

Instructive Example

Cash flow-based business modelling and analysis

Case "ICT Consulting Ltd"

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Objectives of this instructive example report

- Introduce various advantages, benefits and possibilities of cash flow-based business modelling and analysis in start-ups and SMEs
 - ❖ Based on instructive example of "ICT Consulting Ltd" report will illustrate various possibilities of reporting provided by Argon Pro Ltd
 - ❖ Report has also training and education point of view. That is why this example report has more extensive content with some extra educational slides



Benefits and possibilities

Area/point of view	Benefits and possibilities
Performance measurement	Business modelling will detect key performance measures i.e. value drivers effecting cash flow and value of the business
Cash and cash flow	Cash and cash flow indicates the best and most trusted view about the financial situation
Financing	Prepares cash flow and financing plan for own use and for investors/creditors
Rolling forecasting	Key value drivers enables high-quality process for rolling forecasting
Strategy	Various scenarios of the future supports strategy selection
Reporting	Visualization of data eases decision-making and brings out inconsistencies
Analysis	Analysis answers questions raised by reporting - QuickAnalysis as an option
Target setting	Key value drivers perform as the core basis for target setting
Valuation	Valuation and value management can be connected to business modelling
Business Plan	Reporting and analysis serve as a finance section in Business Plan
Sensitivity analysis	Sensitivity analysis produces basis for good and solid decisions



Cash flow-based business modelling and analysis

Agenda

- Objectives of this example report
- Case "ICT Consulting Ltd"
- Argon Pro Quick Analysis
- Business modelling
- Reporting
- Analysis
- Conclutions
- Most essential formulas used

Case "ICT Consulting Ltd"

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”ICT Consulting Ltd”

- In January 2011, Peter and Martin, two Aalto University (Espoo, Finland) graduates founded an ICT services start-up company called “ICT Consulting Ltd”.
- The company grew quickly from “garage operation” to a business with a revenue of about 2 million euros. At the end of 2015 it already employed 12 people.
- The company started and operated with a small amount of equity capital and cash flow funding. Since the beginning, the company has performed positive financial results. However, in 2012 free cash flow was negative and the continuation of the operation required a short-term loan. The loan was paid off in 2014.



”ICT Consulting Ltd” 2011 - 2015



Growth or profitability?

- The company is now 5 years old. Reaching subsequent steps for growth requires new kind of decisions for risk-taking. Are efforts being made to grow "at any price" - perhaps compromising margins and profitability - or targeting moderate growth and focus on ensuring profitability and positive cash flow?
- To find useful solutions Peter and Martin interviewed several financial professionals they knew.
- This example illustrates the approach of Argon Pro Ltd.

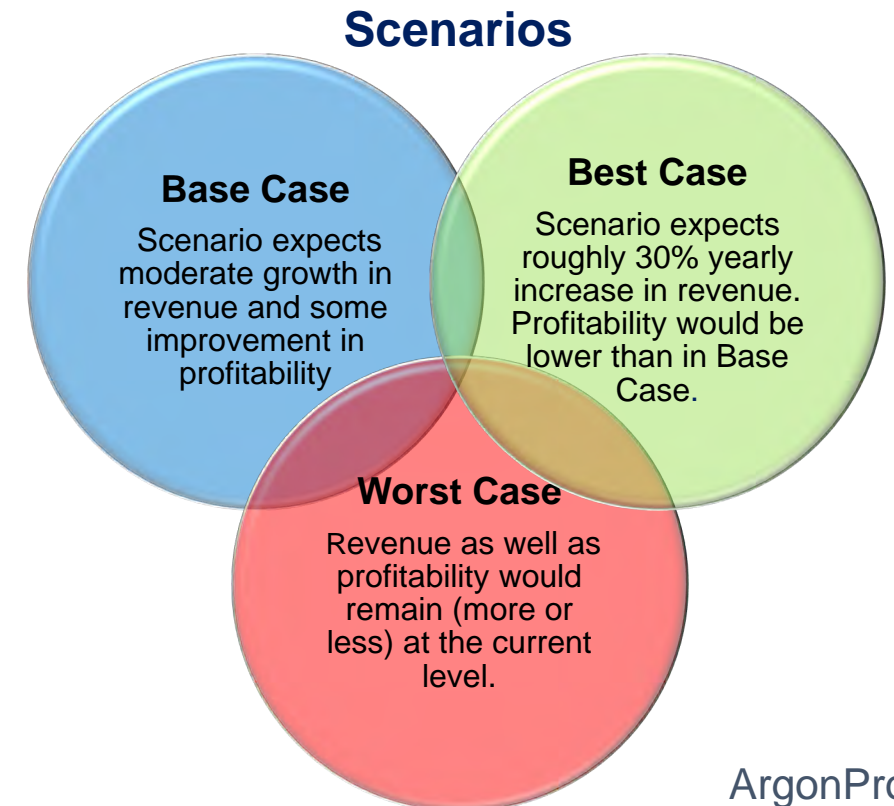
"Plans are nothing - Planning is everything"

- General Dwight D. Eisenhower -



Business modelling and analysis

- Argon Pro's approach is business modelling, analysis and action plans based on the analysis. Based on Argon Pro's way of working, owners and operating management also considered and prepared various scenarios for the future. Scenarios to be used in this case were: **Base Scenario** (\approx Base Case), **Optimistic** (\approx Best Case) and **Pessimistic** (\approx Worst Case) scenario.
- For a start-up company value creation is also important issue. Peter and Martin has an idea to exit the company after a 10 years time. This is why value and value creation potential was also considered in analysis.
- It is also essential to know weather any of the scenarios requires any external financing.
- Since the beginning Peter and Martin have been looking for a simple and useful financial indicator supporting the operational management of the company. Argon Pro promised to took that also into account when proceeding with the analysis.



Argon Pro Quick Analysis

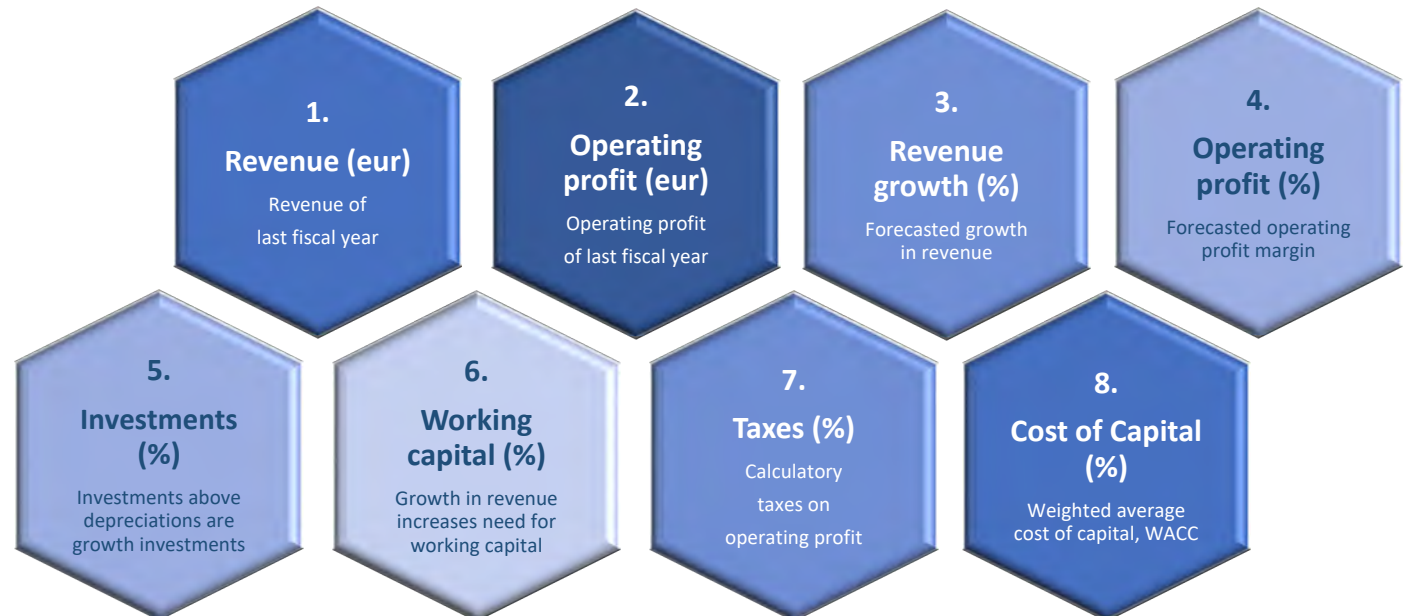
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Argon Pro Quick Analysis

- Argon Pro has built Quick Analysis model by which first-stage (preliminary) analysis can be obtained without more time-consuming business modelling.
- QuickAnalysis requires only 8 cash flow-based variables. Using those variables, you will be able to receive first, but still preliminary, estimates about the cash flow and value creation potential of the business. In Quick Analysis you can also utilize various scenarios and sensitivity analysis. It will also give you first estimates about the minimum operating profit level needed.

