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IT GOVERNANCE IN GLOBAL ENTERPRISES: MANAGING IN ASIA

Gouvernance des TIC dans les firmes mondiales : gérer en Asie

(Research-in-progress)

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Abstract

As businesses reconfigure their value chains and scale up their global expansions, they have to cope with a myriad of complex IT management challenges. This research examines how enterprises realign their global IT strategies for scale, speed, and innovation. Anchored in the IT governance literature, we seek to unravel the required governance structures and processes in balancing the inherent global-local tensions. Through field interviews with CIOs of global enterprises with established Asian presence, we derived a research framework for global IT management. Our findings suggest evolving global-regional-local structural elements in global IT organization supplemented by the institution of horizontal/linking mechanisms. Specifically, the key tension points appear to be in the flexible design of IT service delivery, the facilitation of IT innovation flow, and the nurturing of a global IT management mindset.

Keywords: IT governance, globalization, governance structures, shared services

Résumé

Ancrée dans la littérature sur la gouvernance des TIC, cette recherche examine comment les entreprises globales ré-alignent leurs stratégies TIC dans un but de taille, de vitesse, et d'innovation. Nos résultats suggèrent l'évolution d'éléments structurels globaux-régionaux-locaux dans l'organisation globale des TIC. Les principaux leviers portent sur la conception flexible des prestations de services TIC, la facilitation du flux d'innovation liées aux TIC, ainsi que la consolidation d'un état d'esprit mondial pour le management des TIC.

The IT Management Challenges for Global Enterprises in Asia

With its large and growing markets, and lower costs, Asia is a significant factor in today's business strategies (e.g., Brown and Hagel III, 2005). Many multinational companies (MNCs) have expanded their presence in Asia and correspondingly, they have begun extending their existing portfolio of IT applications, infrastructure and services to the region to support their global business strategies. However, deploying IT across Asia can be challenging. CIOs have to deal with immature IT infrastructures, shortage of experienced talent, poor data availability/quality, and the uniqueness in Asian business practice (e.g., Schwarz and Villinger, 2005). The fast pace of market growth also puts tremendous demand on IT, which often translates into an "implement first, refine later" approach. Such initiatives often compromise MNC's attempt to "leverage their global scale to Asia." There is thus a constant struggle to balance the inherent global-local tension.

Research on MNCs has noted the traditional trade-offs between efficiency, responsiveness and innovation in designing their global strategies and structures. Specifically, Bartlett and Ghoshal (2002) noted the MNC organizational models of international, multinational, global corporations that differ along dimensions such as management view of overseas affiliates, distribution of key assets and capabilities, knowledge development and diffusion, and management control. In particular, they noted an emergent MNC organizational model, i.e., transnational corporations, that promise to achieve efficiency, responsiveness AND innovation. The research in IT governance and the design of the IT function has similarly evolved, moving away from the monolithic centralization-versus-decentralization debate to suggest more complex forms of organizational design to address these tensions. These include the federal structure (Sambamurthy and Zmud, 1999), matrixed governance (Weill and Ross 2005), hybrid governance (Brown 1997), and "centrally-decentralized" governance (Von Simson 1990).

These two streams of research in multinational management and IT governance, however, are not well-integrated to illuminate the research question: How do different MNC strategies and organizational models affect the IT governance of global enterprises? Empirically, perhaps due to the difficulty of collecting global data, comprehensive global IT studies have been also rare. Conceptually, while there is agreement on the need for a more complex structural design for global IT, the salient features of such "hybrid" governance are still relatively vague. Designing IT governance in today's global context is a significant challenge, as the geographical dispersion compounds the coordination complexity both horizontally in terms of business-IT alignment and vertically in terms of coordination across enterprise-, business unit-, and project-level IT (Fonstad and Robertson, 2006). Specifically, the nature of the emergent transnational corporations with its "ability to manage multi-dimensionality, the distributed but interdependent activities, flexible and integrative processes" (Bartlett and Ghoshal 2002) presents an interesting context to stretch the limit of existing IT governance.

