

Building a Strategy on Competences

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Competence Building and Leveraging: a Theoretical Framework

The analysis of firms and firm strategies in terms of core competences has received much attention recently. A core competence gives a firm competitive distinction and it "provides a gateway to new opportunities" (Gary Hamel, quoted in Stonham¹). Both strategy academics and practitioners alike appreciate this way of thinking. The core competence perspective makes it possible to build a framework that addresses key dimensions of strategic management and competition. This has been stimulated greatly by the publication of influential papers by Gary Hamel and C.K. Prahalad.²⁻⁵ The (core) competences perspective requires managers and researchers to think of competition not primarily as a battle for market share but as a contest for opportunity share in future markets.

Competences and capabilities are not given to a firm but need to be built from within it.⁶ Characteristic of the core competence concept as developed by Prahalad and Hamel is the proactive construction of competence. The resource-based view concluded that competitive advantage rests in the firm's possession of unique, difficult-to-imitate skills, knowledge, resources or competences.⁷ There are limits on speeding up the accumulation of these strategic assets.⁸ Moreover, strategic capabilities are both tacit—difficult to transmit and imitate—and subject to learning.⁹ Capabilities are firm-specific, and developed over time, through complex interactions among resources, e.g. manufacturing flexibility, responsiveness to market trends, highly reliable service¹⁰. Firm-specific resources can be transformed into competences and capabilities.⁹ Many factors influence the

This article explains how the Baan Company has evolved from a one-man consulting firm to a very successful global provider of enterprise information systems software. From its inception, the company took several important decisions which were contrary to the normal way of building a software firm. These decisions included especially its building and leveraging of competences. The company has been able to create new competences and has accomplished its own breakthroughs. The evolution of the Baan Company is analysed and discussed within a competence building and leveraging framework. © 1997 Elsevier Science Ltd

evolution of competences. The role of firm-history is highlighted as critical. This means that competences should be viewed in dynamic terms. The core competence concept explores how competitive advantage is linked to unique resources and firm-specific assets which are the basis of the value-creation process. Value dependency or asset specificity is brought into the picture.

Several strands of theory are to be distinguished.¹¹ Teece *et al.*⁹ are exponents of economics. From their point of view, a competence is created when firm-specific assets are assembled into integrated clusters spanning individuals and groups, allowing distinctive activities to be performed. Core competences are those that are critical to a firm's survival. They should be derived with reference to opportunities and threats facing the firm. Leonard-Barton¹² represents the management of technology approach. She defines



the core capability as the knowledge set that distinguishes and provides competitive advantage. Major players in the area of corporate strategic management literature are Prahalad and Hamel.⁴ They define competences as the collective learning in the organization, especially how to coordinate diverse production skills and integrate multiple streams of technology. Core competences are a source of competitive advantage. They distinguish three qualifying tests: access to a wide variety of markets, contribution towards perceived customer benefits, and difficulty for competitors to imitate.

An essential distinction is between competence building and competence leveraging.¹³ "Competence building is any process by which a firm achieves qualitative changes in its existing stocks of assets and capabilities, including new abilities to coordinate and deploy new or existing assets and capabilities in ways that help the firm achieve its goals" (Ref. 13: 14). In a dynamic environment, a vital organizational skill is the capacity to reconfigure and transform the firm's asset structure.¹⁰ Efforts of firms to create new configurations of capabilities and to find new ways of coordinating deployments of capabilities with the objective to elicit a more favourable market response will result in competitive dynamics within industries (Ref. 13: 20). Thus, competence building may become the driver of industry dynamics. Learning is the process through which a firm identifies and seeks to accomplish desirable qualitative changes in its stocks and flows of assets. It involves organizational as well as individual skills. Collaborations and partnerships may be a vehicle for new organizational learning (Ref. 9: 20–21). Learning is a continuing process of renewal. The result is that new options for future action for the firm are created. Strategy as stretch focuses on the competences a firm should start to build now to compete in the future. To evolve beyond its current competences, a firm has to stretch its managerial imagination to envision competences that are beyond the reach of the present system elements of the firm (Ref. 14: 61).