Variables used in Quick Analysis ^{1]}



^{1]} Example of Quick Analysis in next two pages

Argon Pro Quick Analysis - Case "ICT Consulting Ltd"

8 variables needed

ArgonPro QuickAnalysis (5 years)

- Last historical revenue (1.000 eur)
- Last historical operating profit (1.000 eur)
- Revenue growth rate (%)
- Operating profit margin (%)
- Incremental fixed capital investments (%)
- Incremental working capital investments (%)
- Taxes on operating profit (%)
- Cost of Capital, WACC (%) 1]

- Pre-strategy value (pre net debt)
- Cumulative present value of cash flows
- Present value of residual value
- Present value of cash flows + Residual value

- Market value of cash
- Market value of debt

- SHAREHOLDER VALUE
- SHAREHOLDER VALUE ADDED (SVA)

- Incremental threshold margin
- Threshold margin

	Scenarios			History Avg.
	WORST	BASE	BEST	
Last historical revenue (1.000 eur)	1 979	1 979	1 979	1 979
Last historical operating profit (1.000 eur)	281	281	281	281
Revenue growth rate (%)	2 %	-87 %	15 %	100 %
Operating profit margin (%)	13 %	-13 %	15 %	-7 %
Incremental fixed capital investments (%)	7 %	40 %	5 %	20 %
Incremental working capital investments (%)	5 %	0 %	5 %	200 %
Taxes on operating profit (%)	20 %	0 %	20 %	0 %
Cost of Capital, WACC (%) 1]	9 %	13 %	8 %	-13 %
Pre-strategy value (pre net debt)	2 495	2 807	3 208	
Cumulative present value of cash flows	828	-35 %	1 283	-9 %
Present value of residual value	1 641	-60 %	4 064	106 %
Present value of cash flows + Residual value	2 469	-54 %	5 347	79 %
Market value of cash	223,9	0 %	223,9	0 %
Market value of debt	0,0		0,0	
SHAREHOLDER VALUE	2 693	-52 %	5 570	76 %
SHAREHOLDER VALUE ADDED (SVA)	-26	-101 %	2 539	150 %
Incremental threshold margin	1,2 %	34 %	0,9 %	85 %
Threshold margin	13,9 %	12 %	12,5 %	-9 %

3 scenarios

History Avg.

1 euro growth in revenue ties/costs 0,06 euros as investments

1 euro growth in revenue ties/costs 0,15 euros in working capital

Value + change

Thresholds for operating margin

Base Case

Value creation

Cash flow sensitivity

Operating profit (%)

One Year cash flow sensitivity

		Incr. fixed and working capital per euro of revenue				
		30 %	20 %	10 %	0 %	-10 %
13 %		225	196	207	257	347
15 %		255	230	243	297	390
17 %		285	263	280	336	433
		-5 %	5 %	15 %	25 %	35 %
		Revenue growth				

¹⁾ Weighted Average Cost of Capital (WACC) is important part of performance management and valuation. Definition of cost of capital requires always detailed analysis. Due to simplification cost of capital in this example is estimated to be 8 %.

Argon Pro Quick Analysis - Case "ICT Consulting Ltd"

Base Case

Incremental threshold margin	WACC	Incr. fixed and working capital per euro of revenue				
		-10 %	0 %	10 %	20 %	30 %
	6 %	-0,7 %	0,0 %	0,7 %	1,4 %	2,1 %
	8 %	-0,9 %	0,0 %	0,9 %	1,9 %	2,8 %
	10 %	-1,1 %	0,0 %	1,1 %	2,3 %	3,4 %

- Sensitivity in relation to incremental investments and cost of capital
- Increase in revenue requires at least 0,9% operating profit margin

Threshold margin (Sensitivity)	Inv. to growth (%)	Revenue growth				
		5 %	10 %	15 %	20 %	25 %
	20 %	13,6 %	13,1 %	12,6 %	12,1 %	11,7 %
	10 %	13,6 %	13,0 %	12,5 %	12,0 %	11,5 %
	0 %	13,5 %	12,9 %	12,3 %	11,8 %	11,3 %

- Sensitivity in relation to increase in revenue and incremental (growth) investments
- From value creation point of view high-enough operating profit margin is 12,5%

Shareholder Value Added, SVA (1.000 eur)	Operating profit (%)	Revenue growth				
		-5 %	5 %	15 %	25 %	35 %
	12 %	-863	86	1 439	3 316	5 863
	15 %	-386	820	2 539	4 926	8 162
	18 %	91	1 554	3 640	6 535	10 461

- Sensitivity in relation to growth in revenue and operating profit margin
- In Base Case scenario the value would increase 2.539 thousand euros

Business modelling

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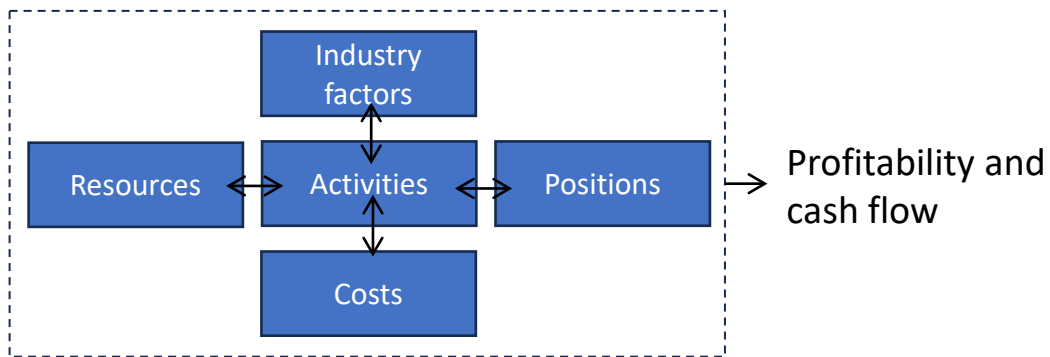


Business model

- A business model is a strategic plan of how a company will make money. The model describes the way a business will take its product, offer it to the market, and drive sales.

Business model - A company's plan for making a profit

- Business model is an economic concept, which “produces” revenues and costs. It is a set of activities, which create profit due to the cooperation of processes and technologies

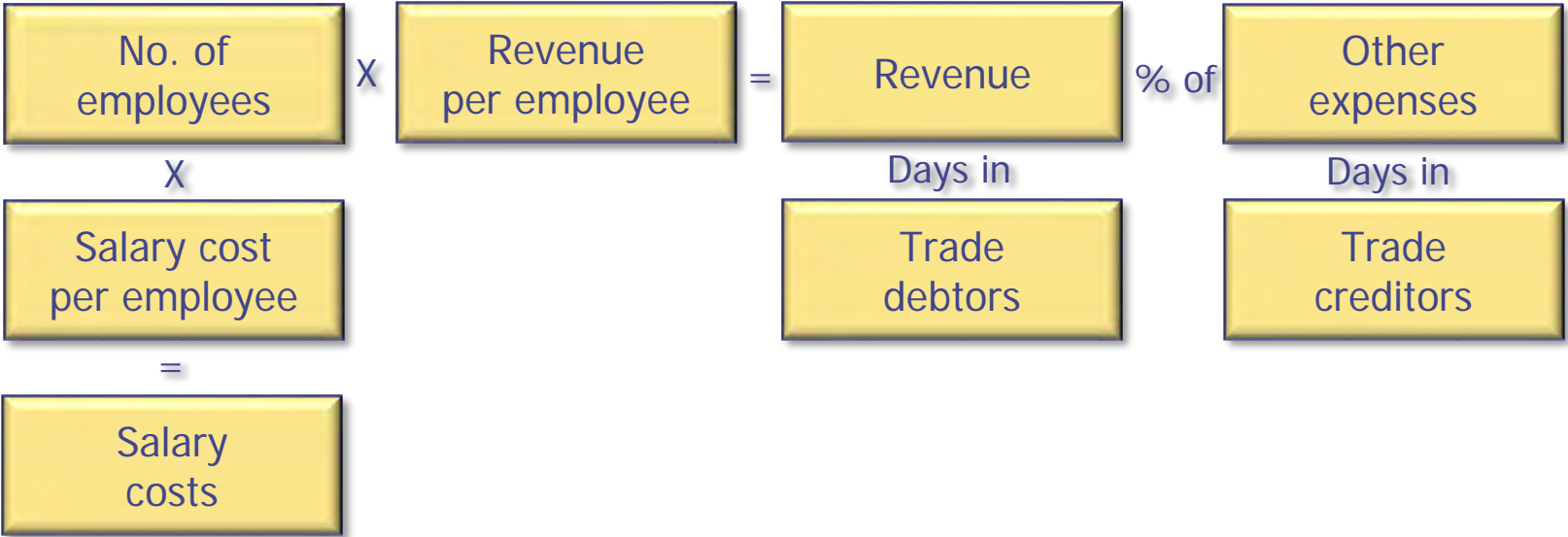


Components of business model
by A. Afuah (2003)

Business modelling in practice

- Revenue, costs, working capital, investments and any other variable effecting cash flow are connected to each other. Change in one variable will affect to the result and outcome of the whole model.

Simplified example of business modelling



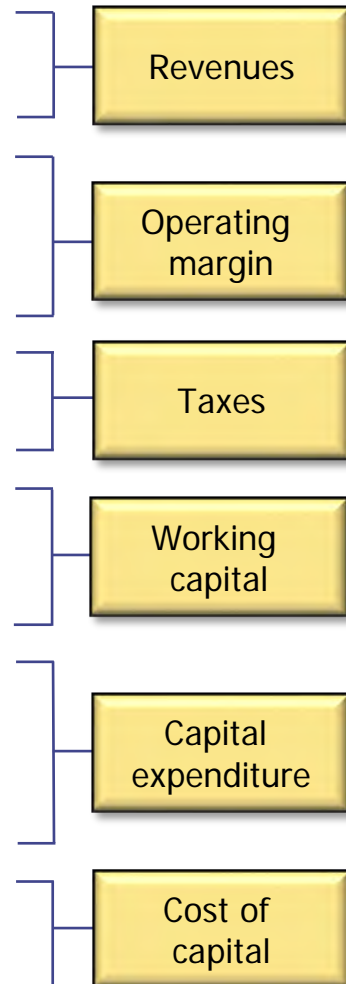
- Variables, components or “building blocks” of business modelling are called value drivers. Value drivers effecting most in cash flow and value of the business are called Key Value Drivers.