Prior Research

IT governance has been defined as "specifying the decision rights and accountability framework to encourage desirable behavior in the use of IT" (Weill and Ross, 2004, pg 8). In this study, the desired behaviors are efforts to achieve efficiency through IT standardization and global scale, responsiveness to local business unit needs through IT flexibility, and IT-enabled innovation that can be developed and shared globally.

Early research had noted that centralized IT governance, where decision rights and accountability were vested in corporate business and IT executives, was associated with greater standardization and efficiency. Decentralized IT governance, where decision rights and accountability resided with business units, was associated with greater responsiveness to local business unit demands. Researchers then found that a federal form that had elements of both centralization and decentralization, emerged as organizations attempted to balance legitimate corporate and business unit demands for efficiency and responsiveness (Zmud, 1984). They found that IT infrastructure was usually centralized, while the management of IT use was usually decentralized. The development of IT applications resided in the business units for some organizations, or at corporate for others, while a third group had applications development capabilities at both corporate and business unit levels.

The federal form continued to evolve, and researchers observed many different permutations. For example, researchers noted that multidivisional corporations did not always implement the federal model consistently across all business units – some business units had more IT decision rights than others (Allen and Boynton, 1991; Brown and Magill, 1994). Agarwal and Sambamurthy (2002) noted three variants – the partner, platform and scalable model - where the decision rights for each of eight IT value processes (e.g., infrastructure management, solutions delivery, strategic planning) could be centralized, decentralized or shared. This notion that decision rights could be differently allocated for distinct areas was also at the heart of the matrix governance forms proposed by Weill and

Ross (2004) – who identified five key IT governance decisions – IT principles, IT architecture, IT infrastructure, business applications, and IT investment and prioritization.

With the proliferation of types of governance models, an important question that arose was what influenced the IT governance model that organizations chose. A variety of contextual factors have been identified that potentially influence the design of IT governance. These include organization structure, business unit autonomy, competitive strategy, industry stability, workgroup interdependence, and information intensity of products/services, region, (Brown, 1997; Ein-Dor and Segev, 1982; Tavakolian, 1989; Zmud, 1984). Noteworthy empirically findings that are relevant to the global enterprise context include Weill and Ross' (2005) observation that organizations successfully pursuing a strategy of growth had more decentralized IT governance, while those successfully pursuing a strategy of profit had more centralized governance arrangements. They also found that organizations in the Asia Pacific had a federal model, and were less decentralized than organizations in the U.S. Agarwal and Sambamurthy (2002) suggest that global high-tech organizations would use the platform model where corporate IT was responsible for factory-like, seamless delivery of infrastructure, while business drove the IT-enabled innovation.

The IT governance literature has been relatively silent about enabling IT innovation. The literature on multinationals, however, has examined the issue of innovation in terms of centralized versus decentralized approaches. The findings can guide us as we consider IT governance and innovation. Innovation can either occur at corporate and be disseminated globally in centralized organizations, or to occur at the local units and be retained there (Bartlett and Ghoshal, 2002). The centralized model of innovation suffers from insensitivity to local context, and the innovation may be a poor fit with local needs. The localized model of innovation suffers from unnecessary differentiation and reinvention. Bartlett and Ghoshal (2002) advocate a transnational model where innovations that occur at the business unit are rapidly globalized, or where innovations arise from joint development among corporate and local units.

Integrating research in multinational management (e.g., Bartlett and Ghoshal 2002) and IT governance (e.g. Brown 2005), we believe that global IT governance in terms of its structures and processes are dependent upon MNC strategies (i.e., balance between scale, responsiveness, and innovation) and MNC organizational forms (i.e., international, multi-national, global, and transnational). Figure 1 depicts our preliminary research model.

