# Strategy as a System of Expedients

Hans Hinterhuber and Wolfgang Popp

The dictum 'Strategy is a system of expedients' was framed by the Prussian general, von Moltke, and it is the essential expression of the German school which combines creative vision with quantitative evaluation of competitive strategies. In this article, the authors show how this principle still guides the process of quantifying and evaluating strategic alternatives in many European companies. They deal with the general validity of Moltke's teachings, based on individual and creative action within an agreed strategic framework. A PC-based model for evaluating 'expedients ad hoc' is presented.

One of the most significant insights into the essence of strategy is that of the Prussian general Helmut von Moltke (1800–1891), a man of great culture and through and through a man of action. His ideas were always bent on action, not on theory as such; they are still alive not only in German industry, but in many European companies. Even Jack F. Welch, Chairman and Chief Executive Officer of General Electric, strongly believes in the validity of Moltke's definition of strategy: 'Strategy is the evolvement of the originally central idea according to continually changing circumstances'.1 In business, the central idea is to be number one or number two or, at least, to be a leading competitor in every market segment in which a company operates. Applying the teachings of Moltke systematically to SBU management can give a company superior competitive performance. This is based on two main premises. First, thinking and acting strategically means having and evolving a business idea which gives an SBU sustainable competitive advantages. Second, a good competitive strategy is communicated to and shared by the management on the basis of quantitative evaluations and qualitative judgment. Strategy, in fact, is nothing else than the application of good common sense to corporate and SBU management.

The teachings of strategy, according to Moltke, do not greatly surpass the most elementary considerations of sound common sense; it is hardly possible to claim them as a science. Their value lies almost completely in their concrete application.

Indeed, a good strategy combines (see Figure 1):

- ☆ holistic with incremental thinking; holistic thinking means comparing a company's or SBU's performance to that of the competitors; incremental thinking to one's own performance in the past;
- ☆ rational and irrational elements; the central idea of an Italian entrepreneur was to buy used, but efficient EDP hardware world-wide and sell it to specific customers in EEC countries; the strategic decision to install an information network covering potential sellers as well as the specific needs of potential buyers is the product of rational and irrational elements;
- ☆ qualitative and quantitative considerations; most strategic decisions are very superficially formulated and even more superficially implemented; many subjective evaluations have to be made before the strategic decision is executed; the strategic decision process may 'focus on financial figures, but this is merely a screen behind which lie many considerations which are more critical and cannot be expressed in figures'.<sup>2</sup>

The fragmentation of entrepreneurial activity resulting from the use of quantitative models may change permanently the task of top management.

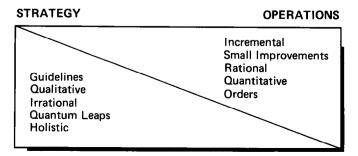


Figure 1. The challenge for CEOs: combining strategy and operations

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# The General Validity of Moltke's Teachings

In life never do as others do; either do nothing—just go to school—or do something nobody else does.

Recommendation of a grandmother to her grandson

Moltke's teachings about strategy are timeless, because they do not represent a system or an abstract theory. Strategy can never be schematic. 'Strategy', says Moltke, 'is not a system from which general principles, and rules based upon them, can be derived.' Moltke's statement corresponds to the modern theory of specificity of every firm, according to which the strategy has to emphasize the unique, specific, and unrepeatable character which distinguishes every company.

'Strategy is a system of expedients. More than science, it is the transfer of knowledge to practical life, the evolvement of the original guiding idea according to continually changing circumstances, the art of action under the pressure of the most difficult conditions.' For Moltke, strategy is the art of the possible. As military consultant to the Sultan, he writes in 1838 from Constantinople: 'I know that onc tends to see the centre of things where one personally stands, and I therefore like to submit my view to evaluation (especially since the higher strategic questions in theory are so simple that even a civilian will judge them correctly if one leads him to the point from which the matter has to be decided).'

Later in his life Moltke cancelled the sentence in parentheses, but it corresponds completely to his conviction: 'Strategy is the application of sound common sense to the conduct of the war; its teachings do not greatly surpass the most elementary first principles of sound common sense. It is hardly possible to claim them as a science. Their value lies almost completely in their concrete application. One has to interpret with correct judgment the situation which presents itself differently in every moment and then do the most simple and natural thing with determination and circumspection. In this way, war becomes an art, of a kind, however, for which many sciences are at service.'

Moltke uses the concept of system, when he defines strategy as a 'system of expedients'; however he denies its proper meaning, for expedients are nothing other than the antithesis of systematic action. In this aspect of the character of strategy lies the limit of its teachability. In fact, how can something be taught which cannot be incorporated in a system, which requires discretion and margins for action and adaptation to unforeseeable circumstances? In every situation, what counts is correct judgment, based on long-term perspectives.

When strategy is put into action, 'the independent will of the adversary opposes our will very soon.

