IT and Better Business: Management Toolkit

This Management Toolkit has been originally published in Finnish as appendices of the book: "IT ja parempi bisnes", published by Talentum in Helsinki, 2010.

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I really welcome any comments for improving the content or my possibly clumsy English.

Helsinki
October 2010

Vesa Tiirikainen

Contents

1. Summary of research and surveys used in the book

My experience with various types of business development project is that heavy use of IT raises different types of challenges not otherwise faced. Many problems seem to be very similar regardless of whether we try and improve the whole company, a single business or a single function or process. IT also seems that many general problems and their consequences have been well identified and understood in successful projects very early when preparing the project plans.

To get more concrete proof for the book I have tried to locate case studies and research which would support my experiences with failed and successful business development projects involving IT. There is a lot of research available but most have been done with a very narrow scope for my purposes. Some have studied IT projects at a very general level and others have focused only to a specific type of information systems – but not at finding general understanding of what is typical in failed or successful in business project utilizing IT. Maybe the closest mach with my thinking are the guidelines stated by the British House of Commons document "Delivering successful IT-enabled business change". Understandably even this document give advice at a fairly general level and only for public organizations only.

Proper research would need independent researchers and a fairly long time. In spite of this fact I wanted to write this book within a few months because there is no such book available for business and IT management, not at least in Finnish. To get more evidence than just my own experiences I decided to make a summary of research aiming to answer a simple question: "How can you achieve a better business using IT?"

I have personally been either carrying out or leading a fair part of the surveys when operating as a business consultant in different consulting companies. I also have got my hands on several case studies, surveys or deeper research from various other sources – so very much thanks for these!

This sample of studies obviously does not fulfill the requirements of scientific work and hence I encourage real academic researches to study this further and hopefully fill in the gaps you may find in this summary. Some surveys are in Finnish and I have added ==a translation of the document title in English highlighted in yellow.==

Documents, research and surveys used for my conclusions

1. 5 Ways Companies Screw Up Business Intelligence, CIO Insight, May 2009.

2. Balancing Risk and Performance with an Integrated Finance Organization, IBM Global CFO Study 2008.

3. Calling a Change in the Outsourcing Market, tutkimusraportti, Deloitte Consulting 2005.

4. eHR sähköistää henkilöstötyön. Tutkimus eHR-tarjonnasta ja parhaista käytännöistä Suomessa, PA Consulting Group 2002. ==In English: eHR electrifices HR work / A Survey of eHR offering and best practices in Finland.==

5. Getting out of the cost box – Managing IT for long-term value, tutkimusraportti, PA Consulting Group 2004.

6. House of Commons: Delivering successful IT-enabled business change 14.5.2007.

7. Toni Hinkka: Tietojärjestelmäprojektin sudenkuopat, Tietohallinnon johtamisen käsikirja, Kauppalehti, 2008. ==In English: Pitfalls in information systems project. IT management handbook by Kauppalehti.==

8. Kustannusten karsinnasta kaukoviisauteen? Tutkimus kustannuksiin liittyvistä kysymyksistä Suomessa, PA Consulting Group 2004. <mark>In English: From cost cutting to insight? A survey of cost related issues in top 500 companies in Finland.</mark>

9. Let it rise. A special report on corporate IT. The Economist, October 25th, 2008.

10. Make it simple. A Survey of Information Technology. The Economist, October 30th, 2004.

11. Report on cross-border e-commerce in the EU, Comission of the European Communities, February 2009.

12. S.A.M.I. Ernst & Young Management Consulting: 14 yrityksen haastattelututkimus reengineeringistä Vuosikirjaan 1999. <mark>In English: An interview about reengineering experiences in 14 Finnish large companies.</mark>

13. Stand-alone IT Investments are a Strategic Mistake – McKinsey study, Computerworld 3.12.2001.

14. Technology at the Speed of Business, survey report, Hewlett-Packard Development Company 2007.

15. Tutkimusraportti – IT-barometri 2009, Tietotekniikan Liitto ry. <mark>In English: Survey Report – IT barometer 2009.</mark>

16. Understanding misunderstanding: the key to successful outsourcing relationships, international IT outsourcing survey, PA Consulting Group, 2006.

17. The value of IT, a survey in Nordic Countries, Capgemini 2005.

18. Viewpoint on ERP Value Mining, PA Consulting Group 2000.

Results of summarizing the surveys

The above research or documents have been selected with and aim to cover most types of IT solutions used when developing business. One starting point for selection is my own experience in more than fisty (50) IT Strategy development projects, each one having a list of all the IT solutions the relevant organization already used and planned to use as a result of the IT Strategy project.

After an initial selection and analysis I was able to combine the IT solutions into about twenty different categories. Eventually I decided to group the different IT solution types into only four main groups:

Management systems
- BI (Business Intelligence) systems
- Human Resources systems (for performance & competence management, not payroll)

Systems for business operations
- Enterprise Resource Planning (ERP) systems
- Supply Chain Management (SCM) systems
- Customer Relationship Management (CRM) systems
- E-Commerce systems

Systems for Business Support
- Production automation
- Administrate systems for Finance and Payroll

- General Office Systems
- E-mail
- Intranet

IT function performance improvement

- Outsourcing IT operations
- Renewing IT Infrastructure.

