Turnaround and Renewal in a Spanish Shipyard

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Strategic change in mature industries may be achieved by leveraging core competencies through product innovation. Renewal involves discovering and building adaptative opportunities. However, renewal also hinges on the development: and acquisition of complementary resources to revitalize core competencies. The renewal process starts by reordering peripheral competencies in order to revitalize core competencies and compete in the new market segment, as in the case introduced.

The case study presented is a shipyard which redirected the technology and competencies previously employed in the military sector into profitable commercial applications.

A NEW APPROACH TO MATURE and declining industries, bearing in mind resources and competencies, is vital for strategic change. The traditional strategies and dominant business buzzwords—downsizing, rightsizing, restructuring—aimed at environmental analysis and cost-cutting alone are not a viable long-term business strategy. Gertz and Baptista, drawing on their study of more than a thousand large companies, advise managers must move beyond these business fads.[1] Restructuring produces a window of vulnerability and change must resolve the paradox between transformation and preservation of the firm's core competencies. Resolving the paradox of change and transformation means recognizing that continuous renewal of a firm involves conflict. However, strategic change in the more successful companies appears to involve the ability to sustain value creation and innovation through revitalizing core competencies and creating new complementary competencies.

This article suggests that a resource-based view of the firm is a key for the renewal of strategic thinking in mature industries. Firms can obtain advantages by analysing and re-assessing information about the assets they already control, if these assets can be used to implement valuable market strategies and if similar assets are not controlled by a significant number of competitors.[2] Rejuvenation of the mature firm can be a consequence of this re-assessment if it introduces innovations and if this innovation process is strengthened by complementary assets, skills and behaviors.

The article emphasises the importance of exploiting peripheral resources and competencies to renew the firm's core competencies through building and developing complementary competencies. Evolutionary innovation from traditional routines and refinement of core competencies, along with the acquisition of complementary resources and competencies, are key elements in renewal strategies. Complementary competencies act like a catalyst in a chemical reaction by helping to alter what is in the core and what is at the periphery. Reordering peripheral competencies into core competencies reduces inertia and the risk implied by change. It represents a mechanism to resolve the paradox of change and conservation.

The article is organized in four parts. The first part presents the theoretical framework The second part presents a case of strategic change carried out in a large bureaucratic industrial organization, the Bazan Naval Shipyard in San Fernando, Spain, which changed its product market from warships to commercial vessels, specifically fast ferry ships. This case illustrates the importance of renewing the core competencies of the firm and the key role of comp-

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lementary resources in the process of strategic change in mature industries. The third part reviews the main findings and gives some practical implications for management. Finally, the article concludes with a summary of the main ideas.

Change in Mature Industries: A Framework

The question of how firms change has traditionally been an area restricted to organizational theorists;[3] but these writers seem more concerned about the context of the change than the content. The competence-based view of the firm provides a complementary framework for rethinking the content of the process of renewal. Some writers address the competence based view as the bridge between context and content,[4] and as a way to renew core competencies. Nelson and Winter consider firms as repositories of routines.[5] The routinization of activity constitutes one of the most important aspects of firms competitive advantage; yet at the same time reduces their capacity to innovate. In a similar way, in the resource-based view, the firm is seen as a unique "bundle" of tangible and intangible resources that generates superior performance.[6] However, the competence-based view has traditionally been pessimistic about change. Thus, it has been suggested that core competencies can become core rigidities,[7] and that high productivity can only be achieved at the cost of less flexibility.

The literature on strategic change also points out that the natural pace of change may be too slow.[9] Consequently, competition threatens survival, but forced adjustment to competition involves risk. Change may fail or firms may over-react, destroying well-established routines and resources and bringing consequences which are even worse.[10] Consequently, firms must find a way to reconcile the paradox of conflicting forces for change and stability. They need control mechanisms which prevent the fissuring of the organization. For this, theoretical analysis by Baden-Fuller and Volberda emphasises the need for a mechanism to build new competencies and capabilities: *reordering* or altering a subset of core competencies. Thus, the firm can significantly change its operations by reordering what is already at its core and what has previously been considered peripheral.[11] This case study provides an example; the firm reorders its core competencies moving crucial aluminium manufacturing and other skills from its periphery to the core.

