



Learning business by doing business



TOPSIM-Simulations
Learning business by doing business

TOPSIM – General Management II

Instructor's Manual

Appendix I
Explanations

Version 12.0

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0 Preface

The Instructor's System for the management game is described and explained here. The teams' or Participants' System is described in the appendix of the user's manual.

1 Start

After double-clicking on the management game icon you will see the **main menu** for the game.



The period that was last simulated is pre-set (**Period 0 after installation**).

The main menu provides you with the functions that you require to operate the management game. The most important are:

- | | | |
|---|--------------------|---|
| ⇒ | Edit: | Enter decisions if they are not read via data transfer |
| ⇒ | Simulation: | Simulate next period |
| ⇒ | Reports: | Instructor's Reports |
| ⇒ | | Participants' Reports |

2 File


The **File** menu provides you with various functions to begin or restart the management game, to save games in progress, to set up the printer, to change the language, and to exit the program.

- 1 Initialize New Simulation...
- 2 Restart Simulation in Progress
- 3 Save Simulation in Progress...
- 4 Copy Simulation in Progress onto Hard Disk...
- 5 Read External Data Version...
- 6 Printer Setup...
- 7 Change Language
- 8 Exit

These functions can usually be selected with the toolbar buttons also:

- 1 This function is selected before the start of a new seminar and automatically allows you to specify the **key data** for the seminar, see note 2.2. The program will first ask:
Are you sure? (Y/N)



- 2 This function allows you to return from the current period (the one that you are playing in the seminar) to Period 0. All of the data, including decisions and simulated values, is kept. You can re-simulate all of the periods up to where the game was left off, and alter or correct specific pieces of data in the process. If you do not change any of the data, you will obtain the same results as before. 
- 3 This function allows you to save the position of the current game along with all of its decisions, parameters, and results on diskette. This is to ensure that your data is safely stored. You can also save your data as a particular game version (see below).
- 4 This function allows you to save the position of the current game on the hard disk and it is highly recommended that you do so, e.g. if you have prepared a special situation for the game which you only wish to use in certain cases. (See the notes on game versions and the seminar key data menu.)
- 5 This function allows you to restart a version (for example, a special situation in the game that is only used to instruct on a specific topic) that you have previously saved on diskette. The function can also be used to install the current game on another computer if, for example, a computer does not work properly. In such a situation, the position of the game on the diskette will be saved onto the new computer with this function.
- 6 **Printer Set-up**

When you start the management game program, the program automatically connects to the printer. You can change the printer settings to meet your particular requirements via the **File** menu, with the **Printer Setup** command. If your printer setting changes are to apply to the whole management game, you are advised to change the printer settings from the computer's control panel.

Recommendation for setting:

 - Portrait
 - Raster graphics / B/W graphics or any suitable setting that requires the least storage space in the printer, **maximum 300 dpi**.
 - In the case of HP laser jet printers: under **Options** select **Print TRUE TYPE as graphics** (this is of great importance especially for HP LaserJet III printers).
- 7 This function allows you to change the language of the game if you have bought a licence that permits you to do so. (To activate or to deactivate it for the participants, see the Activation of Features window.)
- 8 **Exit** ends the current session. All data and results that have been entered are saved.

2.1. Game Versions

There are three standard game versions:

- **Version A:** A six-period version (in which the degree of difficulty/complexity progresses rapidly),
- **Version B:** An eight-period version (in which the degree of difficulty/complexity progresses slowly),
- **Version C:** An eight-period version in which only the base scenario is activated. The content and progression of this game is the same as for the management game TOPSIM - General Management I.

When these game versions are installed, they are filed in their own directories from where they can be loaded any time, and as often as required. Version B (the 8-period version) has been preset to begin once you open the program after installation.

In addition, you can save **four of your own game versions (E, F,G and H)**, which are then filed in special directories.

- You can save your own data about the economy, management game runs, or other similar items as game versions.
- If a game is obtained from the diskette of another computer it can also be saved as a game version.
- You can also save, as a game version, decisions made during a seminar in which you had four or five teams, and reuse the decisions for another seminar in which you have only two or three teams. The two (or three) teams will then play Companies 1 and 2 (and three if possible), and their decisions will replace those of the game version. Companies 4 and 5 are still played according to the decisions in the game version despite that there are no participants in the seminar who can play those companies.

In addition, you can save four additional game versions:

Version E: “Additional Scenario 4”, a four- period version (for shorter seminars).

Version F: “Additional Scenario 6”, a six-period version (in which the degree of difficulty/complexity progresses rapidly).

Version G: “Additional Scenario 8”, an eight-period version (in which the degree of difficulty/complexity progresses slowly),

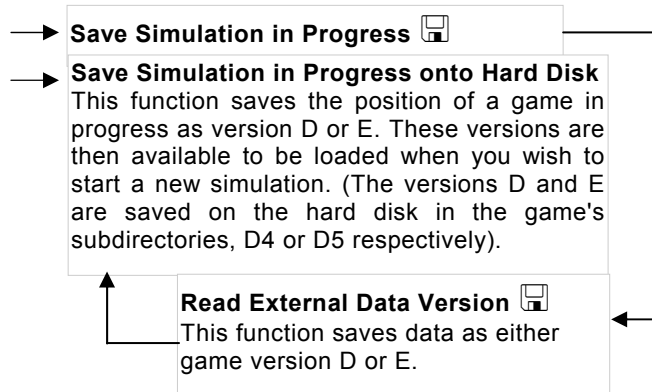
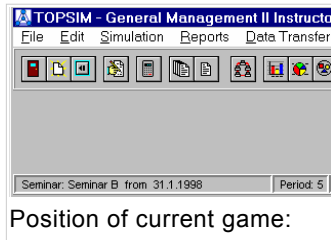
Version H: “Additional Scenario Standard Module”, a simplified eight-period version

These scenarios have a low level of complexity at the beginning. The complexity intensifies from period to period as the number of operational and strategic decisions required increases. By the end of the game, the level of complexity attained in these versions resembles that of the standard versions. The addition versions must be saved separately. When these game versions are installed, they are filed in their own directories from where they can be loaded any time, and as often as required. Version A (the 6-period version) has been preset to begin once you open the program after installation.

If you save the **XL-version up to ten teams can play the game at the same time.**

To load a specific game version, you must use the **File** menu's **Initialize a new simulation** command. You can then enter details for the simulation in the **Key Seminar Data** dialog box, (see point 2.2). You must also choose the game version you wish to use (A,...,O).

Saving the position of the current game as a game version:



Exercise caution when creating new game versions so that you do not overwrite existing versions. As a precaution, you should save old versions on disk (use the Initialize New Simulation command, select the version, and then save this version and game position on disk). It is impossible to overwrite standard game versions. A game version of your own remains unchanged until it is overwritten by another version. When you load a game version for a game in progress and start to work with it, the position of the game is at the point where you last left off. In other words, you can always start a game version from a preset position.

2.2

Key Seminar Data

You will see this menu if you select the **Initialize a new simulation** command. To initialize a new simulation means to:

- **Select the game version.**
- **Specify the name of the seminar, the date, and the number of teams participating.**

When a standard UNICON game version is selected the default data is loaded. **The period is automatically set at 0.**

If you save a game version in Period three, for example, then the next time you load the same version, you will start the game from Period 3. This feature allows you to transfer a game that is in progress to another computer. Upon selecting this version on another computer the same game data can be accessed and the game can then continue.



Exception: You select one of your own game versions, but at the same time change the number of groups. You must simulate Period 0 in order to ensure that the data will be consistent. This procedure also resets the counter of the Planning Model to 0 and is just like starting a new game.

If you want to save a game situation as a version in order to reuse it for a seminar in which you do not have enough groups, you must set the counter to 0 if the Planning Model was active in the game. To do so, save the version for the new groups as a separate version. The Planning Model will automatically be set to Period 0.

- | | |
|------------------------|---|
| Game Version | : You must select among game versions A to E. The program at first assumes that you will select the same game version as played last time, and that the name of the seminar, the number of teams, and the date will also remain the same. |
| Name of Seminar | : Enter as many as 10 characters for the name of the seminar. The name of the seminar you enter appears in the heading of the instructor's and participants' reports. |

- Number of Teams** : Enter the number of groups competing against each other. A maximum of five groups can compete in one game. If you have more groups, then install the game as often as required. Refer to the instructions in the appendix.
- Four to five groups guarantee that the management game will accurately represent the market although it is possible to play the game with only three groups. If however, you have fewer than three groups you are advised to "form an additional group" yourself and "manage" a company by using the decisions of a group from a previous seminar.
- Date** : The date you enter here appears in the reports. You may change the date during the game without returning to this menu, (see note 3.3 in this manual).
- OK** : Clicking on OK confirms your entries and allows you to close the dialog box. The chosen version will be activated. The game will begin at Period 0 in the standard UNICON version. If you are using a version of your own that you had previously saved, you will begin at the point where you last left off (see above).

3. Edit

3.1 Decisions

The instructor enters the decisions of the participants if they are not working with the participants' software, or if they have not entered their decisions via Planning Model 1, (see point 4.3). Data that has already been entered can be changed at a later point in time (for example, if a typing error was made). **This applies even if you receive the decisions through the participants' disks or via the network.**

When you open the decision dialog box the latest period number and a company number are shown in their respective fields. Select the field you desire by clicking on it and use the scroll buttons to select the period or company. You also have the option of simply entering the number in the field.

The decision forms on the screen show sets of decisions that must be made based on which features have been activated by the instructor. When all features are active, the decision forms resemble that which is shown below. (The values shown in the screenshot below are only examples of what one can enter in the fields).

	Product 1			Product 2		
	Market 1	Market 2		Market 1	Market 2	
Price (EUR/Unit)	2650	1950	FCU	9600	0	FCU
Advertising (mEUR)	5.00	1.00	mEUR	3.00	0.00	mEUR
Sales (No. of People)	125	15				
Corporate Identity (mEUR)	2.00					

	Technology (No. of Ppl.)	Ecology (mEUR)	Value (mEUR)
Product 1-New	0	0.00	1.00
Product 2-New	100	3.00	4.00

Bulk Buyers (Units)	5000
Bid Price for Tender	1600

Select fields by using your mouse or by clicking on the Tab key.

When decisions are entered, the program checks whether the entries are made in the correct format.

To receive a market research report: Click on the check box provided or use the space bar.

OK saves the decisions. This applies to all companies and periods.

Decisions

Company: 1 **Period:** 7

Sales / Product Development | **Purchasing / Production** | Financing / Planned Figures

Purchasing	Input Materials/Parts (Units)	Product 1	Product 2	
	Subcontracting (Units)	70000	3500	
Production	Production Volume (Units)	Product 1	Product 2	
		58150	3500	
	Production Lines	Type A	Type B	Type C
	Investment (Number of New Lines)	0	0	0
	Disinvestment (Number of the Line)	4		
	Maintenance (mEUR/Line)	1.0	0.0	0.8
	Rationalization (mEUR/Line)	0.0	0.0	0.0
	Process Optimization (mEUR)	1.5	Training (mEUR): 2.0	
	Investm.in Env. Plants (mEUR)	0.0	Non-Salary Staff Costs (%): 41.5	
	Prod. Staff (Hired+/Dism.-)	-100		

OK Print Cancel Help

Disinvesting production lines: Here you must enter the identification number(s) of the line(s) to be scrapped in the columns provided for the different types of production lines. Entering “1” means that you wish to scrap **line no. 1**. You will find the identification numbers of the lines in **Report 2: Production Lines – Environmental Technology**. There is a maximum of three production lines per type.

Decisions

Company: 1 **Period:** 7

Sales / Product Development | Purchasing / Production | **Financing / Planned Figures**

Financing (mEUR)	Medium-Term Loans	35.0	
	Long-Term Loans	0.0	
	Purchase of Securities	0.0	
	Dividends (% of Net Income)	30	
Planned Figures	Sales	Market 1	Market 2
	Product 1	143.5	21.8
	Product 2	38.4	0.0
	Return on Equity	18.2	
	Cash-Flow	18.6	

OK Print Cancel Help

The fields in the “Planned Figures” section are only active for products/markets if positive values have been entered as prices for those products/markets. **If a group enters a price of 0, this means that the company is not offering the product on the market in question.**

Company decisions can be entered in any order.

3.2 Instructor's Data

- 1 Starting Situation
- 2 Data for the Periods
- 3 Activation of Features
- 4 Graphs of Functions
- 5 Factors / Cost Allocations
- 6 Define Variables for Analyses

3.2.1 Starting Situation

The data for the starting situation consists of:

- The starting values (the same for all companies),
- The starting balance (the same for all companies), and
- The company names.

3.2.1.1 Personnel

Starting values are needed in order to generate the starting situation. The starting values are the data from the end of the (imagined) Period 0. Based on this data, the decisions for Period 0, and the scenario-specific data for Period 0, the so-called "starting situation" is simulated (i.e. the results for Period 0). Participants are then informed about the position of their company at the start of the game. The following starting values are provided in TOPSIM-General Management II:

Starting Situation

Data for the Starting Situation (Before Period 0)

Resources | Balance Sheet | Companies' Names

Personnel (Number of People)		
Purchasing		18
Administration		201
Production		851
R & D		34
Sales Force		100

Inventory (Product 1)		Units	Value (EUR/Un.)
Input Materials/Parts:	25000		500
Finished Products:	8000		2020

Buildings

Book Value: 5.00 Remain. Life (Per.): 20

Production Lines	No.	Book Value (mEUR)	Rem. Life (Periods)	Capacity (Units)	Fixed Expend.	Enviro. Index
	1	2.50	2	8000	1.50	83.00
	2	4.50	3	9000	1.00	90.00
	3	8.00	4	11500	0.50	95.00
	4	10.00	5	13500	0.25	98.00

OK Print Cancel Help

- Personnel** : The number of persons at the start of Period 0 is entered.
- Inventory** : These values only apply to Product 1 and describe the inventory of input materials/parts and finished products at the start of Period 0. The program automatically displays the inventory value in mEUR (Units * Value/Unit) on the balance sheet.

Buildings

- : The book value is shown here alongside the remaining life of the buildings. The remaining life must be greater than the number of periods in the game, i.e. 9.

The book value of the buildings should be less than or equal to the value displayed on the balance sheet for the buildings. If you enter a higher value, the balance sheet will take on this new value, and the other balance sheet values will need to be adjusted accordingly.

Production Lines

- : Data for up to four different production lines (their capacities, remaining lives, costs, and environmental characteristics) can be entered.

3.2.1.2 Balance Sheet

If the totals (for assets and liabilities) on the balance sheet do not match due to changes of values for the inventory, buildings, or production lines, you are made aware of this, and can change the values on this screen to adjust the values in the balance sheet.

Data for the Starting Situation (Before Period 0)	
Balance Sheet	
Assets	Equity and Liabilities
Fixed Assets	Owners' Equity
Property, Plant, and Equip.	Share Capital
Land and Buildings	Capital reserves
Machinery & Equipment	Retained Earnings
	Loss Carried Forward
	Net Income
Current Assets	Pension Reserve
Inventories	Liabilities
Input Materials/Parts	Debt Owed to Bank:
Finished Goods	Long-Term Loans (>5 Periods)
Accounts Receivable	Short-Term Loans (1 to 5 Per.)
Securities	Overdraft Loans
Cash	
Total	Total

Values that are calculated automatically based on the values entered in the "Resources" section cannot be changed in the "Balance Sheet" section. If the total of the assets does not match the total of the liabilities as a result of changes, this is brought to your attention.

The balance sheet value for land and buildings includes both the value of the buildings (see section 1) and the value of the land, and should therefore always exceed the value for the buildings alone.

When the totals for assets and liabilities do not match, you cannot save the data by clicking on **OK**.

3.2.1.3 Companies' Names

If the teams wish to name their own companies, you can enter them here. The names then appear in the participants' reports. To avoid any printing problems, please use only letters, numbers, spaces, and hyphens.

The screenshot shows a window titled 'Starting Situation' with a clock icon in the top right corner. Below the title bar is a tabbed interface with three tabs: 'Resources', 'Balance Sheet', and 'Companies' Names'. The 'Companies' Names' tab is selected. The main area of the window contains the text: 'Please enter the companies' names: (Only 15 characters will be displayed. You may use letters, numbers, spaces, or hyphens.)'. Below this text are five labels: 'Company 1:', 'Company 2:', 'Company 3:', 'Company 4:', and 'Company 5:'. To the right of these labels is a vertical list of text boxes. The first three boxes contain the text 'Super-Copy', 'Duplicat', and 'Blue Line' respectively. The last two boxes are empty. At the bottom of the window are four buttons: 'OK' (with a green checkmark icon), 'Print' (with a printer icon), 'Cancel' (with a red X icon), and 'Help' (with a blue question mark icon).

3.2.2 Data for the Periods

Each period has its own file containing the instructor's data. Together these files make up the basic economic conditions, the scenario, and other economic factors, which apply to the game. For the standard game, the relevant data for the eight periods has already been entered. The text describing the scenario (see tab 8 in the manual), which you give to the participants during the game is based on this data. (Note, however, that the various data versions that come with the game are accompanied by different scenario texts.) You may change the scenarios at any time if you wish. **However, every change you make to the given values must be based on thorough knowledge of the consequences.**

The entire file for a period consists of 6 "pages". The contents of these pages are based on the features that have been activated by the instructor. All of the forms from the complete version will be shown and described.

Data for the Periods Period: 6

Mkt/Staff/Lines | Prod./Purchasing | Financing | Other | Company Comparison | Corrections | Cu

Market Volume		Market 1	Market 2	max.Preis (falls > 0)	
Product 1 (mEUR)		124.0	24.5	P 1	0
Product 2 (mEUR)		45.0	22.4	P 2	0
		Max Quantity	Price (EUR)	Volume (Units)	
Bulk Buyer		7000	2700	Tender	9000
P1 Correction M1/2		0.00	0.00		

Personnel		Wages and Salaries (thEUR):	Production:	Hired	Dismissed
Purchasing		33	Maximum (No.)	500	500
Administration		31	Costs (thEUR)	14.0	10.0
Production		33	Non-Salary Staff Costs (%)	37.0	
R & D		50	Pension Reserve (%)	6.0	
Sales		46	Max Dec.Non-Sal.Costs(%)	3.0	

Production Lines		Type	Proc.Val. (mEUR)	Rem.Life (Periods)	Capacity (Units)	Fixed Expend.	Enviro. Index	Proceeds (% RBV)
A		20.0	10	14000	0.3	100.0	20.0	
B		25.0	10	18000	2.0	105.0	25.0	
C		30.0	15	22000	2.5	110.0	30.0	

OK Print Cancel Help

Market Volume

- : The market volumes are fixed in mCU (Market 1) and in mFCU (Market 2, FCU = Foreign Currency Unit). The values stated reflect the market volumes for a single company. The entire market volume for the industry is calculated as follows:

Market volume from the instructor's file

* Number of participating companies

The industry volume is adjusted as the game progresses according to the average price in the industry in comparison with the starting situation, and according to total expenditures on advertising. (See the section on the impact of factors: 3.2.4)

Bulk Buyer

- : Maximum quantity at a fixed price that can be supplied

Tender

(Request for bids)

- : The company with the lowest bid price wins the contract to supply a specific quantity **in the next period**. If there are two identical bid prices, the company with the highest technology and ecology index ratings is awarded the contract.

Bid prices must not exceed retail prices (on Market 1).

Personnel**Wages and Salaries**

- : These are the wages and salaries for the company's functional areas in thEuro (= thousand Euro)

Production

- : For production staff, the number new hires and dismissals may not exceed the values stated here.

Costs

- : For recruitment and dismissals in the areas of Purchasing, Administration, Production, Product development, and Distribution the costs stated here are incurred.

Production Lines

- : The following values can be changed per production line:
- Purchase price in mEUR,
 - Economic life in periods
(Basis for depreciation per period),
 - Capacity in units,
 - Misc. fixed costs in mEUR,
 - Environmental index rating (Values above 100 indicate that the line is environmentally friendly), and
 - Proceeds from the sale of the line (as a percentage of net book value).

3.2.2.2

Production/Purchasing

Data for the Periods

Period: 6

Mkt/Staff/Lines Prod./Purchasing Financing Other Company Comparison Corrections Cu

Production		Prod.1-Old	Prod.1-New	Product 2
Materials/Parts per Prod. (Units)		1.00	1.00	1.00
Capacity per Product (Units)		1.00	0.90	2.00
Prod. Capacity/Person (Units)		45	50	18
Factory Materials (EUR/Unit)		46	40	140

Purchase of Input Materials/Parts (EUR)		Prod.1-Old	Prod.1-New	Product 2
To <	30000 Unit	750	600	2250
To <	50000 Unit	635	500	2150
To <	70000 Unit	519	400	2050
From	70000 Unit	462	350	1975

Subcontracting Product 2 (EUR)		
To <	5000 Unit	5750
To <	7000 Unit	5250
To <	20000 Unit	4900
To Max	30000 Unit	4550

Transport Costs (EUR/Unit)		
Market 1	Market 2	Product 1
70	165	
255	340	Product 2

OK Print Cancel Help

Production

- Materials/Parts per Prod. (Units)** : Required units of input materials/parts per product
- Capacity per Product (Units)** : Required capacity units of production lines per product
- Prod. Cap./Person (Units)** : Number of products (Units) that one member of the production staff can produce in a period
- Factory Materials (EUR/Unit)** : Other variable costs per product including costs for factory materials and other costs (see details in the scenario texts).
- Purchase of Input Materials/Parts** : Purchasing costs in Euro/unit
- Subcontracting** : Purchasing costs in Euro/unit
- Transport Costs** : Transport Costs in EUR/unit for transportation from the warehouses for finished products to retailers

Data for the Periods

Period: 6

Mkt/Staff/Lines | Prod./Purchasing | **Financing** | Other | Company Comparison | Corrections | Cu

Financing	Medium-Term Loans				Other:			
	Loan Limits (% of Equity)	Up to	100	9.0	RMS Penalty	20.0		
		Up to	200	11.0		Payment Per.	80.0	
		Above		13.0		Cash (Min mEUR)	0.1	
	Long-Term Loans		7.0		Securities:			
	Overdraft Loans		14.0		Interest		5.0	
	Taxes:	Pre-tax Income	55.0		Average Interest Rate:			
		Wages/Salary	30.0		CFROI		13.0	
		Dividends	20.0					
	Long-Term Loan Int. Rate: 5.5				Market Risk Prem. (%): 5.5			
Long-Term Corporate Loan Preferred Interest Rate:		10.0		Company Beta Factor:				
		C 1	C 2	C 3	C 4	C 5		
		1.00	1.00	1.00	1.00	1.00		

Planning Quality | Value per Index Point (mEUR) | 0.5 | Active From Period 0

OK | Print | Cancel | Help

- Loans**
- : **Medium-Term:** Interest; depends on the importance of the loan compared to capital reserves
 - : **Long-Term:** Interest for long-term loans
 - : **Overdraft:** Interest for overdraft loans
 - : **From Version 11.0 onwards, the rating of the company will determine how much interest the company is actually charged for the loans it takes out.**
- Taxes (%)**
- : **Pre-tax Income:** Tax rate on pre-tax Income
 - : **Wages / Salary:** Tax on wages: Values for the report called Corporate Socio-Economic Statement
 - : **Dividends:** Tax on the distribution of dividends. Values for the report called Corporate Socio-Economic Statement
- Others**
- : **RMS Penalty:** Additional costs for automatic express shipments of input materials/parts
 - : **Payment Per.:** Percent of sales revenue that is received in the current period
 - : **Cash (Min mEUR):** Minimum cash-on-hand required
- Securities (%)**
- : **Interest:** Interest yielded from securities
- Average Interest Rate**
- : **CFROI:** This is the interest rate that appears in the Value-Oriented Ratios report (No.16) as ratio number 7.
- WACC**
- : **From Version 11.0, WACC, which is used to calculate the EVA and RONA values, is calculated per period and per company. WACC is an after-tax value.**
- Value per index**
- : Value in mEUR per planning item.
(Basis for the calculation of the earning capacity value)

Data for the Periods Period: 6

Mkt/Staff/Lines Prod./Purchasing Financing **Other** Company Comparison Corrections Cu

	Purchas.	Admin.	Production	R & D	Sales
Depreciation of Buildings (%)	5.0	15.0	70.0	5.0	5.0
Misc. Fixed Costs (mEUR)	0.0	0.0	6.0	0.0	0.0
Maintenance Costs (mEUR)		1.0	0.1	Min/Prod.Line	

	Inp.Mat/Parts	Finished Prod.
Storage Costs per ths.Un.(mEUR)	0.05	0.10
	Product 1	Product 2
Extraord. Costs Sales (mEUR)	0.0	0.0
	Step-Fixed	Penalty (%)
Overtime	0.0	0.0
	Market Research	Planning Models I / II
MRR / Planning Models (mEUR)	0.10	0.05

Inflation Index	111.0	Index
Exchange Rate Market 2	1.35	EUR/FCU
Added Capacity Due to Overtime	0.0	%
Fixed Costs for Administration	2.5	mEUR
Dividends (Min % of Net Income)	30.0	%
Enviro. Rating Reduction / Machine	0.0	Points

OK Print Cancel Help

- Depreciation of Buildings (%)** : Allocation to the cost centres: The sum must be 100. When you change a value, the program will automatically adjust to the change so that the total makes up 100.
- Misc. Fixed Costs (mEUR)** : All companies can change their amount of miscellaneous fixed costs directly.
- Maintenance Costs (mEUR)** :
- Administration (mEUR)
 - Production (Minimum value per period and line. If the entry is incorrect then the field automatically reverts to the default minimum value).
- Storage Costs per ths.Un. (mEUR)** : For input materials/parts and finished products
- Extraord. Costs Sales (mEUR)** : Can be allocated for specific purposes
- Overtime** :
- **Step-Fixed Costs** apply when overtime is required (e.g. increased costs for plant security, in-house fire protection).
 - **Penalty** on costs for wages and salaries
- MRR / Planning Models (mEUR)** :
- **MRR**: Cost of market research reports for the period
 - **Planning Models I + II**: Cost for each run. This applies to both Planning Models on the Participants' Systems. The costs are included in Report 4, under the item: Misc. fixed costs (Administration).
- Inflation Index** : Basis for the simulation of the industry's volume
- Exchange Rate Market 2** : Exchange rate (EUR/FCU)
- Added Capacity Due to Overtime** : Maximum possible overtime as % of the normal capacity
- Fixed Costs for Administration** : Administration costs in mEUR that occur regardless of sales volume
- Dividends (Min.% of Net Income)** : Dividends as % of net income for the year
- Enviro. Rating Reduction / Machine** : The environment index ratings are reduced by this number of points (e.g. effect of new environmental regulations).

Data for the Periods

Period: 6

Mkt/Staff/Lines Prod./Purchasing Financing Other **Company Comparison** Corrections Cu

Company Comparison (mEUR)		C 1	C 2	C 3	C 4	C 5
Extraordinary Income		0.0	0.0	0.0	0.0	0.0
Extraordinary Expense		0.0	0.0	0.0	0.0	0.0
Severance Packages		0.0	1.0	5.9	0.0	0.0
Change Prod. Staff (%)		0.0	0.0	0.0	0.0	0.0
Change Sales Staff (%)		0.0	0.0	0.0	0.0	0.0
Enviro. Penalty (mEUR)		0.0	0.0	0.0	0.0	0.0
Loan Interest Rate (+/- %)		0.0	0.0	0.0	0.0	0.0
WACC (If > 0)		0.0	0.0	0.0	0.0	0.0
Rating (+/-)		0.0	0.0	0.0	0.0	0.0

Adjustment of Inventories for Finished Goods		Product 1		Product 2	
		+/- (Unit)	Price (EUR)	+/- (Unit)	Price (EUR)
C 1		0	0	0	0
C 2		0	0	0	0
C 3		0	0	0	0
C 4		0	0	0	0
C 5		0	0	0	0

OK Print Cancel Help

- Extraordinary Income** : Appears under "Other income " in the P/L Statement
- Extraordinary Expense** : Appears under "Other expenses" in the P/L Statement
- Severance Packages** : If the participants wish to dismiss more production staff than the maximum limit permits, they will incur costs for severance packages. Initially, the costs appear under "Dismissal costs Production" in the cost centre accounts.
- Change Prod. Staff (%)** : The instructor may override the staff turnover rate that the program has calculated for the production staff. (This also applies to the sales force)
- Change Sales Staff (%)** : The instructor may override the staff turnover rate that the program has calculated for the production staff. (This also applies to the sales force)
- Enviro. Penalty (mEUR)** : Additional environmental taxes as penalty (mEUR)

By using the given input fields, the instructor may reward or penalize participating groups for their actions.

Loan Interest Rate (+/- %) : It is possible for the instructor to override the adjustments to the interest rate made by the rating model

WACC (If > 0) : The instructor can override the WACC, which was calculated by the simulation model.

Rating (+/-) : The rating, which was calculated by the simulation model, can be adjusted by the instructor.

Adjustment of Inventories for Finished Goods : The instructor can adjust the quantity of finished goods in the inventories for the various companies if necessary. The company will then gain/incur "extraordinary" income/expenses accordingly.

Data for the Periods

Period: 6

Mkt/Staff/Lines | Prod./Purchasing | Financing | Other | Company Comparison | **Corrections** | Cu

Market Data

Corrections in Market Shares (+/-%) per Product and Market

			C 1	C 2	C 3	C 4	C 5
Product 1	Market 1		0.0	0.0	0.0	0.0	0.0
	Market 2		0.0	0.0	0.0	0.0	0.0
Product 2	Market 1		0.0	0.0	0.0	0.0	0.0
	Market 2		0.0	0.0	0.0	0.0	0.0

Balance Sheet

Data Entry for Owner's Equity (+/-).

		C 1	C 2	C 3	C 4	C 5
Share Price (+/- EUR/Share)		0	0	0	0	0
Share Capital		0.00	0.00	0.00	0.00	0.00
Capital Reserve		0.00	0.00	0.00	0.00	0.00
Retained Earnings		0.00	0.00	0.00	0.00	0.00
Cash (Total)		0.00	0.00	0.00	0.00	0.00

OK | Print | Cancel | Help

Market Data

: You may distribute additional market share per product, market, and company (if for instance, the groups have presented a high quality advertising plan).