What benefits are targeted with IT solutions?

For starters I tried to find any targets or goals for business improvement with different IT solutions. I left out all such benefits that cannot clearly be linked with concrete business benefits. Many IT investments have been justified for example by "replacing over aged technology" but it is very hard to see this as an actual business benefit.

My analysis ended up with only eight benefit types which I mapped with the targets related with different IT solution types. This accumulated into table 1 where each "x" in a cell means that the benefit type above is usually related with the IT solution on the right. An (x) means that there is sometimes a relationship but not mostly.

IT Solutions and Benefit Targets	1= IT Cost Savings	2= Savings in Manual Work	3= Savings in Materials	4= Capital Savings	5= Increased Sales	6= More Productive Management	7= Better Customer Service	8= Better Risk Management
Enterprise Resource Planning (ERP)		x	x	(x)		(x)		
Supply Chain Management (SCM)		x	x	x				x
CRM System			x			x	x	
HR System (Not incl. payroll)		x				x		
Business Intelligence System (BI)			(x)	(x)	(x)	x		(x)
General Office System	(x)	x						
E-Mail		x				x		
Intranet		x	(x)			(x)		
Net-based Sales System		x			x		x	
Production Automation		x	x					(x)
Finance and Payroll Systems		x						(x)
IT Function Outsourcing	x	x		(x)		(x)		(x)
IT Infrastructure Renewal	x							

Table 1. Business Benefit Targets when using different IT Solutions.

By far the most common business benefit sought with IT is to save labor and labor cost. Labor cost savings are rarely linked with CRM systems or IT infrastructure renewal even though you probably easily find these savings also with these types of IT solutions.

Different cost savings are according to all studies mentioned the most common targets for IT deployment. It is also very common to aim at more productive management but this is very seldom followed up by setting measurable targets for management efficiency.

I also tried to find a general view on the characteristics of targeted business change but this resulted in non-consistent findings and was abandoned. On the other hand it seemed quite clearly a certain type of IT solution resulted into a certain type of a business change regardless of what business benefit targets were set. A summary of these findings is in table 2.

Business Changes and IT Solutions	Business Change Characteristics (in order of importance)				
	1= technology change	2=Changed Management Style	3= Change in Business Process	4= Change in Customer Behavior	5= Change in Organization Structure
Management Systems (averages)					
BI System	2	1			
HR System (not payroll)	3	1	2		
Operative Business Systems (average)					
ERP System	4	2	1		3
SCM System	2	1			
CRM System	4	1	2		3
Net-based Sales System	1		2	1	3
Support Systems (average)					
Production Automation	2		1		3
Finance and Payroll Systems			1		2
Office System	2	1			
E-mail	3	1		2	
Intranet	1				
IT Function Improvements (average)					
IT Outsourcing		1	2		3
IT Infrastructure renewal	1				

Table 2. Business Change Characteristics as a consequence of different IT Solutions, in the order of importance where 1 =most important, 2 =second most important etc.

Almost all types of IT solutions lead to a technical or technology change at least in some degree even though this would not be set as a target as such. Business process change is a very important consequence when using many systems for business operations or business support – unfortunately the change can sometimes be also for worse!

Probably the most important business change is within management style and it seems to be a consequence with most IT solution types. But it is very uncommon to set real measurable benefit targets for management improvements – which actually happen due to the IT solutions delivering more timely and accurate information for business managers (which is very seldom set as a measurable target!).

Problems in IT solution utilization

According to my experience achieving targeted business improvements need fundamental changes into business processes, organizational structures and management style. Unfortunately many business improvements end up in only changing the IT solutions used. Analyses of the problems related with IT solution deployment supported my experience in all of the surveys mentioned.

There surely are a lot of problems in developing and deploying IT solutions. I grouped the problems mentioned in different surveys in groups of similar nature and summarized my finding into eleven problem areas, some of which are clearly linked to each other. As an example: exceeding you budget or timetable are very often a consequence of a gradual IT solution scope creep during the project, which again is a result of poor original IT solution design and boundary definitions for the whole project.

After limiting the number or problem areas to a manageable amount I collected information about how often a specific problem area was related to a certain IT solution. Because of different classifications used with problem occurrences in different surveys I used only three classification levels: rarely (0), sometimes (1) and often (2). This is obviously rude but a summary of findings in table 3 shows how

common most problem areas are with all IT solutions. This convinced me that there must be a general approach in avoiding at least most problems beforehand.

