Business Technology Convergence Index

The role of business technology convergence in innovation and adaptability and its effect on financial performance

Hoque, Fillios, Cash, Kirkpatrick, Mimms, Palepu, Sambamurthy, Zmud

A BTM Institute Research Report | June, 2007

© 2007 by the BTM Institute

All rights reserved. No part of this paper may be reproduced in any form or by any means without permission in writing from the publisher.
About The BTM Institute

Launched in 2003, the international, nonprofit BTM Institute is the first organization of its kind to bring together a select group from the academic, corporate, government and thought leadership communities as a multi-disciplinary research think tank to address the long-standing need to manage business and technology together. The Institute has established an extensive research agenda, produced major publications, and led the much needed and first ever collaboration among multi-disciplinary experts and academics. Through the BTM Institute's various research and educational initiatives such as the BTM Academy (an executive development center), BTM Press (a management book publishing imprint), and the BTM Exchange (a peer-to-peer knowledge exchange), it is the group's commitment to the industry to continuously advance global knowledge of Business Technology Management (BTM).

For more information on the BTM Institute, please visit www.btminstitute.org

Executive Summary

Technology is a major expense in the modern corporation and is deeply embedded in every aspect of doing business. Moreover, it has become the critical enabler of strategic imperatives – to be agile, resilient and innovative. These responses to the hyper-competitive global economy are interrelated, and accomplishing them requires converging business and technology. This can be achieved through certain organizational “constructs,” i.e., management behaviors, which have been identified in research and confirmed in practice. These constructs establish a foundation on which corporations can build innovative business models, including those designed for developing parts of the world. And they ultimately yield superior financial performance for the enterprise as a whole. This BTM Institute research report introduces an index that highlights the connection between corporate financial performance and business technology convergence.
Glossary

Adaptability is the capability of an organization to be both agile and resilient.

Agility is the capability of an organization to instigate change to take advantage of opportunities.

Alignment is the condition in which technology supports, enables and does not constrain the organization’s current and evolving business strategies.

Business Technology is any technology, including information technology, that is used to deliver a business capability or automate a business operation.

Business Technology Management (BTM) is a multi-disciplinary management approach that creates a “whole-brained” enterprise by converging business and technology.

Constructs are management processes and behaviors.

Convergence occurs when business and technology activities are intertwined, and the leadership teams operate almost interchangeably.

Innovation is doing something new that creates value in the marketplace.

Resilience is the capability of an organization to react effectively to unexpected situations.

Sustained Innovation involves processes and organizational design that make innovation repeatable.

Sustainable Innovation involves solutions to problems that reflect a commitment to economically, environmentally and socially sound business practices.

Synchronization is the condition in which technology not only enables the execution of current business strategy but also anticipates and help shape future business models and strategies.
Contents

1. Introduction: Adaptability, Innovation and Convergence
2. Constructing the Business Technology Convergence Index
3. The Financial Effect of Convergence
4. The Anatomy of Convergence
5. An Innovation Laboratory
6. Conclusion: The Future
## Research Team

<table>
<thead>
<tr>
<th>Name</th>
<th>Title and Affiliation</th>
</tr>
</thead>
</table>
| **Faisal Hoque**    | Founder and Chair, BTM Institute  
                      Founder, Chairman and CEO  
                      BTM Corporation  
                      Author of e-Enterprise, The Alignment Effect, Winning The 3-Legged Race, Six Billion Minds, and Sustained Innovation |
| **Michael Fillios** | Chief Solutions Officer  
                      BTM Corporation  
                      Co-creator of BTM Framework  
                      Contributing Author, The Alignment Effect, Winning The 3-Legged Race |
| **Dr. James I. Cash Jr.** | Retired James E. Robison Professor  
                        of Business Administration  
                        Harvard Business School  
                        Serves on the Board of Directors of  
                        General Electric, Microsoft Corporation, and Wal-Mart, among others |
| **Terry Kirkpatrick** | Editor-in-Chief, BTM Institute  
                       Co-Author, Sustained Innovation, Editor and Contributor, Winning The 3-Legged Race and Six Billion Minds |
| **Joseph Mimms**    | Vice President, Executive Direction  
                      BTM Corporation  
                      Former Global Head of the Enterprise Solutions and Knowledge Community  
                      Gartner, Inc. |
| **Dr. Krishna Palepu** | Ross Graham Walker Professor  
                       of Business Administration and  
                       Senior Associate Dean for  
                       International Development  
                       Harvard Business School |
| **Dr. V. Sambamurthy** | Co-Chair, BTM Institute Research Council  
                        Eli Broad Professor of IT and  
                        Executive Director, Center for Leadership of the Digital Economy, Eli Broad Graduate School of Management, Michigan State University |
| **Dr. Robert Zmud** | Co-Chair, BTM Institute Research Council  
                       Michael F. Price Chair in MIS  
                       University of Oklahoma  
                       Michael F. Price College of Business |