The respective market shares of the companies may not correspond exactly to the values that you enter because the total of the companies' market shares must equal 100%, and also the companies may experience problems with delivery/capacity.

Balance Sheet

For the balance sheet items

- Share capital
- Capital reserve
- Retained earnings

You can increase or decrease the values (+ or -). The total amount of the values entered appears in the column called "Cash total." When you repeat the simulation for the period, the "Cash" amount on the balance sheet as well as the "Extraordinary income", and "Share capital" values in the financial reports are altered to reflect the changes that you entered.

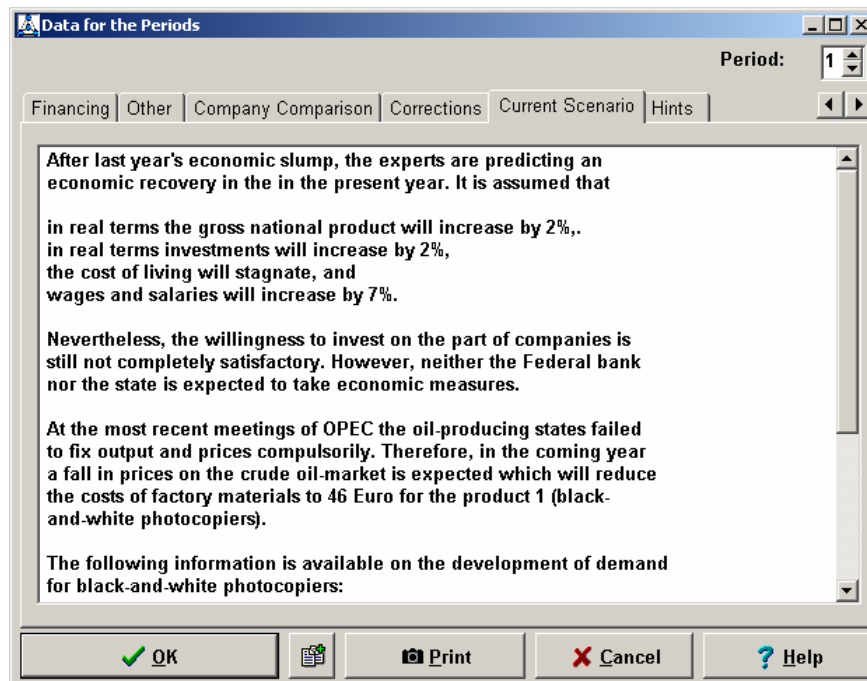
You can, by this means, simulate capital increases and decreases.

Share Price ± EUR/Share

: You can override the share price calculated by the model.

3.2.2.7

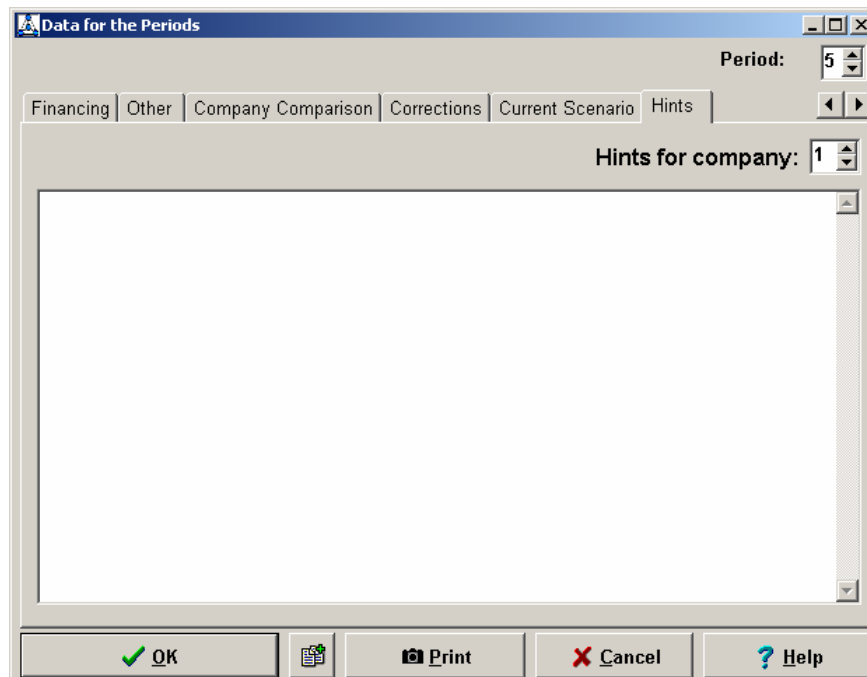
Current Scenario



Scenario

: The texts that appear here is available to the participants via a window in the participants' system. It provides information on the economy and relevant figures. It is extracted from the documents about the scenarios that are available in chapter 8 of the book.

3.2.2.8 Hints



The instructor can provide the teams with additional details and instructions. The participants can find these stated in report no. 1 (Executive Summary).

3.2.3 Activation of Features

The selections made by the instructor as to when features (including groups of decisions concerning products, markets, reports, and the Planning Models provided on the Participants' Systems) will be activated in the simulation determine the level of complexity. In addition, you also have the option of eliminating a bankrupt company from the game.

3.2.3.1 Products/Markets

Here you can choose from what period onwards the various decision areas will be activated. Clicking in the corresponding check box activates or deactivates the feature in question. The launch of Product 1-new cannot be permitted before its development. If this is permitted by accident, the launch will occur together with the development of the product.

	0	1	2	3	4	5	6	7	8
Product 1, Market 1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Product 1-Old: Relaunch	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Product 1-New: Development	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Product 1-New: Launch	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Product 1, Market 2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Product 2 - Development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Product 2, Market 1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Product 2, Market 2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

The so-called "base scenario" - **Product 1 - Market 1** - is always activated from Period 0 onwards. This cannot be changed.

Product 2:

The development of Product 2 is possible from Period 5 onward in the standard scenario. In this scenario, it can be made available on Market 1 in Period 6 and on Market 2 in Period 7.

Remark: Until version 9.0 of TOPSIM General Management II, the activation of Product 2 was performed differently. We have organized this version differently with respect to Period 2 in order to avoid confusion.

The development of Product 2 (color copier) is now possible, and its can also be introduced on the market. Please be aware that introduction of Product 2 also depends on the "data for the period", and whether market volume already exists there. If the market volume is set to 0 in the "Data for the Periods" window, then activating this function has no effect even if a checkmark has been entered in the correct check box in the "Activation of Features" window.

3.2.3.2

Reports

Please select from which period onwards the features of the simulation are active.

Products/Markets Reports Planning Models Bankruptcy Ratios Decisions Languages

☐ US-GAAP?

Periods: 0 1 2 3 4 5 6 7 8

1. Executive Summary	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2. Market Results/Inventory Values	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3. Product Lines/Environmental Techn.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
4. Human Resources/Product Devel.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
5. Cost Type/Cost Center Accounting	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
6. Cost Accounting (Unit of Outp. Cost)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
7. Contribution Margins	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
8. Profit & Loss Statement, Cash-Flow	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
9. Financial Report and Balance Sheet	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
10. Overall Company Results	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
11. Out-of-Line Situations	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
12. Market Research Report I	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
13. Market Research Report II	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
14. Business Report on the Industry	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
15. Corporate Socio-Economic Statement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Value-Oriented Ratios	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
17. Scenario	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
18. Decisions	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

OK Print Cancel Help

Here you can select from which period onwards the various reports will be available. E.g. "Contribution Costing" from Period 1 onwards. It is not described in the text on the starting situation of the participants' manual.

The Contribution Margins report is activated together with "Market Research Report I" because these two documents contain the same data. If one company does not order a market research report, then the Contribution Margins report will not be available either

(see also section 7.2.).

Please click on the checkbox "US-GAAP," if you wish to allow the participants to see their reports in US-GAAP version.

3.2.3.3

Planning Models

Please select from which period onwards the features of the simulation are active.

Products/Markets Reports Planning Models Bankruptcy Ratios Decisions Languages

Please select from which period onwards the planning models are active.

1 2 3 4 5 6 7 8

Planning Model 1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Planning Model 2	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Planning Model 3	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

0 1 2 3 4 5 6 7 8

Planned Figures	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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OK Print Cancel Help

Planning Model 1
Planning Model 2
Planning Model 3

: With this function you determine from which period onwards the Planning Models will be made available to the participants on their systems.

Planned Figures

: You will select the periods from which the planned figures are to be submitted with the decisions. The differences between expectations and realizations will be calculated.

3.2.3.4 Bankruptcy

	Periods:								
	0	1	2	3	4	5	6	7	8
Company 1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Company 2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Company 3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Company 4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Company 5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Here, companies can be eliminated from the game. If, for example in Period 4, bankruptcy is entered for Company 1 and Period 4 is then simulated, then the company will be eliminated from the market and will no longer appear in the reports.

The market volume is then at the disposal of the other companies.

3.2.3.5 Ratios

Value-Oriented Ratios	
1. Net Operating Income (NOI)	<input checked="" type="checkbox"/>
2. Cash-Flow (CF)	<input checked="" type="checkbox"/>
3. Net Assets (NA)	<input checked="" type="checkbox"/>
4. RONA (NOI / NA)	<input checked="" type="checkbox"/>
5. EVA (NOI - i% * NA)	<input checked="" type="checkbox"/>
6. EVA (Period - Prev. Period)	<input checked="" type="checkbox"/>
7. CFROI (CF / NA)	<input checked="" type="checkbox"/>
8. DTCF (CF - j% * NA)	<input checked="" type="checkbox"/>
9. DDTCF (DTCF: (Per. - Prev. Period))	<input checked="" type="checkbox"/>
10. MVA	<input checked="" type="checkbox"/>
11. EBIT	<input checked="" type="checkbox"/>
12. EBITDA	<input checked="" type="checkbox"/>
13. CASH-FLOW-Statement International	<input checked="" type="checkbox"/>

The numerous ratios that you are provided in Report 15 may not all be of particular importance to you. You can therefore choose the ratios that you want to see.

3.2.3.6 Others

	Periods:								
	0	1	2	3	4	5	6	7	8
Ecology	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Value Analysis	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Rationalization	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Environmental Investments	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Training	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Process optimization	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Non-Salary Staff costs	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Financial Decisions	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Purchase of Input Material	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Subcontracting of Product 2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Corporate Identity	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

With this version you have a great deal more flexibility in terms of the various features that can be activated or remain deactivated. The possibilities shown here (such as the option to change the language with the purchase of a licence) are explained in the appendix of the Instructors' Manual.

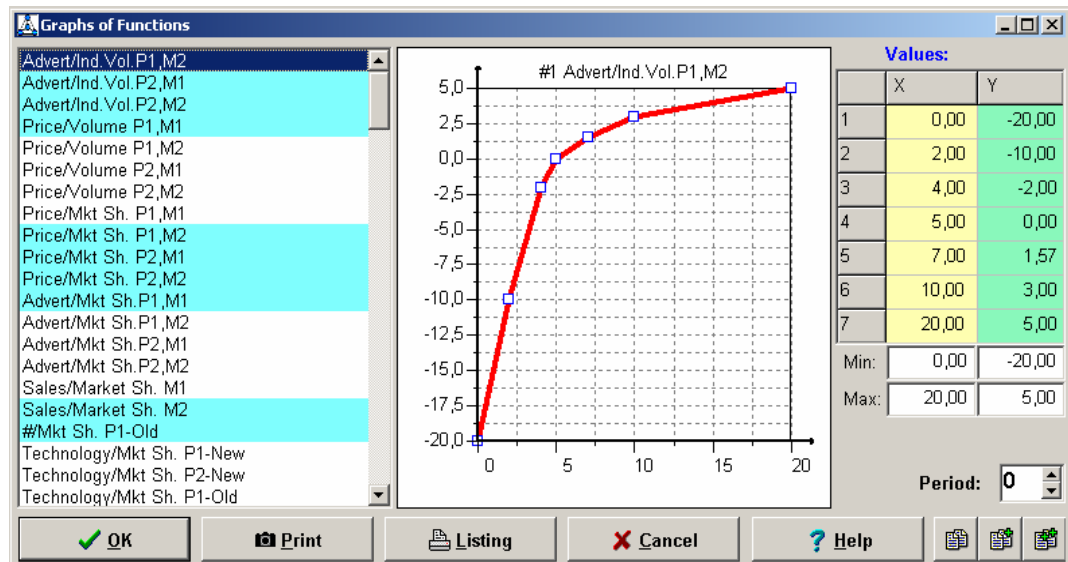
	Periods:								
	0	1	2	3	4	5	6	7	8
German	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
English	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
French	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Italian	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Spanish	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Russian	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Greek	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Depending on the license you own, different languages can be activated or deactivated for the participants. You are not restrained from switching from language to language in the Instructor's System.

3.2.4 Graphs of Functions

In **TOPSIM - General Management** there are more than 140 curves which formulate the simulation model. Every curve consists of seven coordinate points.

When you select the function "Graphs of Functions", you will see a window with the curves listed.



You can view and change the coordinates of every curve, however, the values of the points have been defined with care following the observation of many simulations. If you change the coordinate points of the curves, UNICON no longer guarantees that the model will continue to function correctly. You will be reminded of this if you make changes to the curves and then try to close the window. You then have the opportunity to undo your changes. From version 10.0, the functions can be modified for each of the periods. You can attach the functions to specific periods as explained below:



With this switch, you can apply the function for the current period to coming periods. All changes made for the coming period will then be overwritten.



Apply all functions for the current period to the coming period.



Apply all functions for the current period to all following periods.

Brief description of graphed functions:

No	Description x - axis	Description y -axis
1 - 4	Advertising of sector of industry in % of sales	+ / - in % on the sector of industry's volume
5 - 8	Sector of industry's current average price divided by inflation	+ / - in % on the sector of industry's volume
From curve 9 on, the values refer to individual companies		
9 - 12	Variance Price from Industry's average price	+ / - Revision on the market share
13 - 16	Impact factor for Advertising	as above
17 - 18	Impact factor for Sales	as above
19 - 21	Technology Index	as above
22 - 24	Ecology Index	as above
25	Cumulative expenses for CI	as above
26 -28	Cumulative expenses R & D for technology (mEUR)	Technology Index
29 - 31	Cumulative expenses R & D for ecology	Ecology Index
32 - 34	Cumulative expenses R & D for value analysis	Value analysis index
35 - 37	Expenses for maintenance (mEUR)	Availability of production lines (%)
38 - 40	Cumulative expenses for rationalization	Rationalization Index
41	Non-salary staff costs	Effect on rework (expressed in % of the payroll)
42	Technology Index	as above
43	Value analysis index	as above
44 - 48	Non-salary staff costs (%)	Staff attrition rate in % of the opening workforce
49 - 52	Sales (mEUR) per product	Personnel requirements (Number)
53 - 56	Absolute variance Target -Actual mEUR	Value of planning quality (from 0 to 1.0)
57	Absolute variance Target - Actual in %	as above
58	Absolute variance Target - Actual in MEUR	as above
59	Expenses for environmental technology in mEUR	Reduction of environmental damage (points)
60	Environmental damage indicator Production lines	Tax paid to environmental authorities
61	Environmental damage indicator Production lines	+ / - adjustment to the market share
62	CI expenses	Corporate image

Brief description of graphed functions (continuation)

No	Description x – axis	Description y - axis
Effects on the share price:		
63	Owners' equity/Share	Share price
64	Net income/Share	Share price
65	Dividend/Share	Share price
66	Cumulative dividend/Share	Share price
67	Return on sales	Share price
68	Cumulative expenses for marketing mix	Share price
69	No. of products and markets in Sales	Share price
70	Corporate image index	Share price
71	Ranking of total sales	Share price
72	Planning quality	Share price
73	Environmental Index of production lines	Share price
74	Debt/equity ratio Liabilities/Equity	Share price
	Additional diagrams:	
75	Cumulative expenses for lean production projects.	Lean Production Index
76	Cumul. in-service training	Competence Index
Effect on absenteeism of production staff:		
77	Non-salary staff costs	Absenteeism rate
78	Expenses for Lean production projects (mEUR)	Absenteeism rate
79	Env. index of production lines	Absenteeism rate
80	Expenses on training (mEUR)	Absenteeism rate
81	New hires in % compared with prev. per.	Absenteeism rate
82	Dismissals in % compared with prev. per.	Absenteeism rate
83	Tech.-/Eco.situation	Factor for know how transfer from Product 1-old to Product 1-new and Product 2 (since version 10 set to 0)
84	Learning curve Product 1: Cumulative production to previous period in 1000 units	Productivity index II for Product 1
85	Learning curve Product 2: Cumulative production to previous period in 1000 units	Productivity index II for Product 2
86	Correction factor Mkt. Model Specific curve of market model	

3.2.5 Factors/Cost Allocation

Factors / Cost Allocation

These definitions apply for all companies and all periods.

Impact of Factors | **Cost Allocation**

		New	Old	Max mEUR	Start mEUR
Advertising		0.70	0.40	16.00	5.00
Sales Force		0.65	0.37	10.00	3.50
Corporate Identity		1.00	0.50	80.00	5.00

		New	Old	Max mEUR	Start mEUR
Technology	Product 1-Old	1.00	1.00	45.00	6.74
	Product 1-New	1.00	1.00	45.00	6.00
	Product 2-New	1.00	1.00	40.00	8.00
Ecology	Product 1-Old	1.00	1.00	35.00	2.50
	Product 1-New	1.00	1.00	30.00	1.50
	Product 2-New	1.00	1.00	40.00	3.00

Factors Product 1:

	Advertising	Market Share
Relaunch	0.80	1.10
New Launch	1.10	1.20

The values entered for each of the factors are fixed values (not functions) and are used in the simulation model. They determine the impact/influence of the factor. If required, these values can also be changed, but you should be aware of the effects of making changes. The fields in which you enter the values are used for all periods.

- New** : Impact of factor in the current period
- Old** : Impact of factor on the after-effects of decisions made in previous periods
- Max. mEUR** : Upper limit on the impact made by the factor
- Start mEUR** : Starting values for the impact of the factor

Example Advertising

Sales P 1 M 1: 130.00 mEUR

Impact of advertising in the previous period: 5.60

Advertising expenses of period: 6.00 mEUR; their effect is measured by sales.

Calculation of the new value for the impact of advertising in the current period:

Impact of factor

$= [\text{Impact of factor in previous period (5.60)} * \text{"old" (0.40)}]$

$+ \frac{\text{Advert. exp. (6.0 mEUR)}}{\text{Sales (260.00 mEUR)}} * 100 * \text{"new" (0.70)}$

$= 5.60 * 0.40 + 4.62 * 0.70$

$= 2.24 + 3.23$

$= 5.47$

The impact of the factor is the basis for the calculation of the market shares resulting from advertising.

The value found with this calculation is an intermediary value used by the model to start the calculation. The value obtained at the end of the calculation is almost never identical. Therefore, it is impossible to recalculate this factor accurately from the instructor's report.

Relaunch

Advertising : Impact of advertising when Product 1 is relaunched.
The impact of advertising during the relaunch is only 80 % of the normal value (it is set at this figure here).

Market Share : Impact of market share during relaunch
The market share during the relaunch increases by 1.1 compared with "No relaunch."

New product launch : Similar to relaunch

	Purchasing	Admin.	Production	R & D	Sales
Material Value	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Direct Costs	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Capacity Required	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Production Volume	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CGM	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sales Revenue	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>

Buttons:

At the top of the screen you will find the allocation possibilities for unit-of-output costing for the cost centres Purchasing, Administration, Production, R&D, and Sales.

- 1 In proportion to the cost of direct materials (**Material Value**)
- 2 In proportion to the direct costs (**Direct Costs**)
- 3 In proportion to the capacity requirements (**Capacity Required**)
- 4 In proportion to the production volume (**Production Volume**)
- 5 In proportion to the costs of goods manufactured (**CGM**)
- 6 In proportion to revenue (Sales Revenue)

If a certain basis for allocation does not seem sensible to you or to the participants for the allocation of overhead for unit-of-output costing, or you wish to see the effects of changing the basis for allocation, simply implement your decisions about cost allocation by clicking on the corresponding radio buttons.

3.2.6 Define Variables for Analyses

TOPSIM - General Management II allows you to select from a range of variables with which you can compile various analyses for all participating teams and periods simulated.

These variables are available

- In list format (Reports: Analyses),
- As on-screen charts and graphs, or
- By being exported as ASCII-files to a program such as EXCEL.

Before drawing up your analyses, you should define each of the variables. This is carried out in the following dialog box.

No.	Title	Subtitle	Units	Report	Excel	Decim.	Rang
1	Possible Sales	Product 1 / Market 1	Units	N	Y	0	31
2	Possible Sales	Product 1 / Market 2	Units	Y	Y	0	32
3	Possible Sales	Product 2 / Market 1	Units	Y	Y	0	33
4	Possible Sales	Product 2 / Market 2	Units	Y	Y	0	34
5	Actual Sales	Product 1 / Market 1	Units	Y	Y	0	35
6	Actual Sales	Product 1 / Market 2	Units	Y	Y	0	36
7	Actual Sales	Product 2 / Market 1	Units	Y	Y	0	37
8	Actual Sales	Product 2 / Market 2	Units	Y	Y	0	38
9	Possible Market Share	Product 1 / Market 1	%	Y	Y	1	39
10	Possible Market Share	Product 1 / Market 2	%	Y	Y	1	40
11	Possible Market Share	Product 2 / Market 1	%	Y	Y	1	41
12	Possible Market Share	Product 2 / Market 2	%	Y	Y	1	42
13	Actual Market Share	Product 1 / Market 1	%	Y	Y	1	43
14	Actual Market Share	Product 1 / Market 2	%	Y	Y	1	44
15	Actual Market Share	Product 2 / Market 1	%	Y	Y	1	45
16	Actual Market Share	Product 2 / Market 2	%	Y	Y	1	46

Buttons: OK, Print, Cancel, Help

- No.** : Number of variable used for drawing up your analyses. For variable 9 a file with the name TOPHARV.009 is generated. The numbers are listed in chronological order and depend on the order in which they are generated by the results overview report and the graphical representations.
- Title**
Subtitle
Units : Titles (Identifiers) of the respective variables are in list form and/or graphical form. You may change these identifiers yourself (max.18 characters). As Excel only allows 8 characters, you may need to make suitable abbreviations.
- Report** : Yes / No - decisions as to whether the variable should be included in the reports.
With these decisions you compile the selected variables in a special report that you then have for quick reference during the game.
- EXCEL** : Yes / No – decisions as to whether the variable should be included in the exported files.
Note: If UNICON's EXCEL-Show is used, then all of the variables should be selected. (Initially, all variables are selected already by default.)
- Decim.**
Rank : Number of decimal places for the value
Used to determine the order in which the variables are generated in the reports and charts.

You can set up the analysis report (see point 5.3), if you are playing games in parallel. You then select the order of the relevant variables for the different teams. In this case, for example, only select some of the variables for the analysis report:

Cumulated planning quality

Net income

...

and print the values for each period and for each game. After prioritizing the variables, you can measure the effectiveness of the teams based on them.

Complete list of possible variables:

No.	Title	Subtitle	Units
1.	Possible Sales	Product 1 / Market 1	Units
2.	Possible Sales	Product 1 / Market 2	Units
3.	Possible Sales	Product 2 / Market 1	Units
4.	Possible Sales	Product 2 / Market 2	Units
5.	Actual Sales	Product 1 / Market 1	Units
6.	Actual Sales	Product 1 / Market 2	Units
7.	Actual Sales	Product 2 / Market 1	Units
8.	Actual Sales	Product 2 / Market 2	Units
9.	Possible Market Share	Product 1 / Market 1	%
10.	Possible Market Share	Product 1 / Market 2	%
11.	Possible Market Share	Product 2 / Market 1	%
12.	Possible Market Share	Product 2 / Market 2	%
13.	Actual Market Share	Product 1 / Market 1	%
14.	Actual Market Share	Product 1 / Market 2	%
15.	Actual Market Share	Product 2 / Market 1	%
16.	Actual Market Share	Product 2 / Market 2	%
17.	Sales	Bulk Buyer	Units
18.	Sales	Required Bids	Units
19.	Productivity	Product 1	Prd./Prs.
20.	Productivity	Product 2	Prd./Prs.
21.	Price	Product 1 / Market 1	EUR
22.	Price	Product 1 / Market 2	FCU
23.	Price	Product 2 / Market 1	EUR
24.	Price	Product 2 / Market 2	FCU
25.	Price	Required Bids	EUR
26.	Total Sales Revenue	Product 1 / Market 1	mEUR
27.	Total Sales Revenue	Product 1 / Market 2	mEUR
28.	Total Sales Revenue	Product 2 / Market 1	mEUR
29.	Total sales Revenue	Product 2 / Market 2	mEUR
30.	Total Sales Revenue	Bulk Buyer	mEUR
31.	Total Sales Revenue	Required Bids	mEUR
32.	Cumul.Total Sales Revenue	Product 1 / Market 1	mEUR
33.	Cumul.Total Sales Revenue	Product 1 / Market 2	mEUR
34.	Cumul.Total Sales Revenue	Product 2 / Market 1	mEUR
35.	Cumul.Total Sales Revenue	Product 2 / Market 2	mEUR
36.	Total Sales Revenue	Total Act. Period	mEUR
37.	Cumul.Total Sales Revenue	Total All Periods	mEUR
38.	Advertising	Product 1 / Market 1	mEUR
39.	Advertising	Product 1 / Market 2	mEUR
40.	Advertising	Product 2 / Market 1	mEUR
41.	Advertising	Product 2 / Market 2	mEUR
42.	Advertising	Total	mEUR
43.	Total Staff		Number
44.	Shareholder Earnings	Cumulative	mEUR
45.	Shareholder Earnings	Cumulative	% of P0
46.	<--- free --->		
47.	Product Development	Product 1 - Old	mEUR
48.	Product Development	Product 1 - New	mEUR
49.	Product Development	Product 2 - New	mEUR
50.	Cum. Product Development	Product 1 - Old	mEUR
51.	Cum. Product Development	Product 1 - New	mEUR
52.	Cum. Product Development	Product 2 - New	mEUR
53.	Product Development	Total	mEUR
54.	Salesmen	Market 1	Number
55.	Salesmen	Market 2	Number
56.	Salesmen	Total Actual Period	Number
57.	Total of Advertising, CI	Product Devel., sales	mEUR
58.	Production Lines	Type A	Number
59.	Production Lines	Type B	Number
60.	Production Lines	Type C	Number
61.	Personnel	Purchase	Number
62.	Personnel	Administration	Number
63.	Personnel	Production	Number

64. Personnel	R & D	Number
65. Personnel	Sales	Number
66. Personnel Costs Incl.	Non-Sal. Staff costs	mEUR
67. Non-Sal. Staff Costs		%
68. Corporate Identity		mEUR
69. Investment in	Environmental Techn.	mEUR
70. Capacity of	Production Lines Type A	Units
71. Capacity of	Production Lines Type B	Units
72. Capacity of	Production Lines Type C	Units
73. Production	Product 1	Units
74. Production	Product 2	Units
75. Utilization	Production Lines	%
76. Utilization	Production Personnel	%
77. Production Prod.1	Total All Periods	Units
78. Production Prod.2	Total All Periods	Units
79. Additional Purchase	Finished Goods	Units
80. Warehouse Inventory	Material for Product 1	Units
81. Warehouse Inventory	Material for Product 2	Units
82. Warehouse Inventory	Product 1	Units
83. Warehouse Inventory	Product 2	Units
84. BALANCE SHEET	Cash(+), Overdraft(-)	mEUR
85. BALANCE SHEET	Equity	mEUR
86. BALANCE SHEET	Net Income/Net Loss	mEUR
87. BALANCE SHEET	Liabilities	mEUR
88. BALANCE SHEET	Pension Reserve	mEUR
89. BALANCE SHEET	Total Balance	mEUR
90. Manufacturing Costs	Product 1	EUR/Unit
91. Manufacturing Costs	Product 2	EUR/Unit
92. Total Costs of Prod.	Product 1	EUR/Unit
93. Total Costs of Prod.	Product 2	EUR/Unit
94. Operating Income		mEUR
95. Net Income /	Net Loss	mEUR
96. Contrib.Margin II	Product 1 / Market 1	EUR/Unit
97. Contrib.Margin II	Product 1 / Market 2	EUR/Unit
98. Contrib.Margin II	Product 2 / Market 1	EUR/Unit
99. Contrib.Margin II	Product 2 / Market 2	EUR/Unit
100. Contrib.Margin III	Product 1 / Market 1	EUR/Unit
101. Contrib.Margin III	Product 1 / Market 2	EUR/Unit
102. Contrib.Margin III	Product 2 / Market 1	EUR/Unit
103. Contrib.Margin III	Product 2 / Market 2	EUR/Unit
104. Cash-Flow		mEUR
105. Return on Investment	(ROI)	%
106. Return on Equity		%
107. Total Capital Rate		%
108. Turnover Profitability		%
109. % Own Capital Rate	Total Balance	
110. % Outside Capital Rate	Total Balance	
111. Capital Turnover		
112. Planning-Act. Variance	Revenue Prod.1/Market 1	%
113. Planning-Act. Variance	Revenue Prod.1/Market 2	%
114. Planning-Act. Variance	Revenue Prod.2/Market 1	%
115. Planning-Act. Variance	Revenue Prod.2/Market 2	%
116. Planning Quality	Product 1 / Market 1	
117. Planning Quality	Product 1 / Market 2	
118. Planning Quality	Product 2 / Market 1	
119. Planning Quality	Product 2 / Market 2	
120. Planning-Act. Variance	Return on Equity	%
121. Planning-Act. Variance	Cash-Flow	%
122. Planning Quality	Return on Equity	
123. Planning Quality	Cash-Flow	
124. Net Income	Cumulative	mEUR
125. Planning Quality	Actual Period	
126. Planning Quality	Cumulative	
127. Earn. Capital Value	Actual Period	mEUR
128. Earn. Capital Value	Cumulative	mEUR
129. Real Net Output	Cumulative	mEUR
130. Real Net Output	As a Perc. of Revenue	
131. Dividends	Cumulative	mEUR
132. Share Price		EUR/sh.
133. Value of Company		mEUR
134. Corporate Image Index		Index
135. Production Staff	Absenteeism	%
136. Training	Expenditure/Period	mEUR
137. Training	Quality Index	Index
138. Process Optimization	Expenditure/Period	mEUR
139. Process Optimization		Index
140. Productivity Index		Index
141. RONA	NOI/NA	%
142. EVA	NOI - % * NA	mEUR
143. EVA	Period - Prev.Per.	mEUR
144. CFROI	CF/NA	%

145. DTCTF	CF - % * NA	mEUR
146. DDTCTF	DTCTF Period-Prev.per.	mEUR
147. MVA		mEUR
148. Product 1 - Old	Technology	Index
149. Product 1 - Old	Ecology	Index
150. Product 1 - Old	Value Analysis	Index
151. Product 1 - New	Technology	Index
152. Product 1 - New	Ecology	Index
153. Product 1 - New	Value Analysis	Index
154. Product 2	Technology	Index
155. Product 2	Ecology	Index
156. Product 2	Value Analysis	Index
157. Customer Satisfaction	Product 1, Market 1	Index
158. Customer Satisfaction	Product 1, Market 2	Index
159. Customer Satisfaction	Product 2, Market 1	Index
160. Customer Satisfaction	Product 2, Market 2	Index
161. Motivation		Index
162. Rating		Index
163. WACC		%
164. Rework		

3.3 Date of Reports

With this function you can change the date to appear in the reports during the course of the game, or specify the date on which a future seminar will take place while preparing for it.