IT Solution Type	Problem Area and how often it occurs: 0= hardly ever, 1= sometimes, 2= often											
	Budget Exceeded	Timetable Exceeded	No changes in Management Style	Solution incompletely utilized	No financial benefits identified	No change in ways of working / new ways of working not stabilized	Multiple Vendor Management Problems	Unexpected change in organizational behavior	Maintenance clearly more expensive than estimated	Technical problems	Customer behavior does not change	Total
Management Systems (averages)	**2**	**2**	**2**	**2**	**2**	**1,5**	**1,5**	**1**	**1,5**	**0,5**	**0**	**16**
BI System	2	2	2	2	2	1	2	2	2	1	0	18
HR System (not payroll)	2	2	2	2	2	2	1	0	1	0	0	14
Operative Business Systems (average)	**2**	**2**	**1,75**	**1,75**	**1,75**	**1,75**	**1,75**	**1,5**	**1,5**	**1,25**	**0,5**	**17,5**
ERP System	2	2	2	1	2	2	2	2	2	1	0	18
SCM System	2	2	1	2	1	1	2	1	1	2	0	15
CRM System	2	2	2	2	2	2	1	1	1	0	0	15
Net-based Sales System	2	2	2	2	2	2	2	2	2	2	2	22
Support Systems (average)	**1**	**1**	**1,2**	**1**	**1**	**1**	**0,8**	**0,6**	**0,2**	**0,6**	**0**	**8,4**
Production Automation	1	1	0	0	1	0	2	0	1	1	0	7
Finance and Payroll Systems	1	1	1	1	1	1	1	1	0	0	0	8
Office System	1	1	2	2	1	2	0	1	0	0	0	10
E-mail	1	1	1	0	0	0	0	1	0	1	0	5
Intranet	1	1	2	2	2	2	1	0	0	1	0	12
IT Function Improvements (average)	**2**	**2**	**2**	**2**	**2**	**2**	**1,5**	**1,5**	**2**	**2**	**1**	**20**
IT Outsourcing	2	2	2	2	2	2	1	2	2	2	0	19
IT Infrastructure renewal	2	2	2	2	2	2	2	1	2	2	2	21
Averages in Total	*1,62*	*1,62*	*1,62*	*1,54*	*1,54*	*1,46*	*1,31*	*1,08*	*1,08*	*1,00*	*0,31*	*N/A*

Table 3. How often a Problem Area occurs in different types of IT Solutions.

Problem areas are sorted from left to right in table 3 in the orders of highest average problem area occurrence with all IT solution types. The right column is a summary of different problems occurring with a certain IT solution type, the highest sum shows the most problematic IT solutions.

You can easily make a few general conclusions from the table. Firstly, budget and timetable are at least sometimes exceeded with all IT solutions and very often with the most critical systems for business operations. This is hardly news for most project managers dealing with IT solutions but some of the next common problem areas "no change in management style" and "underutilized solution" might be.

It might surprise some readers that technical problems are quite rare with IT solutions. Maybe other problems are explained by poor technology when the key source of problems might be totally something else.

In the second chapter of my book I give some personal findings for the reasons behind different problems. I believe these findings would also be a good source for academic research!

2. Self evaluation forms for IT enabled business change

The fifth chapter of the book deals with a general IT enabled business change program and I also claim that all parts of the change must be executed simultaneously at each stage of the program. The chapter also presents what are the actions are needed in each change area at all program stages.

Progress can be easily tracked using this Excel-based self evaluation form according to my generic program model. You can easily add new questions into this self-evaluation tool as your specific business change needs.

Picture 1. Change program self-evaluation model in Excel with explanations.

IT enabled business change is evaluated through the program as follows:

1. For self-evaluation the program manager needs to identify how far program has progressed and select the page for one of the four main stages: 1. Prepare, 2. Design and develop solution, 3. Implement and 4. Stabilize the change.

2. Assemble a workshop with the program core team and some other key resources in the program (e.g. part-project leaders or members of different projects). Print out a non-filled sheet of the selected page for all workshop participants.

3. Each participant in the workshop will answer to the different claims about each change area with a number from 0 to 3 where 0 means "not true at all" and 3 means "totally true". The answering should take about 15 to 30 minutes after which each participant leaves his or her filled-in form for the workshop facilitator.

4. The facilitator can arrange a break for participants to analyze the answers to be reported to the participants who can help you find corrective actions to any problems found.

5. The filled forms are collected and an average is calculated for answers to each question. Fill in the averages into the relevant Excel page as in the example below and the cells are colored according

to the average filled in. All answer shell should have the same color at a certain stage of the program. If you are in the beginning of the stage the average answer for each question should be about one (1) but if you are close to ending a certain main stage all answers should be close to three (3).

Change Program:	Purchasing Renewal		Evaluated:	28.12.2009
Prepare				
Important Business Change Areas	Claim		Claim describes our situation (0-3)	Evidence
Guarantee Business Benefits	Business Model description has been done and approved		2,5	Done but not presented to all
	Business Case has been done and approved		2,5	Done and approved but not presented to all
Manage Stakeholders	First Stakeholder Analysis has been done		2	Good understanding about stakeholders
	Actions for each stakeholder group has been planned		1	Action plan exists for a few stakeholders
	Program plans have been presented to all stakeholder groups		0	
Commit Core Team	Core Team members selected and participation agreed with all		3	OK
	Core Team started working and kick-off event carried out		3	OK
Manage the Program using rigorous Project Management Principles	Prorgram Plan has been done		2	First phases ready but some others missing
	Core Team has approved Program Plan		1	Discussions held and partly done, not approved
	Resources for Design phase have been reserved		1	Some critical resources already reserved
Develop the New Business Model	Position in Value Chain described and approved in Business Model		2	Mostly OK but needs to be validated
	Management and Financing Principles agreed in Business Model		2	Mostly OK but needs to be validated
	Core Processes identified and described in Business Model		2	Mostly OK but needs to be validated
	Organizing Principles described and agreed in Business Model		2	Mostly OK but needs to be validated
	IT Solutions described and agreed in Business Model		2	Mostly OK but needs to be validated
Manage Data	Identify and harmonize key terms		1	Actions planned to be started next week

Picture 1. A summary example of several self-evaluation scores displays how different areas of change have progressed.