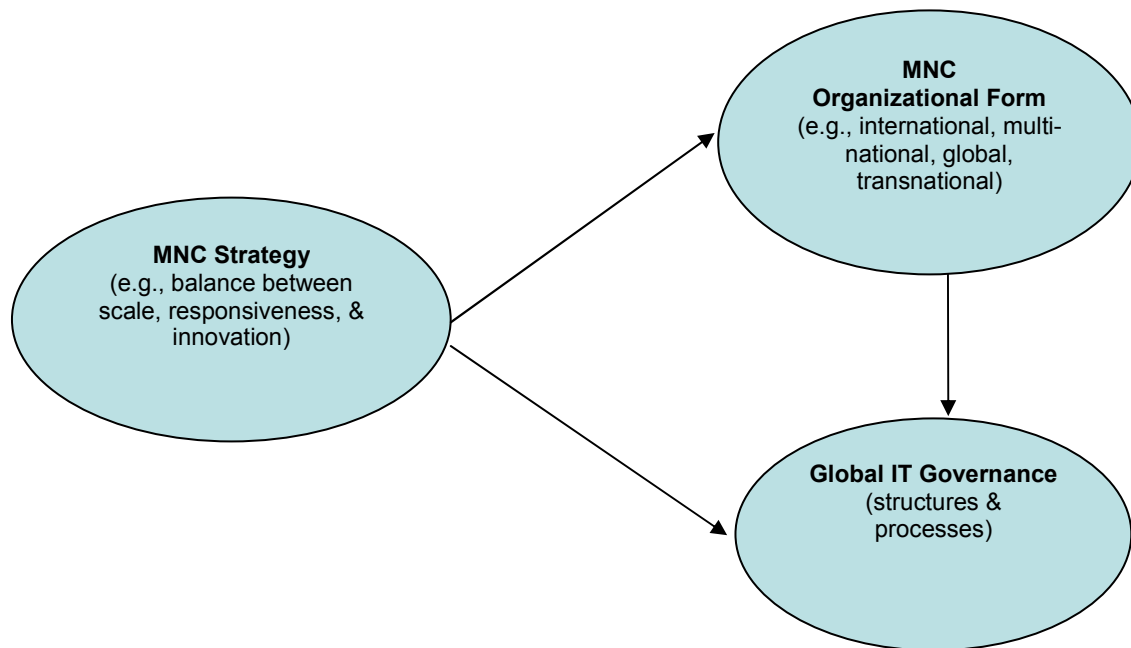


Figure 1: MNC Strategy, Organizational Form, and Global IT Governance

Specifically, we believe global enterprises pursuing different MNC strategies and organizational forms would demand different configuration IT assets, resources allocations, and distribution of decision rights/control to achieve

scale efficiency, speed, and innovation in IT service delivery. In addition, we suspect the dynamism and diversity of the Asian environment may require MNCs to further evolve the traditional IT governance.

Methods

Our study of IT management in Asia comprises 2 phases. Phase 1 involves a series of inductive field studies to examine the practices of large multinational enterprises with major presence (i.e., operations, sales and R&D) in Asia. Our selection objective is to have a good representation of organizations with different global strategies, i.e., international, multi-national, global, and transnational (Bartlett and Ghoshal, 2002) in order to surface the variation in their global IT management strategies. As a start, we worked through the industry contacts of the authors to develop research access into these global enterprises. To-date, we have examined six such MNCs in the high-tech, retail & distribution, financial services industry (2 multi-national, 4 global).

We conducted over two or three interviews per organization, typically with the enterprise CIOs/COOs and regional/local CIOs. Extensive analysis of these organizations' global business and operations from public information was conducted prior to these interviews. We focused on the structures and processes that these successful MNCs were implementing to achieve both scale, responsiveness, and innovation. We also actively sought both the global and local perspectives. In a few of these global enterprises, our US author interacted with the global CIOs while we spoke with the regional/local CIOs. Key points from the interviews regarding their global governance structures and processes, key business initiatives, and performance indicators, were sent to the interviewees for their clearance. A report on the companies studied was also sent to the organizations for their approval.