We can limit the former if we are ready and determined for the initiative, we can break it, however, through nothing other than the means of tactics.' Before this happens, generally much earlier, our decisions have to be modified and 'expedients' are necessary. As a consequence of these 'what if?' considerations and actions one decision follows the other, and what remains eventually is the 'guiding idea' of the entrepreneur or decision-maker, who must be clear in what he really wants; and even this 'guiding idea' cannot be executed in its original concept, but has to be evolved 'according to continually changing circumstances'.

A good strategy, in fact, combines two conflicting requirements:<sup>3</sup>

- ☆ orienting towards a common goal a series of decisions, to be taken by different people, at different times, and in different places, and
- ☆ giving these people the maximum possible freedom of action for taking into account, in the decisions within their responsibility, the new events which have not been foreseen and for evolving the 'guilding idea according to continually changing circumstances'.

A good strategy formulation, therefore, has to overcome two main difficulties:

- $\Rightarrow$  evaluation of the content of future decisions, and
- ☆ definition of the freedom of action to be given to SBU managers.

Adapting to unforeseeable circumstances requires not passivity, but active behaviour: also the entrepreneur and SBU manager has to do his task in different ways, or, as Napoleon stated it, he must 'faire son thème en deux facons'. In order to reach an objective with certainty, in fact, one has always to pursue different alternatives. If the competitors know the objective we are aiming at, they are in the best position to prevent us reaching it. Like a tree, every strategic plan must have ramifications if it is to bear fruit. It must be conceived so as to contain 'expedients', in order that the one or the other alternative (= expedient ad hoc) leads to success. As Sherman noted, this provision for more than one possibility puts the competitors on the horns of a dilemma.4

Every strategy has to take into account that the competitive forces—established and new competitors, substitute products, behaviour of buyers, suppliers, workers and their organizations, and State intervention—can render it obsolete immediately after its development; the only way to counteract this is to follow a strategy that can be adapted, with acceptable costs, to the 'continually changing circumstances'. In order to preserve the strategy's flexibility and to maintain the initiative, one has to follow a line from which different alternative objectives may be pursued. 'The right way to take a decision', says Moltke, 'is to anticipate the actions of the adversary which are most disadvantageous for us.'

To be practical, any strategic plan must take account of the power of competitors, buyers, suppliers, institutions and State intervention to frustrate it. Therefore, any strategic plan is a 'system of expedients' that can easily be adapted to fit new circumstances.

### Strategy Cannot be Taught

Strategy is a very simple art and completely a matter of execution.

Napoleon

'War-like every art-', writes Moltke, 'cannot be learned in rationalistic, but only in empirical ways. In war like in art there are no general laws, talent cannot be replaced by rule in either. For strategy, therefore, general principles, rules derived from them, and systems based upon them cannot possibly have practical value. If the rules for war remain valid under all conditions, they will be reduced to axioms like those in mathematics, where identical plus identical yields identical; if they are to mean more, then every new proportion represents a new exception. Strategy is not like the abstract sciences. They have certain fixed truths on which one can build further, from which one can conclude further. The square of the hypotenuse is always equal to the sum of the squares of the other two sides, this remains always true, whether the right triangle is large or small, whether its point is turned toward east or west.' Reading Moltke's teachings about strategy, one remembers Goethe's Faust: 'Dear friend, theory is all grey, and the golden tree of life is green'. Moltke, in fact, was a man of great culture, able to recite by heart lengthy passages from Faust and to write not only about strategy in a language which is equal to that of Goethe, but also about the political, social and cultural situation in the Ottoman Empire in a style still readable today.

His letters to his wife have been translated into many languages, and sentences from them are quoted in every German schoolbook.

In conclusion, the teachings of Moltke do not regiment or schematize strategy; their aim is to promote and initiate autonomous decisions to be taken by different people, in different places and at different times, along previously agreed-upon general lines of action. 'Strategy as a system of expedients' does not mean perpetual improvization or muddling through. It simply states that in such unpredictable spheres as war and business it is impossible to reach one's goal by a straight line laid down in advance, but only by a 'system of expedients', found on the spur of the moment and communicated in time to those responsible for implementation.

## Keep an Eye on your Main Objectives

Keep your intention before your eyes at every step you make.

Sufi Wisdom

It may not look very scientific or inspiring when Moltke defines strategy as a 'system of expedients' or the 'application of sound common sense to the conduct of war'. However, those who know the history of war or industry, will appreciate the validity of Moltke's teachings.

'No plan of operations reaches with any certainty further than the first encounter with the enemy. Only the dilettante believes he sees, in the course of a campaign, the consequent execution of a previously conceived original idea fixed in all details and followed through to the end. Certainly, the general will keep his grand objectives continously in mind, uninfluenced by changing situations, but the ways by which he hopes to reach them can never be determined far ahead with certainty. In the course of the whole campaign he is forced to take a series of decisions on the basis of situations which are not foreseeable. Therefore, all subsequent acts of war are not premeditated executions, but spontaneous acts directed by military judgment. What matters is the ability to size up unique situations, covered in the fog of uncertainty, to judge the facts correctly, guess the unknown, take a decision quickly, and execute it with vigour and determination.' Later Moltke writes: 'Generally there will be few situations where tactical success does not fit in the strategic plan. The military success will always be thankfully accepted and exploited.'

