SAGAT CASE

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In January 2005, Mike Rossi, general manager of Tech spa, was having a lunch-meeting with an old school-mate from University, Daniele Bianchi, vice-president of Milan-based merchant bank and full-professor of Finance at Bocconi University.

“I’m a little worried”- said Mike- “I’m currently evaluating an important investment project. We plan to re-organize the information flow in all the Group’s companies and subsidiaries. If successful the project would improve operating effectiveness and efficiency in Tech’s sales, marketing, operations and finance areas. Furthermore this project would allow us to be more competitive in the market…The cost of the project, however, would be massive including the costs for the information system and personnel required to complete such a complicated implementation. It is an important decision and the valuation is really sensitive to the assumptions we will adopt. You have a great accademic and professional experience, therefore you may give some suggestions about the relevant cash flows for the valuation…I want to be sure that I’m not forgetting any important element in assessing costs and benefits of the project….”.

“Well, capital budgeting decisions are really complicated. Every project has strategic and financial implications. Unfortunately I don’t have a specific suggestion but, I may clarify some issues with a real case which helped me so many times in solving capital budgeting decision: the SAGAT case. The project has been undertaken twenty years ago, but its financial and strategic implications are still greatly helpful.

Sagat case embeds the typical “capital budgeting dilemmas”, combining essential information for the valuation with additional issues, that any decision maker has to manage and carefully skim in assessing the economic feasibility of an investment project.

The case illustrates the powerful feature of NPV method and the possibility of turning complex analysis into simple decisions.

Sagat case

"So now it's up to you, Mr. Crespigni: let us know your decision as soon as possible." These were Mr. Goddard's final words as he left the General Manager's office of SAGAT (Societa' Azionaria di Gestione dell'Aeroporto "Citta' di Torino") in Caselle. Mr. Goddard was an exe¬cutive of General Motors.

As soon as the door was shut Crespigni turned to Panero, assistant manager and closest coworker, and grumbled: "Now we've finally reached the turning point! We have so many irons in the fire, we may burn ourselves...".

Sagat

In the fall of 1984, SAGAT was going through a very delicate period. After having recently emerged from a business slump which lasted from the early 70's until 1981-82, they were finally taking the right steps towards development. All this was possible thanks to important changes that had taken place among top management in which their entire outlook was modified.

The old management had always been characterized by a certain "passive defensive strategy" that was related to its owners and their behavior.

Being basically publically owned (the Piedmont Region and the city of Turin are the main partners) all efforts had been centered around the quality of the service supplied without worrying about containing costs or achieving an adequate level of efficiency. In fact, it was assumed that the public shareholder would be responsible for balancing yearly losses.

In addition, the fact that the airport of Caselle is the only one in Piedmont was important. Since management felt that they were in a strong position and that the business was guaranteed, they had not gone to the trouble of preparing a development plan that was consistent with the important changes which were gradually taking place.

In reality, this "passive defensive strategy" proved to have its limits with regards to the ever decreasing financial capabilities of the shareholders, and to the gro¬wing competition with the Milanese, French, and Swiss airports.

The changes in top management involved a reversal of di¬rection in the strategic behavior of SAGAT. On the one hand, more stress was placed on entrepreneurial aspects which had been previously ignored, and on the other, many initiatives were taken up which they felt were essential in making up for lost time and for supporting the deve¬lopment of the airport.

The company development plan

During the last board meeting, Dr. Crespigni ended his speech by stressing the need for new initiatives to improve the many functional features of the airport, as well as expand it.

He stated "I would like to remind you of the forecast made during the 39th General Meeting of the IATA. In 1984, the number of passengers should increase by 4.6%, and in 1985 by 5.2%, and then stabilize at 4.7% from 1986 to 1988. As for cargo, there should be a growth equal to approximately 6% per year due to a reduction in transportation charges.
"This can be interpreted in two different ways. Firstly, as a substantial source of opportunities. In fact, I don't think that there are many other markets with growth rates similar to ours and which offer such promising development prospects.

