



Dynamic capabilities: top executive audits and *hoshin kanri* at Nissan South Africa

Barry J. Witcher and Vinh Sum Chau

Norwich Business School, University of East Anglia, Norwich, UK, and

Paul Harding

TriQ Cooperation Business Development, South Africa

Abstract

Purpose – The purpose of this paper is to examine the use of top executive audits (TEAs) as part of *hoshin kanri* (policy management) at Nissan South Africa (NSA). It relates these to the emerging importance of core competencies in the resource-based view of strategy to discuss “nested” sets of dynamic capabilities and superior performance.

Design/methodology/approach – The case study of NSA is considered in terms of how the firm defines its core areas, evaluates its business methodologies and management philosophies, and conducts its diagnosis of management. This was through real time internal company observation during an intensive phase of organizational change and documentation supplied by a senior manager.

Findings – The style of TEAs at Nissan is related to the concepts of “core competency” and “dynamic capability.” The core business areas of NSA are organization-wide competencies necessary for competitive success, and the management of these is shown to be most effective in the form of a TEA, which in the *hoshin kanri* form, is arguably a nested set of dynamic capabilities.

Originality/value – The paper concludes that *hoshin kanri* and TEAs are used at Nissan as a higher order dynamic capability to develop both core competences in key areas of the business, and core capabilities in terms of its corporate methodologies and business philosophies. The recovery of Nissan during the East Asian Crisis of the late-1990s was the result of improved productivity practices, such as the uses of *hoshin kanri* and TEAs, and not just of economic recovery.

Keywords Hoshin Kanri, Strategic management, Executive functions, Competences, Automotive industry

Paper type Research paper

Introduction

This paper takes its perspective from strategic operations management, particularly the resource-based view of strategy, to explore the use of dynamic capabilities at Nissan. Dynamic capability and resource-based theories have recently emerged as important frameworks for understanding the strategic operations of organizations (Slack *et al.*, 2004; Bourne *et al.*, 2003; Pandza *et al.*, 2003). Dynamic capability theory addresses the lock-in issue associated with the rigidities of firm-specific strategic resources and the formation of core competences; it has been used extensively in the extant literature for diagnosing the management of company resources and competitive advantages (Ordanini and Rubera, 2008; Smart *et al.*, 2007). This paper concerns the general management role of top managers and executives in auditing strategic goals at an operational level. Top managers and executives include corporate CEOs and (in Japan) corporate “presidents.” However, there have only been a few



in-depth and dedicated studies of firm-specific dynamic capabilities, particularly in the context of operations management (for a review, see Dangayach and Deshmukh, 2001). The most widely used example is probably that of the Toyota Production System (TPS) (Ohno, 1988) in strategic operations management. However, we believe such examples are partial and that real competitive advantage is sustained through complex sets of dynamic capability hierarchies.

Top executive audits (TEAs) involve executives and senior managers as auditors of the business methodologies and management philosophies used to strategically manage organization-wide operational effectiveness. This activity is instrumental as a learning activity for strategic management, particularly to inform understanding of operations, which helps the top level to focus the organization on its strategic and cross-functional priorities. TEAs are associated with an approach used to deploy strategy in daily management called *nichijo kanri* (fundamental general management) and *hoshin kanri* (policy management). In particular, we find that *hoshin kanri* is a key high-order firm-wide dynamic capability, within which second-order dynamic capabilities are nested. Since the East Asian financial crisis of the late-1990s, Nissan has achieved a major turnaround in its strategic and operational effectiveness, which are important components of dynamic capabilities. We conclude that, as enterprises with stronger dynamic capabilities are more entrepreneurial (Teece, 2007) and flexible, a large part of this success results not just from economic circumstances, but also from the firm's ability to manage change effectively.

We begin this paper from the perspective of the resource-based view and then the importance to it of dynamic capabilities. After this, we provide a brief explanation of *hoshin kanri* to show how a TEA approach fits into strategic and general management. This is followed by the example of practice at Nissan South Africa (NSA), which uses TEAs to understand how the business methodologies and management philosophies of the firm are being used to manage the core areas of the business. This provides a check for top management on how its strategic goals are being managed at an operational level. The research is based predominantly on a senior manager's experience of the process of organizational change which involved the implementation of TEAs. Hence, data were collected from both internal company documentation during, and retrospectively from, the experience of a senior manager of NSA who supervised part of the change programme. Drawing from the NSA case study, the paper ends with a discussion of the significance of TEAs to strategic and general management thinking. In this, we explore the connection of TEAs to dynamic capabilities in terms of NSA's organization-wide core competencies and functional areas.

The resource-based view of strategy

Over the last 20 years, the most influential school of strategy to emerge in strategic management is the resource-based view of the firm. A central issue has been the rigidity of core competences, but a promising solution could be dynamic capabilities: the use of management approaches to review and develop core competences over time.

The idea of strategic (rather than economic) resources is based on a realization that resources may be characterized by being firm-specific and difficult for rivals to buy or copy (Wernerfelt, 1984; Rumelt, 1984; Barney, 1986). That resources may have a strategic value to a specific firm that is different to their market value is discussed in Penrose (1959), where she argues that free resources have a strategic value to managers in influencing the direction and growth of the firm. She argues that "resources" should be broadly defined for

economic analysis. Penrose's contribution is one of the first managerial perspectives to emerge within the discipline of economics. On the whole, however, the contribution of economics to studies of management is conservative. The resource-based view of the firm is primarily an evolutionary perspective that plays down the role of firm-specific managerial intentionality in sustaining long-term strategic advantage (Nelson and Winter, 1982). The normative implications of evolutionary theory tend more to the identification of general (even naturalistic) behaviours rather than to clear-cut prescriptions for the individual firm (Dosi and Malerba, 1996). The resource-based view of strategy, on the other hand, gives managerial intentionality a more central place, especially in the professional management literature (Hamel and Prahalad, 1994; Collins and Porras, 1994; Ghoshal and Bartlett, 1997).

According to both views, strategic resources are understood as tangible and intangible assets that when combined help to constitute a firm's competitive advantage. The literature emphasizes the nature of the firm as a cognitive system, characterized by idiosyncratic and context-dependent competences that are core to the strategic purpose of the firm. These are conditioned by hierarchical capabilities, or sets of routines involved in the management of the firm's core business processes, those activities that are central to the creation of value. Competences typically involve complex working and the development of specialist knowledge, and firms may become locked into a trajectory that managers find is difficult to change effectively in the short to medium term (Tushman and Anderson, 1986; Dierickx and Cool, 1989). In this sense, core competences may become risky if they are likely to turn into core rigidities when a firm finds it needs to respond flexibly to major external change (Leonard-Barton, 1992).