Moltke shows clearly that every strategic plan has to take into account what cannot be planned. Due to the multitude of factors to be considered, he believes that only the beginning of a campaign can be planned.

For him, therefore, the basic task of the general is to prepare for the military conflict in a comprehensive way; the teachings of the past and also 'the rules set forth by the greatest generals' have limited value.

The same situation characterizes business. Since every strategic plan has to deal with unplannable factors, the selection of the location of a plant, its layout, and the fixed investments in R & D, machinery and distribution condition the flexibility and adaptability of the firm in order to prevent threats and/or to take advantage of unforeseen opportunities. 'Into the calculation with a known and an unknown factor—your own and your adversary's will—enter third factors which are completely excluded from every forecast, weather, illness, railway accidents, misinterpretations and delusion, in short all effects which can be called hazard, bad luck or acts of God, which man neither creates nor controls.' In war, as in business, all is uncertain, nothing is without risk, and one can hardly achieve great results in other ways. In fact, in war and in business great results cannot be achieved without great risks.

There are no short-cuts or patent solutions for strategy. What matters in the planning of strategy is to keep open as many possibilities as possible and to pursue one's objective with determination. The competitive situation may evolve in a different way than expected, and it is important to take advantage of this in a timely and correct manner and to leave competitors uncertain about one's own objectives.

# The Increasing Complexity of all Human Institutions and Acceleration of Change—Two Constant Factors in our Time

Simple action, consistently executed, will best lead to the goal.

Moltke

In our time two constant factors can be observed beyond a shadow of a doubt: the increasing complexity of all human institutions and the acceleration of change. Anyone who reflects upon his own life and work experience can make this observation.

Therefore, managing a company strategically becomes increasingly difficult:

- ☆ the tasks to be performed become more differentiated as the internal structure of a company gets more complex;
- ☆ the conditioning imposed upon the company from outside tends to increase in variety and intensity; and
- ☆ technological progress, market changes, evolution of social structures, behaviour of existing and new competitors as well as of labour unions, and State intervention create sudden and irreversible changes in the conditions under which SBUs are run.

The company risk increases. On the one hand, the future appears more and more uncertain; on the other, a company wishing to grow or only to survive has to orient its strategic decisions toward a time limit that moves further and further into the future.

The only way a company can adapt to a future that in any case remains unknowable is to minimize the time reqired for:

☆ knowing the present state of the company as a whole, its SBUs and functional areas;

- ☆ identifying external trends and issues upon which sustainable competitive advantages may be built; and
- ☆ evaluating competitive strategies in terms of their quantifiable and qualitative consequences,

in order to reduce the uncertainty of the strategic decisions to be taken.

# The Basic Elements of the Strategic Game

What matters is to interpret with correct judgment the situation which changes at every moment and then to take the simplest and most natural action with determination and circumspection.

Moltke

Quantitative evaluations of strategic alternatives represent a prerequisite for maintaining the freedom of action of SBU and corporate management. Indeed, the struggle for freedom of action is the essence of strategy, or, as Moltke put it, 'The best way to take a decision is to identify the action of the enemy most dangerous to us'. Preserving freedom of action and anticipating the most probable actions and reactions of the competitors by means of quantitative evaluations are the basic elements of the strategic game. In fact, in any problem where opposing forces exist and cannot be controlled, management must foresee and provide for alternative courses of action.

The aim of a PC-based model for evaluating strategic alternatives is to increase:

- $\ddagger$  the rationality of each strategic decision;
- ☆ the coherence of the multiplicity of strategic decisions and controls to be executed in the SBUs;
- ☆ the adaptability of the plan to fit the circumstances encountered; and
- ☆ the possibility of operating along lines which offer alternative courses of action.

## The Structure and Components of a PC-based Model for Evaluating Strategic Alternatives

Strategy leads the troops into the gunfire, tactics lead them in the gunfire.

Scherff

The increased efficiency of PCs offers even smalland medium-sized companies the opportunity to use decision models for strategic planning purposes; they enable small- and medium-sized companies to operate on an information level similar to that of larger competitors. The methodology of planning and evaluation is illustrated in Figure 2. The structure of the model is shown in Figure 3. It has three interdependent components:

- (a) capital investment projects,
- (b) cost structure of the functional areas, and
- (c) results (cashflow, profit, ROI).

The first component represents a statement of the investment projects necessary for the execution of a strategic alternative; it is an investment programme resulting from the combined efforts of production, marketing, R & D, supply and logistics, and supports a given strategic alternative. The model foresees different depreciation rates for the different items to be amortized.

The second component analyses the cost structure of the functional areas and the overall cost structure of the company. The annual depreciation rates come from the first component and are introduced automatically; the operating costs, excluding financial costs, have to be identified in the functional areas for the given strategic alternative and decision horizon and entered in the model. The model distinguishes between fixed and variable costs.