Business modelling and value drivers - example

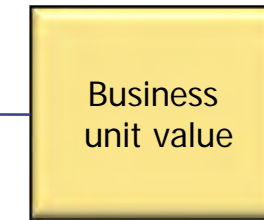
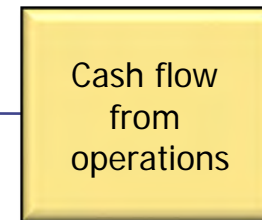
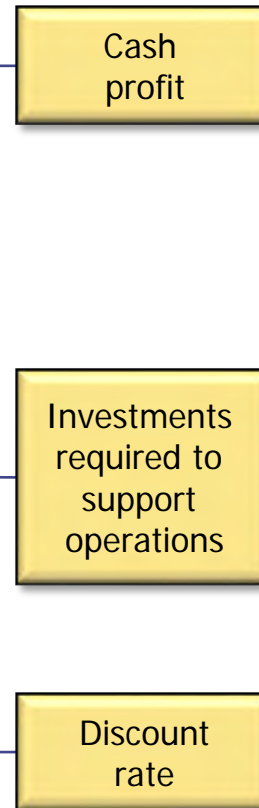
Micro value drivers

- Market size
- Market share
- Sales mix
- Retail price
- Staffing levels
- Wage rates
- Raw material prices
- Production costs
- Tax rate
- Tax-effective structures
- Inventory turns
- Accounts receivable
- Accounts payable
- Contract terms
- Plant life
- Replacement equipment
- Maintenance
- Scale of operations
- Cost of equity
- Cost of debt
- Leverage

Macro value drivers



Determinants of value

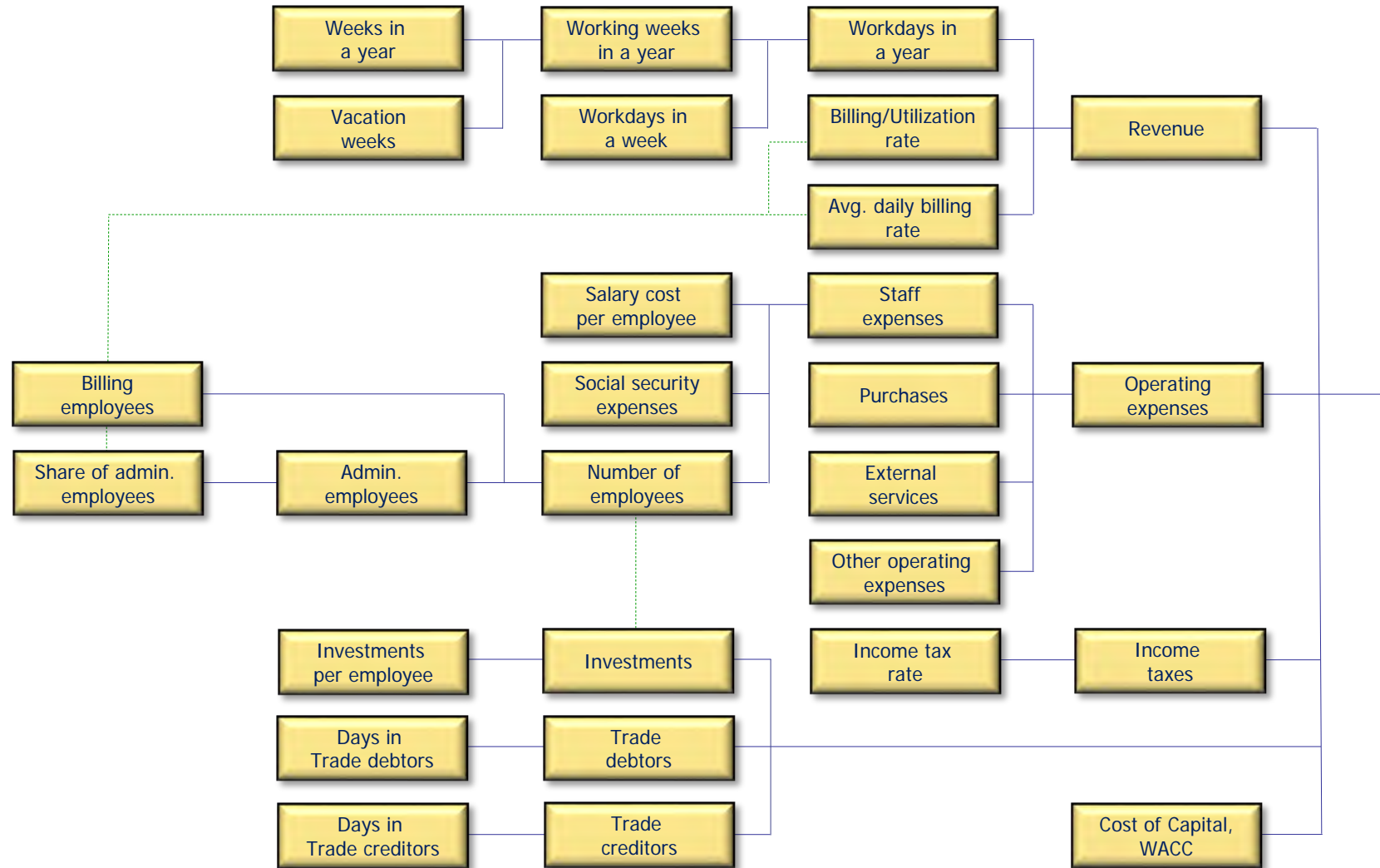


Business modelling of "ICT Consulting Ltd"

- Revenue of "ICT Consulting Ltd" consists mainly of the work performed by billable personnel working in projects invoiced on daily basis.
- Due to the nature of operations (consulting) significant growth would occur by increasing the number of billable personnel, that is, increasing resources and expanding operations outside Finland.
- Billing rate (aka. utilization rate) is essential measure for project and consulting business. It has increased from the level of 50 % to the level of 87 %. According to preliminary estimates improving billing rate would also improve profitability.
- The ratio of billing and administration personnel has always been subject to close supervision. At the moment ratio is at the level of 9 %. In scenarios prepared earlier ratio varies between 7,7 % and 10,0 %.
- Since the beginning of the operation payment times of the customers have been a challenge. Days in trade creditors have been at the level of 53 days. In Best Case scenario the assumption is that due to rapid growth in international operations there is very little to do to improve the payment times. In Base Case scenario there would be special attention to payment times as well as profitability.
- Investments are mainly ICT machinery and equipment investments related to the development of the number of employees.



Illustration of value driver map - "ICT Consulting Ltd"



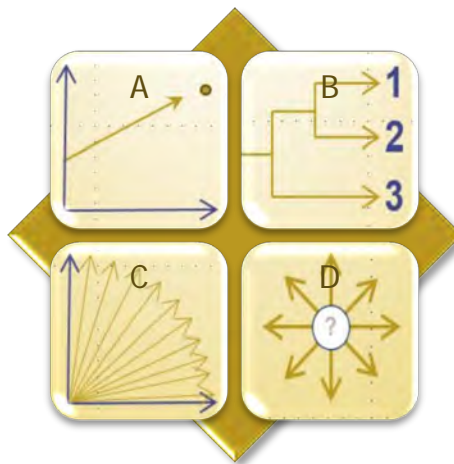
Reporting

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Reporting raises questions - analysis answers them

- Reporting vs. Analysis - "You can't have one without the other"
- Visualization with graphs and colors eases the task of a reader and decision-maker to pick up the most relevant information and to ask well fitted questions
- Visualization also illustrates any inconsistencies of numbers
- Scenarios helps reader and decisionmaker to perceive and understand various possible outcomes of the future
 - Scenario is a description of possible future(s)
 - Describes effects and possibilities
- Selected from various possible outcomes - what the future could be, or what it should be?
- In business life scenarios are developed to support decision-making processes



Four levels of uncertainty

A = A clear-enough future

(A single forecast precise enough for determining strategy)

B = Alternate futures

(A few discrete outcomes that define the future)

C = A range of futures

(A range of possible outcomes, but no natural scenarios)

D = True ambiguity

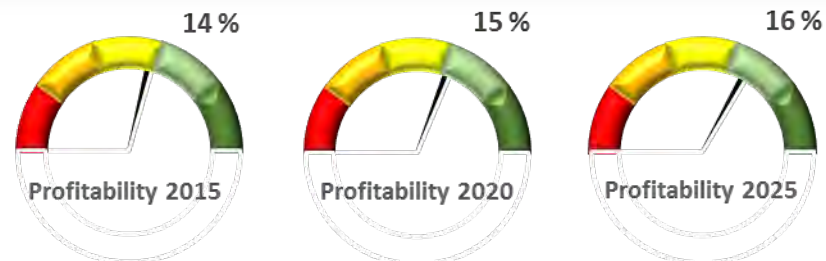
(No basis to forecast the future)

Source: Courtney, Kirkland, Viguerie; Strategy under uncertainty, Harvard Business Review, Nov-Dec 1997

