



[saggi](#)

siamo in: [Homepage](#) / [archivio](#)

[working paper](#)

N° 2 2006

di [Lorenzo Caselli](#)

[autori](#)

[archivio](#)



Il lavoro tra sviluppo e solidarietà

[recensioni](#)

[segnalazioni](#)

[eventi](#)

[link](#)

[saggi](#)

⇒ [Dario Velo](#)

Dall'Europa dei progetti all'unione economica. Lo sviluppo della grande impresa europea di interesse generale

⇒ [Matteo G. Caroli](#)

Il marketing territoriale: un nuovo approccio per la competitività sostenibile del territorio

⇒ [Peter Dobay](#)

Value and Risks of the E-business Change

[working paper](#)

⇒ [Bruno Maggi](#)

[Andreu Solé](#)

Disputa sulle concezioni del processo decisionale

⇒ [Angelo Gasparre](#)

Tra flessibilità e precarietà: una ricerca su lavoro atipico e imprese

⇒ [Gianpaolo Abatecola](#)

[Sara Poggi](#)

Liberalizzazione e strategie aziendali nel mercato del gas: l'esperienza del gruppo ENI

⇒ [Stefania Mittiga](#)

Lo sviluppo del commercio equo e solidale in America Latina: un'analisi comparativa



scarica il plug-in gratuito
Acrobat Reader

[< indietro](#)



Value and Risks of the e-Business Change

Peter Dobay

Index: 1. ICT projects in the Internet economy - 2. The nature of change in the ICT sector - 3. Common false beliefs and the e-Business Syren Call - 4. Propositions for SMEs before responding The Call - 5. Some recommendations - References

Abstract

Enormous numbers of projects, aiming ICT-based changes start every year in the business world. Among these, more and more are related to "e-Business", an Internet-services based type of re-engineering, a new business solution. All ICT projects have a large impact on the organization, on jobs related to any information handling – e-Business solutions even cause a larger problem with the force of re-thinking traditional business processes. Small- and medium sized businesses are called by "syrens" from the hardware-software and service industry, to implement "Just login, click, and pay" solutions.

The article calls attention to this phenomena: demonstrates problems of valuing these projects and measuring the risks of a change project.

1. ICT projects in the Internet economy

The terms „Information Economy” (Masuda, 1988), „Knowledge Industry” (Davenport, 1990), „Internet Economy”, „Networked Economy” (Castells, 2000) have appeared in the literature in the '90s. Authors also mention „e-” („electronic”, „digital”) as a wildcard for „something, which is supported by ICT, computerized, or networked”. This industry today is made up of companies directly generating all or some part of their revenues from Internet or Internet-related changes, products and services (Hammer, 1993). The first „layer” consists of companies giving the hardware and the Internet infrastructure. Representatives of the second group build basic „knowledge based” services, i.e. softwares, procedures, applications over this infrastructure. The third layer utilizes information- and knowledge management tools to transfer content, like education, media, entertainment, and the entire e-Commerce industry, using these ICT tools as a

new marketing channel: Many of them have and apply traditional brands and businesses (click & mortar), some have emerged just on the base of this new technology (click & buy, dot-coms).

Companies can not remain intact of this rush and all ICT-based projects lead to a remarkable change in organisation, in leadership, and, of course, in human relations. US companies have started about 200,000 projects with information (ICT) applications annually before the Millennium. This number is more than 300,000 now annually, according to the CHAOS Report of the Standish Group (see e.g. in CHAOS, 2000). According to their statistics, the rate of failure of these special projects were about 23% in 1999, but other 48% also was declared “challenged”. In 1994 the average time overrun was about 222%, five years later it went back to 64%; cost overruns changed from 189% to 45% respectively. These data are probably showing progress, but even today the lack of proper change management performance in this field is proven. The „technology driven” attitude is overwhelming the general management rules, and the result is a lost of hundred millions of dollars.

A new wave of ICT-type projects came when the dot.com revolution, the “e-Business” idea arrived in 1996-2000, and even today it lasts all over in businesses. We see the progress, how the Internet Economy force has become a more integral part of our economies, creating jobs and increasing productivity in companies in different ways. Also we can recognize, how traditional jobs, positions, procedures are transformed, or even fallen of this race. Not only in “IT based jobs” – but everywhere in businesses, like sales, marketing, logistics, or even public services new projects are launched to foster competitiveness.