From the multiple interviews within each organization, we identified the key governance structures and processes. We then compared our findings across the cases to identify commonalities and differences in IT governance structures and processes. Our research is still ongoing, as we are poised to conduct field studies of several more global companies. Drawing the insights from phase 1, the second phase of the study will involve a large-scale survey of multinational companies on their global IT management practices. Key constructs of global IT in our research framework will be operationalized and empirically measured.

Findings and Analysis

This paper reports the results from the first phase of the research study. Our analysis of the interviews conducted with six multinational companies found that they had common structural elements in enabling global scale and local responsiveness across the multiple countries that they were operating in within Asia. In particular, we focus on two cases – P&G (multi-national) and Microsoft (global) – because they provide theoretical variation (Yin, 1984) on the dimension of global scale versus local responsiveness. Both are very successful organizations with major presence in Asia. Both have found it necessary to extend different IT capabilities but when we compared between them, we noted that each was evolving different innovative governance processes. In the next sections, we present first the common structures observed across the six enterprises, and then describe how P&G's and Microsoft's specifically implemented the structures and created innovative governance processes to achieve scale, responsiveness and innovation.

Structuring the Global IT Organizations

We noted three common structural elements across these cases, i.e., global/regional shared services, global /regional competency centers or centers of excellence (COEs), and regional/local site IT support units (though with different organizational labels and different level of segmentation for the different enterprises) (see Table 1).

Global/regional shared services units are centralized structures to achieve global scale efficiencies through the provision of standardized services and IT infrastructure. MNCs typically have two or three such shared service units located in the Americas, Europe and Asia, to tap into the different time zones as well as the differential cost and competencies of each region. The majority of the MNCs we studied had outsourced the more routine operations under global shared services in order to leverage on the global resources and scale of established vendors. For example, P&G attributed its speedy IT integration in its acquisition of Gillette, in part, to the ability of its outsourcing partner to ramp up resources quickly.

Centers of excellence, are also relatively centralized governance structures that where the MNCs pool talents and expertise to further develop competency in specific areas. These centers may each focus on applications for specific lines of business across the globe, or on specific types of technologies. For example, in P&G, experienced IT managers work closely with major business lines to innovate and design new business applications for

regional/global deployment. One of such “capability groups” in Intel – customer capability, even reports directly to the business marketing head.

Local site IT teams are usually small and lean decentralized IT units that are collocated with business units to ensure local responsiveness and satisfaction. These IT managers usually hold matrix reporting lines to both local business heads and regional/global IT. One IT manager in a local site gave an analogy, “The COEs developed IT solutions. They are pilots of the plane who decide the flight paths and direction. We are the ground traffic controllers in guiding the plane to land safely, because we understand the local conditions – the topography in the area, the current air traffic, the lane to assign.” The local site units respond to local business unit needs in a variety of ways. They help in the deployment of global services, they convey local needs to the COEs and they even develop and maintain unique local applications.

Table 1: IT Governance in Global Enterprises – Structural Elements

Structural Elements	Focus	Organizations	Strategies
Global/Regional Shared Services	To achieve global/regional scale for cost efficiency while allowing local choices - global scale/scope - global sourcing (resource and talent) KPIs: service level agreement, productivity, etc.	Typically by functions (located in low cost regions, part of routine services may be outsourced to external vendors)	Push for: - standardization - consolidation - rationalization or improvement - centralization - automation
Competency Centre/ Centre of Excellence	To leverage on global scale to innovate and develop deep industry expertise and best practices. - global scale/scope - global sourcing (resource and talent) KPIs: # of new global solutions developed, time to market for new application, etc.	By major business lines or by major technological focus (mostly based in HQ, some are located regionally for niche strength, some may even be part of the shared services group, e.g., within P&G’s GBS)	Push for: - tight business-IT alignment to support business line innovation - context- or need-driven innovation (e.g., innovation for mobile application in Asia)
Local Site IT Teams	To engage and manage relationship with business units for: - responsiveness - satisfaction - local requirement KPIs: local customer satisfaction (beyond SLAs), partnership maturity, etc.	By geographical sites (lean IT teams located geographically with business units, local IT managers have matrix reporting to local business head and regional/global IT)	Push for : - proximity to business lines, i.e., understanding of local needs/ innovation - simultaneous proximity to HQ, i.e., marketing channel for corporate IT’s visions and directions - constructive negotiation and resolution of global-local conflicts