"Competence leveraging is the application of a firm's existing competences to current or new market opportunities in ways that do not require qualitative changes in the firm's assets or capabilities. Competence leveraging, in effect, is the exercise of one or more of a firm's existing options for action created by its prior competence building." Goals are defined as "the set of interrelated 'gap-closing' objectives which motivate a firm's decision making and give direction to its competence-building and competence-leveraging activities" (Ref. 13: 9). Firms pursue goals that consist of distinctive sets of objectives for closing gaps between perceived and desired states of the system elements of a firm. The ability of a firm to detect gaps between the current and the desired state and the ability to take effective action to close those gaps

implies building of new leverageable competences. There is an inevitable tension between competence-building and competence-leveraging, between "competing for the future" and "competing for today". Strategy as leverage means that a firm has to compete now by leveraging its current competences to the greatest possible effect. The pursuit of strategy as leverage depends on identifying and acquiring the use of flexible resources and flexible coordination capabilities that enable a firm to respond broadly to current and future opportunities. "Achieving strategic flexibility through developing resource and coordination flexibility may be the best approach to leveraging the firm's existing competencies most effectively, both in the firm's current product markets and in the product markets the firm might create or enter in the future" (Ref. 14: 61). Moreover, strategic flexibility enables a firm to respond to future opportunities and threats.

In the literature, there is not much unanimity about the definitions of competences and capabilities. Teece *et al.* (Ref. 9: 16) defined dynamic capabilities as the subset of the competences or capabilities which allow a firm to create new products and processes and respond to changing market circumstances. The dynamic capabilities and resources approach emphasizes that dynamic capabilities cannot be acquired but must be built. This may take years. "Competitive success occurs in part because of policies pursued and experience and efficiency obtained in earlier periods" (Ref. 9: 32). Several authors give a broader meaning to the concept of capability than to the concept of competence. Leonard-Barton¹² distinguished four dimensions defining capabilities: (1) knowledge and skills; (2) technical systems; (3) management systems; (4) values and norms. I prefer another definition. First, I distinguish the vision and mission of the firm. Then, I recognize the core competences, that is, the knowledge and skills set. These are leveraged in the form of the products or services to be offered. Third, there are the capabilities to offer the products and/or services; this includes the resources or assets and the operational systems. These are the execution capabilities. Competences, products and execution capabilities together form the capabilities of the firm that constitute its competitive advantage. Underlying the capabilities and also driving the vision and mission to a certain extent are the values. These have a fundamental meaning and have a profound effect on the build-up of competences (Ref. 12: 26). Some values critical to building competences and learning are: respect for the individual, tolerance of risk taking and failure, and openness to ideas from outside (Ref. 12: 15). From the vision and mission it follows that goals are formulated; these are the gap-closing objectives. To close strategic gaps, competences have to be built. The competences that have been built have to be leveraged to earn a profit