An Internet Economy annual report (see in Barua, 2000) shows: these industries pay today about 3 million workers in the US, with a 6-800,000 growth every year! How can we cope with such a fast growing field, how can we manage the e-Business projects to build real value for our companies? How can an SME respond to the e-Business syren call of software houses, consulting companies and “solution providers”?

2. The nature of change in the ICT sector

Professor McFarlan, the Harvard guru declared after the Millennium, that technological changes progress from 30% to 50% around annually, thus planning and implementation cycles are shortening every day. Clear: all businesses have to be aware of a must of rapid changes. But from all EU SMEs only 18%, from medium-sized companies 50%, from all large companies 60% have an up-to-date, integrated ERP system today – which seem very poor to call this an “Internet / Networked Economy”.

What are the reasons of fearing IT/IS/eBus changes?

See the numbers of the CHAOS Report: managers simply fear of a high rate of failure of “usual ICT-related projects”. There is a slogan declared everywhere

in project management literature: “An ICT project lasts double, costs triple of planned.” According to more precise sources, see e.g. the Table 1 figures from the CACM Association: here project managers from 112 large US companies were questioned how they guess success-factors of their ICT projects. An interesting comparison can be made to CHAOS Report failure percentages.

Table 1: Reasons of ICT project failures

„Preliminary cost estimate is essential”	84%
„We do it very well”	44%
Problems listed (scores 1-4):	
Partners change requirements	3.6
Careless project development	3.9
„They do not know, what they want”	3.6
“Weak project communication”	3.3
“False problem definition by managers”	3.3

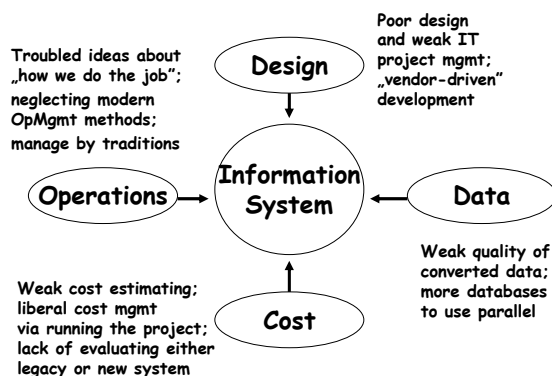
Source: CACM, Febr 1992: *Better Cost Estimating*

Should it be a happy hour to a manager to start a new one? Should an SME-owner be brave enough to initiate a project with published data of failure like these?

Investigating “Information System” projects’ problem areas we can find some reasons (see Figure 1): the change project success is influenced by mainly the operations, as they are investigated and understood by consultants;

- the design methodology, as it is used professionally, or led simply by hardware-software vendors;
- the datasets, which should form the base of any new system, but normally are created and managed by legacy systems, with differing architecture;
- costs of the project, which has to be estimated carefully, while concurring with other parallel projects, with their human and other resources.

Figure 1: Factors influencing the success of ICT change project



Source: Author's elaboration

Regarding to data above, one can put a question: what does „ICT system failure“ mean?

Normally a system failure is declared, if

- information system does not perform as expected;
- the system is not operational at a specified time;
- poor design makes a lot inconveniences to end-users;
- inaccurate data occurs as output;
- excessive expenditure occurs (TCO)¹.

However the business payoff of many ICT expenditures may be difficult to measure, but we can not use that as an excuse not to try. In my opinion, when managers see enough business arguments, they simply neglect precise cost-benefit calculations. Usual criteria to decide “Yes, let's start!” are normally the followings:

- proven support the actual business objectives;
- strong indoor support from management;
- makes customer relationships better;
- an understandable and available ICT technology is involved;
- can be finished (started) in a year project period;
- net present value is positive;
- has a low risk level in cost, in scope, in install time.

¹Total Cost of Ownership (Gartner Group) or other methodologies of cost estimating.

