Globalization & Innovation: Some Contrarian Perspectives

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Exhibits

One Example of Globalization and Innovation

Few Westerners could find Chongqing on a map. Yet this central Chinese city is home to a network of companies whose vibrant new way of designing and manufacturing motorcycles is a prototype for disruptive innovation. The network uses a distinctive management process that economists at Tokyo University, who have studied such networks in depth, call “localized modularization”—a loosely controlled, supplier-driven approach that speeds up time to market, cuts costs, and enhances quality. The heart of this new system is a series of “process networks” mobilizing specialized companies across many levels of an extended business process. Entrepreneurial, privately owned motorcycle assemblers such as Dachangjiang, Longxin, and Zongshen orchestrate the networks.

These companies got their start by competing with established state-owned assemblers that had partnered with leading Japanese motorcycle makers like Honda, Suzuki, and Yamaha. The private assemblers refined the Japanese companies’ tightly integrated product architecture into one that was more flexible and modular but just as functional. The Chinese system makes it possible for the assemblers to modularize production in parallel by outsourcing components and subassemblies to independent suppliers. In contrast to more traditional, top-down approaches, the assemblers succeed not by preparing detailed design drawings of components and subsystems for their suppliers but by defining only a product’s key modules and specifying broad performance parameters, like weight and size, in rough design blueprints. The suppliers take collective responsibility for the detailed design of components and subsystems. Since they are free to improvise within broad limits, they have cut their costs and improved the quality of their products quite rapidly.

Locating major suppliers and assemblers in the same city helps to mobilize the appropriate specializations. Informal social networks, developed in crowded teahouses and restaurants, supplement more formal efforts to coordinate suppliers and assemblers. Throughout India and China, such emerging local business ecosystems play a major role in speeding up product and process innovation. In this production-driven form of modularization, suppliers of components and subassemblies—the frame, the engine, the suspension—take much of the responsibility for coordinating their work. Solving problems by combining people from diverse fields makes the solution more creative.

Thanks to these innovations, the Chinese have made rapid gains in motorcycle export markets, especially in Africa and Southeast Asia. China now accounts for 50 percent of global production of motorcycles. Their average export price has dropped from $700 in the late 1990s (already several hundred dollars less than the cost of equivalent Japanese models) to under $200 in 2002. The impact on rivals has been brutal: Honda's share of Vietnam's motorcycle market, for instance, dropped from nearly 90 percent in 1997 to 30 percent in 2002. Japanese companies complain about the "stealing" of their designs, but the Chinese have redefined product architectures in ways that go well beyond copying, by encouraging significant local innovation at the component and subsystem level.

[Excerpted from John Hagel, III and John Seely Brown, "Innovation Blowback", McKinsey Quarterly, 2005]

Introduction

We are only now beginning to grapple with the full implications of a globalizing economy. Tom Friedman captured our imagination with the powerful metaphor communicated in the title of his new best-selling book - The World Is Flat – but he tells only part of the story. In the process, he may leave many with a misleading impression. The world is not just flattening; it is also creating significant new opportunities to innovate and build strategic advantage. Much has been written about globalization and innovation as distinct topics, but few analysts have focused on exploring the connection between the two. Those who understand this connection – whether they are well-established Western enterprises or entrepreneurial companies in emerging economies like China and India - will be able to create economic value on an unprecedented scale.

Many companies in China and India are developing an innovative set of management techniques specifically focused on exploiting these opportunities. They are pursuing a radical, yet very pragmatic, bootstrapping approach to build capabilities while addressing near-term market opportunities. In a world of intensifying competition and increasing uncertainty, even the very largest companies need to master these bootstrapping techniques to compete successfully.

This leads to **three contrarian messages**:

First, **bootstrapping is not just for small, entrepreneurial companies.** In fact, large enterprises are most in need of bootstrapping techniques if they are to evolve successfully in this flattening world.

Second, **the United States is no longer the global center of innovation in management practices.** In fact, the private entrepreneurial sector in China is rapidly emerging as the global center of management innovation, pioneering management techniques that most US companies are struggling to understand, much less master. In part, this innovation stems from necessity – especially the lack of a well-developed financial system to serve the needs of privately held, entrepreneurial companies.