6. Besides showing the results to the participants you should formulate a report to be presented in a separate session to key stakeholders.
7. Depending on the results of self evaluation you and your core program team should adjust the action plans execute corrective actions as needed.

You can easily develop this self evaluation further by inserting your company's visual standards, or adding specific claims about your progress within certain processes, organizational units or IT solutions. Adding a page to calculate averages and display the results should neither be too difficult.

3. Forms and templates for describing a business model

Business Model Description

Describe your business model on this form based on a discussion or interview with the person who is in charge of the described business.

Progress in the interview as suggested in the form and first collect only needed information. Then formulate a first draft summary description of the business model to be further discussed in relevant management team and other relevant persons in the business. There is a PowerPoint template available for the summary description.
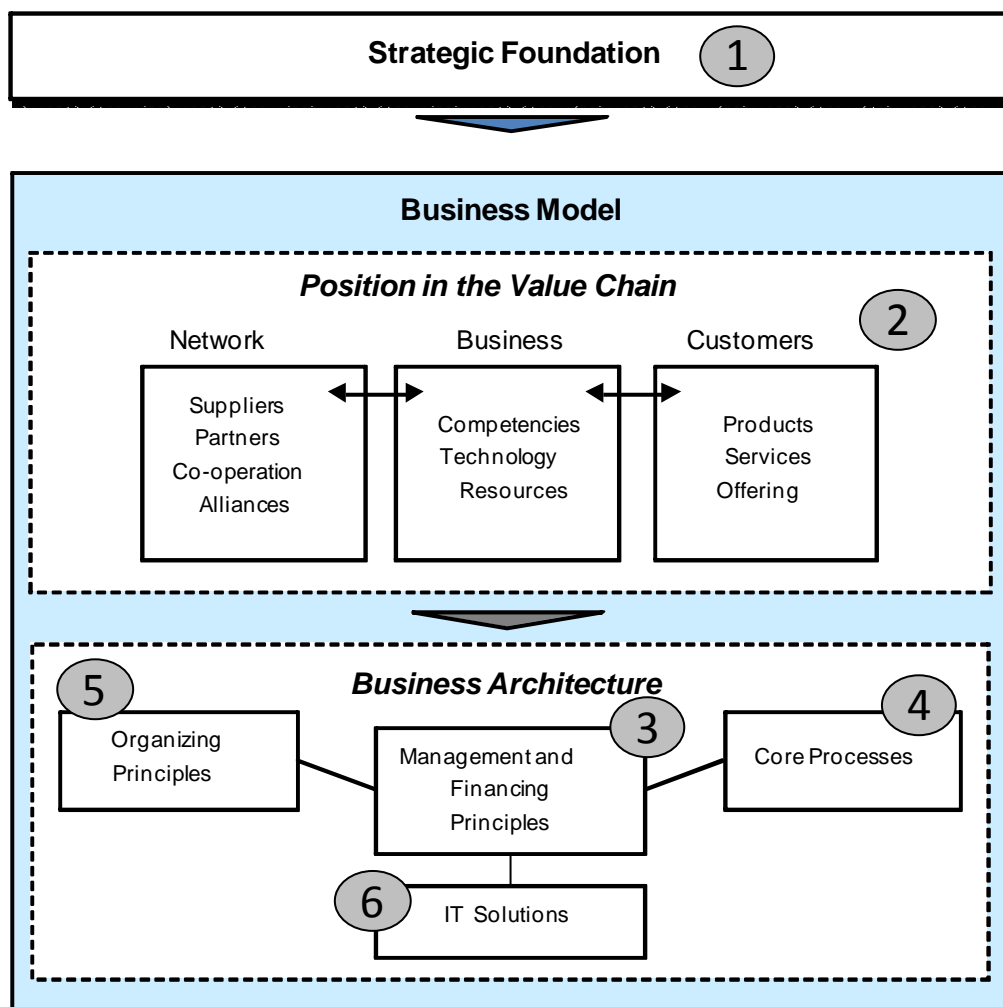
Picture 3. Different parts of the Business Model and a suggested working order when describing the model.

1. Strategic Foundation

You can find out whether a certain business (or core function) really is an independent business which should be managed and run differently than other business by a combination of the following criteria. A certain business has different:

- customers than other businesses
- competitors than other businesses
- products and/or services (that is: a different offering) than other businesses
- success factors (or even critical success factors) than other customers

- way of operation.

Usually a strategy project includes analyses and definitions of all the above aspects of the business. We do not want to repeat the full strategy document here and for a full Business Model description it should be enough to highlight the uniqueness of the business by summarizing the success factors and our differentiation. Based o the discussion write down below how we are and aim to be different and/or better than competition and

Success factor (now, in the future)	How are we different or better in managing the success factor?

2. Position in the Value Chain

A business strategy should define the position of the business in a broader industry or business value chain – without this it will be very difficult to manage and organize the business or build proper business processes and hence strategically sound information systems to run the business.

Obviously the most important question to be answered to describe the Business Model here is: What is the role and position of the (described) business in the broader Value Chain of this business or industry?