Published empirical studies suggest that renewal also involves discovering and building adaptative opportunities and moving beyond the organization's current competencies by removing old boundaries. These innovation strategies can build new rules of competition in mature industries. Change, in these cases, has more to do with the organizational redesign and human resources behavior than with the renewal of tangible resources. Therefore, building and diffusing learning capability,[12] corporate entrepreneurship[13] and generating superior customer value all across the value chain[14] are ways to innovate and change.

Learning capability represents the capacity of established managers in an organization to generate and generalize ideas with impact.[15] Managers can generate profitable ideas—with impact—through continuous improvement, competence acquisition, experimentation and boundary spanning—by going outside the firm's boundaries, for example, by benchmarking. "Impact" here is defined as adding value to the firm's various stakeholders over the long term. Managers can work to build a commitment to learning into the shared mind-set of the firm's personnel. They can encourage the development of competencies, provide rewards for generalizing ideas and work toward a *boundaryless* organization—using cross-functional teams working-with suppliers and customers.

Stopford and Baden-Fuller suggest that troubled firms in mature environments can shed past negative behaviors, adopt policies fostering entrepreneurship and accumulate bundles of innovative resources. Entrepreneurship is based on innovations that require changes in the pattern of resource deployment and the creation of new competencies. They find five attributes common to all types of entrepreneurship—proactiveness, aspirations beyond current capability, team orientation, capability to resolve dilemmas and learning capability—and three stages in a long and incremental process over many years. In the early stages, entrepreneurship was mainly an individual or small-group activity, with the top management team leading and others helping. At the later stages, the process became more widespread, pushing up from the bottom as well as down from the top.[16]

Gertz and Baptista analyse successful transformations achieved by different firms and they find three foundations: superior customer value, outstanding economics across the value chain and excellence in process execution. They stress the transformation all across the entire value chain because every link, even those formerly not taken seriously, must perform a value-adding function. Practical and effective approaches to enhancing the economics of the value chain are continuous improvement of process, benchmarking, re-engineering and re-invention.[17]

By examining the particular case studied, this article confirms many previous ideas, but goes beyond them. This case demonstrates that reordering resources and competencies and building complementary assets are key ingredients of the change process. Rejuvenating mature firms may involve an essential first step of reordering the status quo, to

reduce inertia and risk and to improve the pace of change. However, the effective execution of such reordering needs complementary resources and competencies or complementary assets to link peripheral competencies to the core. Therefore, the success of strategic change requires that the new core competencies in question be utilized in conjunction with other competencies. In this manner, the existence of complementary resources and competencies can help direct evolutionary paths.[18] Such complementary assets, built to support the firm's prior activities, may have other uses as well. However, new products and processes may either enhance or destroy the value of old complementary resources and competencies. Put differently, change is constrained by the complementary assets the firm already has or can readily build or acquire. The experience of Bazan's rejuvenation case illustrates the concepts previously introduced.

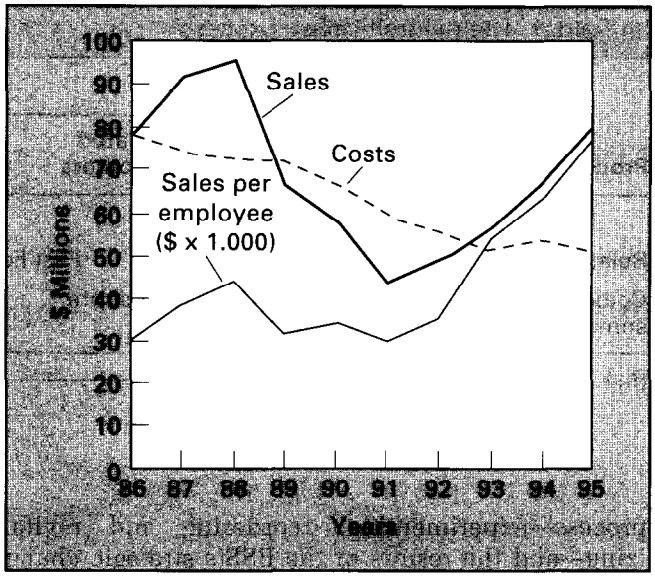

FIGURE 1. The shipyard's sales and costs.

The Bazan Shipyard Case

The Declining Period

Since its foundation in the 18th Century, the principal activity of Bazan has been the construction of vessels for the Spanish Navy, the company being the main supplier. To this end, the company's three shipyards each specialized in different classes of warship: El Ferrol, in Northwest Spain, in large ships; Cartagena, on the Mediterranean coast, in medium-sized ships and submarines; and San Fernando (BSS), on the Atlantic coast in Southwest Spain, in small, fast vessels built from lightweight materials. This specialization of BSS in small ships was, in part, related to its geographical location in the shallow waters of the Bay of Cádiz.