Third, **product innovation is not the most powerful form of innovation**, even though this is what most Western executives focus on when they think about innovation. In a globalizing world, product life cycles are compressing. While product innovation remains critical to survival, any individual act of product innovation has diminishing impact in the marketplace. In this environment, innovation in management practices becomes much more powerful because it provides the key to accelerating and sustaining product innovation. As we will discuss in more detail below, it also provides the key to getting better faster as an institution so that more value can be generated from the products or services offered to the market.

In fact, the deeper we get into our research agenda, the more we find ourselves coming up with contrarian observations that challenge conventional management wisdom. These observations are not contrarian for the sake of being contrarian. Rather, they reflect more **fundamental changes occurring on the global landscape as a result of the convergence of IT innovation and public policy shifts reducing barriers to movement.** These changes are forcing us to re-examine some of the most basic assumptions we have about our institutions, whether we are talking about corporations, schools, government bodies or social institutions. In effect, we are seeing the emergence of a new **common sense model**, requiring a new, and often quite counter-intuitive, set of assumptions.

In this overview of our research agenda, we have organized our insights into a series of contrarian observations that we hope will shed light on the key assumptions that will be required to more productively shape our view of the world and therefore the actions that we take in our efforts to achieve impact. We have focused on the key assumptions themselves rather than the many examples that help to illuminate why and how these assumptions are changing. We discuss a wide range of examples in our recent book and the articles that we have published as part of our research efforts. [visit www.edgeperspectives.com]

Mapping the Context

The edge is becoming the core. We recently wrote a book on The Only Sustainable Edge because edges – on many levels – are becoming more important:

- **Edge in the sense of strategic advantage**
  - Traditional sources of advantage are eroding and we all face the challenge of identifying new sources of advantage that can sustain superior performance.
- **Edge in the sense of peripheries**
  - Peripheries, while often relatively marginal in terms of current revenue generation, represent centers of innovation because they provide early visibility into new needs and new capabilities. These peripheries can take many different forms, whether it is the edges of our existing institutions, geographic edges like emerging economies or demographic edges represented by younger generations bringing new needs and behaviors to markets around the world.
- **Edge in the sense of boundaries**
  - Boundaries become fertile areas for innovation because they provide opportunities for people with different experiences, beliefs and needs to encounter each other.
- **Edge in the sense of performance limits**
  - Innovation provides the catalyst to push the performance limits of institutions.

As competition intensifies and we seek to build new sources of advantage, peripheries and the boundaries that separate us from others will become more central as sources of innovation. Our institutional cores will remain important, but increasingly their importance will depend on their ability to help us explore and engage with others on the edge. By paying more attention to the edge, we will be better able to refresh and redefine our core.

Western companies generally approach emerging economies much too narrowly. Most Western companies appropriately view large emerging economies like China and India as strategic growth engines to compensate for slower growth in more developed economies. Yet they miss the most important role of these emerging economies. These economies will become catalysts for significant product and business innovation. This innovation will not only be helpful in more effectively serving customers within those economies, but it also has the potential to provide a platform for aggressive attacker strategies to compete with established players in the US and Western Europe and to take significant share in these more developed economies. Few Western companies appreciate the risk and potential of this phenomenon described in more detail in our article on "Innovation Blowback" in the first quarter 2005 issue of The McKinsey Quarterly.

Who we know is more important than what we own. Traditional business strategies are delivering diminishing returns. We are all wrestling with the Red Queen effect and searching for new sources of advantage that can amplify, and not just sustain, our performance. We need to harness the potential for innovation, rather than simply focusing on our existing assets and cost-cutting initiatives.

- As change accelerates, our stocks of physical assets and knowledge depreciate at a more rapid rate. Flows of new knowledge become critical to competitive success and these flows occur only in the context of relationships. Successful strategies will depend on privileged positions in rich networks of relationships. In this world, the primary value of assets is their ability to help us build and sustain relationships.
- Whatever our existing capabilities, we will only succeed in the future by finding ways to get better faster than others. No matter how good we are internally, we will be able to get better even faster by working with others at the edge because people with complementary capabilities can help us to find creative ways to deepen and extend those capabilities.

Unbundling the firm enables even more rapid growth. We are witnessing another wave of specialization that will paradoxically lead to higher levels of concentration in large portions of the global business landscape. The companies that understand this dynamic will be able to create powerful growth platforms.