According to these, not surprisingly many project management textbooks (see e.g. Ensworth, 2001; Murch, 2001; Andersen, 2004) say nothing on financial goals, efficiency, return on investment – but, rather intends to declare: “Create a good budget and try to keep it.”

The Standish Group CHAOS Reports, which estimate the failures to cost about 80 billion USD per year, categorize ICT projects like:

- a) successful: finished in time, no budget overrun, all functions planned work;
- b) “challenged”: the project is finished, but with budget and timing overrun, functions are missing or cancelled;
- c) “cancelled”: the project is cancelled before planned time; budget is not used up (hopefully), functions are not available for use.

3. Common false beliefs and the e-Business Syren Call

There are some common beliefs around new technology-based project, especially when fashioned and championed e-Solutions are offered:

- “People want this change: we like IT!”
- “Monday morning we’ll turn on & they’ll use it”
- “A good training program will answer all questions”
- “Our people have been through a lot of ICT change – what’s one more change going to matter?”
- “They have two choices: change or leave”
- “We MUST jump to the Internet bandwagon”.

If a project is based only on beliefs like these, no question, result will be as reliable:

- change may not occur at all; people learn again, „ICT changes normally fail”;
- people comply for a time & then begin circumventing the change, the system slowly erodes;
- people use new systems in an old way, the planned and hoped benefits are neither full realized nor audited.

What should we call an e-Business Syren Call? This is the dangerous attitude towards the new or never-proved technologies, when businesses (especially SMEs), with less project- and change-competencies simply believe they can be pioneers and can gain competitive benefit.

A Forrester Research data says from 2002: „From firms surveyed, 93% plans to make B2B transactions on the Web; with value of \$2.7 trillion in 2005”. And: „This is a new Great Gold Rush” (e-Business W@tch Survey). The latter source quotes: from EU firms surveyed only 50% use e-procurement, 17% sells directly on the Web, 46% applies new ICT technology in products/services.

According to Hungary²

- 32% of companies run their own homepage;
- but: 70% of websites just show „I Am Here”;
- 21% offers customer interaction;
- only 8% can be valued as a „real” business website;
- 49% of homepages speak Hungarian, 39% English, 9% German;
- Hungary counts ~ 800,000 SMEs compared to 230,000 in Austria...?

Table 2 shows an aggregated index of “e-Business activities & performance”, a complex survey result of the “e-Business W@tch” Survey, 2005. This compound index covers ICT adoption and e-business intensity, based on 4 sub-indices and 16 component indicators in total.

Table 2: Compound index of e-Business performance

	A. Basic ICT use	B. Internal processes	C. Supply-side activities	D. Customer- facing activities	Total index
DE	98	94	96	97	100
UK	100	80	100	100	98
FR	81	100	83	56	86
ES	80	72	99	75	84
CZ	77	71	64	51	69
PL	70	71	65	51	67
IT	70	65	50	63	65

Source: e-Business W@tch Survey, <http://www.e-Business-watch.org/>; 2005

The benefits which SMEs are usually hope from common e-Solutions (like building an informative website, establishing dialogue based online ordering and sales, etc.) are the followings:

- new customer priorities can be fulfilled: easier access to company and product/service information;
- the value chain can be reduced; value processes are cheaper;
- distribution chain is easier; less transaction costs;
- product/service can be cheaper of the above changes
- faster enter-to-market process with new product/service;
- global reach; 24/365 accessibility; personalization of customers;
- comfortability, easier and effective ordering & fulfilling: fast service for customers;
- effective information management; data mining possibilities with complex CRM systems.

²From different sources, like Chamber of Commerce, etc.

Are these hoped benefit forming a real Syren Call? If joined with “Easy start”, “Just click and buy” installation offers, the answer is Yes. Small businesses have no ICT staff, have fuzzy memories and corporate culture on ICT applications and especially change projects.

