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

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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

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Howard Smith & Peter Fingar

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Leading the Firm

"The book every CEO should read"

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- 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)

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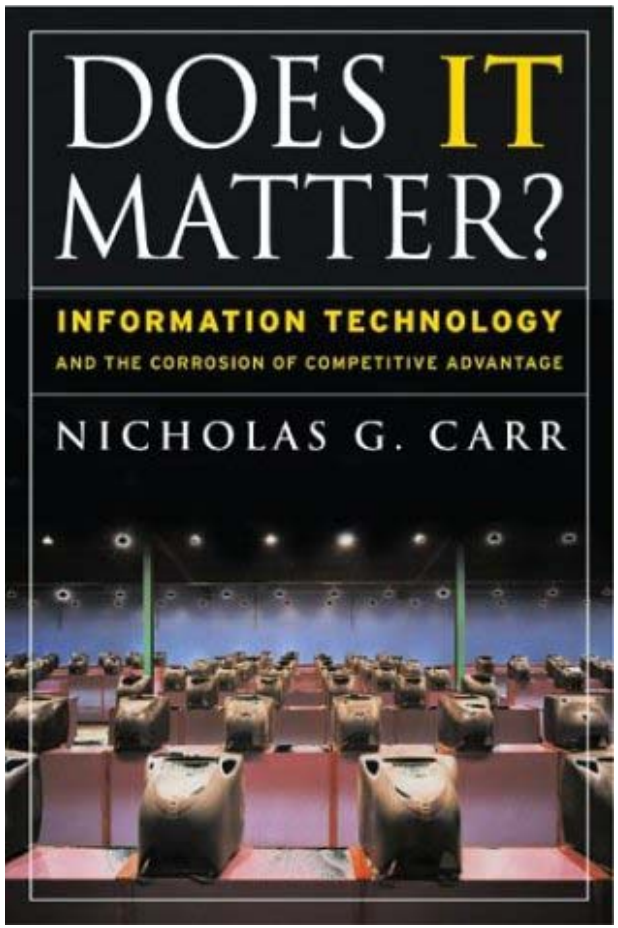
Carr Part II – a book based on the article is planned



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

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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

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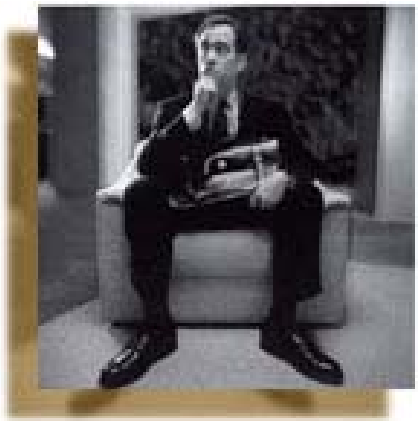
"There is less of a need for strategically thinking CIOs"
-- Nicholas Carr



- 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"

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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

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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?

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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

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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

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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?

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"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

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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?

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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

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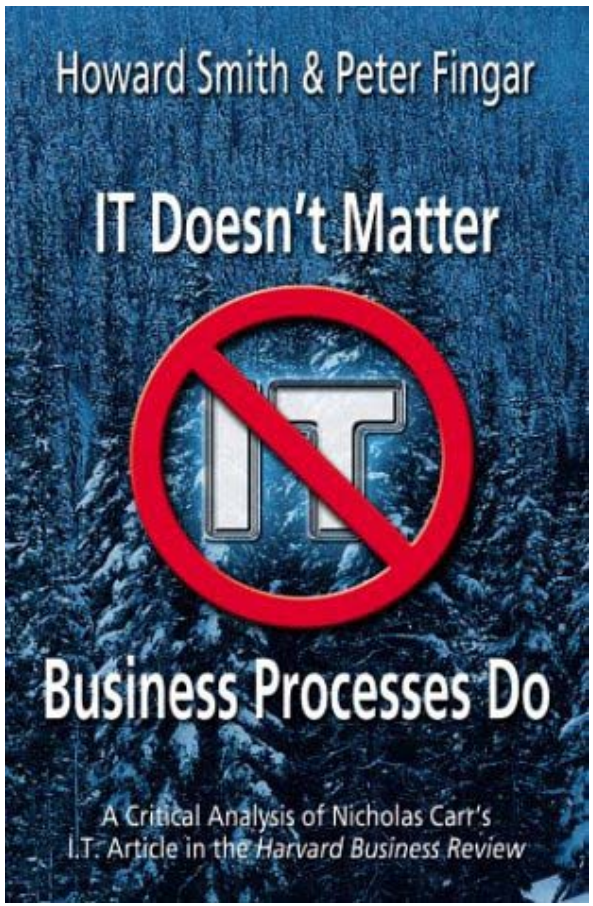
IT Doesn't Matter: Business Processes Do



Paperback 126 pages

- 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.

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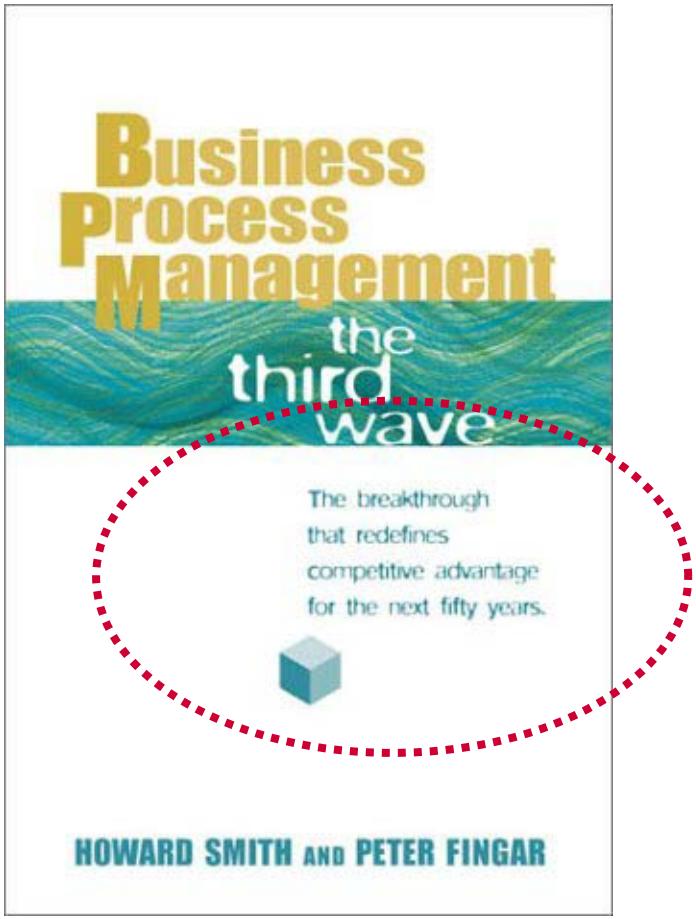
We HAD to do it



Hardback 312 pages

- 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**

Where do those historical railroad analogies come from?

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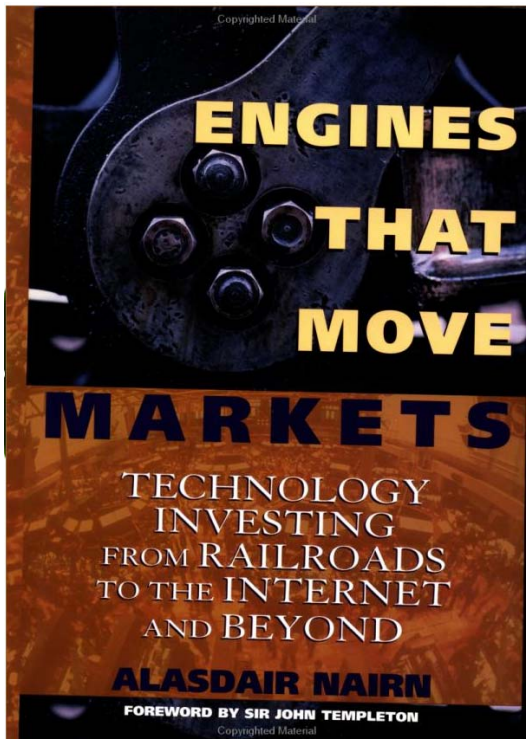
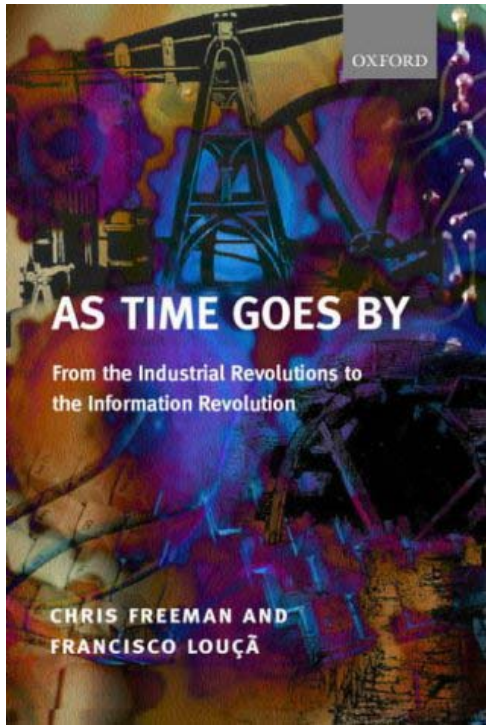
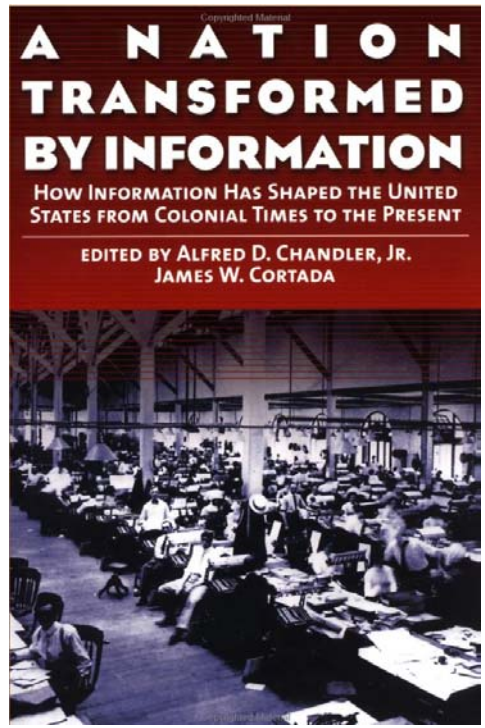
Railroad analogies are not original