Prahalad and Hamel (1990) argue that this risk can be minimised if core competences are used to manage core products that can be used to serve unrelated markets. They define core competences as the abilities of employees to learn how to develop and manage strategic capabilities, especially how to integrate different technologies through cross-functional management and collaborative working. These competences can be used to build core products: for example, Canon uses its expertise in optics to serve markets as diverse as cameras, copiers, and semi-conductor equipment. Canon's competitive advantage is thus an internal capability not easily seen or understood by its rivals. There is no evidence, however, to indicate that Canon's senior managers consciously follow a core competences-based strategy as such. Canon does (intentionally) use collaborative forms of cross-functional management, but this is facilitated through *hoshin kanri* (Japanese policy management); in this sense, it is Canon's strategic capabilities rather than core competences that constitute the higher order activity. Most of the commentary on the Prahalad and Hamel work misses the point that it is not the core competences themselves that provide the flexibility but how Canon uses its core capabilities dynamically to manage core competences that really counts (Stalk *et al.*, 1992).

Dynamic capabilities

The most influential article on dynamic capability and strategic management is that of Teece *et al.* (1997). They use the term "dynamic" to refer to a capacity to renew competences to achieve congruence with a changing business environment; "capability" is how strategic management adapts to, integrates, and reconfigures internal and external organizational skills, resources, and functional competences, so that they strategically fit the requirements of change. Dynamic capability is necessarily a high-order one that

influences lower-level capabilities and competences. As they explain, it is possible to imagine a firm as a hierarchical nest of dynamic capabilities inserted into each other like a set of Russian dolls (known as a “matryoshka,” to use the corresponding Russian term). An important feature is intangibility. Dynamic capabilities are difficult to understand since they work differently and therefore they cannot be transferred, in a complete sense, between different firms. Thus, they provide a foundation for sustaining competitive difference over time (Teece, 2007).

Teece *et al.* (2000) attach a detailed description of Clark and Fujimoto’s (1991) account of production activities in the Japanese automotive industry to their original paper. This identifies the TPS, an advanced form of lean production, as a high-order dynamic capability. In fact, while Teece *et al.* (1997, 2000) do not point it out, the TPS is only one dynamic capability at Toyota. *Hoshin kanri* is used to manage and integrate not only the TPS, but also TQM, cross-functional management structure, and the integration of the supply chain. Following the Teece *et al.* definition these are all dynamic capabilities, and while not snuggling together doll-like, they do inter-relate within the higher-order *hoshin kanri* system.

Eisenhardt and Martin (2000) define dynamic capabilities more simply as the organizational and strategic routines that firms use to achieve new resource configurations as markets change. They argue that dynamic capabilities are tools, in the form of specific and identifiable processes. These include cross-functional activities such as strategic decision making, product development routines, co-ordination processes for internal collaborations, knowledge creation, alliance and acquisition processes, and market exit routines. It is the usual mechanisms for learning that are used to develop these capabilities. Eisenhardt and Martin agree that dynamic capabilities are idiosyncratic, but these lie in the detail of their application. Common features exist that can be benchmarked and shared as best practice between firms: just as there are better and worse ways to hit a golf ball, there are more or less effective ways to execute dynamic capabilities. Thus, dynamic capabilities cannot be longer-term sources of competitive advantage in themselves, because other firms can learn them. Selecting resources to build resource configurations will achieve only a series of temporary competitive positions. However, a series of reconfigured resource combinations can work to sustain longer-term advantage. In a sense, this is suggested when Hamel and Prahalad (1989) argue for a series of medium-term challenges to achieve longer-term strategic intent.

Eisenhardt and Martin (2000) suggest that the management of resource configurations is potentially different for degrees of external change. In moderate-velocity markets dynamic capabilities may be based on analytic and stable processes, but in high-velocity cases, dynamic capabilities may be based on *ad hoc*, simple, highly experimental and even fragile processes. March (1991) draws a distinction between explorative learning (the pursuit of new knowledge) and exploitive learning (the use of experience and existing knowledge). In high-velocity change, dynamic capabilities to facilitate explorative learning may be more important than for that of moderate velocity, when exploitive learning is useful. Benner and Tushman (2003) argue that if dynamic capabilities are to combine both forms of learning, then ambidextrous organizing structures are necessary. Incremental change achieved through TQM should be protected in these structures from the dysfunctional impact of explorative learning. The precise mix is likely to be difficult to specify (Levinthal and March, 1993). One feature of *hoshin kanri* is that it combines the management of

Methodology: a case study approach

For this paper, we use a case study approach of enquiry into the nature of Nissan's specificity, with the purpose of relating it to establish a unifying understanding of dynamic capabilities. This is in essence an exploratory investigation, which raises insights that can hopefully be used to inform propositions for further theory development and more effective practice (Eisenhardt, 1989; Miles and Huberman, 1984). Priem and Butler (2001) argue the resource-based view literature is poor at discriminating between resources that can be practically manipulated and those which are beyond managerial control. This may be, as Jarzabkowski (2005) suggests, because resource-based view research has resorted to positivistic methods, which are too coarse to access in-depth understanding of the foundations of firm specificity and its link to competitive difference. Detailed, exploratory research for understanding firm specificity is better served through in-depth case study approaches, and better still with real time longitudinal studies (Chau and Witcher, 2005). The value of deriving generalizable evidence in statistically based studies is doubtful if the nature of strategic resources lies in their uniqueness, and perhaps the strategic management literature marginalizes the managerial micro-foundations or activities that go on in organizations (Johnson *et al.*, 2003).

According to Hoopes *et al.* (2003) the resource-based view may assume what it seeks to explain and defines rather than hypothesizes. There is a tendency for scholars to over-simplify resource-based view concepts, and thus squeeze away the quintessential intangibility of practice that makes the resource-based view so insightful for understanding strategic management. Hence, our study involved an in-depth investigation through a prolonged period of Nissan by observing the decision-making processes, combined with internal in-depth company documentation.

