Digital Business Metrics:
How to evaluate Digitalization driven Innovation

Milan, Rome, Luxembourg, London
October 25th 2013
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BTO Proceedings

**Document:** «BTO Proceedings» is an output created and distributed in order to divulgate the research’s results, presented during Executive Community’s meetings. The document is presented in a suitable format that makes the consultation of contents agile and rapid and it’s produced by the BTO Research Team.

**Purposes and goals:** BTO Proceedings offer an overview of the contents discussed during the Executive Community, highlighting the most important aspects and underlining the starting point of the research.

**Abstract:** The topic of discussion of this session was “DIGITAL BUSINESS METRICS: How to evaluate Digitalization driven Innovation”.

In the current competitive environment, companies need comprehensive measures of the contribution to firm performance of all organizational resources, especially IT portfolio and corporate information asset. Digital innovation asks for effective measurement models for exploiting and governing the evolving IT capabilities and competences at technological level and for enabling the business agility required to deal with customers in an effective and value added way. As firm develop digital innovation metrics and specific databases for different types of both corporate and customers data, top managers need to learn to assess and measure a company’s innovation capability more effectively.

The meeting has taken place with the participation of Saby Mitra, Professor and Faculty Director, EMBA-MOT at Georgia Tech Institute.

**Executive summary:** a small summary of the proceedings, covering all the topics discussed during the Executive Community’s meetings.
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CIOs were found to focus their communication on different groups of metrics, depending on a number of variables, with a tendency to move from IT specific to more business-focused domains over time.

**FOCUS POINT**: CIOs can improve the role of IT to a strategic standing using the metrics portfolio framework and by shaping their communication with business leaders through the use of proactive relational practices.
Many companies are spending heavily on IT resources in their quest to extract insights from the large amounts of data available from internal and external sources. However, **Big data and analytics projects are different from traditional enterprise initiatives.**

### Challenges (Management) –

<table>
<thead>
<tr>
<th>Traditional IT Projects</th>
<th>Analytics / Big Data Projects</th>
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<tbody>
<tr>
<td>▪ Relate to existing processes and aim to <strong>improve efficiency</strong> and productivity, lowering costs and risks.</td>
<td>▪ Are about developing <strong>new insights</strong> about the needs and behaviours of customers.</td>
</tr>
<tr>
<td>▪ Follow a <strong>defined plan</strong>, detailing requirements, specifications and processes.</td>
<td>▪ They aim at changing how employees think and use data for decision making.</td>
</tr>
<tr>
<td>▪ Objectives and outcomes are predefined, success is measured by the meeting of budgeted costs and timeframes.</td>
<td>▪ Goals focus on change and exploration and the final result is not as clearly defined.</td>
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</tbody>
</table>

**FOCUS POINT:** Big data and analytics initiatives **cannot be managed** the same way as regular IT projects, because **project management** tends to be **informal** and discovery-driven.
…this kind of initiatives must be managed in a different way from the point of view of staffing, focus and design.

— Managerial guidelines —

<table>
<thead>
<tr>
<th>People</th>
<th>Users must be the focus of the project, by understanding their decisions and information needs, the way that access data and use it in customer-facing work.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information use</td>
<td>Initiatives designed to extract information from existing systems or new sources of data must recognize the complexity and dynamic nature of the process.</td>
</tr>
<tr>
<td>Staff</td>
<td>Companies must involve in IT projects people who understand how people perceive problems, use information and analyze data in developing solutions, ideas and knowledge.</td>
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<tr>
<td>Focus on learning</td>
<td>Big data and analytics projects are more similar to scientific research than to IT initiatives. Companies must promote and facilitate a culture of information sharing and develop the tools to enable it.</td>
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<tr>
<td>Focus on business problems</td>
<td>Innovative projects should focus less on managing the risks of deploying technology and more on solving business problems, avoiding the risk of not achieving successful business outcomes.</td>
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FOCUS POINT: Improving how businesses extract value from data entails creating an environment where people can use the company's data to improve the firm’s operational and strategic performance.
CEOs are turning to their CIOs to facilitate two main sources of growth through technology: innovation and integration. The IT function is often both the corporation center of expertise in business integration and the provider of tools for collaborative innovation.