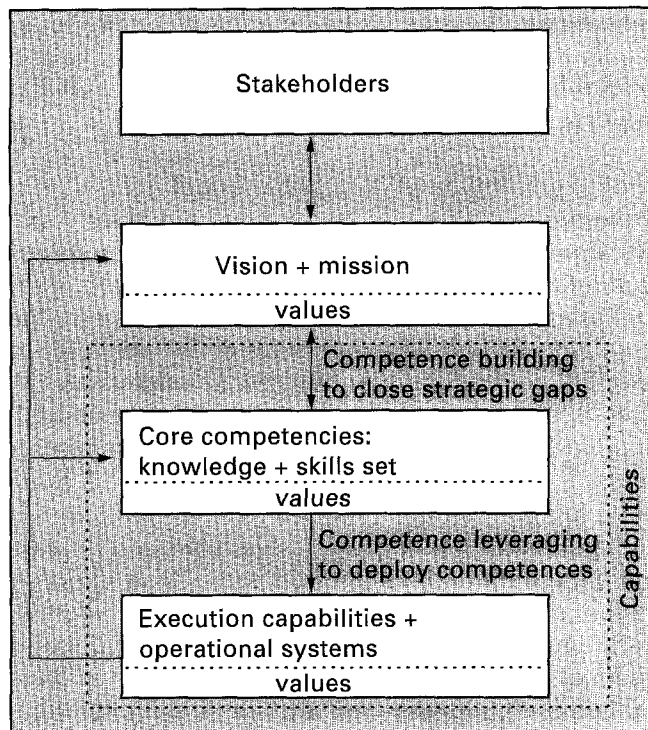


FIGURE 1. Competence building and leveraging framework.

and to stay in business. This implies the deployment of the competences and requires the implementation of operational systems.

To analyse the competence-based strategy of the Baan Company (see also Refs 15 and 16), we will present two models. Figure 1 has been based on the foregoing discussion.

Competence Building and Leveraging

In this section we will discuss the implications of the competence building and leveraging framework (Figure 1).

Vision and Mission

As early as 1981, Baan started to develop its industrial approach to software development. At a time when the market for customized software was very lucrative, the firm started to manufacture software as a product composed of generic components. The founder of the company, Jan Baan, believed that developing customized software was an approach that would disappear. Just as in other industries, customers would prefer standard products if available at the desired quality level. Software would become a commodity manufactured and distributed on the basis of industrial principles. The company incorporated acquired knowledge into its products during a process

of continuous innovation and improvement. The results of this effort were economies of scale, reduction of software delivery time and advanced reliable solutions.

Today, competence-based competition requires more than just superior technology. A client-oriented organization, a world-wide infrastructure for mass distribution, and, most of all, an industrial approach to the provision of services are key elements. The 'old' way of providing services with its traditional methods creates unnecessarily long lead times. It is Baan's vision that the short lead times achieved through an industrial approach to providing services determine whether a company will be truly successful. It allows the company to obtain a considerable competitive edge, as it transforms the services market from a 'service-on-request' market into an 'assembly-on-catalogue' system. This approach to projects reduces costs and risks as well as shortening lead times. Short project lead times and satisfied customers are vital for durable and rapid growth. Unsatisfied customers demand a lot of attention, prevent a proper completion of projects, usurp many critical resources and damage a company's credibility. For a short project lead time it is essential to have an effective exchange of know-how between technique (products) and organization (human resources). Baan markets its standardized services under the name of Orgware. Orgware enables the company to continue to play a dominant role in the services market without having to maintain a large work force.

From the start Baan wanted to become a global leader in ERP software. Global leadership means recognition as the best company in its field—although not necessarily the largest. To realize its vision of global leadership, the first half of Baan's mission reads:

"To contribute vitally to the success of our customers—in particular leading-edge global companies—by developing, marketing, and supporting state-of-the-art ERP software, in an open systems environment."

As the company's success depends critically on the performance of its employees and the input of other stakeholders, the second half of Baan's mission is of equal importance:

"To provide challenging growth opportunities and attractive financial returns for our strategic partners and our shareholders, and to offer superior career opportunities for all Baan colleagues."

Values

The values of the Baan Company underlying its building of core competences and execution capabilities are:

- ❑ Concentrating on core business, so that the company can further improve the things it is good at. It wants to be an innovative industrial producer of

ERP software products, tools and related services. The company aims at strategically chosen market segments the world over.

- ❑ Encouraging individual development and responsibility. Many new ideas of the company originate with and have been worked out by young Baan colleagues acting on their own initiative and their own responsibility. The company believes in supportive leadership. Its organization is an environment in which employees can develop their capacities throughout their career and where initiative is encouraged.
- ❑ Emphasis on teamwork and collaboration. From the very beginning Baan has hired talented people with relevant knowledge who fit into the company's culture. It has been able to develop a strong team spirit.
- ❑ Striving for open and non-hierarchical communication. Baan wants to be a borderless organization. Employees are entitled to information unless it is clearly disadvantageous to strategic interests.
- ❑ Conducting oneself ethically. Values such as honesty, sincerity and respect define the ethical behaviour of the company. Its dealings with employees are based on trust, delegation of responsibilities and respect for individual views and convictions.