- **The shedding has already begun.** Large enterprises around the world are actively shedding their infrastructure management businesses to specialized providers. These businesses are high volume, routine processing activities like managing manufacturing assembly lines, logistics networks or many forms of customer call centers.
- **The scope of unbundling is expanding.** We are already starting to see some companies shed their product innovation and commercialization businesses to specialized product design firms, as illustrated by the rise of Original Design Manufacturers (ODMs) in Taiwan. This will represent the next wave of unbundling – separating product innovation and commercialization businesses from customer relationship businesses. This unbundling will lead to another level of specialization, extending Adam Smith's original insights on the virtues of specialization into the 21st century.
- **Unbundling will be an imperative for all companies.** All large enterprises represent an unnatural bundle of these three businesses – infrastructure management businesses, product innovation and commercialization businesses and customer relationship businesses. Every company will ultimately have to choose which of the three businesses to specialize in.

- **Unbundling need not lead to fragmentation.** Rather than leading to fragmentation, this unbundling process will lead to even higher levels of consolidation and concentration because two of the three businesses – infrastructure management businesses and customer relationship businesses – have significant economies of scale and scope. As an example, look at the concentration emerging in logistics businesses like package delivery (e.g., Federal Express or UPS) or in contract manufacturing businesses (e.g., Flextronics and Solectron). Online businesses like Travelocity and Expedia illustrate the potential for concentration in customer relationship businesses. Product innovation and commercialization businesses are the one domain where fragmentation is likely to prevail given the desire of creative talent to work in smaller, more intimate, organizational settings.
- **Unbundling creates platforms for more rapid growth.** Unbundling thus creates an opportunity for much more rapid growth by focusing on one type of business, rather than sub-optimizing across multiple, incompatible businesses. The ability to establish richer relationships with world-class companies in complementary businesses will further amplify the growth potential from specialization.

Harnessing New Management Techniques

Western companies will need to master new management techniques pioneered largely by Asian companies in order to build a sustainable edge. Our recent book, The Only Sustainable Edge, focuses on three key management techniques pioneered largely in Asia. Western companies tend to fall short when they seek to implement these management techniques because they misunderstand where and how to capture the value:

- **Western companies are leaving a lot of value on the table in their process outsourcing and offshoring activities, and in many cases, they are actually weakening their business** – more and more companies are moving operations to offshore locations but many are disappointed with the results they have achieved. This is a particular concern since outsourcing and offshoring no longer focus just on peripheral activities but involve the core operating processes of the firm, including manufacturing and product design.
    - **Cost reduction is not the primary reason to go offshore.** Western companies still focus too narrowly on cost reduction, rather than viewing these options in terms of providing opportunities to participate in networks of relationships that can accelerate skill building – a key focus of our recent book.
    - **Be wary of captive facilities.** Western companies too often tend to build sub-optimal captive facilities, in part based on a false belief that this will reduce risk. They under-estimate the benefits of outsourcing to more specialized providers that can get better faster by drawing on the learning that comes from a more diverse customer base.
    - **Don't forget your own operations.** Even if they outsource activities, Western companies tend to ignore the need to accelerate capability building in the retained activities. It is often much too easy to complain about the limitations of the other party rather than concentrating on your own limitations.
    - **These are strategic, not operational, choices.** Most Western companies still view offshoring and outsourcing choices as near-term operating decisions versus long-term strategic choices – they lack understanding of the strategic implications of unbundling of the firm.

- **Conventional supply chain management techniques of Western companies will undermine their ability to compete with companies pioneering more modular process management techniques** – these new techniques provide creative ways to connect highly specialized participants from around the world in global process networks to more flexibly mobilize resources and enhance the potential for innovation in extended business processes.

- **<u>Conventional approaches narrow the number of participants.</u>** Western companies have tended to narrow their external relationships in quest for efficiency.
  - This makes sense if the sole objective is to reduce operating costs within conventional process management approaches. The complexity overhead that arises from tight specification and monitoring of activities makes it prohibitive to involve more business partners. Also, reducing the number of business partners enhances bargaining power to obtain lower prices by offering more business to a single supplier.
- **<u>New approaches are designed to dramatically expand the number of participants.</u>** By pioneering more modular and loosely coupled approaches to organizing business processes, orchestrators of these global process networks have found a way to effectively mobilize hundreds and even thousands of participants, creating new opportunities to:
  - Tap into much deeper specialization.
  - Create much greater operational flexibility to tailor value.
  - Unleash significant innovation at multiple levels in the process.
- **<u>They operate successfully in the most demanding markets.</u>** These process networks operate in some of the most demanding and uncertain global markets, including consumer electronics and apparel. <u>The Only Sustainable Edge</u> discusses examples of these global process networks in detail.
- **<u>They build trust by focusing on future opportunities</u>**. In contrast to the supply chain operations and business partnerships of Western companies, these networks operate with a different incentive structure that accelerates the building of trust.
  - Participating companies focus on getting better faster by working together in long-term relationships to come up with innovative approaches to delivering greater value to the marketplace. Unlike their Western counterparts, they view the potential for product and process innovation to be virtually unlimited.
  - With the prospect of an expanding pie and deepening the capability of individual participants, traditional issues of rent distribution and business risk (e.g., hold-up and failure to perform) become less severe. Also, since global process networks focus on building long-term relationships they create the expectation of continuing transactions and a disincentive for short-term opportunistic behavior that might threaten the relationship.