_____
_____
_____
_____
_____
_____

Based on the value chain position we should clearly define are our targeted interfaces to other players in the value chain – customers, business partners of suppliers. During the interview should find information about:

Customer groups (or segments) and our connections to actual customers in the future?

_____
_____
_____
_____
_____
_____

Main business partners and their roles in relation to our business?

_____
_____
_____

_____
_____
_____

What are the most important suppliers and subcontractors and/or selection criteria for them?

_____
_____
_____
_____
_____
_____

3. Processes

What are the most important processes and their characteristics in the business? Is there a lot of variations of the processes (i.e. process variants)?
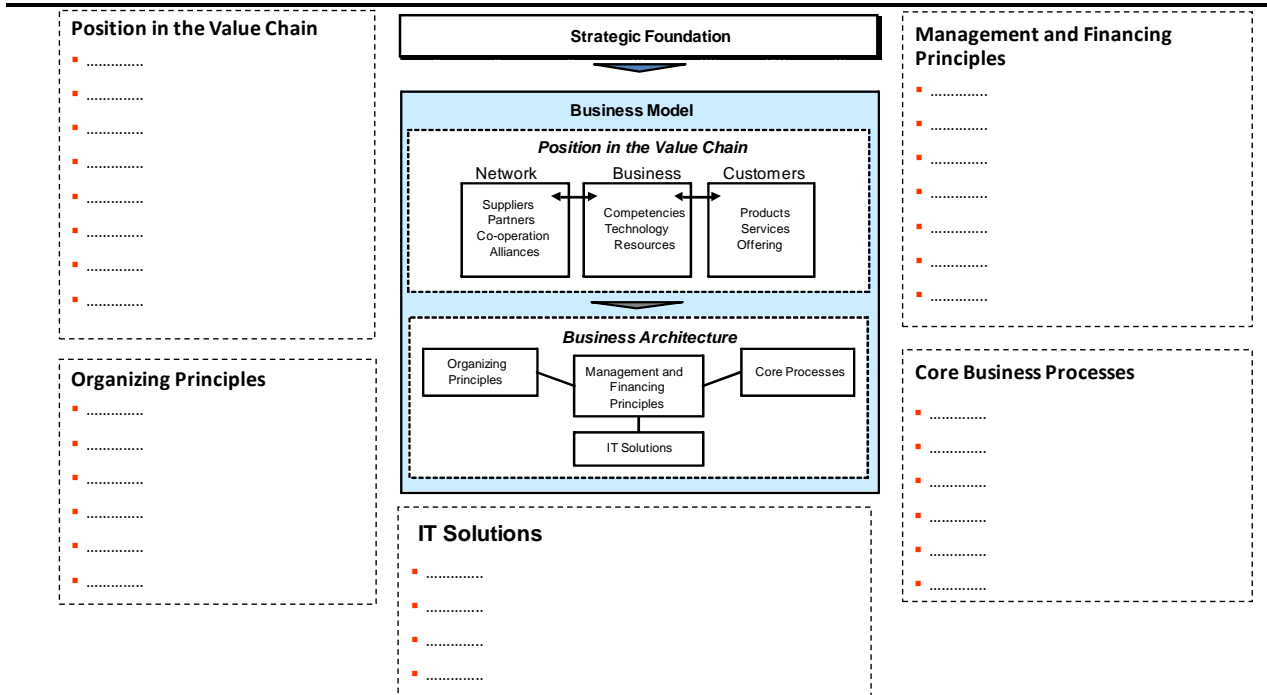
_____
_____
_____
_____
_____
_____

4. Management and financing principles

How do you make money in this business and how do you finance it? How would you describe the targeted management style? What kind of results should be achieved? Can you describe some key performance indicators / measures?

_____
_____
_____
_____
_____
_____

5. Organizing principles

How to you organize the business e.g. in relation to business processes and required competencies or capabilities? How much does this business utilize organization units shared by other businesses? What parts of operations are or should be outsourced?

_____
_____
_____
_____
_____
_____

6. IT solutions

What information is needed to run the business successfully? How do we maintain key business data consistent across all operations? What are the core IT solutions (systems, applications etc.) this business needs now and to succeed in the future? Are there any requirements specific for this business in IT infrastructure?

_____

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

Position in the Value Chain

- ....
- ....
- ....
- ....
- ....
- ....
- ....
- ....

Organizing Principles

- ....
- ....
- ....
- ....
- ....
- ....

Strategic Foundation

Business Model

Position in the Value Chain

Network   Business   Customers

Suppliers / Partners / Co-operation / Alliances ↔ Competencies / Technology / Resources ↔ Products / Services / Offering

Business Architecture

Organizing Principles → Management and Financing Principles → Core Processes

IT Solutions

IT Solutions

- ....
- ....
- ....
- ....

Management and Financing Principles

- ....
- ....
- ....
- ....
- ....
- ....
- ....

Core Business Processes

- ....
- ....
- ....
- ....
- ....
- ....

Picture 4. There is a PowerPoint template to present the Business Model. Just fill in the lists by making a compact summary of interview findings.

4. Templates for Stakeholder Analysis and Management

Stakeholder Analysis aims at:
– Identifying the most relevant stakeholders (relevant external individual or parties, management, employees) when implementing the change
– evaluate key stakeholders in terms of attitude towards the change and influencing power when implementing the change
– plan and execute activities with each stakeholder to win their support for the change

These forms and templates have been developed mainly to analyze the stakeholders early in the beginning and frequently during the of change program.