## Special Contribution

**Alex Seefried**  
Director, Information Technology Programs  
Northrop Grumman Information Technology Solutions
1. Introduction: Adaptability, Innovation and Convergence

The overarching challenge for a leader today is to prepare his or her organization to respond to surprises, to at times be the instigator of those surprises, and to do it all faster than traditional ways of making decisions allow. The period of rapid and chaotic change in which we find ourselves keeps the buzzword industry busy – be resilient, be innovative, be agile, be adaptive. Fine, the executive says, now what?

Actually, these seemingly distinct concepts are interrelated and interdependent. As an analogy, think of the Internet. It was created to make national defense communications resilient, i.e., able to bounce back from a shock. Yet it allows organizations to be agile, i.e., able to act nimbly to seize opportunities. And it has been the enabler of endless innovation in business models, processes and global collaboration.

In the same way, a firm that is adaptable – agile and resilient – will be equipped to experience sustained innovation, meaning it is not solely the result of happenstance but rather continuous and evolutionary. The connection of these concepts should not be surprising. Innovation, after all, is doing something new that creates value in the marketplace. Agility and resilience imply the ability to do something new.

Organizational design and behaviors directly affect how the enterprise can react to and recover from forces beyond its control. Our recent book, Sustained Innovation (2007), illustrated what leading organizations around the globe have learned about innovation. These included Global 2000 corporations such as UPS, Boeing and Xerox; government agencies such as the Defense Advanced Research Projects Agency, the U.S. Army and the Government Services Agency; and social enterprises such as Grameen Bank, SKS Microfinance and n-Logue. We looked into these organizations to better understand how they create innovative business models – models that can adapt as opposed to suffer from unexpected shifts in the market.

The results of that research were instructive: the successful organizations all moved towards the convergence of business and technology, applying similar organizational designs and management behaviors. Technology is now basic to all business activities, but if it is not managed as something fundamental – if the management of business and technology are not “converged” – efforts to be adaptive and innovative will be undermined.

To create an environment in which technology helps shape – rather than simply enable – strategic choices, leading enterprises are already working to at least synchronize – rather than simply align – their business and technology decision-making. This means that technology not only enables the execution of current business strategy but also anticipates and helps shape future business models and strategies. Moreover, in the best-managed enterprises, technology and business management converge completely. This occurs when business and technology activities are intertwined and the leadership teams operate almost interchangeably. Managing business and technology together takes a multi-disciplinary, structured approach that creates a “whole-brained” enterprise.

Thus, in today’s business environment:

- Disruptive innovation creates new markets
- Evolutionary or sustained innovation creates great enterprises
- Adaptability allows rapid response to unforeseen changes
Globalization enables extended enterprises, reinforcing their competitive edge
- The convergence of business and technology builds agile, innovative, extended enterprises
- Convergence relies upon repeatable, cross-disciplinary management capabilities

Our research further suggests that leaders who place a focus on converging the business and technology disciplines of their companies attain far more success than those who continue to treat them as silos. There is demonstrable economic value in advancing business technology management maturity, and the payoff is greatest for those enterprises that are approaching convergence.

The research, the results of which are presented in the Business Technology Convergence Index introduced here, covered firms in 50 industries. It shows that, working in the same environment as their direct competitors, enterprises with a more nearly converged business technology management exhibited superior revenue growth and net margins relative to their industry groups between 2002 and 2006:

- 12% average annual revenue growth vs. 4% for their industry groups
- 36% average annual earnings per share growth vs. 7% for their industry groups

Not only did these enterprises grow at a faster pace than did their peers, but they also exhibited consistently greater returns than those of their competitors:

- 6% higher EBITD margins than those delivered by their industry groups
- 4% average higher return on equity
- 8% average higher return on assets
- 14% higher return on investments
2. Constructing the Business Technology Convergence Index

To understand what these successful companies were doing differently, we evaluated them against a set of essential management capabilities for effective business technology convergence. These were identified in our previous books – The Alignment Effect (2003) and Winning The 3-Legged Race (2006).