Building Competences and Capabilities

In the history of the Baan Company, the following strategically important decisions can be distinguished. These are gap-closing decisions which have given direction to its competences and capabilities building processes.

1978: The start as a consulting firm. Jan Baan is not satisfied with his job as a controller of a medium-sized firm and must decide what he wants. He opts for self-employment. At the time, he has a young family with five children. He starts a consulting firm specializing in financial engineering.

1981: The choice of technology independence. From 1978 to 1981, Baan has developed itself into a supplier of package software (for instance, for manufacturing and finance) and a dealer in hardware. The hardware dependence of the software products has to be broken. But how? The firm opts for UNIX: a technically very interesting operating system, though little known in the market.

1984: Vertical market approach. Software packages are developed at a rapid pace at three different locations. The company operates from a large number of operations—too many, in fact. It becomes

necessary to choose a limited number of vertical markets in which the company can build up a strong and profitable position; the company gets out of several markets.

1987: Development of a family package. The software packages for the various markets were developed separately. The software had no shared architecture; components could not be used in other packages; the packages could not be integrated. The development of a family package is the only way to operate profitably in several vertical markets and to offer an integrated package, which is indispensable in a small domestic market such as the Dutch market. This is a huge investment.

1990: International distribution network. From 1988 Baan works resolutely on international sales of its product line. But the process of internationalization has foundered. In 1990 international distribution is transferred to a different organization, separate from distribution on the domestic market and from product development. After a difficult start, the international organization develops at a rapid pace.

1993: Participation of General Atlantic Partners. Initially, the international network is built up by hiring third parties to act as distributors. A special approach is developed to achieve uniform implementation of Baan's packages all over the world. However, its large international clients are still not satisfied. They want to be served everywhere by the company itself, not by a third party. Furthermore, Baan does not have a powerful presence in the North American market, which is necessary to become a global player. Extra funds are needed to make the necessary investment: they are obtained thanks to the participation of General Atlantic in the company's share capital. Until that time, the founder and his brother have jointly owned the holding.

1995: Stock market quotation. At least for the recent past, the stock market quotation (May 1995) has been the capstone of Baan's efforts to acquire a strong position in the American market and thus in the world market. It has given the company an international reputation and recognition. In addition, it has helped provide the financial means needed for the further development of the company. Some months earlier (January 1995) Baan set up a specific research department within R&D dedicated to designing the next generation of business applications. Other important new developments initiated by the private company Baan Investment to improve the Baan Company's execution capabilities are setting up the Baan Institute in 1995, a centre for knowledge leverage for the world-wide Baan organization and its strategic

partners, and the introduction of the Dynamic Enterprise Modeler in 1996. This new technique facilitates fast and flexible implementation of Baan Applications and is an enabler of Business Process Reengineering (BPR). A major component is a functional configuration tool for designing and building enterprise models of processes and organizational structures, and mapping them to the Baan software.

Knowledge and Skills Set

The knowledge and skills set to accomplish the core competences comprises:

- ❑ Pioneering in applied new technology, to guarantee that Baan's products remain sophisticated. The company aims to set trends, not follow them; its early acceptance of UNIX is a good example. This demands a long-term vision as well as perseverance to focus the direction of our R & D efforts despite short-term disruptions.
- ❑ Employing an industrial approach in manufacturing products and serving customers, with the objective of supplying consistent first-rate quality world-wide. Baan has proven itself capable of translating client wishes into generic software and service components, and of doing so quickly. In a market which is often dominated by improvisation and traditional working methods, the company wants to invest further in developing standard products and tools and world-wide uniform methods for sales and services. Its industrial approach leads to flexibility, simplicity and speed.
- ❑ Developing and supporting strategic partners that complement Baan's product line, to provide a comprehensive and competitive package of products and services. The challenge of upholding an industrial approach precludes the possibility of the company acting as a full-service provider. The company must therefore excel in the development and support of strategic co-operative ventures in areas such as hardware platforms, software tools, implementation services and change management, to satisfy the customer.
- ❑ Focusing on the specific requirements of its clients who have trusted the company by investing in its products. The Baan product is often integrated with existing systems or implemented by the client or a strategic partner.

