

Offshoring in the manufacturing industry

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Innovation has always been considered a core competence that should be developed and maintained within an organization. However, over the past decade the growth of global innovation sourcing—driven mainly by the globalization of both technology markets and knowledge workers—has begun to challenge this conventional wisdom. Offshoring goes far beyond the migration of relatively routine tasks like administrative work, IT infrastructure, or call center staffing and now includes product development and design, and research and development. Although the concept of offshoring is not new for manufacturing companies, its previous application usually involved labor arbitrage in low-level, routine manufacturing jobs.

Findings from the 2009 Offshoring Research Network (ORN) survey reveal that manufacturing companies are now among the major practitioners of innovation offshoring, including engineering services, research and development, and product design. Chart 1 summarizes the percentage of manufacturing companies that are offshoring a particular function, and clearly demonstrates that, compared to other functions, innovation services are growing the fastest, surpassing other major offshore

activities such as information technology and contact center. This trend within manufacturing is particularly noteworthy given its absence from other industries more typically associated with information technology offshoring. Take finance and insurance industry as example. Chart 2 illustrates the slow growth of innovation offshoring in finance and insurance industry in which only 18 percent of companies are currently offshoring their innovation activities.

Chart 1: Cumulative percentage of manufacturing companies offshoring particular function over time

Source: Duke University/Archstone Consulting Offshoring Research Network 2005 US survey and Duke University/Booz Allen Hamilton Offshoring Research Network 2006 US survey and Duke University/The Conference Board Offshoring Research Network 2007/8 US survey and Duke University The conference Board Offshoring Research Network 2009 survey