The attached Excel sheet (Stakeholder Analysis Form.xls) is the data collection and analysis form for each stakeholder be it an individual or a group. Number and name each stakeholder and evaluate by interviews or other means their
– **Influencing Power** (scale: 0= no power to influence this change, 10= very strong influence into this change) and
– **Attitude towards** this project or the **Change** (scale: -5 very negative attitude, 0= neither negative nor positive, +5 very positive attitude).
– **Remarks** column is for writing down observations and justification for the scores.

Picture 5. Spreadsheet form to collect data about Stakeholders (groups & individuals) for further analysis (Excel).

This sheet uses Excel's conditional cell formatting in such a way where Influencing Power and Attitude cells change color from green to red as follows (you can easily change the formatting if needed):

- Influencing Power cell is yellow when the score is 5; higher scores turn gradually to green and lower scores gradually to red.
- Attitude cell is yellow when score is zero (0); negative scores turn the cell gradually to red and positive scores gradually to green.

Program	Purchasing Renewal	Date:	28.12.2009			
Situational evaluation of Key Stakeholders						
Nr.	**Name**	**Last meeting**		**Influencing Power (0…10)**	**Attitude to Program**	**Notes**
		Date:	**Who**			
1	Mary MacIntosh	1.12.2009	VT	4	-4	Takes more responsibility - supporter of change in management team
2	Dennis Menace	2.12.2009	TT	7	2	Decides Vesa's role only if he gets new information
3	Peter Pepper	3.12.2009	AT	8	3	Ready to arrange more resources
4	Polly Positive	1.12.2009	SV	7	5	Satisfied with the Model and numbers
5	Bridget Bright	2.12.2009	JJ	5	4	Utilization too high to be a real resource in program
6	James Jammingson	3.12.2009	VT	9	3	He thinks its enough to name key resources
7	Paul Paterson	1.12.2009	AT	10	5	Has suggested he could lead the Process Team
8	Leroy Lemming	2.12.2009	SV	2	4	Eagerly formulating new Role Profiles
9	Alice Wonderland	3.12.2009	JJ	3	-2	Business exceeds anything else
10	Vesa Viikarinen	1.12.2009	JJ	2	0	Can offer services to other areas
11	Joonas af Jonashof	2.12.2009	JJ	4	2	Very co-operative with different initiatives
12	Carl Cumbersome	3.12.2009	VT	5	0	Eagerly consulting, all the time
13	Cindy Clerical	1.12.2009	MK	6	2	Could spend some time as a resource in the Program

Picture 6. This is how the form shows collected data for Stakeholder Analysis.

You can easily insert new columns into this basic form for example to describe and follow up actions at a stakeholder level. As many actions are typically aimed at several individuals or groups the PowerPoint template should enable to show these in a more compact form. A highly summarized presentation is also better for thinking and planning larger actions for example for a certain category of stakeholders.

The PowerPoint presentation classifies the stakeholders into four main groups, each typically requiring different types of actions:

1. **Snakes:** this group of stakeholders can prevent a successful change because their influencing power is high but they are very much against the change. Typically the first action towards this category of stakeholders is to try and change their attitude e.g. by highlighting what benefits they can achieve as individuals through this change. If this action does not change their attitude to more positive, you should try to relocate them into a new role or position where their influencing power for this change will be lower.

2. **Donkeys**: this group of stakeholders may be loud due to their negative attitudes towards the change but do not jeopardize the change as their influencing power is low. You should try and show what benefits they can achieve with this change – but do not spend a lot of energy with them as they are mostly harmless.

3. **Lambs**: have a positive attitude towards the change but do not have influencing power to make the program successful. Do not use your energy with this group unless their attitudes turn into highly negative during the program.

