Does IT Corrode Competitive Advantage?

Howard Smith

A response to the Harvard Business Review article “IT Doesn’t Matter”

A Debate With Nicholas Carr Sponsored By Infoconomy
At The “Effective IT Summit” March 2004, London, UK
The world has changed … and the result is …

- From 1992 to 2001, US companies spent over $2.7T on hardware, software, and services – IDC
- Research (2002) shows only a random correlation between IT spending per employee and return on shareholder equity – Strassman
- On average, only 7% of software functionality that was paid for is actually used – Gartner
- IT projects often suffer from a prolonged delay to realizing value, an average of 18 to 24 months from initiation to operations (usually only providing a one-time cost impact) – Standish Group (2003)
- 85% of IT projects fail to meet objectives (with 32% being cancelled outright) – Gartner

But does this mean that IT Doesn’t Matter?

We think not
Howard Smith & Peter Fingar

CIO
Leading the Firm

“The book every CEO should read”

C H I E F   I N F O R M A T I O N   O F F I C E R

• Far from IT not mattering, IT is changing, and is an inherent component of all significant business-led process improvement initiatives

• The CIO plays a pivotal role in process improvement initiatives

• IT systems plays a pivotal, and increasing role in product and services, the processes that create and deliver them to customers, and in their subsequent management (process improvement and reengineering)
Carr Part II – a book based on the article is planned

From The Contents:

• An Almost Perfect Commodity
  The Fate of Computer Hardware and Software

• Vanishing Advantage
  Information Technology's Changing Role in Business

• The Universal Strategy Solvent
  The IT Infrastructure's Corrosive Effect on Traditional Advantages

• A Dream of Wonderful Machines
  The Reading, and Misreading, of Technological Change
What Carr is REALLY saying ....
... as opposed to what he said in keynote yesterday

Remember, HE talks to the business

YOU are an IT audience

Information Technology is not just a commodity, it actually erodes your competitive advantage, and is doing so faster and faster

Paraphrase
“There is less of a need for strategically thinking CIOs”
-- Nicholas Carr

• More quotes from his work
  – “IT’s potential for differentiating one company from the pack inexorably diminishes as it becomes accessible and affordable to all”
  – “Companies can still innovate using IT ... but the competitive advantage gained through the use of IT can quickly be neutralized by corporate rivals”
  – “The center of IT innovation has moved from the user to the vendor”
  – “Executives need to shift their attention from IT opportunities to IT risks, from offence to defence”
  – “Why write your own application, when you can buy read-made, state of the art applications, for a fraction of the cost”
Recap: Carr’s argument – more quotes

- As IT’s power and ubiquity have grown, its strategic importance has diminished.
- What makes a resource truly strategic is not ubiquity, but scarcity.
- You only gain an edge over rivals by having or doing something can’t have or do.
- The core functions of IT – data storage, data processing and data transport, have become available and affordable to all.
- IT is no longer a potentially strategic resource, but is being transformed into a commodity factor of production.
- IT is becoming a cost of doing business that must be paid by all but provides distinction to none.
- IT is best seen as the latest in a series of broadly adopted technologies – from the steam engine and the railroad to the telegraph and the telephone to the electric generator to the combustion engine.
- The buildout of IT forces users to adopt technical standards, rendering proprietary systems obsolete.
- The way infrastructural technology is used becomes standardized as best practices come to be widely understood and emulated, built into the infrastructure itself.
- IT is highly replicable, endlessly and perfectly reproducible at zero cost.
- Proprietary applications are doomed to economic obsolescence.
Agenda

• Carr’s argument is fundamentally flawed
• Do the flaws in Carr’s argument mean that IT matters?
• Isn’t it obvious that IT Does Matter!
  – Would 1000 case studies convince you?
  – Would they convince Carr?
    • Erosion of differentiated advantage
    • Erosion of ability to differentiate
• What’s at the heart of the debate?
• Why did the article generate so many responses?
• Where did Carr make fundamental mistakes?
• Is there a deeper truth under all this?
• What is competitive advantage after all?
Parody

“The argument in ‘IT Doesn’t Matter’ goes roughly like this:

Kidneys don’t matter. Kidneys are basically a commodity. Just about everyone has kidneys. There is no evidence that CEOs with superior kidneys are more successful than CEOs with average kidneys. In fact, CEOs who spend more on their kidneys often don’t do as well.”