Data from the 18th and 19th centuries show the persistent inefficiency of BSS, with low levels of workload and high costs. Between 1900 and 1950, no ships of any importance were built at the shipyard. From 1950 to 1985, activity varied in intensity but the yard never operated at, or near, full capacity. The contraction of the defence industry beginning in 1989 had very severe consequences for BSS. Demand from the Spanish Navy declined drastically and very few warships were being built for export. The remaining activity for BSS consisted of auxiliary naval vessels and various ocean-going hydrographic ships for the Navy. The yard's economic situation was critical. During the period of declining activity between 1986 and 1990, the workforce had been reduced by some 33%. In 1990, its current workforce of 1745 employees represented an annual payroll of about $30 million, and this required an annual turnover of $100 million just to break even: however, sales were running at around $45–65 million per year in the period 1989–1991 (Fig. 1).

Figure 1 shows the trends in the shipyard's sales (billings), internal costs and sales per employee. From 1991 a change can be seen in the sales trend, the reduction in internal costs has continued, the staffing level has been stabilized but there is still excess production capacity in comparison with the workload.

Renewal Strategy: Experimenting and Looking for New Products

The world political scene this decade has brought negative consequences for the warship construction industry worldwide and for BSS in particular. The Spanish Navy placed no orders for new ships and ship repairs also fell. The strategic reaction of the company management was to look for another product to replace, or at least complement, their traditional activity. The necessary strategic change involved two inter-related objectives: (1) to find a new product market with high growth potential; and (2) to develop the internal technological competencies necessary to compete successfully.

The development process followed by the company to identify diversification opportunities concentrated on "technologically-related diversification" (in the top left-hand corner of Table 1). In 1988, the shipyard had begun to develop an evolutionary approach to renewal, generating ideas, experimenting and developing miscellaneous projects from internal technologies: oceanographic ships, small polyester ships, new navigation and communication systems and infra-red sensing systems for forest fire control.

Figure 2, covering 1988–1997, shows the principal events, the three steps in the evolutionary change

TABLE 1. The diversification process

Products	Markets: Spanish Navy	Related customers	Not well-known	New	Risk
	Warships				
Related technology			Fast Ferry	Navigation and Communication Systems	
Coincides with some skills	Oceanographic ship	Off-shore	Polyester ship	Infra-red sensing technology	
Risk	– →				+

process—experimenting, reordering and revitalizing—and the results of the BSS's strategic change (Fast Ferries Billing). The major elements to link the experimenting and reordering steps were: a wide-ranging market study (conducted by a British consultancy) and two more specific studies by the Boston Consulting Group. These provided valuable market information and steps for implementing the planned changes. The conclusions and information from these studies were used first for internal and external communications. The Shipyard Manager, Manuel Perez, employed the reports to explain his objectives and to involve and challenge the employees. He outlined a communication plan first to the Board of Directors, then to the powerful shipyard unions and to the regional government, the Junta de Andalucía; his immediate goal was to secure internal and external support for change.*

Fast Ferries: Moving Competencies from Periphery to the Core

The shipyard management began to look for a viable market segment. A part of the management team

* The factory is one of the bigger industrial employers in an area with a very high unemployment rate (above 20%).