- **<u>This is not just about supply chain operations.</u>** These global process networks are not just in supply chain operations but are helping to re-shape both product innovation and customer relationship business processes on a global scale.
- **<u>Current forms of pull operations are much too limited.</u>** The development of these modular process management techniques represents a broader shift from push to pull models of resource mobilization that go well beyond the existing "pull" approaches pioneered in lean manufacturing – they are pulling resources from thousands of highly specialized business partners. This more aggressive form of pull is discussed in greater detail in our article, "From Push to Pull: The Next Frontier of Innovation" published in the third quarter 2005 issue of <u>The McKinsey Quarterly</u>.

- **<u>Rather than trying to eliminate all friction in our business relationships, we should strive to create more productive friction</u>** – this is the key to harnessing the innovation and capability building potential of global process networks.
  - **<u>Productive friction requires focus and freedom.</u>** Bring the right participants together and focus them on tangible decisions to achieve aggressive performance targets – then give them as much as freedom as possible to define the solution.
  - **<u>Rather than remaining tightly locked within the firm, creation activity will shift beyond the boundaries of the firm.</u>** By harnessing productive friction, companies will spawn global creation nets – institutional mechanisms to drive both product and process innovation on a global scale across thousands of specialized participants. We will be discussing these creation nets in more detail in a forthcoming article to be published in the second quarter 2006 issue of <u>The McKinsey Quarterly</u>.
    - The process networks discussed earlier represent just one form of creation net – aggregation networks represent a different form of creation net bringing together distributed participants with similar skills in areas as diverse as software and extreme sports.
  - **<u>Productive friction also accelerates learning on a global scale.</u>** By mastering the techniques of productive friction, companies can more effectively participate in distributed learning ecologies.

<u>Open innovation delivers marginal impact because executives misunderstand the sources of value.</u> More and more executives perceive the value of open innovation but are frustrated by the gap between potential and realized value from open innovation initiatives. This gap arises from significant misunderstandings:

- **<u>Open innovation requires relationships rather than transactions</u>**. Long-term relationships provide much more fertile seedbeds for innovation than individual, arms-length transactions.

- **Open innovation involves far more than one-on-one relationships.** Many Western companies create productive partnerships to drive innovation activity but these are generally very limited in scope and impact. As discussed earlier, companies in China have become much more adept at mobilizing large networks of specialized partners to support innovation initiatives.
- **Open innovation requires more than customer involvement.** Many companies focus on customers as a source of innovation, but far fewer Western corporations do a good job of reaching out to suppliers and other business partners in driving open innovation initiatives.
- **Open innovation does not just emerge, it must be actively shaped and managed.** Western executives are often seduced by visions of self-organizing networks and ecosystems and assume that they can do little to focus and shape these environments. In fact, the management techniques discussed earlier regarding global process networks and productive friction play a key role in harnessing the potential of open innovation.

Our current approaches to strategy are actually a barrier to building strategic advantage. Traditional approaches to business strategy actually slow down the learning and capability building process. By challenging traditional approaches to defining corporate strategy, **a FAST strategy approach** provides a way to focus organizational learning based on a limited set of operational metrics and to balance longer-term direction setting with high impact near-term initiatives.

- **Shift in time horizons.** Under this new approach, the one to five year time horizon becomes much less relevant. Executives instead need to focus on two other time horizons: a five to ten year horizon and a six to twelve month horizon.
- **From sequential to parallel initiatives.** Rather than proceeding sequentially from strategy development to operational execution, this new approach defines longer-term strategic direction and short-term operational initiatives in parallel.