These capabilities are grouped in four functional areas: Governance & Organization, Strategy & Planning, Strategic Investment Management, and Strategic Enterprise Architecture. A capability is a specific management competency defined by four critical dimensions, i.e., each is ordered by repeatable processes, executed through appropriate organizational structures, and enabled by the right information and technology. (See Appendix A)

By developing these management capabilities, an organization creates an environment for strategic exploration and business agility. It has a clear understanding of technology’s potential to accelerate the development of both strategic positioning and innovative business models.

The convergence of the business and technology sides of an organization into an integrated, “whole-brained” enterprise provides the connections among innovation, resilience and agility. This organizational maturity supports innovative thinking through carefully designed processes, rewarding measured risk taking, and providing information architectures that serve as a knowledge base for building and testing opportunity scenarios. Convergence provides the enterprise with the platform to thrive on marketplace change rather than just react to keep pace.

To measure the prevalence and effects of convergence, we created an unweighted database of the enterprise-wide management maturity levels of approximately 100 commercial enterprises and public sector entities.

The enterprises in the index were included because their maturity levels have been validated – not because of any desired set of operating characteristics. We evaluated their organization and management activities using the Business Technology Management (BTM) Framework™, which describes and standardizes the capabilities cited above. The Framework was created by the BTM Corporation and has been adopted and published as a management standard by the BTM Institute, a non-profit research think tank of academicians and industry practitioners devoted to business technology convergence.

It is important to note that not all of the enterprises in the index were explicitly practicing the tenets of the BTM Framework; rather, it was the tool we used to understand and define the activities we observed. Our assessment validated the extent to which each enterprise had:

- Developed and implemented process maturity
- Established and empowered decision-making bodies
- Gathered, standardized, and put to use its information
- Used automation to facilitate decision-making and management

The examination of these companies focused primarily on the foundation capabilities. These are “first-order” capabilities whose maturity underlies overall business technology
maturity, e.g., Strategic & Tactical Governance, Organizational Design & Change Management, and Portfolio & Program Management. However, analysis was also conducted in the higher-level capabilities, those that are often developed later in the maturation process, e.g., Communications Strategy & Management, Compliance & Risk Management, and Resource & Demand Management.

The information we gathered about these organizations was analyzed using the BTM Institute’s BTM Maturity Model, which defines five levels of maturity, scored across the four critical dimensions of process, organization, information and automation.

The five levels of maturity are:

1. **Initial**
2. **Repeatable**
3. **Defined** (at this point discernible alignment first occurs)
4. **Managed** (the threshold of synchronization)
5. **Optimizing** (convergence)
BTM Institute research shows that at Level 1 enterprises typically execute some strategic capabilities in a disaggregated, task-like manner. At Level 2, an organization exhibits limited capabilities, attempts to assemble information for major decisions, and consults the technology function on decisions with obvious business technology implications. Enterprises at Level 3 are “functional” with respect to the capabilities, and those at Level 4 have the capabilities fully implemented. Organizations achieving Level 5 maturity are good enough to know when to change the rules to maintain strategic advantages over competitors.

The research shows that enterprises at lower levels of maturity will score lower for business technology productivity, responsiveness and project success than enterprises at higher levels. As the enterprise’s maturity extends above Level 3, the increasing synchronicity of business strategy and technology delivery makes the enterprise more agile and adaptable. For such companies, changes in the business landscape lead to appropriate adjustments to strategy and corresponding action without major disruptions or anguish. They sense and address emerging opportunities more quickly.

The Index shows that there are enterprises of varying sizes at varying levels of maturity, ranging from the laggards, which are just above the initial stage (Level 1), to the leaders, which either are approaching or have reached the managed stage (Level 4). Only a relatively small number of enterprises have risen to the optimizing stage (Level 5).
In general, at the center point of the index are enterprises that have begun to achieve demonstrable business technology alignment; those in the second quartile increasingly evince movement toward synchronization; and only those in the top quartile can claim convergence.