Execution Capabilities

The company started with one location in the Netherlands and set up two additional locations in 1981. Each location served its own markets, such as manufacturing or trade firms, and had at its disposal a full range of specialists to build products and serve the customers. In 1987, all activities were concentrated again in one location. In 1989, Baan made several

strategic decisions. It separated the distribution of the software from the R & D activity. Foreign distribution was transferred to a separate organization and kept apart from domestic distribution. Moreover, Baan outsourced its technical services department. These decisions had a major positive influence on the evolution of the company. Through the separation of distribution and development, the application of the factory concept was improved. The R & D staff was no longer involved in customer projects, i.e. implementation and customization. The separation of the foreign and the home market distribution strengthened the capabilities to build up a foreign network of distributors, either direct or indirect. In 1991 in the Netherlands, during a continuous process to adjust its core business, Baan outsourced its customization services—the customization of the standard software—to Origin. On this occasion, Baan and Origin also reached a world-wide co-operation agreement, whereby Origin became a provider of customization and implementation services for Baan. At the same time, Origin established a corporate competence centre for Baan's products. By taking the outsourcing decisions of 1989 and 1991 Baan strengthened its core business capabilities.

Baan manages its development organizations based on the production principles of modern industry. Development of new products for the application library is performed by the company's Software Factory, whereas new Orgware tools and techniques are developed by the separate Orgware Factory. Development takes place by means of concurrent engineering by small project teams. Each group focuses on independent components of the software under development, allowing Baan to manage the overall process in incremental elements. Development principally takes place by means of BAAN Tools, which constitute a technology-neutral development environment. This makes it possible to operate within standards and yet remain independent of open standard databases, hardware platforms, networks and interfaces. In addition to the Software Factory's and Orgware Factory's focus on current products, the firm maintains a separate advanced technology development organization to research long-term software solutions. This organization's objective is to ensure that new product development efforts are not subject to legal constraints.

Baan has developed and will continue to develop relationships with leading third party providers of implementation and customization services for ERP systems. The success of ERP systems in large organizations employing BPR largely depends on highly trained, technical personnel providing implementation services that enable customers to achieve the benefits of ERP systems. Baan's implementation providers are obliged to use the company's services approach—Orgware—when conducting implemen-

tations. These service providers help customers to implement the system rapidly and to customize the software to meet the customer's specific business requirements. The implementation providers enable Baan to focus on its core software development and distribution capabilities, and provide an additional source of implementation support and consulting for the firm's end user customers.

The Role of Baan Organizations

Baan's competences are built up through four types of activities:¹²

- shared problem solving to produce current products and provide current services;
- developing and implementing new technologies and approaches to improve and innovate current production processes, products or services;
- continuous formal and informal experimenting to create new knowledge and to build capabilities for the future in the form of renewed or completely new products or services;
- pulling in expertise from outside: suppliers, partners, universities, research centres.

Figure 2 is adapted from Leonard-Barton.¹² All four types of activities distinguished by her take place within the Baan network. Baan Development is working on present and new versions of the current prod-

ucts and services. Problem solving and importing knowledge reflect the short-, medium- and long-term characteristics of the mission of this organization. The focus of Baan Research is the future and the next generation of products and services. To develop innovations, this organization collaborates with partners and universities. The Baan Institute (a privately owned company) addresses the need of having highly qualified people who are able to bridge the gap between business and information technology. Baan Business Innovation (also a privately owned company) is focused on the development of new software implementation products and services. Most interesting in this figure is the block 'Experimenting' because this has to do with building up the competences of the future. Experimenting may result in break-aways or paradigm shifts, changing the competitive field fundamentally. Both organizations have co-operative arrangements with partners, customers and universities.