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







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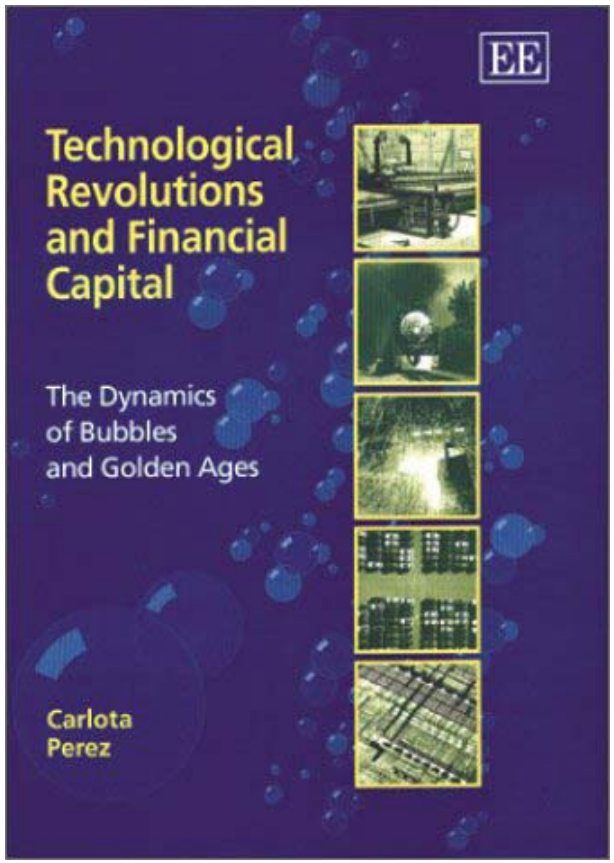
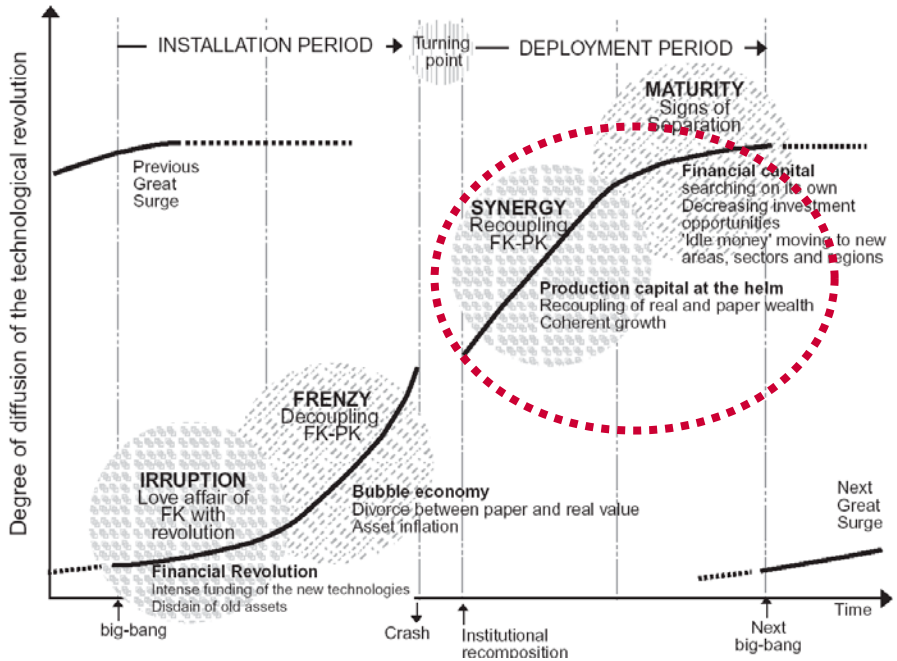
Carlota Perez





http://www.carlotaperez.org/

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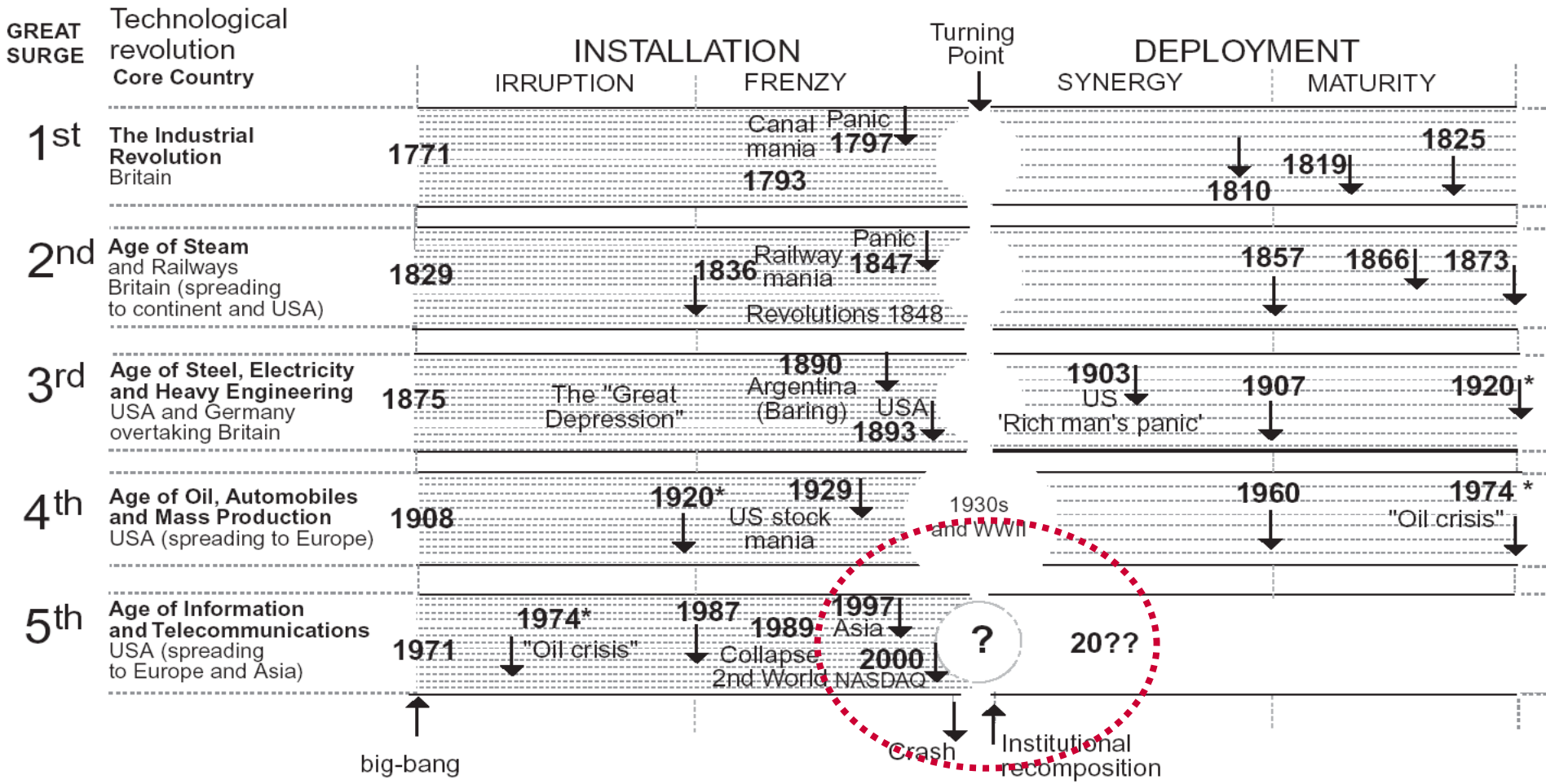
Academic research indicates we are closer to the beginning of the IT Buildout than the end

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



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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
  - Ph.D in Operations Research, Univ. Calif. Berkeley, 1973; MA in Mathematics, Univ. Mich., Ann Arbor,1969

"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/

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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 infra-structure 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."