Income Statement

1.000 EUR	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Revenue	165	494	1 020	1 595	1 979	2 325	2 731	3 208	3 726	4 328	5 027	5 839	6 782	7 877	9 149
Ch. in Revenue (%)	-	201 %	106 %	56 %	24 %	17 %	17 %	17 %	16 %	16 %	16 %	16 %	16 %	16 %	16 %
Ch. in Stocks of finished and semifinished good	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Manufacturing for enterprise's own use	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other operating income	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Operating expenses total	127	475	871	1 301	1 659	1 963	2 303	2 671	3 083	3 584	4 138	4 807	5 588	6 459	7 467
OPERATING MARGIN (EBITDA)	38	19	149	293	320	363	428	537	643	743	889	1 032	1 194	1 418	1 682
Operating margin (%)	22,9 %	3,9 %	14,6 %	18,4 %	16,2 %	15,6 %	15,7 %	16,7 %	17,2 %	17,2 %	17,7 %	17,7 %	17,6 %	18,0 %	18,4 %
Depreciation and reduction in value	5	10	20	30	39	34	46	58	70	84	100	118	139	164	192
OPERATING PROFIT (EBIT)	33	9	129	263	281	328	382	479	572	659	789	914	1 055	1 254	1 490
Operating profit (%)	19,9 %	1,9 %	12,7 %	16,5 %	14,2 %	14,1 %	14,0 %	14,9 %	15,4 %	15,2 %	15,7 %	15,7 %	15,6 %	15,9 %	16,3 %
Financial income and expenses	0	-2	-2	1	3	3	4	6	7	9	11	14	17	20	25
Taxes	7	2	26	53	57	66	77	97	116	134	160	186	214	255	303
Minority interest	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Profit of the financial year	26	6	102	211	227	265	309	388	463	535	640	742	858	1 020	1 211
<small>11.12.2016 14:39</small>															
Purchases (% of Revenue)	22 %	19 %	18 %	18 %	18 %	18 %	18 %	17 %	17 %	17 %	16 %	16 %	15 %	15 %	15 %
External services (% of Revenue)	7 %	6 %	6 %	6 %	6 %	5 %	5 %	5 %	5 %	5 %	5 %	5 %	5 %	5 %	5 %
Other operating expenses (% of Revenue)	13 %	11 %	9 %	8 %	9 %	11 %	11 %	11 %	10 %	10 %	10 %	10 %	11 %	10 %	9 %
Number of employees	2	6	8	10	12	14	16	18	21	24	28	32	36	42	48
Ch. In number of employees (%)	-	175 %	40 %	27 %	23 %	13 %	15 %	15 %	15 %	15 %	15 %	15 %	15 %	15 %	15 %
Revenue per employee	82	90	132	163	164	170	174	177	179	181	183	184	186	188	190
Ch. In Revenue per employee (%)	-	9 %	47 %	23 %	1 %	4 %	2 %	2 %	1 %	1 %	1 %	1 %	1 %	1 %	1 %
Staff expenses per employee	30	54	69	81	84	85	87	89	90	92	93	95	96	98	100
Ch. In Staff expenses per employee (%)	-	82 %	29 %	17 %	3 %	2 %	2 %	2 %	2 %	1 %	2 %	2 %	1 %	2 %	2 %

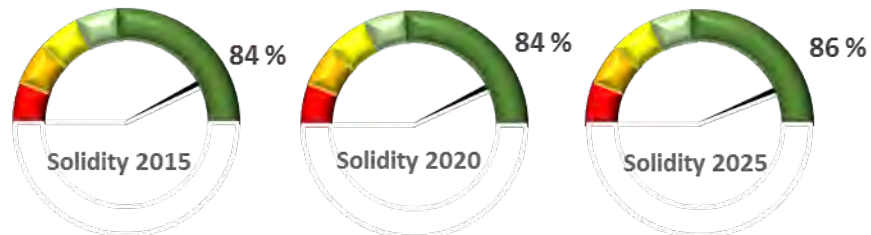
"ICT Consulting Ltd"
Base Case



Balance Sheet

1.000 EUR	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Non-current assets	15	27	53	82	104	139	175	213	256	303	358	422	496	582	684
Current assets	28	102	220	374	583	723	870	1 056	1 279	1 540	1 850	2 211	2 630	3 123	3 709
Stocks	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Debtors	22	90	181	264	359	389	442	495	575	631	733	803	933	1 084	1 259
Short-term investments	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cash in hand and at banks	6	12	39	111	224	335	428	561	705	909	1 117	1 408	1 697	2 040	2 450
ASSETS	43	129	273	456	686	863	1 045	1 270	1 535	1 843	2 208	2 633	3 126	3 706	4 393
Capital and reserves	29	35	137	348	575	708	862	1 056	1 288	1 555	1 875	2 246	2 675	3 185	3 790
Minority interests	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Provisions	-	10	7	6	6	17	21	25	31	37	44	53	63	74	88
Creditors															
Long-term creditors	-	58	69	20	-	-	-	-	-	-	-	-	-	-	-
Long-term (interest-bearing) debt	-	58	69	20	-	-	-	-	-	-	-	-	-	-	-
Deferred tax liability	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other long-term debt	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Short-term creditors	14	26	60	82	106	138	162	188	216	251	289	334	388	447	514
EQUITY AND LIABILITIES	43	129	273	456	686	863	1 045	1 270	1 535	1 843	2 208	2 633	3 126	3 706	4 393
Days in Trade debtors	44	55	55	48	53	49	47	45	45	43	43	40	40	40	40
Days in Trade creditors	22	20	22	18	20	21	21	21	21	21	21	21	21	21	21
Gearing (%)	-21 %	131 %	22 %	-26 %	-39 %	-47 %	-50 %	-53 %	-55 %	-58 %	-60 %	-63 %	-63 %	-64 %	-65 %
Equity ratio (%)	67 %	27 %	50 %	76 %	84 %	82 %	83 %	83 %	84 %	84 %	85 %	85 %	86 %	86 %	86 %

"ICT Consulting Ltd"
Base Case



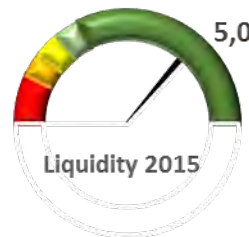
Free Cash Flow

1.000 EUR	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
OPERATING PROFIT (EBIT)	9	129	263	281	328	382	479	572	659	789	914	1 055	1 254	1 490
- Taxes	-2	-26	-53	-57	-66	-77	-97	-116	-134	-160	-186	-214	-255	-303
+/- Adjustments to Operating profit	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Operating profit after taxes (NOPLAT)	8	104	211	224	262	305	382	456	525	629	728	841	999	1 187
+ Depreciation and reduction in value	10	20	30	39	34	46	58	70	84	100	118	139	164	192
+/- Ch. in Working capital	-56	-58	-60	-72	2	-29	-27	-52	-21	-64	-25	-76	-92	-107
+/- Other adjustments to cash flow	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cash flow from operations	-28	63	179	191	310	325	418	480	595	672	830	914	1 082	1 285
- Investments in fixed assets	22	46	59	61	70	82	96	113	132	155	182	213	250	293
+ Sales of fixed assets	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Net investments	22	46	59	61	70	82	96	113	132	155	182	213	250	293
FREE CASH FLOW	-50	17	120	131	240	244	322	368	463	517	648	701	832	992
NPV of cash flows (cumulative)					231	448	714	994	1 322	1 660	2 053	2 446	2 879	3 357
NPV of residual value					2 887	2 713	3 319	3 512	4 091	4 232	4 910	4 917	5 409	5 968
Enterprise (Corporate) value (EV)	3 118	3 161	4 033	4 507	5 412	5 892	6 963	7 363	8 288	9 325	9 325	9 325	9 325	9 325
Net debt (per last closing date)	-224	-224	-224	-224	-224	-224	-224	-224	-224	-224	-224	-224	-224	-224
Shareholder (Equity) value	3 342	3 385	4 256	4 731	5 636	6 116	7 187	7 587	8 512	9 549	9 549	9 549	9 549	9 549

Pre-strategy value (pre net debt)	1 707
Pre-strategy value (after net debt)	1 931

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"ICT Consulting Ltd"
Base Case



Volume...

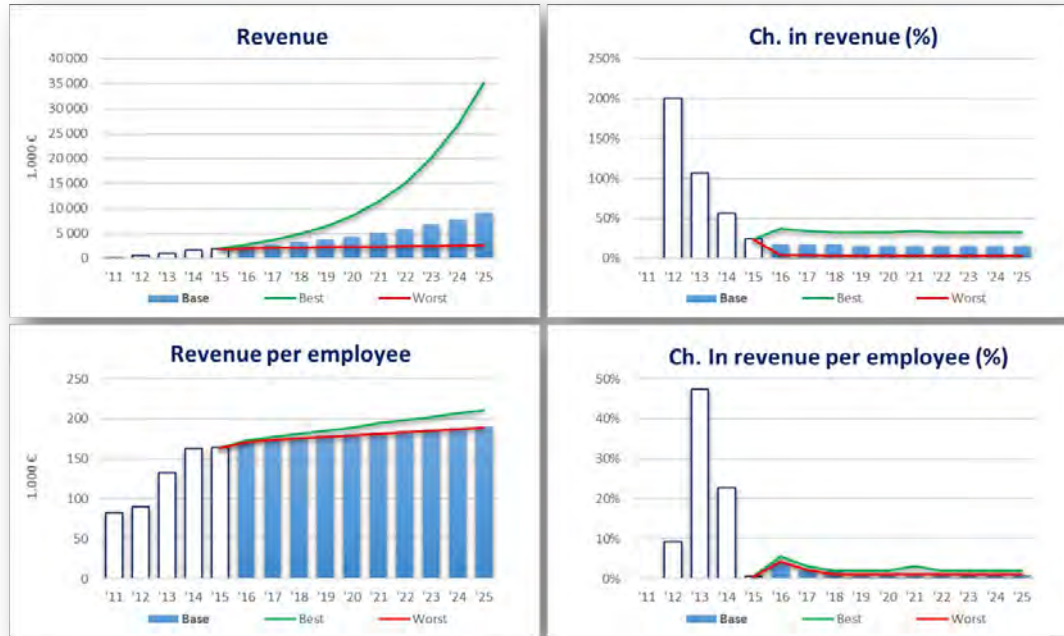


...and employees



”ICT Consulting Ltd”
Scenarios

Revenue...