-- Steven Alter, Professor of Information Systems, University of San Francisco School of Business and Management
My opinion of the “IT Doesn’t Matter” mindset

• The argument draws on well known historical analogies
• The HBR article contained no references, sources or real evidence
• Themes that play to the gallery enhanced the popularity of the article
• The title was clever, an attention grabber
• Incorrect conclusions are drawn, based on analogy and the misdirection more typical of magicians
• The article is well written, beguiling even
• A respected journal gave the argument more credibility than it deserves
• The article has since acted as a promotional launch pad to spread the IT Doesn’t Matter theme
Questions that must be answered in Carr’s forthcoming book that were not addressed in the original article

- Can Industrial Age analogies be extrapolated to the Information Age?
- Is it valid to mix arguments about technology as a business (the IT industry) with arguments about the business use of technology?
- When do infrastructural technologies provide their business users the maximum opportunities for competitive advantage?
- What is Carr’s definition of today’s IT and is he projecting these arguments to all possible future IT technologies?
- What does Carr mean when he refers to packaged business applications, and how do these relate to business processes and business process improvement?
- How exactly do Grids and Web Services accelerate IT commoditization as Carr states they do?
- Where is any discussion of the difference between Best Practices and Best In Class processes in Carr’s thesis?
- What is Carr’s evidence that the IT Buildout is closer to its end than its beginning?
“IT Doesn’t Matter” became popular because of:

• Past disappointments from IT investments
  – ERP and CRM the main culprits
• The Dot Bomb hangover
• The Microsoft strangle hold
  – PC/Windows Upgrade Cycles
  – Licensing Policies
• IT Vendors are their own worst enemies:
  – Promotion of “Killer Apps”
  – Hype, FUD and other marketing scams
    • Web Services a culprit most recently
  – Inability to explain true Value From IT
  – Technology Push, Business-IT Divide
  – Multi-Million Dollar Licence Fees versus tenuous ROI Case
  – Packaged Processes, Not Packaged Process Management
Carr’s themes play to the gallery

• “Every year, businesses purchase more than 100 million new PCs, most of which replace older models ... Workers rely on only a few simple applications ... Nevertheless, companies continue to roll out across-the-board hardware and software upgrades” -- Carr
  – But this is about Corporate IT Procurement Policy, not the value of IT!

• “Until recently, vendors such as Siebel Systems Inc. built only sophisticated and expensive systems for corporate customers. Then low-cost rivals such as Salesforce.com Inc. hit the scene with cheaper and simpler CRM systems, forcing Siebel and others to respond with comparable offerings” -- Carr
  – But how can we draw conclusions about the value of IT from potentially overpriced CRM software?
The inspiration for our book

“Carr’s categorical assertions must be challenged. Information technologies are too important to be pronounced as irrelevant. Such news is prematurely injurious to the health of our economy.”

-- Paul Strassmann, Executive Advisor, NASA; Former CIO of General Foods, Kraft, Xerox, DoD and NASA
IT Doesn’t Matter: Business Processes Do

- A Critical Analysis of Nicholas Carr’s IT Article in the *Harvard Business Review*

- Has information technology reached the Winter of its life as an enabler of competitive advantage?”

- Or is it Springtime, the season of growth for forward-thinking companies?”

- IT’s not about the last 50 years. IT’s about the next 50 years.

*Paperback 126 pages*
We HAD to do it

- The **breakthrough** that redefines competitive advantage for the next fifty years
- Placing business processes centre stage enables corporations to gain the capabilities they need to **innovate, reenergize** performance
- A breakthrough in process thinking that obliterates the business-IT divide, utterly transforms today’s information systems and reduces the lag between management intent and **execution**

*Business Process Management: The third wave*

*Hardback 312 pages*
Where do those historical railroad analogies come from?
Railroad analogies are not original

- Many have compared the railways, canals, oil..etc booms with the tech revolution, and also described the cycle of boom, bust and financial speculation, crises and scandal
Carlota Perez

http://www.carlotaperez.org/
Academic research indicates we are closer to the beginning of the IT Buildout than the end.

Figure 7.2 Five successive surges, recurrent parallel periods and major financial crises
Brian Arthur

- Citibank Professor, Santa Fe Institute
  - Schumpeter Prize in Economics 1990; Guggenheim Fellow, 1987-88; Fellow of the Econometric Society Dean and Virginia Morrison Professor of Population Studies and Economics, Stanford; Professor of Human Biology, Stanford, 1983-1996
  - Member, Board of Trustees, Santa Fe Institute. Director, Economics Research Program, 1988-90 and 1995-96, Santa Fe Institute