Data collection for our research concerned primarily observations from the manager actively responsible for implementing the specific *hoshin kanri* programme at the particular branch of Nissan over the two-year period 1997-1999. These observations were not only journaled for organizational learning purposes, but also for the personal research interest of the manager for better understanding of the transferable practice of *hoshin kanri* (Harding, 2000). Hence, this is a semi-retrospective ethnographic study as the present paper was not the intended outcome at the time of the data collection, but the observer did have in mind a researchable outcome. The observations included such key leadership, implementation and quality categories as understanding, deployment, census agreement, productivity improvement, and even strategic control, etc. While the (real time) observations were made and recorded on an *ad hoc* basis, at roughly weekly intervals of 4-6 pages, they did summate to a considerable quantity of about six full arch-lever files; and from this, it became obvious how *hoshin kanri* was operable in the specific context of Nissan. The triangulated company documentation comprised staff reports, appraisal documentation, team briefings, printouts of slideshow presentations, and spreadsheet collations of performance data. Reports and externally published articles about Nissan were also collected retrospectively.

Data analysis concerned compiling issues deemed to be important from the documentation by identifying patterns of their occurrence. Those from the general

manager's observations were used as the basis of the data, which formed categories for a matrix structure of these observations against important issues from the other company and externally published documentation about Nissan. From this, it became more and more apparent that the enabling and core competencies of Nissan relating to the *hoshin kanri* implementation were, we believe, critical components that make up nested sets of dynamic capabilities. We now explain the background of Nissan, key observations, and why we believe this is so.

The Nissan Motor Company (NMC)

The NMC was founded in 1933 as the Automobile Manufacturing Company, and had great success with its Datsun brand (until the early 1980s it was known as Datsun in the USA). Along with other Japanese manufacturers, Nissan successfully competed on quality, reliability, and fuel efficiency; by 1991 it was operating very profitably, producing four out of the top ten cars in the world. During the East Asian financial crisis in the late 1990s Nissan incurred sizeable debts from unwise keiretsu and property investment, and as a result entered into an alliance with Renault, when a new president and CEO was appointed, Carlos Ghosn, who embarked on a revival plan. This involved a major review of Nissan units including its overseas' plants. One of these was NSA, a car assembly plant that since 1993 had been part-owned by Nissan, but which after the alliance in 1999, took full control and appointed a new Japanese CEO.

The change in ownership and the appointment of the new CEO offered a rare research opportunity to explore how Nissan's dynamic capabilities were different. It was clear from the outset that the new CEO paid much more attention to operating detail, and wanted to see actual results, even if they were not as predicted or desired. It was at this point he introduced a comprehensive form of *hoshin kanri*. While Nissan plants in Japan had used *hoshin kanri*, it had not been used extensively overseas. For example, Nissan (UK) only introduced it after the arrival of the 1999 revival plan, although many of its first-tier suppliers were already using the approach (Witcher and Butterworth, 2001).

Hoshin kanri

Hoshin kanri, which translates as policy deployment or policy management, is an organization-wide business process for the management of top management goals, managed as an annual plan-do-check-act (PDCA) cycle, sometimes called the Shewhart or Deming (1986) cycle. *Hoshin kanri* is used by most large Japanese firms operating in international markets. Some Western-owned firms use their own versions, such as: "hoshin planning" (Bank of America), "policy deployment" (Proctor & Gamble), "management by policy" (Donnelly), "managing for results" (Xerox Corporation), "strategy or goal deployment" (Caradoc) and "strategy into action" (Unilever). The details of these approaches vary, but in general they follow common business philosophies and methodologies (Akao, 1991; King, 1989). Nomi (1991) writes that *hoshin kanri* began as a corporate control system for the cross-functional management of strategic objectives to ensure that functional activity worked in accordance with overall strategy.

Hoshin kanri is used to involve the whole firm in breakthrough, or rapid, change. The principle is that if everyone makes some contribution to a hoshin, then the firm as a whole will have moved further forward to an extent that otherwise would not be possible through normal working. The content of hoshins varies considerably for

different firms. Some relate specifically to a pressing issue, such as to deal with new competition or to meet a financial crisis. Hoshins are generally used, however, to further medium-term objectives, such as to develop organization-wide competences and to achieve growth. Their design is typically framed to encourage innovatory and creative thinking, for continuous improvement (*kaizen*), sometimes to re-think approaches to daily management, and it is probably the secret to the success of Japanese quality management (Imai, 1986).

Hoshins are determined at the same time as the senior level sets cross-functional improvement targets. These are not innovative in the sense that hoshins are, but are determined incrementally to ensure that the functional areas of the business proactively manage the core business processes (although incremental adjustments to targets can sometimes lead to substantial process change). The annual changes in these targets are also linked to a firm's need to progress its medium-term plan. Japanese firms call these targets control items, because they are formulated to keep the core processes fully under control and to progress strategically-linked targets in daily management. The power of the combined determination and *hoshin kanri* management of objectives in daily management makes Japanese continuous improvement a very effective driver of operational effectiveness. This was never fully appreciated in the transfer of TQM to the West (Lillrank, 1995; Cole, 1998).

Incremental improvement and hoshin-related targets are expressed in a common language of QCDE: where "quality" covers customer targets; "cost" covers efficiency and financial objectives; "delivery" includes objectives concerning internal processes, logistics and innovation; and "education" includes the development of human resources, morale and safety. This QCDE grouping for objectives began in the early years of *hoshin kanri*, when cross-functional management committees were established at Toyota and Komatsu: each category was managed by a corporate level committee to drive the review of objectives in daily management (Koura, 1993). The QCDE scheme is universal in Japanese and many Western *hoshin kanri* firms. Its form is similar to the four perspectives of the well-documented balanced scorecard; in fact the scorecard was developed from ideas used in hoshin planning at analog devices (Kaplan and Norton, 1993).