4. Simulation

4.1 Simulate Next (x) Period

The **Simulation** menu allows you to simulate the **next period**.

4.2 Simulate Previous Period

You may also **re-simulate the last period that was previously simulated** (e.g. Period 5), if you have modified the parameters for it. (For example: if you modify the decisions of the participants).

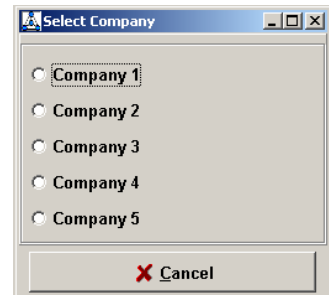
If you wish to re-simulate a former period you may do so only by resetting the game.

Resetting means restarting the simulation in progress back to Period 0 in order to re-extrapolate the results up to a certain period (e.g. Period 4 in order to change the period's parameter, and consequently the results).

Go to the **File** menu and select **Restart simulation in progress**. Now the period counter is set back to 0. The values that have accrued during the seminar are unchanged. Re-simulate the periods up to the period in which the changes are to be made. Make these changes, re-simulate the period, and continue to extrapolate up to the current period. As it takes only a few seconds to simulate a period you quickly arrive back at the current period. Carefully note the changes in the results.

4.3 Planning Models 1, 2, and 3: Call up, Exit, Code Word

If the participants are not working with the participants' software they can work with the Planning Models on the instructor's computer. It is the instructor's responsibility to open the Planning Model for the group in question. The participating group then enters its planned and assumed values in a form. Once they have finished working with the Planning Models, the instructor must then enter a code-word (**code word = SPL**) so that the main menu can be returned to again. By doing so, participants can be prevented from accessing and viewing your files.

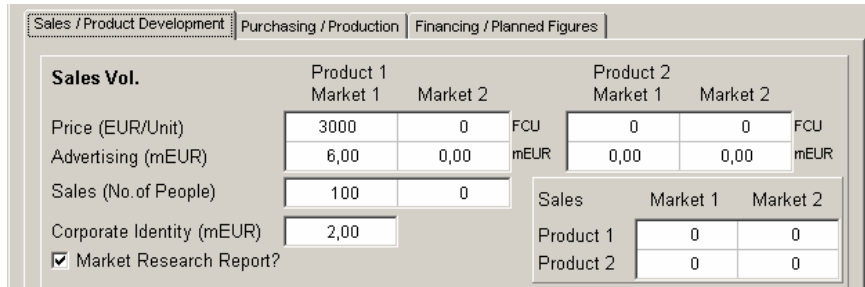


Important note:

As long as the participants use the Planning Models on the Instructor's System the runs are free of charge. On the Participants' Systems each run costs money. Default values in the standard versions are 50,000 Euro per run. This is intended to prevent "aimless experimentation".

4.3.1 Planning Model 1

The Planning Model 1 allows a cost estimation to be made and thus supports the participants in their decision-making. This planning model assumes that the sales volume expected by the company and entered in the available field is achieved.



The screenshot shows the 'Sales / Product Development' tab of the Planning Model 1 interface. It contains several input fields and tables for data entry.

Sales Vol.	Product 1		FCU	Product 2		FCU
	Market 1	Market 2		Market 1	Market 2	
Price (EUR/Unit)	3000	0		0	0	
Advertising (mEUR)	6,00	0,00	mEUR	0,00	0,00	mEUR
Sales (No. of People)	100	0				
Corporate Identity (mEUR)	2,00					
<input checked="" type="checkbox"/> Market Research Report?						

Sales	Market 1	Market 2
Product 1	0	0
Product 2	0	0

The program shows participants their decision data from the last period. The expected sales values must also be entered. (When you **call up** the Planning Model these are 0).

After completing the data input, the **simulation** is carried out and a **summary of results** is automatically displayed. The participants may also select the reports displaying the results of the Planning Model. They are structured in the same way as the participants' reports. However, they do not contain market reports as information about the market is not accounted for in the cost estimation.

The participants can work on the Planning Model with different values as often as they like. However, their companies incur costs for each run. The expected sales figures and the other values from the last entry are displayed again. If they are satisfied with the results they can use the planning decision values as decision data for the next period. When they quit Planning Model 1 with the **OK** button the system asks:

**Do you want to save your data from the Planning Model
as decision data for the next period (Y/N)?**

Normally the answer is **Yes**. If the participant answers **No**, the program will ask you to confirm again.

If the participants then call up the Planning Model again for the same period, they are presented with the decision data that was previously entered in the Planning Model. **Therefore, note:** If participants wish to interrupt the Planning Model, yet wish to use their last entries again for future planning, they should definitely save the data as decisions because otherwise the earlier (old) entries will reappear. It is especially important to note that the estimated sales figures are lost.

4.3.2 Planning Model 2

Here the participants can make assumptions about the decisions of their competitors and check what the market results would be under these conditions.

Planning Model 2 Company: 1 Period: 7

Assumptions Results

		All	C 1	C 2	C 3	C 4	C 5
Price Per Un.	(EUR)	Product 1 Market 1	3000	3000	3000	3000	3000
	(FCU)	Product 1 Market 2	0	0	0	0	0
	(EUR)	Product 2 Market 1	0	0	0	0	0
	(FCU)	Product 2 Market 2	0	0	0	0	0
Advertising (mEUR)		Product 1 Market 1	6.00	6.00	6.00	6.00	6.00
		Product 1 Market 2	0.00	0.00	0.00	0.00	0.00
		Product 2 Market 1	0.00	0.00	0.00	0.00	0.00
		Product 2 Market 2	0.00	0.00	0.00	0.00	0.00
Sales Force (People)		Market 1	100	100	100	100	100
		Market 2	0	0	0	0	0
R & D	Technology (Index)	Prod. 1	100.0	100.0	100.0	100.0	100.0
		Prod. 2	0.0	0.0	0.0	0.0	0.0
	Ecology (Index)	Prod. 1	100.0	100.0	100.0	100.0	100.0
		Prod. 2	0.0	0.0	0.0	0.0	0.0
Corporate Identity (mEUR)			2.0	2.0	2.0	2.0	2.0
Product 1	Relaunch		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	New Launch		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

End Print Report Cancel Help

The participants enter their planned marketing mix decisions and their expectations of the competition. (The form's layout evolves based on the features that the instructor activates over the course of the game.) The fields for relaunch and new launch appear based on the decisions of the company

Planning Model 2 Company: 1 Period: 3

Assumptions Results

		U1	U2	U3	U4	U5	Total
Sales Vol. (Un.)	Prod. 1 Market 1	53259	53259	53259	53259	53259	266295
	Prod. 1 Market 2	0	0	0	0	0	0
Mkt Share as % of Sales Vol.	Prod. 1 Market 1	20.0	20.0	20.0	20.0	20.0	100.0
	Prod. 1 Market 2	0.0	0.0	0.0	0.0	0.0	0.0
Revenue in mEUR	Prod. 1 Market 1	159.78	159.78	159.78	159.78	159.78	798.89
	Prod. 1 Market 2	0.00	0.00	0.00	0.00	0.00	0.00
Mkt Share as % of Revenue	Prod. 1 Market 1	20.0	20.0	20.0	20.0	20.0	100.0
	Prod. 1 Market 2	0.0	0.0	0.0	0.0	0.0	0.0

End Print Report Cancel Help

By clicking on the **Results** icon the simulation is activated. The program then runs through the market model with the values entered here.

As in Planning Model 1, scores can be saved and loaded again. By clicking on a company name U1 ... U5, you can load the values for this company from the previous period to the simulation model. Additionally, participants can click "All" so that the values of all competitors are loaded at once.

Print Report prints the assumptions and results as reports.

End allows you to leave Planning Model 2.

Note: Even if the same values are entered for all companies in later periods it is possible that different market shares will be calculated. The reason is that, for example, different investments for advertising have been made in the past and there are after-effects occurring in the simulated period. Every run of the planning model costs 50,000 Euro.

Print Report immediately prints the assumptions and the results on a sheet of paper (see below). **End** allows you to leave Planning Model 2.

TATA Interactive Systems GmbH - D-72070 Tübingen Copyright (c) 2006 by TATA MANAGEMENT GAME T O P S I M - General Management II 6 Per Std Date 10. 1.2005						
PLANNING MODEL 2						
Planning Values	C 1	C 2	C 3	C 4	C 5	
Price (EUR/Un.) Product 1, Market 1	3000	3000	3000	3000	3000	
(FCU/Un.) Product 1, Market 2	0	0	0	0	0	
Advertis. (mEUR) Product 1, Market 1	6.00	6.00	6.00	6.00	6.00	
Product 1, Market 2	0.00	0.00	0.00	0.00	0.00	
Sales People (number) Market 1	100	100	100	100	100	
Market 2	0	0	0	0	0	
Prod.developm. Technology Product 1	100.0	100.0	100.0	100.0	100.0	
Product 2	0.0	0.0	0.0	0.0	0.0	
Ecology Product 1	100.0	100.0	100.0	100.0	100.0	
Product 2	0.0	0.0	0.0	0.0	0.0	
Corporate Identity	2.0	2.0	2.0	2.0	2.0	
Product 1 Relaunch	N	N	N	N	N	
Product 1 New launch	N	N	N	N	N	

Results	C 1	C 2	C 3	C 4	C 5	Total
Sales (Units)						
Prod.1, Market 1	53259	53259	53259	53259	53259	266295
Prod.1, Market 2	0	0	0	0	0	0
Market Share (% of Sales)						
Prod.1, Market 1	20.0	20.0	20.0	20.0	20.0	100.0
Prod.1, Market 2	0.0	0.0	0.0	0.0	0.0	0.0
Revenue (mEUR)						
Prod.1, Market 1	159.78	159.78	159.78	159.78	159.78	798.89
Prod.1, Market 2	0.00	0.00	0.00	0.00	0.00	0.00
Market Share (% of Revenue)						
Prod.1, Market 1	20.0	20.0	20.0	20.0	20.0	100.0
Prod.1, Market 2	0.0	0.0	0.0	0.0	0.0	0.0

Remark: It is possible to obtain different market shares even if you enter the same values for all the companies. It is actually because, for example, the advertising expenses from previous periods still affect the current period.

4.3.3 Planning Model 3

Planning Model 3 is a break-even analysis for Product 2, assuming that Product 2 is being subcontracted to an external company.

Four periods can be planned from the moment the instructor activates the feature.

Market Volume

Potential market volume estimated in thousands of units for the whole sector (Market 1 and 2).

Market Share (%)

Market share of the company estimated as a percent of the total market.

Price/Un. (EUR)

Price for the color copier in EUR and FCU

Advertising (mEUR)

Advertising expenses

Add. Sales Personnel

Additional staff for sales compared to the staff for Product 1.

Add. CI (mEUR)

Additional expenses for CI compared to the expenses for Product 1.

R & D: Technology

Number of people needed for the development of Product 2.

Ecology (mEUR)

Expenses for ecology (Product 2).

Value Analysis (mEUR)

Expenses for value analysis (Product 2).

Others (mEUR)

Any other expenses for Product 2, which are not taken into consideration on the form.

Calculations on the right side of the screen are made for every entry and can also be displayed in charts.

Comments on the results:

Price/Un. (EUR)

Weighted average taking the exchange rate into consideration

Sales (Th.Un)

Market Volume * Individual Market Share (for M1 and M2)

Sales (mEUR)

Price * Sales (for M1 and M2).

Subcontracting

Expenses for subcontracting (amount ordered = amount sold because inventory is not planned)

Transport Costs

Transport costs for the period * sales.

Contribution Margin I

Revenue - Subcontracting – Transport charges.

Purchase

Persons needed

Advertising

Value entered

Sales

Value entered * staff costs.

CI

Value entered

Administration

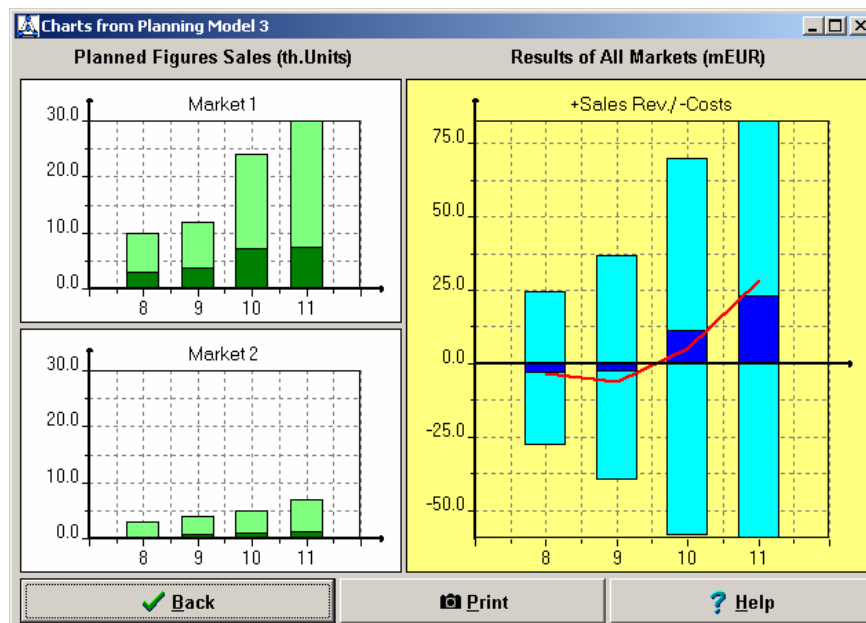
Persons needed (MEUR)

R & D

Number of people (Technology) * staff costs + value entered for ecology and value analysis.

Others	Value entered
Result of the period	Margin I - (Purchase until others).
Period's results	Cumulative results of all the periods

Commentary on the graphs:



Left part

Light color on the bars	Value of the total market.
Dark color on the bars	Your particular value as part of the total market.

Right part

Light colour of the bars	+ revenue and – costs
Dark colour of the bars	Result of the period
Line	Evolution of the added result

Running Planning Model 3 is free of charge.

5. Reports

5.1 Instructor's Reports

In the instructor's reports you will find the most important results from the participants' reports, as well as additional information that is useful for interpreting market results. **You are advised to consult the instructor's reports before the individual company reports.** First, display them on the screen to get a quick overview. As the instructor, you can recognize possible mistakes in the game and you can intervene if necessary. For example, you can impose additional penalties on companies for keeping excessive amounts of inventory on hand. To do so, you would enter the penalty amount in the instructor's data for the period in question, and simulate the period once again.

The reports shown here are examples from a seminar with five participating groups based on data version B. The simulation has reached Period 7, i.e. so a high level of complexity has been attained. The data shown is for the demo version.

5.1.1

Instructor's Report I

INSTRUCTOR'S REPORT I: MARKET RESULTS

MARKET RESULTS	Old New Rel.	CO.	PRICE EUR/COU	ADVERTISING			SALES		REVENUES		POTENTIAL SALES	
				mEUR	%	Factor	Units	%	mEUR	%	Units	%
PRODUCT 1 MARKET 1	N	1	3050	4.0	12.5	3.3	30598	12.4	93.32	13.1	28815	11.5
	N	2	2798	7.0	21.9	5.1	62402	25.2	174.60	24.5	62402	24.8
	N	3	2730	9.0	28.1	5.2	65178	26.3	177.94	24.9	75978	30.2
	O	4	3000	6.0	18.8	4.5	45146	18.2	135.44	19.0	42555	16.9
	O	5	3000	6.0	18.8	4.5	44208	17.9	132.62	18.6	41671	16.6
		φ/S	2884	32.0	100.0	4.5	247532	100.0	713.92	100.0	251421	100.0
PRODUCT 1 MARKET 2	N	1	2300	1.0	22.2	3.2	16912	77.7	52.51	79.2	3810	6.1
	N	2	2098	2.5	55.6	6.5	4860	22.3	13.76	20.8	35101	56.0
	N	3	2030	1.0	22.2	2.9	0	0.0	0.00	0.0	23799	38.0
	O	4	0	0.0	0.0	5.0	0	0.0	0.00	0.0	0	0.0
	O	5	0	0.0	0.0	5.0	0	0.0	0.00	0.0	0	0.0
		φ/S	2255	4.5	100.0	7.5	21772	100.0	66.28	100.0	62710	100.0
PRODUCT 2 MARKET 1		1	9900	2.0	57.1	4.5	3500	31.8	34.65	33.3	6140	27.8
		2	9000	0.5	14.3	2.5	2500	22.7	22.50	21.6	8387	38.0
		3	9360	1.0	28.6	3.1	5000	45.5	46.80	45.0	7555	34.2
		4	0	0.0	0.0	5.0	0	0.0	0.00	0.0	0	0.0
		5	0	0.0	0.0	5.0	0	0.0	0.00	0.0	0	0.0
		φ/S	9450	3.5	100.0	6.7	11000	100.0	103.95	100.0	22082	100.0
PRODUCT 2 MARKET 2		1	7300	2.0	66.7	5.5	0	0.0	0.00	0.0	6020	40.2
		2	6850	0.5	16.7	2.7	0	0.0	0.00	0.0	7733	51.7
		3	7200	0.5	16.7	2.8	0	0.0	0.00	0.0	1218	8.1
		4	0	0.0	0.0	5.0	0	0.0	0.00	0.0	0	0.0
		5	0	0.0	0.0	5.0	0	0.0	0.00	0.0	0	0.0
		φ/S	0	3.0	100.0	7.0	0	0.0	0.00	0.0	14971	100.0

CUSTOMER SATISFACTION	Company 1	Company 2	Company 3	Company 4	Company 5
Product 1 Market 1	106	107	116	97	90
Product 1 Market 2	61	85	92		
Product 2 Market 1	82	112	106		
Product 2 Market 2	108	111	103		

CI / IMAGE	Company 1	Company 2	Company 3	Company 4	Company 5
Expenditure for CI (mEUR)	2.0	2.0	3.0	2.0	2.0
Functional factor CI	5.2	5.6	5.9	4.0	4.0
Corporate image (Index)	104.5	105.7	105.0	99.7	99.7

BULK BUYERS	Sales (Units)	Co. 1: 5000	Co. 2: 7000	Co. 3: 7000	Co.4: 0	Co. 5: 0
	Revenue (mEUR)	Co. 1: 13.50	Co. 2: 18.90	Co. 3: 18.90	Co.4: 0.00	Co. 5: 0.00

TENDER	Prod.1 for tender bid: Company 1; Price (EUR) 1999; Sales (Units) 9000; Revenue (mEUR) 17.99
--------	--

Market Results

Column Old, New, Rel.

: O

N

R

Existing product (Product 1)

Newly developed version of Product 1 that was launched onto the market

Relaunch of the existing Product 1

Company	: Ø / S	Average or total amount (depending on which value is more informative)
Advertising	: mEUR	Expenses in mEUR
	%	Share of advertising expenses as % of the industry
	Func.F.	Functional factor / Impact of factor
		The value entered expresses the impact of advertising expenses on the period and on past periods. The higher the value, the higher the market share.
Sales	: Units	Actual sales in units
	%	Market share related to sales
Revenue	: MEUR	Revenue in mEUR
	%	Market share related to sales revenue
Potential sales	: Units	Potential sales based on the marketing instruments used.
	%	Market share related to the potential sales
		A gap between the potential and actual sales of the company arises if the company has insufficient capacity to supply its customers. 80% of the company's lost sales are distributed to competitors in proportion to their existing market shares. If the competitors can not supply the market either then the sales are simply lost.

Important note on Product 1: Bulk buyers and contracts resulting from bids that have been won have priority over Market 1. In other words, companies can get into a position of not being able to supply customers on the market as a result of having to supply bulk buyers and fulfil contracts first if they fail to produce enough. (This is often easily overlooked!)

Customer satisfaction		The level of customer satisfaction is stated per product and market. The higher the number stated, the happier the customers.
CI / Image		
Expenditure for CI	: Expenses for CI in mEUR	
Functional factor CI	: Current value for the impact of the factor	
Corporate image (Index)	: Current value for the company's image	
Bulk buyers		(In the example, there is no demand from bulk buyers in Period 5).
Sales (Units)	: Sales to bulk buyers in units	
Revenue (mCU)	: Revenue in mEUR to bulk buyers	
Tender	: Information about which company won the bid and the price at which the bid was won. The delivery and invoicing occurs in the following period.	

5.1.2

Instructor's Report II

INSTRUCTOR'S REPORT II: R & D / SALES / PRODUCTION
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PRODUCT- DEVELOPMENT	CO.	TECHNOLOGY			ECOLOGY			VALUE ANALYSIS		
		(mEUR)		Index	(mEUR)		Index	(mEUR)		Index
		Period	Cumul.		Period	Cumul.		Period	Cumul.	
PRODUCT 1 - old	1	0.0	13.2	105.6	0.0	10.5	109.2	0.0	9.0	105.4
	2	1.6	16.2	111.2	0.0	9.5	107.7	1.0	6.0	104.2
	3	1.1	16.6	111.6	0.0	10.0	108.5	0.5	4.5	103.6
	4	1.8	19.7	112.2	2.5	22.5	117.0	1.0	8.0	107.1
	5	1.8	19.7	112.2	2.5	22.5	117.0	1.0	8.0	107.1
	φ/S	6.3	85.3	110.6	5.0	75.0	111.9	3.5	35.5	105.5
PRODUCT 1 - new	1	0.0	13.2	105.6	0.0	10.5	109.2	0.0	9.0	105.4
	2	1.6	16.2	111.2	0.0	9.5	107.7	1.0	6.0	104.2
	3	1.1	16.6	111.6	0.0	10.0	108.5	0.5	4.5	103.6
	4	0.0	6.0	85.0	0.0	1.5	45.0	0.0	0.0	90.0
	5	0.0	6.0	85.0	0.0	1.5	45.0	0.0	0.0	90.0
	φ/S	2.6	58.0	99.7	0.0	33.0	83.1	1.5	19.5	98.6
PRODUCT 2	1	4.8	22.1	105.8	0.5	9.5	102.7	0.5	4.5	102.3
	2	2.7	18.0	101.2	3.0	9.0	101.8	1.0	3.0	100.0
	3	3.7	17.8	101.0	3.0	9.0	101.8	0.0	0.0	90.0
	4	0.0	8.0	80.0	0.0	3.0	45.0	0.0	0.0	90.0
	5	0.0	8.0	80.0	0.0	3.0	45.0	0.0	0.0	90.0
	φ/S	11.2	74.0	93.6	6.5	33.5	79.2	1.5	7.5	94.5

SALES	CO.	MARKET 1		MARKET 2	
		Number of people	Functional factor	Number of people	Functional factor
	1	112	2.7	20	1.5
	2	120	2.8	37	1.7
	3	135	3.1	15	1.0
	4	100	3.1	0	3.5
	5	100	3.1	0	3.5
	φ/S	567	3.0	72	2.3

PRODUCTION /ENVIRONM. PLANTS	CO.	Ration.	Production lines			Envr.ind	Cumul.	Envir.	Damage	Envr.Tax	Avail.	Utilization	
		Cumul.	Type A	Type B	Type C	of line	expend.	reduct.	indica.	n.per.	capac.	Lines	Staff
	1	9.0	1	0	2	91.7	4.5	2.4	94.1	1.2	59389	99.9	97.2
	2	6.0	0	0	3	95.0	1.5	1.0	96.0	0.8	66880	99.9	98.5
	3	1.0	2	0	2	88.2	5.0	2.5	90.7	2.2	66386	97.9	100.0
	4	0.0	4	0	0	76.5	12.0	4.5	81.0	9.0	40180	99.6	99.2
	5	0.0	4	0	0	76.5	12.0	4.5	81.0	9.0	40180	99.6	99.2

PRODUCTION STAFF	CO.	Production staff			Period mEUR	Training Cumul. mEUR	Quality index	Process optimization			Productivity index I
		Final workfo.	Absence persons	%				Period mEUR	Cumul. mEUR	Index	
	1	1272	69	5.4	1.5	16.5	1.04	1.5	12.0	1.00	1.04
	2	1415	87	6.1	3.0	15.5	1.04	1.0	12.0	1.00	1.03
	3	1397	107	7.7	1.0	13.5	1.03	2.0	17.0	1.02	1.02
	4	886	40	4.5	0.5	4.0	0.98	0.0	0.0	1.00	0.99
	5	884	39	4.4	0.5	4.0	0.98	0.0	0.0	1.00	1.00

EXPERIENCE AND PRODUCTION	CO.	Cumul.prod.prev.period		Productivity index 2		Total product. index		Capacity per person	
		Product 1	Product 2	Product 1	Product 2	Product 1	Product 2	Product 1	Product 2
	1	406792	3500	1.10	1.08	1.15	1.13	57	20
	2	437195	0	1.11	1.00	1.14	1.03	57	18
	3	401487	0	1.10	1.00	1.12	1.02	56	18
	4	280000	0	1.07	1.00	1.06	0.99	48	18
	5	279788	0	1.07	1.00	1.06	1.00	48	18

Product Development

Technology (mEUR)	:	Period	No. of people who are employed in the current period in R&D, * Salary
		Cumul.	Cumulative expenditure in mEUR up to and including the current period
Index			Appraisal of the product's technology in the form of an index. The higher the value, the higher the market share. The cumulative expenses for technology have a direct influence on the level of the index.
Ecology (mEUR)	:	Period	Participants' decision for the period
		Cumul.	Cumulative expenditure in mEUR including the current period
Index			See technology index
Value analysis	:		See description for ecology

Note on technology and ecology indices for the launch of Product 2: The initial indices are worked out on the basis of purchased materials and services for development (see initial values for the impact of factors).

Sales

Number of persons	:	No. of sales staff in the respective market (M1, M2)
Func. Factor	:	Functional factor / Impact of factor
		The value entered expresses the impact of sales expenses on the period and on past periods. The higher the value, the higher the market share.

Production/Environmental technology

Ration. cumul.	:	Cumulative expenses for rationalization
Production lines	:	No. of available production lines per type
Env. Ind. of lin.	:	Environmental damage index of the production lines. Values below a rating of 100 result taxes that must be paid to environmental authorities.
Cumul. Expend	:	Cumulative expenses for environmental technology in mEUR (filter plants etc, end of pipe investments)
Envir. reduct.	:	Reduction of environmental damage by investing in environmental technology
Damage indica.	:	Actual environmental damage index of the company (= Environmental index of the lines + value from the column Envir. reduct.)
Tax n. per.	:	Tax in mEUR payable to the Environment Authorities for the next period
Avail. capac.	:	Available capacity of the production lines in the past period
Utilization	:	Lines Utilization of production lines in % Staff. Utilization of the production staff in %
Production staff		
Final workforce	:	Final number of production staff
Absence (persons)	:	Absenteeism in no. of persons
Absence %	:	Absenteeism as % of final staff number
Training		
Period mEUR	:	Decision for current period
Cumul. MEUR	:	Cumulative expenses up to and including current period
Quality index	:	Competence of production staff
Production optimization		
Period mEUR	:	Decision for current period

Cumul. MEUR	:	Cumulative expenses up to and including current period
Index	:	Achieved index for lean production
Productivity index I	:	Competence index * Index for lean production projects
Experience and Production		
Cumul.prod.prev.period.	:	The cumulative production up to the previous period is the basis for the calculation of Productivity Index II. This index is calculated separately for Product 1 and 2.
Product 1		
Product 2		
Productivity index II	:	Same as above
Product 1		
Product 2		
Total productivity index		Productivity Index I * Productivity Index II
Product 1		
Product 2		
Capacity /Pers.		Normal capacity for production in the period (see page 2 of instructors' data)* total productivity index.