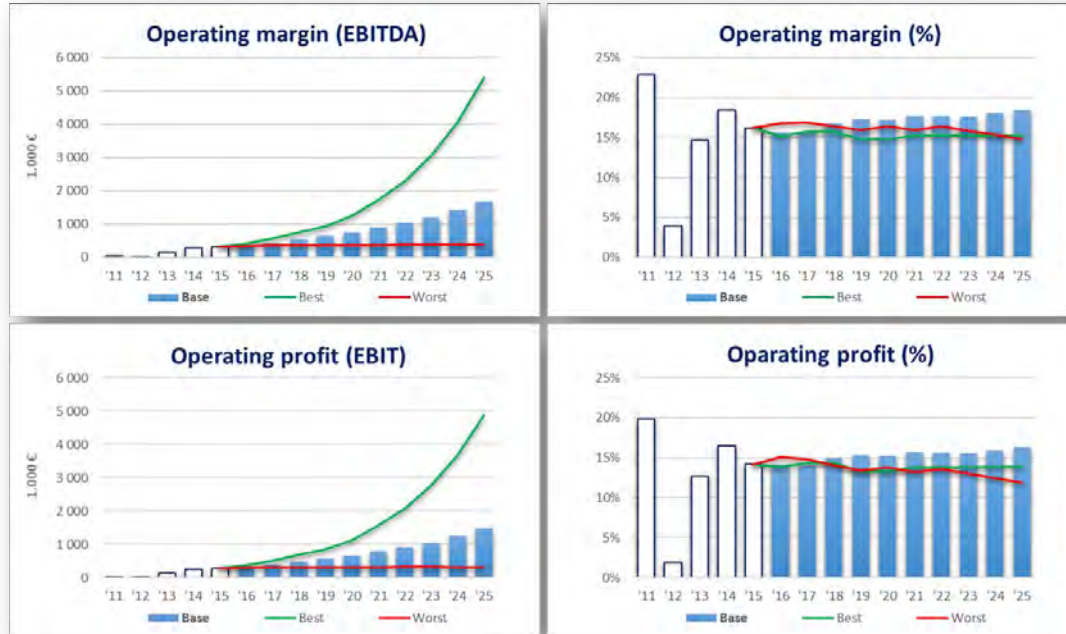


... and expenses

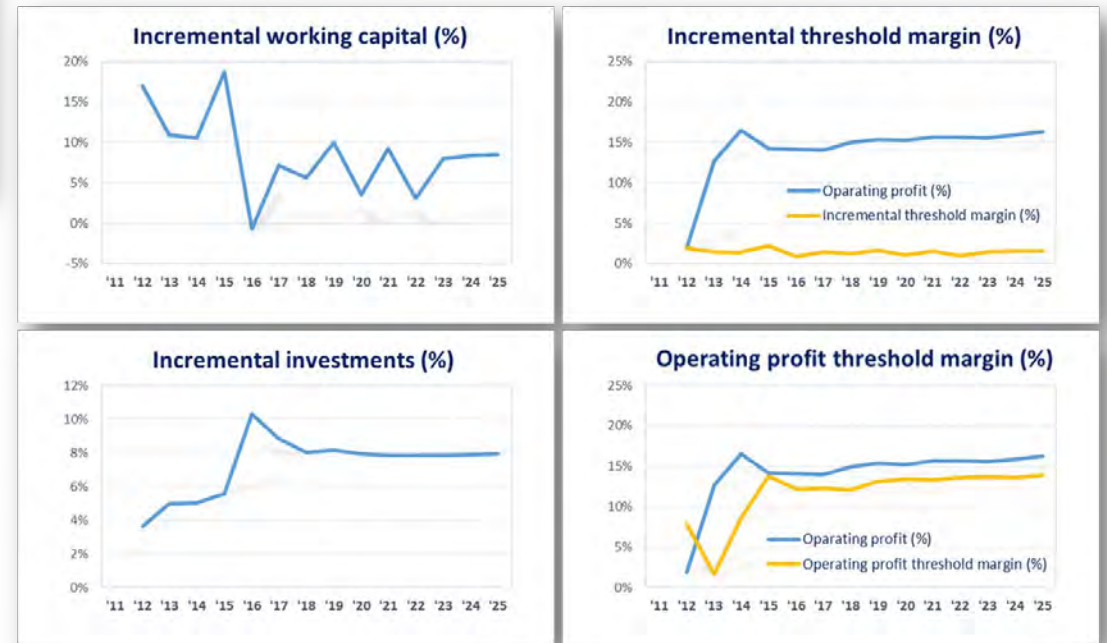


"ICT Consulting Ltd"
Scenarios

Operating margin and Operating profit...

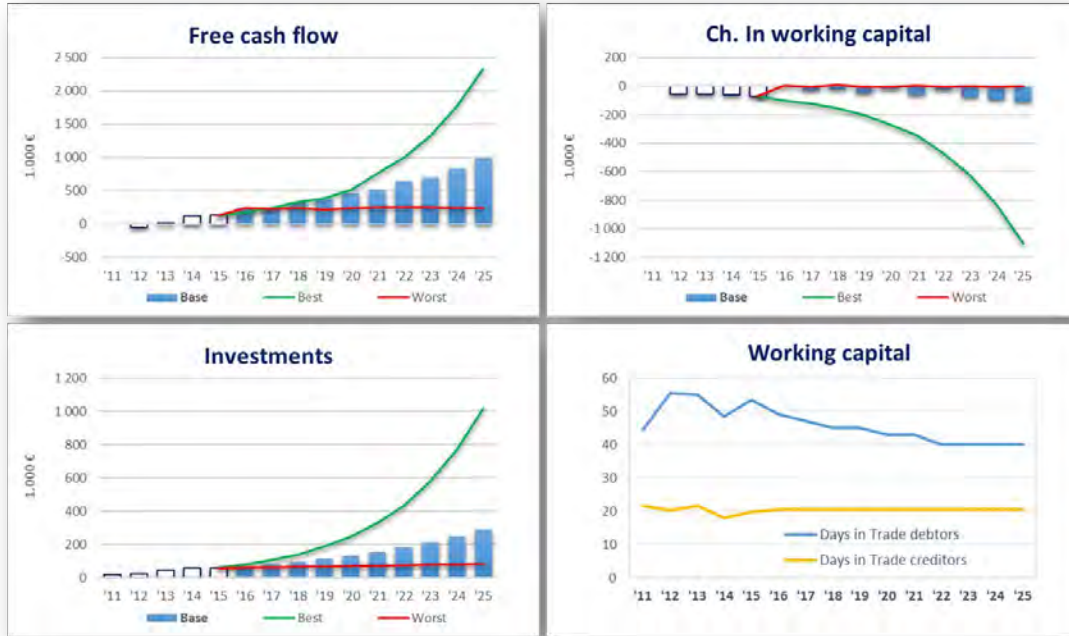


...and threshold margins

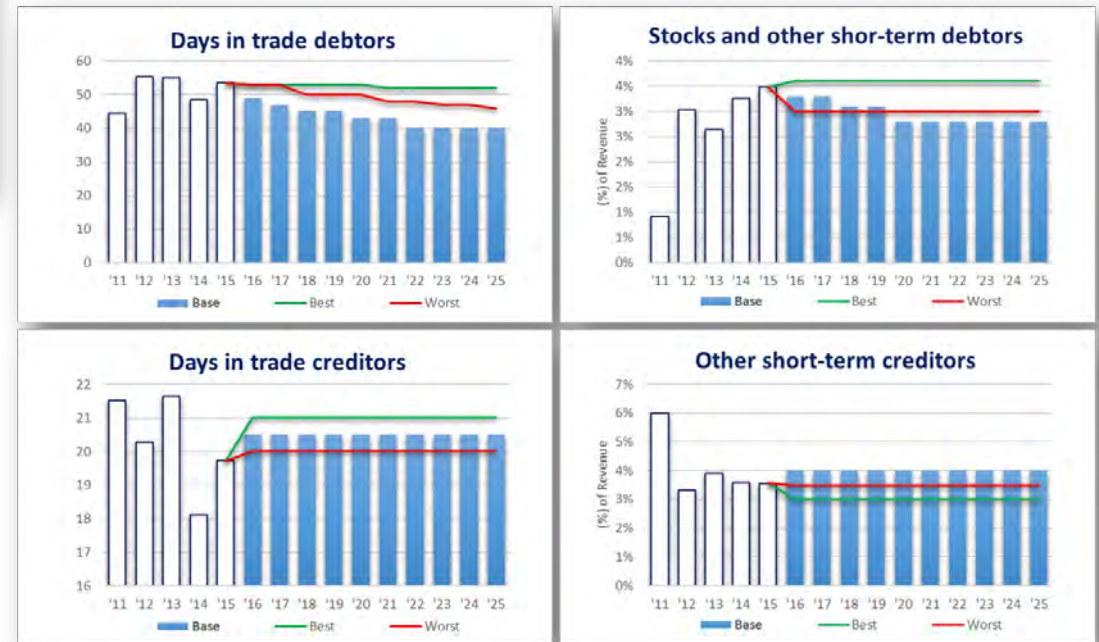


"ICT Consulting Ltd"
Scenarios

Free cash flow...