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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.

http://www.geocities.com/bcschipper/schumpeter.html

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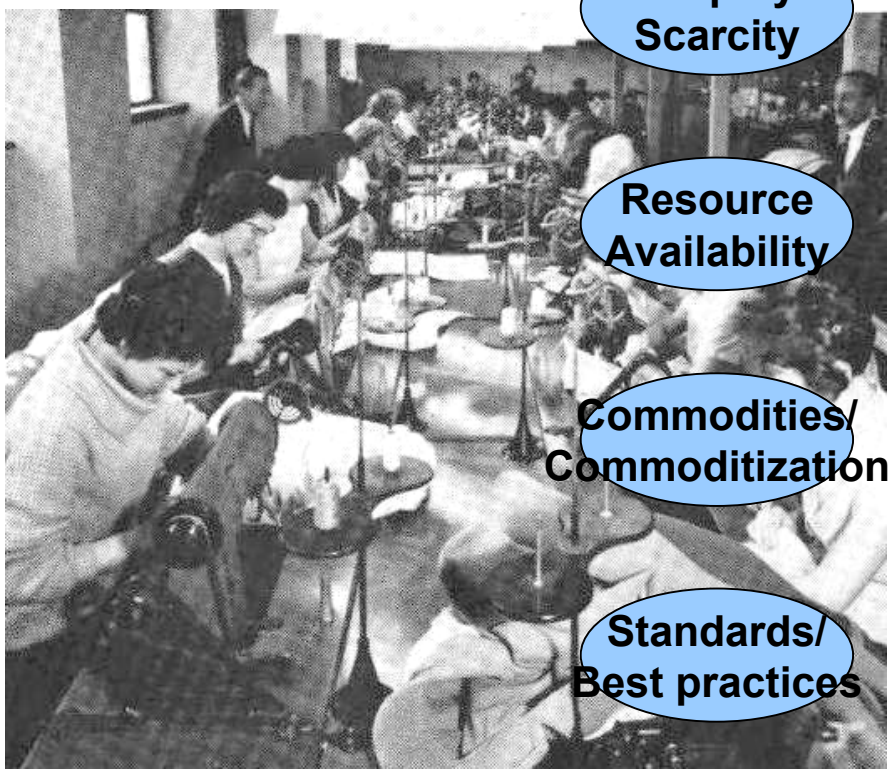
"IT is no longer a potentially strategic resource, but is being transformed into a commodity factor of production"

– Nicholas Carr

Carr's world of Industrial Age analogies



Ubiquity/ Scarcity	Competitive Differentiation	Cost of access/ ownership	Opportunities/ Risks
Resource Availability	Leaders/ Fast followers	Factors of Production	Centre of Innovation
Commodities/ Commoditization	Infrastructure/ Buildout	Costs of Production	Offence/ Defence
Standards/ Best practices	Access via Infrastructure	Digital Replication	Proprietary/ Bespoke

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… but which one?

Classical Economics		***Physical capital***
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

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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

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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."

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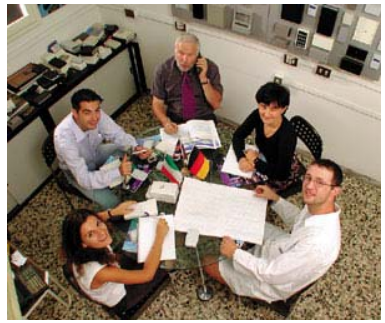
IT is integral to all products and services



"Economies today are measured in terms of the intellectual content embedded in the products and services they sell" -- Craig Barrett, CEO Intel

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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

General Motors	Capital One	CSC, GE, Shell, IBM, British American Tobacco Astra Zeneca, Schneider Merck, etc
• CIO teams group CIOs with departmental heads • Seeks further understanding and alignment with the business they serve • Jointly innovates solutions	• IT spending increasing • Data mining and information analysis techniques • An Information-Based strategy in which business and IT are deeply intertwined	• Do not treat IT as an isolated element in business strategy • Integrated Business-IT Innovation • Orientation around Digitization, IT Management of End To End work

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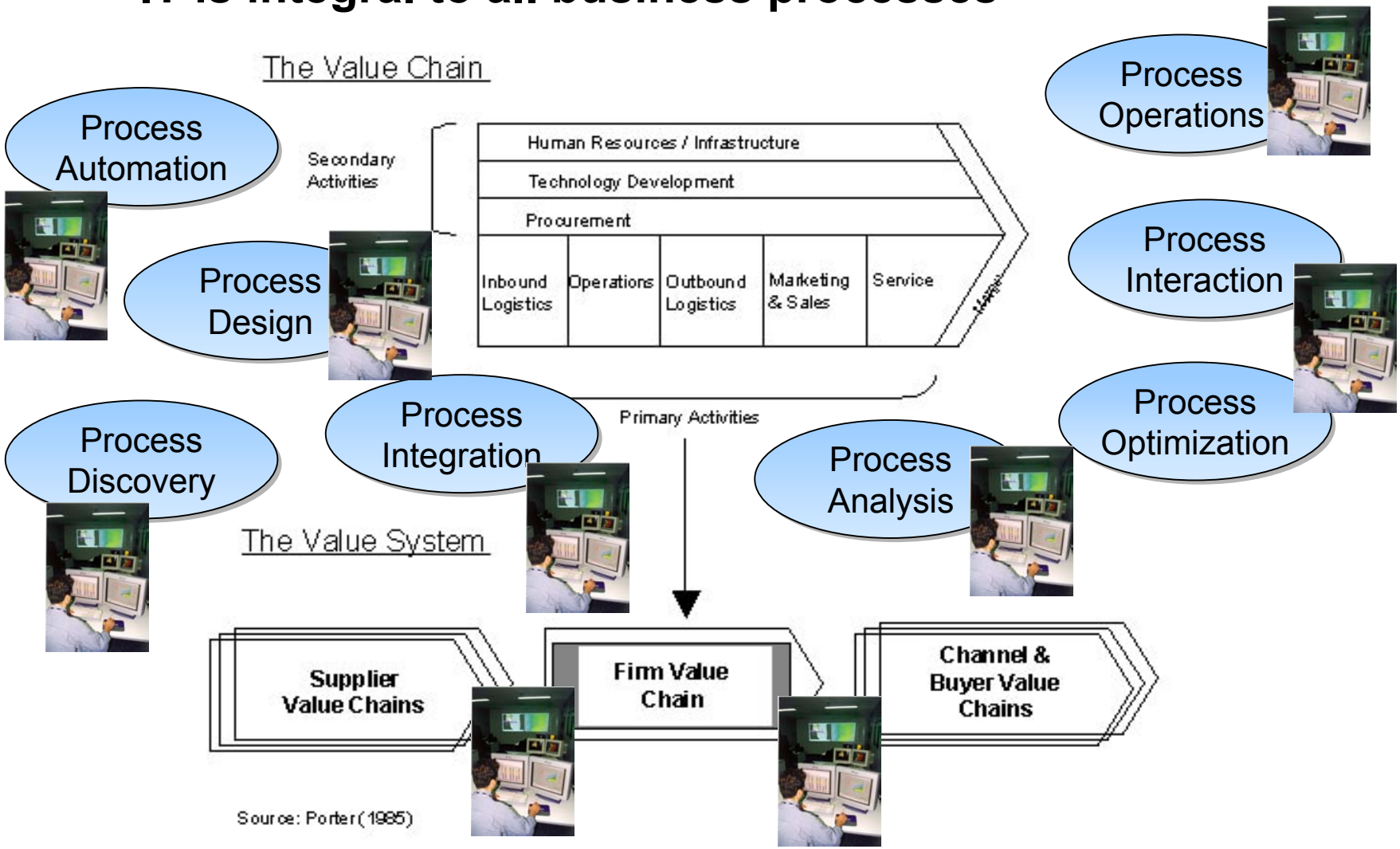
IT is integral to all business processes



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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

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First wave	Second wave	Third wave
1920s Methods & Procedures Analysis Process implicit in Work practices Little automation	1980-90s ERP, other packages Manual reengineering IT Enablers/Automation One-time creation	2000s Process focus of IT Path to execution Agility, adaptation Closed loop optimization
1980s TQM Continuous Scientific Incremental	1990s Reengineering Disruptive Un-scientific Radical	2000s BPM Continuous Scientific Lifecycle
1970-90s DBMS Sharing data Data aware applications	1990s Distributed computing Sharing functions Distributed applications	2000s BPMS Sharing processes Distributed processes

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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.*"

http://www.csc.com/features/2003/41.shtml

Time for Audience Participation

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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