5.1.3

Instructor's Report III

INSTRUCTOR'S REPORT III: INVENTORY / COSTS / FINANCE											
COMPANY	1	2	3	4	5	COMPANY	1	2	3	4	5
Inv.material P1	51243	24909	18634	0	0	CM III (mEUR)					
Express shipment	0	0	0	7331	7331	Prod.1. Market 1	26.9	40.0	35.5	1.0	2.5
Inv.material P2	46	0	0			Prod.1. Market 2	15.4	0.9	-1.0	0.0	0.0
Penalty purchase	0	0	0			Prod.2. Market 1	6.1	1.0	12.0	0.0	0.0
Invent.Product 1	0	0	0	3482	18564	Prod.2. Market 2	-2.0	-0.5	-0.5	0.0	0.0
Invent.Product 2	0	0	0			Bulk buy. Prod.1	3.7	5.1	5.1	0.0	0.0
Planned prod. P1	61510	74262	73762	40000	40000	Tender Prod.1	-3.3				
Actual prod. P1	61510	74262	72178	40000	40000						
Planned prod. P2	2000	0	0			CM III (EUR/un.)					
Actual prod. P2	3500	2500	5000			Prod.1. Market 1	881	641	545	23	57
						Prod.1. Market 2	912	178	0	0	0
Motivation	94	92	82	91	91	Prod.2. Market 1	1742	406	2403	0	0
Production staff	1272	1415	1397	886	884	Prod.2. Market 2	0	0	0	0	0
Hired/Dismissed	136	196	235	50	50	Bulk buy. prod.1	731	725	723	0	0
Attrition	58	86	123	46	46	Tender prod.1	-369				
Non-sal.costs(%)	41.0	39.0	37.0	40.0	40.0	Hired/Dism. (%)					
						Production	11.4	15.0	18.3	5.7	5.7
Staff Purchasing	35	35	39	25	25	Purchasing	-5.3	42.3	57.7	13.0	18.2
Administr.	280	283	305	206	205	Administration	-10.2	27.2	45.5	7.1	7.1
R & D	91	80	90	34	34	R & D	-6.0	0.0	15.3	2.9	2.9
Sales	132	157	150	100	100	Sales	1.4	8.3	6.5	8.0	8.0
						Total staff	1810	1970	1981	1251	1248
Revenue Prod. 1	145.8	188.4	177.9	135.4	132.6	Land and build.	6.0	6.0	6.0	6.0	6.0
Revenue bulk bu.	13.5	18.9	18.9	0.0	0.0	Machinery & equ.	42.8	51.8	38.4	6.6	6.6
Revenue tender	14.4					Input Material	18.1	8.7	6.5	0.0	0.0
Revenue Prod. 2	34.7	22.5	46.8			Finished goods	0.0	0.0	0.0	8.9	46.6
REVENUE TOTAL	208.4	229.8	243.6	135.4	132.6	Accounts receiv.	41.7	46.0	48.7	27.1	26.5
Total costs	176.8	194.1	193.1	139.1	140.3	Securities	0.0	0.0	20.0	0.0	0.0
OPERATING INCOME	22.9	21.3	24.3	-16.3	-16.3						
INTEREST	3.8	2.9	5.3	8.0	27.2						
						RES.REG.BUS.OP.	19.2	18.4	20.2	-24.3	-43.5
Extraord.result	0.0	0.0	0.0	0.0	0.0	Total assets	133.8	112.6	131.7	48.7	85.8
P & L before tax	19.2	18.4	20.2	-24.3	-43.5						
P & L after tax	8.6	8.5	13.9	-24.3	-43.5	Share capital	15.0	15.0	15.0	15.0	15.0
						Capital reserves	2.5	2.5	2.5	2.5	2.5
Cumul. P & L	52.2	55.5	43.1	-42.4	-91.3	Retain. earnings	37.4	34.7	33.7	15.3	14.6
Cumul. plan.qty	1.5	8.8	-0.4	-3.1	-4.8	Loss carried fw.	0.0	-0.3	-8.8	-27.7	-56.0
Earn.cap. value	7.1	9.9	12.8	-24.9	-44.0	Net income	8.6	8.5	13.9	-24.3	-43.5
Cum.earn.cap.v.	53.0	59.9	42.9	-43.9	-93.6	Pension reserves	35.3	36.1	35.3	29.5	29.4
						Long term loans	35.0	0.0	40.0	0.0	0.0
CGM (EUR/Un.) P1	1844	1849	1859	2563	2560	Short term loans	0.0	0.0	0.0	25.0	25.0
CGM (EUR/Un.) P2	6694	0	0			OVERDRAFT	0.0	16.2	0.0	13.4	98.8
COP (EUR/Un.) P1	2454	2478	2479	3477	3509	Total liabil.	133.8	112.6	131.7	48.7	85.8
COP (EUR/Un.) P2											

- Inv. materials P1 or P2** : Inventory of input materials and parts at the end of the period for Product 1 or 2
- Penalty purchase** : Penalty incurred for express shipment due to shortages of inventory
- Inv. products P1 or P2** : Inventory of the relevant finished product in question
- Plan. production P1 or P2** : Planned production volume for the relevant finished product
- Act. Production P1** : Actual production volume for the Product P1
- Plan. Production/** : Planned/Actual production volume and outside production
- Act. Production P2** : volume Product 2
- Production staff** : No. of people in production at the end of the period
- Hired/Dismiss.** : Recruitment or dismissal (-) of production staff
- Staff turnover** : No. of persons who have left the company of their own accord during the period.

Non-salary staff co. (%)	: Amount of staff costs as % of payroll
Staff Purchase etc.	: Staff inventory of the individual areas at the end of the period
CGM (EUR/Unit)	: Cost of goods manufactured in EUR/Unit
COP (EUR/Unit)	: Cost of Production EUR/Unit

The remaining values of Instructor's Report III are excerpts from the participants' reports and are explained there.

5.1.4 Instructor's Report IV

Instructor's Report IV provides the instructor with a clear overview of the participating groups' decisions. The report is extended automatically depending on which decisions were activated by the instructor using the Activation of Features checkboxes.

Extract:

INSTRUCTOR'S REPORT IV: Decision Data							
DECISIONS			Comp. 1	Comp. 2	Comp. 3	Comp. 4	Comp. 5
PRICE	Product 1 Market 1	(EUR/Unit)	3050	2798	2730	3000	3000
	Product 1 Market 2	(FCU/Unit)	2300	2098	2030		
	Product 2 Market 1	(EUR/Unit)	9900	9000	9360		
	Product 2 Market 2	(FCU/Unit)	7300	6850	7200		
ADVERTISING	Product 1 Market 1	(mEUR)	4.00	7.00	9.00	6.00	6.00
	Product 1 Market 2	(mEUR)	1.00	2.50	1.00		
	Product 2 Market 1	(mEUR)	2.00	0.50	1.00		
	Product 2 Market 2	(mEUR)	2.00	0.50	0.50		
SALES	Market 1	(No. of people)	112	120	135	100	100
	Market 2	(No. of people)	20	37	15		
MARKET RESEARCH REPORT			(Y/N)	J	J	J	J
BULK BUYERS			(units)	5000	7000	7000	
BID PRICE FOR TENDER			(EUR/unit)	1999	2200		
EXPENDITURE FOR CORPORATE IDENTITY			(mEUR)	2.0	2.0	3.0	2.0
PRODUCT DEVELOP.	Product 1-old	Technology (No.of pers.)				34	34
		Ecology (mEUR)				2.50	2.50
		Value Analysis (mEUR)				1.00	1.00
	Product 1-new	Technology (No.of pers.)	0	30	20	0	0
		Ecology (mEUR)	0.00	0.00	0.00	0.00	0.00
		Value Analysis (mEUR)	0.00	1.00	0.50	0.00	0.00
	Product 2-new	Technology (No.of pers.)	91	50	70	0	0
		Ecology (mEUR)	0.50	3.00	3.00	0.00	0.00
		Value Analysis (mEUR)	0.50	1.00	0.00	0.00	0.00
	RELAUNCH		(Y/N)			N	N
	NEW LAUNCH		(Y/N)			N	N
PURCHASING	Raw materials/parts	Product 1 (Units)	70000	71000	71000	30000	30000
		Product 2 (Units)	1950	0	0	0	0
	Subcontracting	Product 2 (Units)	1500	2500	5000	0	0
PRODUCTION	Production volume	Product 1 (Units)	61510	74262	73762	40000	40000
		Product 2 (Units)	2000	0	0	0	0
	Production lines Type A	Investment (No.new l.)	0	0	0	0	0
		Disinvestment (No.)					
		Maintenance (mEUR)	1.0	0.0	1.0	1.5	1.5
		Rationalization (mEUR)	0.0	0.0	0.0	0.0	0.0
	Production lines Type B	Investment (No.new l.)	0	0	0	0	0
		Disinvestment (No.)					
		Maintenance (mEUR)	0.0	0.0	0.0	0.0	0.0
		Rationalization (mEUR)	0.0	0.0	0.0	0.0	0.0
	Production lines Type C	Investment (No.new l.)	0	0	0	0	0
		Disinvestment (No.)					
		Maintenance (mEUR)	0.8	0.8	0.8	0.0	0.0
		Rationalization (mEUR)	0.0	0.0	0.0	0.0	0.0
	Process optimising projects		(mEUR)	1.5	1.0	2.0	0.0
	Training		(mEUR)	1.5	3.0	1.0	0.5
	Investment in enviro. plants		(mEUR)	0.0	0.0	1.0	1.5
FINANCING	Medium-term loans		(mEUR)	0.0	0.0	0.0	25.0
	Long-term loans		(mEUR)	0.0	0.0	10.0	0.0
	Dividends		(% of income)	40	50	30	50
	Purchase of securities		(mEUR)	0.0	0.0	20.0	0.0
PLANNED FIGURES	Revenues	Product 1 Market 1	(mEUR)	129.7	170.7	167.6	130.0
		Product 1 Market 2	(mEUR)	15.5	28.4	29.7	
	Revenues	Product 2 Market 1	(mEUR)	65.3	18.0	21.5	
		Product 2 Market 2	(mEUR)	29.8	4.6	10.7	
	Return on Equity		(%)	24.6	20.0	5.6	20.0
	Cash-flow		(mEUR)	24.7	14.0	12.3	14.0

5.1.5 Instructor's Report V

INSTRUCTOR'S REPORT V: BUSINESS REPORTS					
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PROFIT AND LOSS STATEMENT					
VALUES in mEUR	Comp. 1	Comp. 2	Comp. 3	Comp. 4	Comp. 5
SALES REVENUE	208.39	229.77	243.64	135.44	132.62
- Cost of Goods Sold	135.44	151.66	160.43	115.16	111.00
- Sales costs	26.47	29.76	31.10	18.94	20.37
- R & D costs	8.16	11.16	10.52	6.16	6.16
- Administration costs	15.36	15.87	17.29	11.46	11.41
- Other expenses / income	0.00	0.00	0.00	0.00	0.00
= OPERATING INCOME	22.95	21.32	24.29	-16.28	-16.31
Income reg.business operations	19.18	18.44	20.21	-24.27	-43.46
Extraordinary income	0.00	0.00	0.00	0.00	0.00
- Income Taxes	10.55	9.96	6.28	0.00	0.00
= NET INCOME FOR PERIOD	8.63	8.48	13.93	-24.27	-43.46

BALANCE SHEET					
ASSETS (mEUR)	Comp. 1	Comp. 2	Comp. 3	Comp. 4	Comp. 5
FIXED ASSETS	48.85	57.80	44.35	12.60	12.60
Land and Buildings	6.00	6.00	6.00	6.00	6.00
Machinery and Equipment	42.85	51.80	38.35	6.60	6.60
CURRENT ASSETS	84.98	54.78	87.31	36.07	73.23
Raw Materials	18.06	8.73	6.52	0.00	0.00
Finished goods	0.00	0.00	0.00	8.88	46.61
Accounts receivable	41.68	45.95	48.73	27.09	26.52
Securities	0.00	0.00	20.00	0.00	0.00
Cash	25.25	0.10	12.06	0.10	0.10
BALANCE SHEET TOTAL	133.83	112.58	131.66	48.67	85.83
LIABILITIES (mEUR)	Comp. 1	Comp. 2	Comp. 3	Comp. 4	Comp. 5
OWNERS' EQUITY	63.53	60.30	56.36	-19.21	-67.38
Share capital	15.00	15.00	15.00	15.00	15.00
Capital reserves	2.50	2.50	2.50	2.50	2.50
Retained Earnings	37.40	34.65	33.72	15.31	14.63
Loss carried forward	0.00	-0.33	-8.80	-27.75	-56.05
Net income for period	8.63	8.48	13.93	-24.27	-43.46
PENSION RESERVE	35.30	36.09	35.30	29.50	29.44
DUE TO BANKS	35.00	16.19	40.00	38.38	123.78
Long-term loans > 5 periods	35.00	0.00	40.00	0.00	0.00
Short-term loans < 1 period	0.00	0.00	0.00	25.00	25.00
Overdraft loans	0.00	16.19	0.00	13.38	98.78
BALANCE SHEET TOTAL	133.83	112.58	131.66	48.67	85.83

COMPANY RATIOS	Comp. 1	Comp. 2	Comp. 3	Comp. 4	Comp. 5
Return on sales (%)	4.1	3.7	5.7	-17.9	-32.8
Return on equity (%)	14.6	16.4	32.8	-479.9	-181.7
Dividends paid (mEUR)	4.4	0.0	0.0	0.0	0.0
Share price (EUR/Share)	357.6	360.6	302.0	0.0	0.0
Value of company (mEUR)	178.8	180.3	151.0	0.0	0.0
Corporate image (Index)	104.5	105.7	105.0	99.7	99.7
Rating (Index)	121	122	105	21	8
Customer satisfaction (Index)	88	106	114	97	90
Shareholder earnings (mEUR)	145.7	153.7	115.9	-45.0	-45.6
Shareholder earnings (%)	292.8	308.9	232.9	-90.3	-91.7

5.1.6

Instructor's Report VI

INSTRUCTOR'S REPORT VI: VALUE ORIENTED RATIOS

VALUES P & L STATEMENT	Company 1		Company 2		Company 3		Company 4		Company 5	
	Curr. mEUR	Prev. mEUR	Curr. mEUR	Prev. mEUR	Curr. mEUR	Prev. mEUR	Curr. mEUR	Prev. mEUR	Curr. mEUR	Prev. mEUR
Sales revenue	208.4	255.1	229.8	184.6	243.6	167.1	135.4	119.8	132.6	116.5
- Costs of Goods Sold	135.4	157.1	151.7	130.5	160.4	128.4	115.2	99.6	111.0	94.1
- Sales Costs	26.5	27.1	29.8	31.7	31.1	26.2	18.9	18.6	20.4	20.0
- R & D Costs	8.2	15.4	11.2	7.2	10.5	8.1	6.2	6.0	6.2	6.0
- Administration Costs	15.4	17.1	15.9	11.7	17.3	11.3	11.5	10.2	11.4	10.3
- Other expenses / income	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
= OPERATING INCOME	22.9	38.5	21.3	3.5	24.3	-7.1	-16.3	-14.6	-16.3	-13.9
± Net investment income	3.8	5.9	2.9	3.9	4.1	1.7	8.0	3.6	27.2	16.1
± Extraordinary income	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
- Income tax	10.6	17.9	10.0	0.0	6.3	0.0	0.0	0.0	0.0	0.0
= NET INCOME (NI)	8.6	14.7	8.5	-0.3	13.9	-8.8	-24.3	-18.2	-43.5	-30.0
+ Depreciation	6.2	6.2	5.9	5.9	4.3	4.2	1.5	1.3	1.5	1.3
+ Pension reserve	4.2	3.7	4.5	3.8	4.5	3.7	2.8	2.5	2.8	2.5
= CASH-FLOW AFTER TAX (CF)	19.0	24.6	18.9	9.3	22.7	-1.0	-20.0	-14.4	-39.2	-26.2
OPERATING INCOME	22.9	38.5	21.3	3.5	24.3	-7.1	-16.3	-14.6	-16.3	-13.9
- Income taxes	12.6	21.2	11.7	1.9	13.4	0.0	0.0	0.0	0.0	0.0
= NET OPER. INCOME (NOI)	10.3	17.3	9.6	1.6	10.9	-7.1	-16.3	-14.6	-16.3	-13.9

NET ASSETS (NA)	Company 1		Company 2		Company 3		Company 4		Company 5	
	Curr. mEUR	Prev. mEUR	Curr. mEUR	Prev. mEUR	Curr. mEUR	Prev. mEUR	Curr. mEUR	Prev. mEUR	Curr. mEUR	Prev. mEUR
Land and buildings	6.0	6.3	6.0	6.3	6.0	6.3	6.0	6.3	6.0	6.3
Machinery and equipment	42.8	48.8	51.8	57.4	38.4	41.4	6.6	6.3	6.6	6.3
= Fixed assets	48.8	55.0	57.8	63.7	44.4	47.6	12.6	12.6	12.6	12.6
Input Material	18.1	14.0	8.7	8.8	6.5	6.1	0.0	0.0	0.0	0.0
Finished goods	0.0	0.0	0.0	0.0	0.0	0.0	8.9	21.5	46.6	55.2
Accounts receivable	41.7	51.0	46.0	36.9	48.7	33.4	27.1	24.0	26.5	23.3
Securities and cash	25.2	40.3	0.1	22.9	32.1	16.1	0.1	0.1	0.1	0.1
= Current assets	85.0	105.4	54.8	68.7	87.3	55.6	36.1	45.6	73.2	78.6
NET ASSETS (NA)	133.8	160.4	112.6	132.4	131.7	103.2	48.7	58.1	85.8	91.1
EQUITY	63.5	59.3	60.3	51.8	56.4	42.4	-19.2	5.1	-67.4	-23.9

	Company 1		Company 2		Company 3		Company 4		Company 5	
	points	+/-	points	+/-	points	+/-	points	+/-	points	+/-
RATING	121	-1.09	122	-1.13	105	-0.24	21	4.59	8	4.84

Average interest rate for CFROI j = 13.0%

RATIOS		Company 1		Company 2		Company 3		Company 4		Company 5	
		Curr.	Prev.	Curr.	Prev.	Curr.	Prev.	Curr.	Prev.	Curr.	Prev.
i WACC	%	-0.3	6.8	-0.2	7.2	-0.1	7.8	2.9	7.0	3.9	5.6
1 Net Operating Inc. (NOI)	mEUR	10.3	17.3	9.6	1.6	10.9	-7.1	-16.3	-14.6	-16.3	-13.9
2 Cash-flow (CF)	mEUR	19.0	24.6	18.9	9.3	22.7	-1.0	-20.0	-14.4	-39.2	-26.2
3 Net Assets (NA)	mEUR	133.8	160.4	112.6	132.4	131.7	103.2	48.7	58.1	85.8	91.1
4 RONA (NOI/NA)	%	7.7	10.8	8.5	1.2	8.3	-6.9	-33.4	-25.1	-19.0	-15.3
5 EVA (NOI - i% * NA)	mEUR	10.7	6.4	9.9	-8.0	11.0	-15.1	-17.7	-18.6	-19.6	-19.0
6 EVA (Per. - Prev.per.)	mEUR	4.3	12.7	17.8	-5.3	26.1	-14.6	1.0	-7.3	-0.6	-2.8
7 CFROI (CF/NA)	%	14.2	15.3	16.8	7.0	17.3	-0.9	-41.0	-24.7	-45.6	-28.7
8 DTCF (CF - j% * NA)	mEUR	1.6	3.7	4.3	-7.9	5.6	-14.4	-26.3	-21.9	-50.3	-38.0
9 DDTCF (DTCF:Per.-Prev.p)	mEUR	-2.2	7.7	12.2	-6.8	20.0	-14.4	-4.4	-8.5	-12.3	-15.1
10 MVA	mEUR	115.3	91.9	120.0	92.4	94.6	69.9	19.2	-5.1	67.4	23.9
11 EBIT	mEUR	22.9	38.5	21.3	3.5	24.3	-7.1	-16.3	-14.6	-16.3	-13.9
12 EBITDA	mEUR	29.1	44.7	27.2	9.4	28.5	-2.9	-14.8	-13.3	-14.9	-12.6
13 CASH-FLOW-Statem. int'l	mEUR	24.3	5.9	10.0	8.0	6.9	-4.4	-10.5	-21.8	-33.8	-41.1

ad 4: RONA = Return on Net Assets

ad 5: EVA = Economic Value Added

ad 7: CFROI = Cash flow Return on Investment

ad 8: DTCF = Difference Total Cash-flow

ad 9: DDTCF = Delta Difference Total Cash flow

ad 10: MVA = Market Value Added = Value of company minus Equity

5.2 Participants' Reports

The participants' reports for Period 0 are illustrated in the user's manual. However, individual reports that are not required for Period 0 are not shown in the user's manual. These reports should be made accessible and explained to the participants by you during the course of the game. On the following pages, the contents of the participants' reports in the **full version** (with all modules activated) are explained. The reports originate from the above-mentioned seminar with five groups. Results for Group 2 are shown. Only the terms and values that are not self-explanatory are dealt with.

5.2.1 Executive Summary

The Executive Summary is a new report appearing in the simulation from version 11.0 onwards. The participants of the business simulation seminar receive a visual representation of their results as well as some important information and advice. The Executive Summary report replaces the "old" report (no. 16) entitled "messages and cautions".

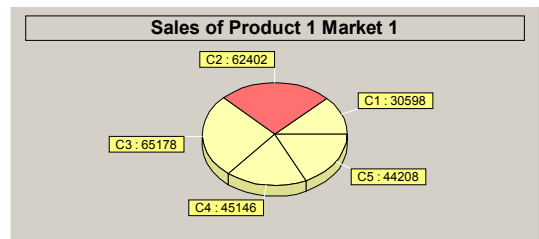
1. Sales

The number of units sold of Product 1 in Market 1 was 62402. This corresponds to a market share of 25.21%.

The average price per unit was 2916 EUR. The industry spent 32.00 million EUR on advertising.

(...)

Your company ran out of stock!



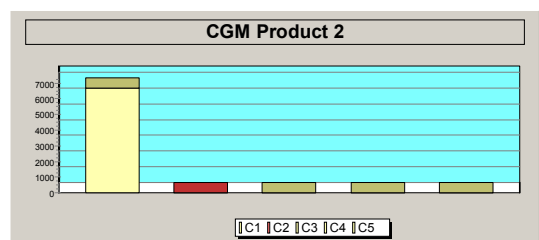
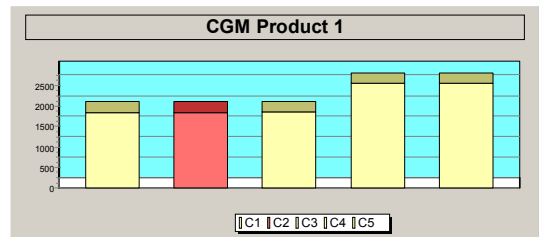
2. Process

Product 1: The production quantity was 74262 units. The CGM are at 1849 EUR/unit.

It was not necessary to pay a surcharge in order to purchase an express shipment of raw materials. Utilization of production personnel was at 98.5%. Utilization of production line capacity was at 99.9%.

Product 2: The production quantity was 0 units. The CGM are at 0 EUR/unit.

It was not necessary to pay a surcharge in order to purchase an express shipment of raw materials. Utilization of production personnel was at 0.0%. Utilization of production line capacity was at 0.0%.

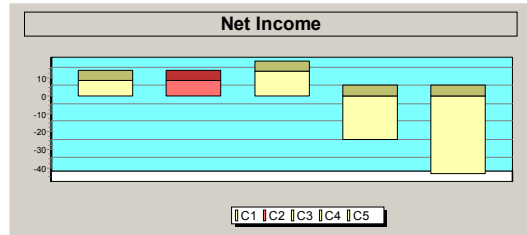


3. Result

Your net income/loss is 8.48 million EUR. Your return on sales is 3.7%.

The average ROS in the industry is -7.4%.

Your EVA amounts to 9.9 million EUR.

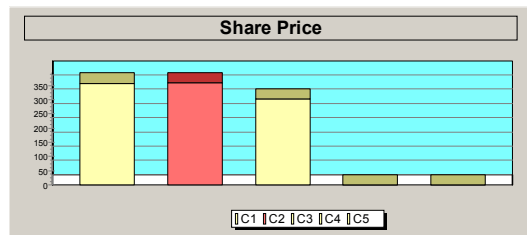


4. Finance

The total of your loans is 16.19 million EUR including 16.19 million EUR in overdraft loans.

Your net investment income is -2.88 million EUR.

Your share price is 360.6.



5. Hints and Remarks

None

5.2.2

Market Results and Value of Inventory

No. 2 MARKET RESULTS and VALUE OF INVENTORY						
MARKET RESULTS						
Exchange Rate for Market 2: 1.35						
		PRODUCT 1		PRODUCT 2		TOTAL
		Company 2	Industry	Company 2	Industry	
MARKET 1	Price (EUR/Unit)	2798	2884	9000	9450	197.10
	Sales (Units)	62402	247532	2500	11000	
	Revenue (mEUR)	174.60	713.92	22.50	103.95	
	Market Share (%)	25.21	100.00	22.73	100.00	
	Cust.satisfaction	107	103	112	100	
BULK BUYING	Price (EUR/Unit)	2700	2700			18.90
	Revenue (Units)	7000	19000			
	Sales (mEUR)	18.90	51.30			
MARKET 2	Price (FCU/Unit)	2098	2255	6850	0	13.76
	Sales (Units)	4860	21772	0	0	
	Revenue (mEUR)	13.76	66.28	0.00	0.00	
	Market Share (%)	22.32	100.00	0.00	100.00	
	Cust.satisfaction	85	79	111	107	
TOTAL	Sales (Units)	74262	288304	2500	11000	229.77
	Revenue (mEUR)	207.27	831.50	22.50	103.95	

REQUEST FOR BIDS	Bid awarded to Company 1	Price (EUR) 1999
------------------	--------------------------	------------------

INVENTORY	PRODUCT 1			PRODUCT 2			TOTAL
INPUT MATERIALS / PARTS	Quantity (Units)	Inventory		Quantity (Units)	Inventory		Value of Inventory (mEUR)
		(EUR/Un.)	(mEUR)		(EUR/Un.)	(mEUR)	
Initial inventory	25168	351	8.84	0	0	0.00	8.84
+ Quantity from supplier	71000	350	24.85	0	0	0.00	24.85
- Qty used in production	71259	350	24.96	0	0	0.00	24.96
= Final inventory	24909	350	8.73	0	0	0.00	8.73

VALUE OF INVENTORY	PRODUCT 1			PRODUCT 2			TOTAL
FINISHED PRODUCTS	Quantity (Units)	Inventory		Quantity (Units)	Inventory		Value of Inventory (mEUR)
		(EUR/Un.)	(mEUR)		(EUR/Un.)	(mEUR)	
Initial inventory	0	0	0.00	0	0	0.00	0.00
+ Quantity produced	74262	1849	137.28	0	0	0.00	137.28
+ Quantity purchased				2500	5750	14.38	14.38
- Quantity distributed	74262	1849	137.28	2500	5750	14.38	151.66
= Final inventory	0	0	0.00	0	0	0.00	0.00

Market Results

Market 1 + Market 2

Price (EUR/Unit)	:	Company	Price of own company
		Industry	Average price of industry incl. own company
Sales (Units)	:	Company	Sales of own company
		Industry	Total sales of industry
Revenue (mEUR)	:	Company	Sales revenue of own company
		Industry	Total sales revenue of industry
Market share (%)	:	Company	Market share as % of the sales for own company
Bulk buying			
Price (EUR/Unit)	:	Company	(The prices in the case of bulk buyers are fixed)
		Industry	
Sales (Units)	:	Company	Sales of own company
		Industry	Total sales of industry
Revenue (mEUR)	:	Company	Revenue of own company
		Industry	Total revenue of industry
Requests for bids			Requests for bids: See Instructor's Report I that shows the results from requests for bids from period 7. Note: The requests for bids are fulfilled by the new Product-1, if it has already been launched on the market. (It is not possible to simply clear Product 1-old from stock.)

Inventory for input materials/parts

Initial inventory	:	Quantity (Units)	Closing inventory of previous period
		Inventory values	Values at the end of the previous period
Quantity from supplier	:	Quantity (Units)	Decision for additional purchases
		Inventory values	Purchasing values according to the discount schedule in the instructor's file
Quantity used in production	:	Quantity (Units)	Inventory units used in production
		Inventory values	Weighted average (based on total values in mEUR)
		Notes:	The consumption of inventory is influenced by value analysis: Units to be produced / Value analysis index
Final inventory	:	Quantity (Units)	Opening inventory + Quantity from supplier - Quantity used in production
		Inventory Values	Invent. value of quantity used in production (Euro/Unit) * Volume Closing Inventory

Inventory for Finished Products

Initial inventory	:	Quantity (Units)	Closing inventory of previous period
		Inventory values	Values at end of previous period
Quantity produced	:	Quantity (Unit)	Actual production volume (see Production Report)
		Cost of Goods Manufactured	Cost of goods manufactured per unit Value is taken from reports "Cost Accounting" - (Unit-of-output costing).
		Inventory value	Volume * EUR/Unit.

Quantity purchased / Subcontracting (Only for Product 2)	:	Quantity (Units)	Values arise from participants' decisions
		Costs (EUR/U)	and volume-based price scale from instructor's file.
		Inventory value	See above
Quantity distributed	:	Quantity (Units)	Quantity sold (Sales)
		CGM	Average value from opening inventory or costs and additions on the basis of total values in mEUR for Product 2 including costs for outside production
		Inventory value	See above.

5.2.3

Production Lines - Environmental Technology

No. 3 PRODUCTION LINES - ENVIRONMENTAL TECHNOLOGY						
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KEY DATA ON PRODUCTION LINES						
Production lines	Procurement period	Acquisit.- value (mEUR)	Remaining life (Periods)	Depreciat. (mEUR/ Period)	Net book value (mEUR)	Other FC (mEUR)
Type C Line No. 1	1	30.00	8	2.00	16.00	2.50
Type C Line No. 2	2	22.50	9	1.50	13.50	2.50
Type C Line No. 3	4	30.00	11	2.00	22.00	2.50
Total		82.50		5.50	51.50	7.50

CAPACITIES OF PRODUCTION LINES							
Production lines	Pot. cap. (Units)	Maintenance (mEUR)	Factor	Rationalizat. mEUR	Factor	Actual cap. (Units)	Enviro. index
Type C Line No. 1	22000	0.8	0.95	3.0	1.10	22990	95.0
Type C Line No. 2	22000	0.8	0.95	3.0	1.10	22990	95.0
Type C Line No. 3	22000	0.8	0.95	0.0	1.00	20900	95.0
Total	66000	2.4		6.0		66880	φ 95.0

Note: Rationalization is cumulative from P0

PRODUCTION STAFF : AVAILABILITY AND PRODUCTIVITY				
Workforce (No. of ppl)	1415	Process optimization index		1.00
Newly hired (No. of ppl)	196	* Adaptation		0.97
- Loss from absent. (No. of ppl)	87	* Staff competence index		1.04
		* Motivation index		1.01
= Available staff (No. of ppl)	1328	= Productivity index I		1.03

EXPERIENCE AND PRODUCTIVITY				
Product 1	Cum.prod.prev.period	437195	Prod. index II (Period)	1.11
Product 2	Cum.prod.prev.period	0	Prod. index II (Period)	1.00

UTILIZATION RATE OF PRODUCTION LINES							
	Production (Units)	Production cap. Factor	Required	Product. staff Factor	Required	Allocation in % Req.cap.	Req.pers.
Product 1	74262	0.9	66836	57	1308	99.9	98.5
Product 2	0	2.0	0	18	0	0.0	0.0
Total	74262		66836		1308	99.9	98.5
Utilization (%)			99.9		98.5		

ENVIRONMENTAL TECHNOLOGY		
Environmental ratings of production lines	(Index)	95.00
Cumulative investment in environmental plants	(mEUR)	1.50
Improvement of environmental ratios	(Points)	1.00
Environmental damage indicator for the company	(Index)	96.00
Tax payable to environmental authority next period	(mEUR)	0.83

Note: The program calculates values with more decimal places than are shown in the reports. So when the values are recalculated and compared with the rounded values in the reports, there may be slight discrepancies in the results.