4. Propositions for SMEs before responding The Call

Management of an SME has to take the common Porter-model into consideration. Figure 2 explicits the ICT possibilities when threatens of outside parties – according to Porter – are influencing our business situation, or new strategy. The management has to find ICT solutions for any of these threats and many business cases prove: not only e-Business is the solution. Managerial control is needed as follows:

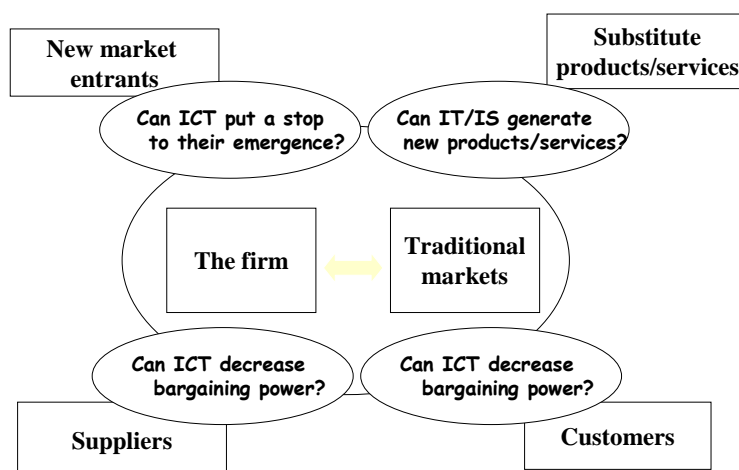
- when planning the e-Solution (ex-ante): a complex BPR + ICT project-plan control, with clear responsibility charts
- when developing the e-Solution (in situ): a complex ICT project-management control, with defined and detailed milestone plan
- when integrating the e-Solution: a complex service-level control to adjust legacy and new systems, databases
- when enjoying solution (ex-post): auditing the project & the system (investment return, CBA, financial TCO, organizational impact, human impact,...).

According to quantification of valuing projects and systems, opinions differ. Some offer

traditional ROI methods, the Gartner Group prioritizes the Total Cost of Ownership methodology, financial auditors insist on a full Cost and Benefit Analysis, and a new wave of using the Balanced Scorecard Method is coming strong (see e.g. Ronaghi, 2003; Dameri, 2005). I guess, if quantification is not possible, then in a simple SME-case normally it is enough to answer the basic managerial questions:

1. Did product differentiation succeed with the new e-Solution?
2. Did focusing market activities succeeded with e-tools?
3. Could better relationship to customers / suppliers be built?
4. Did cost reduction of business processes succeeded?

Figure 2: The Porter-model and ICT responses to threats



Source: Author's elaboration

Let us take two examples – a large and a small company, to compare:

The Dell Online project started with a complete BPR³. Managers initiated modular product design, new logistics, new contracting methods to suppliers, flexible production – all towards the idea of selling PCs on the Net. Before installing ANY ICT tools or systems, they run a complete BPR, resulting a production made-to-order system; cancelled former commercial network (Dell Direct Model). Only after this re-engineering they started the complete e-Solution.

The post-project „business domain ROI” analysis showed:

- web-based orders arrive to production very fast;
- made-to-order F2F phone calls could be completely changed to Web;
- salespersons have more time for value work;
- stock turnaround times are shorter;
- service and Help Desk is far cheaper via the Web.

In a *small Hungarian firm's* case the business (car-dealer) managers decided to run a new document-management ICT/e-Business project. A short-run project led to tangible results, like:

³See e.g. in a Harvard Case: Dell Online, V. Kasturi Rangan and Marie Bell; DOI: 10.1225/598116.

- 20 staff scans and archives all documents to files;
- they communicate and transfer documents via Web;
- the complete scan + document database + Web access system was installed and introduced in 3 months.

A short valuing analysis is exhibited on Table 3.

Table 3: Analysis of a small e-Business project (costs in HUF)

THE IT DOMAIN		THE BUSINESS DOMAIN	
Direct project costs		Direct system savings	
Software licence	2,4 m	Copying 70% less /year	1,9 m
Consultancy fees	1,6 m	Archiving costs/year	0,1 m
Indoor costs	0,4 m	(if upgrading:	- 0,2 m)
Total costs	4,4 m	Total savings/year	2,0 m
Indirect running costs:		Indirect benefits:	
– more care on IT/IS;		– better care of customers	
– some self-trainings;		– new indoor career opportunities	
– later: upgrade		document management is faster, safer and reliable	

Source: Author's elaboration

5. Some recommendations

“Stand against the Syren Call! – and if not, do hard project management“

A responsible controller's must-to-do list in an SME's governing body:

- First do planning, analyze company „Net-Readiness“; buy later!
- Put a first question: Why to go to the Internet?
- Put a question: Is there any alternative business solution to have hoped benefits?
- Put a question: Do you believe in your own ICT cost data?
- Learn & practice IT/IS evaluation / auditing methods

And when decided to start to the Web:

- Who will be our web-customer?
- What do they want to buy from us on the Web?