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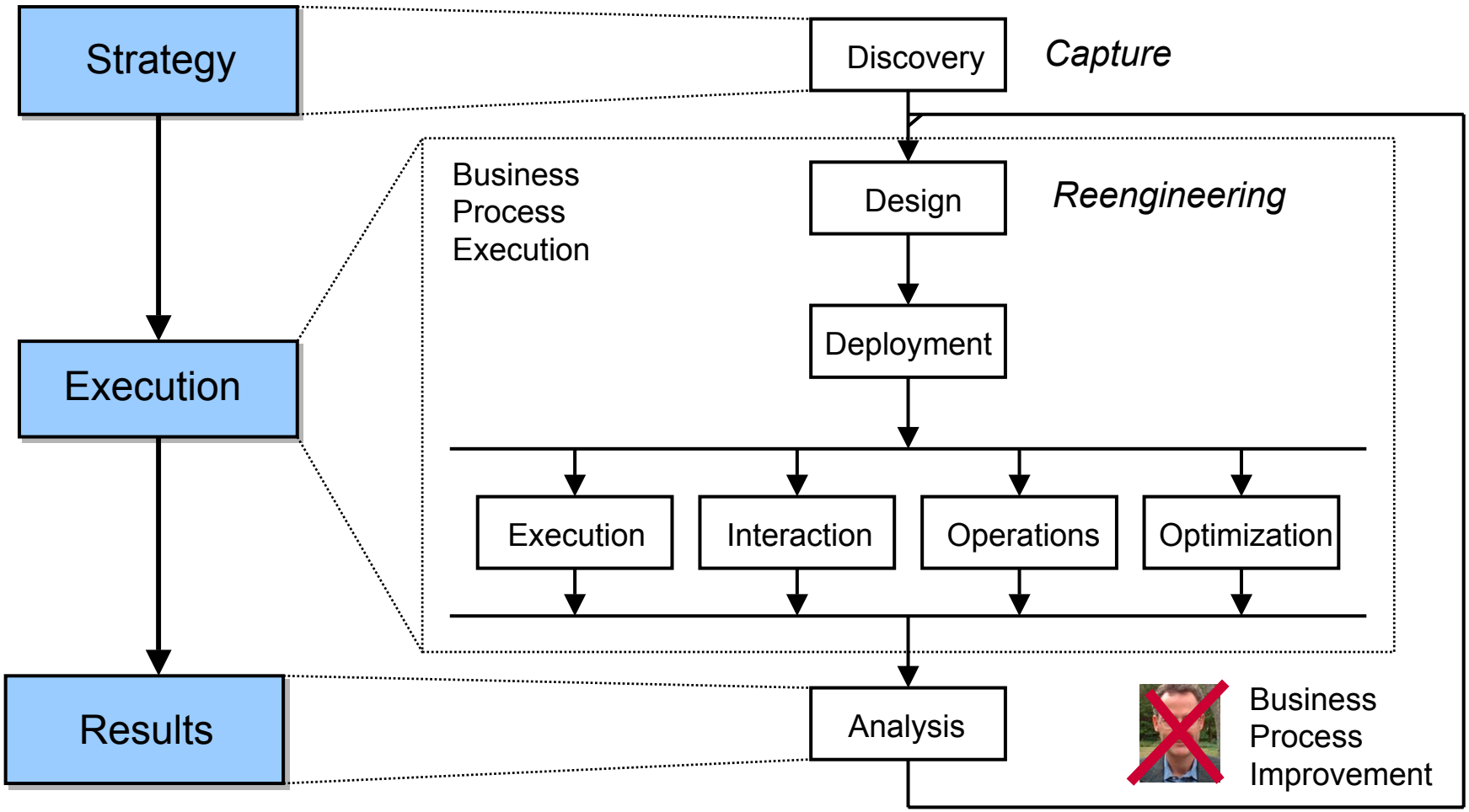
IT today is far more than Carr's automation analogies of "data processing, data transport and data storage"



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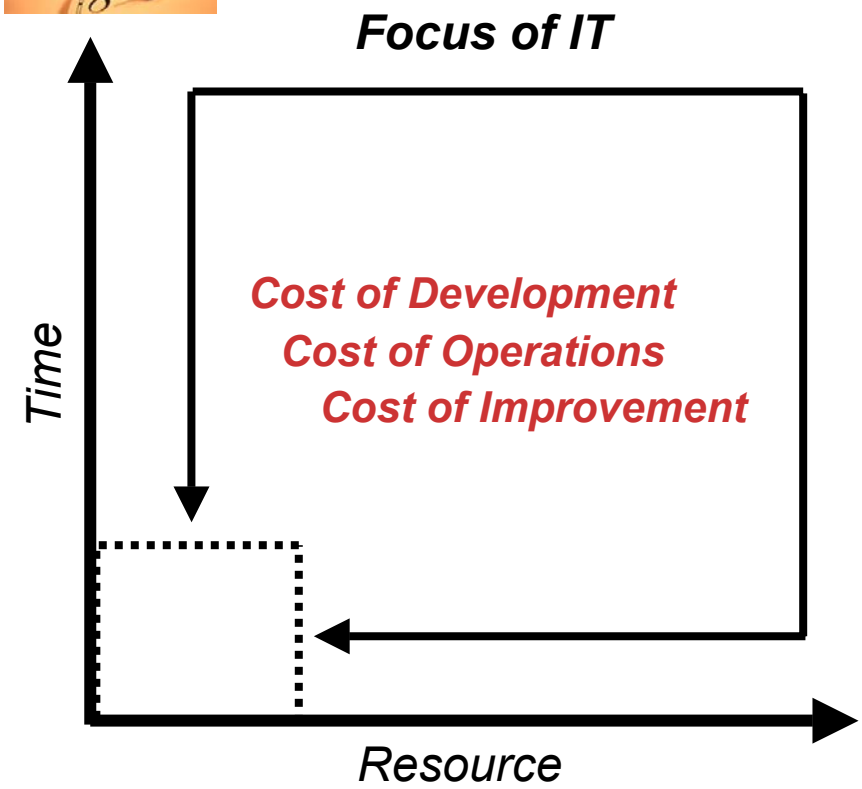
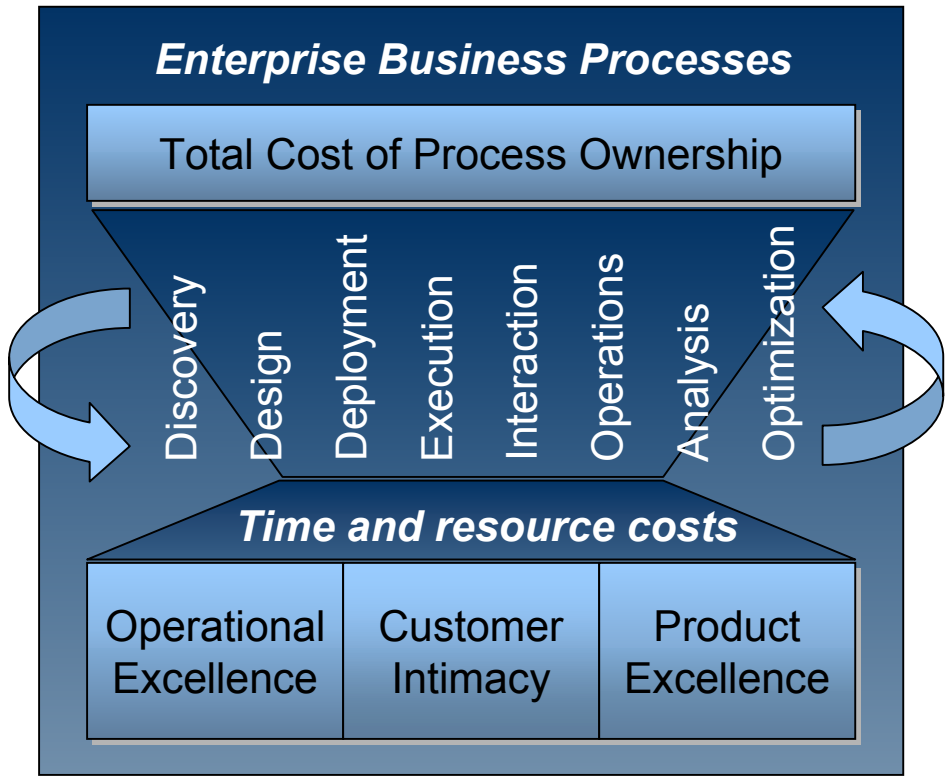
Competitive Advantage through IT: 10x improvement in 2004, more to come





An Illustration

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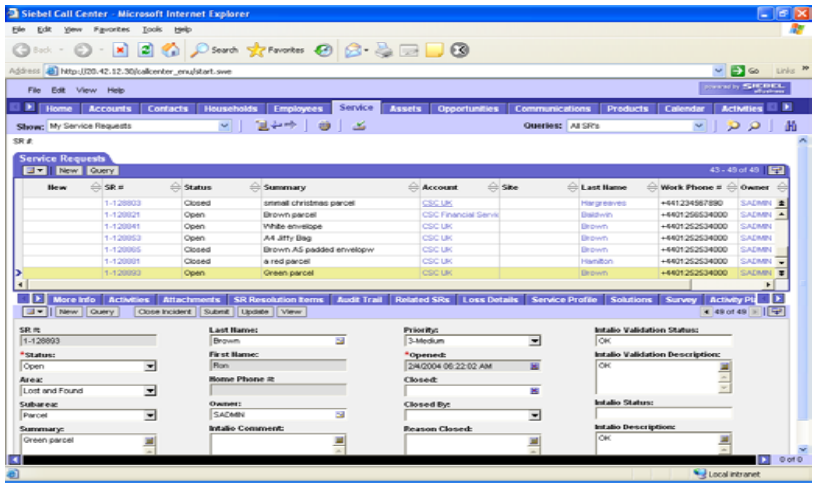
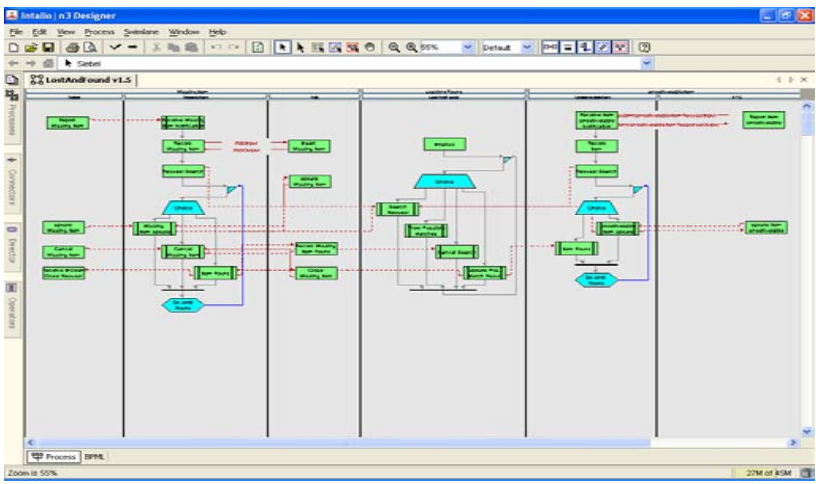
Audience Online? A CIO Attention Test





Screen shots

- 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

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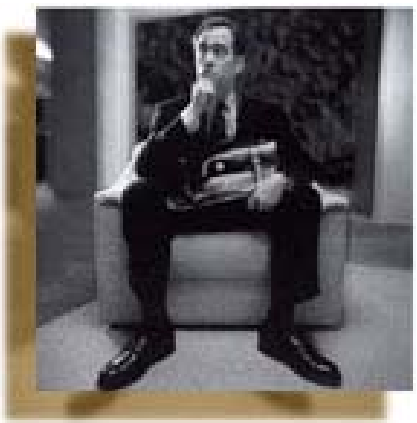
Business Critical Processes

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

1



“What did he say?”

