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## THE UNSEEN FACE OF E-BUSINESS PROJECT DEVELOPMENT

*The golden age of the dot.coms has gone. The euphoria of the opening has become the bitter taste of the failure. Enormous amounts of moneys has been invested in any new idea beginning with an E. Fabulous profits were expected, over night, just because the companies were on the Internet or because they used the newest technology. But the soap bubble growing while the money was pumped eventually blow up.*

*One of the more significant barriers to e-business development is the overlooked or underestimated cost of the project development together with the lack of a good project management. These are ones of critical issues that are almost ignored by the dot.coms. This position is more evident in the countries where the information technology has a low level of development. Most organizations are not focused on the project management and costs with all phases involved by an e-business project. Another mistake consists in manager orientation to the benefits only and not be conscious of the potential costs and risks.*

*The purpose of this paper is intent on identify and analyze the unseen factors of successful or failure of e-business project development. The IT managers must take into account both all costs involved in e-business development and all phases (analysis, design, testing, implementation, maintenance and operation) according to principle of project management for software/systems life cycle development. There are many solutions to exceed these factors of failure among could be counted outsourcing, a good project management, involvement of senior management, a real cost estimation etc.*

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## Introduction

The E-phenomenon is immature and vendors are generating new E-definitions wide and fast. The main definitions concerning the e-commerce and e-business have taken from TechTarget Enterprise, an independent authority [TechTarget Enterprise, whatis.com].

**E-commerce** – the buying and selling of goods and services on the Internet, especially the web.

**E-business** – the conduct of business on the Internet which includes:

- Buying and selling plus servicing customers (Internet);
- Collaborating with partners (Extranet);
- Internal work and information flow (Intranet).

Perhaps that the 'first generation' of e-business systems did not involve the professional developers and testers employed by user IT organizations as result from a survey on a group of 190 testers [Gerrard, 2000: 16].

In literature review there are presented some statistics concerning the quality of e-business systems and the potential impact on suppliers [www.bcg.com]. For example 4 out of 5 e-commerce purchasers have experienced failures, 28% percent of all online purchases fail.

The enthusiasm concerning e-business is the result of the technologies that promise to add major value to the firms that adopt them.

In the computer press, the e-business revolution is here; the whole world is getting connected; that many of the small startups of today will become the market leaders of tomorrow; the whole world will benefit from E-AnyWordULike. The web offers a fabulous opportunity for entrepreneurs and venture capitalists to stake a claim in the new territory – e-business.

Pressure to deliver quickly, using new technology, inexperienced staff, into an untested marketplace and facing uncertain risks is overwhelming.

## The e-business development process

If the current e-type is to be believed, all e-business initiatives have an equal probability of being successful, simply because they are e-business projects. This is simply false. As a result, about 75% of e-business projects could fail to meet their objectives because of fundamental mistake in project planning [Drobik, 2000: 1].

Due to this great rate of e-business project failure, one of the major element of e-business development consist in a strategic plan of this new model of business. The main elements of the strategic plan are:

- Auto diagnosis and establish of a new vision for the wide enterprise;
- Review of value chain;
- The main goal for e-business.
- Focus the analysis on WHAT must be done, not on HOW must be done; otherwise, the forest cannot be seen because of the trees.

All these above must be done under a professional analyst, even if the cost is higher, because the result of the analysis must be as close as possible to the reality and the proposed targets to be achievable; unpredictable requirements for an e-business project will certainly generate a failure.

It is very unlikely that a person who cannot settle a business in a more traditional (offline) way to succeed to manage a business in an electronic medium, where, among the "classic" business requirements, threats are a lot more diverse and greater, and the speed of the events is fantastic. This is one of the reasons why, usually, the most successful web based businesses are that managed by people with a large management experience from the offline world.

The implementation of e-business plan depends on the following factors [Plant, 2000: 1-30]: organization orientation; product aspect (services or production); online model and the mechanism adopted.

The transition to the e-business involve new technologies, new methods to develop the business, as well as new processes. As a result, the enterprises must be prepared to educate their stakeholders from new benefits and techniques of the new environment of business. There are many constraints factors, among those more critical are [USWeb/CKS]:

- The great pressure of the market to cut the time of new product launching;
- The development of new systems has no basis concerning the new knowledge or experiences concerning the behavior of customers, taking into account these are hardly to be identified;
- The data of new systems are gathering from heterogeneous and uncertain sources.
- The small number of IT specialists which must handle all IT problems of a small company, especially. So, a database administrator, whose job is to maintain the database server of the company, confronts with the problem of the development of a complex system, including e-business system, for

which have neither be training or neither get the experience necessary, just because the management wants to minimize the development costs.