4. **Lions**: are the real change agents and their own input can be crucial for success. This is the group you should engage actively for the change program.
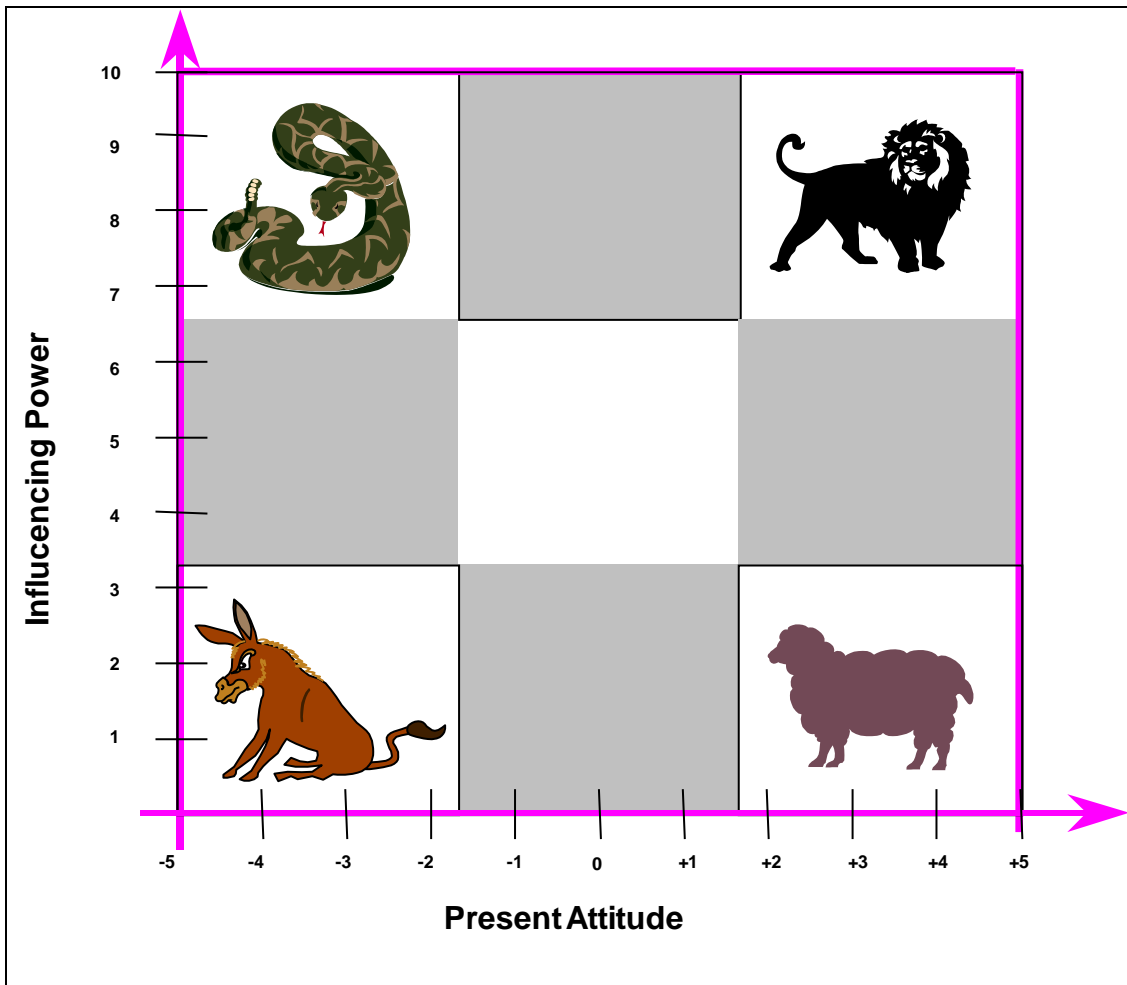
Picture 7. A template to present a summary of Stakeholder Analysis results, including Influencing Power and Present Attitude towards the change (program).

5. Models for Business Case calculations

An IT enabled business change always requires investments and hence you need solid business justifications in form of financial and non-financial estimates. The attached Excel based Business Case model enables you to formulate the financial justifications and also evaluate the sensitivity of the needed investments especially depending on how successfully you can execute the change. This model has been tested to work as such with Excel versions 2003 to 2010 but probably works also with some earlier versions. The screenshot below is from Excel 2007.

This model is just a summary of collected and analyzed data. You need many other tools as an example to evaluate the financial implications of changed business or support processes – for these you usually need a description of current and future processes to evaluate the effects on labor. And you need a proper study of what pieces of technology and how much labor you need to build the new IT solutions and replace the old ones.

Besides this spreadsheet you should present the Business Case with a few slides using PowerpPoint. You can use the charts this model produces in such a presentation.

I have not set up a blank investment calculation model because I believe an example is more powerful in highlighting the most important characteristics. The example is a somewhat adjusted real life case on how to implement an ERP-based business case, using the most limited scope I was involved with. There were and there usually are a lot of choices on the scope. With this model you need to set up different Excel workbook for each scope especially if the scope varies a lot. Scope variations can have a huge impact on achievable business benefits but also on the investment costs.

Picture 8. The Excel model for calculating economics in the Business Case, and its sensitivity with different implementation scenarios.

The example Excel model includes the following main functions:
- A calculation template where the **investment is estimated using a cash flow base** across six years. You can fairly easily add or remove years just by copy/inserting or cutting columns. Be aware of checking calculation formulas in such additions or removals!