The third component is based on sales and price forecasts and compares costs and revenues, taking into account the opportunity cost of capital. The model yields two kinds of results:

 $\Rightarrow$  profit, ROI, and cashflow per year, and

 $\Rightarrow$  an ex-ante profit and loss statement

for the strategic alternative and/or SBU to be evaluated. The time horizon considered in the model extends to 10 years. Further extensions are possible.

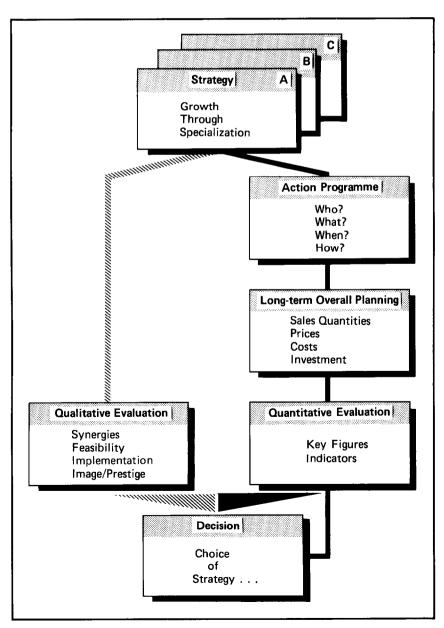


Figure 2. The methodology of quantitative planning and evaluation of strategies

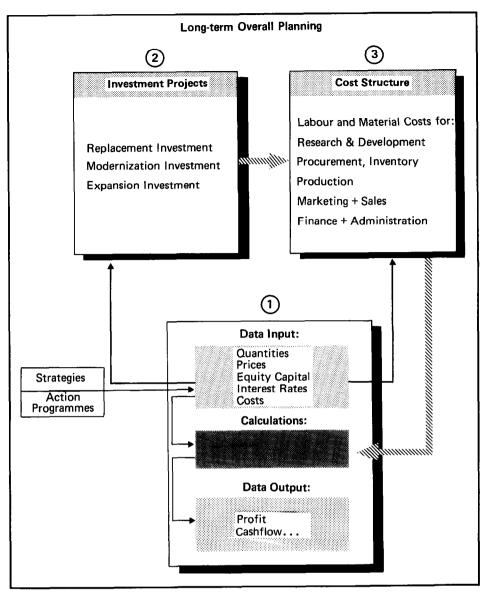


Figure 3. The system of computer-aided quantitative strategy evaluation

# Application of the Model

The value of strategy lies exclusively in its concrete application.

Moltke

The application of the model is illustrated with respect to a real situation, where only names and figures have been disguised. Airmoco AG is a Swissbased corporation operating in over 20 countries. It has about 4000 employees, the corporation is structured in six SBUs:

- ☆ turbocompressors and compressors,
- $\Rightarrow$  engines for the aeronautical industry,
- ☆ propeller turbines for military fan trainers,
- ☆ marine diesel engines,
- ☆ electrical power units for stand-by operations, and
- ☆ technical services.

In 1987 overall sales amounted to 950 million Swiss francs; for 1988, 990 million Swiss francs is expected. Airmoco's own capital amounts to 181 million Swiss francs; its ROS is 1.4 per cent. Airmoco's basic lines of growth reflect the lines of growth of turbocompressors and diesel engines; diversification into related fields of activity was motivated by the creation of new profit potentials, the opportunity of creating challenging new jobs for dynamic and competent managers, the fact that foreign competitors have taken initiative in the above markets, and the possibility of compensating variations of the demand for different products.

Starting in 1979, the activities in the SBUs:

- $\Rightarrow$  engines for the aeronautical industry,
- ☆ propeller turbines for miltary fan trainers, and
- $\Rightarrow$  technical services,

have been intensified. Their markets, in fact, are

					Year				
Parameter	0		2	ε	4	ъ	9	7	8
Profit/loss	4	25	258	-1378	4400	5689	5629	4227	9847
cumulative	4	25	- 166	-1544	2856	8545	14,174	18,401	28,248
Cashflow	1291	91	2371	1843	7839	10,045	9985	8448	13,336
cumulative	12	91	3663	5506	13,345	23,389	33,374	41,822	55,158
Quantity	10	8	1200	1330	1600	1900	2100	2300	2500
Price	30,0	8	29,400	28,812	30,152	29,519	27,925	26,436	27,757
Interest rate	8.00	8	8·00	8 <sup>.</sup> 00	8·00	8·00	8-00	8·00	8·00
Price increases		0	0	-2	8	0	0	-2	5
Sales	30,0	8	35,280	38,320	48,243	56,086	58,643	60,803	69.393
Cost of sales	29,5	61	33,645	37,367	41,666	47,908	51,170	55,255	59,139
Financial expense	õ	64	1377	2331	2177	2489	1843	1320	407
Total cost	30,425	25	35,022	39,698	43,843	50,397	53,013	56,576	59,546
Price-adjusted sales	30,000	00	35,280	39,102	45,581	52,991	55,407	58,620	63,716
Change in real sales in per cent			17·60	10-83	16.57	16·26	4.56	5.80	8·69
Percentage return on sales	÷	46	4·64	2.49	13·63	14·58	12·74	9.12	14·78
Return on total investment in per cent	2.	2·82	7·35	2·90	18.64	18·23	17·61	13·83	26-60

very attractive and are subject to great technological change, thus presenting great opportunities for a company that was becoming a prisoner of past success.