— The Issue —

IT Role

..in facilitating Innovation

- Providing an understanding of emerging technologies and new trends
- Mastering application development methods
- Facilitating information dissemination through collaboration technologies
- Providing tools, infrastructure and staff to support innovation initiatives
- Incorporating innovations into the corporate infrastructure

..in enabling Integration

- IT people have intimate knowledge of the workings of the company
- Familiarity with the concepts and methods of business process design and improvement
- Competence in analyzing architecture
- Expertise in information and project management
- Talent for relationship management

FOCUS POINT: Innovation and integration are «unnatural acts» in most large corporations: they need active, technology-enabled agencies to promote innovation and integration that will allow them to keep pace with smaller and younger competitors.
Researchers recommend the formation of cross-organizational teams to provide seamless collaboration and overcome resistance to new ideas.

## Solutions

<table>
<thead>
<tr>
<th>Distributed Innovation Groups (DIG)</th>
<th>Enterprise Integration Groups (EIG)</th>
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<tbody>
<tr>
<td>• Scout for ideas</td>
<td>• Manage the corporate portfolio of integration activities and initiatives</td>
</tr>
<tr>
<td>• Scan the environment for emerging technologies and applications</td>
<td>• Serve as center of expertise in process/project/program/portfolio management</td>
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<tr>
<td>• Act as a center of innovation expertise for business units</td>
<td>• Contribute staff to major business integration activities</td>
</tr>
<tr>
<td>• Publicize promising innovations throughout the enterprise</td>
<td>• Anticipate and manage changes required for more integration</td>
</tr>
<tr>
<td>• Develop pilots or prototypes for promising innovations</td>
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</table>

FOCUS POINT: DIGs and EIGs provide leadership through successful relationships, effective communication skills and targeted expertise. While DIGs create new business variations, EIGs take existing business variations and integrate them throughout the enterprise.
Often IT projects starting as planned and defined escalate in costs and negative repercussions. Billions have been lost by companies and governments due to out-of-control projects.

— The Issue —

16% of the studied projects* experienced average cost overruns of 200% and schedule overruns of 70%.

Focusing on averages instead of outliers, managers and consultants have been missing the real problem. Indeed, IT change initiatives are not on average particularly prone to overruns but an unusually large proportion of them incur in massive ones.

— Case studies —

- Levi Strauss saw a $5m system migration project turn into $192m in costs and lost earnings, the CIO was forced to resign
- IT problems at Hong Kong’s airport cost the country’s economy $600m in lost business
- Escalating costs exceeding a budgeted $2B IT modernization project contributed to Kmart’s bankruptcy
- Germany’s «Toll Collect» project’s struggle with software integration cost the government $10B

FOCUS POINT: IT projects are now so big, touching so many aspects of an organization, that they pose a singular new risk: out-of-control tech projects have a potential for extensive cost in terms of money, time and loss in performance and revenues.

* Source: «Why your IT Project may be riskier than you think»—HBR Sept 2011
**IT projects going out of control** are a very tangible and **dangerous occurrence**. Researchers delineate a **framework** for leaders and managers to **understand** and manage the **risks of IT projects** before it is too late.

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**FOCUS POINT**: **periodic overhauls** of the IT infrastructure are **inevitable**. Evidence shows how significant **cost-escalation** and **performance-degrading risks** are present **in projects of all sizes** and scopes. The **planning phase** aimed to **avoid** these risks **requires careful attention** from the top management.

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**Solutions**

- **Is the company strong enough to absorb** the hit of its biggest IT project going **over budget by 400%** or more and if only **25% to 50% of the project benefits** are realized?

- **Can the company take the hit if 15% of its medium-sized projects exceed** cost estimates by **200%**?

- **Breaking down big projects** into ones of limited size, complexity and duration

- **Recognize and make contingency plans** to deal with unavoidable **risks**

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Even if a company passes the stress test managers must take **steps to avoid cost-escalating projects**

Any company contemplating a **large technology project** should take a **stress test** assessing its readiness.
Consumer-centric industries are experiencing a center-edge digital transformation as customers are digitally connected and activated, shifting the focus of IT infrastructures from the enterprise to the consumers interacting with it.