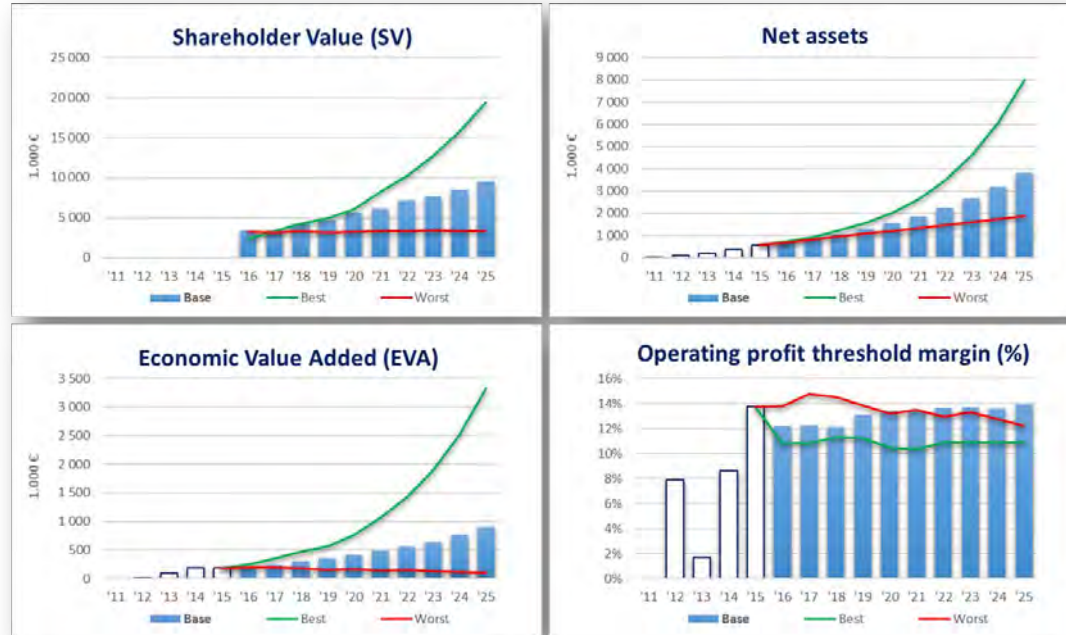


...and working capital



"ICT Consulting Ltd"
Scenarios

Value creation...



...and equity and gearing



"ICT Consulting Ltd"
Scenarios

“Predicting the future is hard so every investor is forced to analyse the present while understanding the past”

Analysis

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”ICT Consulting Ltd” - What went wrong in 2012?



- Business modelling and analysis highlighted also some issues effecting poor financial result and negative cash flow in 2012.



- Growth in revenue in 2012 was 201% ja growth in number of employees was 175%. However, revenue per employee grew only 10%.
- Expenses (of revenue) grew 25%. Growth in number of employees and growth in wages and salaries per employee (+80%) had huge impact in total expenses.
- Days in trade debtors grew 25% and other short-term debtors grew 233%
- Based on one individual year (2012) **growth was not profitable growth.**

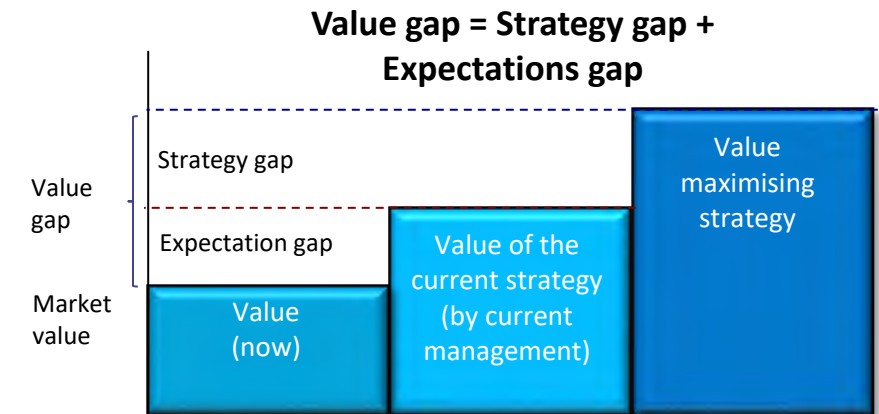
Managing value gaps

■ Why Value Gaps arise?

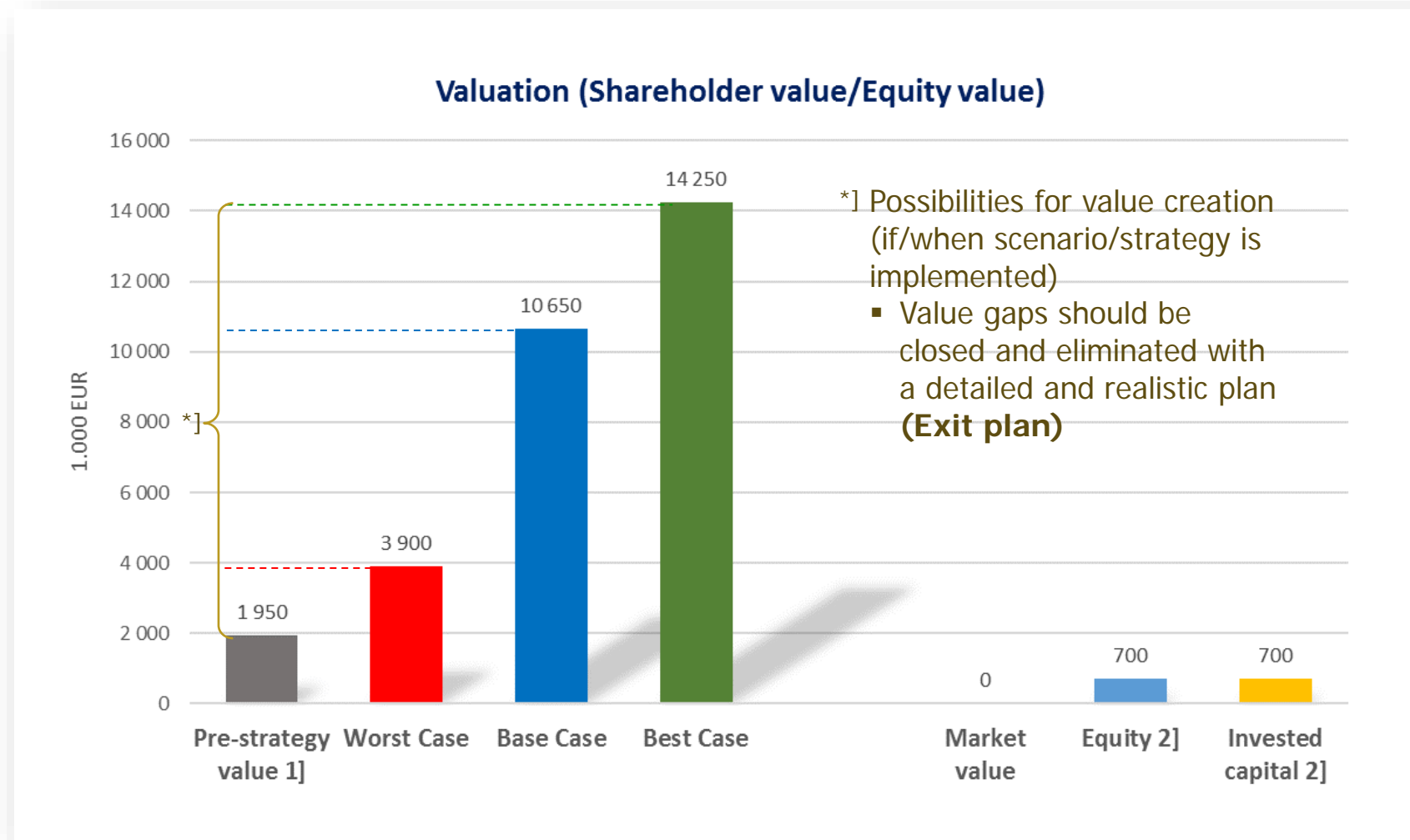
- **Expectation gaps** - Quite often due to failure in (market) communication:
 - Investors are unaware of the strategy, or
 - Investors don't believe in the strategy because they:
 - Doubt the company's (management's) ability to execute and deliver
 - Believe the cash flow created will be less than the management is expecting to deliver even though the strategy would be successful
 - Don't believe in the timing of cash flows (delays expected)
- **Strategy gap**
 - Is the difference of value maximising strategy and value of the current strategy
- Sometimes the implementation of a strategy that maximizes the company's value is only possible for a completely new owner. The value for the new owner can be significantly higher than for the current owner.
- The best way to minimize and mitigate value gaps is to identify the value of your own company and the key value drivers affecting the value long before the planned **EXIT**
 - Defining, evaluating and managing value gaps is an essential part of the **EXIT planning**

"If you don't know the values of the components of Your business, you will find yourself in the hands of someone who does"

- An (unnamed) investment banker -



Value Creation and value gaps - "ICT Consulting Ltd"