Table 1. Income statement in thousands of Swiss francs

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The market shares, however, of the three SBUs are very small; their turnover ranges between 25 million and 35 million Swiss francs (approximately 3.5 per cent of corporate sales). Therefore they are far from being able to replace one of the major SBUs. Over 90 per cent of Airmoco's sales are in fact generated by turbocompressors and compressors, large stand-by diesel driven generating units, and heavy marine diesel engines.

Their market structures are very rigid and make it convenient for Airmoco to adopt a defensive strategy, based on technological know-how and international experience, availability of skilled employees with wages and benefits below the level of the main competitors, and up-to-date production structures. Airmoco's problems relate to the three SBUs with small market shares: How much of Airmoco's financial and personnel resources should be allocated to them, assuming that in future they will be expected to be capable of contributing substantially to the company's overall profit? Further, how does one anticipate the most probable strategies and reactions of competitors?

The process of evaluating strategic alternatives will be illustrated with respect to the SBU 'engines for the aeronautical industry', for which three strategic alternatives have to be evaluated (see Figure 4):

- (a) adopt an offensive strategy ('growth through specialization');
- (b) continue as before ('growth through standardization'); and
- (c) consolidation ('keep all options open').

The market is presently entering the maturity phase; the SBU holds a small share and offers a variety of related products. The SBUs ROS is 3.3 per cent, which is much higher than that of the corporation; the SBU, however, is confronted with many problems:

- $\Rightarrow$  insufficient product specialization,
- ☆ technical service and distribution network not in line with those of the main competitors,
- ☆ high production costs, due to the complexity of the operations, and
- ☆ technological know-how threatened by process innovation to be introduced by the number one competitor.

Figure 5 shows in perspective the results of the quantitative evaluation. The offensive strategy, aiming at being number three in the market by 1989, appears to be the best alternative. Table 1 is a

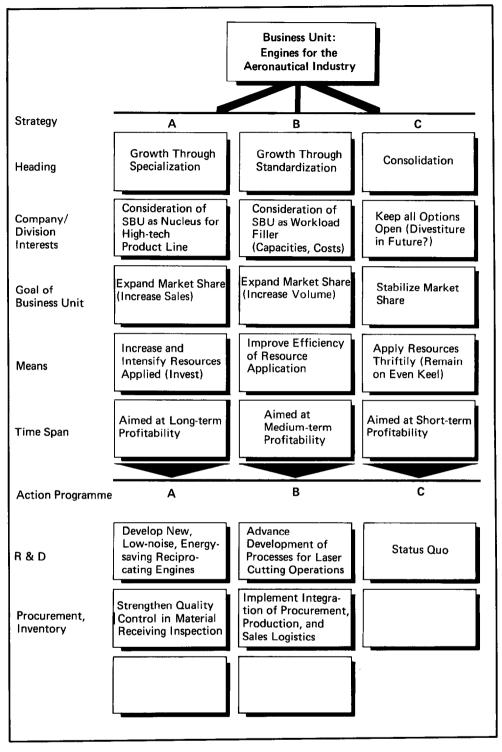


Figure 4. The strategies in brief

detailed presentation of the economic consequences of the offensive strategy; Tables 2, 3 and 4 show the cost structure in absolute and relative values. Figures 5–12 visualize major implications of the offensive strategy.

The analysis of the quantitative evaluation and its implications for the functional areas could be extended; the case seems, however, sufficient to justify two general observations:

(1) that a strategic decision can (and has to) be based on a quantitative forecast of the achievable results, thus allowing a critical judgment of all who are involved in its execution, and

(2) that the clarification of the implications of a strategic decision enables those who have contributed to its formulation to use their freedom of action for its execution in a way which is coherent with the adopted strategic decision.

## The Role of Good Luck

The fame of a general is decided most of all by his success. How much of it is his real merit is extraordinarily difficult to

francs
of Swiss
thousands
.Ц
Balance sheet
Table 2.