“Creating Arthur’s “use-of-IT perfections” at the intersection with our lives, both at home and at work, will be one of the determining factors between successful and unsuccessful uses of IT, for we are nowhere near the amenity buildout”

http://www.santafe.edu/arthur/
Brian Arthur

“If we lay the information revolution alongside the great railway revolution in Britain, year for year, we’d now be somewhere around 1850—just after the railway investment mania of 1845 and its crash in 1847. … What is interesting about both the canal and railway revolutions is that their crashes were by no means the end. In the decades after 1793, Britain went on to build out 2,000 miles of waterway, doubling its pre-crash mileage. And canals became the key infrastructure component of the Industrial Revolution. Similarly, in 1845, just before the crash, Britain possessed 2,148 miles of rail-way; 65 years later it had 21,000 miles. The major buildout of railways came after the crash of 1847. … In the United States, there was no equivalent of the British railway mania. Certainly there were periods of setback in which railroad over investment was partly to blame. In the depression of 1859, the economic commentator Henry Carey Baird complained that ‘our railroad system has cost more than $1,000,000 and has brought ruin upon nearly everyone connected with it, the nation included.’ But, again, at this time railroads in the United States were just beginning. In 1860 the United States had 30,000 miles of built-out track; by 1914 it had 253,000 miles. The buildout, when it came, was massive.”
Schumpeter

- Important contributions to twentieth century thought
- A critic of Marx and Keynes, developed a sophisticated perspective for thinking about business cycles

- Major works:
  - The Theory of Economic Development and Business Cycles.
  - Capitalism, Socialism, and Democracy
  - A History of Economic Analysis remains unrivalled as a study in the history of economic ideas.

“IT is no longer a potentially strategic resource, but is being transformed into a commodity factor of production”

– Nicholas Carr

Carr’s world of Industrial Age analogies
… but which one?

**Classical Economics**

- Naturally occurring resources
- Human production effort
- Goods used in production of other goods

**Modern Economics**

- Enterprise capital
- Human capital
- Means of production
- Intellectual capital (seven variants)
- Individual capital, i.e. leadership
- Social capital (community trust)
- Instructional capital (skills, process, creativity, inspiration)
- Means of protection (property rights)
- Infrastructure
- Firm specific infrastructure
The real role of IT today
An Obvious Truth from Everyday Experience

“Generations of technology development have brought about a world where IT touches each of us every day, in working practices and home life.

Of course IT can be deconstructed to the molecular level, but how useful is it to do so? In today’s fast-moving business environment, how we put those molecules together becomes critical in supporting competitive differentiation”

-- Gillian Taylor, British American Tobacco
Craig Barrett, Chief Executive, Intel Corporation

“[Carr] absolutely misses the point … information technology puts value into goods and services, which are intellectual goods in one form of another

… As a nation and as a company you either upgrade your IT infrastructure or you won’t be competitive.”
IT is integral to all products and services

“Economies today are measured in terms of the intellectual content embedded in the products and services they sell” -- Craig Barrett, CEO Intel
Carr should not separate IT out of its business context – that’s an old fashioned “Old IT” point of view

- Products and services are the by-product of processes, in every case, the process is the product, and IT the primary means of process improvement – often process improvement is the product.

<table>
<thead>
<tr>
<th>General Motors</th>
<th>Capital One</th>
<th>CSC, GE, Shell, IBM, British American Tobacco, Astra Zeneca, Schneider Merck, etc</th>
</tr>
</thead>
<tbody>
<tr>
<td>• CIO teams group CIOs with departmental heads</td>
<td>• IT spending increasing</td>
<td>• Do not treat IT as an isolated element in business strategy</td>
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<tr>
<td>• Seeks further understanding and alignment with the business they serve</td>
<td>• Data mining and information analysis techniques</td>
<td>• Integrated Business-IT Innovation</td>
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<tr>
<td>• Jointly innovates solutions</td>
<td>• An Information-Based strategy in which business and IT are deeply intertwined</td>
<td>• Orientation around Digitization, IT Management of End To End work</td>
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</table>
IT is integral to all business processes
The product (and its IT component) is the process (and its IT component)

Marketing & Sales
- Account Management
- Market Research & Analysis
- Product/Brand Marketing
- Program Management
- Sales Cycle Management
- Installation Management
- Sales Commission Planning
- Customer Acquisition
- Collateral Fulfillment
- Sales Planning
- Distribution/VAR Management
- Corporate Communications
- Publicity Management

Human Resources
- Time & Expense Processing
- Payroll Processing
- Performance Management
- Recruitment
- Hiring / Orientation
- Succession Planning
- Benefits Administration
- Performance Review

Industry Specific Processes
- Commissions Processing
- Service Provisioning
- Site Survey & Solution Design
- Order Dispatch & Fulfillment
- Proposal Preparation
- Capacity Reservation
- Advance Planning & Scheduling
- Product Data Management
- Supply Chain Planning
- Order Management and Fulfillment
- Returns Management

Finance
- Customer / Product Profitability
- Credit Request / Authorization
- Financial Close / Consolidation
- Treasury / Cash Management
- Property Tracking / Accounting
- Internal Audit
- Collections
- Physical Inventory
- Check Request Processing
- Capital Expenditures
- Real Estate Management
- Asset Management