Our research in *hoshin kanri* (Witcher, 2003; Chau and Witcher, 2005) indicates that *hoshin kanri* is a strategy implementation and execution system that has four phases that result in organization-wide focus-alignment-integration-review (FAIR), which corresponds to the Deming PDCA cycle. This representation of *hoshin kanri*'s annual cycle is shown figuratively (Figure 1), and was developed in detail elsewhere (Witcher and Butterworth, 1999, 2000, 2001). It starts when a top management acts to focus organization-wide attention on the top management goals, translated as annual hoshins. This is done at the senior level in combination with setting "control items." These are incremental objectives concerned with (cross-functional) operational effectiveness in the core areas of the business. In part they are designed to ensure that cross-functional concerns are managed harmoniously in the functional areas. The second phase involves working out during annual planning how the hoshins and control items will be achieved and aligned with other (typically local) priorities and management systems, especially those used to manage resources, responsibilities and incentives. The development of hoshin-related objectives at this time is always done with the strategies (means) for achieving them. The third phase is the integration of hoshin-related activity and control items in daily management routines and/or alongside as projects, in ways that make the

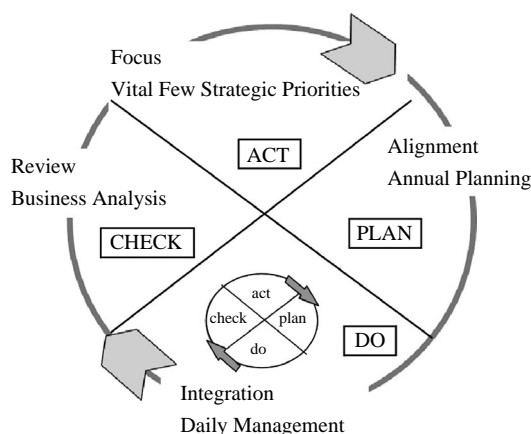


Figure 1.
The FAIR framework of
hoshin kanri

hoshins subject to checks and action through PDCA-led TQM. The fourth phase involves a review by senior management of the organization's effectiveness in achieving its hoshins and the control objectives. This is the TEA component of *hoshin kanri*, and it provides feedback for the senior level to use to inform the next focus phase when the FAIR cycle starts over. In the context of Japanese quality management Kondo (1988) argues that the purpose of the audit is for top management to see if action is required on its strategy. However, our research suggests TEAs do more than review strategy, as they are also used to consider the nature of how management is carried out, including the management of *hoshin kanri* itself.

Top executive audits (TEAs)

A TEA relates specifically to the "review" part of the FAIR framework. A TEA is an internal audit conducted by top level management into the management of the organization's (especially operational) processes; it is mostly associated with Japanese management, particularly *hoshin kanri* practice (Witcher *et al.*, 2007). In the West, a conventional "internal audit" is put into operation to improve management efficiency, but this principally aims to expose financial irregularities and errors, and is typically conducted by accountants and other specialist audit staff. Conventionally, the top level of management is rarely involved at an operational level. Business excellence models, including the EFQM Excellence Framework (EFQM, 1999) and the Baldrige Quality Criteria (NIST, 2003), and other performance management frameworks (for example, Fitzgerald *et al.*, 1991; Neely and Adams, 2001) are widely used in the West but they fail to facilitate top level involvement with operational competences and this may be a cause of a strategy disconnect between senior management and the rest of the organization (de Holan and Mintzberg, 2004).

A TEA is broader than a conventional review and involves a top level or senior management team, in a review and evaluation, especially of the effectiveness of core organization-wide business processes. As part of *hoshin kanri* the audit often goes under names that connote the audit's importance to the senior level: for example, the President's Diagnostic, or Top Shindan Audit (which translates from Japanese literally as "top executive audit").

The role of a TEA in *hoshin kanri* is to provide the senior level with an understanding of the way its goals are being managed within the context of annual planning and daily management. This purpose is reflected in NSA's definition:

A TEA is defined as a detailed audit performed to obtain an overview of each activity that is supporting the company's stated strategic goals and objectives. The senior executive of the company always conducts the audit, which is focused on an individual's function and proposed improvement activity (Nissan, 2003).

Senior managers and operations

The nature of involvement of top managers at an operational level is relatively under-researched. The general view is that involvement should be qualified; for example, Kaplan and Norton (1996), while observing that strategic review plays a critical role in an executive team's strategic-learning process, make the point that senior managers should not be involved in daily management issues. Warning from experience at Kenyon Stores they criticise senior managers who:

[...] monitor performance relative to plan [...] to initiate short-term actions that would bring the organization back into compliance with plan [...] [instead senior managers need] a process to learn whether organizational strategy [is] working and being implemented effectively (Kaplan and Norton, 1996, p. 264).

They argue that senior managers should be proactive only on longer-term corporate objectives and with other issues only by exception. The distinction drawn between "strategic" and "operational" issues is made for most of the strategic and management control literature; in particular, it is argued that operational issues are ones subject to single-looped (closed-system) rather than double looped (open system) learning associated with strategy (Anthony, 1965; Ackoff, 1971; Simons, 1995). This tendency is evident in the strategy literature where a view is prevalent that strategy is based on sustaining a competitive difference that rivals find difficult to imitate. This contrasts with those business strategies, especially Japanese derived approaches, such as TQM and lean working, which can be benchmarked and so do not sustain a long-term unique competitive position (Porter, 1996).

The extent to which reviews of progress at an operational level can throw light on an original high-level strategic decision is problematic anyway, particularly if the decision was made at a level some distance from operational experience. The original premise may be only poorly understood with hindsight. However, review does provide a check on the current status of on-going objectives and can be useful to evaluate longer-term strategic objectives and their underlying assumptions and, in principle, senior managers should be able to pick up any need for changes: so in this sense a constant and regular review of current status is at least as important as the grounds for the original decision. However, it is recognized that once started, projects and objectives often take on a direction and a momentum of their own. The danger is greater when they are championed by powerful vested interests, when work is likely to create its own objectives for existence, which Simon (1976) calls "intermediate objectives," and Hofstede (1976) points to the difficulties for subordinates to provide feedback if this seems to question authority.

The literature that focuses on the process of review is limited. The importance of organization-wide review is implicit in much of the prescriptive work about strategic

context and transparency (most notably, Ghoshal and Bartlett, 1994; Hamel and Prahalad, 1994). Much of this literature is about how senior managers can provide cultures that facilitate and give points of reference for subordinate managers to make their own strategy-related decisions (Westley, 1990; Floyd and Wooldridge, 1992; Dutton and Ashford, 1993), or how senior managers can manage in leadership styles to promote organization-wide learning (Nonaka and Takeuchi, 1995; Senge, 1990). This literature is largely about the role of the senior manager as an enlightened facilitator and much of it is premised on the belief that the role of a senior level manager is severely limited as a rational and deliberate strategic planner (Mintzberg, 1994; Nelson and Winter, 1982). However, if the daily management of top policy goals is poorly understood at the senior level, then the effectiveness of facilitating organization-wide frameworks will be open to question.