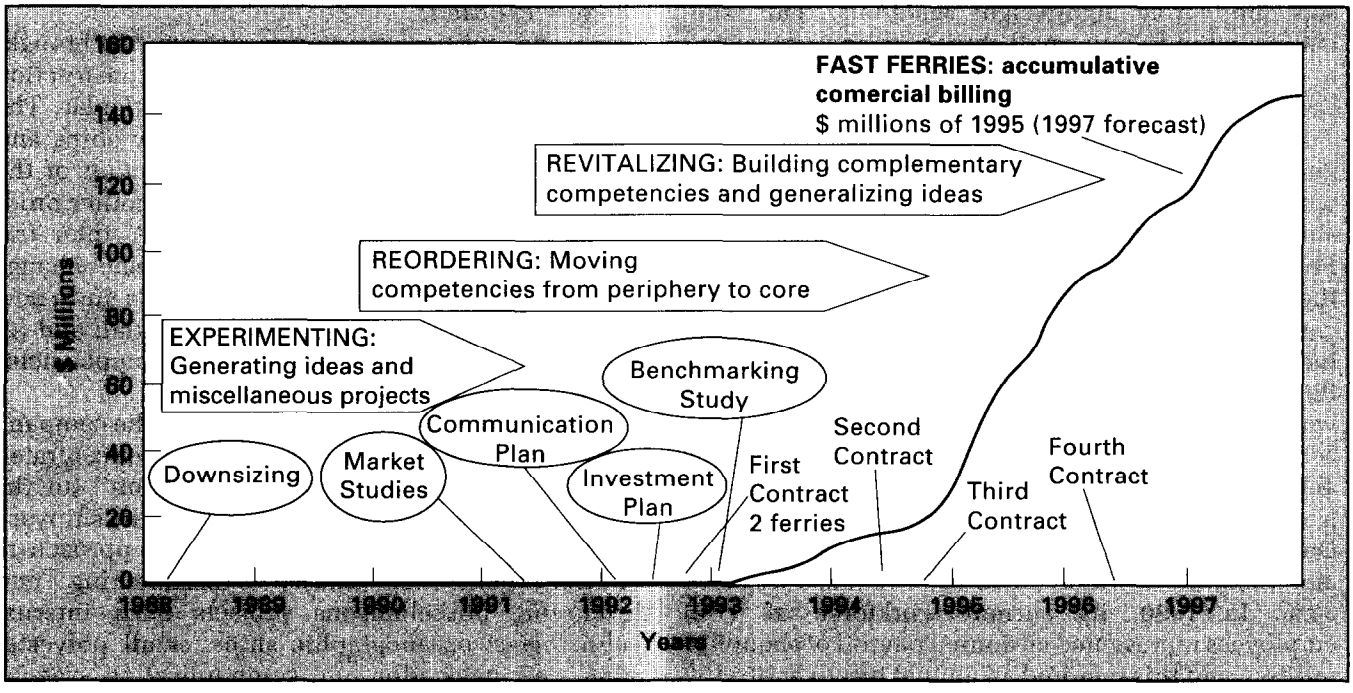

FIGURE 2. Strategic change and the fast ferries period.

started benchmarking and the main competitors in each potential market segment were explored. Before the crisis they enjoyed a significant captive market in work for the Spanish Navy, now the rules were changing. The international shipbuilding industry is mature, its market relatively stagnant; there is considerable excess capacity and intense competition, particularly from the newly-industrialized countries of Asia. The challenge was to find a segment with fast growth prospects, that would allow BSS to redeploy its existing technology and where the shipyard could realistically hope to achieve competitive advantages.

From the options analysed, the management team reached the conclusion that the best alternative product-market for them to pursue was the Fast Ferry market. This was a relatively new and important market. The growth of international trade and travel was encouraging large ferry operators in many countries to order new ferry ships with improved performance (speed, capacity, turn-around time, etc.) and lower operating costs than traditional ferries. The new product specification combines sophisticated technology, high security levels, compliance with increasingly strict legal requirements, together with the comfort, even the luxury, of ocean cruise vessels. The modern Fast Ferry—safe, capable of travelling at more than 30 knots, large enough to carry significant numbers of large and small vehicles and passengers—could make an important contribution to more efficient and competitive levels of service for operators to offer to their customers.

The main obstacle to entry into this sector is the technical complexity of the product which tends to exclude small companies without technological resources (design and production engineering), although this limitation may be partially mitigated by contracting specialist engineering services. The newcomers, apart from other military shipyards, are mainly small start-up firms with low overheads, which are making rapid headway.

Fast Ferries had fundamental similarities with the fast warships previously made by BSS: high speed, light-weight aluminium components, similar requirements for safety and reliability and ease of handling. Moreover, as the manager of BSS highlighted: "*The technological requirements were a barrier to potential competitors: most of them were behind Bazan in reputation and trust*". He also emphasized the importance played by pure luck in presenting the timely opportunity to select and enter this product-market. "*We were analysing the market in 1991 when Trasmediterranea asked our technical opinion about a bid they had received from a foreign shipyard*". Trasmediterranea is a well-established state-owned ferry operator handling traffic between the Spanish mainland and the Canary Islands. The offer was to build a Fast Ferry incorporating impressive technical innovations and operating advantages over previous designs: its high speed multiplied the frequency of trips possible; use of light components allowed greater cargo capacity; sophisticated automation and control systems reduced the crew needed and increased passenger security and comfort. "*We recognised the opportunity. That class of vessel had strong similarities with our basic military product; there were some challenges to overcome, but we decided that we could design and build it*". The main core competencies of Bazan, such as technical design, in the form of the experienced and qualified Technical Office staff, and manufacturing and assembly skills with the large-size aluminium components needed for such a vessel, could be fully exploited in this new market. Profitably introducing a new product for a new market was a challenge for the shipyard's organization.