— The context —

**Center-Edge digital transformation**

**How can** an enterprise exploit this shift and **capture the value** it creates?

By viewing their relationship with customers through the lens of the following **three organizational configurations**:

- **Value Chains**
  They involve a **series of sequential horizontal processes**

- **Value Shops**
  They are based on **recursive feedback learning loops**

- **Value Networks**
  They capture the value produced by **relationships between communities**

**FOCUS POINT**: the Center-Edge digital transformation require an **IT infrastructure** that can handle **rich, engaged and unpredictable interactions**, thus, **enabling the consumers at the Edge to interact easily and with minimum learning**.
The healthcare industry is a good example of this transformation. The potential of the presented value-creation framework is proved by its successful application to a healthcare firm.

— Kaiser Permanente: a success story —

**Improved the effectiveness of IT-enabled healthcare delivery** for business and clinical processes.
- Cost savings, efficiencies
- Improved quality and satisfaction
- Remote digital patient/doctor interaction

**Better mobilization of IT-enabled resources**, knowledge and expertise to resolve healthcare problems for members.
- Faster resolution of medical enquiries
- Leveraging of scarce clinical resources
- Member-driven customization of healthcare delivery

**Building more effective facilitative exchanges** through IT-enabled networks.
- Connecting members through social networks
- Networked knowledge
- Integration of medical services and wellness activities

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**Value Chain**

**Value Shop**

**Value Network**
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Vincenzo Morabito
Università Commerciale Bocconi:
• Associate Professor, Management & Technology Department

Research Areas of Interest
• IT Systems Management
• IS Integration, Report IT / Competitive Advantage
• IT Systems Governance
• Project Management
• IT Strategy

Profile

Vincenzo Morabito (Ph.D., Università Commerciale Luigi Bocconi) Research Scholar at the "Centre for Information System Research" (MIT Sloan School of Management). Research Scholar at the "Decision and Information Science Department" (University of Florida). Responsible of the courses of Organization and IT Systems, IT Systems Management and Information Management at the Università Bocconi. Director of the IT Systems Management Master and Responsible of IT Systems Management. He has contributed to different research programs also supported by "Ministero dell'Università e della Ricerca Scientifica e Tecnologica".

Selected Publications:

The Business and Technology Outlook Research Program is now becoming global with new Companies in Luxembourg, Germany and UK.
Activity schedule for 2013 includes collective meetings focused on topics of cross importance, selected accordingly with the needs of Community supporters...

--- Program ---

1. **Global Digital Trends:**
   Outlook 2014 - Emerging IT Issues
   (March 2013)

2. **Multi-Sided Platform Models:**
   Generating value in a complex environment
   (July 2013)

3. **Digital Business Metrics:**
   How to evaluate the digitalization driven innovation
   (October 2013)

4. **Global Digital Forum**
   (13 December 2013)

--- Time View ---
Starting from 13 December, BTO Research is launching the BTO Global Digital Forum, transferring, in a one day session, the best of scientific research on cutting edge trends of Digital Innovation…

**Vallabh Sambamurthy**
Eli Broad College of Business, Michigan State University

**Leading and shaping Digital Business Strategy**
Using examples and case studies, this keynote will help IT Executives define a Digital Business strategy and lead the change by understanding business needs and anticipating solutions.

**Ravi Bapna**
Carlson School of Management, University of Minnesota

**Leveraging Analytics and Transforming Business Strategy**
Through case studies, this keynote will help IT executives identify how Analytics are changing business models and processes, stimulate innovative ideas and have insights on how to evaluate investments.

**Vijay Gurbaxani**
Paul Merage School of Business, University of California Irvine

**Evaluation of Technology Innovation Projects**
This keynote will address the topic of evaluating technology-based innovative projects and discuss more appropriate measures for evaluating technology innovation projects, in order to assess the feasibility of the project and a proper strategy to take advantage of it.

**Anindya Ghose**
Stern School of Business, New York University

**Leveraging Social Media and Transforming Business Strategy**
Thanks to best practices and cases from leading companies, this keynote will present some guidelines to inspire an innovative and effective social media strategy, which implies changes in the organizational culture, resources and technology.
… through a series of international level meetings where Scientific Research meets IT Executives to transform trends and ideas into execution…
To rationalize today’s topic we offer you the **BTO Collection**, an assortment of articles selected by the research group...