Rather than diminishing in strategic importance, IT is becoming an even more important enabler of strategic differentiation. New generations of IT are coming together to support these new management techniques:

- **Service oriented architectures (SOAs)** provide more flexible access to distributed application and database resources.
- **Virtualization architectures** provide more flexible access to distributed computing, storage and networking resources.

- **Interaction tools** including mobile access devices and social software (e.g., wikis and video conferencing over IP) help to connect people together any time and anywhere in much richer collaboration environments.

In the past, IT may actually have been a barrier to more agile and collaborative business architectures as executives made a Faustian bargain: seeking large operating expense reduction at the expense of more flexibility and collaboration with other enterprises.

Fundamental transformation can only be achieved through pragmatic migration paths.

Given all the changes outlined above, corporations will end up looking and acting very differently. For many analysts, the conceptual discontinuity described earlier requires radical discontinuities in practice. Radical reconstruction efforts rarely succeed. The best way to manage through discontinuous change is through incremental radicalism. By harnessing the new management techniques and new generations of IT discussed earlier, companies will be able to fashion a pragmatic migration path to compete successfully in a more challenging global economy. While the specific steps will vary depending on the company and industry, companies will broadly pursue three waves of change:

- **Deepening specialization** – Use process outsourcing and offshoring to make strategic choices among the three business types outlined earlier.
- **Harnessing connectivity** – Master the management techniques required to participate more effectively in global creation networks.
- **Accelerating capability building –** Use the techniques of productive friction to get better faster by working with others and to participate in emerging global learning ecologies.

Understanding Broader Implications

Public policy needs to re-focus on talent development, but this is only marginally about education. The globalizing economy also creates a need to re-conceive public policy.

- Comparative advantage increasingly depends on the pace and trajectory of talent development, rather than traditional factors like resource endowments or geographic location.
- Public policy needs to be re-conceived in terms of ability to accelerate talent development.
- Educational policy is a small part of the issue –many elements of public policy have a significant impact on talent development, including such diverse domains as immigration, trade, capital markets and intellectual property
- In the education domain, the challenge is not to "fix" schools in isolation - instead it will require re-conceiving the role of formal education as part of much more robust learning ecologies.

Rather than coping with rapid change and growing uncertainty by focusing on narrow slices, real success will depend upon understanding the connections and patterns across very different domains. Our recent book focuses on the changes that corporations will need to make in order to participate effectively in the globalizing economy. It represents an early perspective on the broader changes that are re-shaping the environment in which corporations are evolving. In subsequent work, we will be tracing out some of these broader changes:

- **We are less and less motivated by the ability to consume – we seek opportunities to construct together** - our social relationships are being redefined as we shift from an identity as consumers to an identity as networked creators.
- **Attention scarcity is displacing distribution scarcity as a key to value creation** - we are moving from markets that have been shaped by shelf space constraints to markets that respond to the scarcity of customer attention.
- **Education will become more marginalized as we attach greater importance to continuous learning in a rapidly evolving world**- as we become more aware of the need to view learning as a continuing opportunity and requirement throughout our lives, educational institutions are becoming progressively marginalized and forced to re-conceive their role within broader learning ecologies.
- **Firms will become more important, but their role will fundamentally change** – we are shifting from a Coaseian world where the rationale for the firm was to economize on transaction costs to a Smithian world where the rationale for the firm is to accelerate capability building – people will increasingly join and remain at firms situated within the