Representative Companies in the Index

Among companies rated as converged
- FedEx
- Harrah's Entertainment
- Lockheed Martin
- UPS
- Wal-Mart

Among companies rated as aligned or synchronized
- AXA Financial
- Constellation Energy
- Dow Chemical
- Fairmont Hotels and Resorts
- MasterCard International
- Quaker Chemical
- PacifiCare Health Systems
- Royal Caribbean Cruise Lines
- Schneider Transportation
- Starwood
3. The Financial Effect of Convergence

The Index reveals a striking linkage between success in business technology convergence and financial and operational performance. Publicly available information of the 30 leaders for the five years beginning in 2002 was gathered, and unweighted averages of the profitability and management characteristics were calculated.

This data was then compared to the unweighted average figures for the industry groups of the leaders for a direct head-to-head comparison. The comparison is important, since it serves both to normalize the comparison and to reduce the number of factors that could otherwise account for performance differences. Depending on their technology investment and the role of technology in their type of business, different industries may experience different results.

Revenue and Earnings Comparisons, 2002-2006
It is important to emphasize that these figures are not limited to any one area within the enterprise; they are not “IT-specific,” for example, and they do not measure returns on any single project. Rather, they measure enterprise-wide returns, and they reflect the EBITD of the entire enterprise.

The financial effects are enterprise-wide, because the key management capabilities are interconnected, and because they require the active shared ownership of decision-making and execution by both business and technology professionals. For example, shared business and technology decision-making in the strategic investment process – the activity which most directly affects ROI – is governed by foundation capabilities:

- Business Technology Strategy
- Approval & Prioritization
- Portfolio & Program Management
- Strategic & Tactical Governance
And, it draws heavily upon one higher-level capability:

- Strategic Planning & Budgeting

Similarly, the effective use of assets demands both agility and a determined focus to reduce redundancy. This activity is governed by five foundation capabilities:

- Organizational Design & Change Management
- Portfolio & Program Management
- Business Architecture
- Technology Architecture
- Business Technology Standards

And, it draws upon three higher-level capabilities:

- Project Analysis & Design
- Consolidation & Standardization
- Asset Rationalization

Other essential business improvement steps are equally grounded in the key capabilities – whether building an environment that fosters sustained innovation, or one designed to achieve consistent execution and measurement, whether extending the enterprise’s boundaries to establish and exploit value networks with external partners, or optimizing service delivery.
4. The Anatomy of Convergence

Thirty enterprises in the Index have a level of business technology maturity that marks them as leaders.

As a group, these enterprises have reached at least the upper stratum of business technology maturity Level 3 (defined), and many have also achieved Level 4 (managed). A number are approaching Level 5 (optimized); these last are enterprises that have moved from business technology alignment through synchronization and into convergence.

The leader enterprises, in which these management disciplines are improving and evolving, exhibit the following characteristics:

- There are consistent processes with integration across the organization. The “enterprise view” is fully developed, and the enterprise has means of addressing a broad array of issues.
  - In the area of governance, there is a consistent, managed process for ensuring that business management is fully engaged in decisions surrounding business technology; there is a mature understanding of the execution of organization change management; there is clear communication of business technology initiatives; and there is both a risk posture for the organization and a clear appreciation of what must be done to ensure compliance with regulatory environments.
In the area of strategic investment management, there are consistent processes for sponsoring, selecting and managing initiatives; there is a standardized means of structuring projects and of ensuring that they are managed in accordance with enterprise standards; there is also a standard way of determining both the demand and the supply of resources – human, financial, fixed, and other – for the initiatives of the enterprise for the foreseeable future; and, there is a management entity that actively monitors and manages the performance of all initiatives according to a known framework, and which serves as the “early warning” system for elevating issues to upper management and the board.

In the area of strategy and planning, there is close collaboration between business and technology professionals in the development of a business technology strategy, and the enterprise’s business strategy both reflects and is – in some measure – driven by its business technology strategy. Financial matters are considered from inception, and there are active, mature budgeting and benchmarking regimes in place. There is an understanding of which of the organization’s business technology activities can best be delivered by its own employees, and which best by partners, and there is a mature framework for ensuring transparency in service delivery. And, there is a mature set of processes for weaving disparate assets – including those acquired through mergers and acquisitions – into the whole.