Operations
- Procurement
- Order Management
- Invoicing
- Shipping / Integrated Logistics
- Returns & Depot Repairs (RMA)
- Order Fulfillment
- Manufacturing
- Inventory Management
- Production Scheduling
- Advance Planning & Scheduling
- Demand Planning
- Capacity Planning
- Timekeeping / Reporting

Customer Relationship Management
- Service Agreement Management
- Internet Customer Service
- Warranty Management
- Call Center Service
- Problem/Resolution Management
- Customer Inquiry
- Sales Channel Management
- Inventory Management
- Service Fulfillment
<table>
<thead>
<tr>
<th>First wave</th>
<th>Second wave</th>
<th>Third wave</th>
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<tr>
<td><strong>1920s</strong></td>
<td><strong>1980-90s</strong></td>
<td><strong>2000s</strong></td>
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<tr>
<td>Methods &amp; Procedures</td>
<td>ERP, other packages</td>
<td>Process focus of IT</td>
</tr>
<tr>
<td>Analysis</td>
<td>Manual reengineering</td>
<td>Path to execution</td>
</tr>
<tr>
<td>Process implicit in Work practices</td>
<td>IT Enablers/Automation</td>
<td>Agility, adaptation</td>
</tr>
<tr>
<td>Little automation</td>
<td>One-time creation</td>
<td>Closed loop optimization</td>
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<tr>
<th>1980s</th>
<th>1990s</th>
<th>2000s</th>
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<tr>
<td>TQM</td>
<td>Reengineering</td>
<td>BPM</td>
</tr>
<tr>
<td>Continuous</td>
<td>Disruptive</td>
<td>Continuous</td>
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<tr>
<td>Scientific</td>
<td>Un-scientific</td>
<td>Scientific</td>
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<tr>
<td>Incremental</td>
<td>Radical</td>
<td>Lifecycle</td>
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<th>1970-90s</th>
<th>1990s</th>
<th>2000s</th>
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<tr>
<td>DBMS</td>
<td>Distributed computing</td>
<td>BPMS</td>
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<tr>
<td>Sharing data</td>
<td>Sharing functions</td>
<td>Sharing processes</td>
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<tr>
<td>Data aware applications</td>
<td>Distributed applications</td>
<td>Distributed processes</td>
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In the footsteps of the Buffalo Springfield …

Hammer-Smith 2003, Process World, 800 delegates!

“There's somethin' happening here … What it is ain't exactly clear.”

Time for Audience Participation
Hands Up if you believe

• There is a strong correspondence between your success as an organization and the design of your business processes?

• Over time, companies either have to re-invent, and/or continuously improve, their business processes in order to remain competitive and relevant?

• Information technologies can be used to automate business processes and that automation is increasingly critical to many business processes?

• IT can be used to reduce the cost and accelerate the deployment of desirable changes in business processes?

All hands went up at the event in all cases
IT today is far more than Carr’s automation analogies of “data processing, data transport and data storage”
Competitive Advantage through IT: 10x improvement in 2004, more to come

Focus of IT

Cost of Development
Cost of Operations
Cost of Improvement

Enterprise Business Processes

Total Cost of Process Ownership

Time and resource costs

Operational Excellence
Customer Intimacy
Product Excellence

Time

Resource
An Illustration
Audience Online? A CIO Attention Test

- Client had spent circa £100m on CRM and ERP software, development, customization, rollout and training

- Broken call centre & logistics processes still being reported in the press/media

- BPM provided demonstration of new process in two elapsed weeks using just six process diagrams, zero code, retaining existing front ends & zero package customization

- Not a cheap trick - extensible to new processes yielding continuous process improvement

Screen shots
Business Critical Processes

- Two elapsed weeks
- Using just six process diagrams
- Zero code
- Retaining CRM/ERP front end &
- Zero package customization

“What did he say?”
Business Critical Processes

• Two elapsed weeks
• Using just six process diagrams
• Zero code
• Retaining CRM/ERP front end &
• Zero package customization

“Did he really say that?”
Business Critical Processes

• Two elapsed weeks
• Using just six process diagrams
• Zero code
• Retaining CRM/ERP front end &
• Zero package customization

“What on earth does it mean?”
The NEW IT – Business Process Management
A Business Process Strategy Map

Business Strategy

Mergers, Acquisitions, Core/Context, Divestiture, Joint Venture

Business Process Portfolio Mgt

Enhance/Retain, Outsource, Insourcing, Co-source
White label, Aggregate, Orchestrate

Business Processes

Supply chain, Value chain
Product design, Marketing

Business Process Management

Metrics, Key Performance Indicators
Change Management, Collaboration

Business Process Management System

Process execution lifecycle
Process design lifecycle

Commodity IT Components

Discover
Design
Deploy
Execute
Operate
Interact
Analyze
Optimize
Which form of IT and IT method is Carr talking about?