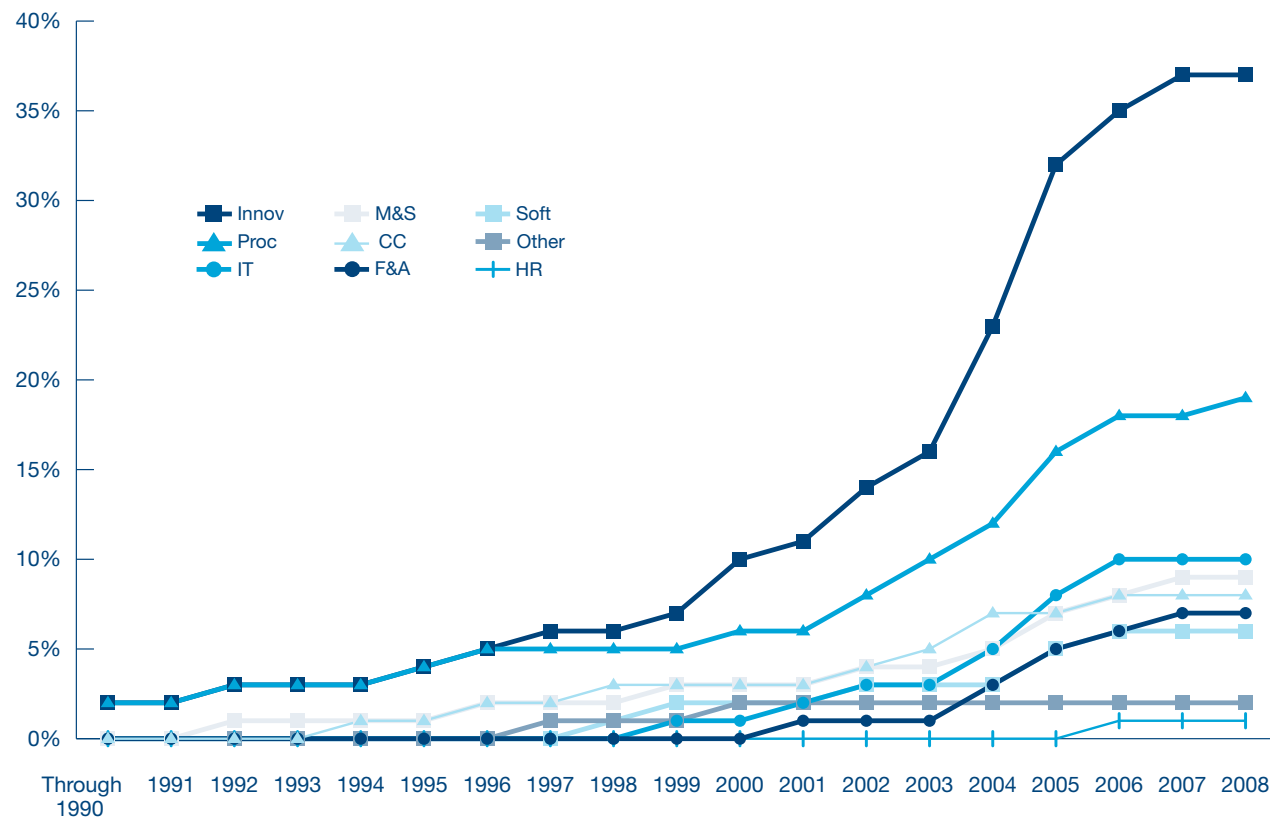
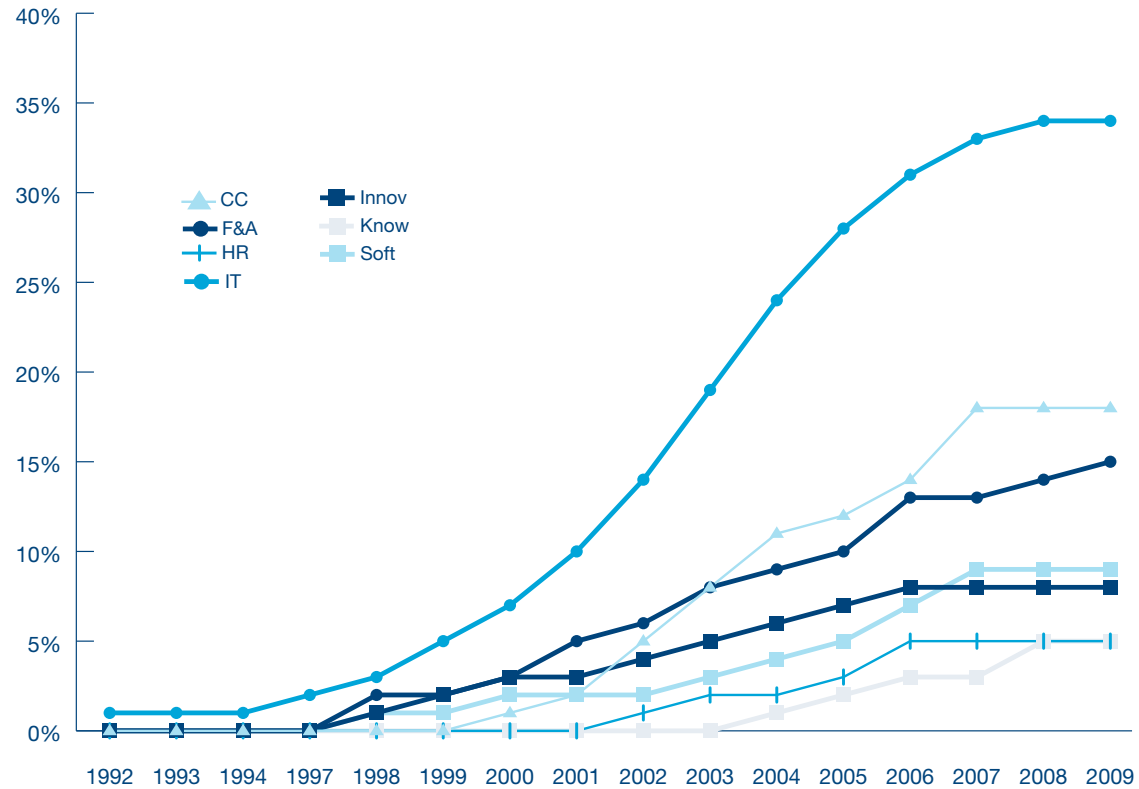


Chart 2: Cumulative percentage of finance and insurance companies offshoring particular function over time

Source: Duke University/Archstone Consulting Offshoring Research Network 2005 US survey and Duke University/Booz Allen Hamilton Offshoring Research Network 2006 US survey and Duke University/The Conference Board Offshoring Research Network 2007/8 US survey and Duke University/The conference Board Offshoring Research Network 2009 survey



Overall distribution of offshoring by manufacturing companies (Chart 3) shows that more than 60 percent of manufacturing companies engage in innovation offshoring, where their main destinations (see Chart 4) include India (33 percent), China (27 percent) and Western Europe (17 percent). This finding is consistent with service providers' expectations (2009 ORN service provider survey). In response to the question about

their expectations of growing destinations for a particular function, over 30 percent of service providers named India and China as high-growth destinations for innovation offshoring (see Chart 5). More than a third of participating manufacturers reveal that information technology, finance and accounting, and procurement are among their top offshoring operations.