Much of the inherent global-local tension in global IT plays out in the establishment of these structural elements and the interactions among them, and has to be carefully coordinated through a central planning unit. Being able to work together requires the shared services, COEs, and local IT units to be clear and sensitive to each other’s role.

While we observed these structures in all our cases, we found that each MNC had evolved different governance processes, in part because they were moving from different legacies of governance structures. We present P&G, which was moving towards strengthening its governance structures and processes for global scale while retaining its responsiveness to local business units. We then provide a contrasting case of Microsoft, which has established governance for global scale, and was supplementing governance structures and processes for local responsiveness.

P&G – Strengthening IT Governance for Global Scale While Retaining Local Responsiveness

P&G operates in more than 180 countries and markets over 250 brands (Beauty, Healthcare, and Household care) to nearly 5 billion consumers across seven geographical markets (N. America, Latin America, W. Europe, Central Europe/Middle East/Africa, ASEAN/Australia/India, Greater China and NE Asia). Responsiveness to local markets

has been a key factor to its continuing success. However, like many global organizations, P&G has also sought the benefits of global scale in recent years.

In 1999, P&G created the Global Business Services (GBS) group by combining HR, finance, facilities and IT. GBS was tasked with providing best-in-class business support services at the lowest possible costs. The challenge was how to get local business units to increasingly adopt GBS shared services. The global-local tension here is to continuously standardize and bring in more local applications into shared services and yet be able to meet the diverse needs of the various business units. The company drew on their strong marketing culture and created an innovative process for increasing local units' use of shared services, and hence the company's overall level of global scale and efficiency.

P&G packaged and offered a catalog of services to their business units across the globe. The catalog embodied two principles of effective marketing – simplicity and choice (including pricing transparency). P&G managed to filter the “best-in-class” service offerings down to a single-page catalogue in two “shopping aisles” – Employee Services and Business Services (see Table 2). Business units had control and choice even though approximately 70% of the solutions are mandated. Within the mandated solutions, there are several tiers of service. Business units can influence their costs by choosing a tier of service and influencing the number of units consumed. Pricing is also dependent on the region. To encourage business units to adopt the shared solutions, GBS guarantees a 10-30% cost reduction initially. An annual “glide-path” of unit price reduction is also promised. Business units are thus incentivised to transfer out their local applications, thereby increasing the thickness of the shared service stack for global scale. Such flexible service delivery capabilities are supported by the sophisticated IT financial management and the active enterprise-wide process management efforts in P&G. The bulk of the IT service delivery is outsourced to HP and IBM.

Table 2: P&G Global Business Services	
Employee Services and Solutions	
Employee Services	Pay, benefits, policies, career development, work plans
People Management	Compensation planning, relocation, employee management tools
Facilities	Office moves, conveniences: banking, dining, fitness centers, mail & documents
Computers & Communications	PCs, e-mail, mobile phones, Intranet, service support
Meetings	Rooms, technology & scheduling, audio & video conferencing, events
Travel	Booking, expense accounting, credit cards, group meetings
Business Services and Solutions	
Strategic Sourcing & Procurement	Strategic sourcing, supplier relationship management, procurement service
Financial Services & Solutions	General ledger, affiliate accounting, product/fixed asset accounting, SRAP/MSA accounting, purchases-to-payment (include accounts payable), banking, financial reporting
Product Innovation	Bioinformatics systems, product imaging & modeling systems
Supply Network Solutions	Demand planning systems, total order management, physical distance systems
Consumer Solutions	Prime prospect research, CRM systems, advertising & media measurement
Customer Solutions	Shopper intelligence, in-store action planning, trade fund management systems
Initiative Management	Technical package & materials design, package artwork process, portfolio tracking & reporting
Business Performance Solutions	Decision cockpits, market mix modeling, competitive intelligence, ad-hoc business analyses