Key data

Production lines	: Type and identification number of the individual machines. The production lines differ - despite being the same model - with regard to their capacities and the environmental damage they cause. Individual machines may be scrapped
Procurement period	: E.g. Info - 8 in Period 2 = the production line was purchased 10 periods ago.
Acquisition value	: Original acquisition value of the line
Remaining life (Periods)	: Remaining economic life of the production lines in periods. The remaining life of the lines is actually "endless", i.e. depreciated lines are available for use in production. (Cf. Line Type A, No. 3, and 4).
Depreciation (mEUR/per.)	: Depreciation value in the period
Net book value (mEUR)	: Acquisition value - cumulative depreciation
Other fixed costs (mEUR)	: Other fixed costs of the production lines (E.g. Maintenance and insurance costs as a result of contracts)

Capacities of production lines

For the production of **one Copy I-old**, **one** unit of available production line capacity is required (production of one Copy I-new = 0.9 capacity units). The available production capacity in a period can be influenced by investments, disinvestments, maintenance, rationalization, and overtime of the production staff.

Potential capacity (Units)	: Maximum available units of capacity with 100% utilization
Maintenance	: mEUR Expenditure on maintenance (Decision) Factor Availability of production line (0,97 = 97% availability)
Rationalization	: cum.mEUR Expenses on rationalization Factor Achieved rationalisation factor
Actual capacity (Units)	: Potential capacity * Maintenance factor * Rationalization factor
Environm. Index	: Environmental damage index of production <u>lines</u>

Production staff: Availability and Productivity

Workforce	: Entire workforce in production
Absenteeism	: Given in no. of persons. Influences on absenteeism: non-salary staff costs, lean production projects, environmental index of production lines (end of previous period), cumulated training measures, staff increases (recruitment), and staff reductions (dismissals). The absenteeism cannot be brought to less than 1.5 – 2 % because of the average rate of paid sick leave.
Utilizable staff	: As affected by total amount of absenteeism

Process optimization Index	: Achieved index With the help of lean production projects the work procedures in production can be rationalized, which leads to an increased rate of productivity among the workforce. An achieved index value loses effectiveness by 0.01 points per period. In Period 0 the lean production index is 1.00.
Staff competence index	: Achieved index Expenses on training production staff increase the competence of employees and leads to an increase in productivity. The expenses for training increase the staff competence index (Period 0 = 1.00). This value is reduced by 0.01 points per period as a result of staff "forgetting" how to do things.
Productivity index I	Lean Production Index * Productivity index
Experience and Production	
Cumul.prod.prev.period. Product 1 and 2	: The cumulative production up to the previous period is the basis for the calculation of Productivity Index II. This index is calculated separately for Product 1 and 2
Productivity index II Product 1 and 2	: Achieved index
Utilization rate of production lines	
Production (Units)	: Actual production quantity
Production capacity	: Factor Required units of capacity in order to produce one unit of the finished product. Required Required units of capacity in order to produce the actual production quantity.
Production staff	: Factor No. of products that one person produces in a period = "normal" production capacity of one employee (see data for the periods) * productivity index I * productivity index II Required Staff required
Allocation in %	Req.Cap. Required / Available in % Req. pers. Required/ Utilizable in %
Utilisation (%)	: Values above 100.0% mean overtime.

Note: In the case of overtime – of production lines and/or production staff - additional costs equal to 2.5 mEUR are incurred for supervision and operation. For the production staff, there is an additional overtime premium of 25% due to wages and salaries that arises during the overtime period. These costs are listed in the company's cost accounting records.

Environmental Technology

By investing in environmental technology, such as additional purification plants and filters (end-of-pipe investments), you can reduce the **total environmental damage caused by your company**. (The environmental index of the production lines can only be improved by replacing the lines.) The environmental damage indicator of a company has a direct influence on the following: sales, production staff absenteeism, corporate image, and the share price of the company.

Environmental index of production lines (Index)	:	Cumulative value from report
Cumulative investment in environmental plants (mEUR)	:	Decisions
Improvement of environmental indices (points)	:	Result based on the cumulative investments in environmental plants. You can use the following values as a guideline: 3 mEUR - 1 point improvement / 5 mEUR - 2 points improvement / 20 mEUR – 3.5 points / 30 mEUR - 6 points.
Environmental damage indicator for the company (Index)	:	Environmental index of production lines + improvement
Tax payable to Environmental Authorities next period (mEUR)	:	Environmental tax is to be paid when the environmental damage indicator is under 100. Guidelines: Index 98 - Tax 0.5 mEUR / Index 95 - Tax 1.0 mEUR / Index 90 - Tax 2.5 mEUR / Index 85 - Tax 5 mEUR

5.2.4 Human Resources and Product Development

No. 4 HUMAN RESOURCES AND PRODUCT DEVELOPMENT

STAFF BREAKDOWN BY DEPARTMENT (COST CENTER)						
Number of persons	Purchasing	Admin.	Production	R & D	Sales/Dist.	Total
Initial workforce	26	232	1305	84	157	1804
+ Hired	11	63	196	0	13	283
- Dismissed	0	0	0	0	0	0
- Attrition	2	12	86	4	13	117
= Final workforce	35	283	1415	80	157	1970
Wages & Salaries (1) mEUR	1.30	9.62	52.36	4.24	7.69	75.21
Turnover/Training mEUR	0.15	0.88	5.74	0.00	0.18	6.96
Non-sal. staff costs mEUR	0.51	3.75	20.42	1.65	3.00	29.33
Pension reserve mEUR	0.08	0.58	3.14	0.25	0.46	4.51
Total staffing costs mEUR	2.03	14.83	81.66	6.15	11.34	116.01
Non-salary staff costs as % of wages and salaries: 39.0						
Training (Production) mEUR: 3.0						
Motivation of staff (Index): 92						

(1) Without overtime costs

PRODUCT DEVELOPMENT									
PRODUCTS	TECHNOLOGY			ECOLOGY			VALUE ANALYSIS		
	(mEUR) Period	(mEUR) Cumul.	(Index)	(mEUR) Period	(mEUR) Cumul.	(Index)	(mEUR) Period	(mEUR) Cumul.	(Index)
Product 1-new	1.6	16.2	111.2	0.0	9.5	107.7	1.0	6.0	104.2
Product 2-new	2.7	18.0	101.2	3.0	9.0	101.8	1.0	3.0	100.0

Staff breakdown in cost centers : The staff costs are shown here without overtime.

The non-salary staff costs have a direct influence on the staff attrition rate, as well as on staff absenteeism in the individual cost centers.

The number of employees in the areas of Purchasing and Administration depend on the sales revenue of the company. When sales revenue fluctuates, the required number of employees is automatically adjusted through recruitment and dismissals. Nevertheless, in Administration there are costs independent of (fixed costs administration), in Period 0 of 2.5 mEUR.

Product development : See the explanatory notes in the instructor's report

5.2.5 Cost Type, Cost Center Accounting

No. 5 COST TYPE, COST CENTER ACCOUNTING

COST TYPE ACCOUNTING (mEUR)				
COST TYPES	Total costs	Over-head	Direct costs	
			Product 1	Product 2
MATERIAL COSTS				
Input materials/parts	24.96		24.96	0.00
Factory materials	2.97		2.97	0.00
PERSONNEL COSTS				
Wages and Salaries (1)	75.20	19.69	54.16	1.36
Turnover/Training	6.96	6.96		
Non-salary staff costs	29.33	7.68	21.12	0.53
Pension reserve	4.51	1.18	3.25	0.08
DEPRECIATION				
Buildings	0.25	0.25		
Production lines	5.50	5.50		
Environmental technol.	0.15	0.15		
OTHER COSTS				
Misc. fixed costs	7.50	7.50		
Maint./Rationalization	3.40	3.40		
Process optimization	1.00	1.00		
Environmental tax	0.83	0.83		
Rework/Scrap	6.84	0.00	6.84	0.00
Storage costs	1.25	1.25		
Ads/Mkt Research/CI	12.60	2.10	9.50	1.00
Misc. R & D costs	5.00	0.00	1.00	4.00
Transport costs	5.81	0.00	5.17	0.64
TOTAL COSTS	194.07	57.49	128.97	7.61

(1) Overtime included

Direct costs : Costs that one can allocate directly based on production output (of products).

Overhead : The individual costs from the columns of the cost center accounts

Personnel Costs		Overheads		Direct costs
Wages/Salaries	Production	3.20 (due to absenteeism, personnel not working at full capacity)	+	30.02 + 5.20 (s.u.) (possibly incl. overtime)
	Administration	2.50 (fixed costs)	+	4.51 + 2.59 (s.u.)
	Purchasing, Sales, R&D	1.09 + 9.20 + 2.50		
	Total	18.48		34.53 + 7.79 (s.u.)

Explanatory notes on staff costs (direct costs) in cost type accounting:

The total from the direct costs of the cost centers **Production** and **Administration** is stated per product. The direct costs of production (prime costs) are allocated to the products in proportion to the required number of production staff. The required number of administrative staff is calculated per product in relation to the sales revenue, whereas for Product 1 and Product 2 different tables are relevant (cf. User's manual, point 3.5.3.2 for Product 1 and scenario information from the relevant period for Product 2).

Note: The fixed administration costs are deducted for Product 1 (2.5 mEUR).

Wages and Salaries (Direct costs) in the example (in mCU):

Sales rev. Prod. 1	158.84 mEUR	⇒	Admin. staff requirement:	243 persons
Sales rev. Prod 2	63.84 mEUR	⇒	Admin. staff requirement:	95 persons
			Total requirement	312 persons

	Product 1		Product 2	
Direct costs	Staff required	30.02	Staff required	5.20
Production	883 * 74 thEUR/person		153 * 34 thEUR	
Direct costs	219 * 32 thEUR	7.01	81 * 32 thEUR	2.59
Admin.*	- Fixed costs	4.51		
	- 2.50			
Total		34.53		7.79

- Personnel Costs** Staff costs and Wages and Salaries are shown here where appropriate. Overtime gives rise to personnel costs and step fixed costs.
In case of overtime: available staff costs
Result of overtime: Additional premium on overtime only for required staff (not no. of people on the payroll, not utilizable staff)
No. of persons (see report production lines) * salaries/ wages (without non-salary staff costs and pension reserve) * overtime in % + supplement for overtime in %
- Misc. fixed costs:** = other fixed costs of the production lines
+ step fixed costs overtime (e.g. 2.50 mEUR)
+ other fixed costs, given in the scenarios.
+ costs for using the Planning Models, which appear under the account called Administration if the participant used them on his computer.
- Maintenance** Not only for the production lines (decision), but also for Administration (see period data)
- Rework** Dependent on non-salary staff costs, technology and value analysis. This is shown as a % of the payroll =
(Σ Direct production costs (prime costs) for Product 1 and 2 * (Σ %-Factor curves 41 + 42 + 43); proportionate allocation to Product 1 and 2 according to staff utilization, see Production report)
- Other Costs R&D** Ecology and Value Analysis

Note: Please note that the numbers are rounded up. The program calculates the results with more decimal places compared to the figures of the reports.

COST CENTER ACCOUNTING (mEUR)						
COST TYPES	TOTAL	COST CENTERS				
		Purch.	Prod.	R & D	Sales	Admin.
PERSONNEL COSTS						
Wages and Salaries	19.69	1.30	3.96	4.24	7.69	2.50
Turnover/Training	6.96	0.15	5.74	0.00	0.18	0.88
Non-salary staff costs	7.68	0.51	1.54	1.65	3.00	0.98
Pension reserve	1.18	0.08	0.24	0.25	0.46	0.15
DEPRECIATION						
Buildings	0.25	0.01	0.17	0.01	0.01	0.04
Production lines	5.50		5.50			
Environmental technol.	0.15		0.15			
OTHER COSTS						
Misc. fixed costs	7.50	0.00	7.50	0.00	0.00	0.00
Maint./Rationalization	3.40		2.40			1.00
Process optimization	1.00		1.00			
Environmental tax	0.83		0.83			
Storage costs	1.25	1.25			0.00	
Ads/Mkt Research/CI	2.10				2.10	
Misc. R & D costs	0.00			0.00		
TOTAL COSTS	57.49	3.29	29.04	6.16	13.45	5.54

Staff costs/Wages and Salaries (Production): If these are > 0, then a portion of the production staff is not being fully utilized leading to costs for absenteeism. (cf. Report "Production Plants - Environment). These costs are presented here as overhead costs.

5.2.6 Cost Accounting (Unit-of-Output Costing)

No. 6 COST ACCOUNTING (Unit-of-Output Costing)			
COST ACCOUNTING (Costs in mEUR)	TOTAL	PRODUCT 1	PRODUCT 2
Input material costs	24.96	24.96	0.00
+ Factory material costs	2.97	2.97	0.00
= Direct material costs	27.93	27.93	0.00
+ Indirect material costs	3.29	3.29	0.00
= Total material costs	31.23	31.23	0.00
Direct production costs (1)	77.01	77.01	0.00
+ Production overhead (Cost center: Production)	29.04	29.04	0.00
= Total production costs	106.06	106.06	0.00
= COST OF GOODS MANUFACTURED CGM	137.28	137.28	0.00
+ R & D Direct costs (Ecology + Value Analysis)	5.00	1.00	4.00
+ Overhead (Cost center: R & D)	6.16	5.56	0.60
+ Sales/Dist. Direct costs (Ads + Transport)	16.31	14.67	1.64
+ Overhead (Cost center: Sales)	13.45	12.13	1.32
+ Admin. Direct costs (2)	10.33	8.35	1.97
+ Overhead (Cost center: Admin.)	5.54	5.00	0.54
= COST OF PRODUCTION	194.07	184.00	10.07

COST ACCOUNTING (Costs in EUR/Unit)	PRODUCT 1	PRODUCT 2
Input material costs	336	0
+ Factory material costs	40	0
= Direct material costs	376	0
+ Indirect material costs	44	0
= Total material costs	420	0
Direct production costs (1)	1037	0
+ Production overhead (Cost center: Production)	391	0
= Total production costs	1428	0
= COST OF GOODS MANUFACTURED (CGM)	1849	0
+ R & D Direct costs (Ecology + Value Analysis)	13	
+ Overhead (Cost center: R & D)	75	
+ Sales/Distribution Direct costs (Ads + Transport)	198	
+ Overhead (Cost center: Sales)	163	
+ Administration Direct costs (2)	113	
+ Overhead (Cost center: Admin.)	67	
= COST OF PRODUCTION	2478	

(1) Wages or salaries + non-salary staff costs + pension reserve + rework

(2) Wages or salaries administration - FC administration + non-salary staff costs + pension reserve

This block does not appear when production is subcontracted.

The basis for the allocation of overhead to the products can be found in the instructor's file "Instructor's Data - Cost Allocations".

5.2.7 Contribution Margins

No. 7 CONTRIBUTION MARGINS

CONTRIBUTION MARGINS (mEUR)	PRODUCT 1					PRODUCT 2			TOTAL
	Market 1	Bulk	Bids	Market 2	Total P1	Market 1	Market 2	Total P2	
SALES REVENUE	174.60	18.90		13.76	207.27	22.50	0.00	22.50	229.77
- Direct material costs	23.47	2.63		1.83	27.93	14.38	0.00	14.38	42.31
- Direct prod. costs	64.71	7.26		5.04	77.01	0.00	0.00	0.00	77.01
- Transport costs	4.37	0.00		0.80	5.17	0.64	0.00	0.64	5.81
= CONTRIBUTION MARGIN I	82.05	9.01		6.09	97.15	7.49	0.00	7.49	104.64
- Material FC	2.77	0.31		0.22	3.29	0.00	0.00	0.00	3.29
- Production FC	24.40	2.74		1.90	29.04	0.00	0.00	0.00	29.04
- Sales FC (product)	7.00	0.00		2.50	9.50	0.50	0.50	1.00	10.50
- Admin. FC (product)	7.02	0.79		0.55	8.35	1.97	0.00	1.97	10.33
= CONTRIBUT. MARGIN II	40.85	5.17		0.93	46.96	5.02	-0.50	4.52	51.47
- R & D FC (product)	0.84	0.09		0.07	1.00	4.00	0.00	4.00	5.00
= CONTRIBUT. MARGIN III	40.01	5.08		0.87	45.96	1.02	-0.50	0.52	46.47
- FC (company)									
Research					5.56			0.60	6.16
Sales					12.13			1.32	13.45
Administration					5.00			0.54	5.54
= CONTRIBUT. MARGIN IV					23.27			-1.95	21.32

CONTRIBUTION MARGINS (EUR/Unit)	PRODUCT 1					PRODUCT 2			
	Market 1	Bulk	Bids	Market 2	Average	Market 1	Market 2	Average	
PRICE	2798	2700		2832	2791	9000	0	9000	
- Direct material costs	376	376		376	376	5750	0	5750	
- Direct prod. costs	1037	1037		1037	1037	0	0	0	
- Transport costs	70	0		165	70	255	0	255	
= CONTRIBUTION MARGIN I	1315	1287		1254	1308	2995	0	2995	
- Material FC	44	44		44	44	0	0	0	
- Production FC	391	391		391	391	0	0	0	
- Sales FC (product)	112	0		514	128	200	0	400	
- Admin. FC (product)	113	113		113	113	789	0	789	
= CONTRIBUT. MARGIN II	655	739		192	632	2006	0	1806	
- R & D FC (product)	13	13		13	13	1600	0	1600	
= CONTRIBUT. MARGIN III	641	725		178	619	406	0	206	
- FC (company)									
Research					75			241	
Sales					163			527	
Administration					67			217	
= CONTRIBUT. MARGIN IV					313			-779	

The Contribution Margins in mEUR divided by the volume sold are the basis for the contribution margins per unit.

**Explanatory notes on the calculation of contribution margins using the
example Period 0, Company 1**

Contribution Margins Period 0

Start Period 0

Opening inventory : 8000 Units

2020 EUR/unit Cost of Goods Manufactured (CGM)

CGM (EUR/u.)		Distribution of CGM <u>Start</u> Per. 0		EUR/Unit		Units		mEUR
2020	x	29.83 % DM	=	602.57	x	8000	=	4.82
2020	x	2.92 % IM	=	58.98	x	8000	=	0.47
2020	x	40.24 % DPC	=	812.85	x	8000	=	6.50
2020	x	27.01 % PO	=	545.60	x	8000	=	34.36
				2020.00	x	8000	=	16.16

Addition from production

Period 0 : 40000

Values from				EUR/Unit		Units		mEUR
Unit of outp.	Direct Material	(DM)	:	577.00	x	40000	=	23.08
accounting	Indirect Material	(IM)	:	39.00	x	40000	=	1.56
cf. next page	Direct Costs	(DPC)	:	945.00	x	40000	=	37.80
	Production Overhead	(PO)	:	491.00	x	40000	=	19.64
				2052.00				82.08

Inventory value

Interim inventory Period 0

		mEUR		mEUR		Units		EUR/Unit
DM	:	4.82	+	23.08	=	27.90	/	48000 = 581.26
IM	:	0.47	+	1.56	=	2.03	/	48000 = 42.33
DPC	:	6.50	+	37.80	=	44.30	/	48000 = 922.97
PO	:	4.36	+	19.64	=	24.00	/	48000 = 500.10
						98.24	/	48000 = 2046.67

Sales = Quantity distributed = 430000 units

Example DM for Contribution Costing = 43000 x 581.26 EUR = 24.99 mEUR

DM = Direct Material
IM = Indirect Material
DPC = Direct (Production) Costs
PO = Production Overheads
CGM = Cost of Goods Manufactured

**Explanatory notes on the calculation of Contribution Margins using the
example Period 0, Company 1**

Data for contribution costing Period 0

No. 6 COST ACCOUNTING (Unit-of-output costing)		
COST ACCOUNTING (Costs in mEUR)		
Input material costs		21.09
+ Factory material costs		2.00
= Direct material costs		23.09
+ Indirect material costs		1.56
= Total material costs		24.65
Direct production costs (1)		37.80
+ Production overhead (Cost center: Production)		19.63
= Total production costs		57.42
= COST OF GOODS MANUFACTURED CGM		82.07
+ R & D	Direct costs (Ecology + Value Analysis)	3.50
+	Overhead (Cost center: R & D)	2.19
+ Sales/Distribution	Direct costs (Ads + Transport)	7.07
+	Overhead (Cost center: Sales)	8.52
+ Admin.	Direct costs (2)	4.58
+	Overhead (Cost center: Admin.)	4.78
= COST OF PRODUCTION		112.71

COST ACCOUNTING (Costs in EUR/unit)		
Material costs		527
+ Factory material costs		50
= Direct material costs		577
+ Indirect material costs		39
= Material costs		616
Production direct costs (1)		945
+ Production overheads (cost center Production)		491
= Total Production costs		1436
= COST OF GOODS MANUFACTURED CGM		2052
+ R & D	Direct costs (Ecology + Value Analysis)	88
+	Overhead (Cost center: R & D)	55
+ Sales/Distribution	Direct costs (Ads + Transport)	177
+	Overhead (Cost center: Sales)	213
+ Administration	Direct costs (2)	114
+	Overhead (Cost center: Admin.)	119
= COST OF PRODUCTION		2818

(1) Wages or salaries + non-salary staff costs + pension reserve + rework

(2) Wages or salaries admin. - FC admin. + non-salary staff costs + pension reserv

Explanatory notes on the calculation of Contribution Margins using the example of Period 0, Company 1

Contribution costing Period 0

No. 7 CONTRIBUTION MARGINS

CONTRIBUTION MARGINS (mEUR)	PRODUCT 1				
	Market 1	Bulk	Bids	Market 2	Total
SALES REVENUE	129.00				129.00
- Direct material costs	25.00				25.00
- Direct production costs	39.68				39.68
- Transport costs	1.08				1.08
= CONTRIBUTION MARGIN I	63.24				63.24
- Material FC	1.82				1.82
- Production FC	21.49				21.49
- Sales FC (product)	6.00				6.00
- Admin. FC (product)	4.58				4.58
= CONTRIBUTION MARGIN II	29.35				29.35
- R & D FC (product)	3.50				3.50
= CONTRIBUTION MARGIN III	25.85				25.85
- FC (company) Research					2.19
Sales					8.52
Administration					4.78
= CONTRIBUTION MARGIN IV					10.36

CONTRIBUTION MARGINS (EUR/Unit)	PRODUCT 1				
	Market 1	Bulk	Bids	Market 2	Average
PRICE	3000				3000
- Direct material costs	581				581
- Direct production costs	923				923
- Transport costs	25				25
= CONTRIBUTION MARGIN I	1471				1471
- Material FC	42				42
- Production FC	500				500
- Sales FC (product)	140				140
- Admin. FC (product)	106				106
= CONTRIBUTION MARGIN II	683				683
- R & D FC (product)	81				81
= CONTRIBUTION MARGIN III	601				601
- FC (company) Research					51
Sales					198
Administration					111
= CONTRIBUTION MARGIN IV					241

FC = Fixed Costs

5.2.8 Profit and Loss Statement and Cash Flow

No. 8 PROFIT and LOSS STATEMENT and CASH FLOW			
Total Cost Accounting	mEUR	Cost of Sales Accounting	mEUR
SALES REVENUE	229.77	SALES REVENUE	229.77
± Increase/Decrease in finished goods inventory	-14.38	- Cost of Goods Sold	151.66
- Material expenses	27.93	- Sales costs	29.76
- Personnel costs		- R & D costs	11.16
- Wages and Salaries	75.20	- Administration costs	15.87
- Hiring/Dismissal-costs	6.96	± Other expenses/income	0.00
- Pension reserve	4.51		
- Misc. personnel costs	29.33		
- Depreciation	5.90		
± Other expenses/income	44.23		
= OPERATING INCOME	21.32	= OPERATING INCOME	21.32
+ Investment income			0.00
- Interest expenses			2.88
= INCOME FROM REGULAR BUSINESS OPERATIONS			18.44
Extraordinary income			0.00
- Extraordinary expenses			0.00
= EXTRAORDINARY PROFIT/LOSS			0.00
- Income taxes			9.96
= NET INCOME/LOSS FOR PERIOD			8.48

APPROPRIATION OF NET INCOME	mEUR
Net income/loss for period	8.48
± Loss carried forward from previous period	-0.33
- Transfer into retained earnings	4.07
=	4.07
- Dividends paid	4.07
= Loss/Income carried forward	0.00

CASH-FLOW	mEUR
Net income	8.48
+ Depreciation (incl. disinvestment)	5.90
+ Pension reserve	4.51
= Cash-flow after tax	18.89

The accounting legislation passed on December 19, 1985 allows for alternative methods of determining the company's operating result. These are the

Total cost (type of short-term results) accounting

Cost of sales (type of short-term results) accounting

Both procedures lead to the same results with the selected valuations in the game.

In the case of **total cost accounting (TCA, left side of P/L S.)** the sales revenue is first adjusted by the inventory change (increase/decrease) (= Total operating performance of the period) and then the total costs of the period are deducted (within the allocation of cost center accounting).

In the case of **cost of sales accounting (CSA, right side of P/L S.)** the costs of products sold in the period are compared with the sales revenue for the period.

The costs of products sold include the total administration and research and sales/distribution costs for the period apart from the production costs of the sold product volume.

If the volume sold does not correspond to the volume manufactured in the period, then the production costs of the sales revenue is calculated according to the weighted average value of inventory.

Extraordinary income: Proceeds from sales of scrap from disinvested machinery, special income from Product 1-old at the launch of Product 1-new if a buyer is found for the product to be scrapped (scrapped), other input from instructor.

Extraordinary expenses: Depreciation of net book value of machines to be scrapped, Depreciation of Product 1-old to be scrapped (CGM), (other input from instructor).

Subcontracting of Product 2 is shown as a change in the inventory: In the model it is assumed that the products are bought at the start of the period, (just as other purchases are made), stored in the warehouse, and then withdrawn from the warehouse due to Sales/Distribution during the period.

Appropriation of net income:

The net income for the year of the period is entered under equity in the balance sheet for the current period. The profit for the year of the period can be used:

- To cover a loss carried forward from the previous year,
- For retained earnings, and
- To distribute dividends.

The amount of retained earnings is calculated as follows:

- First, the net income offsets a possible loss carried over from the previous year.
- The planned dividends for the period and possible dividend claims from the previous period are deducted from the remainder.
- The amount remaining after the deduction of the loss carried forward and dividends is allocated to retained earnings.

Cash Flow:

- The net income for a period is the difference between income and expenses that have been recorded on an accrued basis. It is evaluated in the profit and loss statement and is supposed to reflect the performance of a period.
- The cash flow of a period is defined as the after-tax net income + depreciation + reserves. It is an indicator of the so-called "**Internal financing**" of the company.
- The depreciation here also includes depreciation for scrapped production lines, which are recorded under the item **extraordinary expenses** in the upper part of the report.

5.2.9

Financial Report and Balance Sheet

TATA Interactive Systems GmbH - D-72070 Tübingen		Copyright (c) 2006 by TATA	
MANAGEMENT GAME		Company 2	Period: 7
T O P S I M - General Management II		DEMODATEN	Date 10. 1.2005
No. 9 FINANCIAL REPORT AND BALANCE SHEET			

FINANCIAL REPORT (mEUR)	CURRENT PERIOD	PLAN FOR NEXT PERIOD
INITIAL CASH BALANCE	22.94	
CASH IN:		
Cash in from sales, current period	183.81	
+ Cash in from sales, previous period	36.92	
+ Disposal of investments	0.00	
+ Investment income	0.00	
+ Extraordinary income/Share cap.increase	0.00	
+ Disinvestment of production lines	0.00	
+ Medium- and long-term loans	0.00	
+ Overdraft loans	16.19	
= TOTAL CASH IN	236.92	
CASH OUT:		
Input material expenses	27.82	
+ Subcontracting	14.38	
+ Personnel costs (- Pension reserve)	111.50	
+ Other expenses	44.23	
+ Medium-term & overdraft loans repaid	49.00	
+ Interest paid on loans	2.88	
+ Purchase of production lines	0.00	
+ Purchase of securities	0.00	
+ Purchase of environmental plants	0.00	
+ Income taxes	9.96	
+ Dividends paid (previous period)	0.00	
+ Extraordinary expenses	0.00	
= TOTAL CASH OUT	259.76	
FINAL CASH BALANCE	0.10	

BALANCE SHEET (mEUR)					
ASSETS	Period	Prev.per	LIABILITIES	Period	Prev.per
FIXED ASSETS	57.80	63.70	OWNERS' EQUITY	60.30	51.82
Property, Plant- and Equip.			Share capital	15.00	15.00
Land and Buildings	6.00	6.25	Capital reserves	2.50	2.50
Machinery and Equipment	51.80	57.45	Retained Earnings	34.65	34.65
			Loss carried forward	-0.33	0.00
			Net income for period	8.48	-0.33
CURRENT ASSETS	54.78	68.70	PENSION RESERVE	36.09	31.58
Inventories					
Input materials	8.73	8.84	LIABILITIES	16.19	49.00
Finished goods	0.00	0.00	Long-term loans > 5 per.	0.00	0.00
Accounts receivable	45.95	36.92	Short-term loans < 1 per.	0.00	49.00
Securities	0.00	0.00	Overdraft loans	16.19	0.00
Cash	0.10	22.94			
BALANCE SHEET TOTAL	112.58	132.40	BALANCE SHEET TOTAL	112.58	132.40

	Period	Prev.per		Period	Prev.per
RATING	122	90	Modif. of interest rate	-1.13	0.65

Financial Report:

Self-explanatory

Balance Sheet:

The balance sheet takes into account the new regulations concerning balance sheet layout prescribed to companies required by law to disclose their business figures, and applies to the terms of paragraph 266 of the GCC (German Commercial Code). There have been changes especially on the liabilities side.