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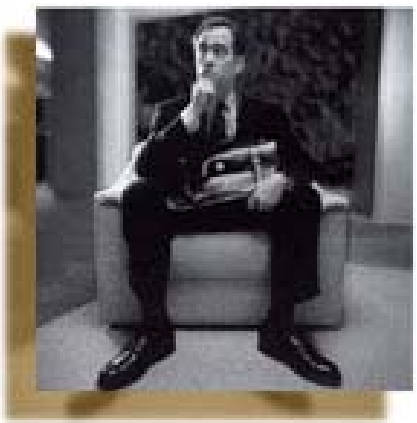
Business Critical Processes

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

2



“Did he really say that?”

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Business Critical Processes

- Two elapsed weeks
- Using just six process diagrams
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- Zero package customization

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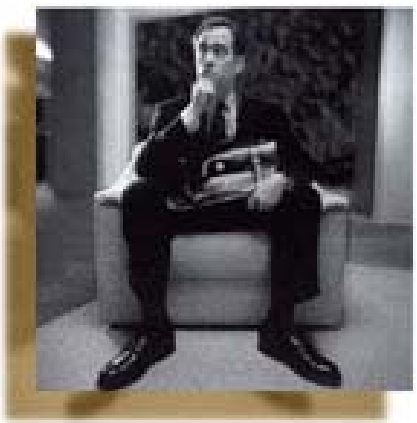

“What on earth does it mean?”

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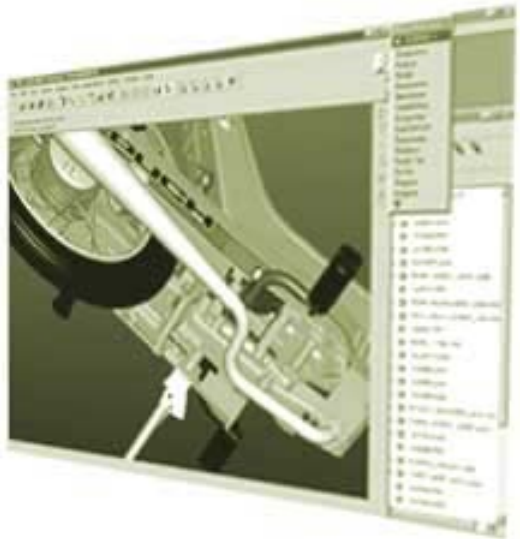
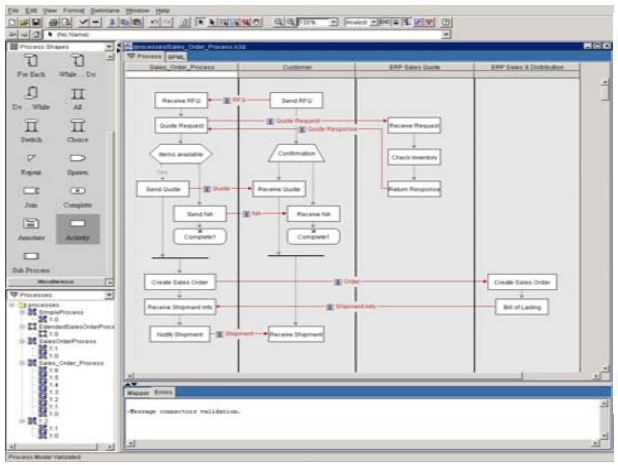
The NEW IT – Business Process Management





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A Business Process Strategy Map

Business Strategy

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

Business Process Portfolio Mgt

Enhance/Retain, Outsource, Insource, 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

Discover
Design
Deploy
Execute
Operate
Interact
Analyze
Optimize

Business Process Management System

Process execution lifecycle
Process design lifecycle

Commodity IT Components

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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

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Through BPM, IT is expanding

Business Infrastructure	Business Automation	Process Management
• Office environment – email, desktop, portals etc	• Data Processing, automation of existing ways of working	• Business Enabler
• Lowest cost source • Enables business to communicate and share information	• Standardization • Provides audit trail • Supports scaling of business • Reduces head count. • Provides management reporting	• Translates business requirements into reality • Enhances understanding • Provides actionable feedback • Enables differentiation
• Required by all	• Type of business determines need	• How the business develops, delivers and maintains market position

The next 50 years of IT

The last 50 years of IT

Source IT Doesn't Matter-Business Processes Do

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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

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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*

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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*

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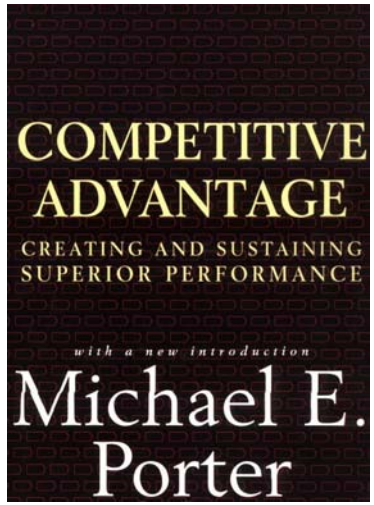
A common sense response to Carr

- “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?



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GE's Evolution Towards Excellence

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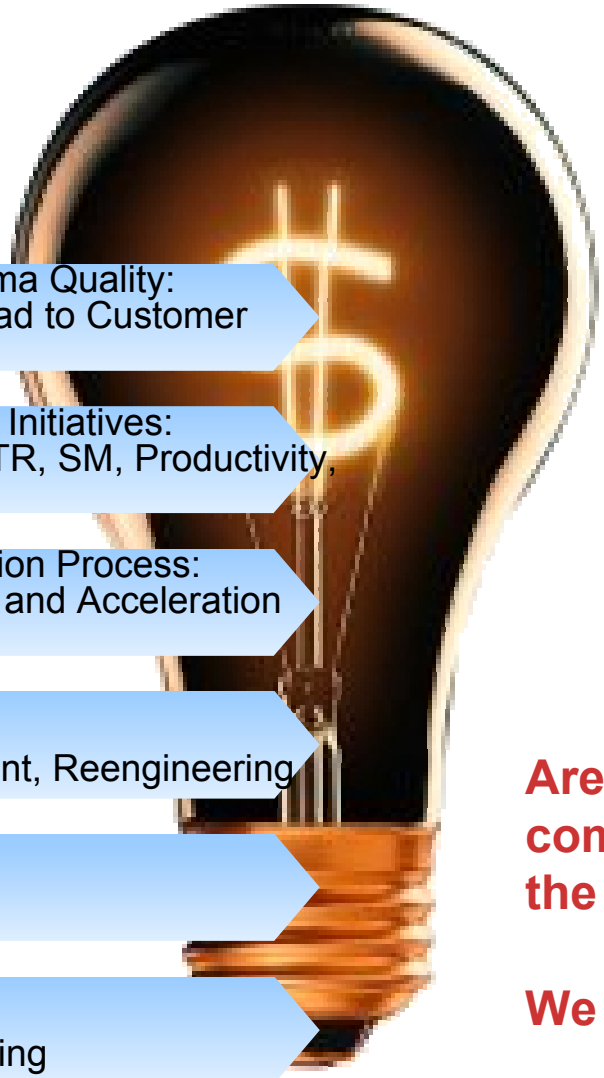
Old IT? New IT?