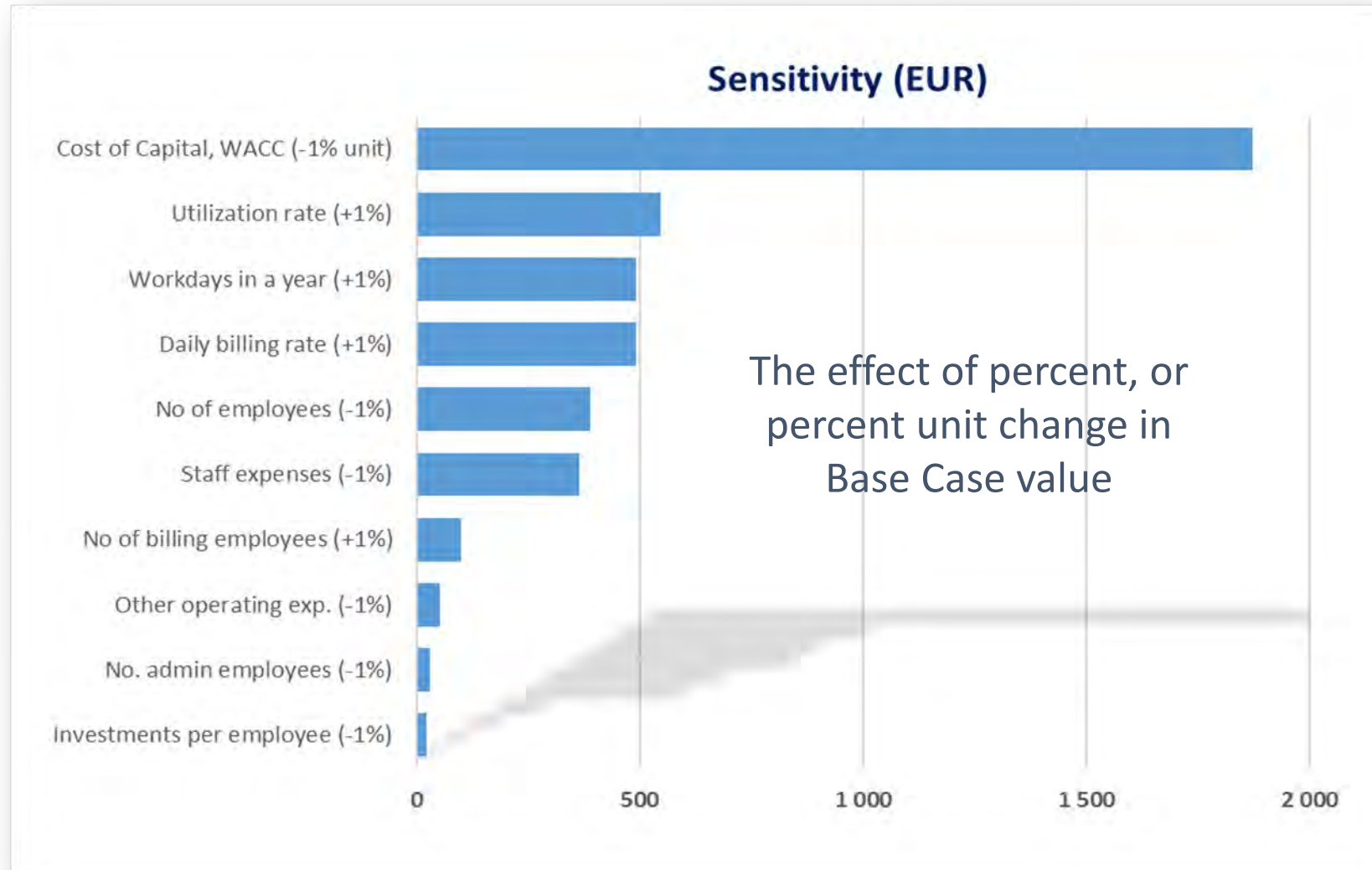


All scenarios (strategies) would increase value

^{1]} Pre-strategy value based on performance in history

^{2]} 31.12.2015

Sensitivity Analysis - "ICT Consulting Ltd"



¹⁾ Cost of capital (WACC) is important part of performance management and valuation. Definition of cost of capital requires always detailed analysis. Due to simplification cost of capital in this example is 8%

Analysis - "ICT Consulting Ltd"

Comment & Analysis

Revenue

	Annual increase in revenue has been (on average) 97 %. In Base Case scenario annual growth assumption is 17 %. Most of the growth is expected to materialize via increase in number of billing employees (15% a year). Annual average billing rate is expected to increase 1 %. Looking at the growth potential of this business, 17 % increase in revenue is still reasonable.
	In Worst Case scenario increase in number of employees would be only marginal. This has direct effect to forecasted revenue levels (yearly growth only 2-3 %). In case positive trend in this business continues, annual growth of 30 % (in Best Case scenario) may be quite realistic. However, in order to prepare for growth there should be realistic plan available. The risk is how to find new skillful employees (in time) to fulfill growth plans.
	Average billing rate is expected to increase 2 % in Best Case scenario. Other scenarios has 1% growth expectation. Despite the fact that there is variation in the number of working days in a year, it has assumed to be constant in all scenarios. Billing/utilization rate is expected to vary between 88% (Base/Worst) and 92 % (Best Case). As billing/utilization rate is already on reasonable level, substantial increase in revenue requires more new billing employees. However, there is a challenge of keeping billing/utilization level at sufficient level. Reaching the level of Best Case requires quite substantial work load.

Expenses

	High salary expenses (compared to revenue) in 2012 explains most of the non-profitable growth and negative cash flow in 2012. Consulting business is labour dependent business and approximately 60% of expenses are employee costs. However, the ratio is expected to fall to the level of 55% by the end of forecast period. Well timed recruiting of new employees as well as sufficient billing/utilization rates has essential effect when maintaining and improving profitability.
	There is some variation in the amount of administration employees (Worst Case 7,7 % vs. Best Case 10,0 %). Maintaining the amount of administration employees at competitive level is assisting and supporting profitability of the company. Number of administration employees effects also to revenue per employee ratio.
	Second largest expense item is Raw materials and consumables (27 % of total expenses). These expenses include normal raw material and services expenses as well as external services. There are no special cost savings included in forecasted expenses. Gross expense are expected to increase in Best Case due to growth plans.

Margins and financial result

	Operating profit margin is expected to be between 14 to 16 % depending on the scenario. Actual 5 year average margin is 13 %. This includes one bad year (2012) when margin was only 1,9 %. Due to higher growth expectations Best Case scenario is expected to have lower profitability than Base Case.
	The most efficient way to improve profitability is to improve revenue per employee ratio. However, as billing/utilization rate is already at reasonable high level it is not that easy task to do.
	Incremental threshold to growth is approximately 1,3 %. This means that incremental growth in revenue (higher than Base Case) would require only 1,3 % profitability. Threshold for (value creating) operating profit margin would be 13 % in Base Case. In operational target setting that means that operating profit target should be higher than 13 %.
	All scenarios delivers positive financial result for all years in the forecasts. As noted in sensitivity analysis, billing/utilization rate, number of work days (in year), and average billing rate have huge effect to financial result and cash flow. However, in number of work days the potential to improve is quite small.

Analysis - "ICT Consulting Ltd"

Comment & Analysis

Balance sheet

	Assets in the balance sheet consists mainly of machines and equipment, trade debtors and cash and cash equivalents. As the number of employees increases the volume of investments also increases. In Base Case scenario days in trade debtors are expected to decrease from 55 days to 40 days. This is quite challenging task and there should be specific/detailed plan prepared for it.
	The company was founded with 2.500 euros share capital. Since 2014 there has not been any need for external/loan capital. None of three scenarios requires long-term debt. That is why solidity of the company is expected to be on excellent level. Days in trade creditors is expected to remain on reasonable level in 21 days.
	During the first 5 years incremental working capital for growth has been approx. 14 %. This means that 1 euro increase in revenue has tied 0,14 euros in working capital. In Base Case scenario incremental working capital is approximately 6 %. This is quite tough target and it requires a special implementation plan.
	Incremental fixed capital investments for growth have been approximately 5 %. This means that 1 euro increase in revenue has required investments worth approx. 0,05 euros. In Base Case scenario the assumption for incremental fixed capital investments is 8%.