- How can I get my money, if not in cash, as I formerly did?
- Can I offer a secure information environment with Web technologies?
- Do we know the industry's „best ICT /e-Business practices“?
- Do we realize, that e-Business is never just an „infrastructure“, but a new way of business?
- Could decision makers count on ICT risks, when change seems significant?
- According to the above: how much do we intend to spend for this project?

Be careful: e-Systems may easily prove a technical success - but a complete organizational failure. However Jack Welsh, president of the GM told: “Those not being nervous of ICT, are not conscious about what is really to come.” – we run businesses, we risk the money and jobs of other people: we have to be liable for these decisions.

References

- Andersen E., Grude K.V., Haug T. (2004), *Goal Directed Project Management*, Kogan.
- Barua A., Whinston A., *Internet Economy Indicators*, Univ. of Texas' Center for Research in Electronic Commerce, at <http://www.connectlive.com/events/interneteconomy/>
- Boynton A. C., Jacobs G. C., Zmud R. W. (1992), "Whose responsibility is IT management?", *Sloan Mgmt Review*, vol. 33, issue 4, pp. 32-38.
- Castells M. (2000), "The Rise of the Network Society", *2000 CHAOS Reports*, Blackwell Publishers, Standish Group, annually at <http://www.standishgroup.com/>
- Dagmar A., Dobler H. (2000), *Change Management in Software Development*, IDMT-2000 Conference, Zadov, Czech Republik.
- Dameri P. (2005), "Using the Balanced Scorecard to Evaluate ICT Investments in Non-profit Organisations", *E-Journal of Information Systems Evaluation*, vol. 8, issue 2, pp.107-114.
- Davenport T. H., Eccles R. G., Prusak L. (1992), "Information Politics", *Sloan Management Review*, vol. 34, issue 1, pp. 53-65.
- Davenport T. H., Short J. E. (1990), "The New Industrial Engineering: IT and Business Process Redesign," *Sloan Management Review*, vol. 31, issue 4, pp. 11-27.
- Dobay P. (1998), *Corporate Information Management* (in Hung), Nemzeti Tankönyvkiadó
- Ensworth P. (2001), *The Accidental Project Manager*, John Wiley & Sons.
- Hammer M., Champy J. (1993), *Reengineering the Corporation: A Manifesto for Business Revolution*, HarperCollins, New York, NY.

- Hartman A., Sifonis, J. (2001), *Net Ready: Strategies for Success in the E-Economy*, McGraw-Hill.
- Kalakota R., Robinson M. (2001), *e-Business 2.0*, Addison-Wesley.
- Masuda Y. (1988), *The Information Society*, (in Hung), OMIKK, Budapest.
- Murch R. (2001), *Project Management - Best Practices for IT Professionals*, Prentice Hall Inc.
- Rangan K., Bell M. (1999), "Dell Online", HBS Case Studies, March 26th.
- Ronaghi, Faribors (2003), *E-Business-Controlling using the Balanced Scorecard*; University of Vienna, Information Systems Audit&Control Association, at www.isaca.org.
- Tapscott D., Caston A. (1993), *Paradigm Shift: The New Promise of Information Technology*, McGraw Hill, San Francisco, CA.
- Venkatraman N. (1994) "IT-enabled business transformation: From automation to business scope redefinition", *Sloan Management Review*, vol. 35, issue 2.

Peter Dobay

Professore di Sistemi Informativi Aziendali
Faculty of Business and Economics, University of Pecs
Ungheria
e-mail: [dobay @ ktk.pte.hu](mailto:dobay@ktk.pte.hu)