

IBM's Dynamic Infrastructure Differentiators

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RFG believes the corporate business model transformations and the drive to strengthen company balance sheets are forcing IT executives to formulate new alignment game plans so that IT can meet business requirements in 2010 and beyond. Up to 18 months ago, credit was loose and aggressive risk taking was in. Since September 2008, a new conservative era has dawned that has business executives addressing the 3 Rs – regulatory compliance, returns on investments, and risk management – from a different perspective. The new business drivers and models means IT executives must align their efforts with the new business needs and restructure operations to be more agile, responsive and optimized to satisfy business objectives. IT executives should work with company and line of business executives to better exploit market opportunities, deliver superior value on assets with reduced risks, and enable business agility through solutions optimized for today's tactical needs and tomorrow's strategic requirements.

Business Imperatives

- Business and IT executives remain focused on deriving greater value from their assets, maximizing capital expenditure returns, and minimizing their IT operational costs. This trend, which began at the turn of the 21st century, will be in effect for at least the next five years. IT executives should work with business executives to construct budgets and operating plans that enable them to increase IT's value proposition through improved project portfolio management, rebalancing costs from fixed to variable, enhanced energy

conservation and elimination of poorly performing assets.

- A second business objective is to exploit market opportunities. This may be accomplished through growth in core markets, expansion into adjacent or new markets, or mergers and acquisitions. One fundamental component in all of these market moves is the requirement for an agile IT infrastructure, optimized to business needs. IT executives should align their development and operations initiatives and investments to satisfy the business' tactical initiatives and strategic goals and eliminate expenditures that are not relevant to the organization's success. Furthermore, IT executives should work with business executives to develop and implement business intelligence (BI) tools that can assist in finding or exploiting market opportunities.
- Exploitation of market opportunities also requires innovation and investment in new processes and technologies, some of which may be disruptive to current business models. Business executives cannot be expected to know all the ways one can leverage new technologies. IT executives must participate in business planning and strategy sessions and provide a vision of how innovative use of new technologies can help achieve business goals.

The collapse of the markets last year resulted in a dynamic that has impacted all companies – a shift of power to those wielding survival plans that drive costs out of the business, identify new

business opportunities, and preserve capital. Regardless of the company size, geography, and industry sector, most of the initiatives and strategic thrusts have very similar components and demands upon IT. To meet the challenge, IT executives will need to re-examine how they align their initiatives and operations with the business. While conceptually that is not new, the change is that IT executives need to be more agile, creative and responsive even though funding will be in short supply. IT executives must design and tailor solutions to fit current demands while being flexible enough to satisfy future requirements.

Business Drivers

Since IT supports the business, IT executives must be cognizant of, and responsive to, the business drivers with which the business executives are dealing. Externally the four forces that effect corporations – the customer, competition, the economy, and geopolitics – are ever-changing, evolving constants. Now more than ever companies need to know their customers and be able to respond to changing demands. This means that executives need to detect shifts very early in the cycle and modify company offerings rapidly so that customer-facing staff, inventory, supply chain materials, and work in process can be shifted to the new demands on a least-cost basis.

Moreover, global economic conditions are now tightly linked to geopolitics and governmental dictates. Governments will have a direct impact upon credit markets, executive actions, risk exposure, and regulations. The rules of business are in flux, and executives,

business processes, and IT infrastructure must be able to respond quickly to new directives and directions. Companies that are unable to modify their business models to remain profitable will disappear. Some will go out of business while others will be acquired by those that have profited under the new ground rules.

Interestingly, many firms do not consider technology as a key business driver. However, new disruptive technologies such as cloud computing, mobility, social networks, unified communications and virtualization are creating new business models that can make or break companies. Therefore, IT executives need to understand these developments and be able to help business executives incorporate them into their business plans and strategies.

Value Management

Companies with highly profitable business models are those that effectively manage their assets and costs and maximize usage of their capital. For IT executives it means aligning IT expenditures with key tactical and strategic initiatives and delivering cost-effective business solutions. This requires careful project portfolio cost/benefit analysis and prioritization as well as reducing operational expenditures through modernization and converting to a variable cost IT operations model.

A variable cost operations model contains both human resource and technology components. The staffing side entails using a balanced workforce that consists of in-house staff diversity, a contingent workforce, and strategic

outsourcing. Variable cost technology models utilize virtualization and/or private, public or hybrid clouds. These technologies enable IT executives to employ rapid provisioning mechanisms that keep cost structures down.