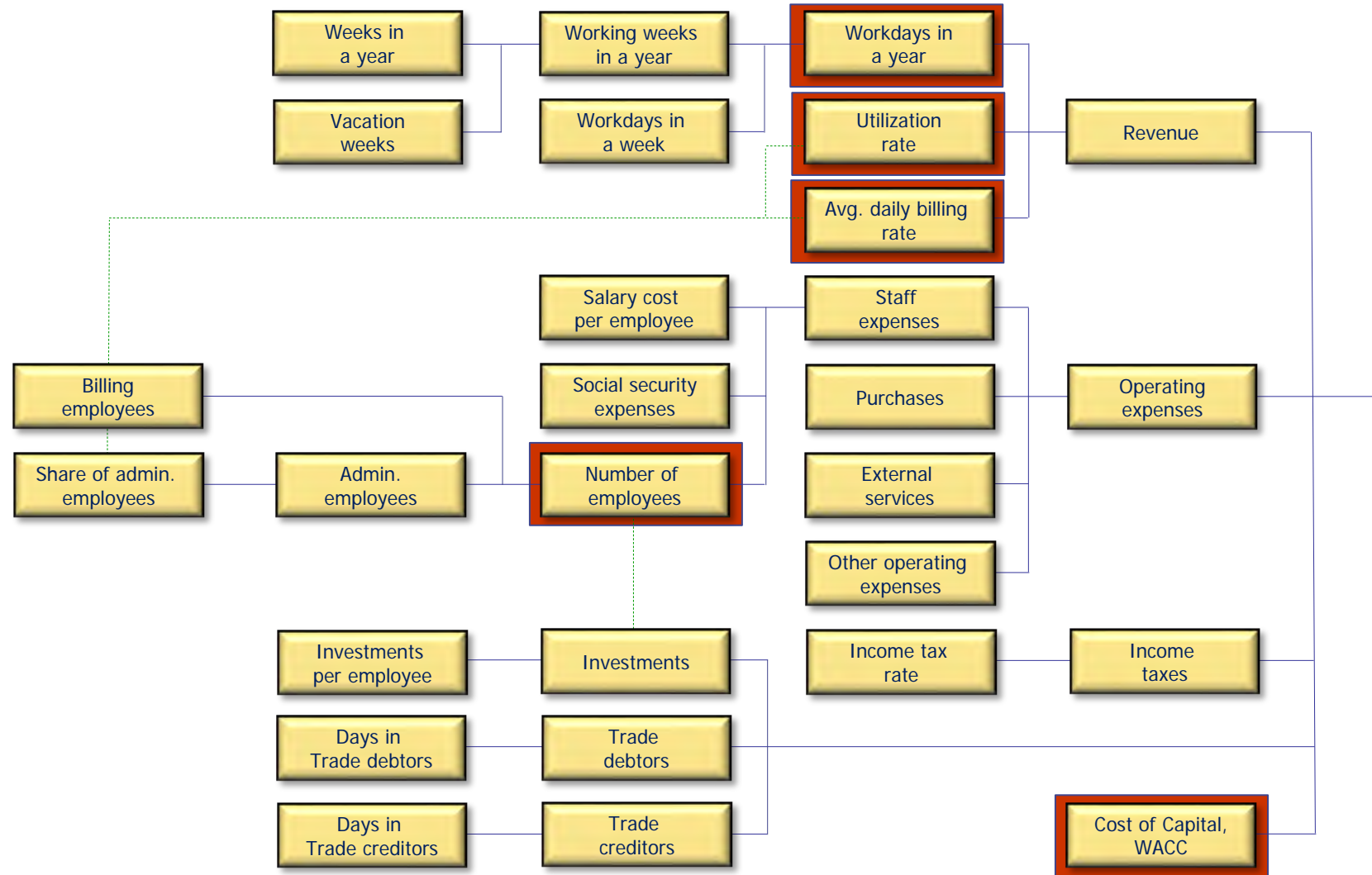
Cash flow

	Free cash flow is the amount of cash flow available for interest payments, loan instalments and possible dividends. In 2012 free cash flow was 50 ke negative. Since that cash flow has been and is estimated to be positive. All scenarios have the assumption that in case free cash flow allows, 50 % of the net result will be paid as dividends to the owners. Strong cash flows in all scenarios makes it possible to pay dividends.
	In most cases as the volume (revenue) of the operation increases also the amount of working capital (especially trade debtors) increases. That is why increase in working capital decreases cash flow. Growth in working capital can be managed with effecting turns in working capital variables. The sooner money is in cashbox, the better. In Best Case scenario the assumption is that due to growth plan there is very little that can be done to decrease working capital levels. In Base Case scenario there is an assumption that working capital levels can be managed (e.g. days in Trade debtors from 55 days to 40 days)
	Investments are connected to the number of employees. In Base Case scenario investments are increasing from 60 ke to 290 ke.

Other findings

	The historical value, based on performance in history, is approx. 1,9 me (pre-strategy value). At the end of 2015 net debt was -224 ke negative. Net debt consisted basically only cash and cash equivalents. Negative net debt increases the value of the company. The approximated value of the company would be 6 me (with 5 year forecast period) and approx. 10,6 me (with 10 years forecast period). The increase of the value is mainly due to growth in revenue during whole forecast period. All scenarios are increasing value. Although growth in Worst Case is only marginal. Difference compare to ArgonPro QuickAnalysis is explained mainly by the shorter forecast (and growth) period.
	Profitability, solidity and liquidity of the company are in excellent level in Base Case scenario.

Key value drivers - "ICT Consulting Ltd"



Conclusions

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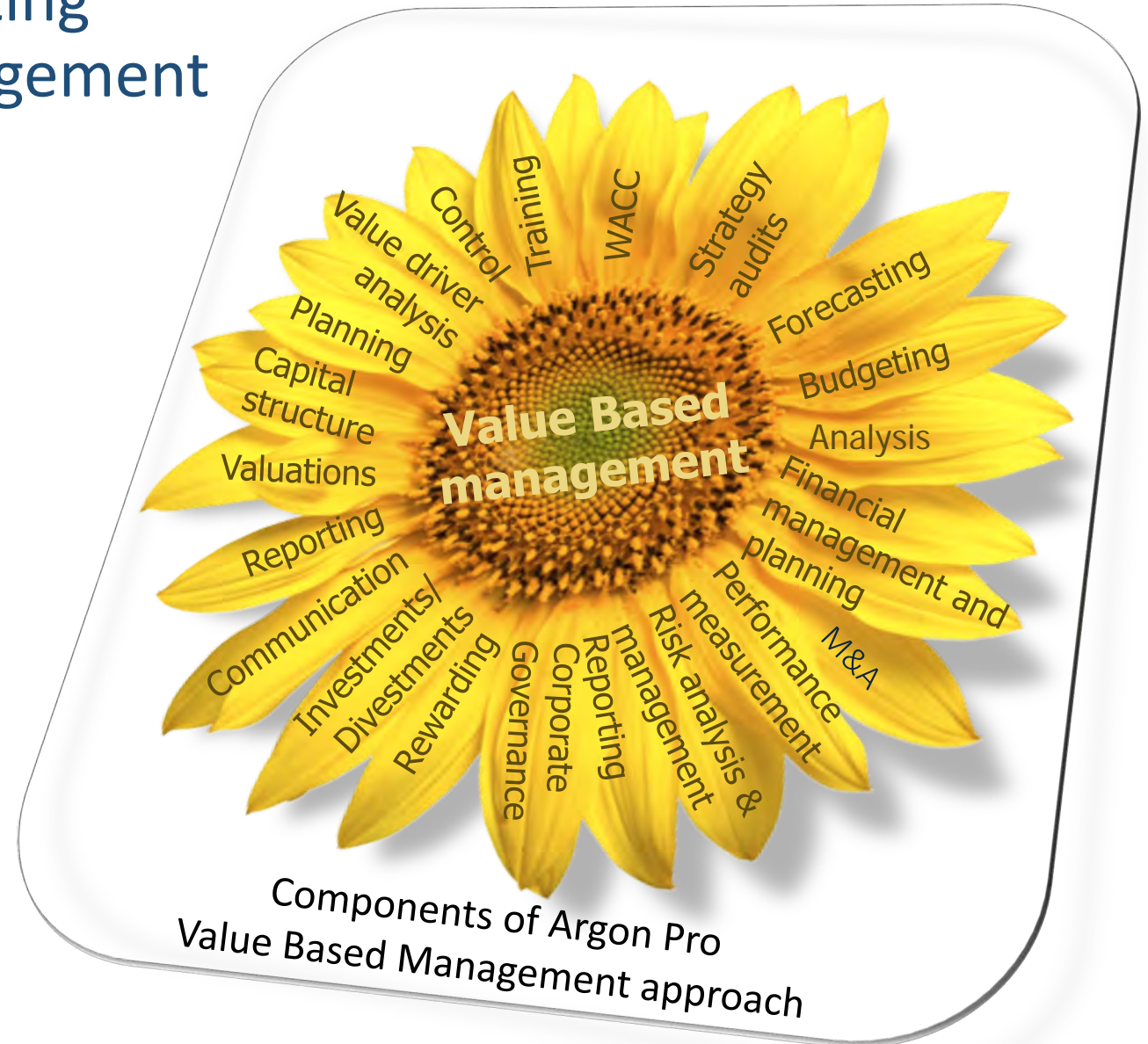


What was achieved with business modelling?

- Analysis of the history and (short and long-term) forecasts for the future
 - Business modelling (with graphs) highlighted what has happened (in history)
 - History is one part of estimating or forecasting the future (but it don't guarantee it)
- Financing plan
 - Short and long-term (1 yr., 5 yrs., 10 yrs.)
 - Valuable information while discussing with investors, banks and other
- Key value drivers
 - For planning, reporting and management of the company
- Threshold margin(s) for operating profit
 - For operational management and target setting
 - Is there even need for something else?
- Scenarios for the future
 - For evaluating strategies and options for the future
- Finance section of the business plan
 - Provides clear revenue and business model of the business
- Valuation of the business (with scenarios)
- Basis for exit planning
- Visualization of data helps finding errors and mistakes

Business modelling is a starting point for Value Based Management

- Value Based Management (VBM), or tools used in it can be utilized in various operational and strategic tasks, processes and projects
- Business modelling is a good start for Value Based Management initiative



Value Based Management (VBM) framework

- **Value Based Management combines the analysis of the Key Value Drivers and cash flow with the modern valuation techniques, various processes and decision-making situations**
- The subject of VBM process can be:
 - Strategy planning, forecasting, rewarding, investment, divestment, acquisition, strategy, or any capital investment, corporate reorganization, or any equivalent transaction.
- **Business modelling and cash flow are the key components of the VBM processes**
 - VBM combines cash flow-based modelling of a company, or its business with its financial value
 - Business modelling and **analysis** related to VBM process generates **Key Value Drivers**, which are important factors in VBM process. A Value Driver is any variable that affects the cash flow and value of the business, is controllable and measurable from month to month.
 - Economic value is defined by discounting the company's, or business's **future cash flows** with the company's, or business's cost of capital (WACC, Weighted Average Cost of Capital)
- An analysis and **financial model** based on Value Based Management is the most useful tool when it is combined with the operative and strategic decision-making of the management and the monitoring of the implementation of decisions
 - VBM is an integrative process designed to improve strategic and operational decision making throughout the organisation by focusing on the key drivers of economic value



Most essential formulas used

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Most essential formulas used

Description and formula		
Incremental sales	€	Sales (current period) - Sales (prior period)
Incremental fixed capital investment rate	(%)	$\frac{\text{Capital expenditures} - \text{Depreciation expense}}{\text{Incremental sales}}$
Incremental working capital investment rate	(%)	$\frac{\text{Change in working capital}}{\text{Incremental sales}}$
NOPLAT (also called NOPAT)	€	Operating profit - Taxes (on operating profit)
Initial invested capital (also called Net assets)	€	Non-current and current assets - Current liabilities - Provisions and other deferrals
Capital charge	€	Initial invested capital x Cost of capital (WACC)
Economic Profit, EP (also called EVA)	€	NOPLAT - Capital charge
Gross pre-strategy value (also called Gross baseline value, or Economic Book Value, EBV)	€	$\frac{\text{NOPLAT (History average)}}{\text{WACC}}$
Net pre-strategy value (also called Net baseline value, or Economic Book Value, EBV)	€	$\frac{\text{NOPLAT (History average)}}{\text{WACC}} - \text{Net debt}$
Incremental threshold margin	(%)	$\frac{\text{Incremental fixed and working capital investment rate} \times \text{WACC}}{(1 + \text{WACC}) \times (1 - \text{Income tax rate})}$
Threshold margin	(%)	$\frac{\text{Prior period Operating profit} - \text{Incremental threshold margin} - \text{Incremental sales}}{\text{Prior period sales} + \text{Incremental sales}}$
Corporate value (also called Entity value)	€	Discounted free cash flows + Residual value
Shareholder value (also called Equity value)	€	Corporate value + Marketable securities - Debt and other obligations

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