All of these constraints leading to projects under a higher risk and many other problems that are dangerous for company survival.

The e-business process development it is almost the same with any other information system (IS) process development. As a result, the major issues of IS project are involved into the e-business project. The critical aspect of all projects is the failure of these.

Table 1 make a summary of traditional IS and e-business projects.

Table 1 Comparison of traditional IS and e-business project.  
Source: Kulik, P., Samuelsen, R.: „e-Project Management for New Reality”, *PM Network*, March 2001, pages 3

Comparison issues	Traditional project	E-business project
Requirements gathering	Rigorous	Limited
Technical specification	Robust	Descriptive overview
Project duration	Measured in years	Measured in weeks or months
Testing and quality assurance	Focused on achieving quality targets	Focused on risk control
Risk management	Explicit	Inherent
Half-life of deliverables	18 months or longer	3 to 6 months or shorter
Release process	Rigorous	Expedited
Post-release customer feedback	Requires proactive effort	Automatically obtained from user interaction

In the process of e-business development as any other information systems development must be take step from the life cycle of systems. Thus, the main stages of e-business development are:

1. Analysis stage:
  - identify the opportunities of new environment and SWOT analyze;

- business plan development with features of firms, the major objective to use the new model of business, the financial plan and project management;
  - develop the implementation plan and identify the means to begin functional this plan;
  - a very useful thing, from the authors experience, are the "storyboards" derived from the Extreme Programming, which defines the customer's objectives, and which can be mixed in an order given by the importance of each part of the final objective and by the duration and the cost of each stage.
2. Design and implementation stages:
- conceptual design of all e-business application;
  - acquire additional hardware and software components, as needed;
  - develop procedure for updating the online product and services catalog;
  - design the interface and procedures for processing transactions (order entry, product or service delivery, integration of order entry and inventory control into accounting system, customer ability to access account, etc);
  - assuming the privacy and security issues (disclosure of business practices, transaction integrity, information protection);
  - train the personnel in areas that may be different under e-business model (administrative and technical training);
  - market the e-business services to existing and potential customers;
  - testing the new system.
3. Operation and maintenance stage:
- monitor the e-business systems logs for usage patterns;
  - request and evaluate the customer feedback;
  - interview of own personnel for their feedback and suggestions for improving operations;
  - monitor the effectiveness of privacy and security controls on regular basis;
  - respond to customers concerns quickly and honestly.

Building a reliable e-business infrastructure requires many of the same tools required to build a reliable traditional IS – process control, planning, consistent execution, accurate forecasting and so on. The landscape change, however, when

moving from traditional IS to e-business. Some assumptions that are appropriate and productive in the former no longer hold in the latter (although many remain valid) [Dot-Com&Beyond, 2001: 34].

Another problem is the assumption of the „corporate fortress” for security planning. In traditional IS infrastructures, resources available outside of the corporation are strictly segregated from sensitive internal information. If the external and internal networks are not connected, this separation is impossible to compromise from outside. But business practices have changed, and corporate extranets, through which sensitive materials are selectively shared with vendor and customer partners, have altered the assumptions underlying traditional IS security practices. Finally, just to make life as depressed as possible, the modern e-business environment puts the IS professionals in a fish bowl. No longer are the effects of problems in the IS infrastructure limited to an organization’s employees and bottom line. With publicly accessible Web sites, and companies like Netcraft ([www.netcraft.com](http://www.netcraft.com)) that monitor such sites and make statistics on uptime available to anyone on the Web, every e-business infrastructure problem immediately becomes worldwide news, with analysts and competitors friction their hands happily and asking the senior managers endless technical questions – the answers to which may not yet be known even by IS line staff [Dot-Com&Beyond, 2001: 35-36].

### **The main factors of e-business project failure**

The Standish Group research revealed a shocking 31.1% projects are canceled before they ever get completed. Further results indicate 52.7% of projects cost 189% of their original estimates [CHAOS Report, 1999: 2]. On the success side, the average is only 16.2% for IS projects that are completed on-time and on-budget. In the larger company, the news is even worse: only 9% of their projects come in on-time and on-budget. And, even these projects are completed many are no more than a simple shadow of their original specification requirements. Also, one of major causes of both cost and time overruns is restart. For every 100 projects that start, there are 94 restarts.