To implement their new strategy, the company had to overcome two difficult obstacles: first, they had to convince a ferry operator customer that they could deliver a competitive product; second, they had to "re-engineer" their production facilities and systems. After being consulted by Trasmediterranea, BSS's Technical Office developed an improved design for the ship, and the shipyard delivered an alternative bid. Then, in 1992, Trasmediterranea accepted the BSS bid to build its first Fast Ferry, the "Alcantara" (96 meters in length, 38 knots maximum speed and 450 passengers) for a price of $24 million; the ship was finished in May 1995. A year later, BSS finished their second Fast Ferry, a repeat order from Trasmediterranea. Previously, in July 1994, another ferry operating company, Buquebus of Argentina, had also placed a contract with BSS for an identical ship, at the same price. Therefore BSS had the benefit of an initial "production run" of three units of its first innovative product. This success led to a contract for a larger version of the BSS Fast Ferry design, also from Buquebus, in October 1994; this vessel was 125 meters in length, 38 knots maximum speed and passenger capacity of 1248 and the contract price was $46 million. Success generated success and Buquebus added to the BSS order book with another ferry ship contract, in July 1996, at a price of $30 million (77 meters in length, maximum speed 57 knots and passenger capacity 450).

Building ships is a complex process, and changing complex processes confronts tremendous inertia. However, BSS needed to change quickly. The key was to change a minimum of established manufacturing routines and build complementary resources and competencies or assets to facilitate the transformation. The shipyard already possessed distinctive capabilities in working with aluminium components and in engineering complex ships, as a result of their previous work for the Navy. However, aluminium working skills were peripheral competencies, needed only for certain components of war-

ships. The shipyard had to reorder skills and competencies from the periphery to the core of their operations. Their innovation efforts, then, focused on improving these skills as well as on acquiring some complementary resources and capabilities.

Revitalizing: Building Complementary Competencies

With regard to the organization of the company, a plan had been drawn up to adapt, prioritize and complement the yard's production facilities and to improve the skills of the staff and their motivation. The plan's emphasis on the skills and motivation of their human resources took the form of an ambitious training program and an agreement with the trade unions. The total investment represented by the plan was $20 million, of which training accounted for 15%, the quality improvement programme 10%, ship design facilities 20% and infrastructure 55%. The management secured the support and cooperation of the Regional Government of Andalucía for the plan.

Given the new industry environment of crisis and downsizing, and recognizing the strategic needs of the company, management pushed for change. However, the shipyard faced enormous organizational inertia and some factors in the internal environment of the firm were resisting change.

The firm's long history of losses and subsidies from the Government inhibited a positive general response across the company. In an internal opinion poll, the majority of employees recognised the need for changes in the company; nevertheless, only 33% responded affirmatively to the direct question: "*Would you be prepared to change?*" Even worse, only 7% agreed when asked specifically about changing their own functions and methods of working. Regarding their core competencies, the management team mainly specified certain human resources and working methods. Paradoxically, human resources were both the key to revitalization of the firm and its main source of inertia. The emphasis on human resources motivation and skills led to an ambitious training program and to an agreement with the trade unions. The management team identified a key obstacle to change: the difficulty of implementing an effective incentive system, and consequently, to obtain new forms of behavior to reinforce the change. The new training program was a necessary but insufficient condition for the achievement of changes in behavior, principally job flexibility and multifunctionality. The management team and unions had good intentions of changing the compensation system but the status as a state-owned firm effectively prevented agreement on a proper incentive system.

Building complementary assets involved both internal and external processes. Internally, special training, tools and a quality program were developed to enhance the work process. Manufacturing Fast Ferries with aluminium also required the use of large covered areas, much like aircraft hangars, to house the expensive and large aluminium cutting and welding machinery. Apart from new investments in covered workshops, new cutting and welding aluminium lines, computer-aided design and manufacturing (CAD/CAM) and other facilities, they needed to increase training in order to improve productivity and change the traditional culture. "*Involve people more in the company's results*" and "*Change the mentality and performance*" were typical comments by managers on cultural changes needed.