Vague words used by Carr

"Computerization" "Information" "Automation" "IT"

“For many years Carr’s ‘processing, storing and transporting information in digital form,’ arguably has been the definition of information technology, or rather ‘data processing.’ But is this really the case today?”

-- Gillian Taylor, British American Tobacco
Through BPM, IT is expanding

<table>
<thead>
<tr>
<th>Business Infrastructure</th>
<th>Business Automation</th>
<th>Process Management</th>
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<tbody>
<tr>
<td>• Office environment –</td>
<td>• Data Processing,</td>
<td>• Business Enabler</td>
</tr>
<tr>
<td>email, desktop,</td>
<td>automation of existing</td>
<td></td>
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<tr>
<td>portals etc</td>
<td>ways of working</td>
<td></td>
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<tr>
<td>• Lowest cost source</td>
<td>• Standardization</td>
<td>• Translates business</td>
</tr>
<tr>
<td>• Enables business to</td>
<td>• Provides audit trail</td>
<td>requirements into reality</td>
</tr>
<tr>
<td>communicate and</td>
<td>• Supports scaling of business</td>
<td>• Enhances understanding</td>
</tr>
<tr>
<td>share information</td>
<td>• Reduces head count.</td>
<td>• Provides actionable</td>
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<td></td>
<td>• Provides management reporting</td>
<td>feedback</td>
</tr>
<tr>
<td>• Required by all</td>
<td>• Type of business determines need</td>
<td>• Enables differentiation</td>
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**The next 50 years of IT**

**The last 50 years of IT**

*Source IT Doesn’t Matter-Business Processes Do*
Clearing our heads … stating the obvious

“The use of IT is analogous to innovations in transportation, not power utilities. Common standards like roads and airports exist, but the cars we choose to drive and our methods of travel are based on individual preference. IT utilities will exist, but businesses will derive unique benefits from how they leverage specific technologies.

I just think of walking into our living room and telling my kids that we now have a ‘TV Utility’ and the only channel we get is C-SPAN. I don’t think they would consider this a step forward.”

-- Mark S. Lewis, Executive Vice President, EMC Corporation
Carr’s critics speak out
Anti-Carr commentary

• “Carr simply misunderstands what IT is” *Fortune*
• “Our fundamental response to that article is: hogwash” *Microsoft*
• “The most dangerous advice to CEOs has come from people [Carr] who either had no idea of what they didn’t know, or from those who pretended to know what they didn’t” *Harvard Business School Professors*
• “Any proof that rests entirely on analogies is flawed” – *Strassmann*
• “Stunned” *CIO FedEx*
• “You can’t get sustainable competitive advantage by buying IT products and services …. You get it with processes, skills and execution …. But hey, that’s not news! Every experienced IT (and MIS and data processing) manager over the last 40 years has doped that out” *Computerworld*
• “[Carr] completely disregards the centrality of software” *Fortune*
• “[The article] is tantamount to saying that companies have enough information about their operations, customers and employees. Ridiculous” *Microsoft*
More anti-Carr commentary

- “A sloppy mix of ersatz history, conventional wisdom, moderate insight and unsupportable assertion ... and dangerously wrong” *Fortune*
- “Astonishingly short sighted” *InformationWeek*
- “[Carr’s] definition is too narrow and views IT within a sterile vacuum” *InfoWorld*
- “Yes, IT has elements of commodity ... but the application [of IT] ... in product design, development, distribution and customer understanding is probably at fifth grade level” *CIO, General Motors*
- “If anything, IT is becoming more productive [not less]” *PNC Financial Services*
- “When it [IT] became over-hyped we were a little concerned about the promises made ... In a sense, you could say it’s almost under-hyped” *Bill Gates, Microsoft*
- “Carr is wrong when he contends that IT innovation is winding down. Innovation through electronically enabled services, processes and products has only just begun” *Gartner*
A common sense response to Carr

• “IT” is not one thing, some IT components are clearly commodities, while others are definitely not
• IT is not on one historically-inspired commoditization railroad track
• IT is not just hardware and software -- what about architecture, services and processes?
• Some elements of IT are factors of production, but many others are not
• The CIO is a member of the CXO team and IT is integrated within other business disciplines
• As certain IT functions are standardized, the opportunity to differentiate others increases, not decreases
• You gain an edge over rivals by doing things, not just owning things – where is human capital in Carr’s analysis?
What is Competitive Advantage Anyway?
GE’s Evolution Towards Excellence

Old IT? New IT?