From now on **all** the items of the Owners' Equity are part of a group Owners' Equity, including the net income for the year, as well as the accumulated losses brought forward. The balance sheet items of the Owners' Equity include the following:

Share capital: Share capital corresponds to the capital stock, i.e. the nominal value of the issued share capital

Capital reserves: These arise as a result of a premium when new shares are issued; up until now this item was part of the legal reserves. In TOPSIM - General Management. This item is not controllable.

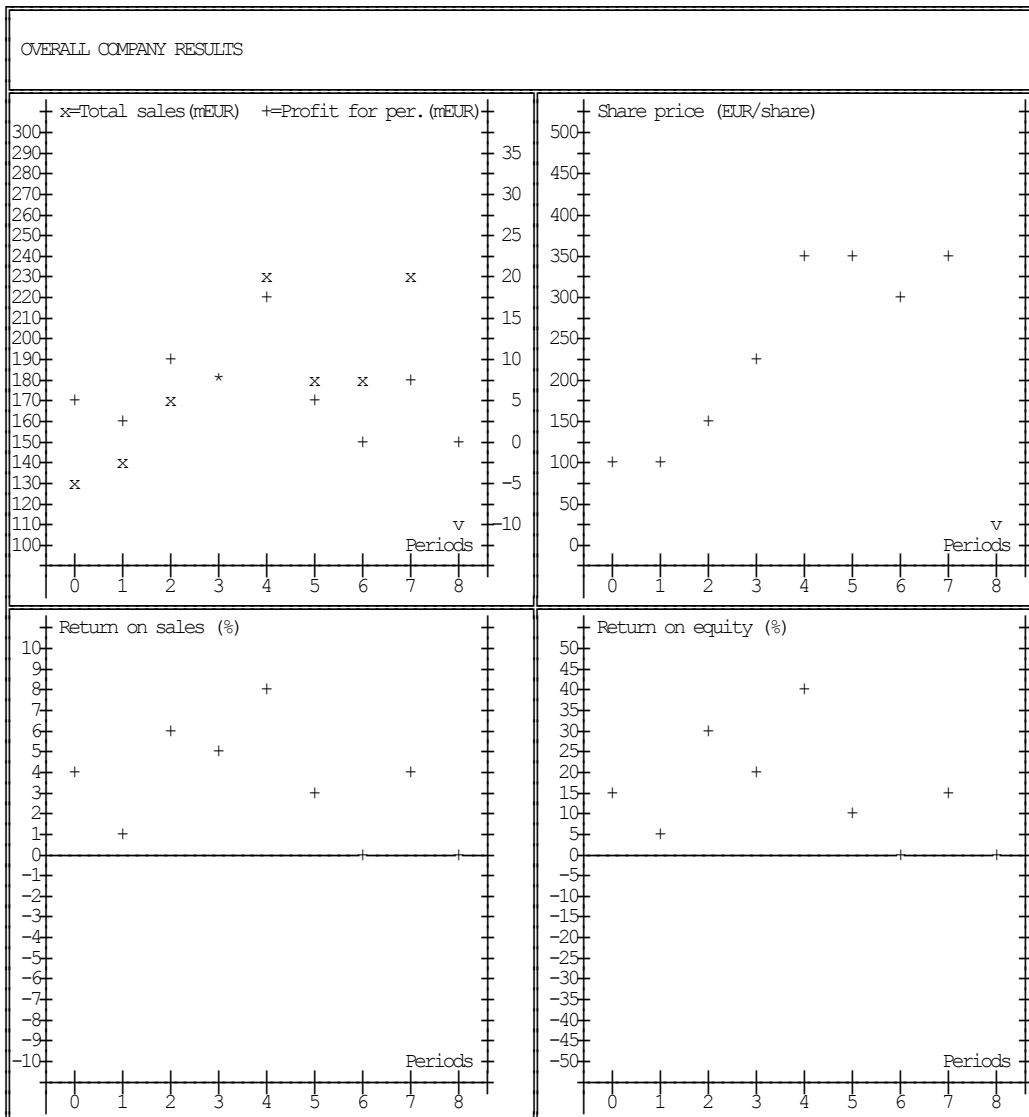
Retained earnings: Result from not distributing all of the after-tax net income of the previous period.

Loss carried forward: Losses from the previous periods do not cut into reserves immediately, but can be carried forward for up to 5 periods, and can be absorbed with surpluses that occur later.

Net income: The result of the current business year is reported in an undistributed and comprehensive form in the closing balance sheet. The appropriation of the net income (cf. additional note on Profit/Loss Statement) the distribution of reserves, or the absorption of losses carried forward are not treated in the accounts until the new business year.

5.2.10 Overall Company Results

No. 10 OVERALL COMPANY RESULTS



RATIOS		Per.0	Per.1	Per.2	Per.3	Per.4	Per.5	Per.6	Per.7	Per.8	Average
Total sales	mEUR	129.0	143.6	171.2	178.7	228.5	178.3	184.6	229.8	0.0	160.4
Operating result	mEUR	10.4	5.5	22.6	5.9	36.6	11.7	3.5	21.3	0.0	13.1
Profit for period	mEUR	4.6	1.5	10.0	8.7	17.7	4.8	-0.3	8.5	0.0	6.2
Owners' equity	mEUR	32.6	31.8	41.1	44.8	58.1	54.1	51.8	60.3	0.0	41.6
Return on sales	%	3.6	1.1	5.9	4.9	7.7	2.7	-0.2	3.7	0.0	3.3
Return on equity	%	16.4	4.7	31.5	21.2	39.5	8.3	-0.6	16.4	0.0	15.3
Payout dividends	mEUR	0.0	2.3	0.8	5.0	4.4	8.8	1.9	0.0	0.0	2.6
Cumul. dividends	mEUR	0.0	2.3	3.1	8.1	12.4	21.3	23.2	23.2	0.0	
Planning quality index		2.3	0.9	-0.8	1.3	-0.4	2.0	0.7	2.9	0.0	1.0
Share price	EUR/share	99.5	95.4	157.0	235.4	338.6	359.2	288.5	360.6	0.0	214.9
Value of company	mEUR	49.8	47.7	78.5	117.7	169.3	179.6	144.3	180.3	0.0	107.5
Corporate image index		100.0	103.5	109.8	112.2	112.7	108.6	110.7	105.7	0.0	95.9
Sharehold.earnings	mEUR	0.0	0.2	31.8	76.0	132.0	151.1	117.7	153.7	0.0	
Sharehold.earn.since 0		0.0	0.5	63.8	152.7	265.1	303.5	236.4	308.9	0.0	

Share price	: The influences are: Owners' equity, end of previous period, Net income, Earned dividends of period, Accumulated dividends since Period 0, Return on sales, Accumulated marketing mix (Advertising/CI/Distribution/Sales/Product development), No. of products and markets, Image factor, Ranking of companies according to sales revenue, Planning quality, Environmental index of production, and Debt-equity ratio (Liabilities/Balance sheet total)
Return on sales	:
Return on equity	:
Value of company	: Share price * 500000 shares
Company image index	: Influences: <ul style="list-style-type: none"> • Expenses for CI • Indices of product attributes • Environmental damage index of production lines
Shareholder Earnings mEUR	: cumulative dividends + change in value of company (Be aware of rounded up and down figures)
Shareholder Earnings % P0	: Change compared to starting value Period 0 (%)

5.2.11 Out-of-Line Situations

TATA Interactive Systems GmbH - D-72070 Tübingen							Copyright (c) 2006 by TATA			
MANAGEMENT GAME							Company 2		Period: 7	
T O P S I M - General Management II							DEMODATEN		Date 10. 1.2005	
No. 11 OUT-OF-LINE SITUATIONS										
PLANNING VALUES		PERIODS								Aver.
		0	1	2	3	4	5	6	7	
SALES (mEUR)	Planned	130.0	130.0	130.0	173.9	188.4	170.2	152.9	170.7	155.8
PRODUCT 1	Actual	129.0	141.1	151.6	149.7	179.8	178.3	171.0	174.6	159.4
MARKET 1	Diff.	-1.0	11.1	21.6	-24.2	-8.6	8.1	18.1	3.9	3.6
	Diff. (%)	-0.8	8.5	16.6	-13.9	-4.6	4.8	11.8	2.3	3.1
PLANNING QUALITY		1.0	0.5	-0.1	-0.3	0.6	0.7	0.1	0.8	0.4
SALES (mEUR)	Planned	0.0	0.0	0.0	0.0	11.8	26.6	34.0	28.4	12.6
PRODUCT 1	Actual	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.8	1.7
MARKET 2	Diff.	0.0	0.0	0.0	0.0	-11.8	-26.6	-34.0	-14.6	-10.9
	Diff. (%)	0.0	0.0	0.0	0.0	-100.0	-100.0	-100.0	-51.5	-43.9
PLANNING QUALITY		0.0	0.0	0.0	0.0	0.3	-0.5	-0.6	0.1	-0.1
SALES (mEUR)	Planned	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.0	2.3
PRODUCT 2	Actual	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.5	2.8
MARKET 1	Diff.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.5	0.6
	Diff. (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	3.1
PLANNING QUALITY		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.1
SALES (mEUR)	Planned	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.6	0.6
PRODUCT 2	Actual	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MARKET 2	Diff.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-4.6	-0.6
	Diff. (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-100.0	-12.5
PLANNING QUALITY		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.1
RETURN ON EQUITY (%)	Planned	20.0	20.0	20.0	22.6	58.6	9.4	2.5	20.0	21.6
	Actual	16.4	4.7	31.5	21.2	39.5	8.3	-0.6	16.4	17.2
	Diff.	-3.6	-15.3	11.5	-1.4	-19.1	-1.1	-3.1	-3.6	-4.5
	Diff. (%)	-17.9	-76.5	57.5	-6.2	-32.7	-12.1	-124.8	-18.2	-28.8
PLANNING QUALITY		0.4	-0.5	-0.5	0.8	-0.6	0.8	0.5	0.4	0.2
CASH FLOW (mEUR)	Planned	14.0	14.0	14.0	20.3	38.2	14.5	11.1	14.0	17.5
	Actual	13.6	14.2	20.3	19.4	28.8	14.3	9.3	18.9	17.3
	Diff.	-0.4	0.2	6.3	-1.0	-9.4	-0.2	-1.8	4.9	-0.2
	Diff. (%)	-2.8	1.2	45.2	-4.7	-24.7	-1.3	-16.2	34.9	4.0
PLANNING QUALITY		0.9	1.0	-0.2	0.8	-0.8	1.0	0.7	0.0	0.4
Net income (mEUR)		4.6	1.5	10.0	8.7	17.7	4.8	-0.3	8.5	6.9
Cum. Net income (mEUR)		4.6	6.1	16.2	24.9	42.5	47.3	47.0	55.5	30.5
Planning quality for per.		2.3	0.9	-0.8	1.3	-0.4	2.0	0.7	2.9	1.1
Cum. planning quality		2.3	3.2	2.4	3.7	3.2	5.2	5.9	8.8	4.3
Earn.cap.value (mEUR)		5.7	2.0	9.6	9.4	17.5	5.8	0.0	9.9	7.5
Cum.earn.cap.value (mEUR)		5.7	7.7	17.4	26.7	44.2	49.9	50.0	59.9	32.7

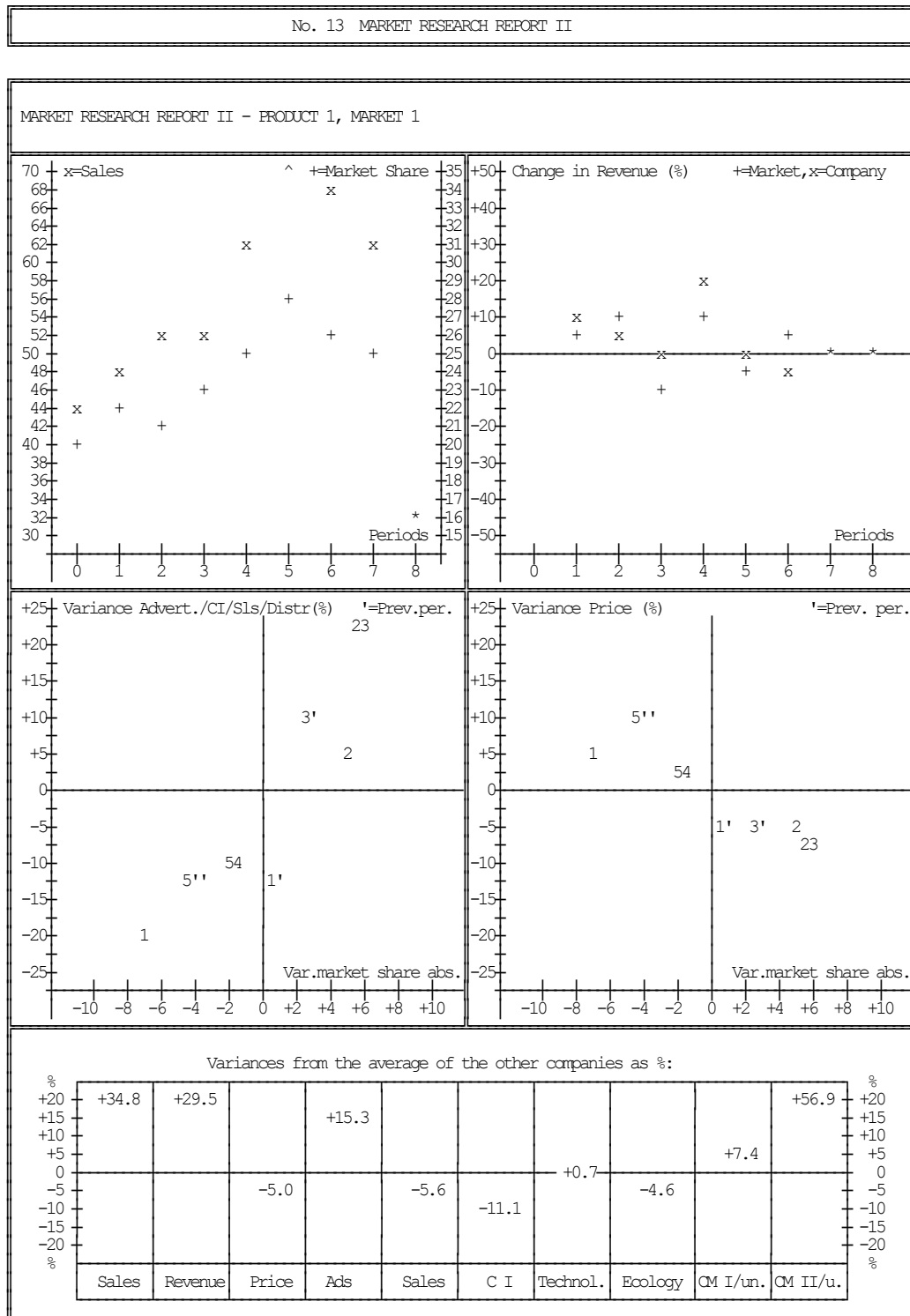
Planning quality	: The planning quality is calculated according to the planning magnitude from the absolute variance between planned and actual output. Ranges of planning quality Best value 1.0 at an absolute variance of 0.0 . Worst value -1.0 at great absolute variance.
	The planning quality values depend on the absolute variances determined in the instructor's file "Impact curves", curves 53 - 58.
Planning quality of period	: Total individual planning quality values for the period
Cum. planning quality	: Cumulative planning quality of previous periods + Planning quality of period
Earn. cap. value of period (mEUR)	: The earning capacity value of the period comprises of: Net income of the period (mEUR) + (Planning quality of period * Value of a planning quality point in mEUR) The value of a planning quality point is determined by the instructor.
Cum. earn. cap. val. (mEUR)	: Cumulative earning capacity value of previous periods + Earning capacity value of period

5.2.12 Market Research Report I

No. 12 MARKET RESEARCH REPORT I										
MARKET RESEARCH REPORT I	COM- PANY	PRICE EUR/FCU	ADVERTISING		SALES		REVENUE		PRODUCT INDICES	
			mEUR	%	Units	%	mEUR	%	Technol	Ecology
PRODUCT 1 MARKET 1	1	3050	4.00	12.5	30598	12.4	93.3	13.1	105.6	109.2
	2	2798	7.00	21.9	62402	25.2	174.6	24.5	111.2	107.7
	3	2730	9.00	28.1	65178	26.3	177.9	24.9	111.6	108.5
	4	3000	6.00	18.8	45146	18.2	135.4	19.0	112.2	117.0
	5	3000	6.00	18.8	44208	17.9	132.6	18.6	112.2	117.0
	Avg/Tot	2884	32.00	100.0	247532	100.0	713.9	100.0	110.6	111.9
PRODUCT 1 MARKET 2	1	2300	1.00	22.2	16912	77.7	52.5	79.2	105.6	109.2
	2	2098	2.50	55.6	4860	22.3	13.8	20.8	111.2	107.7
	3	2030	1.00	22.2	0	0.0	0.0	0.0	111.6	108.5
	4	0	0.00	0.0	0	0.0	0.0	0.0		
	5	0	0.00	0.0	0	0.0	0.0	0.0		
	Avg/Tot	2255	4.50	100.0	21772	100.0	66.3	100.0	109.5	108.5
PRODUCT 2 MARKET 1	1	9900	2.00	57.1	3500	31.8	34.7	33.3	105.8	102.7
	2	9000	0.50	14.3	2500	22.7	22.5	21.6	101.2	101.8
	3	9360	1.00	28.6	5000	45.5	46.8	45.0	101.0	101.8
	4	0	0.00	0.0	0	0.0	0.0	0.0		
	5	0	0.00	0.0	0	0.0	0.0	0.0		
	Avg/Tot	9450	3.50	100.0	11000	100.0	104.0	100.0	102.7	102.1
PRODUCT 2 MARKET 2	1	7300	2.00	66.7	0	0.0	0.0	0.0	105.8	102.7
	2	6850	0.50	16.7	0	0.0	0.0	0.0	101.2	101.8
	3	7200	0.50	16.7	0	0.0	0.0	0.0	101.0	101.8
	4	0	0.00	0.0	0	0.0	0.0	0.0		
	5	0	0.00	0.0	0	0.0	0.0	0.0		
	Avg/Tot	0	3.00	100.0	0	0.0	0.0	0.0	102.7	102.1
OTHER DATA	COM- PANY	PROD. STAFF	PROD.1 O/R/N	PRODUCTION LINES			R & D Expenses (mEUR)		SALES/DIST. (No.of ppl.)	
				Type A	Type B	Type C				
	1	1272	N	1	0	2	5.8		132	
	2	1415	N	0	0	3	9.2		157	
	3	1397	N	2	0	2	8.3		150	
	4	886	O	4	0	0	5.3		100	
	5	884	O	4	0	0	5.3		100	

Expenses R & D (mEUR): Expenses for technology, ecology, and value analysis in the current period for all the products in this market

5.3.13 Market Research Report II



Explanations of Market Research Report II

The market research report is shown per product and per market.

Diagram 1: "Sales - Market Share"

The diagram shows the company's market share growth and sales in thousands of units over the periods. The participants in the game should connected the coordinate points and analyze their companies' growth.

+ =	Market share	X =	Sales in thousand of units
* =	Intersections	V =	Value outside represented area

Diagram 2: "Var. volume cf. pp (%)"

The diagram shows the growth of the total market volume and of the market volume of the company concerned over the periods as a % change compared with the previous period. The participants in the game should connected the coordinate points and analyze their companies' growth.

+ =	Total market	X =	Company concerned
* =	Intersections	V =	Value outside represented area

Diagram 3 " Var. Advert./CI/SIs/Distr (%) – Var. market share, abs."

and

Diagram 4 "Variance Price (%) - Var. Market share abs."

show the market situation of the individual companies concerning their marketing mix efforts (diagram 3) and also concerning prices (diagram 4). Marketing mix efforts include: expenditures made by the company on advertising, sales/distribution, CI, technology, and ecology. The values of each company are shown from the current and previous period.

Number and : Number of the company and value in the current period, e.g.

position 2 = Company 2 in the current period,

2' = same in the previous period.

* = Companies have the same value in the same period.

If a company is not shown, then its "position" is below the value of the previous period.

y axis: **Variance Marketing mix % or Variance Price %**

Variance of the company from the industry average as a %, whereby the company's own value contributes to the average.

x axis: **Var. Market share. abs.**

Variance of the market share as an absolute % value from the industry average.

Diagram 5 "Variance from the average of the competing companies"

offers further opportunities for analysis of the company's market situation. Here the variances of one's own company from the average of the other companies is shown as a percentage.

Sales: Self-explanatory
Turnover: Self-explanatory
Price: Self-explanatory
Advertising: Current effect of advertising in the period based on the expenditures of previous periods and the current one.

Distribution: Same as Advertising
CI: Self-explanatory
Technology: Technology index
Ecology: Ecology index
CM I/Unit: Contribution margin I/unit
CM II/Unit: Contribution margin II/unit

5.2.14 Business Report on the Industry

No. 14 BUSINESS REPORT ON THE INDUSTRY					
PROFIT AND LOSS STATEMENT					
VALUES in mEUR	Comp. 1	Comp. 2	Comp. 3	Comp. 4	Comp. 5
SALES REVENUE	208.39	229.77	243.64	135.44	132.62
- Cost of Goods Sold	135.44	151.66	160.43	115.16	111.00
- Sales costs	26.47	29.76	31.10	18.94	20.37
- R & D costs	8.16	11.16	10.52	6.16	6.16
- Administration costs	15.36	15.87	17.29	11.46	11.41
- Other expenses / income	0.00	0.00	0.00	0.00	0.00
= OPERATING INCOME	22.95	21.32	24.29	-16.28	-16.31
Income reg.business operations	19.18	18.44	20.21	-24.27	-43.46
Extraordinary income	0.00	0.00	0.00	0.00	0.00
- Income Taxes	10.55	9.96	6.28	0.00	0.00
= NET INCOME FOR PERIOD	8.63	8.48	13.93	-24.27	-43.46
BALANCE SHEET					
ASSETS (mEUR)	Comp. 1	Comp. 2	Comp. 3	Comp. 4	Comp. 5
FIXED ASSETS	48.85	57.80	44.35	12.60	12.60
Land and Buildings	6.00	6.00	6.00	6.00	6.00
Machinery and Equipment	42.85	51.80	38.35	6.60	6.60
CURRENT ASSETS	84.98	54.78	87.31	36.07	73.23
Raw Materials	18.06	8.73	6.52	0.00	0.00
Finished goods	0.00	0.00	0.00	8.88	46.61
Accounts receivable	41.68	45.95	48.73	27.09	26.52
Securities	0.00	0.00	20.00	0.00	0.00
Cash	25.25	0.10	12.06	0.10	0.10
BALANCE SHEET TOTAL	133.83	112.58	131.66	48.67	85.83
LIABILITIES (mEUR)	Comp. 1	Comp. 2	Comp. 3	Comp. 4	Comp. 5
OWNERS' EQUITY	63.53	60.30	56.36	-19.21	-67.38
Share capital	15.00	15.00	15.00	15.00	15.00
Capital reserves	2.50	2.50	2.50	2.50	2.50
Retained Earnings	37.40	34.65	33.72	15.31	14.63
Loss carried forward	0.00	-0.33	-8.80	-27.75	-56.05
Net income for period	8.63	8.48	13.93	-24.27	-43.46
PENSION RESERVE	35.30	36.09	35.30	29.50	29.44
DUE TO BANKS	35.00	16.19	40.00	38.38	123.78
Long-term loans > 5 periods	35.00	0.00	40.00	0.00	0.00
Short-term loans < 1 period	0.00	0.00	0.00	25.00	25.00
Overdraft loans	0.00	16.19	0.00	13.38	98.78
BALANCE SHEET TOTAL	133.83	112.58	131.66	48.67	85.83
COMPANY RATIOS	Comp. 1	Comp. 2	Comp. 3	Comp. 4	Comp. 5
Return on sales (%)	4.1	3.7	5.7	-17.9	-32.8
Return on equity (%)	14.6	16.4	32.8	-479.9	-181.7
Dividends paid (mEUR)	4.4	0.0	0.0	0.0	0.0
Share price (EUR/Share)	357.6	360.6	302.0	0.0	0.0
Value of company (mEUR)	178.8	180.3	151.0	0.0	0.0
Corporate image (Index)	104.5	105.7	105.0	99.7	99.7
Rating (Index)	121	122	105	21	8
Customer satisfaction (Index)	88	106	114	97	90
Shareholder earnings (mEUR)	145.7	153.7	115.9	-45.0	-45.6
Shareholder earnings (%)	292.8	308.9	232.9	-90.3	-91.7

The report is identical to Instructor's Report V (see point 5.1.5).

5.2.15 Socio-Economic Statement for the Entire Industry

No. 15 CORPORATE SOCIO-ECONOMIC STATEMENT AND REAL NET OUTPUT					
SOCIO-ECONOMIC STATEMENT FOR THE ENTIRE INDUSTRY					
	Comp. 1	Comp. 2	Comp. 3	Comp. 4	Comp. 5
EMPLOYEES					
Hired (ppl.)	1314	1459	1545	548	556
Dismissed (ppl.)	160	12	16	1	11
Final workforce (ppl.)	1810	1970	1981	1251	1248
Change (%)	50.33	63.62	64.53	3.90	3.65
Personnel competence (Index)	1.04	1.04	1.03	0.98	0.98
Productivity (Index I)	1.04	1.03	1.02	0.99	1.00
Wages and Salaries (mEUR)	437.98	459.40	437.02	325.57	324.45
Non-salary staff costs (mEUR)	177.51	176.70	169.43	129.57	129.13
Non-salary staff costs (%)	40.53	38.46	38.77	39.80	39.80
Misc. personnel costs (mEUR)	59.50	60.87	64.17	28.97	29.12
TOTAL TOWARDS EMPLOYEES (mEUR)	674.99	696.98	670.62	484.11	482.70
INVESTORS/BANKS					
Owners (Dividends) (mEUR)	20.15	27.27	16.26	4.81	4.13
Banks (Interest paid) (mEUR)	29.44	26.32	18.37	24.15	60.06
TOTAL TO. INVESTORS/BANKS (mEUR)	49.59	53.58	34.63	28.95	64.19
GOVERNMENT					
Direct taxes (mEUR)	52.15	48.70	37.32	7.86	6.76
Employee taxes (mEUR)	131.39	137.82	131.11	97.67	97.34
Taxes on dividends (mEUR)	3.34	4.64	2.94	0.96	0.83
TOTAL TOWARDS GOVERNMENT (mEUR)	186.88	191.16	171.37	106.50	104.92
PRESERVATION OF REAL ASSET VALUE					
Product improvement (mEUR)	56.63	52.49	49.53	40.95	40.95
Invest.(machin.& markets) (mEUR)	216.80	223.90	214.70	132.80	132.80
Addition to reserves (mEUR)	32.08	28.23	26.82	4.81	4.13
TOTAL TO. REAL ASSET VAL. (mEUR)	305.51	304.62	291.04	178.56	177.88
REAL NET OUTPUT FOR THE ENTIRE INDUSTRY					
	Comp. 1	Comp. 2	Comp. 3	Comp. 4	Comp. 5
Company revenue (mEUR)	1456.08	1443.73	1390.10	973.55	927.67
Real net output (1) (mEUR)	674.99	696.98	670.62	484.11	482.70
Real net output (% of revenue)	46.36	48.28	48.24	49.73	52.03

(1) Personnel costs

The Corporate socio-economic statement shows the contribution of the company from various perspectives.