In literature review the most opinion concerning factors of project failure are focused on the table no. 2 [Luftman, 1999: 4], [Gutzman, 2001: 3], [Chaffey, 2002: 162], [Kulik&Samuelsen, 2001:2], [Wermeille, 2001: 24], [CHAOS Report, 1999: 3-5].

Table 2 The main factors of IS project failure

Managerial factors	Technical factors	Behavioral factors
IT does not prioritize well	Incomplete/changing requirements and specification	IT/business lack close relationship
Lack of senior executive support	Lack of staff competencies in the new field of IT	Lack of user input
Lack of resources	Unrealistic time frames	User resistance to change
Unrealistic expectations	Lack of IT management	Lack of training
Unclear objectives	Incompatibility with existing norms, prior experience, and user needs	Inadequate communication and collaboration
Deficiencies in information management skills	Deficiencies in functionality and quality of data	Lack of imagination, creativity, and motivation
Improper information systems strategy	Problems in accessibility, usability, and compatibility with other information systems	Resistance to change from organizational culture and values
Problems in identifying role of IS in organization and resource planning	Problems in learning and using of new information systems	Inflexibility, slow reactions, complexity
Management doesn't act as a driving force of change; organizational defensive routines occur	Interface ambiguous and complex	Organization inertia

Almost all these factors are met also in the e-business development process, with some differences in magnitude or in source of these. For e-business project most of the failure factors are concerning the managerial, technical and behavioral areas [www.construx.com/survivalguide], [http://www.ebcenter.org/], [Dutton, 2001: 3], [Gordjin, 2001: 5-7].

Table 3 The main factors of e-business project failure

Managerial factors	Technical factors	Behavioral factors
An unclear or ambiguous mission statement	Clear business case that shows a clear payback for one or more units of the organization	Some project team members are not committed to the project
Lack of a sponsor	Project specifications and documentation are vague and not detailed enough	The project plan includes no knowledge transfer plan for when consultants leave
The project schedule was dictated by management without regard to the amount of work required	Inadequate business infrastructure, technology and staff	Customer, biz partner expectation are unrealistic
Management expectation are completely unrealistic	The project team does not have the experience necessary to do the project	Believe that the users will adopt the technology immediately
Lack of knowledge of the market and of management experience	The project plan does not include time for holidays, vacations, or sick days	Changes in the organizations without taking into account the power of resistance to change of the people
Enormous investments in the creation of the brands, but without continuity	Erroneous quantification of the audience	Weak incomes model, based on the pages seen, the single visitors
Uncertain valuation of the companies	Over dimensioning of the structure, the channel, and the salaries	Everything-for-free philosophy
Stand alone e-business projects	Lack of integration with core legacy systems	"Me too" strategies
A value proposition with insufficient value	Not consistent with the corporate brand	
	"Webification" of old, inefficient or obsolete business processes	

Also, could be observed that there is a misalignment between what stakeholders require from an e-business system and what developers of e-business systems actually provide. The literature review suggests that this misalignment is caused by three major factors. Firstly, the failure by developers to develop and adhere to formal e-business system development lifecycles that incorporate trust carrying attributes in their design. Secondly, the failure by developers to con-



ceptualize e-business system development as an information system, not as a software system. And finally, most of the managers do not take into account the necessity to consider e-business as a strategic business strategy requiring market research and resource support to ensure its success.

Among these factors there are many other highlights the unconcern of the most Internet start-ups to achieve long-term success because their owners are opportunists who ignore traditional business principles in the hope of short-term profit. Also, the dot.coms companies face a more serious problem – failing to see the importance of satisfying customer demand and focusing more on leadership and strategic partnerships, and less on fulfillment and web site design.

An important reason for the failure of e-business ideas is the lack of a technical feasible and economically sound value proposition to customers. One explanation for the absence of such a proposition is that stakeholders did not understand the idea very well, and consequently were not able to assess the idea for economical and technological feasibility sufficiently. This lack of understanding was largely caused by the newness of the innovative ideas.

Besides these, one of main reasons of e-business projects fail is the lack of project management. Whether the e-business managers are trying to develop new applications, migrate back-office systems, or roll out off-the-shelf systems, managing the complex components of e-business project is always the number one challenge, and project management is usually the one of the main reason for a project's success or failure.

From the project management approach, the e-business project is under the influence of the following symptoms:

- At the outset, the project is less efficient than planned.
- The project quickly falls behind schedule.
- The project's corrective action happens slower than planned and is less efficient than planned.
- If corrective action is delayed, the final schedule of the project is irrecoverable.
- A lack of an appropriate number of technical resources. If the project is truly important, then the budget should accommodate allocating enough professionals to get the job done.