Conclusion

Baan strove for competence building (as defined in ¹³) right from the start. Initially, competence building was technology-oriented. Later on, it was also service-oriented and distribution-oriented. This case study shows how a firm can leverage competences, thus

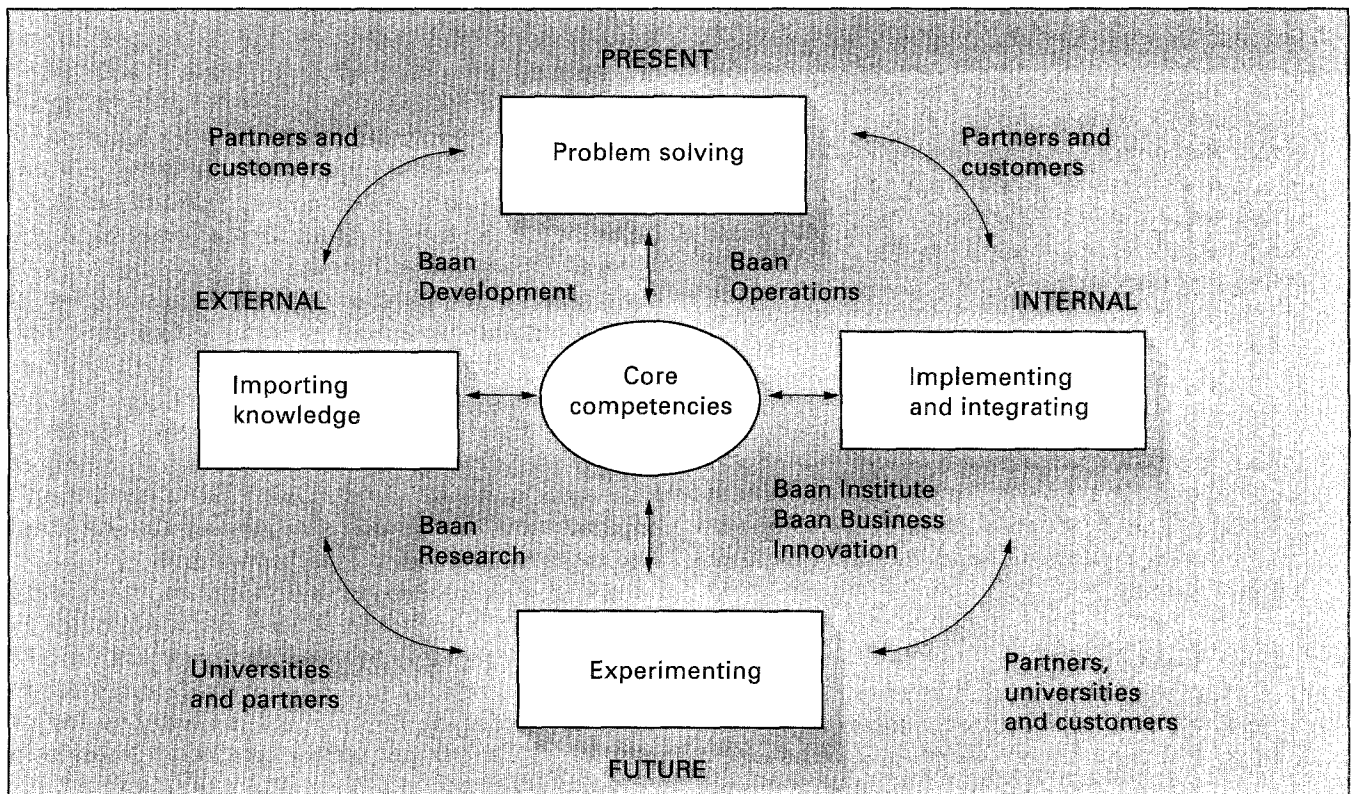


FIGURE 2. The role of the Baan organizations in building and leveraging competences.

going through the evolution from a domestic to a global player. By sticking to its core capabilities, the Baan Company has been able to achieve maximum growth in its core business, thus also strengthening its global competitive position. And by beginning to build competences in new areas early, the Baan Company has been able to resolve causal ambiguities surrounding new technologies, new organizational forms and new product concepts before competitors developed insights in these areas (Ref. 14, p. 18).