Six Sigma Quality: The Road to Customer Impact

Key Strategy Initiatives: QMI, NPI, OTR, SM, Productivity, Globalization

Change Acceleration Process: Increase Success and Acceleration Change

Process Improvement: Continuous Improvement, Reengineering

Productivity/Best Practices: Looking Outside GE

Work-Out/Town Meetings: Empowerment, Bureaucracy Busting

“Digitization is the greatest growth opportunity our company has ever seen”
- GE 2002 Key Growth Initiatives

Are GE and other companies talking about the same “IT” as Carr?

We think not
Process Digitization

GE’s Path to E-Business

1994
- Launches geplastics.com, a pioneering business Web site

1997
- Polymerland.com becomes GE’s first transactional site

January 1999
- Jack Welch decrees an aggressive e-business strategy

September/October 1999
- Several GE sell-side sites become operational

December 1999
- Conducts its first online procurement auction

June 2000
- Notches annual online sales of $1 billion

September 2000
- Starts major effort to digitize internal processes

December 2000
- Annual online sales reach $7 billion

February 2001
- States expectation that 15% of sales will be online in 2001

March 2001
- Predicts $1.6 billion in pretax savings for 2001 from digitalization

September 2001
- Jeffrey Immelt succeeds Jack Welch
Carr places all of IT on the same commoditization trajectory, which is profoundly wrong.
You can’t BUY competitive advantage

The core issue Carr’s article raises is competitive advantage, not IT. He says IT doesn’t provide competitive advantage, but makes no mention of what does. Does that mean that competitive advantage itself is now a commodity?

IT components are not competitive advantage except for IT companies

IT enables the management innovations of competitive advantage

Differentiation, market disruptions, unique value-delivery structure, forcing trade offs — and now, competing on time
Time-Based Competition
(Since Late 1980s)

Time is the scarcest resource and unless it is managed nothing else can be managed.
-- Peter F. Drucker

Competing on Time
• Cycle Time
• Product Design Time
• Lead Time
• Time to Market
• Response Time
• Just-in-Time Inventories
• Up Time
• Innovation-to-Execution Time
• M&A / Restructuring Time

Management Innovations Over The Past 40 Years

• Experience curve strategies (1960s), the cost of complex products and services typically decline 20-30% with each doubling of accumulated experience

• Portfolio strategies (1970s), a portfolio rich with cash generators and with high opportunity cash users, while maintaining a positive cash flow in the long term. e.g., use successful but maturing parts of the business to underwrite growth businesses

• The strategic use of debt (early 1970s), aggressive use of debt to finance growth opportunities

• De-averaging of costs (mid-1970s), ABC

• Re-structuring for advantage (1980s), M&A

• Now, Time-Based Competition
Time-Based Competition

Time is a fundamental business performance variable...
• e.g.- Japan
• low wage, then
• scale, then
• flexibility, variety, speed and innovation

New maxim is
“the most value for the lowest cost in the least amount of time”

Cheaper, Better and Faster!
Successful Japanese companies like Toyota and Honda which have used variety as a competitive weapon have, in fact, pioneered time-based competitiveness by managing structural changes that enabled their operations to execute their processes much faster.

Today, new-generation companies compete with flexible manufacturing and quick response systems, expanding variety and increasing innovation, which are time-based rather than cost reducing strategies. Companies which build their strategies on this cycle are more powerful competitors than ones with a traditional strategy based on low wages, scale or focus.

_Time is the scarcest resource and unless it is managed nothing else can be managed._ -- Peter F. Drucker
Business @ the Speed of INNOVATION

Competitors always catch up (Even the Nuclear Bomb)
Past=Episodic Change
Past=Discontinuous, One-Off Innovation, an End-State

But it’s too late, for the innovator has moved on
Now=Evolutionary Change
Now=The Pace of Innovation

Repeat Innovators run circles around the competition
Time-Based Competition

Time-based competitors:

• Compress time to manufacture and distribute their products

• Significantly cut time to develop and introduce new products

• Significantly cut inventory throughout the value-delivery system

• Lever all other competitive differences with the advantages in response time

Yielding:

• Productivity increases,

• Premium prices obtained,

• Risks are reduced and

• Share is increased
Time-Based Competitors

Use the following methods:

• Choosing time consumption as a critical management and strategic parameter that’s even more important than cost consumption

• Using responsiveness to stay close to their customers, increasing customers’ dependencies on them

• Directing their value-delivery systems to their most valuable customers

• Setting the pace of innovation in their industries

• Growing faster with higher profits than competitors

• Baffling their competitors (market disruptions)