- 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

High

Intensity

Low

1990 Time 2000

"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

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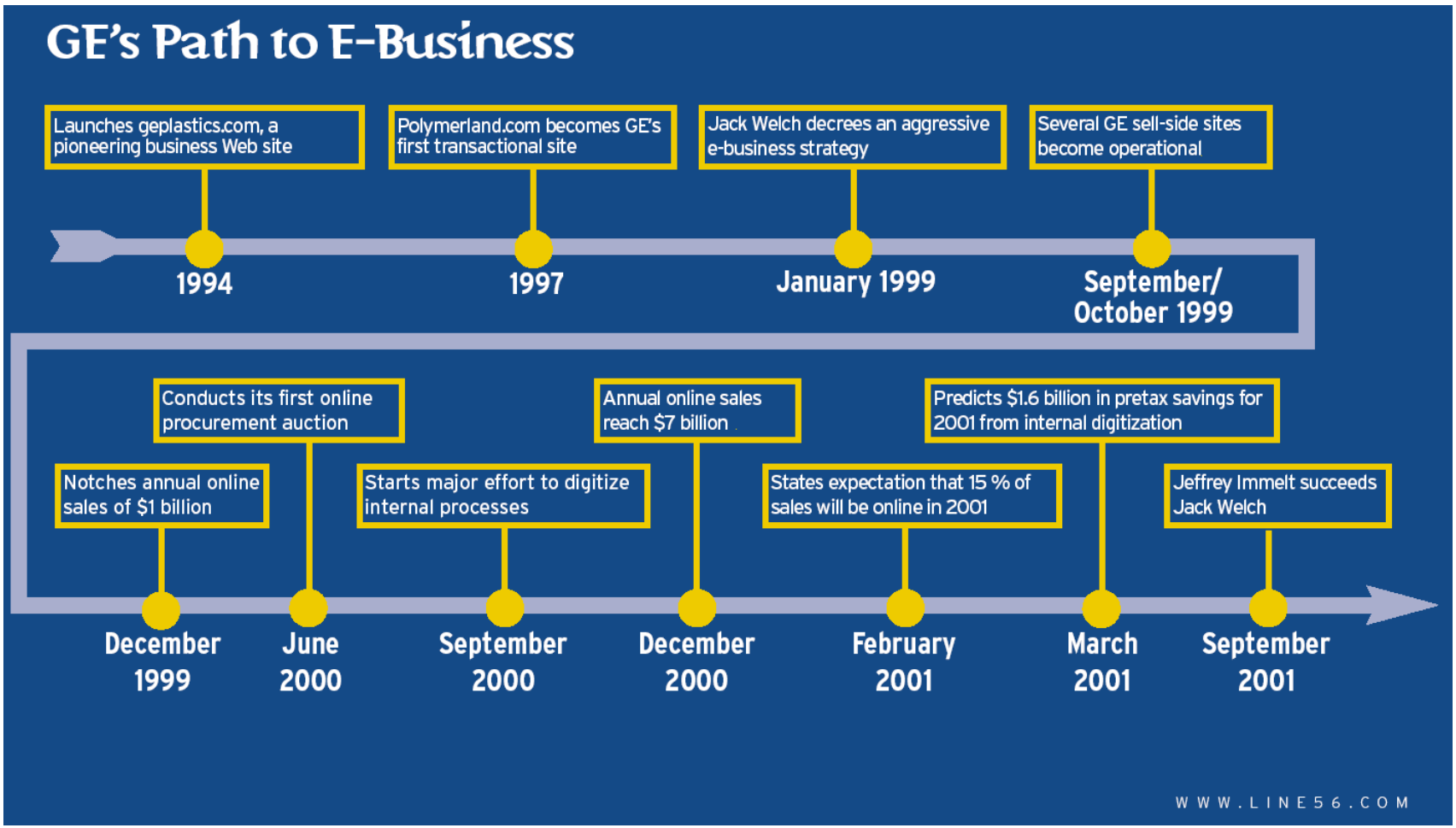
Process Digitization



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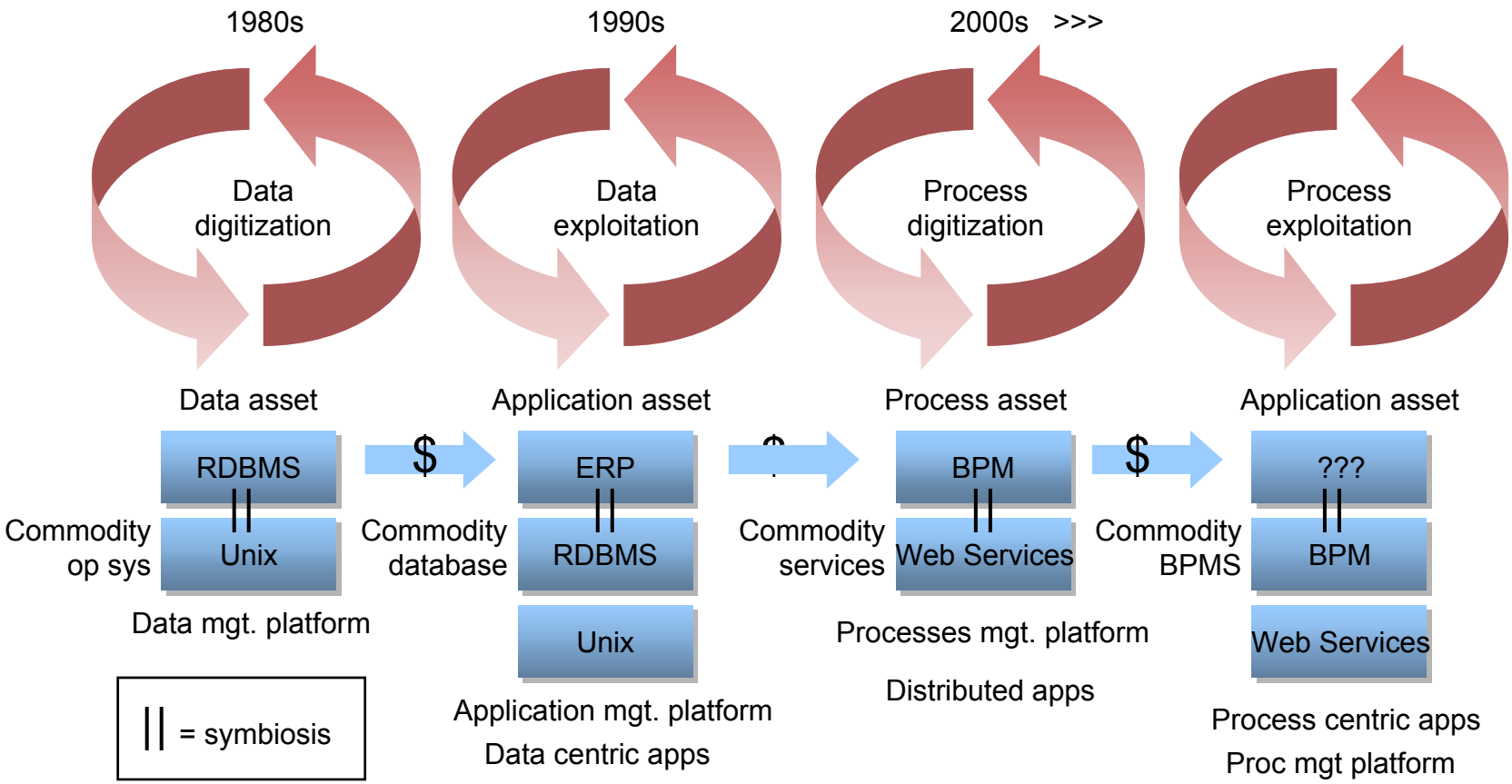
Carr places all of IT on the same commoditization trajectory, which is profoundly wrong



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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 debt to finance growth opportunities
- De-averaging of costs (mid-1970s), ABC
- Re-structuring for advantage (1980s), M&A
- Now, Time-Based Competition

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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 <u>least amount of time</u>"

Cheaper, Better and *Faster*!

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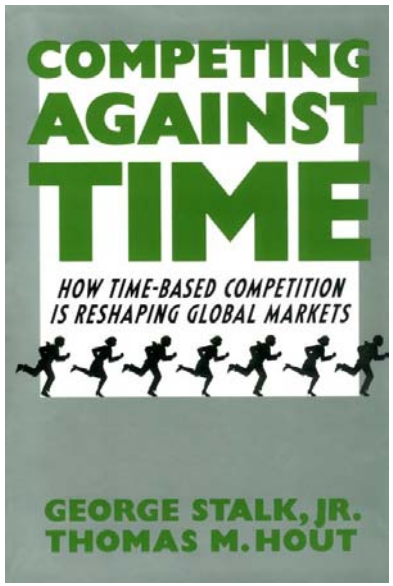

Successful Japanese companies like Toyota and Honda which have used variety as a competitive weapon have, in fact, pioneered time-based competitiveness by managing structural changes that enabled their operations to execute their processes much faster.

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**

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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

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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

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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)

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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.

"There was an article that's gotten a lot of play recently ... It's stupid."

Emerging Technologies Symposium, Sep 2003

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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

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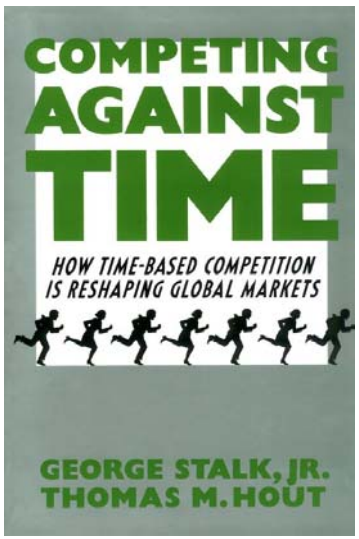
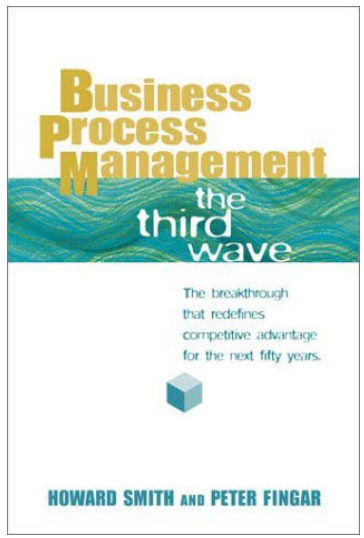
"Time—The Next Source of Competitive Advantage"
Harvard Business Review, July 1988

Time-Based Competition

The Business Case and Case Studies

How You DO Time-Based Competition





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COST-Based Competition	TIME-Based Competition
Texas Instruments' calculator business	Casio, Hewlett-Packard
Sears, K Mart, Zayers (Replenish Every Two Weeks)	**Wal*Mart** (Replenish Twice Per Week)
Detroit Auto Makers	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 !