--- **Supporting Materials** ---

<table>
<thead>
<tr>
<th>SELECTED CONTRIBUTION</th>
<th>AIM OF THE CONTRIBUTION</th>
</tr>
</thead>
</table>
| **1** DIGITAL BUSINESS STRATEGY  
  1. “Measuring IT Performance and Communicating Value”  
  2. “Why IT Fumbles Analytics” | ✓ CIOs need **effective approaches** for measuring, monitoring, and **communicating how IT investments** provide **business value**, improve **business processes**, and enable **business innovation**.  
  ✓ CIOs have to emphasize **information use** as the way to **unlock value from IT**, investing on **analytics** and **data scientists**. |
| **2** DIGITAL BUSINESS FOCUS  
  3. “Teaming Up to Crack Innovation & Enterprise Integration”  
  4. “Why Your IT Project May Be Riskier Than You Think” | ✓ **IT projects** touch many aspects of an organization, posing the risk of being **out-of-control**.  
  ✓ To promote **innovation** and **integration**, companies need two types of **business-technology units** to size projects:  
  ✓ A **Distributed Innovation Group** (DIG), which fosters and channels Digital Innovation  
  ✓ An **Enterprise integration group** (EIG), establishing the architecture and management practices essential for business integration. |
| **3** DIGITAL BUSINESS APPLICATION  
  5. “Realizing Strategic Value Through Center-Edge Digital Transformation in Consumer-Centric Industries” | ✓ A health care **case study** shows how to **realize, capture** and assess new **strategic value** by **deploying IT** that seeks to **transform** the way **IT-enabled services** are delivered for a **very large number of consumers**. |
...and the volume “The other side of innovation: solving the execution challenge” highlights how IT enables innovation management, combining new ideas generation and their execution by on-going operations

— Supporting Materials —

CONTENTS AND OBJECTIVES

- **The main challenge** to innovation is that business organizations are not designed for innovation, but for on-going operations.

- Once established companies evolve into «performance engines», striving to make every activity as repeatable and predictable as possible, while innovation is «non-routine» and «uncertain».

- Thus, the innovation leader must

  - create an innovation team distinct from the «performance engine» and with a special organizing and planning
  - build a partnership with the «performance engine» (conversations).

**IT** must identify plan and metrics in line with each new innovation initiative, always from scratch and, distinct from usual dominant performance metrics.
The digital evolution challenges companies to “fill the gap” of Digital Business Metrics for having flexible, fine-grained, and shared views of the value of key strategic assets and activities...

— Context —

**Strategy**
- Competitive Advantage
  - (focus vs. differentiation)
- Market positioning
  - (innovation vs. maintenance)

**Marketing**
- Customer acquisition costs
- Customer satisfaction/experience
- Customer share-of-wallet
- Customer retention

**Infrastructure**
- Procurement costs and flexibility
- Systems integration and openness
- Processes and Services modularity
- Information quality and security

**Human Capital**
- Recruiting costs and effectiveness
- Working capital performance
- Working capital retention
- Staff continuous training
...using these Metrics to discover **new distinctive true beliefs**, necessary for differentiation, neutralizing competitors’ beliefs and making their way of working outdated.

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**Context*—**

- **Discovering**
  - **Company’s distinctive belief system**
  - **Common sense**
  - **Competitors’ distinctive belief system**
- **Neutralizing**
  - **The distinctive true beliefs of most dangerous competitors**
- **Discarding**
  - **«Marooning»**
  - **Old Truths that are no longer valid**
  - **Beliefs that are true**
  - **Beliefs that are false**
- **New truths that customers and employees value**
  - **Beliefs that are true**
  - **Beliefs that are false**

The actions of CIOs should focus on 2 strategic imperatives and 4 core metrics

— Critical Success Factors —

1. DESIGN and PLAN platforms that make the “DIFFERENCE” for the business

2. EVALUATE how platforms make the “DIFFERENCE” for the business

IS Integration metrics

IT Resources

Complementary Organizational Resources

Organizational Absorptive Capacity metrics

Business Processes

Business Processes Performance

Digital business Performance

Business Metrics

Financial Metrics
In conclusion, Digital Business Metrics allow CIOs to lead the change of perspective on the strategic role of IT as generator of evidence and distinctiveness for a company’s digital business value

— Strategic Perspective —

**IT ability to SEEK THE TRUTH**

show

EVIDENCE of a company DIGITAL BUSINESS VALUE

Identify

the DISTINCTIVENESS that MAKES THE DIFFERENCE

New way of working – data scientists capabilities diffusion (Human Resource)

New value propositions based on data evidence of distinctive beliefs (Strategy and Marketing)

Advanced data visualization and sharing for decision making (Infrastructure)
CIOs can improve the business value of IT by increasing transparency around performance

