of various governance structures; risks arise from transaction-specific factors, such as asset-specificity and uncertainty (Walker & Weber, 1984; Williamson, 1981). Overall, TCE explains how buyers organize their outsourcing initiatives, taking into account the extent of transaction-specific investments and the uncertainty arising from buyer bounded rationality and supplier opportunism.

Complementing TCE, RDT maintains that insufficient resources and/or capabilities to complete a task internally creates dependence on outsiders and introduces new uncertainties (Ganesan, 1994). Uncertainties arise because resource flows are not under the firm's control and may not be predicted accurately. RDT views inter-firm governance as a strategic response. Firms seek to reduce external uncertainty and manage dependence by establishing exchange relationships with other firms (Heide & John, 1988). In the case of NPD offshore outsourcing relationships, buyers need to control key technologies in the value chain and manage technological turbulence in their operating environment. These NPD relationships can help reduce NPD costs through specialization and information exchange, as well as make available technologies the firm cannot develop in-house (Tidd, 1995). Transaction or relationship-specific investments may increase buyers' switching costs and dependence on suppliers, as "their presence makes exchange partners irreplaceable or replaceable only at a cost" (Heide, 1994, p. 73). Buyers lacking performance evaluation expertise may face governance problems due to opportunistic behavior.

TCE and RDT together help to explain efficiency and effectiveness in organizing relationships (Heide, 1994; Stump & Heide, 1996). Specifically, if (1) the relationship is supported by asset-specific investments, (2) the buyer

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