Agility

To enable business exploitation of market opportunities, IT executives need to architect and develop a low-cost infrastructure that is agile, always available, and scalable. Moreover, for enterprises to derive the full measure of agility, flexible solutions must apply to the user as well. Thus, IT executives will need to transform the IT environment in three ways:

- deliver real-time business intelligence analytics,
- move data from the application silos into enterprise-wide corporate data structures, and
- implement straight-through processing (STP) that goes from order to cash to financial close.

Moreover, by improving information integrity and delivering information transparency, business executives can leverage the information and thereby drive new revenues and improve customer loyalty. Additionally, the ability to work with more timely and accurate information will improve decision making and reduce business risks.

Vision + Innovation

The conversion of a company's vision and strategy into specific goals and targets in today's world requires the blending of new business concepts with advanced technologies. Business leaders

cannot do this in a vacuum. IT executives, whether invited to the table or not, need to participate in the creation of the new business plans and strategies so that the "art of the possible" is incorporated into the business concepts, designs and processes.

According to the recently-released **IBM Corp.** CIO study, where almost 2,600 CIOs were interviewed, the top 10 visionary plan elements were designed to drive agility, collaboration, efficiency, optimization, and risk management and compliance. The study additionally noted that the CIOs at high growth companies were insightful visionaries, savvy value creators, and relentless cost cutters. The top 10 IT solutions are as follows.

Chart 1.

Top 10 Visionary Plan Elements
Business intelligence and analytics
Virtualization
Risk management and compliance
Mobility solutions
Customer and partner collaboration
Self-service portals
Application harmonization
Business process management
SOA – Web services
Unified communications

Source: 2009 IBM CIO Study

Green IT, cloud computing (public and private clouds), and IT service management were also high on the list but fell into the next 10 plan elements.

The study also finds that visionary CIOs are deeply involved in the business and, therefore, spend more time being a business and corporate vision enabler than a core technology service provider. Hence, to maximize IT alignment IT

executives need to enable the company and line of business visions through tight integration of business and technology. At the same time, IT executives must improve agility while cutting costs through enhanced delivery of core capabilities combined with strategic outsourcing.

Clouds – The New Innovation

The nascent cloud architectures should play a role in the development of the company's infrastructure plans, even if public clouds are not employed. The architecture should be viewed as a disruptive technology and incorporated into future plans because it will reduce costs while improving productivity and service. Even if clouds are not used, IT executives should borrow from the architectural constructs and incorporate the concepts in future requirements and designs. RFG suggests the best way to do that is to work with a cloud provider such as IBM. This will enable the company to employ current cloud best practices, utilize lessons learned and ensure a successful implementation.

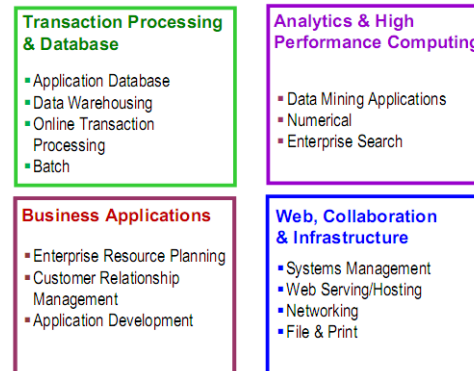
For example, IBM moved its Technology Adoption Program from a traditional data center environment to a cloud. In so doing, IBM reduced its annual expenses from \$3.9 million to \$0.6 million, a savings of 84 percent achieved by reducing hardware, labor, and power operational costs. The switch to the cloud paid for itself in 73 days. At the same time IBM improved the program's customer service.

The Key: Workload Selection

Whether implementing a cloud or any other platform choice, IT executives

must focus on the workloads. In fact, RFG believes the new workload requirements should necessitate a reexamination of the impacts of platform selection on workload performance. In other words, the choice of workload, therefore, dictates the infrastructure choices. Systems designed for analytics and data mining, for example, are different than those geared to do online transaction processing. Therefore, IT executives should divide and architect their infrastructure with solutions optimized for four types of critical workloads:

- Transaction processing & database
- Business applications
- Analytics and high performance computing (HPC)
- Web, collaboration, and infrastructure



Each of the four workload types has different compute, network and storage characteristics. Each should be purpose-built to optimize availability, cost, energy efficiency, performance, quality of service, scalability and security.