The importance of these all factors is greater when are related to cost of e-business project value. As Forrester Research has estimated the costs, these are grouped into two categories depending on the type of Web site, such as [Treese, 1999: 1]:

- \$10,000 to \$100,000 to build a conservative e-business system with a basic electronic transaction;
- \$1 million to \$10 million to build a large-scale, sophisticated, and aggressive Web site using object-oriented concepts, dynamic Web pages, interactivity and complex electronic transactions.

Ongoing costs vary from under \$500 per month for a small, hosted Web site to \$200,000 per month for a very large in-house Web site.

There are many great lessons that businesses can learn from the failures of the Internet companies. From previous descriptions could be identified three main categories of fail factors: poor organizational management and lack of project management, lack of technical competencies and staff, lack of users requirements and an unconstructive behavior from users perspective.

### **The ways to surpass the e-business failures**

To ensure a successful implementation of e-business system, it make sense to begin by breaking it down into a series of tasks, prioritizing these tasks and assigning them to the right people or company.

The main issues to assure a reasonable level of e-business success consist in the following:

- *Interlocking e-business strategies* – no single strategy yet, but they must work together. E-business project status must be updated. The e-business project must be focused on aligning objectives, tools, teams, and success measures.
- *Dynamic Web revenue model* – new and constantly changing ways to make and save money on the Web. It is necessary to make only short-term deals, build revenue options such as new fees into contracts with e-business third parties.
- *Collaborative reward system* by which can be reduced channel conflict between existing partners and direct Web sales channel. Therefore must be developed interim, sliding scale channel compensation plans to agents and direct sales.
- *Customized relationship management* to monitor and manage status of relationships, investigate ROI for personalizing all customer/supplier interactions as well as customizing for agents.
- *Channel specific e-business budgets* – inventory, analyze and reconcile e-business line items from dispersed project budgets.

The best way to manage any e-business implementation is to use formal project management techniques. It has found that implementation outcome can be largely determined by the following factors [Hejazi, 2001: 9], [Luftman, Papp, Brier, 1999: 16-23], [Gutzman, 2001: 1-3]:

- The business must be aware and supportive of technology innovations, recognize the value of e-business, define and communicate vision and strategies that include the role of e-business, sponsor e-business projects.
- Both professionals of e-business and managers need to listen to one another, communicate effectively, and learn to leverage e-business resources to build competitive advantage. Some important considerations include e-business specialist participating in the creation of business strategies, defining and supporting effective e-business governance, establishing binding IT-business partnership, relationship, trust, effective marketing of the value of e-business. IT specialists need to understand the firm's business environment and business must understand e-business specialists needs.
- User involvement in the design and operation of e-business solution has several positive results. First, if users are heavily involved in system design they have more opportunities to shape the system according to their priorities and business requirements and to control the outcome. Second, they are more likely to react positively to the completed system because they have been active participants in the change process itself.
- If the e-business project has the commitment of management at various levels, it is more likely to be perceived positively by both users and the IT staff. Management support also ensures that the project will receive sufficient funding and resources to be successful. Furthermore, all the changes in work practice and procedures and any organizational realignment associated with a new system depend on management commitment to be enforced effectively. If a manager considers a new system to be a priority, the system will be more possible treated that way by the subordinates.
- It is desirable to break a large project down into smaller, more manageable components, in order to ensure a higher probability of success. E-business projects with a high degree of impact on organizational processes and structures also carry a higher degree of failure risks. For such projects to succeed, a more gradual and phased change management approach would be more advantageous.
- Costs, benefits, and project schedules must be assessed. The final design may not be easy to visualize. Because complex solutions involve so many different interests groups and details, it is sometimes uncertain whether the initial plans for a system are truly feasible. A well-defined project plan en-

forced by an experienced project manager would increase the probability of the project being completed on time and on budget.

- There are some actions to assure the competent staff among could be identify the skills required, such as an understanding of the business, leadership experience, and technical knowledge. Also, recruit appropriately skilled people for both inside and outside of the company and convey to each individual that they have part ownership in the project. It is necessary to develop a proper plan with attainable results and milestones will build confidence in the staff and keep them focused.