- Concrete Actions-

Develop shared understanding of expectations and performance

Turn difficult conversations into fact based discussions

Develop credibility and trust with senior business leaders

Increase focus on key areas by carefully selecting key metrics

Build partnerships with senior business leaders through shared metrics

Strategically shift focus over time to extend the role of IT into new areas

FOCUS POINT: Using Digital Business Metrics is the right way to communicate with senior business leader, in order to engage them in a Digital Business Organisation Project.
There are several examples of how companies effectively adopt business technology metrics to drive strategic decision-making, with the goal of seeing the «what» to understand the «why» and focus on the «how».

— Case study: P&G —

Visual displays of key information on desktops — over 50,000 employees have access to a “Decision Cockpit”.

Meeting spaces called “Business Spheres” in over 50 locations where management information is displayed for review and decision-making by groups.

The “heat map” simultaneously shows all the markets and their relative share (red indicating low market share; green indicating high market share).

Source: Tom Davenport, How P&G Presents Data to Decision-Makers, HBR Blog Network, 3:00 PM April 4, 2013
As CIOs struggle finding ways to communicate effectively with CEOs, a portfolio of business oriented metrics provides a framework they can use to manage their organizational units and drive IT/Business conversations.

--- Issue and framework ---

- Three **performance areas** intersect three **scopes** and each cell is measurable through multiple metrics.

- CIOs who communicate only on the **IT operations** and **projects** performance are **perceived** having a **limited impact**.

- CIOs who have a **higher impact** are able to **move** the value conversation towards the **upper right** out of the domain of IT-specific cells.

**FOCUS POINT:** CIOs willing to **drive the conversation** with business leaders must frame **IT performance** into communicable **business value metrics**, pivoting them on a **language** understood by CEOs.
Saby Mitra

Georgia Tech:
• William H. Anderson II Professor and Faculty Director, EMBA-MOT

Profile

Saby Mitra is William H. Anderson Professor of Information Technology Management. He is also the Faculty Director of the Executive MBA program in Management of Technology and the Faculty Director of the Information Technology Management Partnership program at Georgia Tech, an executive education forum aimed at senior IT managers. His current research interests include economic impacts of information technology, IT outsourcing, IT metrics, IT security and business continuity, electronic commerce, and IT infrastructure design. His research has appeared or forthcoming in several journals such as Management Science, Information Systems Research, MIS Quarterly, Journal of Marketing, Journal of Operations Management, IEEE Transactions on Knowledge and Data Engineering, and Journal of Management Information Systems among others.

Research Areas of Interest
• Economic Impacts of Information Technology
• IT Outsourcing
• IT Security Management
• Electronic Commerce and IT Metrics
• IT Infrastructure Design

Publications:
• Ransbotham S., Mitra S., Target Age and the Acquisition of Innovation in High Technology Industries, Management Science, Nov 2010
As information technology transitions from a back-end function to a more prominent front-end role, how can senior IT managers measure performance and communicate value?

— Agenda —

**Metrics Portfolio**
What metrics can CIOs use to measure performance and communicate value?

**Company Profiles**
How do some of our case companies use metrics in the portfolio?

**Best Practices**
What are the best practices in using metrics to manage the IT function?
The ideas here are based on interviews and case studies with CIOs and other senior leaders at 25+ companies

— Research Approach*—

- **Structured Interviews** of 25+ CIOs and CXOs
  - Focus Group of 5 CIOs
  - Firm Selection criteria
  - Firms were selected to provide diversity along four dimensions: (a) Firm Size, (b) Role of IT in the firm, (c) Profit vs. Non-profit, and (d) Industry.

- **Specific Questions** asked:
  - How do you, your CXOs, and business unit heads evaluate IT performance?
  - What metrics does your firm use to manage and monitor IT?
  - How effective are metrics in planning, monitoring and communicating performance?

*An article summarizing the research appears in: Mitra S., Sambamurthy V., Westerman G., “How Do Chief Information Officers Measure and Communicate IT Performance?” MIS Quarterly Executive, 10 (1), March 2011
CIOs in our research used metrics in multiple ways...