You can’t go out and buy this stuff on the Web services grid (so Carr’s argument falls apart – IT is not replicable in this way)
Time-Based Competition

- To do this, time-based competitors
- Make their value-delivery systems 2-3 times more flexible and faster than their competitors
- Determine how customers value variety and responsiveness, focus on those with the greatest sensitivity and price accordingly
- Have a strategy for surprising competitors with the company’s time-based advantage

Think this is easy? The challenge of becoming a time-based competitor is as much a white-collar, information-centered task as it is a factory task, because time delays appear anywhere in the value-delivery system. Forecasting is always, by its very nature, wrong. Better forecasts and longer lead times aren’t the answer. Only way to break the current cycle is to reduce the consumption of time throughout the value-delivery system. That’s where a new category of automation, BPM, comes in.
“Information technology allows us to run the company differently. It allows us to make massive resource allocation decisions that we can now apply more resources to things that we think are going to grow the company for the long term.”

– Jeff Immelt

Old IT

Save on those pesky PC expenditures
Follow, Don’t Lead
Do Best Practice
Ignore Unique Best-in-Class

New IT

“Information technology allows us to run the company differently. It allows us to make massive resource allocation decisions that we can now apply more resources to things that we think are going to grow the company for the long term.”

– Jeff Immelt

Only those that invest rightly in NEW IT, like GE, will have the arms they need to set the pace of innovation and win the business battles of the future
“Time—The Next Source of Competitive Advantage”

Time-Based Competition

The Business Case and Case Studies

How You DO Time-Based Competition

COMPETING AGAINST TIME
HOW TIME-BASED COMPETITION IS RESHAPING GLOBAL MARKETS
GEORGE STALK, JR.
THOMAS M. HOUT

Business Process Management
the third wave

HOWARD SMITH AND PETER FINGAR
COST-Based Competition

- Texas Instruments’ calculator business
  - Sears, K Mart, Zayers
    (Replenish Every Two Weeks)
- Detroit Auto Makers

TIME-Based Competition

- Casio, Hewlett-Packard
- Wal*Mart
  (Replenish Twice Per Week)
- Toyota and Honda

Sears was once the retailing industry gorilla with scale, money and real estate, but didn’t compete on time … Wal*Mart did!
Best-practice copycats don’t command the price premiums or market share or performance of best-in-class innovators.

**Best-Practice**

<table>
<thead>
<tr>
<th>Packaged Software For Sale</th>
<th>Process Management Not for Sale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Easily Copied</td>
<td>Extremely Difficult to Copy</td>
</tr>
<tr>
<td>Open Industry Standards</td>
<td>Unique, Proprietary Processes</td>
</tr>
<tr>
<td>Available on the WS Grid</td>
<td>Guarded in Company’s IP Vault</td>
</tr>
</tbody>
</table>

Why didn’t Lands End, Target and Borders just go to the grid and copy Amazon? Did HP go to the grid for commoditized software to integrate Compaq?
A change-in-kind business automation enables time-based competition with a new capability to Execute on Innovation.
IT Not Only Matters, IT Is Competitive Advantage

• Integral to all products and services
• Integral to all the processes used to create and deliver products and services
  – Value Chain Automation
• Integral to the design and innovation in product and service design
  – Innovation
• Integral to lowering the costs of
  – Process development (design to deployment)
  – Process operations (execution)
  – Process improvement (reengineering, improvement)
• In terms of Time
  – Agility, Time to Market
• In terms of Resources
  – Costs of all kinds
The Next Fifty Years of IT

“... In the past, IT has provided the systems part; but the potential for IT has moved on significantly in managing both elements of people and business systems. This orchestration of information manipulation and human contribution is what both the business and IT community refer to as business process management, which is made possible by continuing major advances in IT. The ability to design, execute and optimize processes in an inclusive loop, through the boardroom to IT and back again, means that for the first time, the business and IT can work from the same sheet at all points in the process lifecycle.”

-- Gillian Taylor, British American Tobacco
From packaged processes to packaged process management
Carr talks about “Old IT” - yesterday’s package applications - not today’s IT agenda

- ERP, CRM …. when will the IT vendors learn?
From packaged processes to process management

Sales Campaign Management

- Aerospace Industry
- Chemicals Industry
- Fashion Industry
- Paint to Distributors
- Pesticides to farmers
- Customer A
- Customer B
- Customer Segment X

Process Improvement Lifecycle

Design the campaign
Deploy the campaign
Execute the campaign
Measure the campaign
Customize the campaign
Optimize the campaign

Sales Campaign Management
BPM is not IT Software Development, it's an IT tool that enables business people to build and manage processes