***Hoshin kanri* at Nissan South Africa (NSA)**

In 1993, the parent company in Japan introduced the “Nissan Way” to the NSA plant; this was a documented series of formal standards primarily for production control. However, by 1999, when a new CEO was appointed to NSA, only a superficial understanding of Japanese quality management had been achieved among the South African managers, especially of the business philosophies that drive total quality. While Japanese ideas had been accepted, in practice they were interpreted in conventional ways. For instance, continuous improvement to reduce cost was understood by most of the company as a search to eliminate expenditure rather than waste, or “muda,” the activities that do not contribute to customer value. Top management at NSA found itself unable to evaluate whether operational data reported at operational meetings really reflected the true situation in the organization, as much of them proved, on closer investigation, to be distorted or misreported. The newly appointed CEO paid much more attention to operating detail and wanted to see actual results, even if they were not as predicted or desired. So he introduced a more comprehensive form of *hoshin kanri*, which is used by Nissan Motor Ltd (NML) and which used TEAs as a part of its approach. This resulted in the introduction of new business philosophies and management methodologies, which heralded a new organization-wide approach to shop floor and middle management involvement in the management of strategic priorities.

However, before he introduced changes, the CEO conducted audits in every department to understand personally what performance level was being achieved. These audits were designed as preliminary investigations and were not formally structured as might be the case for a formal quality audit for certified standards. There was no formal check list or report back format. At first it appeared as though these audits were very informal and impromptu but it soon became apparent that they were part of a broader plan. Each division would be scheduled for an audit based on the current level of performance and the impact on the company’s prioritized objectives. About 50 audits were scheduled and conducted with the aim to monitor performance results and the linkage to improvements in the production, as well as service areas that were supporting production. Each level of management and supervision was interviewed by the CEO and the activities that supported each business plan item were assessed for relevance and accomplishment. It was up to each individual being audited to state their improvement activity and listen to advice given and then act upon that advice in order to achieve improved results. There was no direct

criticism, but a discussion about improvement opportunities. If an area had been seen to be successful the CEO would not be patronising but would just comment that the performance to date was “very good.” This paved the way for the introduction of more formal TEAs.

These are formally organized and use a corporate framework. This involves covering 13 core areas of the business, which are:

- (1) *hoshin kanri*;
- (2) daily management (*nichijo kanri*);
- (3) production maintenance;
- (4) standardization establishment;
- (5) productivity improvement activity;
- (6) inspection;
- (7) production control and logistics;
- (8) personnel and labour management;
- (9) cost management;
- (10) quality control, just-in-time management, process control;
- (11) engineer’s capability;
- (12) parts localization; and
- (13) purchasing.

These areas are audited across the whole plant for how the functional areas are managed in terms of seven business methodologies and management philosophies, which within the TEA process are referred to as “diagnostic items.” These are as follows:

- (1) daily control;
- (2) hoshin determination – its review and set up activity for hoshin content;
- (3) coordinating in hoshin development and deployment for policy/business plan and control items;
- (4) establishment of control items;
- (5) implementation – analytical, and problem solving abilities;
- (6) diagnostic: check and action taken; and
- (7) leadership and participation by high-ranking personnel.

These diagnostic items come from a management systems framework derived from NML called the Nissan Plant Management System (NPMS). This is a collection of methodologies and philosophies that when integrated can be used by all the Nissan assembly plants operating worldwide. NML has produced a “NPMS map” to illustrate these and how they relate to the Japanese parent’s goal that every Nissan plant overseas should aim to become the number one customer satisfaction rated company in its country of operation, labelled in the map (at the top of Figure 2) as “CS NO. 1.”

This represents the overall approach Nissan has to achieve quality and productivity improvements, and works by the consistent use of various benchmarked standard

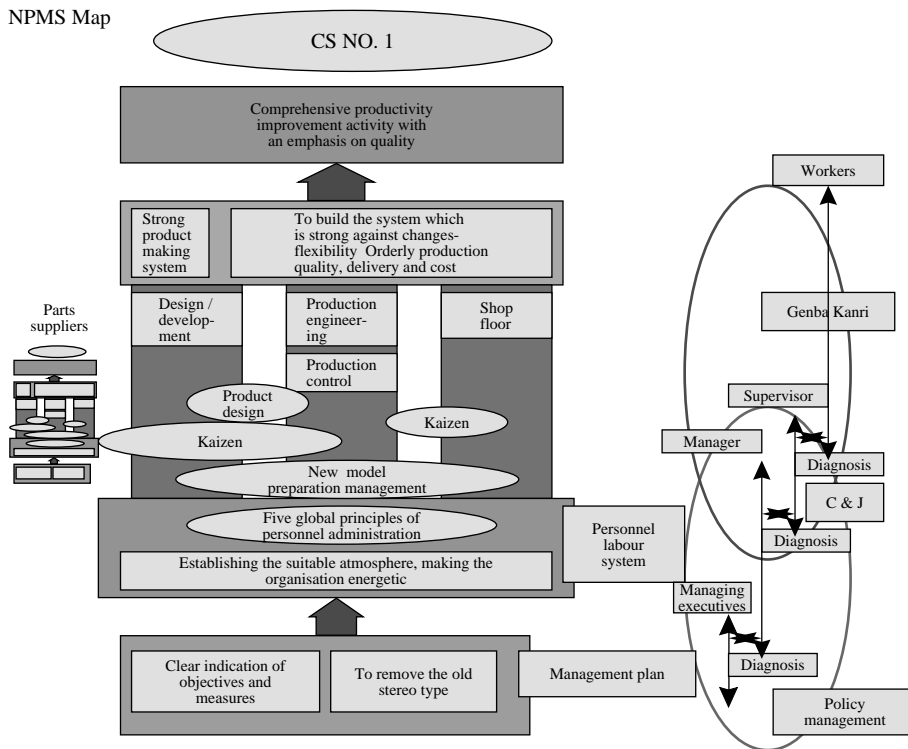


Figure 2.

practices developed by Japanese engineers. The idea is that if daily management, represented here by the top oval on the right of the figure (labelled in Japanese as “genba kanri”) is under control, then *hoshin kanri* (labelled in the figure, as “policy management”) can be used to gain the improvements necessary to remain competitive. Nissan (2003) defines daily management as:

[...] including all the activities that are necessary to achieve the objectives of the daily duties that have been assigned to a specific department or section [...] and it entails keeping the PDCA cycle in perpetual motion [...] *hoshin kanri* is used as [...] a company-wide management process for establishing corporate goals and methodologies [...] breaking them down into divisional, departmental, sectional and individual objectives and activity plans [...] achieved by improvement of the systems and processes through which the work is coordinated [...] and used for developing the organization’s strategic quality, cost, delivery goals.