— How do CIOs use metrics? —

- **Demonstrate** performance
- Make case for investments
- Drive strategic planning of IT infrastructure
- Influence IT to improve own performance
- Influence business to be more disciplined
- Move to increasing levels of responsibility
CIOs used metrics that varied along **two dimensions**: the **performance area** and the **scope for responsibility** for metrics

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**Performance Area**

- **Operations**: IT infrastructure and IT services
- **Projects**: Software development and package implementation
- **Innovation**: New business and technology initiatives

**Scope of Responsibility for Metrics**

- **IT**: Responsibility for IT performance
- **Internal Business**: Responsibility for internal business process performance such as efficiency, cost & reliability
- **External Business**: Responsibility for customer facing processes, services, revenues and profits

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— A Portfolio of Metrics (2/3) —

Scope

External Business

Business KPIs

Business Unit KPI Improvements

Business Innovation

Internal Business

Business Process KPIs

Business Unit Intermediate KPIs

Business Process Innovation

IT

Operations Performance

Project Performance

Technical Innovation

Operations

Projects

Innovation
### A Portfolio of Metrics (3/3)

<table>
<thead>
<tr>
<th>External Business</th>
<th>Internal Business</th>
<th>IT</th>
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<tbody>
<tr>
<td><strong>Business KPIs</strong></td>
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<td>• Online revenue</td>
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<td>• Online service KPIs</td>
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<td>• Online profitability</td>
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<td><strong>Business Process KPIs</strong></td>
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<td>• BP Reliability</td>
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<td>• BP Efficiency &amp; Speed</td>
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<td>• BP Cost</td>
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<td>• BP Compliance</td>
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<td><strong>Operations Performance</strong></td>
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<td>• Reliability</td>
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<td>• Cost benchmarks</td>
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<td>• Cost trends</td>
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<td>• User satisfaction</td>
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<td><strong>BU KPI Improvements</strong></td>
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<td>Improvements in BU</td>
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<td>• Revenue</td>
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<td>• Customer satisfaction</td>
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<td>• Profitability &amp; cost</td>
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<td><strong>BU Intermediate KPIs</strong></td>
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<td>Context dependent</td>
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<td>• Inventory, cycle time, accounts receivable, customer wait time</td>
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<td><strong>Process Innovation</strong></td>
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<td>• BP Reengineering</td>
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<td>• Enable outsourcing</td>
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<td>• Acquisition Integration</td>
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<td>• Partner Integration</td>
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<td><strong>Project Performance</strong></td>
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<td>• On time</td>
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<td>• On scope &amp; specification</td>
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<td><strong>Technical Innovation</strong></td>
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<td>• Virtualization &amp; Cloud</td>
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<td>• Consolidation</td>
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<td>• Fault tolerance</td>
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<td>• Employee training</td>
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**Operations**

- Reliability
- Cost benchmarks
- Cost trends
- User satisfaction

**Projects**

- On time
- On budget
- On scope & specification

**Innovation**

- New revenue sources
- Product enablement
- Business analytics
Successful CIOs shifted focus from operations and project performance to areas of greater **strategic importance**, but incidents in non-focal areas can quickly subvert gains.

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**Getting Beyond IT Basics**

- **External Business**
- **Internal Business**
- **IT**

- **Operations Performance**
- **Project Performance**

- **Operations**
- **Projects**
- **Innovation**
Shifting the focus on the company profile, we have to consider five focus area of IT Performance…

— Five Focus Areas —

- **Internal IT Focus**: IT-specific outcomes
- **Project Focus**: effective delivery of projects
- **Operations Focus**: maintenance of reliable and efficient business infrastructure.
- **Business Process Focus**: performance of key business processes
- **Innovation Focus**: enablement of business innovation and new products

**FOCUS POINT**: An organization can emphasize several types of focus and migrate from one to another
**Biotech company** focused on **research, development, and commercialization** of oncology-related pharmaceuticals

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**Internal IT Focus to Project Focus**

**Shaded boxes are strategic focus areas for the CIO**

**External Business**

**Internal Business**

**IT**

**Operations**

**Projects**

**Innovation**

- Push realization of business benefits of projects
- Implement innovation projects from business units
- IT services performance triad: Cost, Quality, Consumption
- Project budget / schedule performance

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**Unshaded boxes are secondary focus areas**
Video equipment manufacturer with $2B in revenue and 7,700 employees, acquired in 2006 for $7B by a large company