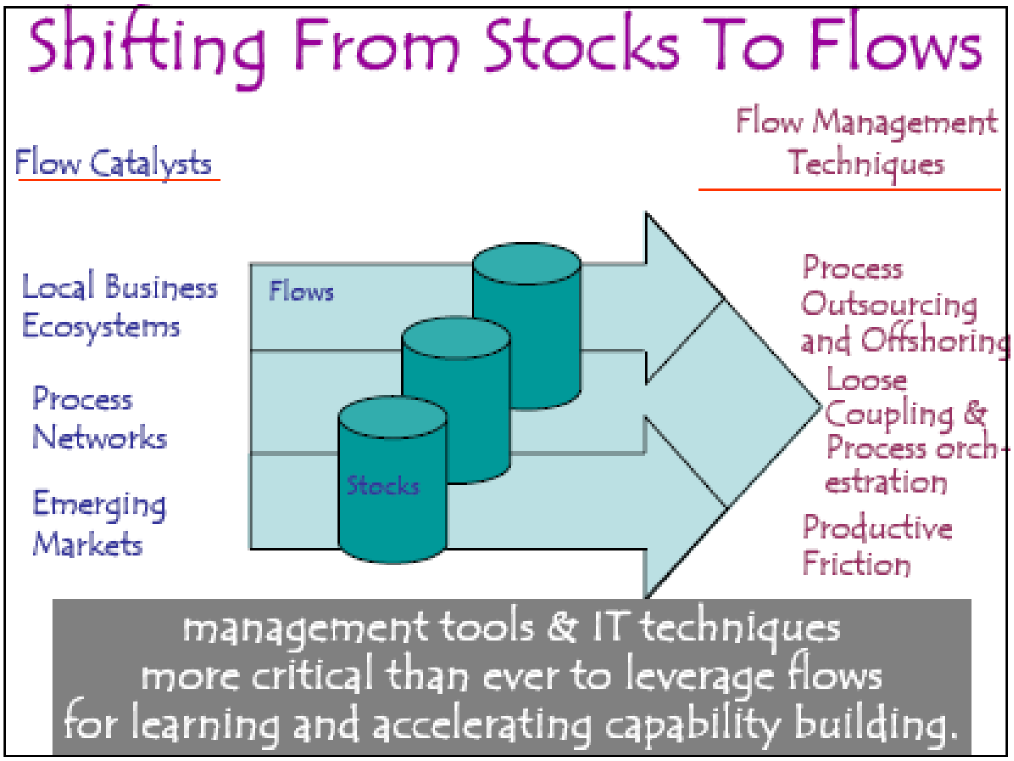
most promising networks and local business ecosystems that can deliver on the promise to help them get better faster by working with others.

The Authors

John Hagel *and* ***John Seely Brown*** *have collaborated extensively in seeking to understand the relationships between globalization and innovation. Interested readers are encouraged to read their recent book,* ***The Only Sustainable Edge****, published by Harvard Business School Press. Much more detailed working papers and other writing can be accessed on their web sites – www.johnhagel.com and www.johnseelybrown.com*

They have also created a joint web site – www.edgeperspectives.com – where their continuing research on these topics can be accessed.

Exhibit 1



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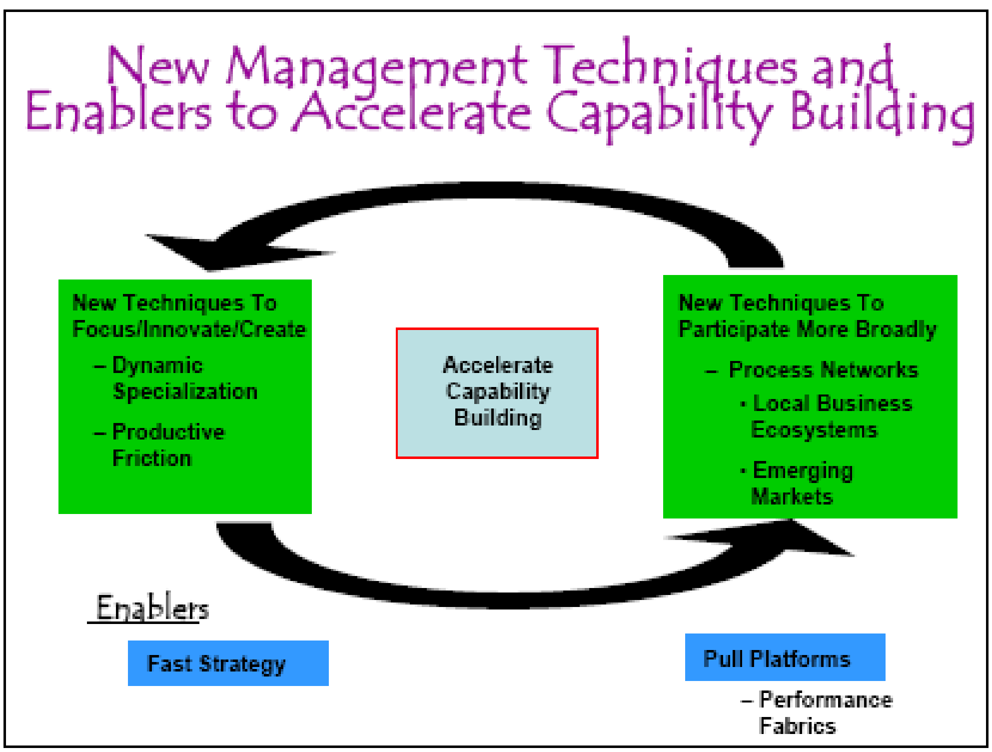

