



Mobile Operator Business Game

MOB Process

Networking Business Spring-05

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Outline

- Introduction to Business Games
- Mobile Operator Business Game
- The MOB Process
- Decision Making Windows
- Scenario Description
- The First Season
- Sessions Spring-05
- Q&A



Introduction to Business Games (1/2)

- The usage of active and problem-based learning has increased rapidly
- Naturally applied in business games: “learning by doing”
- Summarize different areas of business under one teaching event
- “The purpose of a teaching simulation is to convey experimental lessons transferable to the real world” (Lane 1995)



Introduction to Business Games (2/2)

- A business game cannot predict the future
- However, it can be used to:
 - analyze business constraints, dependencies and possible futures
 - see what a possible future could look like
 - help to gain better understanding of businesses and management
 - improve teamwork
 - be fun



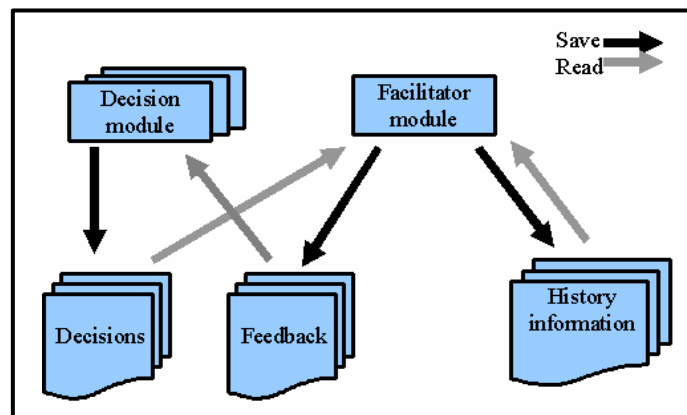
Mobile Operator Business Game (1/2)

- The purpose of the game is to introduce players to the mobile operator business and decisions related to that
- Focus will be on new mobile data services
- Modeled subgames:
 - Demand – supply balancing game
 - Cellular radio game (WCDMA vs. EDGE vs. GPRS)
 - Multi radio game (cellular vs. WLAN)
 - Pricing game (usage based vs. flat rate vs. block pricing)
 - Charging game (prepaid vs. postpaid)
 - Messaging game (SMS vs. MMS)
 - Roaming game (bilateral vs. clustered)
 - Mobile content game (operator charging vs. bit pipe)
 - Handset and MVNO games



Mobile Operator Business Game (2/2)

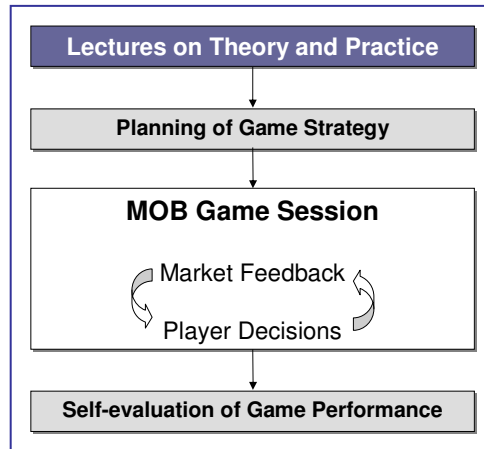
The structure of MOB and the information flows between the different modules:





The MOB Process (1/5)

- Structure of MOB training process



The MOB Process (2/5)

- Lectures:
 - Before the game sessions
 - Cover issues needed in the actual game sessions
 - One of these lectures (this lecture) gives an introduction to the actual business game
 - Explanations about the actual decision windows in MOB
 - Scenario description
 - First season



The MOB Process (3/5)

- **Planning the Game Strategy:**
 - Before attending to the game sessions
 - Made in teams
 - The main task of the preliminary exercise is to formulate an overall business strategy over how to succeed in the game
 - based on what has been learned in earlier studies and during the lectures
 - based on the knowledge of the real world
 - Documentation available for planning:
 - player instructions
 - scenario description
 - Last year, because of thorough planning, the students were able to start making their own decisions fairly fast
 - Helps the students to get a good picture of what MOB is all about and to start playing without too much delay.