IBM's approach to these requirements and the overarching business objectives is to work with customers to design and implement solutions utilizing its dynamic infrastructure construct. IBM

views a dynamic infrastructure as one that is agile, automated, energy efficient and workload optimized. It employs service management processes, mitigates risk, and provides a desirable ROI and TCO. Additionally, because IBM offers multiple delivery business models, executives have substantial flexibility in how they can finance the solution as well as the form in which it is deployed. The infrastructure can be on premise, off site, outsourced, or in a cloud. IBM and its business partners can deliver to small and mid-sized companies solutions that were once only available to large enterprises.

The following IBM use cases demonstrate how the vendor collaborated with its business partners and customers to deliver workload-optimized solutions that enabled executives to achieve their business objectives.

An American parts supplier needed a reliable business-critical sales tools and inventory system to help it maintain and grow its loyal customer base. The company supports the heavy duty U.S. trucking industry in the Midwest by providing these 24x7x365 fleets with needed parts and service. The company makes its inventory accessible to a subset of its customers to handle their own order processing. To meet these stringent requirements, the supplier selected the IBM Power Systems along with PowerHA software so that it could have 100 percent uptime, which would enable it to avoid the estimated \$20,000 per hour loss of revenues due to downtime. The new system also allowed for synchronous mirroring so that if there is an unplanned outage, the company can be operational on a

secondary system within 20 minutes with no lost transactions or data. The solution additionally afforded it with a rapid maintenance capability, consuming 10 minutes per week, with no added headcount.

A pharmacy benefits provider was experiencing problems with its claims processing and scheduling processes. By switching to Tivoli software solutions and new IBM BladeCenter and System x processors and System Storage, the firm was able to reduce job processing time from 45 minutes to 10 minutes, an 80 percent reduction in processing time. The company is now consistently able to handle more than 284,000 claims daily with sub-second response time.

An independent energy supplier in the Netherlands needed smart utility metering technology to facilitate its growth while constraining costs. In conjunction with IBM and Enel SpA, the company developed an automated meter management solution consisting of IBM DB2, Tivoli and WebSphere software and IBM Global Services and a design built on Enel's advanced research on remote meter management. As a result, the utility reduced its meter-to-cash costs by approximately 50 percent.

One of India's low-cost airlines experienced difficulty in analyzing financial data quickly enough to make timely business decisions and executing its monthly financial close on time. Through use of a combination of IBM Global Business Services consulting with IBM's AirlineOffice (which is based upon SAP AG's ERP application) and IBM System x servers and System Storage hardware, the airline was able to resolve the problem. The airline's

integrated solution enabled the company to complete its financial close within a week – a 72 percent improvement. The gains in financial transparency and analytics improved cost control and planning – helping the business to run more efficiently.

A Brazilian hosting provider needed to expand its data center operations but whose current facility had limited additional power capacity. By upgrading to IBM BladeCenter servers and System Storage, the company was able to improve system availability, reduce energy consumption, and lower management time by 30 percent. The firm achieved a break even on its investment in less than three months.

Summary

Companies have seen both an economic and technology paradigm shift over the past 18 months. The impacts to these disruptive changes are still being felt and sorted out. Nonetheless, it is clear that how companies conduct business has changed permanently. The business executives have had the simpler task of rebalancing resources to address the current market conditions. IT executives have the tougher, more long-term challenge of aligning IT with the new business directives and strategies, transforming business processes and reconstructing their applications and

infrastructure to take advantage of the latest technologies.

IT executives need to ensure their IT transformation reduces cost structures, simplifies operations, makes IT more responsive and agile, and leverages technology so that users can more rapidly benefit from its usage. This will require IT executives to employ integrated solutions that are agile and workload-optimized using the latest technologies and that can scale to meet future demands. In IBM's smarter planet terms, the world is becoming more interconnected, intelligent, and instrumented, which, in turn, requires an underlying dynamic, workload-optimized infrastructure so that businesses can rapidly respond to changing conditions and requirements.

RFG believes enterprises have entered a new era, in which competitors, customers, governments, suppliers, and the enterprises themselves must learn to operate and respond to disruptive economic, geopolitical and information technology dynamics. IT executives should work with corporate and line of business executives to align IT plans, portfolios, and strategies so that they satisfy the company's business drivers. Then, executives should perform the appropriate assessments, create the architectures, design and implement targeted fit-for-purpose solutions.

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