Baan's determination to be a pioneer in information technology and to go off the beaten track frequently offered it the opportunity to learn and to resolve ambiguities surrounding new technologies. Re-investment of revenues, hard work, a good atmosphere and a very low turnover of employees enabled the company to do this. The dominant management style within the company is also an important factor. The founder of the company believes in 'steward leadership'. A maximum of freedom to carry out the work is combined with stimulating the employees' individual development. Moreover, a characteristic of the organization is 'borderless communication'. Communication does not take place via a hierarchy, but is direct. The organization is flat and informal. Organizational charts are unknown in Baan.

'Strategy as stretch' is a basic characteristic of the Baan Company. It explains, but it is also a prerequisite for, its evolution. Jan Baan is definitely a visionary leader of the company. Often, he has envisioned competences—in consultation with his brother Paul and the employees—which were beyond—or even far beyond—the reach of the current system elements of the company. 'Strategy as leverage' is exploited in several ways, two of which will be mentioned here. Leverage of competences is achieved through hardware and system software independence, thereby multiplying software implementation opportunities and enlarging strategic flexibility. A second important example of leverage is Baan's developing and implementing a package of services that is integrated with its product package. The services firms applying this package provide flexible and also additional resources. Leverage of competences has been implemented to earn a profit on investments but also to become a global provider. There is a continuous tension between building and leveraging competences. Apparently, Baan has been able to find

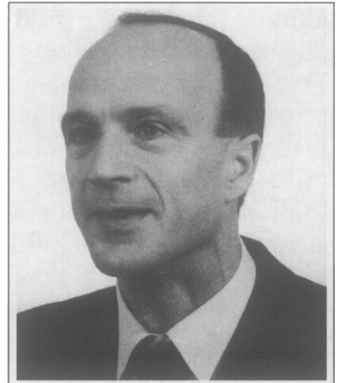
a balance between long term and short term. The absence in the past (before the IPO) of a dominant profit motive has contributed to this.

Both the core competence perspective and the dynamic capabilities approach extend the traditional notion of strategy as seeking a fit of a firm's capabilities with its environment to the notion that a firm can stretch to build new competences. Dynamic competences or capabilities allow innovation of processes and paths.⁹ These competences can change the competitive environment of a firm in its favour and can offer new strategic opportunities. Also, the competence perspective shifts conceptual emphasis in strategy from resource allocation decisions to discovering ways to leverage resources across businesses and products.¹⁷ In the author's opinion, the Baan Company demonstrates how a firm can build competences to create new products and processes⁹ and strengthen its competitive position, at the same time transforming threats into opportunities. It created strategic options by developing standard software, the BAAN Shell (technology independence), the integrated suite of business applications (from 1987), and by co-operating with other IT vendors. Paradigm shifts such as the shift from customized to standardized software, from mainframe to client-server architectures, and from proprietary to open systems were foreseen. Co-operation in the field of R&D was used to formulate its vision, to develop its product and service concepts, and know-how from outside was incorporated in the company's knowledge and skills set. Learning processes have been stimulated continuously by the management of the firm, in collaboration with some carefully selected universities and technology partners. The capacities to reconfigure and transform the range of products and services as well as the organizational structure have been developed as a continuing assignment. Choices about domains of competence are influenced by past choices. "At any given point in time, firms must follow a certain trajectory or path of competence development" (Ref. 9: 31). The Baan Company has been able to make the right decisions at several important moments and benefited from decisions in the past. Major competitors of Baan, such as SAP and Oracle, were in a different starting position and therefore followed another trajectory of competence development. This also partly explains the strong competitive position of Baan today.

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