The MOB Process (4/5)

- **The Game Session:**
 - Each game session lasts roughly one working day including 5-7 decision rounds, or market seasons
 - During the game session, 4 teams (mobile operators) of 2-4 students sitting in the same computer classroom competes against each other in the same MOB market space
 - At the end of the session, the students will fill in a feedback questionnaire on individual basis
 - This gives us the opportunity to get to know how the participants experience this type of teaching
 - Also what their opinions about different aspects of the game are, such as ease of use, complexity, and substance scope, and also about opinions for further development etc.



The MOB Process (5/5)

- **Self-evaluation:**
 - After the actual game session the student will write an individual final report
 - The main task of the final report is to analyze how the students' team succeeded in the game
 - A secondary task will be to analyze how the teams' actions differed from that of the plans that the team had done in the preliminary exercise
 - The final report adds to the learning experience and forces the students to think about what they have done
 - what was done wrong/right
 - what could have been done in a different way



Decision Making Windows (1/7) Main Window

Main	Offers for Consumers	Offers for Corporations	Marketing	Research and Development
Network Maintenance	Purchasing	Human Resources	Finance & Cash Flow Statement	Income Statement & Balance Sheet
Main				
Name of Team:	Team	Get new results		
Team Number:	1	Save and send decisions		
Season:	0			
Player Info	Print this info before each season!			



Decision Making Windows (2/7)

Offers for Consumers: Voice Services

Main	Offers for Consumers	Offers for Corporations	Marketing	Research and Development
Network Maintenance	Purchasing	Human Resources	Finance & Cash Flow Statement	Income Statement & Balance Sheet
Voice Services	Data Services	Messaging Services		
Offers for Consumers				
Postpaid subscription			Prepaid subscription	
	Season 6	Season 5	Season 6	Season 5
Nr. of postpaid subs		717 435	Nr. of prepaid subs	49 734
Opening charge:		0,00	Opening charge:	0,00
Monthly charge:		0,00		
Calls (€/min):	07:00-17:00	0,17	Calls (€/min):	07:00-17:00
	Other	0,10		Other
Average min/subs/month: 07:00-17:01		69,92	Average min/subs/month: 07:00-17:01	62,55
Average min/subs/month: other		82,08	Average min/subs/month: other	76,45
Total average min/subs/month		152,00	Total average min/subs/month	139,00
Estimated nr. of postpaid subs		860 000	Estimated nr. of prepaid subs	80 000
Estimated average min/subs/month: 07:00-17:00		70,00	Estimated average min/subs/month: 07:00-17:00	60,00
Estimated average min/subs/month: other		85,00	Estimated average min/subs/month: other	73,00
Revenues (k€)		172 997	Revenues (k€)	10 535
Estimated revenues (k€)	0	209 436	Estimated revenues (k€)	0 17 318



Decision Making Windows (3/7)

Offers for Consumers: Data Services

Main	Offers for Consumers	Offers for Corporations	Marketing	Research and Development		
Network Maintenance	Purchasing	Human Resources	Finance & Cash Flow Statement	Income Statement & Balance Sheet		
Voice Services	Data Services	Messaging Services				
Offers for Consumers						
Data services						
	Cellular		WLAN		Pricing type	
	Season 6	Season 5	Season 6	Season 5	Season 6	Season 5
Monthly payment: (€/month)		3,50		7,50	Flat	Block
Price of 1 MB (€/MB)		1,80		0,75		
Block size (MB)		10		50		
Nr. of data users		516 518		71 769	Choose pricing type	
Average MB/user/month		13,00		64,00	Flat rate	
Estimated nr. of data users		500 000		60 000	Usage based	
Estimated average MB/user/month		15,00		66,00	Block price	
Revenues (k€)		55 164		15 502		
Estimated revenues (k€)	0	237 000	0	59 400		



Decision Making Windows (4/7)