The designing and marketing of the shared service catalog has resulted in a strong “brand ” for GBS, which has led to significant increase in the amount of shared services adopted by the business units. The choice and price transparency built into the service catalog has provided the local business units with an adjustable level of responsiveness.

Microsoft – Strengthening IT Governance for Responsiveness While Retaining Scale Efficiencies

Agarwal and Sambamurthy (2004) noted that high tech firms tend to use a more platform approach to IT governance, where the focus has traditionally been on extending global scale. Microsoft, for example, created regional shared services at Richmond (corporate headquarters), Dublin, and Singapore to manage the extension of IT services across the globe. There are also centralized Corporate Centers of Excellence which manage the global IT architecture and corporate applications development. Responsiveness to business units is enabled by creating the Corporate Solution Deliveries (SD) group (a competency centre structure) which comprise about 40 solution directors who are located with the businesses and work closely with experienced VPs in each major business to understand the business and to develop global solutions.

Recognizing the tremendous growth in the Asia (which was quoted to be at least double the growth rates elsewhere), increasing management attentions are paid to Microsoft's Area SD teams in 13 geographical zones to ensure responsiveness to local demands. These teams act as local customer advocates (for countries under their charge) in providing service level feedback, assisting with problem management, gathering requirements and even managing the development of local applications. The regional IT manager for each of these Area SDs plays a crucial role in influencing and negotiating with the local business units. For example, when a new business in a major Indian city required an application for their fast-growing business, the local general manager (GM) wanted it delivered in 6 weeks, and was willing to pay for the required resources. Conformance with the global organization's IT approval, development and quality processes, however, would require 6 months. The regional IT manager assessed that delay would impact the business growth, and negotiated a solution, whereby he would put one of his program managers to work with the local GM's resources in meeting the local business' timeline. The program manager would ensure that the new system met global guidelines on security and architecture. In another example, the global human resource application was unable to handle the high volume of recruitment in an Asian office. The time required to change the global application would take too long. The regional IT manager therefore negotiated for a short-term module to be created, while providing input to the global applications team. The short-term module would be used until the rollout of the next version of the global HR solution, which would include the new requirement to process the higher recruitment volume. For Microsoft which already has established IT governance for global scale, the role played by the regional IT managers and the open processes that allow negotiation with corporate IT and centers of excellence is critical in enabling its local responsiveness in Asia.

IT Governance for Transnational IT Innovation

As the depth of technological knowledge tends to reside within the corporate office, MNCs generally look to headquarters for IT innovations (Santos et al, 2004). Our preliminary surfaced some interesting patterns, suggesting that progressive MNCs are locating some of their niche IT innovation COEs in Asia, piloting new applications in Asia, or diffusing globally IT innovations from Asia.

Locating IT innovation COEs in Asia. One early mover - P&G, has strategically located its COE for mobile marketing in the Philippines to tap on the high penetration and usage of mobile phones in Asia. Unlike the decentralized approach to innovation, the innovations coming out from this center of excellence are meant to be diffused to the global market, and the Philippines unit is seen as part of the company's strategic innovation initiative. Similarly, Merrill Lynch is shifting its global application development for electronic trading to Singapore. The fast pace of growth, the lower cost structure in Asia and its lack of legacy (in systems and processes) have made experimentation easier and cheaper for these companies.