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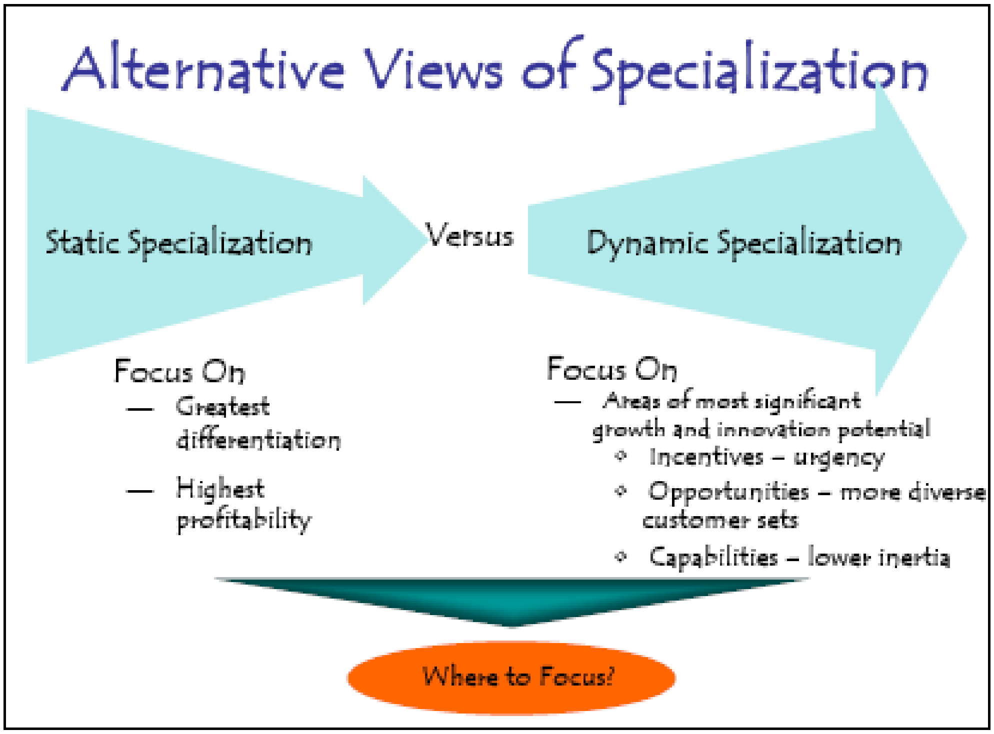