Chart 3: Distribution of functional implementations by manufacturing companies

Source: Duke University/The Conference Board Offshoring Research Network 2009 survey

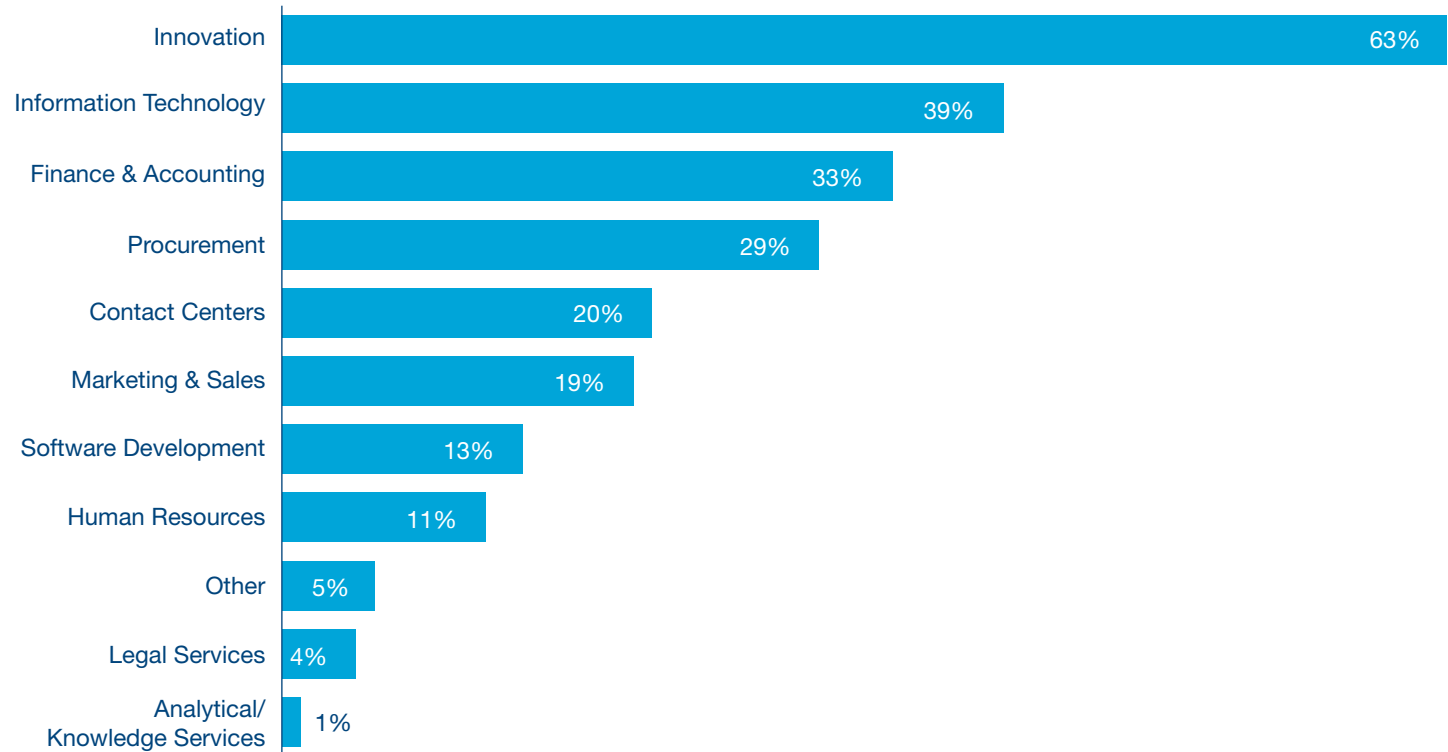
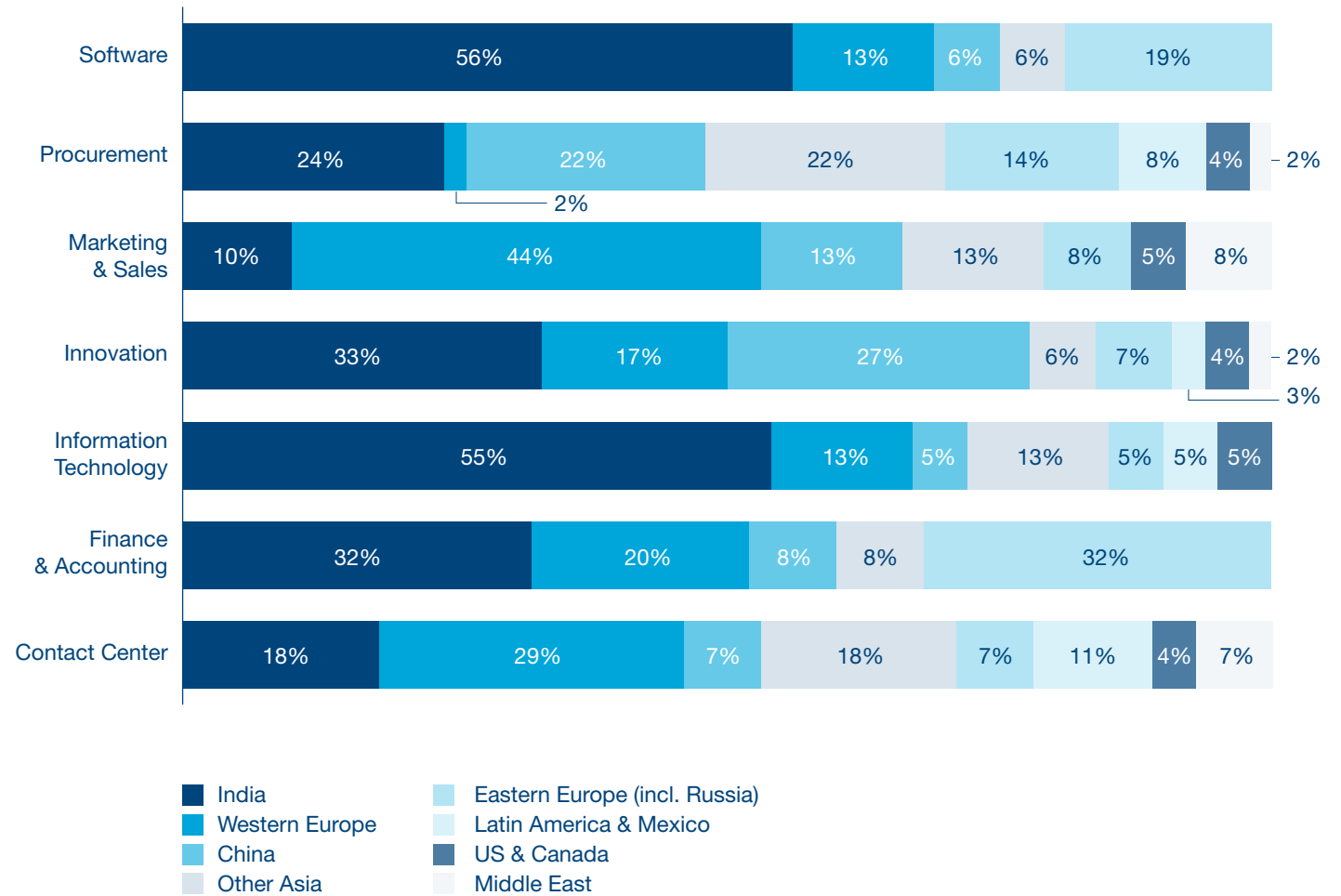