And, in the case of strategic enterprise architecture, there are documented, integrated business and technology architectures which describe the organization fully and which represent the business technology necessary for it to reach its goals. There are standards that are enforced intelligently, with a reasonable exceptions process in place. And, lastly, there are regimes for ensuring that the organization both knows what business technology assets it has today and will have in the future – with a plan for an orderly transition to the future state.

There are fully developed structures with roles being executed. Depending on the size of the enterprise, there may be divisional and/or company bodies charged with decision-making and oversight, in addition to enterprise-wide bodies – but the latter always is in place. In addition to the organization mentioned above, which monitors and manages the performance of all initiatives, leader enterprises consistently have governance bodies that place the responsibility of making decisions on business technology into the hands of business and technology professionals. They have bodies focused on the approval and prioritization – and on the financials - of business technology initiatives, and which similarly have cross-functional representation. They elevate those professionals ultimately responsible for business technology – and this goes beyond the Chief Information Officer to include professionals responsible for all the operational and productive technology used by the enterprise – to a direct reporting relationship to the CEO. In such organizations, these bodies are woven into the decision-making and execution fabric of the enterprise: They are not a “management superstructure,” nor are they “overhead.”

For these organizations, data has become information. They manage information effectively across the enterprise and can make decisions based on that
information. And, in large measure, this information is available through and managed in an integrated, enterprise-wide automated system that facilitates decision-making. These organizations understand both the specific strengths and the limitations of point solutions, and they have created management dashboards and other tools to make decision-making and management consistent. While not every professional may have access to it, the system exists and is a management tool in effective use.

The topmost enterprises among the leaders have achieved convergence, the state in which the distinction between technology and business professionals has almost altogether vanished, and in which the enterprise is optimizing its management of the two. These enterprises have enhanced the process, organization, information, and technology automation described above, so that they now operate in a “whole brained” fashion.

- They now engage in continuous process optimization: They learn, adapt, implement, and improve, in an ongoing cycle.
- Their organization structures are optimized, so that they have the right structures in place at the right level, and they make decisions appropriate to their status.
- Where they evince the greatest development beyond synchronized organizations is that they conduct fully data-driven decision-making enabled by consistent, coordinated, integrated use of automation. Every professional has an appropriate level of access to enterprise-wide information, analysis, and management tools, and the enterprise makes this uniform, data-driven model fundamental to its way of doing business.

Leaders look at technology as an enabler of enterprise strategy. They consider the technology implications of business decisions; and they look for innovative ways to embed technology into their ways of doing business. “Technology” for them is more than “information technology” or “productive technology” or “operational technology.” It is, rather, “business technology.”

Business technology convergence occurs in leader enterprises as a fundamental element of best management practices. That these leaders do well financially should not be surprising: well-managed business technology leader enterprises are well-managed enterprises. Their maturity in managing business and technology together mirrors their maturity in managing other areas – people, finance and marketing, for example.

To understand why the convergence of business and technology can have such an effect on financial performance in these companies, consider first the subtle yet significant shift in the role of technology. It is now basic to all business activities. Many companies routinely spend as much on information technology alone as on all other capital investments combined. In some large enterprise, the budget for information technology can exceed $1 billion. And, there is considerable productive and operational technology present in the non-IT items in these capital expenditures.

Companies that are mature in their business technology management spend these sums, not because they see technology as an efficiency and cost-saving tool, but because they recognize its strategic role.
This is true to a different degree for each individual enterprise. Some are in industries in which firms spend more on technology in general, and on information technology in particular, than firms in other industries. Each must identify its place on the spectrum of enterprises that ranges from those for which technology is strategically critical to those for whom it will have less significance on performance and survival. While every firm will benefit from better business technology management, the primary area of focus for the boards and upper managements of certain enterprises may well have to be on industry-specific concerns such as regulation in a heavily regulated business. In such enterprises, business technology decision-making appropriately takes a secondary role.

Given the strategic role of technology and its potential to affect financial performance, boards of directors and top management in many companies are assuming larger roles in its oversight.

Their first decision is to understand the strategic importance of technology to their particular firm. Inordinate attention to technology at the top may create an opportunity cost if they neglect other critical strategic interests. However, they have to challenge long-held assumptions – have developments in technology created opportunities to look at their business differently? Second, they must link technology investment to their firms’ business models and product market strategies. One size does not fit all.