As a result of a lack of e-business managers with the adequate skill set, there is a tendency to outsource the implementation and management of some critical e-business components to e-business specialized organizations. There are already organizations that outsource Web site development, content hosting and marketplace management to third parties and the more business processes and strategies are directly dependent on electronic links to trading partners, the more complex and business critical functions will be outsourced to some degree.

### **The outsourcing as solution of e-business development**

The outsourcing is not a novelty and it certainly is a good way to cut costs. British Petroleum decided to outsource in 1995 its Accounting and Financing function. American Express, Citybank, Motorola, Compaq and Microsoft are some of the big companies who realized that they can have benefits from outsourcing, even from creation of shared service centers or from outsourcing functions to other companies.

Some of the advantages of outsourcing: lower costs, access to skilled labor, improved quality of service, higher productivity.

Some of the company functions are more suitable than others for outsourcing. Application Development, Help Desk and Documentation and Training are certainly higher suitable than infrastructure management. As the business processes more stable and less integrated with other business processes, and they require less management decision, are more suitable to outsource [Coward, C.T., 2002].

Of course, there are some challenges. The management of the company perceives lack of control over the outsourced service, cultural fit, geopolitical stability. Practice has shown that these are real only in bad managed outsourcing relationships.

Outsourcing can be viewed as a tool for reshaping business. Executives can redefine the major aspects of their company operations: how the work gets done, how much it costs, how the company relates to its suppliers and customers. The results often will be an increased focus on the unique activity that generates greater value for customers (core competences of the business) with lower costs, better quality and greater speed.

A study of Corbett and Associates stated that companies outsource their business processes because [corbetassociates.com]:

- 35% hopes in reducing operating costs;
- 32% want to focus on the core of the business
- 13% want to create a variable cost structure
- 5% increase speed to market
- 5% improve quality

Cost reduction continues to matter and to be a key goal of outsourcing, but almost as important as reducing costs is making sure that a business stays focused on its core. Because the modern business is too complex to handle, it is difficult to excel in every aspect of the business. Some US telephony companies have created mini companies within the business, just to handle specific problems, like selling DSL (Digital Subscriber Line) services.

The outsourcing potential market is huge. Harvard Business Review states that outsourcing is one of the top business ideas of the past 100 years. Dun & Bradstreet estimates outsourcing to be a \$1 trillion global market and the Outsourcing Research Council reports that the typical executive will soon be spending one-third of his or her budget on outsourcing.

Technology is shrinking global distances to the point where, in reality, having work performed halfway around the world is not that much different from having it done in an office building across the street.

As outsourcing's next wave hits, businesses that don't figure out a way to ride it will be sacrificing significant competitive advantage. Yet, as with all management tools, it will continue to be the ability of forward-thinking executives to see around corners, anticipate and adapt to change, and use outsourcing effectively within an overall framework of continuous improvement that matters. As the recent dot-com implosion has indelibly reminded all of us, the principles of sound business don't change, just the techniques available to us as managers for their execution.

The keys for success are in principal human factors and they influence the outsourcing relationship more than the cost savings:

- project management expertise;
- communication style;
- culture;
- familiarity with western business norms;
- the value perceived of the service;
- and maybe the most important and overlooked: the demand side (the client) of the equation.

### **Conclusion**

Implementing e-business services can be a very difficult process and also experience for any business. There is often substantial pressure on firms to "do it now" which are a function of three arguments:

- businesses are supposed to enter e-business right now to take advantage of the progressive effects of the Internet on industry and market structure;
- businesses should go through e-business immediately to gain of the competitive advantages offered by the Internet in current business lines;
- businesses must adopt e-business directly to prevent being left behind by competitors.

As we can see around of e-business environment the benefits are the main issue approached both in practice and theory. But, the e-business development process must be well thought of by all aspects, that is failure and success factors.

This paper was focused on the main factors of e-business failure, as well as success factors. In this approach could be observed there are three types of issues to fail of e-business: managerial, technical and behavioral. All of these lead to a main conclusion: the e-business development process it is a complex process need to be managed on base of project management principles. The importance of a good project management resides in the cost of e-business project value and the high risk and many other problems that are risky for businesses survival.

Developing e-business is a multifaceted task. It involves many different disciplines and requires knowledge of e-business technologies as well as business processes. As a result, to help businesses in their way to effective implementation and operation of e-business, an integral approach to e-business development is needed. Such an approach should start from the business perspective and not from a purely technological perspective, yet should be based on state-of-the-art

knowledge of standards and products. To ensure a successful e-business development process could be used formal management techniques and outsource the implementation and management of some critical e-business components.

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