Chart 4: Distribution of offshore destinations chosen by manufacturing companies for particular function

Source: Duke University/The Conference Board Offshoring Research Network 2009 survey

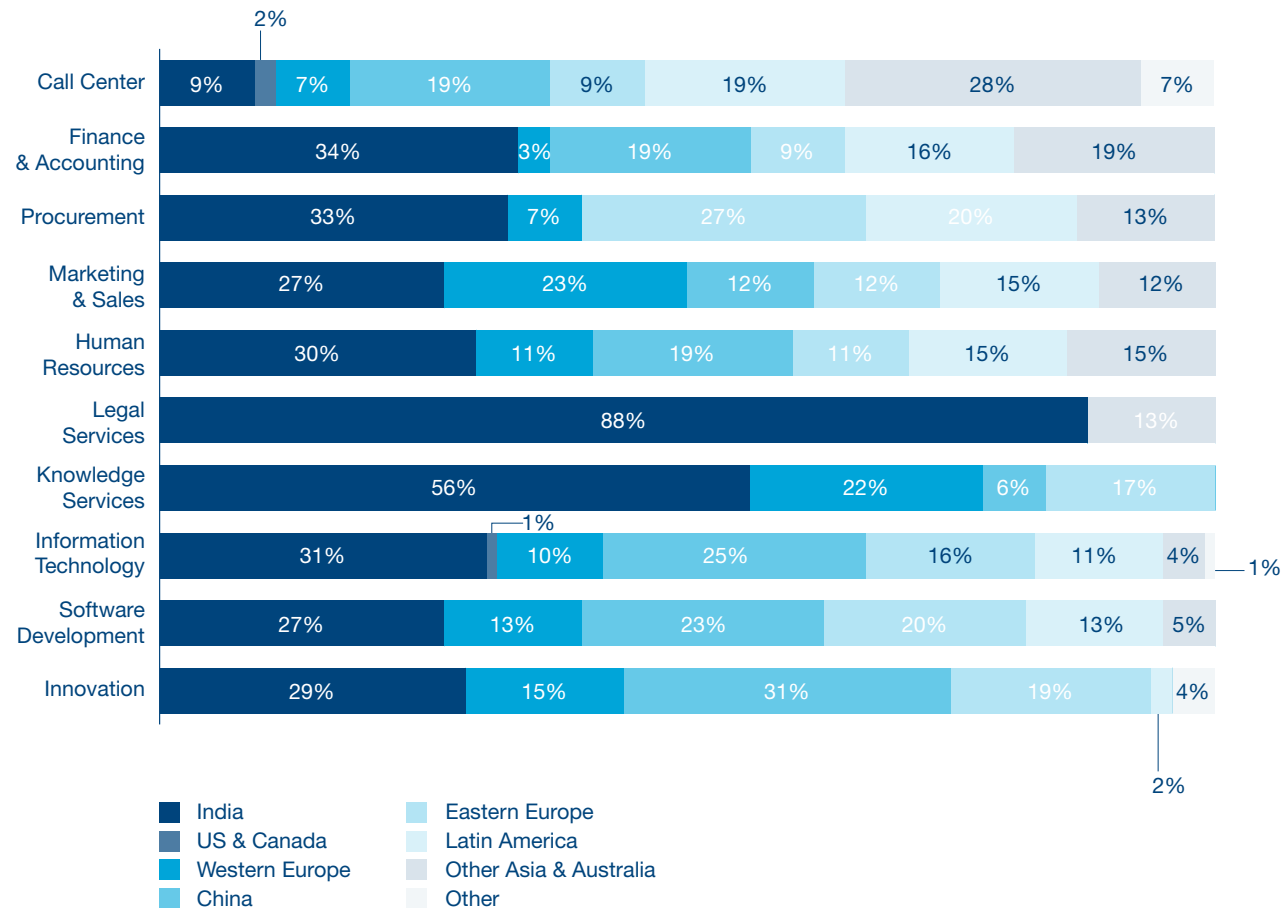


One finding that stands out from the survey is offshore destination choices of manufacturing companies. While India generally remains the most attractive offshoring destination, participating manufacturing companies articulated a strong preference for using European providers for finance and accounting, marketing and sales, and contact center offshoring.

Forty-four percent of manufacturing companies offshore their marketing and sales operations to western European providers, with only 10 percent to going to Indian providers. Similarly, Western (22 percent) and Eastern (32 percent) Europe are also the favorite locations for finance and accounting offshoring by manufacturing companies.

Chart 5: Percent of providers naming regions as growing destinations for particular services