					Year				
Assets	0	-	2	e	4	5	9	7	8
Fixed assets	6727	6011	10,773	20,068	19,967	26,675	22,320	18,099	14,610
<i>Buildings</i> Level Change	1939	2693 1000	7197 5000	6701 0	6205 0	5910 0	5615 0	5320 0	5025 0
Depreciation		246	496	496	496	295	295	295	295
Equipment Level	4788	3318 0	3576 1876	13,367	13,762 3338	20,765 11 064	16,705 0	12,779 0	9585 D
Depreciation		1470	1617	2725	2943	4061	4061	3926	3194
Current assets Inventories Baceivables	5700 3876	5700 3876	6840 4651	7581 5155	9120 6202	10,830 7364	11,970 8140	13,110 8915	14,250 9690
Accumulated loss Liquid funds	000	000	00	000	00	00	00	00	00
Total assets	16,303	15,587	22,264	32,804	35,289	44,870	42,429	40,124	38,550
<i>Liabilities</i> Equity capital Borrowed capital	5217 11,086	4792 10,795·00	5051 17,214·00	3673 29,131-00	8073 27,216·00	13,762 31,108-00	19,391 23,038-00	23,618 16,506-00	33,465 5085-00

Table 3. Total departmental cost in thousands of Swiss france	Table 3	e 3. Total departme	ntal cost i	n thousands	of Swiss france
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					Year				
Department	0	1	2	3	4	5	6	7	8
Sales quantity	1000	1000	1200	1330	1600	1900	2100	2300	2500
Research and development									
fixed	871	888	934	952	968	994	1022	915	945
variable	570	578	707	794	961	1150	1280	1452	1633
total	1441	1467	1640	1746	1929	2144	2302	2367	2578
Procurement									
fixed	2040	2057	2074	2092	2116	2432	2466	2502	2540
variable	14,039	14,040	17,006	16,953	19,875	22,975	24,618	27,770	31,091
total	16,079	16,097	19,080	19,045	21,992	25,407	27,084	30,273	33,631
Production									
fixed	5651	5882	6186	8170	8398	10,218	10,418	10,626	10,111
variable	1805	1851	2281	2333	2764	3383	3855	4202	4742
total	7456	7733	8467	10,502	11,162	13,601	14,273	14,828	14,853
Marketing and sales									
fixed	2266	2473	2581	3811	4035	4063	4697	4837	4981
variable	245	248	302	338	409	489	545	613	685
total	2511	2721	2883	4149	4443	4552	5242	5450	5666
Administration									
fixed	1513	1543	1575	1926	2140	2204	2270	2339	2410
variable	0	0	0	0	0	0	0	0	0
total	1513	1543	1575	1926	2140	2204	2270	2339	2410
Overall									
fixed	12,341	12,844	13,349	16,951	17,656	19,911	20,873	21,219	20,987
variable	16,659	16,717	20,295	20,417	24,010	27,997	30,297	34,036	38,151
total	29,000	29,561	33,645	37,367	41,666	47,908	51,170	55,255	59,139

# Table 4. Total departmental cost in per cent

					Year				
Department	0	1	2	3	4	5	6	7	8
Sales quantity	1000	1000	1200	1330	1600	1900	2100	2300	2500
Research and development									
fixed	3.00	3.01	2.77	2.55	2.32	2.07	2.00	1.66	1.60
variable	1.97	1.96	2.10	2.12	2.31	2.40	2.50	2.63	2.76
total	4.97	4.96	4.87	4.67	4.63	4.48	4.50	4.28	4.36
Procurement									
fixed	7.03	6 <b>∙</b> 96	6.16	5.60	5.08	5.08	4.82	4.53	4∙29
variable	48.41	47.49	50.55	45·37	47.70	47.96	48.11	50.26	52·57
total	55·44	54 45	56·71	50.97	52.78	53.03	52.93	54·79	56.87
Production									
fixed	19·49	19·90	18·39	21.86	20.15	21.33	20.36	19·23	17.10
variable	6.22	6·26	6 78	6.24	6.63	7.06	7.53	7.60	8∙02
total	25·71	26·16	25·17	28·10	26.79	28·39	27.89	26.83	25·12
Marketing and sales									
fixed	7⋅81	8.36	7.67	10.20	9·68	8·48	9.18	8·75	8∙42
variable	0.84	0.84	0.90	0.90	0.98	1.02	1.06	1.11	1.16
total	8·66	9·20	8·57	11.10	10.66	<b>9</b> ∙50	10.24	9·86	9·58
Administration									
fixed	5·22	5.22	4 68	5.15	5.14	4.60	4.44	4·23	4.08
variable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
total	5·22	5.22	4·68	5·15	5·14	4.60	4·44	4·23	4∙08
Overall									
fixed	42·56	43.45	39.68	45-36	42·38	41 56	40·79	38.40	35.49
variable	57·44	56·55	60.32	54.64	57·62	58·44	59·21	61 <i>·</i> 60	64·51
total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