Recognizing the growing importance of technology, some boards have created subcommittees devoted to technology. Others have added members who can bring a technology perspective.

Consider UPS, one of the Index leaders, which we analyzed from publicly available information. Among its board members is Ben Verwaayen, Chief Executive of BT Group, who was brought on in part because of his experience with technology. Another member is former Chairman and CEO James P. Kelly, whose focus on technology has continued under successor Michael L. Eskew.

Both CEOs have pointed to technology as the enabler of UPS’ constant business transformation and innovation. Moving information as much as packages, UPS has become not just a delivery company but a supply chain manager for other companies. As Kelly has said, “UPS will become the world leader in integrating information technology and transportation as a means of enabling global trade.”

This convergence of business and technology at UPS begins with a mindset – it’s buried deep in the culture. “IT is an equal player at the strategy table,” CIO David Barnes says. “IT and the business are partners in a collaboration-driven strategy.”

This convergence takes physical form in the organizational structure. Barnes sits on the Senior Management Committee, the top executive group that oversees UPS. He chairs the Program Project Oversight Committee, a cross-functional group through which all projects, technology and otherwise, come for prioritization. And he chairs the IT Governance Committee, which considers all major IT initiatives; it’s made up of business and IT people. Presenting to that committee are IT portfolio managers, each of which has a business partner. Other groups study emerging technologies. One is the Information Technology Steering Committee, which looks for innovative uses of new technologies. Only a handful of its 30 members are technologists.
This cross-function collaboration means that business executives have to become comfortable with evaluating and advocating for technology. Likewise, technologists have to learn to talk using business terminology. “Technology ideas can originate from many areas within the company,” Barnes says. “It’s not territorial. If a marketing person hears something new at a seminar and shares the idea, it’s not seen as a challenge but as something we should look at together.”
5. An Innovation Laboratory

A new type of business, called the “social enterprise,” is a hybrid of for-profit and not-for-profit organizations. More so than traditional firms, the social enterprise requires a keen interplay of technology and new business models. In fact, it might be considered the ultimate innovation and adaptability challenge. Given the millions of people potentially involved around the world, and the dramatic improvement in their lifestyles that is possible, the economic impact of these endeavors is enormous.

These efforts often play out in underdeveloped areas, such as inner city neighborhoods in the United States and in poor nations around the world. These ventures cover the gamut of human needs in these areas – food and clean water, for example – which require technologies such as water purification systems and solar power. They provide people in these areas with a connection to the developed world. There are, for example, ventures to provide remote villages with cell phone and Internet services. Around the world, villagers are also being connected to the world financial system through simple loans with which they start and maintain small businesses.

Although altruistic motives are involved, it is clear that major corporations see the developing world as a new market. To penetrate this market will require entirely new ways of thinking about business models and technology, and about return on investment and profitability.

These innovative efforts have several common characteristics:

- They rely on technology to work at the micro-level
- They rely on technology to span geographic distances
- They require new business models and processes and sometimes totally inverted thinking from what typically works in the developed world
- They frequently involve collaboration with government and non-profit organizations

These characteristics suggest the urgent need for the convergence of business and technology so that one does not get out ahead of the other. These endeavors must be tied into an overall corporate strategy. The organization will need structures and processes that facilitate the external collaboration that will be required. Convergence in such lean environments is critical, because inappropriate investments in technology – either over-investing or under-investing – could easily lead to failure of the business model. While established, traditional organizations are trying to become adaptable and innovative, these new organizations were adaptive and innovative at birth.

One example of this new type of business is the partnership between Norway’s Telenor and Grameen Telecommunications in Bangladesh. Grameen (the Bengali word for “village”) is one of the many social enterprises launched by Professor Mohammad Yunus, recently awarded the Nobel Peace Prize in 2006 for his work in microfinance. Over his career, he has consistently married new business models with new technology to achieve his goal of helping the poor.

The partnership, Grameen Phone Ltd., has become Bangladesh’s dominant mobile carrier. Grameen Phone helps local entrepreneurs, usually women, to set up village phones and sell phone time to residents at a reasonable price. The company and the individual entrepreneurs profit, and the villagers get affordable connectivity. Telenor is the
majority owner of Grameen Phone. Today 200,000 telephone ladies are earning good incomes for their families and contributing revenue to Grameen Phone.
Group Danone, the French food company, is also looking to the developing world for growth. They too have formed a partnership with Grameen to provide nutritious, low-cost foods in Bangladesh. As stated by Chairman and CEO Frank Riboud, "I'm deeply convinced that our future relies on our ability to explore and invent new business models and new types of business corporations."