Source: Duke University Offshoring Research Network 2009 Service Provider survey



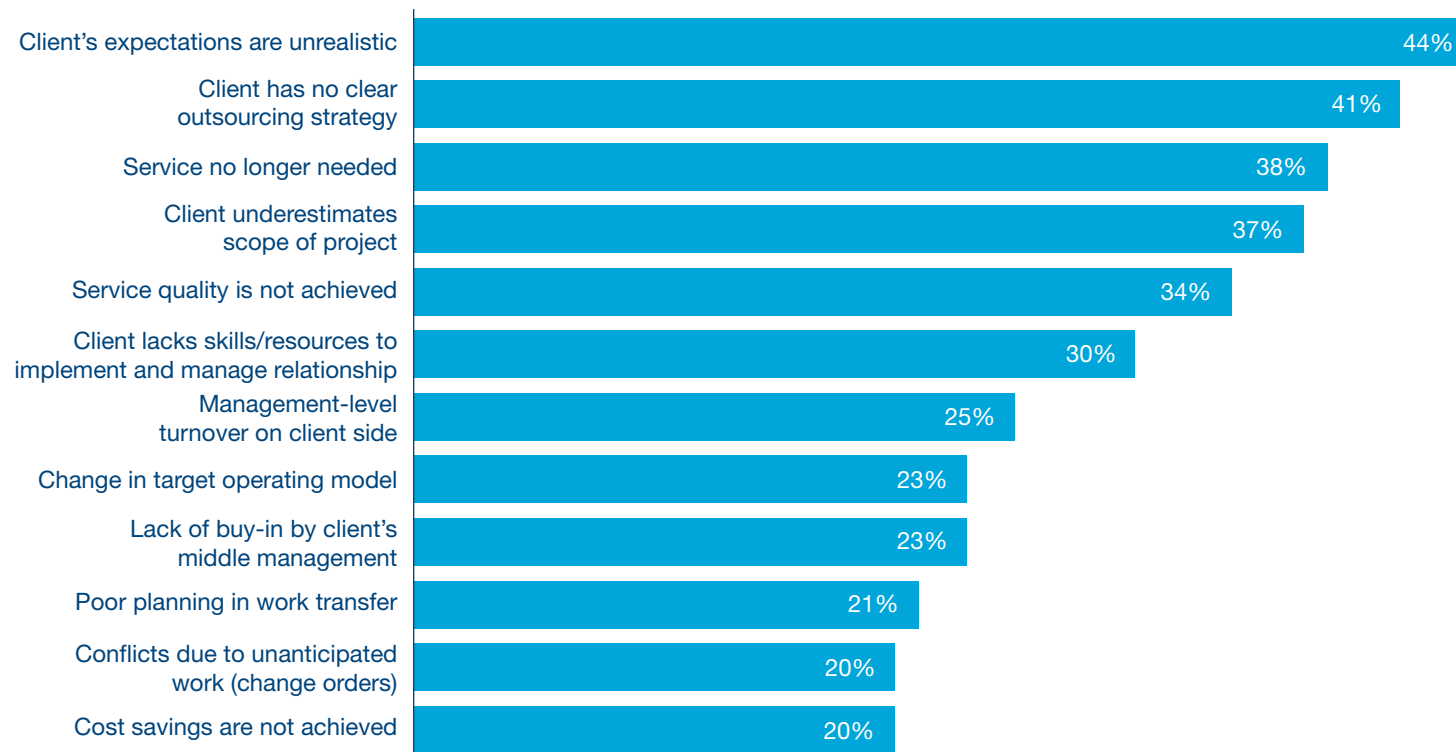
Most manufacturers adopt function-level strategy but fewer integrate offshoring into their corporate strategy

Cost overruns and declining efficiencies (mostly due to wage inflation and uncoordinated growth of offshoring activities across the company) often trigger a reconsideration of the organizations' offshoring activities, which in many cases results the implementation of corporate-wide strategies for guiding offshoring decisions. According to the 2009 ORN survey, the top two reasons for contract termination specified by participating

service providers are clients' unrealistic expectations and the lack of a clear outsourcing strategy (see Chart 6). In the context of offshoring and outsourcing, the adoption of a corporate-wide offshoring strategy likely represents a transitional stage in the evolutionary process of developing more elaborated offshoring and outsourcing capabilities.

Chart 6: Percent of service providers indicating factors as one of the six most important reasons for contract termination