Table 1. European airport traffic – CAGR (1982-83)

Airport or Airport system	Passengers	Cargo	Aircraft Movement
Rome (system)	+3,2	+10,1	+ 2
Milan (system)	+4,5	+ 0,7	+ 0,1
Turin	+9,3	- 5,3	+16,7
London (system)	+4,3	+ 5	+ 3,2
Paris (system)	+2,4	+ 6,1	+ 2
Frankfurt	+2,8	+ 7,5	+ 1,9
Munich	+7,3	+ 2	+ 1,1
Geneva	+0,8	+11,9	+ 1,1
Vienna	+5,2	+ 8	+ 0,4
Stuttgart	+2,8	- 5,6	+ 3,3

Source: ICAA

"Secondly, it can be considered a potential threat. There is the risk of not keeping pace with growth thereby confirming us to a marginal position. This would be to the advantage of the Rome and Milan airports that are already preferred by the airlines. That is why I urge you to fully approve the proposed investment plan which I feel is absolutely necessary for taking advantage of all opportunities that may arise, and for evading threats."

Table 2. The investment plan included the following schemes (in thousands of euro):

	Amount Required	Period
1. Cargo air terminal rebuilding	250	1984
2. Expansion of air passenger terminal	3700	1984-85
3. New parking facility	140	1985
4. New hangar	500	1985
5. Relocation of Consair shelter	150	1984
6. IT development	200	1985
7. Passenger flight information service	150	1985
8. Promotion (“Image Plan”)	800	1985-86

In addition to this plan, Crespigni also foresaw a project called "III Category" which involved a system for guiding aircrafts from the ground during bad weather conditions. The system had a cost of 1,2 million of euro. Although SAGAT had to go for this project, it could be postponed in case of insufficient resources.
The Board of Directors approved the plan and the schedule, even though they considered it to be rather ambitious. They felt it was warranted since the results of the previous financial years had been promising. These investments would probably improve the profit performance of the company. The constant drop in cargo transport, however, continued to cause uneasiness. The main cause of this was the growing competition from nearby airports (Milan, in particular), which would be rather difficult to stop.

Table 3. Passenger - cargo and mail traffic at the Turin - Caselle Airport

Passenger Traffic (in thousands)	1978	1979	1980	1981	1982	1983
Reg. flight	514	517	491	598	636	677
Charters	59	80	124	98	67	89
Change of course	23	10	19	8	18	22
Gen. aviation	15	16	15	24	26	28
TOTAL	**611**	**623**	**649**	**728**	**747**	**816**

Cargo and mail traffic (in tons)	1978	1979	1980	1981	1982	1983
Cargo	9600	10157	9629	8317	8530	7856
Mail	2612	2632	2854	2355	2735	3084
TOTAL	**12212**	**12789**	**12483**	**10672**	**11265**	**10940**

THE CALLISTO - G.M.PLAN

In the summer of 1984, shortly after the board meeting in which the investment plan was approved, SAGAT was presented with a new opportunity. This opportunity was the result of an agreement previously reached between General Motors and Pininfarina, well known for its bodyworks. Originally agreement dealt with the manufacture of a high-powered sportscar, called "Callisto". Apart from the technical aspects of this automobile, there were a number of innovations, including a "zero stock" production process which meant that there would be no accumulation of inventories, except for work in progress. In other words, the operations flow had been worked out such, that the transportation time of the semi-finished products coincided with periods when no production was taking place.

General Motors would take care of manufacturing the chassis, transmission and engine. Then, after having assembled these parts, they would be sent from Detroit to Turin where Pininfarina would take care of the bodyworks. At this point the automobile would be sent back to General Motors for the finishing touches and then, finally, be marketed.

SAGAT would play an important role in all of this. In fact, in order for the car manufacturers to respect the tight production schedules, all operations for the loading/unloading/reloading of the aircrafts had to be absolutely timely. If not, the entire project, which Pininfarina and General Motors had in mind to develop, would fail.

For this reason Mr. Goddard got in touch with the Turin airport, to examine their capabilities and willingness to collaborate. There were other alternatives to this airport, the two in Milan and one in Geneva. Despite certain deficiencies at the infrastructural level, Caselle had been preferred since it was close to the Pininfarina plant.

"I think you'll have to invest a lot of money" was the phrase used repeatedly by the General Motors executive during the first meeting with Crespigni in July 1984.