Asked about the main challenges in the acquisition of resources and competencies which would allow continued improvement and process innovation, almost all the barriers mentioned were intangible and related to human resources and learning capability. The only other requirement mentioned was the need to develop a more complex technical end-product and consequently, to control the key suppliers of complementary resources already mentioned. There were also other competencies that were important for change but intangible in nature; notably, the mentality of managers and their learning capability. On many occasions some managers pointed out that the fast ships segment had a lot in common with the aeronautical industry: new materials, new designs and propulsion system and a new business concept—rapid product delivery and customer service. This innovative vision of the management generating new ideas, helped to overcome a reactive mind-set that viewed the problems as consequences of industry maturity and beyond the firm's control. The challenge was to revitalize the shipyard, matching all these changes to new customer requirements and generating superior customer value across the value chain.

Revitalizing: Matching Customers Requirements, Shipyard Capabilities and Suppliers' Resources

Externally, managers sought complementary resources and competencies from new specialized and cospecialized suppliers of key raw materials, such as aluminium, manoeuvring waterjets and equipment. Goals were to establish stable cooperation over time to steer the evolution of new core aluminium technology and reinforce new technology with specialized or cospecialized inputs—waterjet engines, aluminium beams and shell plating, insulating materials, and other typical components of passenger ships. Also, BSS strengthened the value to the customer by offering specific training for the crews of new ships and specific maintenance programs.

The shipyard had to change its main suppliers to build the Fast Ferry. The ability to select and deal with new primary suppliers was highlighted for two

reasons: first, the cost of the materials and services were around 70% of the new product's total cost; second, their resources contributed to the Ferry's value and performance. More than half of the cost of materials and services correspond to four items: main engine, waterjets, aluminium components, and interior ship fittings. Technology, skills and human resources constituted the most important capabilities with which the suppliers complemented BSS's competence to succeed in the Fast Ferries segment.

Trasmediterranea, the shipyard's main customer, helped to identify the key success factors in the buyer's market. Cost containment, though a necessary condition, was not sufficient to achieve a competitive edge in the Fast Ferries segment. Quality and customer service were emerging as the critical success factors. Changes in the sector were identified with more differentiated products. The challenge was to compete with or complement alternative means of transport (particularly short-haul passenger aircraft) and the response was an innovative product—faster, more comfortable, and more technically sophisticated than traditional ships. Trasmediterranea expected the new product to win market share from other forms of transport (aircraft) over short distances (about 50 miles), especially inter-island journeys and those between islands and mainland. The shipyard's Technical Office grasped the confident and positive assessment of Trasmediterranea in order to develop the new product. The company was seen as a pioneer in the building of this kind of ship and the best among its competitors in terms of price and payment terms, quality and after-sales service.

Findings and Practical Implications

The BSS case underpins the general framework earlier described and shows similarities with the competence based view of the firm. In accordance with other empirical studies this case shows that innovative competition is not impossible in mature firms and that firms change by stages. BSS shows also how learning and internal transformation is suited to a mature organization—generating and generalizing ideas with impact, derived from the repository of technologies of the firm.

The case supports the contention that complementary assets are a key element in the change process of reordering and rejuvenating the firm. The importance of complementary resources and competencies—particularly those related to workforce, management and specialized knowledge—should not be underestimated during the renewal process. Acquiring complementary competencies is related to the learning process; it facilitates upgrading current skills and acquiring new ones, using the organization's memory and experience. Complementary competencies are a nexus between the past and the future, building a bridge between peripheral and core competencies. They can help break the bonds of an organization's tradition by transforming earlier small initiatives into later larger ones. The same approach applies to relationships with suppliers and customers, providing more sources of innovation and competitive advantage. Reordering peripheral routines and building and controlling complementary resources, represents a fundamental method of continuous renewal and revitalization of core competencies inside complex organizations, increasing the speed of change, removing restrictive boundaries and overcoming inertia.