Offers for Consumers: Messaging Services

Main	Offers for Consumers	Offers for Corporations	Marketing	Research and Development
Network Maintenance	Purchasing	Human Resources	Finance & Cash Flow Statement	Income Statement & Balance Sheet
Voice Services	Data Services	Messaging Services		
Offers for Consumers				
Person to person services				
	Home			
	Season 6	Season 5		
SMS (€/message)		0,11		
MMS (€/message)		0,32		
Nr. of SMS users		726 316		
Nr. of MMS users		401 124		
Nr. of SMS's/user/month		17		
Nr. of MMS's/user/month		21		
Estimated nr. of SMS users		805 000		
Estimated nr. of MMS users		400 000		
Estimated nr. of SMS's/user/month		20		
Estimated nr. of MMS's/user/month		20		
SMS revenues (k€)		16 299		
MMS revenues (k€)		32 347		
Estimated SMS revenues (k€)	0	21 252		
Estimated MMS revenues (k€)	0	30 720		



Decision Making Windows (5/7)

Offers for Corporations

Main	Offers for Consumers	Offers for Corporations	Marketing	Research and Development	
Network Maintenance	Purchasing	Human Resources	Finance & Cash Flow Statement	Income Statement & Balance Sheet	
Offers for Corporations					
		SMEs	National corporations	International corporations	Public administration
Corporations					
Average number of personnel:		14	120	950	1 200
Number of corporations:		29 200	2 230	555	450
Previous average monthly call minutes per user:		276,00	290,00	299,00	245,00
Previous average monthly data traffic (MB) per user:		56,00	78,00	125,00	15,00
Offers					
Flat rate offer for voice (€/month/user):					
Previous flat rate offer for voice (€/month/user):		32,00	32,00	34,00	27,00
Flat rate offer for data (€/month/user):					
Previous flat rate offer for data (€/month/user):		19,00	20,00	19,00	13,00
Corporate customers					
Number of current voice subscribers:		93 939	80 787	85 170	85 023
Estimated number of voice subscribers for next season:					
Number of current data subscribers:		35 904	35 904	35 904	35 904
Estimated number of data subscribers for next season:					
Customer relationships					
Previous investment on customer relationships (k€):		600,00	500,00	500,00	400,00
Next investment on customer relationships (k€):					
Customer acquisition					
Previous investment on customer acquisition (k€):		5 000,00	3 000,00	3 000,00	3 000,00
Next investment on customer acquisition (k€):					
Revenues					
Revenues for previous season (k€):		44 259	39 639	42 936	33 149
Estimated revenues for next season (k€):		0	0	0	0



Decision Making Windows (6/7)

Income Statement

Main	Offers for Consumers	Offers for Corporations	Marketing	Research and Development							
Network Maintenance	Purchasing	Human Resources	Finance & Cash Flow Statement	Income Statement & Balance Sheet							
Budgeted Income Statement	Income Statements: Previous Years	Budgeted Balance Sheet	Balance Sheets: Previous Years								
Income Statements: Previous Years											
Income statement (in €)	Season:	0	1	2	3	4	5	6	7	8	9
Revenues											
Consumer postpaid voice revenues		215 005	182 112	202 344	199 623	205 499	172 997				
Consumer prepaid voice revenues		13 495	16 790	17 585	15 653	15 691	10 535				
Consumer data revenues		1 170	901	2 200	35 875	46 417	70 666				
Consumer SMS revenues		39 884	33 966	33 565	29 676	24 340	16 299				
Consumer MMS revenues		193	830	4 401	10 267	23 505	33 347				
Corporate voice revenues		141 750	138 231	143 762	157 565	155 547	128 392				
Corporate data revenues		827	3 552	4 382	8 543	17 110	30 590				
Total		412 429	356 379	408 239	456 683	491 110	462 826				
Costs											
Marketing expenses		80 000	69 000	120 000	110 000	150 000	150 000				
Maintenance expenses		1 700	1 900	2 500	3 400	5 600	5 600				
Purchasing expenses		168 250	84 537	84 537	84 537	84 537	84 537				
Corporate customer acquisition expenses		6 500	6 500	8 000	8 500	8 500	14 000				
Corporate customer relations expenses		1 630	1 700	1 700	2 000	2 000	2 000				
Personnel expenses		22 932	29 810	42 437	41 952	42 583	35 102				
R&D expenses		105 000	105 000	115 000	60 000	25 000	5 000				
Total		217 762	204 910	289 637	225 852	233 683	211 702				
Earnings before interest, taxes, and depreciation (EBITDA)		194 667	151 468	118 602	230 751	257 427	251 124				
Depreciation from fixed assets		111 634	112 109	101 690	84 614	86 123	100 586				
Earnings before interest and taxes (EBIT)		82 833	39 360	16 911	136 137	161 305	150 537				
Financial expenses		28 000	18 085	10 000	10 000	10 000	10 000				
Taxes (29%)		15 902	8 491	1 991	36 557	43 855	40 733				
Profit		38 931	20 785	4 820	89 581	107 370	99 725				