Source: Duke University Offshoring Research Network 2009 Service Provider survey

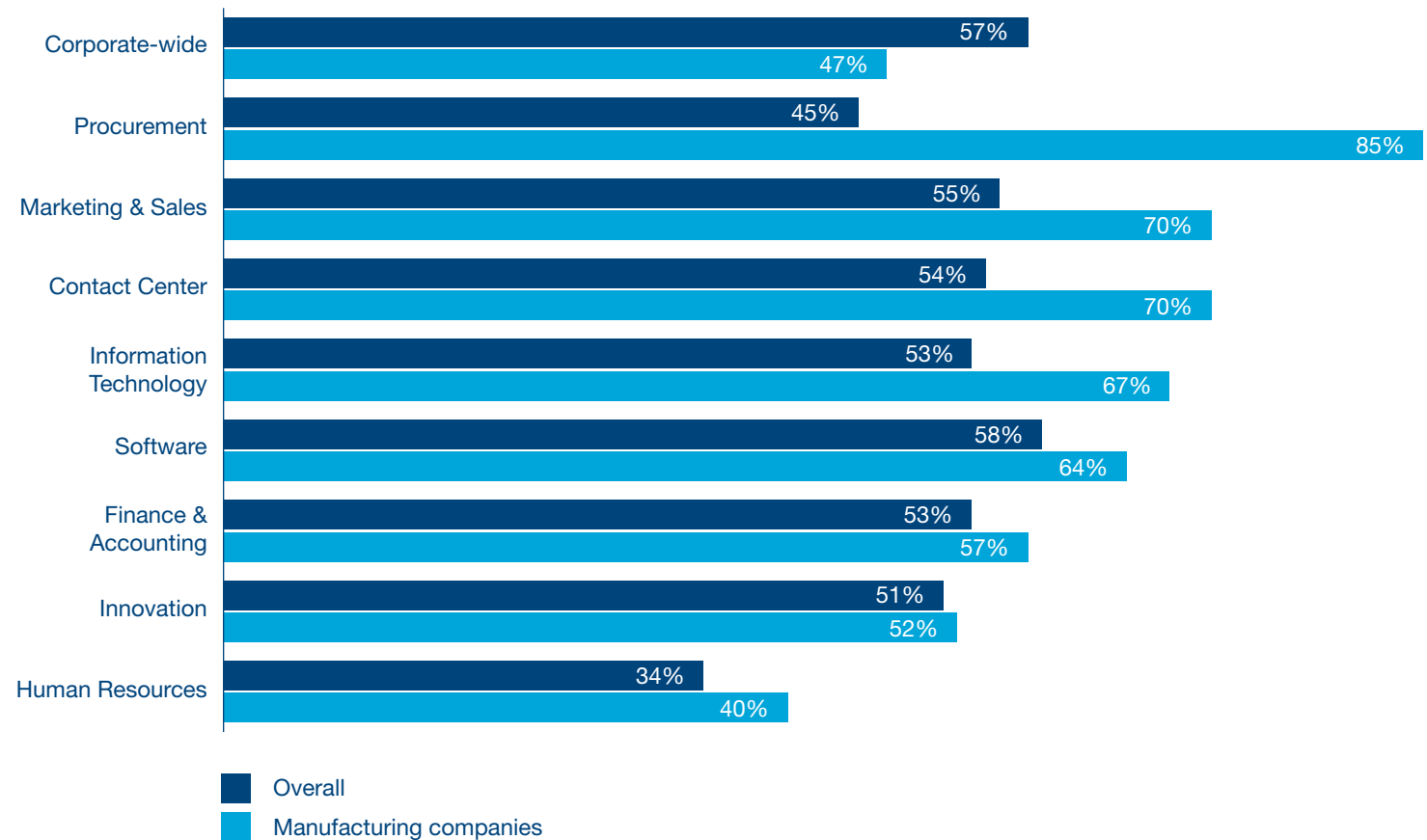


Reflecting this overall trend, the 2009 ORN survey shows a dramatic increase in the number of organizations adopting a company-wide strategy for guiding their offshoring decisions at the business unit and function levels. Compared with the overall sample in which 57 percent

of companies have implemented a company-wide strategy guiding their offshoring implementations, only 47 percent of manufacturing industry participants report doing so (see Chart 7).

Chart 7: Percent of companies adopting corporate-wide and function-level strategy

Source: Duke University/The Conference Board Offshoring Research Network 2009 survey



As companies gain offshoring experience, they increasingly adopt a company-wide strategy for guiding offshoring decisions at the business unit and function levels. However, it is notable that more than half of the manufacturing companies in the sample report that although an offshoring strategy has been implemented at a function level it has yet to reach the C-suite. This reality might reflect the decentralized nature of most diversified industrial manufacturing companies. In fact, the manufacturing companies sample includes at least two case studies of companies that began offshoring various processes and functions having first adopted a

corporate-wide offshoring strategy. In one case, the offshoring strategy was implemented from the top, down and in the second, from the bottom, up.

During follow-up interviews, manufacturing companies that have yet to adopt company-wide offshoring strategies indicated that they are considering doing so. In moving to a company-wide strategy, companies hope to guide and standardize offshoring decisions across business units and functions such as IT infrastructure (to achieve economies of scale via third-party providers), accounting and finance, and global sourcing of innovation-related work.