Product improvement : All expenses for R&D
Real net output : Total expenditure of the company minus the input materials/parts and outside production

5.2.16 Value Oriented Ratios

No. 16 VALUE ORIENTED RATIOS

PROFIT & LOSS STATEMENT	Period (mEUR)	Prev.p. (mEUR)	Changes		% of sales rev.	
			Absolute	%	Period	Prev.p.
Sales revenue	229.77	184.59	45.17	24.5	100.0	100.0
- Cost of products sold	151.66	130.52	21.14	16.2	66.0	70.7
- Sales costs	29.76	31.69	-1.93	-6.1	13.0	17.2
- R & D costs	11.16	7.17	3.99	55.6	4.9	3.9
- Administration costs	15.87	11.68	4.20	35.9	6.9	6.3
- Other expenses / income	0.00	0.00	0.00	0.0	0.0	0.0
= OPERATING PROFIT	21.32	3.54	17.78	502.6	9.3	1.9
± Net investment	2.88	3.87	-0.99	-25.6	1.3	2.1
± Extraordinary income	0.00	0.00	0.00	0.0	0.0	0.0
- Income taxes	9.96	0.00	9.96	0.0	4.3	0.0
= NET INCOME (NI)	8.48	-0.33	8.82	-2634.3	3.7	-0.2
+ Depreciation	5.90	5.90	0.00	0.0	2.6	3.2
+ Pension reserves	4.51	3.75	0.76	20.3	2.0	2.0
= CASH FLOW AFTER TAX (CF)	18.89	9.32	9.58	102.8	8.2	5.0
OPERATING INCOME	21.32	3.54	17.78	502.6	9.3	1.9
- Taxes from Operating Income	11.72	1.95	9.78	502.6	5.1	1.1
= NET OPERATING INCOME (NOI)	9.59	1.59	8.00	502.6	4.2	0.9

NET ASSETS (NA)	Period (mEUR)	Prev.p. (mEUR)	Changes		% of NA	
			Absolute	%	Period	Prev.p.
Land and buildings	6.00	6.25	-0.25	-4.0	5.3	4.7
Machinery and equipment	51.80	57.45	-5.65	-9.8	46.0	43.4
= Fixed assets	57.80	63.70	-5.90	-9.3	51.3	48.1
Material	8.73	8.84	-0.11	-1.3	7.8	6.7
Finished goods	0.00	0.00	0.00	0.0	0.0	0.0
Accounts receivable	45.95	36.92	9.03	24.5	40.8	27.9
Securities and cash	0.10	22.94	-22.84	-99.6	0.1	17.3
= Current assets	54.78	68.70	-13.92	-20.3	48.7	51.9
NET ASSETS (NA)	112.58	132.40	-19.82	-15.0	100.0	100.0
EQUITY	60.30	51.82	8.48	16.4	53.6	39.1

Average interest rate for CFROI $j = 13.0\%$

RATIOS	Periods								
	0	1	2	3	4	5	6	7	
i WACC after tax %	8.0	7.9	8.0	7.9	8.0	7.7	7.2	-0.2	
1 Net Operating Income (NOI) mEUR	5.7	3.0	12.4	3.3	20.1	6.5	1.6	9.6	
2 Cash-flow (CF) mEUR	13.6	14.2	20.3	19.4	28.8	14.3	9.3	18.9	
3 Net Assets (NA) mEUR	71.5	81.2	107.3	101.8	131.0	118.9	132.4	112.6	
4 RONA (NOI/NA) %	8.0	3.7	11.6	3.2	15.4	5.4	1.2	8.5	
5 EVA (NOI - $i\% \cdot NA$) mEUR	0.0	-3.4	3.8	-4.8	9.7	-2.7	-8.0	9.9	
6 EVA (period - prev.period) mEUR	0.0	-3.4	7.3	-8.6	14.4	-12.3	-5.3	17.8	
7 CFROI (CF/NA) %	19.0	17.5	18.9	19.0	22.0	12.1	7.0	16.8	
8 DTCF (CF - $j\% \cdot NA$) mEUR	4.3	3.6	6.4	6.1	11.7	-1.1	-7.9	4.3	
9 DDTCF (DTCF:per.-prev.per.) mEUR	0.0	-0.7	2.8	-0.2	5.6	-12.9	-6.8	12.2	
10 MVA mEUR	17.2	15.9	37.4	72.9	111.2	125.5	92.4	120.0	
11 EBIT mEUR	10.4	5.5	22.6	5.9	36.6	11.7	3.5	21.3	
12 EBITDA mEUR	17.5	16.1	30.5	13.8	44.5	17.6	9.4	27.2	
13 CASH-FLOW-Statement Int'l. mEUR	16.2	26.0	10.3	14.6	20.2	25.3	8.0	10.0	

ad 4: RONA = Return on Net Assets

ad 5: EVA = Economic Value Added

ad 7: CFROI = Cash flow Return on Investment

ad 8: DTCF = Difference Total Cash flow

ad 9: DDTCF = Delta Difference Total Cash flow

ad 10: MVA = Market Value Added = Value of company minus Equity

In this report, you will find the relevant figures concerning controlling. At the top of the table, initial figures are stated, and the calculations are also explained.

5.2.17 Scenario

No. 17 SCENARIO			
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		last calcul. period	next period
BULK BUYER	units	7000	7000
	price (EUR/unit)	2700	2700
WAGES & SALARIES (TEUR)	purchase	37	37
	administration	34	34
	production	37	37
	R & D	53	53
	sales	49	49

PRODUCTION		Product 1 - old	Product 1 - new
Units material/parts per product		1.00	1.00
Capacity per product (Units)		1.00	0.90
Production capacity/person (Units)		45	50
Factory material (EUR/unit)		46	40
PURCHASE OF INPUT MATERIALS/PARTS		Product 1 - old	Product 1 - new
to < 30000 units		750	600
to < 50000 units		635	500
to < 70000 units		519	400
from 70000 units		462	350

		last calcul. period	next period
RECRUITMENT COSTS	TEUR	14.0	14.0
INTERESTS (%)	securities	6.0	6.0
	Med-term loan 1	13.6	11.9
	Med-term loan 2	15.6	13.9
	Med-term loan 3	17.6	15.9
	Long-term loans	11.6	9.9
	Overdraft loans	17.6	15.9
EXCHANGE RATE	EUR/FCU	1.35	1.35

TRANSPORTATION COSTS		last calcul. period	next period
Product 1, Market 1	EUR/unit	70	70
Product 1, Market 2	EUR/unit	165	165
Product 2, Market 1	EUR/unit	255	255
Product 2, Market 2	EUR/unit	340	340

PRODUCTION LINES	Type A	Type B	Type C
Procurement value	20.0	25.0	30.0
Remaining life	10	10	15
Capacity	14000	18000	22000

COMMUNICATION, Page 1

After last year's economic slump, the experts are predicting an economic recovery in the in the present year. It is assumed that

in real terms the gross national product will increase by 2%,
in real terms investments will increase by 2%,
the cost of living will stagnate, and
wages and salaries will increase by 7%.

Nevertheless, the willingness to invest on the part of companies is still not completely satisfactory. However, neither the Federal bank nor the state is expected to take economic measures.

At the most recent meetings of OPEC the oil-producing states failed to fix output and prices compulsorily. Therefore, in the coming year a fall in prices on the crude oil-market is expected which will reduce the costs of factory materials to 46 Euro for the product 1 (black-and-white photocopiers).

The following information is available on the development of demand for black-and-white photocopiers:

The dual effect of the trend in prices on the market for black-and-white photocopiers and the economic recovery indicates a small increase in demand for the short-term and a larger increase in the companies' demand for the medium-term.

The departmental buyer of the well-known commercial chain MEGRO is interested in product 1. MEGRO is prepared to purchase every quantity between 1 and a maximum of 5000 per company at the price of 2500 Euro per copier.

5.2.18 Decisions Data Report

Decision Data Report					Company 2	
					Per. 7	Per. 8
PRICE	Product 1 Market 1 (EUR/unit)				2798	
	Product 1 Market 2 (FCU/unit)				2098	
	Product 2 Market 1 (EUR/unit)				9000	
	Product 2 Market 2 (FCU/unit)				6850	
ADVERTISING	Product 1 Market 1 (mEUR)				7.00	
	Product 1 Market 2 (mEUR)				2.50	
	Product 2 Market 1 (mEUR)				0.50	
	Product 2 Market 2 (mEUR)				0.50	
SALES	Market 1 (No. of people)				120	
	Market 2 (No. of people)				37	
MARKET RESEARCH REPORT (Y/N)						
BULK BUYERS (units)					7000	
BID PRICE FOR TENDER (EUR/unit)						
EXPENDITURE FOR CORPORATE IDENTITY (mEUR)					2.0	
PRODUCT DEVELOPMENT						
	Product 1-old	Technology (No.of ppl.)		34		
		Ecology (mEUR)		2.50		
		Value Analysis (mEUR)		1.00		
	Product 1-new	Technology (No.of ppl.)		30		
		Ecology (mEUR)		0.00		
		Value Analysis (mEUR)		1.00		
	Product 2-new	Technology (No.of ppl.)		50		
Ecology (mEUR)			3.00			
Value Analysis (mEUR)			1.00			
RELAUNCH (Y/N)					N	
NEW LAUNCH (Y/N)					N	
PURCHASING	Raw materials/parts	Product 1 (units)		71000		
		Product 2 (units)		0		
	Subcontracting	Product 2 (units)		2500		
PRODUCTION	Production volume	Product 1 (units)		74262		
		Product 2 (units)		0		
	Production lines Type A	Investment (No.new l.)		0		
		Disinvestment (No.)				
		Maintenance (mEUR)		0.0		
		Rationalization (mEUR)		0.0		
	Production lines Type B	Investment (No.new l.)		0		
		Disinvestment (No.)				
		Maintenance (mEUR)		0.0		
		Rationalization (mEUR)		0.0		
Production lines Type C	Investment (No.new l.)		0			
	Disinvestment (No.)					
	Maintenance (mEUR)		0.8			
	Rationalization (mEUR)		0.0			
	Process optimising projects (mEUR)			1.0		
	Training (mEUR)			3.0		
	Investment in environmental plants (mEUR)			0.0		
	Production personnel (Recr./Dism.)			196		
	Non-salary staff costs (%)			39		
FINANCING	Medium-term loans (mEUR)				0.0	
	Long-term loans (mEUR)				0.0	
	Dividends (% of income)				50	
	Purchase of securities (mEUR)				0.0	
PLANNED FIGURES	Revenues Product 1 Market 1 (mEUR)			170.7		
	Revenues Product 1 Market 2 (mEUR)			28.4		
	Revenues Product 2 Market 1 (mEUR)			18.0		
	Revenues Product 2 Market 2 (mEUR)			4.6		
	Return on Equity (%)			20.0		
	Cash-flow (mEUR)			14.0		

5.2.19 Profit and Loss Statement, Balance Sheet (US-GAAP)

No. 8 PROFIT AND LOSS STATEMENT, BALANCE SHEET (US-GAAP)

PROFIT and LOSS STATEMENT					
Total Cost Accounting	mEUR	Period	Prev.per.	Cha.(%)	% o.sal.
SALES REVENUE		229.77	184.59	24.47	100.00
- Cost of products sold		151.66	130.52	16.20	66.01
- Sales costs		29.76	31.69	-6.09	12.95
- R & D costs		11.16	7.17	55.60	4.86
- Administration costs		15.87	11.68	35.93	6.91
± Other expenses / income		0.00	0.00	0.00	0.00
= OPERATING RESULT		21.32	3.54	502.60	9.28
+ Yield from securities		0.00	0.00	0.00	0.00
- Interest and similar expenses		2.88	3.87	-25.58	1.25
= RESULT FROM REGULAR BUSINESS OPERATIONS		18.44	-0.33	-5609.6	8.02
Extraordinary income		0.00	0.00	0.00	0.00
- Extraordinary expenses		0.00	0.00	0.00	0.00
= EXTRAORDINARY PROFIT/LOSS		0.00	0.00	0.00	0.00
- Taxes from income		9.96	0.00	0.00	4.33
= PROFIT/LOSS FOR PERIOD		8.48	-0.33	-2634.3	3.69

APPROPRIATION OF NET INCOME	mEUR	Period	Prev.per.	Cha.(%)	% o.sal.
Profit/Loss for period		8.48	-0.33	-2634.3	3.69
± Loss carried forward from previous period		-0.33	0.00	0.00	-0.15
- Transfer into revenue reserves		4.07	0.00	0.00	1.77
= Balance sheet profit (Dividends) / Bal.sh.loss		4.07	-0.33	-1317.2	1.77
- Distributive amount (Dividends)		4.07	0.00	0.00	1.77
= Loss carried forward		0.00	-0.33	-100.00	0.00

BALANCE SHEET in mEUR					
ASSETS	Period	Prev.per.	LIABILITIES	Period	Prev.per.
FIXED ASSETS	57.80	63.70	OWNERS' EQUITY	60.30	51.82
Property, Plant and Equipm.			Subscribed capital	15.00	15.00
Land and Buildings	6.00	6.25	Capital reserves	2.50	2.50
Machinery and Equipment	51.80	57.45	Revenue reserves	34.65	34.65
			Loss carried forward	-0.33	0.00
			Profit/Loss for period	8.48	-0.33
CURRENT ASSETS	54.78	68.70	PENSION RESERVES	36.09	31.58
Inventories					
Material	8.73	8.84	LIABILITIES	16.19	49.00
Finished goods	0.00	0.00	Long term loans > 5 periods	0.00	0.00
Accounts receivable	45.95	36.92	Short term loans < 1 period	0.00	49.00
Securities	0.00	0.00	Overdraft loan	16.19	0.00
Cash	0.10	22.94			
BALANCE SHEET TOTAL	112.58	132.40	BALANCE SHEET TOTAL	112.58	132.40

	Period	Prev.per.		Period	Prev.per.
RATING	122	90	Modification of Interest Rate	-1.13	0.65

5.2.20 Financial Report and Balance Sheet (US-GAAP)

No. 9 FINANCIAL REPORT AND CASH FLOW STATEMENT (US-GAAP)

FINANCIAL REPORT	in mEUR	CURRENT PERIOD	PLANNING FOR THE NEXT PERIOD
INITIAL CASH BALANCE		22.94	
CASH IN:			
Cash in from sales current period		183.81	
+ Cash in from sales previous period		36.92	
+ Securities		0.00	
+ Yield on securities		0.00	
+ Extraordinary income/Share capital incr.		0.00	
+ Disinvestment of production lines		0.00	
+ Medium and long-term loans		0.00	
+ Overdraft loan		16.19	
= TOTAL CASH IN		236.92	
CASH OUT:			
Purchase input mat./parts + fact.mat.		27.82	
+ Subcontracting		14.38	
+ Personnel costs (- Pension reserves)		111.50	
+ Other expenses		44.23	
+ Pay back medium-term & overdraft loans		49.00	
+ Interest paid on loans		2.88	
+ Purchase of production lines		0.00	
+ Purchase of securities		0.00	
+ Purchase of environmental plants		0.00	
+ Taxes from income		9.96	
+ Pay out of dividends (previous period)		0.00	
+ Extraordinary expenses		0.00	
= TOTAL CASH OUT		259.76	
FINAL CASH BALANCE		0.10	

CASH FLOW STATEMENT (US-GAAP)	in mEUR	
Net earnings / net loss for period	8.48	
Depreciation of fixed assets	5.90	
Increase of pension fund	4.51	
Changes in current assets		
Increase (-) / Decrease (+) of raw material	0.11	
Increase (-) / Decrease (+) of finished products	0.00	
Increase (-) / Decrease (+) of receivables	-9.03	
A. NET CASH PROVIDED/USED BY OPERATING ACTIVITIES	9.97	9.97
Investments in fixed assets	0.00	
B. NET CASH USED IN INVESTING ACTIVITIES	0.00	0.00
Increase of subscribed capital	0.00	
Prior periods dividend paid	0.00	
Increase (-) / Decrease (+) of securities	0.00	
Increase (+) / Decrease (-) of bank loans	-32.81	
C. NET CASH PROVIDED/USED BY FINANCING ACTIVITIES	-32.81	-32.81
D. NET INCREASE (+) / DECREASE (-) OF CASH (A+B+C)	-22.84	-22.84

5.3 Analyses

Under the menu item **Reports**, TOPSIM - General Management II allows you to compile specific Analyses Reports for a seminar yourself using the **Analyses Reports** command. To enable you to do this, the management game provides you with a range of variables that you can select under **File / Instructor's Data / Define Variables for Analyses**.

With the menu item "Analyses Reports" the reports are produced. They show the variables that you have selected. You can print out the reports or look at them on the screen.

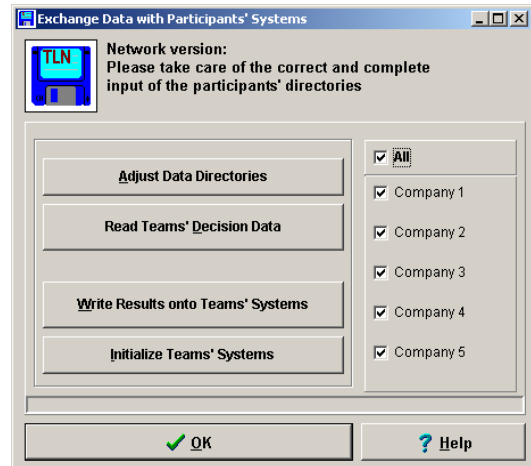
Example of a report:

ANALYSES											
RESULTS		PERIODS									
		0	1	2	3	4	5	6	7	8	Tot./Av.
Value of Company (mUSD)	C1	49.8	49.5	70.5	90.0	123.9	115.5	151.2	178.8	189.1	113.1
	C2	49.8	47.7	78.5	117.7	169.3	179.6	144.3	180.3	203.5	130.1
	C3	49.8	51.3	55.6	89.8	135.1	149.3	112.3	151.0	164.6	106.5
	C4	49.8	36.6	47.1	48.8	39.2	14.1	0.0	0.0	0.0	39.3
	C5	49.8	36.6	47.1	40.5	22.7	0.0	0.0	0.0	0.0	39.3
Corporate Image Index (Index)	C1	100.0	102.1	106.7	109.3	115.7	114.3	107.6	104.5	103.0	107.0
	C2	100.0	103.5	109.8	112.2	112.7	108.6	110.7	105.7	104.4	107.5
	C3	100.0	104.0	103.9	103.4	107.6	105.0	105.7	105.0	106.1	104.5
	C4	100.0	100.7	101.5	102.0	102.7	98.3	98.9	99.7	100.5	100.5
	C5	100.0	100.7	101.5	102.0	102.7	98.3	98.9	99.7	100.5	100.5
Production Staff Absenteeism (%)	C1	5.9	5.6	5.3	2.3	3.1	1.6	2.7	5.4	5.1	4.1
	C2	5.9	6.0	4.1	3.4	3.0	1.6	5.4	6.1	5.6	4.6
	C3	5.9	6.5	5.6	3.3	4.6	2.6	8.0	7.7	7.8	5.8
	C4	5.9	5.8	4.9	4.4	4.3	4.1	4.5	4.5	4.1	4.7
	C5	5.9	5.8	4.9	4.4	4.3	4.2	4.7	4.4	4.2	4.7
Training Expenditure/Period (mUSD)	C1	1	3	4	1	1	5	2	2	2	18
	C2	1	1	2	2	3	0	4	3	3	19
	C3	1	2	1	2	6	1	1	1	1	15
	C4	1	1	1	1	1	1	1	1	1	5
	C5	1	1	1	1	1	1	1	1	1	5
Training Quality Index (Index)	C1	1.00	1.03	1.05	1.05	1.04	1.05	1.05	1.04	1.04	
	C2	1.00	1.01	1.02	1.03	1.04	1.03	1.04	1.04	1.04	
	C3	1.00	1.02	1.02	1.02	1.05	1.04	1.04	1.03	1.02	
	C4	1.00	1.00	1.00	0.99	0.99	0.99	0.98	0.98	0.97	
	C5	1.00	1.00	1.00	0.99	0.99	0.99	0.98	0.98	0.97	
Process Optimization Expenditure/Period (mUSD)	C1	0	0	3	2	1	4	2	2	2	14
	C2	0	1	2	2	2	0	4	1	1	13
	C3	0	2	1	2	8	1	2	2	2	19
	C4	0	0	0	0	0	0	0	0	0	0
	C5	0	0	0	0	0	0	0	0	0	0
Process Optimization (Index)	C1	1.00	1.00	1.02	1.02	1.01	1.01	1.01	1.00	1.00	
	C2	1.00	1.00	1.02	1.02	1.02	1.01	1.01	1.00	1.00	
	C3	1.00	1.02	1.02	1.02	1.04	1.03	1.02	1.02	1.01	
	C4	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
	C5	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Productivity Index (Index)	C1	1.00	1.01	1.05	1.12	1.03	1.09	1.12	1.04	1.04	
	C2	1.00	1.00	1.02	1.04	1.05	1.10	1.08	1.03	1.03	
	C3	1.00	1.01	1.01	1.09	1.07	1.13	1.01	1.02	1.00	
	C4	1.00	1.00	1.01	1.02	1.02	1.02	1.00	0.99	0.99	
	C5	1.00	1.00	1.01	1.02	1.02	1.01	1.00	1.00	0.99	

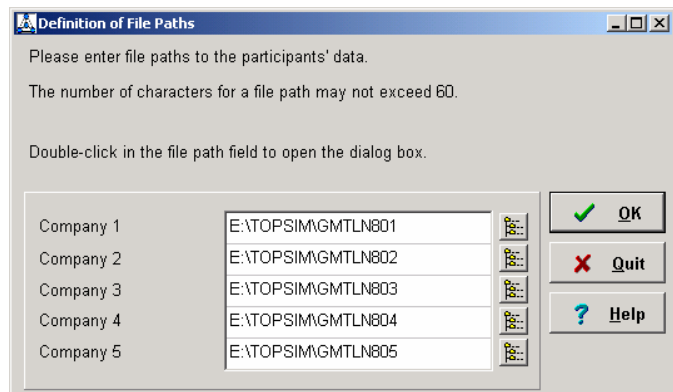
Data Transfer: Data Exchange with the Participants' Systems



If the participants are working on their own systems, they prepare and enter their decisions there. They may also look at the results from the last period there and print them out if required.

The data exchange between the Instructor's System and the Participants' System occurs either with the help of disks (so-called transfer disks or participants' disks) or via the network. You exchange data via the **Data Transfer** command on the main menu.



Read/change installation paths: This item is only offered in the menu if you have started TOPSIM - General Management II as a network version (Parameter **u/net**, see the section of the manual called **Introduction and Installation**) Before entering the file paths, the participants' systems should be installed because the instructor's system checks whether the participant's systems are present.



- Read teams' decision data** : After the participants have saved their decisions (on disk or on the network) from their computers.
- Write results onto teams' systems** : This occurs after a new period has been simulated. In addition to overwriting the report data, the instructor's data is also overwritten because this data is required for the participants' Planning Models for the coming period. The last period simulated is acknowledged by the system and based on this, the Participants' System recognizes for which period the next decision/planning data is being entered.
- Initialize teams' (participants') systems** :  **This function is carried out at the beginning i.e. when the teams' systems are first used in the seminar.**
- The disk version of TOPSIM - General Management II asks for the number of the team for each disk and saves this number on the disk. Afterwards, when reading the decisions or transferring the results, the program recognizes automatically to which group the disk belongs. With the network version, the file path for each company is entered.
- The results and number of the last period simulated are reported back to the participants (transfer of results).
-  **Do not forget to write down the teams' numbers on all the transfer disks!**

6.1 Background

For many years, disks were the common medium for transferring data so they were also used for the TOPSIM – Business Simulations. At the request of the users, the ability to use a network to transfer data was developed. Networks allow data to be exchanged directly and quickly (for example on university networks).

Disk drives are not always in use anymore. Many workstations and computer labs no longer have disk drives, or else they are not installed.

Since more data transfer possibilities are now available, we wish to provide you the flexibility to perform the data transfer you require in a variety of environments. The options you have available to you are described on the following pages. Please read the chapter attentively as the data exchange between instructor's and participants' systems is very important for the simulation and because the variety of methods you can use to perform this function, it is possible to make errors.

6.2 Overview

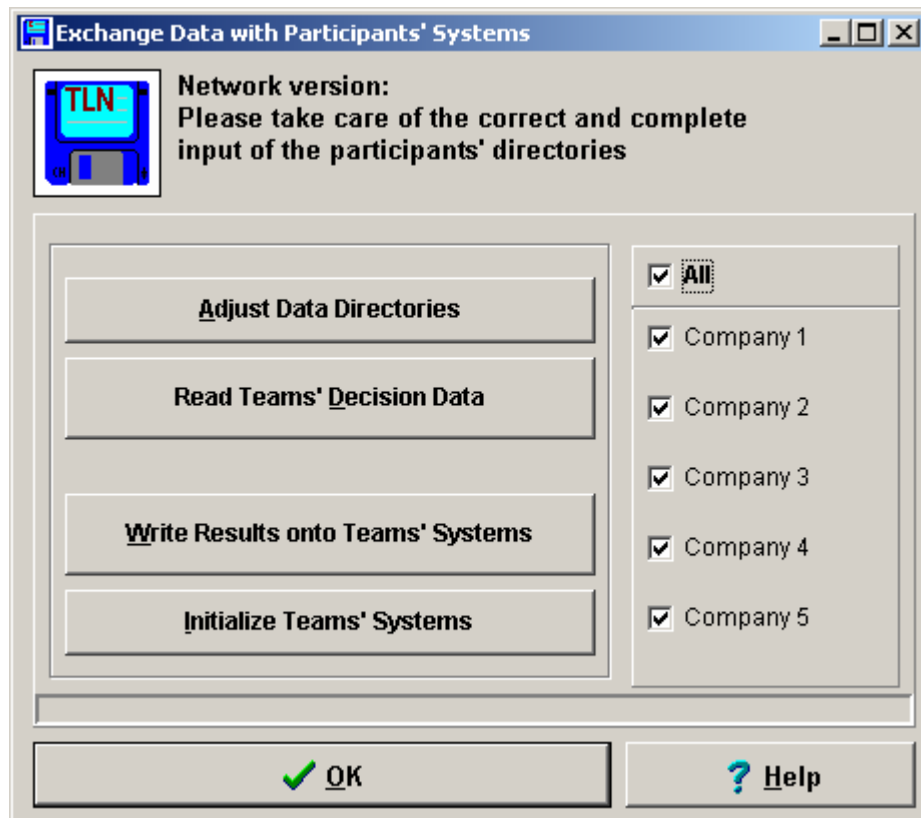
Here is an overview of the options you have along with instructions in lists. **The steps should be followed in the order stated (step 1 to step 11).** During the seminar you must repeat the steps 7 to 11 several times.

Step no.	Instruction
1	Install the instructor's system from the CD.
2	Install the participants' systems from the CD.
3	Define the data transfer settings in the instructor system.
4	Initialize the data transfer in the instructor system.
5	Provide data to the participants.
6	Define the data transfer settings in the participants' systems.
7	Import the data to the participants' systems
8	Save the data in the participants' system
9	Import the participants' data to the instructor's system
10	Simulate the period.
11	Provide the results to the participants.
	(Repeat steps 7 to 11.)

Steps 3 to 11 are explained again in the following points.

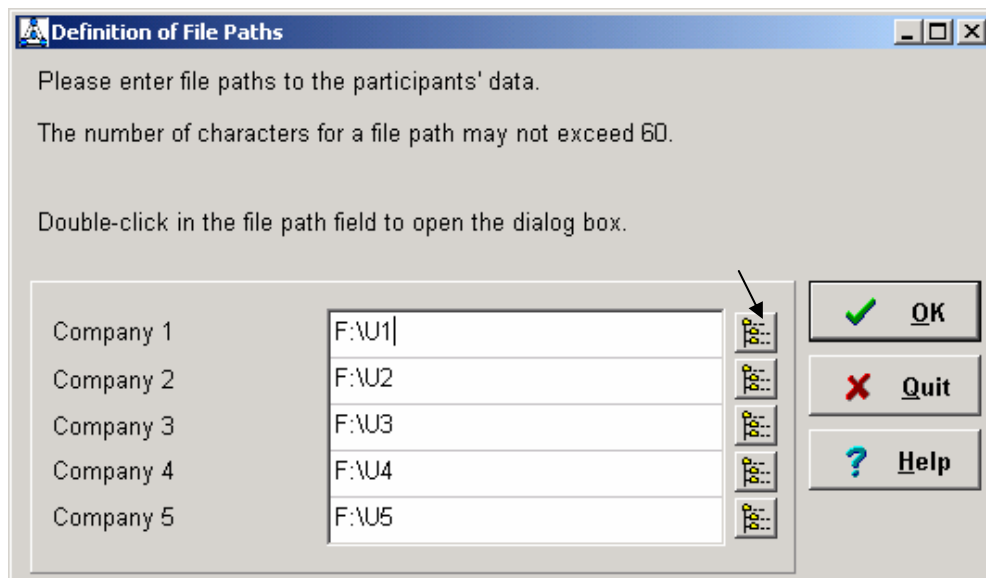
6.2.1 Definition of the Data Transfer Settings in the Instructor's System

Use the Instructor's System, Data Transfer command.



Choose the first option **Adjust Data Directories** and a dialog box will appear prompting you to enter the file paths required.

For all companies, drive A is usually selected. This means that you would enter the participants' data transfer disks in drive A. if you perform the data transfer with a USB-stick, you must change the file path.

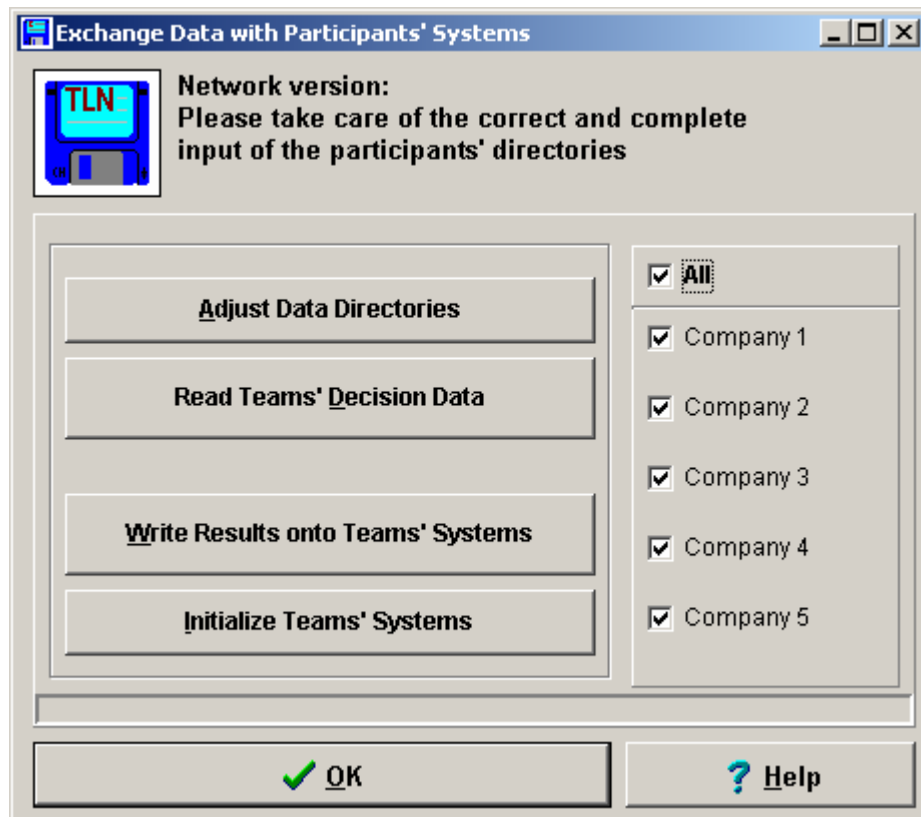


Finish by pressing "OK". We advise specifying the file path by using the tree view of the various directories. You can do so by clicking on the button indicated by the arrow in screenshot above. If necessary you should attach the individual lists.