--- Project Focus to Innovation Enablement ---

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<th>External Business</th>
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<th>Internal Business</th>
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<tr>
<td></td>
<td>Integration of sales force and order desk with acquirer</td>
<td>Enable contract manufacturing to improve BU KPIs</td>
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<tr>
<td>IT Operations</td>
<td>Project budget / schedule performance</td>
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Major handheld **device manufacturer** with 34 million **customers** and 15,000 **employees**, supporting 475 carriers in 140 **countries**

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**Operations Focus to Technology Innovation**

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<tr>
<th>External Business</th>
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<tbody>
<tr>
<td>External service delivery</td>
<td>Internal business process support</td>
<td>Reliable IT operations</td>
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<tr>
<td>New service deployment</td>
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<td>Project budget / schedule performance</td>
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<td>Technology innovations to improve reliability and security</td>
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Fortune 100 **Insurance company** with 7000 **employees**, $363B under management, 3.6 mil. covered members and 27000 plans

--- Business Process Focus ---

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<thead>
<tr>
<th>External Business</th>
<th>Internal Business</th>
<th>IT</th>
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</table>
| Customer service quality KPIs  
Online self-service volume | Service quality KPI and self-service volume improvements | IT operations |
| Internal Process Support | “Driving down variable and overhead cost” | Project budget / schedule performance |

Operations  |  Projects  |  Innovation
US based Career site with 1 million job postings and 23 million visitors each month, powers more than 9000 job websites

— Innovation and External Business Focus —

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<thead>
<tr>
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<tbody>
<tr>
<td>Customer service delivery</td>
<td>New product deployment</td>
<td>Enablement of distributed innovation through flexible APIs</td>
</tr>
<tr>
<td>IT operations</td>
<td>Project budget / schedule performance</td>
<td>Infrastructure improvements</td>
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Operations | Projects | Innovation
Largest **check processor** in the US that processes checks for **partner banks** and works with the Federal Reserve for check clearing. Subsidiary of a large company

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### Operations Focus

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<tr>
<th>External Business</th>
<th>Internal Business</th>
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<tbody>
<tr>
<td>On time check processing</td>
<td>Internal business process support</td>
<td>Reliable IT operations</td>
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<tr>
<td>Lower unit cost of processing</td>
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One of the largest US **Retail Pharmacy** has low margin business focused on growth with strong store **level performance**

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**Business Process and Innovation Focus**

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<th>External Business</th>
<th>Internal Business</th>
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<tbody>
<tr>
<td>Store performance: customer satisfaction, service delivery, financial performance</td>
<td>Support for internal business operations performance</td>
<td>IT operations</td>
</tr>
<tr>
<td>Store performance improvements (Jointly accountable)</td>
<td>Business cost improvements (Jointly accountable)</td>
<td>Project delivery</td>
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</tbody>
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**Operations** | **Projects** | **Innovation**
How can we **prevent repair** and **replacement expenses** from crowding out **investments** in strategic initiatives?

--- *Capital Budgeting Best Practices* ---

- **Document failure rates of equipment**
- **Quantify business case based on failure rate and replacement cost**
- **Examine alternatives beyond direct replacement**
- **Take steps to reverse investment biases**
- **Set low cap for replacement expenses**
- **...and scrutinize expense proposals above the low cap**
- **Share risk between IT and senior leaders**
Budgeting process is useful to foster strategic initiatives…

— R&R Repair and replacement —
…and **metrics** should be used to enable **IT Strategic Planning**

---

**A Typical IT Planning Process**

**Process**

- Call for projects and identifying dependencies
  - One day meeting to present projects
  - Identify dependencies

- Formal Project Requests from Business Units
  - Classify investment types

- Transform BU Requests into Enterprise Portfolios
  - Combine to form enterprise projects
  - Match with enterprise goals
  - Allocate available funds

**People**

- Project Management Office
- Business & Technology Analysts
- Steering Committee
- Business Unit Management
- Executive Leadership Team

Adapted from HBS Case: VW of America – managing IT Priorities
— Decentralized Planning and the Alignment Trap —

Lack of Integration
- User driven “mayhem”
- Maintenance nightmare

No Long Term Vision
- Short term fixes
- Reactive vs. proactive
- Shifting priorities

David Shiplberg et al., Avoiding the Alignment Trap, Sloan Management Review, 2007
— Mission Statements and Metrics —

Mission Driven Planning

Metrics Driven Planning

“I ask each of my business unit heads what they are measured on, what their KPIs are, and these then become my KPIs. I think about how technology can help them achieve their KPI goals”

- A CIO in our study
The driving metrics for the business units that you support become the basis of your **strategic planning process**?