Piloting new IT applications in Asia. Distinctive local conditions also lead some of these MNCs to experiment and pilot their new systems in Asia. The rationale is that the new systems must cater to the needs of Asian businesses. The huge market of Asian consumers (with its relatively low purchasing power), for example, demands mass market solutions. New IT applications have to cater to such "go-to-market" innovations. In one example, P&G noted a difference in the sales distribution model as Asian consumers tend to shop more frequently and in smaller quantities, and hence, began developing IT systems to support the fast growing "high frequency stores" segment. Similarly, Microsoft is piloting IT platform support for its introduction of the "Prepaid Office" (i.e., smartcard-based pay-as-you-go subscription of MS Office, targeting the small and medium enterprises) in Indonesia.

Diffusing Globally IT Innovations from Asia. Some of the systems developed in Asia have been found applicable to other parts of the world and have been rapidly diffused. P&G's SKII premium beauty line, as another example, illustrates a successful experimentation. SKII, a Japanese beauty product, was acquired by P&G in 1991, and was then available only in two or three countries. The product distribution for SKII operated on a different business

model from P&G's mass market positioning, as it was sold in department stores with dedicated counter sales consultants. To support the high-touch sales model, IT systems were built to automate counter operations, to track transactions for each customer, and to provide analysis of sales/marketing plans by customer segment. The IT systems significantly increased the efficiency for the thousands of sales consultants in Japan. The SKII line, together with the enabling systems, was then deployed successfully to the rest of the world.

We noted that many of these local innovation and global transfer processes occur within a well-integrated global IT structure. The key lever being the recognition by corporate management that Asia is not just about low cost operations, but a place where the dynamics of fast growing markets, price-sensitive consumers, and unique patterns of business can spark off new innovations.

The Global-Local IT Managers

As we examined the governance structures and processes that the MNCs deployed, we were struck by the fact that these governance structures and processes were highly dependent on having IT managers who can appreciate both the global and local perspectives, as they are the channels through which the global-local tensions flow. Almost all the senior executives we interviewed spoke about the challenges of finding such managers and the steps their organizations were taking to develop such capabilities.

Promoting interaction through linkage mechanisms. We observed the deployment of a host of horizontal or linking mechanisms in facilitating the global integration mindset. We found the categorization by Fonstad and Robertson (2006) of business linkage, alignment linkage, and architecture linkage mechanisms useful in grouping the observed mechanisms. Microsoft, for example, established "learning circles" (business linkage), i.e., monthly conferences that bring together country managers for large mature markets, small mature markets, large emerging markets, and small emerging markets respectively to share best practices and market experiences (e.g., a few successful initiatives in Brazil are now being experimented in China and Indonesia). Alignment linkages are manifested in Microsoft's 40 plus corporate solution directors who work closely with the business lines to ensure tight business-IT alignment. These linkages even cascade down to the business unit level through the mirrored appointment of area solutions directors. Similarly, there are architectural linkage mechanisms, e.g., architecture office, standards committee, with representation from the Asian CIOs. In combination, these linking mechanisms (horizontal and vertical) facilitate the grooming of a more balanced global-local mindset among IT managers. Some tweaking, however, may be necessary to cater to some cultural differences. A director of IT governance for Asia Pacific, for example, noted the usefulness of team representation (i.e., by grouping a few country CIOs together in discussing issues) to enhance their collective "voice" from this region.

Structured training. These global enterprises have also identified a set of competencies for its local IT professionals, beyond their traditional focus on technical expertise, to focus more on project management, service provision, process management and change management. Given the general lack of experienced managerial talents in Asia, extensive management development programs to groom these managers in large numbers. Intel, for example, systematically identifies local IT personnel with strong desire to succeed for management leadership development, and exposes them to various "extra-curricular activities" such as cost reduction initiatives or market development projects to help them develop the global enterprise mindset.

Rotation through Corporate and Business Units. These organizations also select high potential local individuals and send them on year-long postings to corporate headquarters to provide them with a better understanding of the corporate culture and values. In the opposite direction, these MNCs are also nurturing this pool of global IT managers "organically" by rotating some of their best people in corporate through management stint in Asia. Merrill Lynch, for example, even permanently relocated its key corporate personnel as it shifts its COE for electronic trading to Singapore.