The TEA activity is shown in the figure as “Diagnosis” within the *hoshin kanri* (that is, the “policy management” oval to the bottom right of the figure). This involves auditing how the business methodologies and management philosophies in daily work are managed to drive the improvement, and used to ensure that business plan objectives are met on time. At shop floor level, once the operating system is under control, improvements can be made through *kaizen* activities or gradual small improvement steps.

The overall purpose of the TEA is then to confirm the current status of the *hoshin kanri* methodology and the strategic objectives; to check the appropriateness of individual objectives and methodologies to the overall strategic objectives, and to gain the required support from the lower levels of supervision. TEAs focus on constancy of purpose by comparing improved methods and results in relation to the seven diagnostic items across functional barriers to determine whether they are focused on the broad company objectives and business plan.

The diagnostic items thus provide the investigative framework used by the CEO and his senior management team, and involve evaluating the level of competency reached with the methodologies and philosophies in each of the 13 core areas. The aim is to understand the operational effectiveness of the business in terms of how processes and activities are being managed rather than to just measure performance *per se*. Overall, assessments are made by the auditing team for each of the core areas on a one-to-five scale of competency, when “one” represents an absence of competency (a “passive state”), through to “five,” when competences are at full proficiency (and when behaviour is “proactive”). In terms of exploitive and exploratory learning, “1” represents an exploitive end of a continuum, while “5” is the explorative and other end of the same continuum of competency (following March, 1991).

This scale is similar to that used by the Crosby (1979) maturity grid, a scheme that offers five stages in the development of company-wide quality management, and which is sometimes referred to as the “step-up diagnosis method.” In Nissan, the idea is used simply and expressed as: “stage one, not aware”; “stage two, aware”; “stage three, starting”; “stage four, getting there,” and “stage five, arrived.” This scale is used by the auditor to summarize progress on the condition of the diagnostic items found in the core capabilities. In the words of a senior manager:

[...] only after reaching step-up level four on all categories of both the philosophical and functional levels would Japan consider an overseas company has implemented the Global Nissan Way philosophy successfully.

An example of the audit of a core area: NSA’s *hoshin kanri*

The status of competency for each of the diagnostic items is judged against a benchmarked series of standards (across all the Nissan plants) specified through the engineering department at head office, NML. These provide guides to what competency and practice should look like for each of the five stages. So, for example, taking one of the core areas, *hoshin kanri* (that is, the management of *hoshin kanri* itself), and for one of its diagnostic issues, “hoshin determination – its review and set up activity for hoshin content,” the five stages are described as follows:

(1) *First step:*

- Hoshins are contained in slogans meant for everybody. Measures are not determined even though objectives exist.

(2) *Second step:*

- Hoshins resulting from precise definition of desired objectives.
- Not concentrated on the vital subjects in this year.
- Objectives and measure have been determined.
- Measures determined without understanding present situation.

(3) *Third step:*

- Accurate formation of aim arrived at through distillation of the year's important points.
- Annual plan and mid-term plan (three years) are not matched.
- Understanding is present and is related to objectives, which establish measures.
- No analysis done, but have decided measures through experience.

(4) *Fourth step:*

- Emphasis is on the formulation of hoshins with solutions given for important problems, based on review.
- Annual plan and mid-term plan are matched.
- Set up measures by using QC method for grasping problem.
- Procedure of hoshin determination has been laid down as rule.

(5) *Fifth step:*

- Formulation of the year's hoshins, which bear a relation to middle term plans.
- Understood present situation, make clear contribution rate of each factor.
- Revision of hoshins is appropriately being done.

The eventual condition and level of competency for NSA's hoshin determination part of *hoshin kanri* were judged at a level of 4.5 – a level of “getting there.” Overall, on all of the seven diagnostic items, the policy management core area was judged to be 4.7, which in fact made its *hoshin kanri* one of the better managed of the Nissan group (the publication of the TEA results for NSA included benchmarks that allowed a limited comparison with other Nissan plants). While NSA's *hoshin kanri* is “getting there” it still has yet to arrive and the audit results included a needs summary (this was done for each of the core areas) to advise about the needs that should be addressed over the coming year. So for *hoshin kanri* they included the following advice for improvement to:

- clarify the main activity, to become more priority oriented and to reduce the number of control items;
- clarify responsibility and accountability; and
- follow up the last actions at review time.

Balancing priorities is important if *hoshin kanri* is to be effective. This requires a managed system of review that is based clearly on understanding the importance of the vital few hoshins, and how they trade-off against the lower priority control items, especially in terms of follow-up activities. To work effectively individuals have to be responsible for the hoshin objectives to ensure, among other things, that review takes place and follow-up action is adequately managed to PDCA-principles. The interdependency of hoshin and control items is such that follow-up action may involve changes to existing standards, when hoshins may have to be developed further and sometimes fundamental changes need to be made to the core areas. The effectiveness of prioritization in review at an operational level is key for coordinating

hoshin and incremental (control item-based) improvement if the organization's core areas of activity are to be kept under control.

Discussion

The use of a Crosbyian framework and scale suggests the aim for the organization is to pass an examination. The purpose, however, is that the auditing activity and the processes involved, serve to help top managers manage their goals more effectively, in particular, to stimulate mutual discussion between senior managers and the people who implement the goals at an operational level. The aim is to help them think proactively (the fifth stage) to find more effective means to improve management. While the nature of discussion is diagnostic and is based on facts that apply to current status, it is not so much about taking corrective action as how to explore possibilities for making operations effective in carrying out the strategic purpose of the organization. The audit team takes part in plant tours and walkabouts, where employees are met informally, involved in discussions, and participate in roundtable discussions. During this activity top managers will suggest things, but this is considered advisory in character. Specific managerial skills such as active listening, questioning, probing and coaching are crucial to the auditors in striving for common understanding. Kondo (1988, pp. 35F15-16) argues the educational character of the audit is considerable and "offers the best chance for top management to grasp systematically those facts that may reflect on themselves."