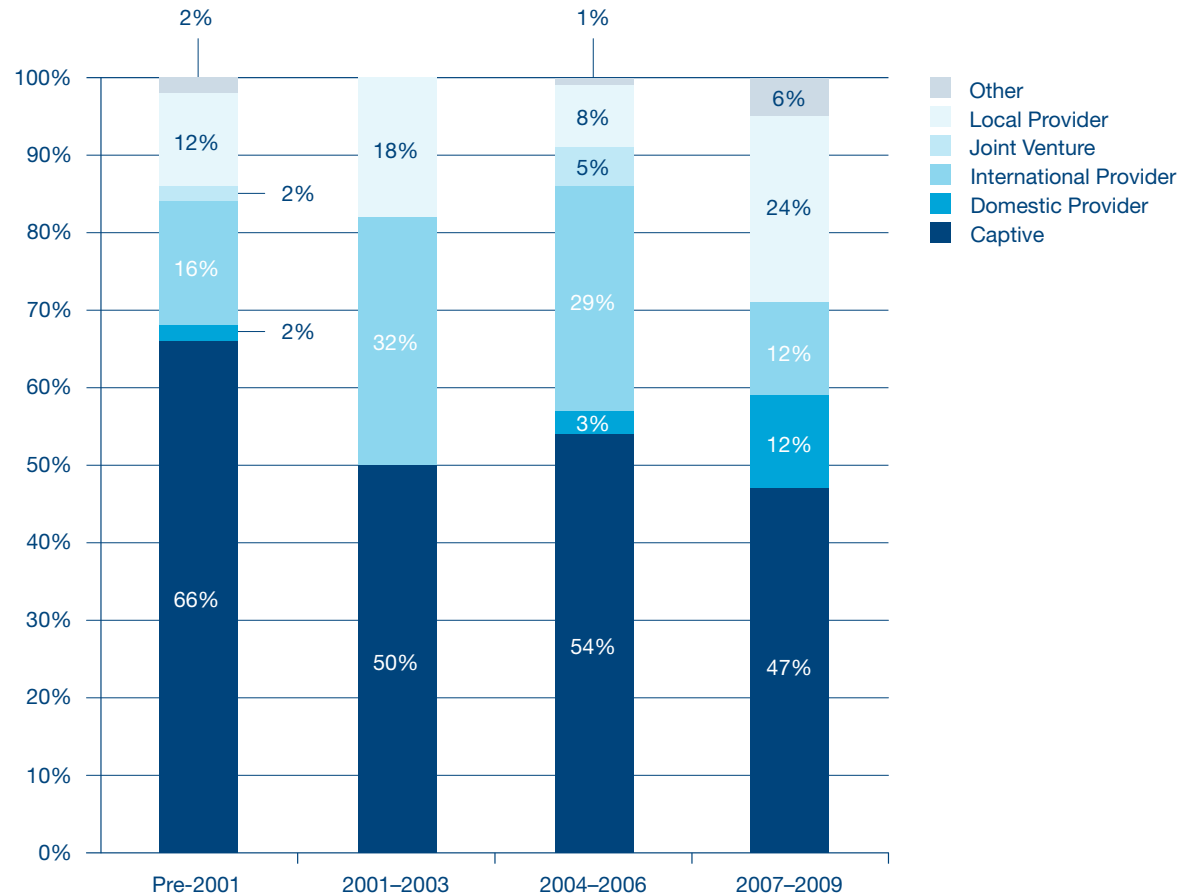
Despite a market shift, manufacturing companies remain conservative in their captive service delivery models

The 2009 ORN survey indicates that a majority of manufacturing companies continue to favor captive delivery models offshore compared with companies in other industries, which are increasingly relocating as well as shifting existing captive operations to third party-providers. 47 percent of new offshoring implementations launched between 2007 and 2009 by manufacturing companies involve captive delivery models

offshore compared with 54 percent in 2004 to 2006 (see Chart 8). These results suggest that although companies are now keen to diversify their operations and place more emphasis on using external service providers, the manufacturing industry remains relatively conservative when it comes to service delivery models for offshoring.

Chart 8: Percent of offshoring implementation using a particular delivery model in Manufacturing industry

Source: Duke University/Archstone Consulting Offshoring Research Network 2005 US survey and Duke University/Booz Allen Hamilton Offshoring Research Network 2006 US survey and Duke University/The Conference Board Offshoring Research Network 2007/8 US survey and Duke University/The conference Board Offshoring Research Network 2009 survey



As previously noted, many manufacturing companies remain conservative with their offshoring operations, however, an unexpected, though perhaps inevitable development is the growth of offshoring including third-party outsourcing of innovation-related projects (see Chart 9). This trend is consistent with the accelerating growth of the global sourcing of innovation efforts reflecting the availability of qualified talent in newly industrialized and emerging economies. It may also reflect that companies are recognizing the need for innovation work to enable access into large

new markets in Asia. But it may also reflect of the decline the career choice of science and engineering by younger American students. However, managing innovation applications offshore in captive operations or in value-adding outsourcing partnerships requires the development of organizational capabilities—including coordination, leadership, sharing, and dissemination of information and knowledge, protection of intellectual property and, most importantly, integration of external knowledge back into an organization.

Chart 9: ORN’s definition of innovation services

Function	Examples of tasks
Engineering Services	<ul style="list-style-type: none"> Design automation Tool Design Simulating Drafting & modeling Engineering analysis (e.g., finite element analysis) Embedded systems development Re-engineering Technical publications
Research and Development	<ul style="list-style-type: none"> Research on new materials and processes Code development Research and development of new technologies
Product Design	<ul style="list-style-type: none"> Prototype design Systems design Application development

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