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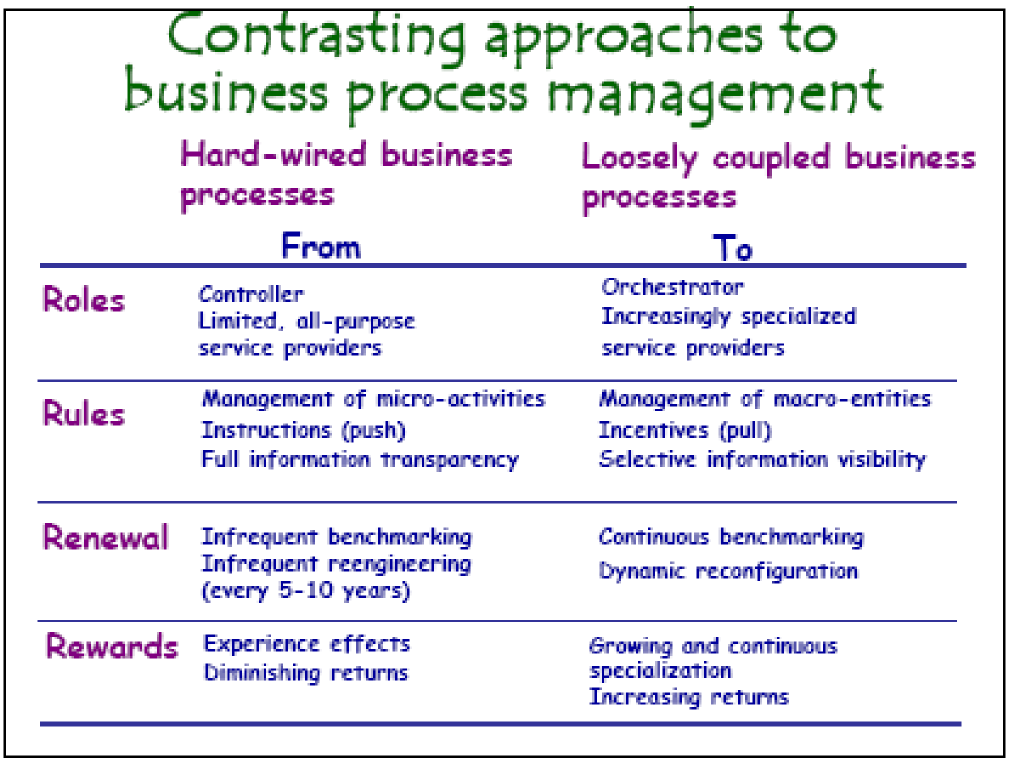
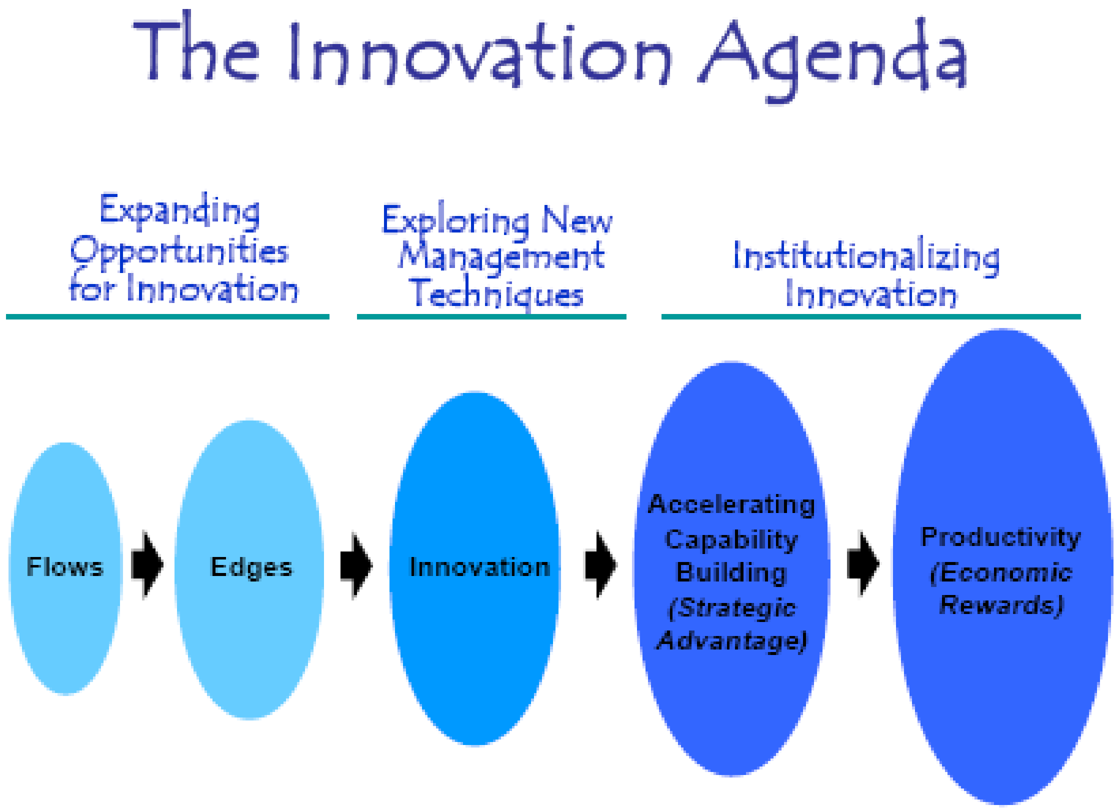


Contrasting approaches to business process management

	Hard-wired business processes From	Loosely coupled business processes To
Roles	Controller Limited, all-purpose service providers	Orchestrator Increasingly specialized service providers
Rules	Management of micro-activities Instructions (push) Full information transparency	Management of macro-entities Incentives (pull) Selective information visibility
Renewal	Infrequent benchmarking Infrequent reengineering (every 5-10 years)	Continuous benchmarking Dynamic reconfiguration
Rewards	Experience effects Diminishing returns	Growing and continuous specialization Increasing returns

Exhibit 5


The Innovation Agenda
Expanding Opportunities for Innovation
Exploring New Management Techniques
Institutionalizing Innovation
Flows
Edges
Innovation
Accelerating Capability Building
(Strategic Advantage)
Productivity
(Economic Rewards)