The visible involvement of senior management in these audits sends messages to other employees about top level commitment to strategy and strategic objectives. The involvement of people at other levels also acts to reinforce motivation with regard to company-wide issues, which otherwise daily routines and reports make difficult. It can also play an important role for the dissemination of knowledge generally across the organization, particularly when results are relayed at large through an organization's communication media and specialist networks. Kondo (1988), writing about Japanese practice more generally, suggests senior managers often use a theme to motivate participation and to make the process more interesting, such as "how to double productivity in five years," to set a challenge to beat a named competitor: these serve to make the auditing process seem more relevant to competitive conditions. At NSA a three-year theme was used to focus everybody on reducing cost, which was then followed in the next audit by a theme to increase exports. The current status and the competitive imperative were embedded within the hoshins themselves and the priorities they set. A TEA is about how hoshins are managed (and the current basis of facts and enabling conditions), which makes it a proactive rather than a repetitive exercise.

Our research into *hoshin kanri* practice more widely, finds that TEAs take a variety of forms. Many of the Japanese subsidiaries working in the supply chains of large car firms in the UK, for example, carry out a less systematic annual audit (Witcher and Butterworth, 2001). In these the most common and simple approach is for a top management to roll up data from periodic strategic and operational reviews, and to gather additional data based on checklists of issues derived from competitive analysis, and employee and customer data from surveys. Hewlett-Packard conducts surveys of managers to identify and prioritize business issues of current concern, which are reviewed against the status of its business fundamentals or core processes (Witcher and Butterworth, 2000). Some firms use performance excellence models and benchmarking: a good example is Xerox's use of a management model developed

originally from criteria used for Baldrige and the European excellence frameworks (Witcher and Butterworth, 1999). An important advantage of performance excellence models is that they give an easily grasped total perspective. This helps to build a level of strategic transparency for the whole organization, specifying those organizational competencies and capabilities that constitute competitive advantage, and how they should be managed as good or best practice.

The separation of the management of competency from the management of capability is increasingly applied in thinking about strategic management. This is important because, in following the original formulation of a firm's dynamic capability as a central part of strategic management for managing strategic resources (Teece *et al.*, 1997), capabilities place a strong emphasis on role of adapting and reconfiguring resources to achieve congruence with the external environment. In this sense, it is a higher order capability, than a more routine and better understood cross-functional capability, as it concerns the management of the whole organization as an entity, which is primarily the responsibility of the top executive level. It influences other organization-wide but lower-level competences and capabilities.

The Nissan example of *hoshin kanri* sits most easily within the context of the Teece *et al.* (1997) concept of dynamic capability as a higher order firm capability rather than the Eisenhardt and Martin (2000) more modest interpretation of dynamic capability as a (reasonably) well understood cross-functional process. While the examples given in that paper are still strategic they are at the same time more partial than generally situated as dynamic capabilities; for example, they comprise core areas of the business or as we prefer to term them, core processes. However, this more prosaic view of Eisenhardt and Martin is favoured by many from the resource-based view of the firm, for instance, see Winter (2000, 2003) when dynamic capabilities are referred to as "tools" – just ones of many to be found in a strategist's toolbox.

We disagree. Winter, we believe, sees dynamic capabilities rather as like the instruments of a driver's car, but we are inclined to them as more about how the driver drives, driving tests and all. At NSA the 13 core business areas of the plant constitute the organization-wide core capabilities that are necessary for Nissan's competitive success and purpose to deliver the best customer satisfaction in the countries it serves. The diagnostic items (the corporate-wide business methodologies and management philosophies), on the other hand, are its core competences, which are central to the effective strategic management of Nissan. In this sense, a "core competency" at Nissan are those cross-functional management skills that enhance customer value in the key areas of the business, which concern its core capabilities, and which promote an effective management of its strategic (*hoshin* and control item) objectives. The senior level's management of core competences and core capabilities are accomplished through *hoshin kanri* as an integrative learning system, which gives to Nissan's organization a dynamic capability for managing change.

In terms of competitive theory, the defining essence of a dynamic capability is that it can be used at the senior level to deliberately and manifestly make what a firm does differently. Makadok (2001), who takes something from the business model view of strategy, gives examples of the yield management system of American Airlines, Wal-Mart's docking system, Dell's logistics, and Nike's marketing capacity, as examples of difference. These, we think, are outcomes of dynamic capability, not the process. Makadok does not consider these firms in depth. Ironically, the theoretical

speculations of Porter suggest through the value chain (Porter, 1985) and activity mapping (Porter, 1996), concepts that begin to touch on the strategic organization of resources, although these say more about what managers should manage, rather than how they should manage. Perhaps, this is unsurprising given Porter's aversion to Japanese inspired operational effectiveness as strategy.

This is especially so as TEAs bring executives closer to the operations of the organization and help them to understand how the organization is performing to achieve its purpose and the implications for longer term strategic goals. This is more than listening: it is feeling the heartbeat of effective strategic management. *Hoshin kanri* and its use of TEAs work as a high-order capability to provide an organizational framework to develop its lower level strategic resources; its core competences (business methodologies and business philosophies) and core capabilities (the core areas of the business). *Hoshin kanri*, TEAs, core competences and core capabilities, may all be understood as dynamic capabilities, especially in the Eisenhardt and Martin sense, but core competences and core capabilities are lower level capabilities, which are nested within the higher order capability of *hoshin kanri*.

Kano (1993), in a review of *hoshin kanri* in Western firms, suggests that in addition to preparing strategies, firms need to install a system for realizing them, which is only possible with an organization-wide effort. In this sense, *hoshin kanri* is an implementation and execution capability. The extent to which this capability can constitute a competitive advantage in its own right, however, is a moot question. Barney (1991) and Schoemaker (1990) argue that a capability like formal strategic planning, although necessary, cannot by itself be a source of sustained advantage. However, a capability takes different forms in different firms and how this difference is managed is important. Taking Toyota and Honda as examples, Powell (1995) suggests that differences in the adoption of TQM have offered opportunities to create immitigable strategic differences.

We have found that *hoshin kanri* must be continually and reflectively managed at the senior level. *Hoshin kanri* is a loosely coupled framework (Weick, 1976) and while overall direction and priorities are determined top-down, the means to achieve these are developed collaboratively and relatively informally. However, the managerial style of leaders for Western firms and organizations makes the management of *hoshin kanri* fragile. For example, if a key manager slips from a theory Y to a theory X inclination and practice, then the management of a *hoshin* is likely to turn into an old style management-by-objectives. The important point about TEAs, in particular, is that they can be used to avoid this possibility to develop the core competences that are so important to sustaining competitive advantage. *Hoshin kanri*'s subtlety in this regard does a good job in hiding the way it works to dynamically manage strategic resources from rivals – this intangibility is central as an important quality of competitive difference (Teece *et al.*, 1997; Prahalad and Hamel, 1990).