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Best-practice copycats don't command the price premiums or market share or performance of best-in-class innovators

Best-Practice

Best-in-Class

Packaged Software For Sale	Process Management Not for Sale
Easily Copied	Extremely Difficult to Copy
Open Industry Standards	Unique, Proprietary Processes
Available on the WS Grid	Guarded in Company's IP Vault

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?

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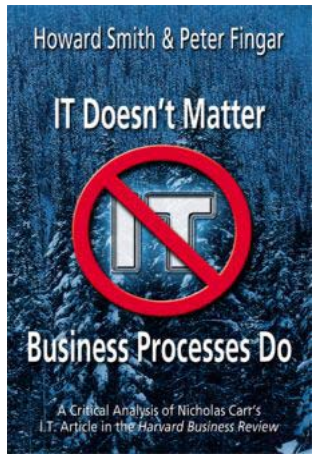

Old IT

First Fifty Years of IT

Cost-Based Competition

Automate Data Processing

Operational Efficiency for what you already do (Doing things right)

Commoditized Best-Practice

New IT

Next Fifty Years of IT

Time-Based Competition

Automate Value-Delivery System

Strategic Advantage for changing what you do (Doing the right things)

Unique Best-in-Class

A change-in-kind business automation enables time-based competition with a new capability to Execute on Innovation

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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

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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

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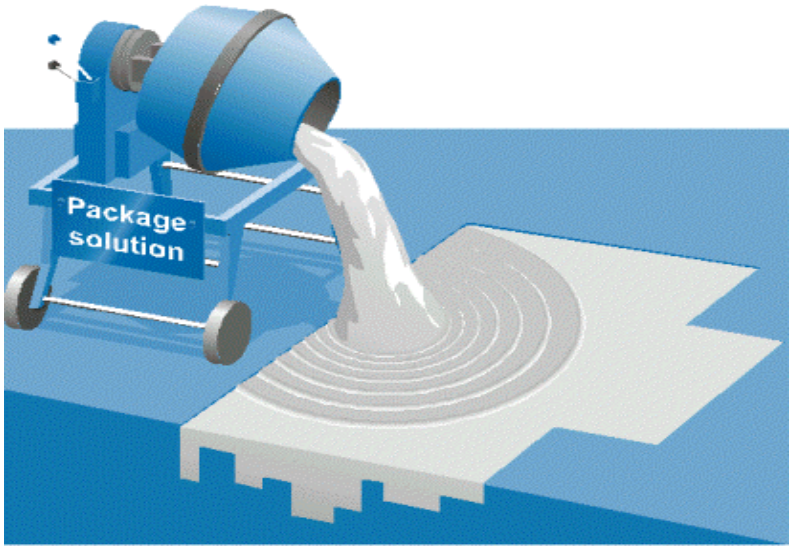
Carr talks about "Old IT" - yesterday's package applications - not today's IT agenda

- ERP, CRM …. when will the IT vendors learn?



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From packaged processes to process management

Sales Campaign Management

Aerospace Industry

Chemicals Industry

Fashion Industry

Paint to Distributors

Bulk chemicals To wholesalers

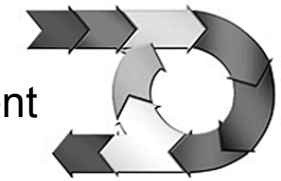
Pesticides to farmers

Customer Segment X

Customer A

Customer B

Process Improvement Lifecycle



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

Sales Campaign Management

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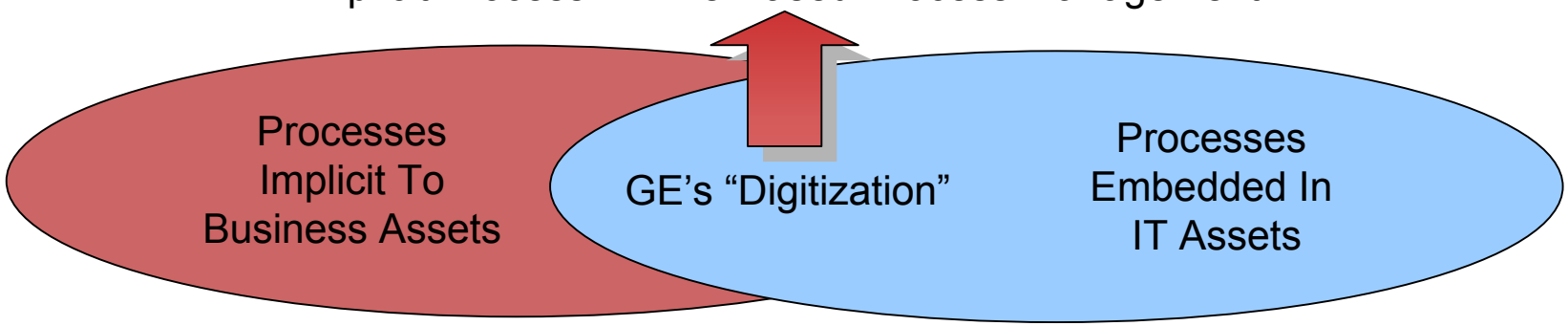
BPM is not IT Software Development, its an IT tool that enables business people to build and manage processes

- 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

Explicit Process – Time-Based Process Management



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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"

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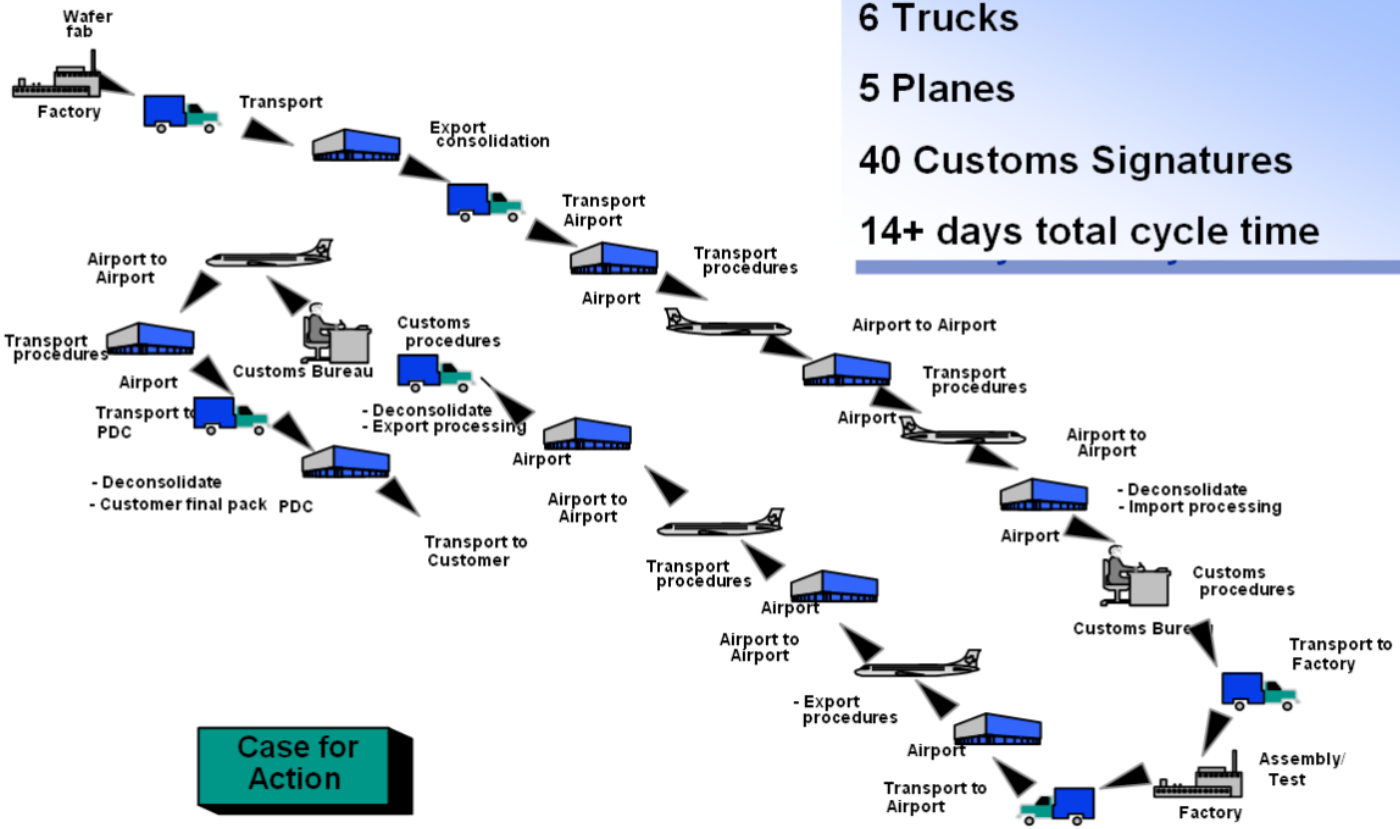
From “As Is” lowest cost to “To Be” time to market, the challenge for Texas Instruments in the era of reengineering

Planes, Trains, and Automobiles

further adventures in non-value-added...