---

**Metrics Driven IT Planning**

**Business Analysis**
- **Value Discipline**
  - Driving metrics (KPIs) for business units
- **Business Imperatives**
  - Gaps in ability to deliver against the driving metrics
- **IT Imperatives**
  - Gaps in IT for driving metrics

**IT Architecture**
- **IT Vision**
  - IT Focus Areas & Mission
- **Opportunity Identification**
  - IT initiatives that address Business and IT gaps
    - Applications, Data, Web, Infrastructure, Integration
- **Bottoms Up Projects**
  - Merge user requests into IT strategic plan

**IT Organization Alignment**
- **IT Org Analysis**
  - IT Org Structure
  - Hiring and Training
- **IT Sourcing Plans**
  - Sourcing Strategy
  - Vendor Selection
- **Development Roadmap**
  - Detailed Project Schedule
Here you will find the **Best practices** we observed in **IT operations excellence**…

---

**Achieving Excellence in IT Operations**

- **Build culture of customer service and reliability**
  - Make employees passionate about uptime – town halls, review incidents

- **Protect Infrastructure at all costs**
  - Teach team to say no rather than over-promise and rush
  - Set up a stringent infrastructure change process
  - Reduce manual interventions for recovery
  - Develop standardized architecture before implementing projects

- **Evolutionary model for transitioning the infrastructure**
  - Participate on the business side to understand business evolution
  - Partner with service development team early

- **Maintain discretionary funding that can be applied quickly**
  - CIO infrastructure fund - “Improve efficiency and keep some of the savings”
Here you will find the **Best practices** we observed in **IT project excellence**…

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**Achieving Excellence in Project Implementation**

- **Partnership is key**
  - “What are your KPIs? How can we help to improve those?”
  - Strong role for business unit CIOs in alignment and communication
  - “In 6-8 years it became difficult to tell who is IT.”

- **Build joint IT/Business ownership of benefits**
  - Do not separate IT value from business value

- **Closed Loop Governance**
  - Consistent post-implementation reviews (for all or some projects)

- **Efficient Prioritization and Review Committee Process**
  - Clear prioritization process and regular reviews – "fail fast, fail cheap"
  - “What made us successful was backing off the seniority requirement”

- **Use of trusted partners for non-critical projects**
  - Helps to manage the demand peaks so that IT is not a bottle-neck
Here you will find the Best practices we observed in IT innovation excellence…

--- Achieving IT Innovation Excellence ---

- **Improve ability of BUs to test innovative ideas**
  - IT talent in BUs reporting to BU heads
  - Extensible platform -- Easy to use APIs and tools
  - Often incremental (but valuable) innovations
  - When service is successful locally, incorporate into infrastructure

- **Foster larger innovations in partnership with business units**
  - Co-sponsorship and co-investment from business unit

- **Processes to gather and assist “ideas from everywhere”**
  - Idea engines, contests, road shows
  - Process to “spend a few cycles to develop business case potential” before decision is needed
  - Need to help innovators evolve their ideas
  - Non-monetary motivation
— Findings —

- CIOs can improve the business value of IT by increasing transparency around performance.
  - Improve shared understanding of expectations and performance
  - Turn difficult conversations into fact-based decisions
  - Improve credibility and trust in relationships

- Metrics improve performance through focus on key areas
  - Clarify roles and expectations in nine areas of performance
  - Identify strategic focus to improve specific areas
  - Redirect strategic focus over time to extend the role of IT

- Metrics focus should enhance (not replace) partnership and trust
  - Do not try to separate IT value from business value.
  - Metrics improve credibility, but do not substitute for trust
— The Choice of Metrics —

- **Be proactive in defining metrics**
  - Understand what CXOs value
  - Define metrics based on how you want to be measured
  - Aim for usefulness and impact, not absolute precision
  - Use metrics to drive the conversation

- **Metrics can drive strategic planning**
  - KPIs provide precise measures to drive planning than mission statements

- **Importance of non-quantified measures**
  - Pay attention to indicators of trust or dissatisfaction
  - Making others successful enhances IT’s reputation and value
  - Can they tell the difference between IT and business people?

- **Metrics work downwards as well as upwards**
  - Motivating staff and focusing improvement efforts
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