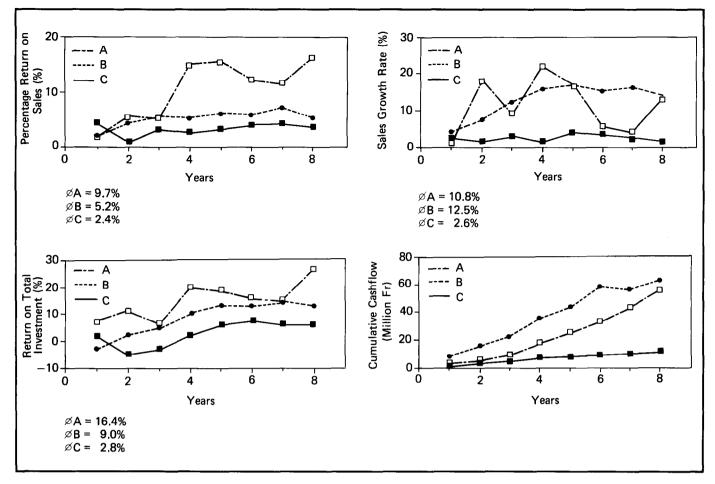


Figure 5. Quantitative comparison of alternatives

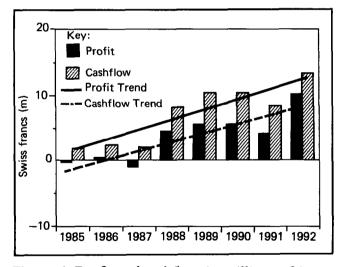


Figure 6. Profit and cashflow in millions of Swiss francs

ascertain. Even the best man can do nothing against the irresistible force of situations, and it frequently supports the mediocre. Over the long run, though, only the best generally have good luck.

Moltke

The success of a company is determined not only by its strategic planning system, but mainly by the quality of the strategic thinking and action of its SBU and corporate managers. Quantitative evaluations, however, can help to:

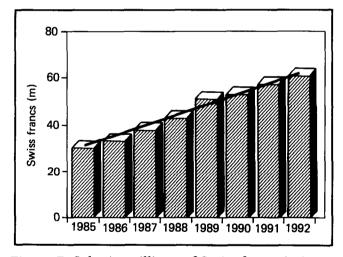


Figure 7. Sales in millions of Swiss francs (price-adjusted)

- ☆ identify critical issues in time, on whose efficient control the success of the SBU depends,
- $\Rightarrow$  take into account the actions and reactions of main competitors,
- ☆ set priorities for marketing, production, R & D, financial and personnel policy, and
- ☆ concentrate the dialogue between corporate and SBU management on those issues where the

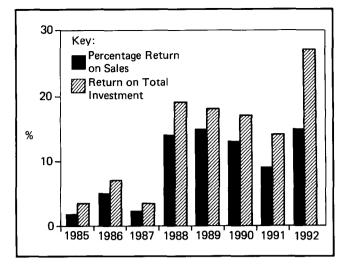
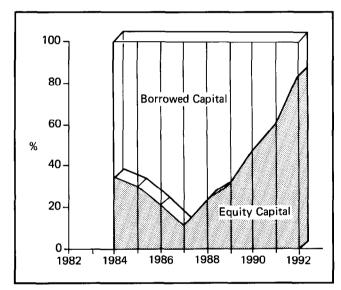
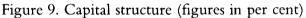


Figure 8. Percentage return on sales and return on total investment (figures in per cent)





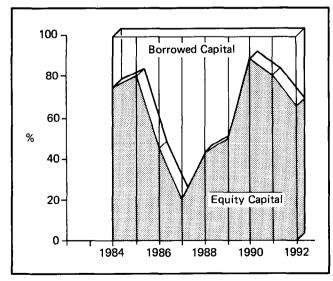


Figure 10. Coverage of fixed assets (figures in per cent)

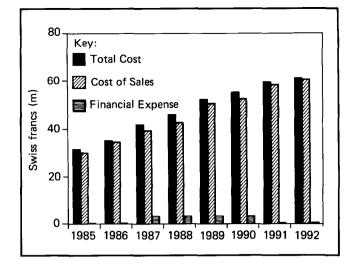


Figure 11. Total cost, cost of sales and financial expense in millions of Swiss francs

threats are greatest; maintaining the freedom of action is most important.

No organizational progress and no refinement of planning instruments objectify those evaluations which every manager has to make with respect to a future which in any case remains unknowable. The entrepreneurial function consists of:

- (i) the ability to make forecasts that come close to the course of events which actually will take place, and
- (ii) the creativity, initiative and professionalism to exploit this ability and to take advantage of it.

Perhaps quantitative evaluations of strategic alternatives can make this two-fold task easier.

# The Fragmentation of Entrepreneurial Activity Resulting from the Use of Quantitative Models

Obedience is the principle, but the man stands above the principle.

Moltke

Using quantitative models, management is less forced to make instinctively global evaluations and is induced to take advantage of evaluations made by others; therefore, the uncertainty of the decisionmakers will be reduced, and the number of persons making subjective evaluations increased.