Decision Making Windows (7/7)

Other Windows

- Marketing
- Research and Development
- Network Maintenance
- Purchasing
- Human Resources
- Financing and CFS
- Check the player instruction document!



Scenario Description (1/3)

- **General:**
 - The country where the teams operate in is democratic and promotes the development of the information society in the country
 - The market development is based on actions made by the private companies which must follow the prevailing law of communications market and competition, e.g. cartels and price agreements are not allowed between companies
 - In the beginning:
 - the population of the country is 5200000
 - expected to grow with a estimated rate of 0,15 - 0,25 percent per year.
 - The economy in the country is steady and quite healthy and the inflation is currently on a reasonable level at 2 percent
 - according to market analysts, this situation will continue also in the long run
 - interest rates are currently at a low level, currently ranging between 3-5 percent



Scenario Description (2/3)

- **The Mobile Communications Market**
 - All the mobile operator's are classified as SMP's
 - They are supervision by the country's Communications Regulatory Authority (CORA)
 - The most important tasks of CORA are to promote competition and to prevent anti-competitive behavior of SMP's.
 - The penetration rate of mobile voice subscriptions is currently 80,8 percent
 - However, the penetration rate is still expected to grow
 - Expected growth rate for next season is at 7 percent
 - Voice will remain as the cash cow also in the nearest future
 - Amount of consumer subscriptions approximately 70 percent
 - The consumers have traditionally been focused on postpaid subscriptions
 - According to research this will change
 - Currently 95 percent of the consumer subscriptions are postpaid



Scenario Description (3/3)

- The Mobile Communications Market cont'd
 - Cellular data is becoming more popular
 - In the beginning GPRS is the only packet based data technology in use
 - However, depending on the operators, EDGE and UMTS will emerge during the next few years
 - The number of cellular data users in the beginning of the game is low (approximately 30000)
 - 65 percent of these are consumers and 35 percent corporate users
 - Cellular data growth rate will heavily depend on the operators' actions, but according to some estimates it could be as large as 300 percent during the first few seasons
 - Same assumptions can be made for the WLAN technology
 - SMS has traditionally been a very important service for the operators
 - Some studies have been made which indicate that SMS will slightly grow for a few years to come, but MMS will gradually start replacing some of the SMS traffic



The First Season

- All the teams have the same starting position in the beginning of the game
- The history information is the same for all the teams
- This includes:
 - the numbers in the income statement
 - the numbers in the balance sheet
 - previous year investments
 - amount of subscribers etc.
- If someone e.g. were to make a SWOT analysis of the operators, the main differences between the players would be in the actual management teams and the strategy chosen by the management team



Sessions Spring-05

- April 18, 20, 22 and 25 at 9:00-17:00, F402
- A lunchbreak at approximately 12:00
- Each round lasts for 30-45 min.
- Between each round 15 min.
- Player instructions and preliminary report available at:
<http://www.netlab.hut.fi/opetus/s38041/k05/index.shtml>
- Final report question paper will be made available after the first MOB session



Questions & Answers



Thank You!