6 Trucks

5 Planes

40 Customs Signatures

14+ days total cycle time

Case for Action

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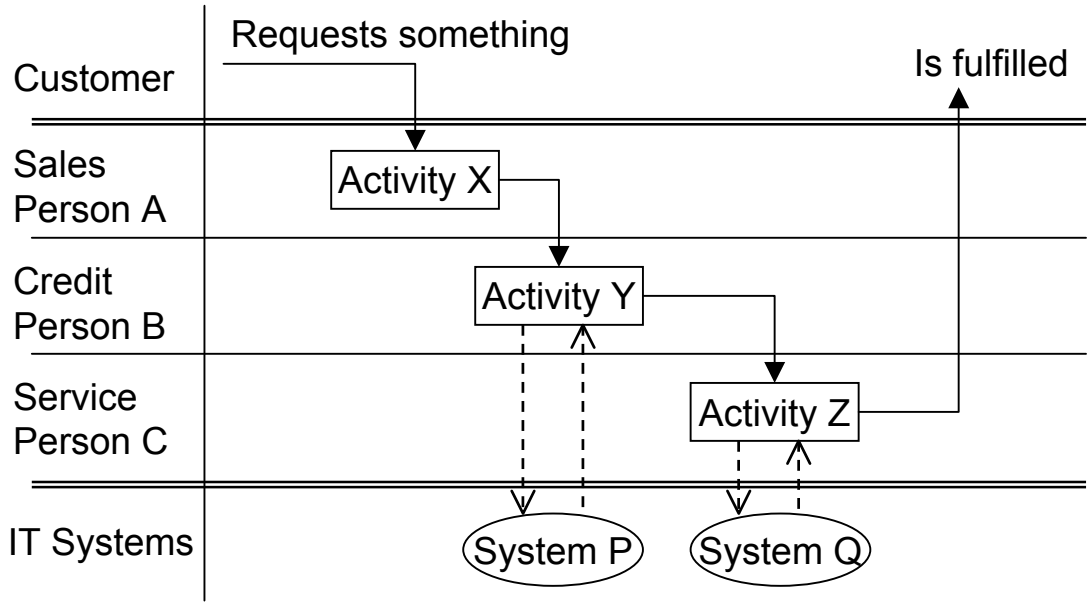
A reengineering tale of woe



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The Dilemma at the heart of the Value of IT debate

As Is Processes
"Open a check account"

Napkin diagram

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

Instinctive reaction

Problem
Replace As Is Processes with New To Be Processes

How?

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

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

Real barriers

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

?

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

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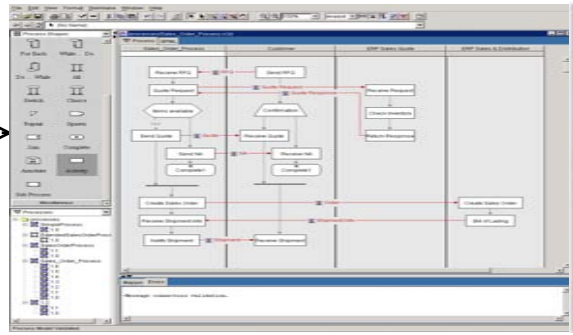
Solution

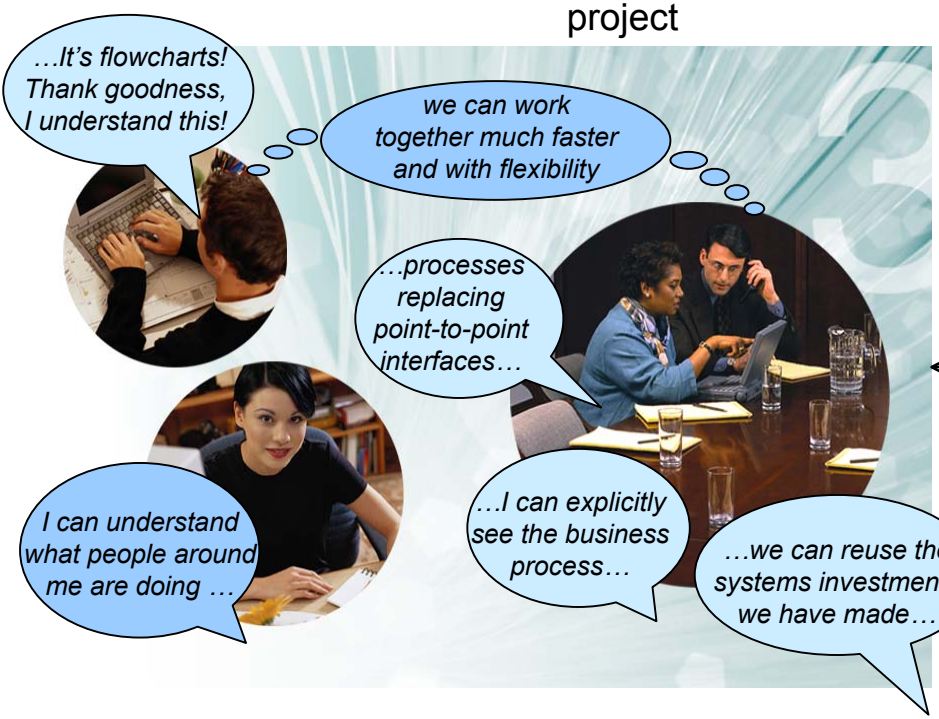
Integrate existing systems
Automate existing tasks
Provide a new user interface
Measure flows in tasks and activities
Escalate or re-direct tasks in exception cases
Organisational Change, Roles, Training

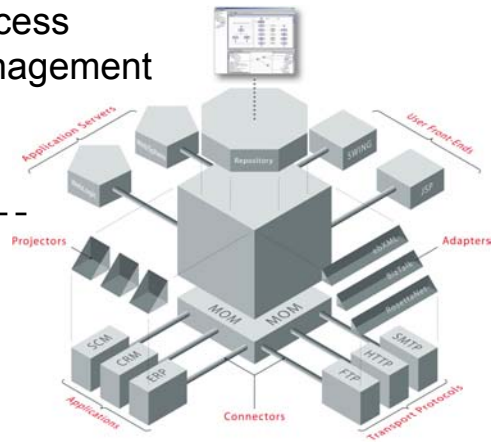


A diagram, instead of a reengineering and systems development project

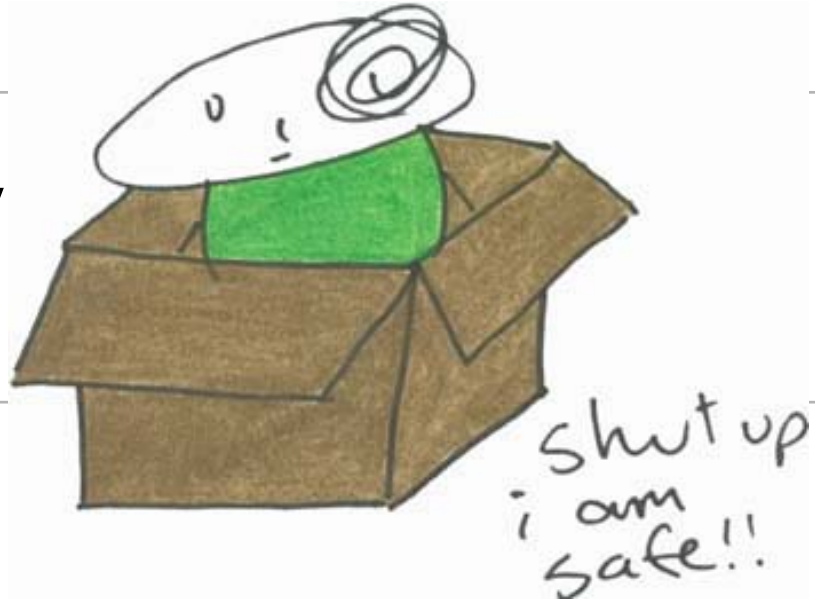
Directly deployed on a BPMS

Providing Business Process Management





You cannot save your way to market dominance



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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

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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

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IT Advice Reboot

Spend Less

Follow, Don't Lead

Focus on Risks, Not Opportunities

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Spend Right

Lead for Competitive Advantage

Shift the Focus

- IT must be an enabler (not an inhibiter) 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

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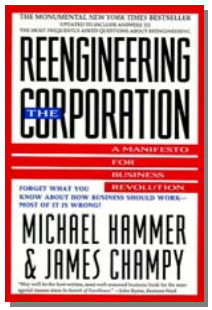
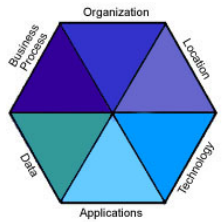
The debate will continue …
www.bpm3.com/hbr
hsmith23@csc.com



First book to describe reengineering (1993)



Process centric methodology and consulting discipline, CSC Catalyst℠

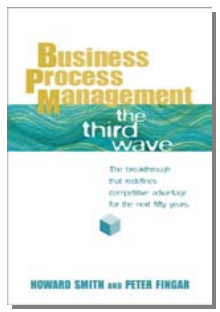
First process-centric enterprise architecture, CSC e4℠ (1998)

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

BPMI.org

INTALIO

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



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