Entrepreneurial activity, therefore, is fragmented in parallel with the use of quantitative models; in fact, more persons contribute, with subjective judgments, to produce the information required for a strategic decision. The task of top management will not be made easier; top management has to judge whether the process of strategy formulation has taken place correctly. Top management has to understand and to discipline the strategic decision-

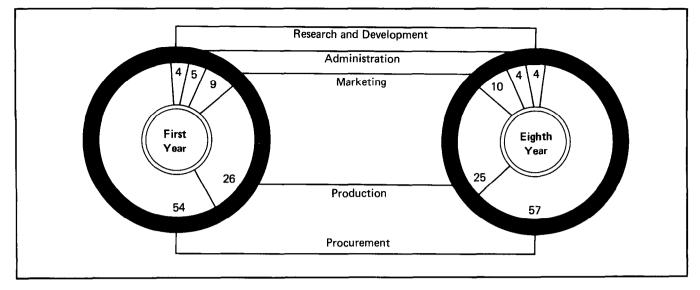


Figure 12. Cost shares of departments in first and eighth years (figures in per cent)

making process in a way that enables them to share the subjective evaluations which others have made.

If one takes into account these new characteristics of the strategic decision-making process, the task of top management will become more difficult and not easier; top management's task, however, has completely changed.

In addition, the economy with which the model elaborates information has the effect of producing volumes of information much greater and different from that required for strategic decision-making. Top management must be able to eliminate the fallacious and superfluous information produced by the model.

#### Conclusions

First ponder, then risk.

#### Moltke

The use of a quantitative model for evaluating strategic alternatives may be considered *per se* an element of progress; it makes it possible to identify and quantify the most relevant relationships which exist in the area affected by a strategic decision. The whole structure of the company and its SBUs may be better understood in its evolution, and management becomes more rigorous, orderly and responsible. What matters, however, is to evolve an original guiding idea according to continually changing circumstances, and to give the company the utmost capacity to adapt to new events and to the new conception of the future which management evolves in relation to these events.

The strategic management of a company, in conclusion, is a unique combination between central authority and controlled decentralization, between creative vision and quantitative evaluation of its implications. From this combination central management must evolve the conviction to be able to formulate strategies and policies, and to set tasks whose execution in any case goes in the desired direction, although sometimes not achieving exactly what was intended. Personally, however, central management must always feel able, if necessary through direct intervention, to establish the necessary equilibrium, to compensate for failures which have been made, and to revise, if the competitive situation has made the strategic plan obsolete or opened new opportunities.

Considering strategy 'a system of expedients' *ad hoc* means individualizing entrepreneurial behaviour in line with the 'evolvement of an original guiding idea according to continually changing circumstances' and increasing therefore the innovative capabilities of the company.

From Moltke's concept of strategy, based on individual and creative action within an agreedupon strategic framework, a direct line can be traced to the modern concept of the strategically managed corporation as a 'confederation of entrepreneurs'.<sup>5</sup> Jack Welch expresses this new concept this way: 'Strategy follows people, the right person leads to the right strategy'.<sup>6</sup> Ensuring the development of managerial excellence and selecting the right entrepreneurs capable of combining creative vision with quantitative evaluations are in fact the most important responsibilities of top management.

In sum, several important *implications for senior management* have begun to emerge from the concept of strategy as a 'system of expedients':

☆ Effective strategies tend to be the evolvement of a business idea according to continually changing circumstances. The business idea of an Italian entrepreneur is to buy and sell, on a Europe-wide basis, 'used' large computers; in order to maintain his leadership position against new competitors he has to use 'expedients ad hoc', when the

new competitive situation makes it impossible to execute his plans or opens new opportunities.

- ☆ Strategy is not an action plan; a 'system of expedients' gives not only freedom of action to those responsible for implementing a strategy, but puts the competitors 'on the horns of a dilemma', so increasing the probability of success of the strategy.
- ☆ The logic behind the concept of strategy as a 'system of expedients' is so powerful that it may serve as a driving force for individualizing the management of SBUs and functional areas; the efficiency of a firm, indeed, depends upon the extent to which those responsible for SBUs and functional areas use their freedom of action in the interest of agreed-upon strategies.
- ☆ Ensuring the development of managerial excellence and selecting the right 'entrepreneurs' capable of thinking and acting according to the strategies of the firm will become the most important responsibilities of top management.
- ☆ Such unity of strategic wisdom and behaviour can only be achieved through effective training on all levels of responsibility. Every manager must know the strategic intentions of his superior, if he is supposed to act autonomously and to take initiatives in a direction which is in line with SBU strategies.
- ☆ If the strategically managed corporation is to be a confederation of entrepreneurs, top management must not issue orders, but formulate directives or guidelines which orient SBU and functional area managers towards acting in an

effective, proactive and purposeful way in the interest of the company.

- A strategy must be communicated not only on a rational basis, from mind to mind, but also has to take into consideration the emotions of all involved, i.e. it must appeal also to the heart of the people responsible for its application.
- ☆ The more automated and mechanical the production systems become, the less schematic the strategies must be.
- ☆ In many small and large companies, these lessons are beginning to sink in.

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*Please note:* all Moltke's quotations are from his collected works: *Moltkes Militärische Werke*, herausgegeben vom Großen Generalstabe, 13 vols, Berlin (1892–1912), and have been translated by the authors.