Consequently, some implications or key tasks of management to renew mature organizations may be:

- *Building an information system on the core and peripheral competencies of the firm.* Managers must understand the complete bundle of resources and competencies—including technologies—that the firm possesses. Sometimes change fails because it is inconsistent with existing competencies and the context from which it emerges.[20] Exploiting the firm's history as a storehouse of technologies over time contributes to corporate vitality and to creating new resources and competencies. However, information systems must consider technologies from the point of view of strategic change rather than of functional specialists—how they open new market opportunities or change industries, processes and success factors.
- *Using peripheral activities to generate innovations, break inertia and accelerate change.* Managers can work to build a faster means of renewing core competencies of the firm by separating some peripheral activities into different units or projects; changing control and reward systems; and linking peripheral activities to traditional core competencies and customer requirements. The goal is not only to revitalize core competencies but to build them more economically and more quickly than competitors. One way is to use existing peripheral activities of the firm, enhancing them through complementary competencies and through cooperation with customers and suppliers.
- *Using new complementary resources and competencies to reinforce and generalize innovations and ideas.* Obtaining complementary resources, skills and behaviors is a way to stabilize and spread the process of change. Internally, it facilitates gaining acceptance for the new strategy and reducing inertia. It builds a bridge between the past and the future of the firm. Externally, complementary resources also can be built through cooperation with customers and suppliers. This can be a way to obtain advantages, facilitating entry into new product-markets, changing the product design and features, and controlling specialized resources.

Conclusions

The case of the Bazan San Fernando Shipyard presents the experience of a company in a declining industry trying to find new products connected with its basic resources and core competencies. The findings confirm aspects of strategic change covered in the existing literature, referred to earlier in this article. The shipyard reordered some peripheral competencies and these were the sources of internal technical innovations. Nevertheless, new resources and competencies were needed to leverage the change. Thus, complementary assets were developed to enable the shipyard to be competitive, with top management's new mental maps focused on the application of the revitalized core competencies of the firm to new markets.

Innovative competition can renew the mature firm. One method of innovating and changing is moving existing routines and competencies from the periphery to the core and leveraging them with complementary competencies. This move increases the pace of change, reduces the inertia and the risks associated with the destruction of a valuable bundle of resources. To renew mature firms, managers must mobilize resources and reconstruct competencies: experimenting, reordering and revitalizing the organization with complementary competencies. They must search for new market segments related to these competencies and create a faster "*boundaryless*" organization. This means encouraging faster innovation, and building a new interactive and dynamic relationship between customers, the organization and suppliers to encourage mutual value creation.

Appendix

Case Study Methodology

The purpose of the study was to explore the role of resources and capabilities in the strategic change of the Bazan Shipyard in San Fernando (BSS), in Southwest Spain. The basic methodology used was a longitudinal and processual case study during the implementation period of change. Several aspects of this approach are discussed in the literature.[19]. A variety of data sources needed to be used in the study. Historical antecedents and the chronology of change were considered vital—especially from 1988–1997. Archival material—annual reports, internal documents and the industry's statistics—was often used, mostly in the early stages supplying a chronology of change and context assessment. Secondary-sources and publicly-available information were also used.

During 1995 and 1996, a team of three researchers from the Universidad de Cádiz collected data through semistructured interviews with nine top managers in fifteen meetings. Meetings were attended by the functional groups most directly involved in the change process implementation, in order to get a feel for the issues and observe group dynamics. Special attention was paid to three series of questions concerning the implementation process: (1) resources and competencies (tangible and intangible resources, new investments, training and complementary resources and competencies); (2) analysis of and changes to fundamental routines; and (3) the organization's climate for the implementation (barriers against and incentives for change). We also tried using questionnaires and importance scales to measure the extent of attributes such as innovation-alignment and followed up the individual scoring with group discussion. We found that, although the numerical scores were problematic—respondents interpreted the scales differently—there was significant agreement on the diagnosis of problems and the processes taking place within the organization.

The study was complemented by data from four main and new suppliers to the shipyard: Alcan (aluminium), Caterpillar (engines), Kamewa (jets) and UTE Oliver (interior ship fitting) as well as BSS's customers, Trasmediterraneal* and its former customer (the Spanish Navy). The purpose of this second round of interviews was to collect data on the new links between the value chain of BSS and those of its suppliers and customers, from a resource-based point of view. Also, we studied the role of complementary assets in the change implementation. Our written description of the case was circulated within the shipyard for comments and corrections, and for updating to the end of the research period.

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* Trasmediterraneal was the first customer in the new target segment. This Spanish shipping company was in the public sector as was Bazan.

References

1. D. Gertz and J. P. A. Baptista, *Grow to be Great. Breaking the Downsizing Cycle.* The Free Press, New York (1995).

2. J. B. Barney, Strategic factor markets: expectations, luck, and business strategy. *Management Science* **32** (10), 1239 (1986).