CAUTION: Depending on the data transfer medium, the drive can vary. For example, if you use a USB-stick, you may not always be able to access the data via the same drive.

6.2.2 Initialization of Data Transfer in the Instructor's System

Instructor's System: Data Transfer command:



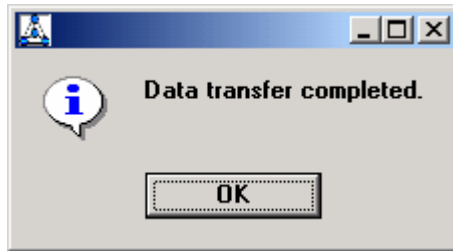
Now you must select the last option: **"Initialize Teams' Systems"**. You must at first initialize the systems of all companies, however, later on you can choose to do so for only specific companies. While the simulation is in progress, you can add a company to the game, and you can change the file paths of the companies as well and re-initialize the system.

After selecting the option **"Initialize participant system"** the following message appears before writing the data.



If necessary, the file path can be changed at this point, however, even if you do not wish to change the data medium, you will receive this prompt.

Upon completion, you will see the following message:

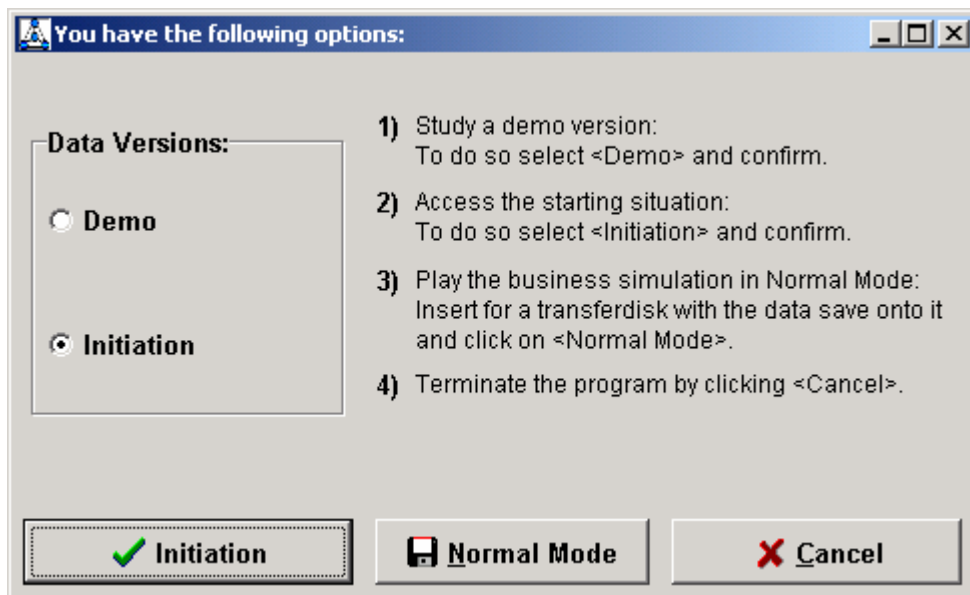


6.2.3 Provide Data to the Participants

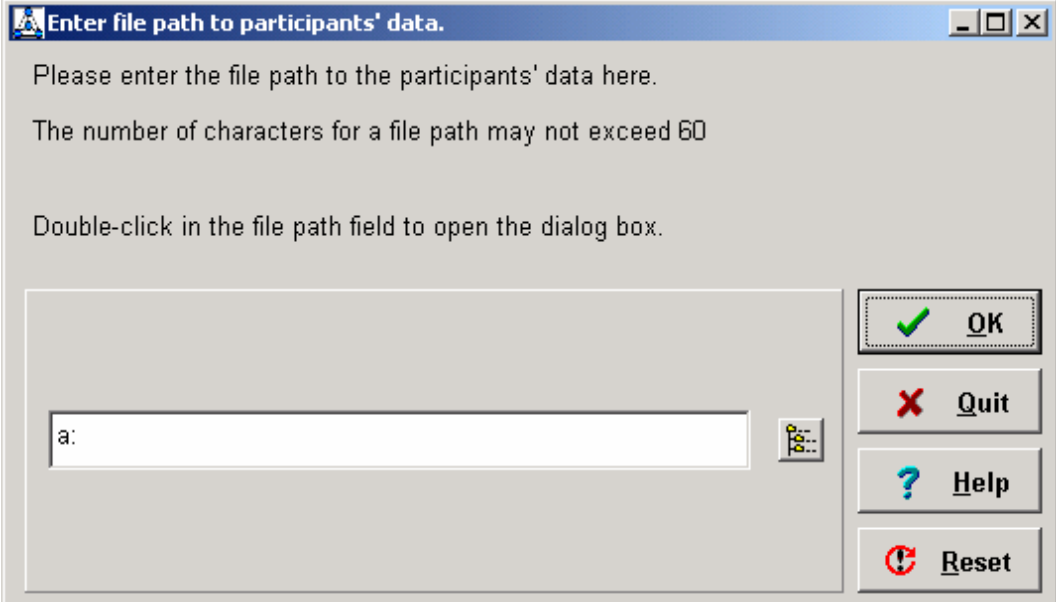
With the initialization of the participant system data is also assigned. Therefore copying the data to the participants is not normally necessary directly after initialization.

6.2.4 Define the Data Transfer Settings in the Participant's System

After opening the participant system the following dialog box appears:

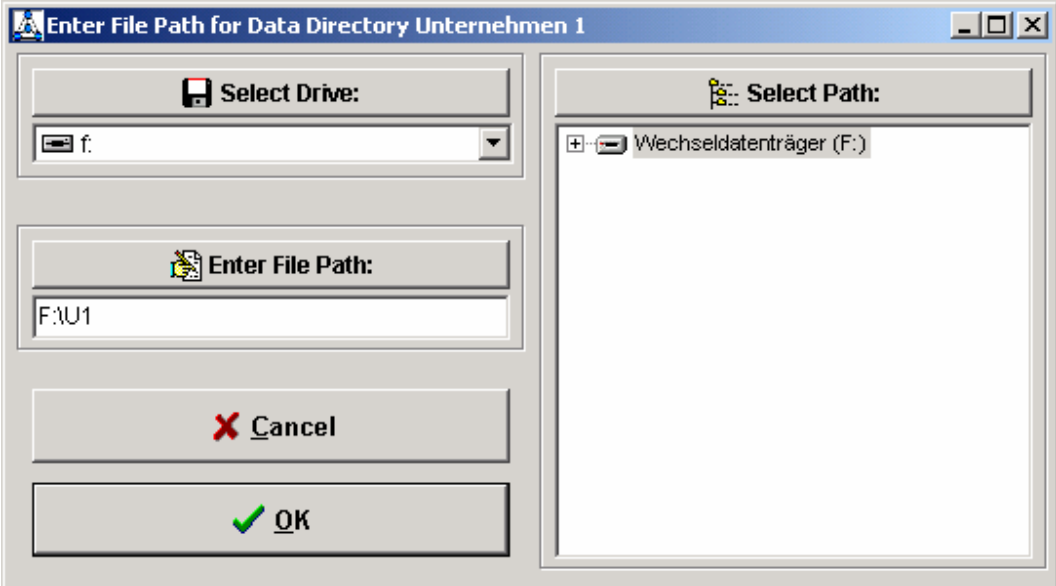


Please click on the “**Normal Mode**” button in the participant’s system.



The dialog box has a title bar with a blue gradient and the text "Enter file path to participants' data." followed by standard window control buttons. The main area contains three lines of text: "Please enter the file path to the participants' data here.", "The number of characters for a file path may not exceed 60", and "Double-click in the file path field to open the dialog box." Below the text is a large text input field containing "a:". To the right of the input field is a small tree view icon. On the right side of the dialog, there are four buttons: "OK" with a green checkmark, "Quit" with a red X, "Help" with a blue question mark, and "Reset" with a red circular arrow.

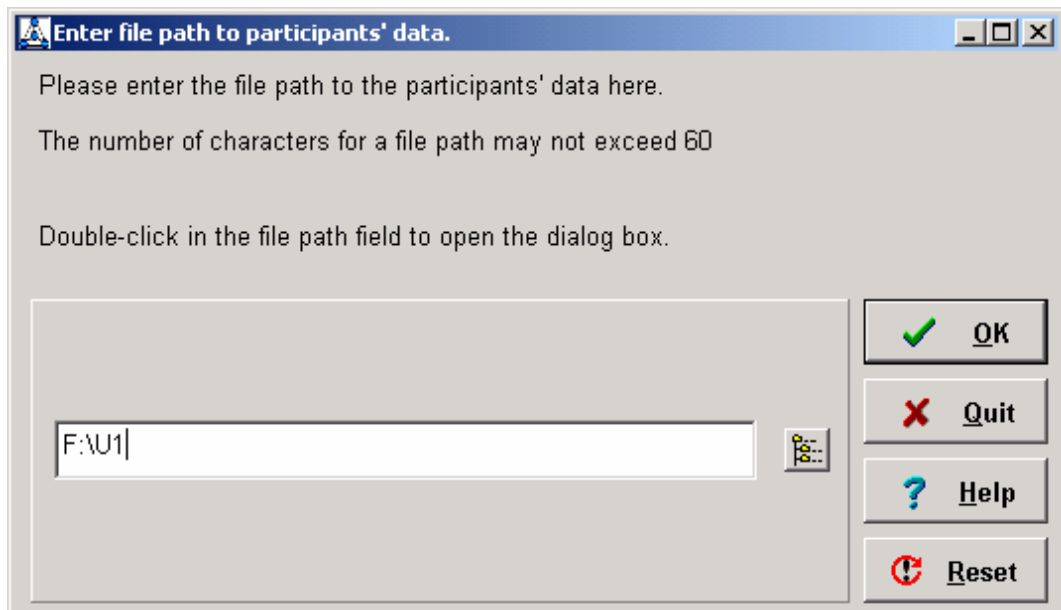
If the actual file path differs from the default file path, please enter the correct file path here or use the tree view button to select the correct directory.



The dialog box has a title bar with a blue gradient and the text "Enter File Path for Data Directory Unternehmen 1" followed by standard window control buttons. The main area is divided into two sections. The left section has a "Select Drive:" label above a dropdown menu showing "f:". Below this is an "Enter File Path:" label above a text input field containing "F:\U1". At the bottom of the left section are "Cancel" and "OK" buttons. The right section has a "Select Path:" label above a tree view showing "Wechseldatenträger (F:)" with a plus icon to its left.

By clicking on “OK” the file path is confirmed and shown in the field.

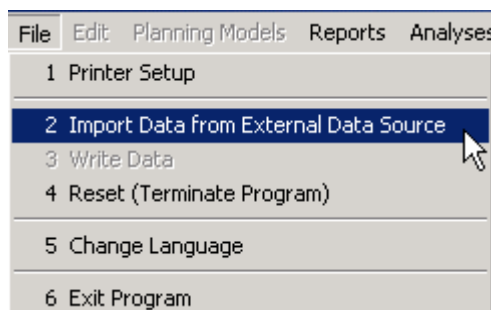
6.2.5 Import the Data to the Participant's System



If necessary, click on "OK" again to confirm the file path. The data will be read and will be available for the simulation. You will not need to re-enter this file path again as it is safely stored by the program.

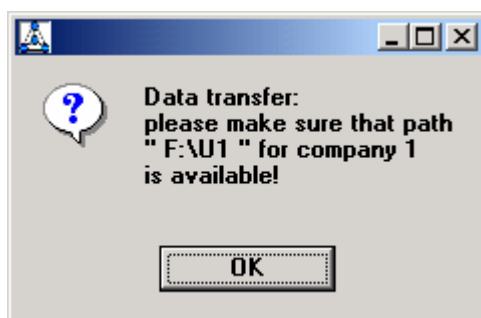
6.2.6 Save the Data to the Participant's System

If the data medium is only temporarily available (e.g. using 1 USB-stick for all teams), you must first save the data locally before it can be accessed. That is done via the File menu in the participants system:



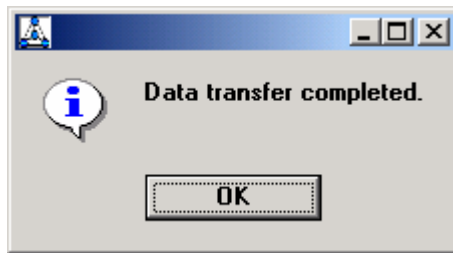
File menu / Import Data from External Data Source command:

You will see the following message appear.



Afterwards, click on "OK". The data will be saved locally.

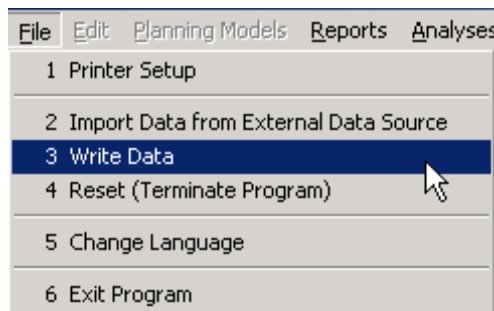
After the data is stored the following message appears:



Now you can take a USB-stick for example, and use it to transfer data between more than one company. It is possible to accomplish all of the data transfer with just one USB-stick. You can also decide to have one USB-stick per team, or some teams with disks and some teams with USB-sticks, or use a network.

6.2.7 Import the Participant's Data to the Instructor's System

After making their decisions, the participants should submit them. To be safe, the decisions should be documented and delivered on paper. However, to simplify and accelerate the process, participant's can also deliver their locally saved data as follows:



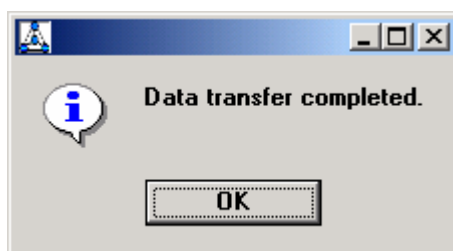
First, write the data back onto the data medium from the participant's system using the following command:

File / Write Data

The following prompt will appear again.



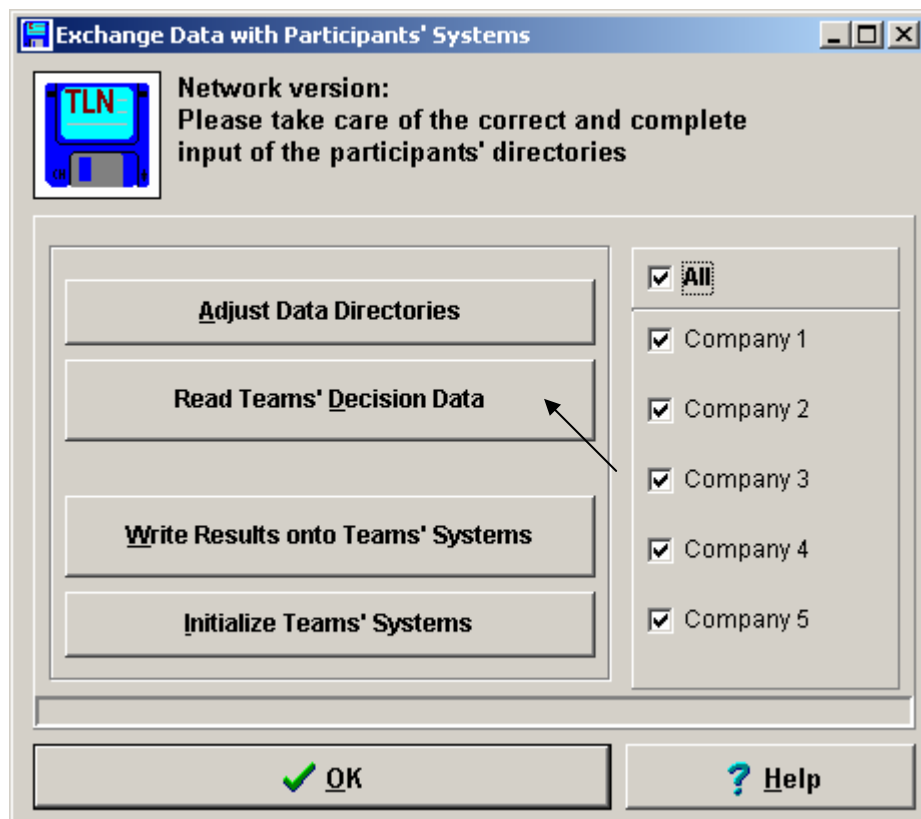
After clicking on "OK" the data is written to the specified file path. Then you will receive the following announcement.



This step will occur for all of the participant's systems.

Through the instructor's system, you can then import the decisions.

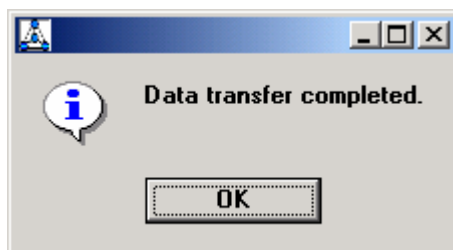
Adjust Data Directories



Only the data of selected companies (indicated by checkmarks in the check boxes) is imported. For each team selected, the following prompt will appear.



After the last company has received its data, you will see the following message:

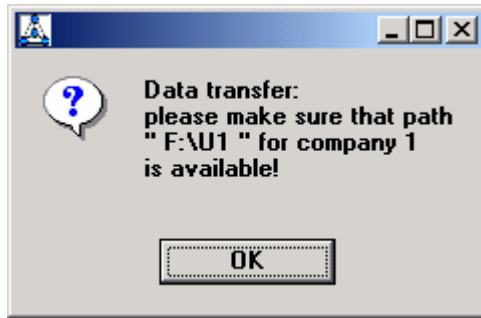


Now you can arrange the usual period calculation. Afterwards you assign the results back to the participants with

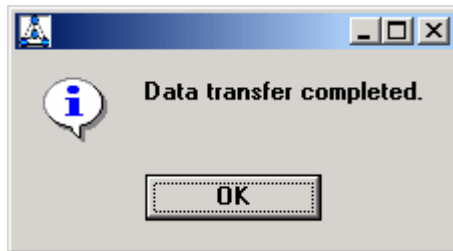
Data transfer / Assign Results to the Participants

6.2.8 Transfer Data to the Participants

For the selected teams data transfer now begins. A message appears confirming that the data transfer will be attempted for each team.



At the end of the transfer you get an affirmation:



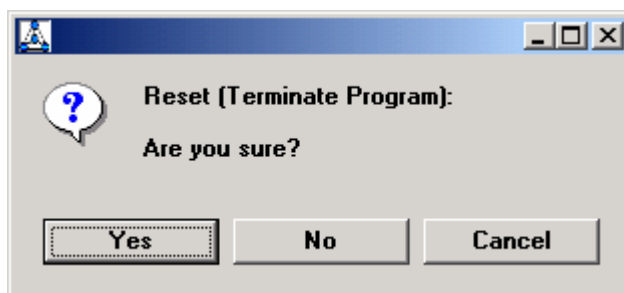
(See 6.2.6.)

6.3 Reset Participant System (“Reset“)

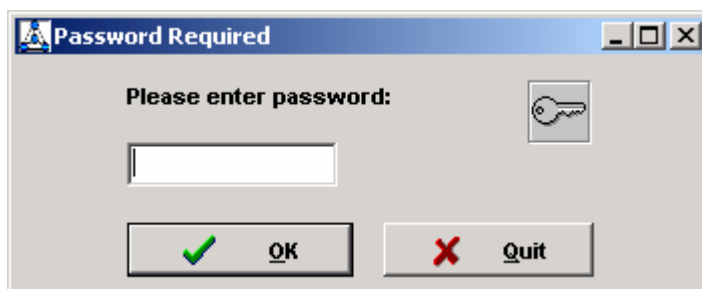
If the file paths are specified for the data transfers, then the participant systems note the particular file paths for the companies and no longer asks for them to be entered. If the file paths of the participants' computers do not change throughout the seminar the data transfers can be easily performed. It is also possible, however, that the file paths change:

- The letter of the drive changes
- Participating groups share processors
- Participating groups change processors, e.g. in a lab.
- Participants use computers from former games, but take on a new company number

In this case the file path setting of the participant's system can be deleted. To do so please activate the menu command: File / Reset (terminate program). You will be prompted to confirm your selection:



Confirm by clicking “Yes” and enter the password “reset” in the field provided:



The participant system will then be terminated and the file path can be newly entered.

6.4 Note on the Network Version

From version 10.2 there is no longer a difference between the network and disk versions. A special configuration (u/net) of the instructor and participant systems before opening them is not necessary anymore. As described above, all settings (including file paths on the network) can be defined directly and offer you a great deal of flexibility. In the participant's systems, the file paths must be entered when you first open the program. We advise that you set up and test the data transfer over the network before beginning the seminar.

Please note that the file paths of the participants systems on the network are entered directly, see tab 4, chapter 3.

7. Analyses

The **Analyses** menu offers you the following functions:

- Generating interfaces for graphics programs, especially UNICON EXCEL-Analyses Show,
- Displaying results on the screen in chart of graph format,
- Displaying portfolio analyses for the whole industry and for individual companies.

Here are some explanatory notes on the generation of interface files:

By selecting this menu item the relevant files are automatically generated for "import" to a presentation graphics programs such as EXCEL according to the selection in **Instructor's Data – Define Analyses Variables**

While the file is being generated, the program shows which file is being processed on the information line. For example, for the variable 011 the file TOPHARV.011 is generated. The number, in this case 011, corresponds to the number in the list in **Define Analyses Variables**. The program saves the files in the "show" directory of the management game.

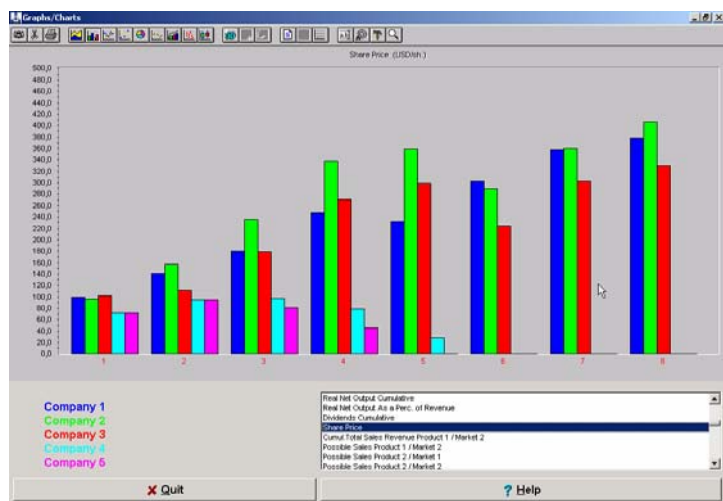
You use the file name to display the variables graphically in the presentation program you have chosen. Other procedures apply if you are working with the analyses presentation function supplied by UNICON, see appendix in explanatory notes section.

Important: The files use a semi-colon as a separator

7.1 On-Screen Graphs / Charts: Individual Results

With this option you can select a chart to view on the screen. The variables are the same as those offered in the analyses report.

By clicking on the On-Screen Charts/Graph function from the menu, a window appears with the different available variables in the order of their rank (see point 3.2.6). At the bottom of the screen you can choose the variables (for this example the share price variable is displayed). From the toolbar buttons, you may choose between different formats (for example line graphs or bar graphs).



In addition, you can also copy variables in order to use them:

- Camera:** This function copies the current graph onto the clipboard.
- Scissors:** This function copies names of variables onto clipboard.
- View values:** Double-click on a bar in the bar chart to display the numerical value.
- View crosshairs:** Keep the left mouse key pressed down in the box to view crosshairs that makes it easier for you to determine values.

CAUTION:

The on-screen charts/graphs can only be viewed if period 1 has already been simulated

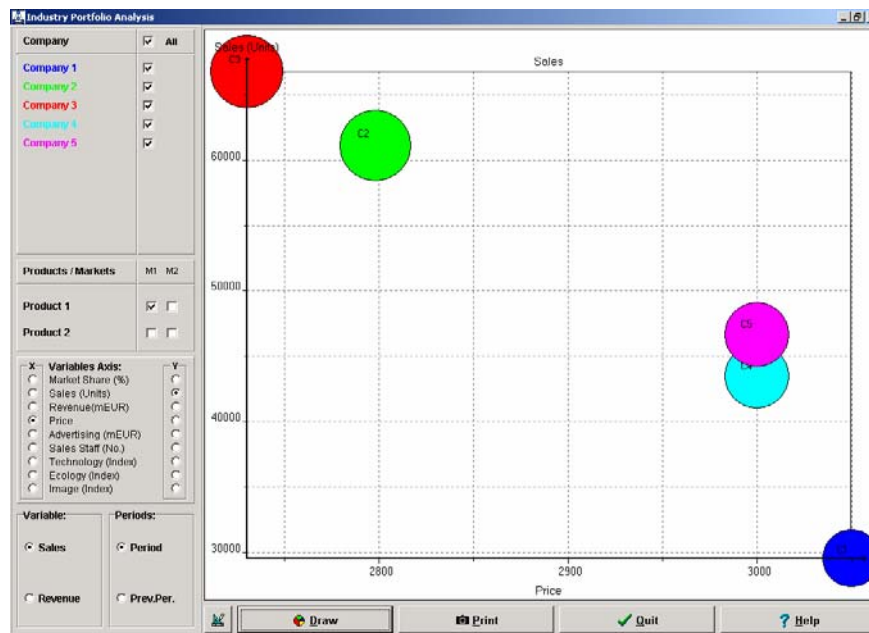
7.2 Analyses of the Situation – Industry Portfolio Analyses

TOPSIM - General Management II allows you to view graphs to analyse the situations and portfolios per company and per market. Although the situation analysis function is available on the Participants' System, the industry analysis function is available for them only if you authorized the "Market Research I" report (see Activation of Features - Reports). Of course, the participant must also have chosen to buy the market research report.

7.2.1 Analyses of the Sector

On the left-hand side of the window, you can select:

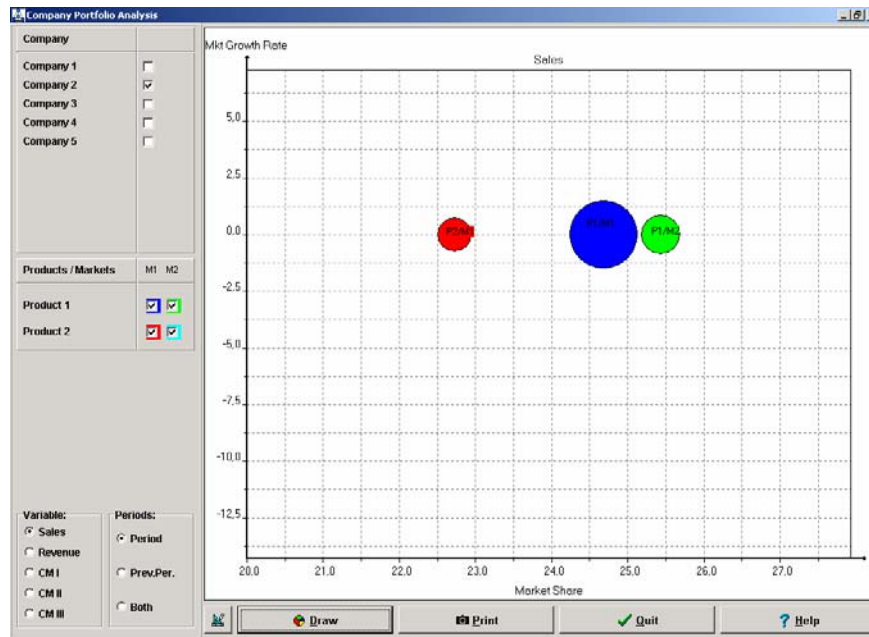
- The company
- The product and market (you should be able to select at least one product and market)
- The values to be shown on the X- and Y-axis
- The variables to be displayed (sales volume or sales revenue)
- The period for which the data displayed is applicable



After making these decisions, click on **Draw**.

7.2.2 Company Portfolio Analyses

First select the company. All active markets can be shown at the same time. Negative values are shown in grey.



Graphic parameters:

Via the button with the triangle on it, you can access a dialog box through which you can change the parameters of the charts.

Maximum/Minimum Values for Variables Analysis I (X-axis and Y-axis)		
	-Minimum%	+Maximum%
Market Share (%)	0,00	0,00
Sales (Units)	0,00	0,00
Revenue(mEUR)	0,00	0,00
Price	0,00	0,00
Advertising	0,00	0,00
Sales Staff (No.)	0,00	0,00
Technology (Index)	0,00	0,00
Ecology (Index)	0,00	0,00
Image (Index)	0,00	0,00

Maximum/Minimum Values for Variables Analysis II (%)		
	-Minimum%	+Maximum%
X: Market Share	0,00	0,00
Y: Mkt Growth Rate	0,00	0,00

Maximum Radius (In Pixels) Analysis I & II	
	Max Radius
Sales	28
Revenue	28
CM I	28
CM II	20
CM III	12

The charts are automatically scaled according to the maximum and the minimum values entered for each variable in the left-hand side of the dialog box. In order to prevent the circular areas in the charts from being displayed at the edges and outside of the grid, you can change the minimum / maximum values. The same applies to the market growth and market share variables.

Maximum and Minimum Values for the Axis:

By adjusting these figures, you can modify the distance between the circles and the axis:

- Minimum%: Enter a minimum percentage value for the axis. The middle of the circle should be above (to the right of) the axis at the bottom (left) of the screen.
- + Maximum%: Enter a maximum percentage value for the axis. The middle of the circle should be below (to the left of) the axis at the top (right) of the screen.

Higher values move the circles toward the center of the grid. Model I corresponds to the industry situation analysis and Model II to the company situation analysis.

The Length of the Radius:

For technical reasons, the minimum and maximum lengths of the radii are predefined. The values can be modified in these fields. The maximum should be 28 and the minimum 8 or 10. These extremity values cannot be changed.

8

Exit



All data for the current game (decisions, instructor's data, results) is saved when you exit the program.