- Automational, eliminating human labor from a process
- Informational, capturing process information for purposes of understanding
- Sequential, changing process sequence, or enabling parallelism
- Tracking, closely monitoring process status and participants
- Analytical, improving analysis of information and decision-making across processes
- Geographical, coordinating processes across distances
- Integrative, consolidating and integrating sub-processes and tasks
- Intellectual, the process of capturing and distributing intellectual assets
- Disintermediating, eliminating intermediaries from a process
- Computational, performing calculations as part of a distributed process
- Collaborative, allowing participants to manage sets of shared work processes
- Compositional, building new processes from elementary reusable process patterns
Texas Instruments and the reengineering abyss

“Just one step back Jim and we can take the picture that tells the CEO we have finished the reengineering project.”
From “As Is” lowest cost to “To Be” time to market, the challenge for Texas Instruments in the era of reengineering.
A reengineering tale of woe
The Dilemma at the heart of the Value of IT debate

As Is Processes
“Open a check account”

Symptoms
There is too much paper
The cycle time is too long
We have dissatisfied customers
The process is too labour intensive

Problem
Replace As Is Processes with New To Be Processes

Traditional Solution
Reengineering/ERP
Systems Development
Time, Cost, Resource
Go Back To Jail Card for New processes

Solution
Integrate existing systems
Automate existing tasks
Provide a new user interface
Measure flows in tasks and activities
Escalate or re-direct tasks in exception cases
Organisational Change, Roles, Training

Alternate Solution
Business Process Management
BPMS Enablement
Immediate ROI
Change+Improvement “built in”
Roles and Training Empowered through Tools

Symptoms
Organizational stalemate
IT Costs, Time, Log Jams
Analysis Paralysis
Un-reconciled diverse needs

Real barriers

How?

Instinctive reaction

Napkin diagram
**Solution**
Integrate existing systems
Automate existing tasks
Provide a new user interface
Measure flows in tasks and activities
Escalate or re-direct tasks in exception cases
Organisational Change, Roles, Training

A diagram, instead of a reengineering and systems development project

...It's flowcharts! Thank goodness, I understand this!

...I can understand what people around me are doing ...

...we can work together much faster and with flexibility

...processes replacing point-to-point interfaces...

...I can explicitly see the business process ...

...we can reuse the systems investments we have made...

Providing Business Process Management

Directly deployed on a BPMS
You cannot save your way to market dominance
Stating the obvious

- IT helps businesses execute on innovation
- Time-Based Competition is today’s competitive territory
  - Carr is all about episodic change, the hallmark of industrial age advantages
- Would GE’s CEO Jeff Immelt put his Process Digitization Initiative on IBM’s Web Services Grid for all to use?
  - The Pace of Innovation cannot be commoditized and for which new IT is required
- Applying IT automation to the value system (versus data processing recordkeeping system) to compress time requires a change-in-kind in IT that Carr missed
  - Carr’s article is a recap of first 50 years, but that’s history, not today’s story of IT for competitive advantage
Further common sense responses

• IT’s potential for differentiating one company from the pack depends on how it is used, not what it is

• Some IT approaches make differentiation easier than others, compare and contrast ERP and BPM

• The impact of IT on a company ability to differentiate is huge and growing – rivals can only look and wonder in awe at some companies achievements

• The center of IT innovation is jointly owned between vendors, service firms and end users

• IT executives need to focus on IT opportunities and IT risks

• All members of the CXO team need to be strategic thinkers, including the CIO

• Look for software systems that provide process control, improvement & management, not that package business processes making them inaccessible to innovation and change by business users
## IT Advice Reboot

<table>
<thead>
<tr>
<th>Spend Less</th>
<th>Spend Right</th>
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<tbody>
<tr>
<td>Follow, Don’t Lead</td>
<td>Lead for Competitive Advantage</td>
</tr>
<tr>
<td>Focus on Risks, Not Opportunities</td>
<td>Shift the Focus</td>
</tr>
</tbody>
</table>

- IT must be an enabler (not an inhibitor) of business process improvement
- If IT can be done for less, all well and good
- The amount an organization spends on “IT” is a consequence, not a driver, of business decisions on activities to gain competitive advantage
- Lead in leveraging IT to enable change in business processes that give competitive advantage
- Yes, manage risks of IT supply failure, but don’t focus on IT utilities and other tenuous ROI cases, link IT to process metrics over time
The debate will continue …

www.bpm3.com/hbr
hsmith23@csc.com

Process centric methodology and consulting discipline, CSC CatalystSM

First book to describe reengineering (1993)

Co-founder and co-chair BPMI.org, contributor to design of BPML (2000)

First process-centric enterprise architecture, CSC e4SM (1998)

Strategic partnership offering standards-based transactional BPMS (2002), adopted in CSC e4

First book to describe the “Third Wave” of business process management (2003)