3. A. M. Pettigrew, *The Awakening Giant.* Blackwell, Oxford (1985); A. H. Van De Ven, Central problems in the management of innovation. *Management Science* **32** (5), 590–607 (1985); A. D. Chandler, *Strategy and Structure: Chapters in the History of the Industrial Enterprise.* The MIT Press. Cambridge. Massachusetts (1962); K. Lewin, *Field Theory in Social Science.* Harper and Row, New York (1951).

4. L. Zan and S. Zambon, Strategic, Change, and the Strategic Approach: Making Sense in Process, In L. Zan, S. Zambon and A. M. Pettigrew (eds), *Perspectives on Strategic Change.* Norwell, Mass, Kluwer Academic Publishes, Chapter 1, pp. 1–34 (1993)
5. R. R. Nelson and S. Winter, *An Evolutionary Theory of Economic Change.* Cambridge, Harvard University Press (1982).
6. E. T. Penrose, *The Theory of the growth of the firm.* London, Basil Blackwell (1959); B. Wernerfelt, A Resource-based view of the firm. *Strategic Management Journal,* **5**(2), 171–180 (1984); R. M. Grant, The resource-based theory of competitive advantage: Implications for strategy formulation. *California Management Review* **Spring** 114–135 (1991); J. B. Barney, Firm Resources and Sustained Competitive Advantage. *Journal of Management* **17**(1), 99–120 (1991).
7. D. Leonard-Barton, Core Capabilities and Core Rigidities: a Paradox in Managing New Product Development. *Strategic Management Journal* **13** Special Issue Summer, 111–125 (1992).
8. J. M. Utterback and W. J. Abernathy, A Dynamic Model of Process and Product Innovation, *Omega, The International Journal of Management Science* **3**(6), 639–656 (1975).
9. D. Ulrich, Profiling organizational competitiveness: Cultivating capabilities. *Human Resource Planning* **16** 1–17 (1993); P. Bate, *Strategies for Cultural Change.* Butterworth Heinemann, Oxford (1994); T. Jick, Accelerating change for competitive advantage. *Organizational Dynamics* **24**(1), 77–82 (1995).
10. R. Garud and P. Nayyar, Transformative capacity: Continual structuring by intertemporal technology transfer. *Strategic Management Journal* **15,** 365 (1994).
11. C. W. Baden-Fuller and H. Volberda, Strategic Renewal in Large Complex Organisations: A Competence Based View. Work Paper, *Strategic Management Society,* November, Phoenix, Arizona (1996).
12. D. Ulrich, M. A. Von Glinow and T. Jick, High-impact learning: Building and diffusing learning capability. *Organizational Dynamics* **22**(2), 52–66 (1993).
13. J. M. Stopford and C. W. Baden-Fuller, Creating corporate entrepreneurship. *Strategic Management Journal* **15,** 521–536 (1994); C. W. Baden-Fuller and J. M. Stopford, *Rejuvenating the mature business.* Routledge, London, 2nd Edition (1994).
14. Gertz and Baptista, *op. cit.*
15. D. Ulrich, M. A. Von Glinow and T. Jick, *op. cit.* p. 60.
16. J. M. Stopford and C. W. Baden-Fuller, *op. cit.*
17. Gertz and Baptista, *op. cit.*
18. D. J. Teece, Profiting from Technological Innovation: Implications for Integration, Collaboration, Licensing, and Public Policy. In D. J. Teece (ed.), *The Competitive Challenge. Strategies for Industrial Innovation and Renewal.* Harper & Row, Publishers, New York, pp. 191–193 (1987); D. J. Teece, R. Rumelt, G. Dosi and S. Winter, Understanding corporate coherence. Theory and evidence. *Journal of Economic Behavior and Organization,* **23,** 1–30 (1994).
19. R. K. Yin, *Case study research. Design and methods.* Second edition. Sage, California (1994); K. Eisenhardt, Building theories from case study research. *Academy of Management Review* **14**(4), 532–550 (1989); K. J. Klein and J. S. Sorra, The Challenge of Innovation Implementation. *Academy of Management Review* **21**(4), 1055–1080 (1996).
20. R. Whipp, R. Rosenfeld and A. Pettigrew, Culture and competitiveness: Evidence from two mature UK industries. *Journal of Management Studies* **26**(6), 561–585 (1989). D. J. Teece, G. Pisano and A. Shuen, Dynamic capabilities and strategic management. *Strategic Management Journal* **18**(7), 509–533 (1997).

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