- **Net Present Value of the investment** is calculated by discounting different batches of the investment using only one discount rate (the discount rate is on row two). The example discount rate of only 7 % is used to highlight the fact that real growth and inflation rates are very low at this writing. Obviously you should use the discount rate your company currently uses for any present value calculations. The last column at each row shows the present discounted value (PDV) for each calculation batch. The net present value (NPV) is a sum of all rows and if batches are correctly formulated shows the effect of the investment to increase or decrease of the company's economic value in form of Economic Profit of EVA. According to financial theories an investment with negative NPV should not be executed. In real life you may have strategic reasons to execute a negative NPV investment as an example in cases where it is very hard to estimate the financial implications of a specific change. My experience is that in IT investments this should never be the case – with wise, believable reasoning you always find the financial implications!
- **Benefits** have been classified into three main categories that should generally be relevant and enough to justify any IT-related investment:
    1. Benefits due to better decision making, including net sales increases and better utilization of management time. These are usually the hardest to estimate and realize!
    2. Labor cost savings due to better operations (and hence processes). These are basically easy to estimate, but much harder to estimate how much of directly calculated savings can actually be realized in such a way that shows up in reduced personnel costs (as I always suggest).
    3. Savings related to abandoning and replacing old IT solutions (applications, operative expenses, and infrastructure). These are usually easy to estimate, and unfortunately are the only benefits that are tracked at all after the change program.
- **Costs** are distributed across the years where they actually have an effect on the cash flow. To do this you need to have a high-level program plan. Some models use and activation scheme where the total investment cost is activated into the future like you do in Profit & Loss accounting but I discourage activation since it will be very difficult to do meaningful sensitivity analysis or compare different investments using activation.
- Cost are usually generated as in this example:
    1. New IT solutions costs come mostly from software licenses, hardware, use of external manpower or service fees from continuous operations. It is highly likely that service fees will have more and more effect in the coming years due to cloud computing approaches where you do not need to invest into software or hardware.
    2. Other costs will come from using your own manpower during the program and after it as operations have been started. You should also estimate indirect labor costs e.g. due to the time that IT solution users spend in training.
    In the example your own manpower cost is estimated using an average annual expense of one full time equivalent employee and including into this average all salary components and employee related expenses for office space etc. You can obviously refine this calculation by using individual costs of every employee but usually this is not needed when you are anyway estimating future manpower costs.
- Benefits will be distributed across the years based on how much of the potential benefit can be realized each year. Different implementation scenarios can be thus tested by distributing the benefit differently depending on implementation timetable and also on how much can be realized as a percentage of the potential full benefit.
- The example includes three different implementation scenarios, but you can easily add more by just copying a basic model sheet to a new one and changing the timing and percentages:
    1. **Brutally realistic** (first sheet in the Excel workbook) where none of the potential benefits due to better decisions will be realized and also the potential savings in labor (personnel expenses) will be small. Due to a longer implementation time some benefits

will be realized later than in other scenarios and also the implementation costs will increase as a longer timetable almost always means additional working days and hence more internal and external resources. This scenario is actually very true in many IT enabled business changes!

2. **Realistic** (middle sheet in the Excel workbook) which is based on a realistic implementation plan with timetables, resource needs and costs. The Core Team has approved this plan for achieving the change. Benefits will be realized in this scenario as planned in such a way where 50% of theoretical maximum benefits due to better decisions will be realized within five years. Some tens of percentages of potential savings will be realized as well. This is the scenario the core team really believes in.

3. **Optimistic** (third sheet) is based on an assumption that benefits will be realized quicker than in the realistic scenario because the new business model will be operational sooner. This type of scenario can achieved if the business model has been really well thought out, the program has been resourced with excellent resources internally and externally and the IT solution works exactly or better than originally thought.
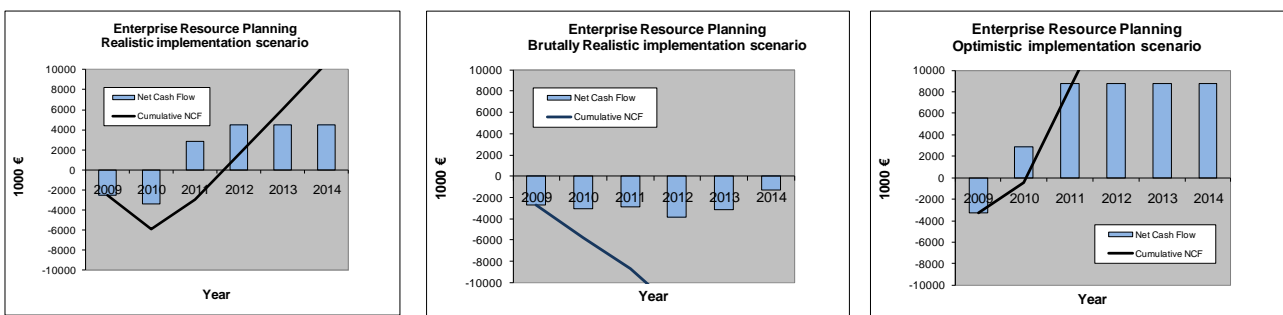
Picture 9. The example Business Case financial justification charts displaying results in Realistic, Brutally Realistic and Optimistic implementation scenarios. These are needed for finding out the sensitivity of economic justification depending on how well the change can and will be implemented.

The picture above depicts the impact on cash flows of each scenario during six years both during each year and cumulatively from the beginning of the program. A couple of notes about each scenario especially in economic sense:

– **The cumulative cash flow line** show directly how fast the investment (change program) pays back. The payback time is the time from the beginning of the program (x-axis) where the line crosses the (y-axis) zero line. The realistic scenario would pay back in just more than three years which usually is a sound payback time for a larger business change. But if the program is badly managed and results into the brutally realistic scenario, the program would never pay back the invested money. In the optimistic scenario the investment would pay back already in one and a half years which would be a great achievement in this type of business change.

– The charts do not directly display what is the Net Present Value of each program scenario but you can find this at each sheet in most right and lowest cell. In the example the NPV of the realistic scenario would be about 6.8 million Euros, optimistic scenario an impressive 25.4 million Euros and the brutally realistic scenario -13.7 million Euros. Hence the investment improves company's economic value in each scenario but the brutally realistic.

– The large variation due to different implementation shows clearly how important the business change implementation is. You could favor this investment since even the brutally realistic scenario seems to start generating positive annual cash flows later, maybe in year eight.