Next Steps: Measuring Global IT

Going forward, our plan is to conduct a large scale empirical survey on both Fortune 500 enterprises with substantial Asian presence as well as large Asian enterprises expanding their operations regionally or globally. Through qualitative coding of the field studies, we hope to derive a validated measure for "Global IT" by expanding the respective dimension along the structural elements, service delivery, innovation flow, and management mindset. We will also explore how these dimensions of global IT differ given the different MNC strategies and organizational models and the related consequences on scale, speed, and innovation. Through judicious design and tracking of these global IT measures, we believe that global IT can be managed proactively to reap the full benefits of globalization.

References

- Agarwal, R., and Sambamurthy, V. "Principles and models for organizing the IT functions," *MISQ Executive* (1:1) 2002, pp 1-16.
- Allen, B.R. and Boynton, A.C. "Information architecture: In search of efficient flexibility," *MIS Quarterly* (15:4), 1991, pp435-445.
- Bartlett, A..B. and Ghoshal, S. *Managing Across Borders: The Transnational Solution*, Harvard Business School Press, 2002.
- Brown, A.E., "Framing the frameworks: A review of IT governance research," *Communications of the AIS*, 15, 2005, pp.696-712.
- Brown, C.V., "Examining the emergence of hybrid governance solutions: Evidence from a single case study," *Information Systems Research* (8:1) 1997, pp 69-94.
- Brown, C.V., and Magill, S.L. "Reconceptualizing the context-design issue for Information Systems function," *Organization Science* (9:2) 1998, pp 176-194.
- Brown, J.S., and Hagel III, J. "Innovation blowback: Disruptive management practices from Asia," *McKinsey Quarterly*, 1, 2005.
- Ein-Dor, P and Segev, E. "Organizational context and MIS structure: Some empirical evidence," *MIS Quarterly*, (6:3), 1982, pp55-68.
- Fonstad, N. O., and Robertson, D. "Transforming a company, project by project: The IT engagement model," *MISQ Executive* (5:1), 2006, pp.1-13.
- Gallagher, K.P., and Worrell, J.L. "Organizing IT to promote agility," *Information Technology and Management* (9:1) 2008, pp 71-88.
- Ghemawat P., "Distance still matters: The hard reality of global expansion," *Harvard Business Review*, September, 2001.
- Santos, J., Doz, Y., and Williamson, P., "Is your innovation process global?" *Sloan Management Review*, Summer 2004.
- Sambamurthy, V., and Zmud, R.W. "Arrangements for Information Technology governance: A theory of multiple contingencies," *MIS Quarterly* (23:2) 1999, pp 261-290.
- Schwarz, A., and Villinger, R. "Integrating Southeast Asia's economies," *McKinsey Quarterly*, 1, 2004.
- Tavakolian, H. "Linking the Information Technology structure with organizational competitive strategy: A survey," *MIS Quarterly*, (13:3), 1989, pp 309-317.
- Von Simson, E.M. "The recentralization of IT," *Computerworld* (29:51), 1995, pp. 1-5
- Weill, P., "Don't just lead, govern: How top-performing firms govern IT," *MISQ Executive* (3:1) 2004, pp 1-17.
- Weill, P., and Ross, J.W. "A matrixed approach to designing IT governance," *Sloan Management Review* (48:2) 2005, pp 26-34.
- Weill, P. and Ross, J. *IT Governance*, Harvard Business School Press, Boston, MA, 2004
- Yin, R.K. *Case Study Research: Design and Methods*, Sage Publications, Beverly Hills, CA, 1984.
- Zmud, R.W. "Design alternatives for organizing Information Systems activities," *MIS Quarterly* (8:2), 1984, pp 79-93.
- Zmud, R.W., Boynton, A.C., and Jacobs, G.C. "The information economy: A new perspective for effective information systems management," *Data Base*, (18:1), 1986, pp 17-23.