This expression, "a lot of money" had worried the SAGAT manager. The Board of Directors had already approved the previous investment plan without objection, so how could he possibly ask for a new revision, which called for a substantial increase, without stirring up objections? He had to take into account that the company had just overcome a long period of passive defensive strategy. Hence, to ask the shareholders to approve investments totalling millions especially considering the limited time frame, could have brought about negative effects.

Crespigni not only had thought about the effects this would have on asset side, but was also convinced that the company's financial structure was totally inadequate. The cost of debt for SAGAT was approximately 15% for medium/long-term and 17.5% for short-term. The corporate tax rate was 43%. To his ideas about the financial structure he added the high profits which the company had been accumulating (and the positive deductible effects of the financial costs for tax purposes) which confirmed his theory that, in the future, the company financial structure would have to be made up by 50% equity, 35% medium/long-term debt and 15% short-term debt.

At this point he had to re-examine the entire matter in order to have a clearer outlook with which to propose this plan to the Board, but only if it proved to be particularly profitable.

Among other things, he had to consider offering an adequate return on equity, to enhance the overall attractivness for the shareholders. Based on his experience, Crespigni forecasted the cost of equity would be at least 10,5% per year.

THE MEETING OF JULY 29, 1984

For about ten days SAGAT management was busy gathering and preparing information in order to be ready for the special meeting on July 29. Besides Crespigni and Panero, Dr. Salvati, the administrative and financial manager, Mr. Mancuso, the supply and logistics manager, and Miss Mei the chief accountant, would also take part in the meeting.
After having received the material, Panero opened the discussion: "So, Miss Mei, if I'm not mistaken, all the necessary information for giving an economic evaluation of this plan is shown in the table you've given out." (See Attachment 1).

Mei: "Yes, sir. I felt that if I put all the information I had, together in one table it would make it easier to understand the results. As you can see it starts with the turnover which General Motors has promised us, divided into semesters. Let me point out that these incremental revenues are given for granted, as the contract we would sign do not expose us to any commercial risk. I then compared all the expenses which have already taken place, or which will arise from the moment this investment is made. They range from per¬sonnel and fuel needed for the highloaders, to the raw materials and depreciation of the new infrastructures and other equipment we'll purchase. That's why I drew up a ten-year plan using a straight line depreciation approach, as we have always done for similar investments. As far as the renewals and maintenance needed for the sixth and eighth periods, I adopted a two year accelerated depreciation schedule".

Crespigni: "So far, everything is clear. But where do the 125 thousands of euro for travel and accomodations in the USA and the 192 for the technical advice come from? Those are expenses which have already been paid for this year. So what do they have to do with 1985?"

Mei: "You see, sir, Dr. Salvati has used my plan to calculate the profitability of the Callisto project. Even if those costs are relative to 1984, it wouldn't be right not to attribute them to the plan which brought them up. We would never have spent those thousands of euro if it hadn't been for the planning of the "Callisto". Perhaps including them in 1985 is forcing it a bit, but to completely ignore them is a big mistake!"

Salvati: "In any case, it's important to center our attention on the overall size of this operation, and on the returns. For this reason, starting from Miss Mei's drafts, I came up with two different methods which I would briefly like to show you. The first technique I used is the "payback", (that is to say, the period for

offsetting the initial outflows). I calculated that the expenditures regarding the investment will be fully paid back during the ninth semester. This means that all income after that period will be available for the shareholders.

Then I compared the greater profits normally attainable through "Callisto" to the average incremental capital expenditures, which resulted in a profitability ratio of approximately 31-32%. That's quite impressive, wouldn't you say? Since we operate with working capital equal to zero, the entire investment is represented by the bottom line of our table.

Crespigni: "Perhaps these estimates represent an initial guideline, but the basic ideas don't convince me..."
Salvati: "But they should, sir. Miss Mei's calculations, as well as mine, are too simple and accurate to be mistaken!"

Crespigni: "Nevertheless, something is missing. For example, where is the cash outlay of 1,2 million euro for the "III Category" ? General Motors is asking that it be carried out immediately!"

Mei: "But we've already estimated it for the first quarter of 1987 independently from Callisto! Whether we carry out "Callisto" or not, the "III Category" will be fulfilled. It's only a question of moving it back to the first semester of next year. This, in no way, changes Salvati's ideas regarding the economic convenience."