In essence, the developing world becomes an innovation laboratory for these companies. Whether a corporation chooses to participate in such ventures, it is critical for leaders to recognize that what goes on in these developing parts of the world can come back to haunt the developed: there is no reason that a low-cost, technology-enabled solution can’t be introduced back in the developed world, putting traditional business practices at risk. These ventures, then, become yet another strain of the pressure brought about by global connectivity, another compelling reason to be innovative and adaptable. For many firms, this radically new way of doing business will likely become second nature over the next few years.
6. Conclusion: The Future

This introduction of the Business Technology Convergence Index is the foundation for continuing research by the BTM Institute. Additional data will be gathered and concepts refined, but the evidence to date suggests strongly that business technology convergence is synonymous with good management and improved financial performance for many companies.

For leaders facing a rapidly changing world, needing new management tools and approaches to respond, trying to know the unknowable, and needing to find profitability in a hyper-competitive environment, our research suggests that business technology convergence is a logical first step.

As the example of UPS implies, technology cannot only help us do what we do today faster and more efficiently; it can also transform what we do. Consider one relatively new area of innovation, which has attracted the attention of many large corporations. It has been termed "sustainable innovation," which means that it involves solutions to problems that reflect a commitment to economically, environmentally and socially sound business practices.

Whatever the nature of the firm – whether a new hybrid or a large traditional organization – the management practices that create convergence can enable the firm to realize its strategic mission. As the Business Technology Convergence Index shows, success is the reward for those that achieve the higher levels of management maturity.
Appendix A. The Capabilities

The capabilities are briefly outlined here:

**Governance & Organization** - Establishes what decisions should be made, the people responsible for making them, and the process used to decide. The enterprise should seek a set of networked governance capabilities. Capabilities such as Strategic & Tactical Governance, Organization Design & Change Management, and Communication Strategy & Management underpin the success of critical networked governance models:

- **Visioning networks** that create and articulate a strategic vision
- **Innovation networks** that foster collaboration to conceptualize and implement new business models
- **Sourcing networks** that enable multi-sourcing arrangements, joint ventures and strategic alliances

**Strategy & Planning** - Establishes a joint business-technology agenda. Capabilities such as Business Technology Strategy, Strategic Planning & Budgeting, Strategic Sourcing & Vendor Management, and Consolidation & Standardization can drive toward innovation, agility or resilience in specific areas.

**Strategic Investment Management** - Defines business and technology management roles in making decisions on assets and value rationalization. Capabilities such as Portfolio & Program Management, Approval & Prioritization, Project Analysis & Design, and Resource & Demand Management can create a performance-driven decision matrix for resource allocation.

**Strategic Enterprise Architecture** - Provides end-to-end enterprise visibility. Capabilities such as Business Architecture, Technology Architecture, Business Technology Standards, Application Portfolio Management, and Asset Rationalization drive the execution of a converged business model with an actionable enterprise blueprint. It shows the connection points between business processes and technology.
References

i The Index represents the enterprise-wide business technology maturity of these enterprises. It may be that one or another business unit within the enterprise has achieved its own separate (and different) level of maturity, but no attempt has been made to reflect diverse figures within the enterprise. The current database spans data gathered over the past five years, with more than 80% of the inputs having been made during the most recent three years.


v UPS.com.

vi D’Agostino, Debra, “David Barnes, Senior Vice President and CIO, UPS,” CIO Insight, February 16, 2005.

vii “David Barnes, Senior Vice President and CIO, UPS,” TechLINKS, TechLinks Media Holding, Inc.

viii Hoque, Sustained Innovation.

The Index represents the enterprise-wide business technology maturity of these enterprises. It may be that one or another business unit within the enterprise has achieved its own separate (and different) level of


UPS.com.

D’Agostino, Debra, “David Barnes, Senior Vice President and CIO, UPS,” CIO Insight, February 16, 2005.

“David Barnes, Senior Vice President and CIO, UPS,” TechLINKS, TechLinks Media Holding, Inc.

Hoque, Sustained Innovation.