In a way, it's similar to the guarantee deposit of 1,5 million euro that we'll have to pay on January 1st, 1985. The repayment will take place at the end of the contract, so why should we take it into account? Please, note that no interest is due on this amount".

Panero: "Well, the figures seem to be satisfactory. Let's not forget that if we carry out this plan, we can save a lot of money (I'd like to say all), which we expect to spend in 1985-6 for the promotion of the "Image Plan". I spoke with several television networks and editors of financial newspapers and magazines. They're all willing to give sufficient space for the General Motors-Pininfarina agreement, naturally advertising the modern airport technology which allows for the fulfillment of such a great project".

Crespigni: "And you, Mancuso, why did you give me this chart with only a couple of figures on it? What do they mean"?

Mancuso: "They represent the losses that we'll suffer if we carry out the "Callisto" project. They are due to a decrease in cargo transport. (see Attachment 2) As you all know, we will not be able to maintain the same levels of transportation as we had estimated in the last plan. The "Callisto" will use up time and space, reducing the profitability of the cargo division, according to my estimates."

At this point, the meeting was adjourned until after lunch. When they returned, Crespigni had to digest many doubts along with his lunch. He decided to meet with Panero in order to discuss the entire matter again, and to finally find a solution to the problem.

Attachment 1.: Semiannual Financial data relative to the "Callisto" project (thousands of euro)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	(1/1/1985)														
Incremental Turnover			**156**	**704**	**1447**	**1447**	**1447**	**1447**	**1447**	**1447**	**1447**	**1447**	**1447**	**1447**	**1000**
Incremental operative costs:															
-labour			142	283	283	283	283	283	283	283	283	283	283	283	283
-fuel for highloaders			15	30	30	30	30	30	30	30	30	30	30	30	30
-materials			10	20	20	20	20	20	20	20	20	20	20	20	20
-depreciation															
(1) *	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
(2) *		70	70	70	70	70	70	70	70	70	70	70	70	70	70
(3) *			55	55	55	55	55	55	55	55	55	55	55	55	55
(4) *						50	50	100	100	50	50				
- travel-accomodations USA	125														
- technical advice	192														
Incremental EBIT	(367)	(120)	(186)	196	939	889	889	839	839	889	889	939	939	939	492
Incremental CAPEX	(1000)	(1400)	(1100)			(200)		(200)							

* Number (1) (2) and (3) refer to the first, second and third investment tranche from 1/1/1985 to 30/6/86; number (4) to the maintenace and renewals to carry out in the 6th and 8th semester.

Attachment 2.: Decrease of cargo transport caused by the "Callisto" project (thousands of euro)

Semesters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Amounts	0	0	50	100	100	100	90	88	85	80	76	71	65	58	50

Attachment 3: Sagat: 1983 Balance Sheet (euro)

ASSETS		**LIABILITIES**	
Cash & cash equivalents	1.275.799	Accounts payable	1.046.022
Guarantee deposits	15.142	Other debts	1.550.284
		Accrued expenses	23.207
		Tax fund	290.228
Accounts receivable	3.283.804	Severance fund	1.530.612
Bad debts fund	(137.309)		
Other credits	997.079		
Accrued income and prepaid expenses	62.762	Paid-in capital	3.955.000
		Legal reserve	64.852
Inventory of raw materials	189.994	Extraordinary reserve	583.665
Materials for internal constructions	9.273	Accumulated Earnings	2.628.610
Works for airport growth	2.107.734	Net income	259.541
Building properties and equipment	10.591.034		
Depreciation fund	(6.463.291)		
TOTAL	**11.932.021**	**TOTAL**	**11.932.021**

N.B. Changes in working capital between 1982 and 1983 are non material.

Attachment 3 (continued) - Sagat: 1983 income statement (euro)

Turnover			12.572.009
- *Cost of goods sold*			11.982.091
+	initial inventories	224.900	
+	purchases of raw materials	686.526	
+	energy	506.766	
+	other services	264.643	
+	labour costs	9.013.514	
+	allowance for credit risk fund	18.751	
+	depreciation	1.456.985	
-	final inventories	(189.994)	
		11.982.091	
=	gross operating margin		589.918
-	extraordinary costs		(469.976)
+	interest revenues		515.456
+	other and extraordinary income		28.113
=	income before taxes		663.511
-	taxes		403.970
=	**Net income**		**259.541**