Conclusion

This paper has sought to explicate an example of a high-order dynamic capability used at Nissan to show how TEAs may be used within *hoshin kanri* to review and develop core competences (Nissan's business methodologies and management philosophies) in Nissan's core business areas. We use the terminology of the resource-based view of strategy, in particular the fairly recent idea of dynamic capabilities, to make a conceptual distinction between core competences and the capability of a senior level manager to manage them.

We use the opportunity of change at Nissan to illustrate how this firm used *hoshin kanri* and TEAs as high-order dynamic capabilities to manage both the implementation of strategic priorities and how they were managed using the firm's business methodologies and management philosophies (including *hoshin kanri* itself), which we describe as core competences – that is, “core” to how Nissan manages its strategic purpose.

We argue that *hoshin kanri* and the use of TEAs are of a higher order than other strategic resources; namely, other dynamic and core capabilities, and the core competences themselves. We see, for example, *hoshin kanri* as an integrated framework or a nested set of hierarchical capabilities, which can be used by executive management not only to implement its strategic priorities, but also by using TEAs to sustain its core competences and thus the ability of the firm to strategically respond to change over time. The remarkable recovery of Nissan since the East Asian financial crisis in the 1990s probably owes much not only to the leadership of its senior team, in particular that of Mr Ghosn, but also to a TEA-based form of *hoshin kanri*, which has given to Nissan a form of strategic management that effectively marries the management of the what of strategy with the management of its how in everybody's work.

References

- Ackoff, R.L. (1971), “Towards a system of systems concepts”, *Management Science*, Vol. 17 No. 11, pp. 661-71.
- Akao, Y. (Ed.) (1991), *Hoshin Kanri: Policy Deployment for Successful TQM*, Productivity Press, Cambridge, MA.
- Anthony, R.N. (1965), *Planning and Control Systems: A Framework for Analysis*, Division of Research, Graduate School of Business, Harvard Business School, Boston, MA.
- Barney, J.B. (1986), “Strategic factor markets”, *Management Science*, Vol. 32, pp. 1231-41.
- Barney, J.B. (1991), “Firm resources and sustained competitive advantage”, *Journal of Management*, Vol. 17 No. 1, pp. 99-120.
- Benner, M.J. and Tushman, M. (2003), “Exploitation, exploration, and process management: the productivity dilemma revisited”, *Academy of Management Review*, Vol. 28 No. 2, pp. 238-56.
- Bourne, M., Mills, J. and Faull, N. (2003), “Guest editorial – operations strategy and performance: a resource-based perspective”, *International Journal of Operations & Production Management*, Vol. 23 No. 9, pp. 944-6.
- Chau, V.S. and Witcher, B.J. (2005), “Longitudinal tracer studies: research methodology of the middle range”, *British Journal of Management*, Vol. 16 No. 4, pp. 343-55.
- Clark, K. and Fujimoto, T. (1991), *Product Development Performance: Strategy, Organization and Management in the World Auto Industries*, Harvard Business School Press, Cambridge, MA.
- Cole, R.E. (1998), “Learning from the quality movement: what did and didn't happen and why?”, *California Management Review*, Vol. 41, pp. 43-73.
- Collins, J.C. and Porras, J.I. (1994), *Built to Last: Successful Habits of Visionary Companies*, Harper Business, New York, NY.
- Crosby, P.B. (1979), *Quality is Free: The Art of Making Quality Certain*, McGraw-Hill, London.
- Dangayach, G.S. and Deshmukh, S.G. (2001), “Manufacturing strategy: literature review and some issues”, *International Journal of Operations & Production Management*, Vol. 21 No. 7, pp. 884-932.

- de Holan, P.M. and Mintzberg, H. (2004), "Management as life's essence: 30 years of the nature of managerial work", *Strategic Organization*, Vol. 2 No. 2, pp. 205-12.
- Deming, W.E. (1986), *Out of the Crisis: Quality, Productivity and Competitive Position*, Cambridge University Press, Cambridge, MA.
- Dierickx, I. and Cool, K. (1989), "Asset stock accumulation and sustainability of competitive advantage", *Management Science*, Vol. 35 No. 12, pp. 1504-11.
- Dosi, G. and Malerba, F. (1996), "Organizational learning and institutional embeddedness: an introduction to the diverse evolutionary paths of modern corporations", *Organization and Strategy in the Evolution of the Enterprise*, Macmillan, London, pp. 1-24.
- Dutton, J.E. and Ashford, S.J. (1993), "Selling issues to top management", *Academy of Management Review*, Vol. 18 No. 3, pp. 397-428.
- EFQM (1999), *Introducing Excellence: The EFQM Excellence Model*, European Foundation for Quality Management, Brussels.
- Eisenhardt, K.M. (1989), "Building theories from case study research", *Academy of Management Review*, Vol. 14 No. 1, pp. 532-50.
- Eisenhardt, K.M. and Martin, J.A. (2000), "Dynamic capabilities: what are they?", *Strategic Management Journal*, Vol. 21 Nos 10/11, pp. 1105-21.
- Fitzgerald, L., Johnson, R., Brignall, S., Silvestro, R. and Voss, C. (1991), *Performance Measurement in Service Businesses*, CIMA, London.
- Floyd, S.W. and Wooldridge, B. (1992), "Managing strategic consensus: the foundation of effective implementation", *Academy of Management Executive*, Vol. 6 No. 4, pp. 27-39.
- Ghoshal, S. and Bartlett, C.A. (1994), "Linking organizational context and managerial action: the dimensions of quality of management", *Strategic Management Journal*, Vol. 15, pp. 91-112.
- Ghoshal, S. and Bartlett, C.A. (1997), *The Individualised Corporation: Great Companies are Defined by Purpose, Process, and People*, William Heinemann, London.
- Hamel, G. and Prahalad, C.K. (1989), "Strategic intent", *Harvard Business Review*, May-June, pp. 63-76.
- Hamel, G. and Prahalad, C.K. (1994), *Competing for the Future*, Harvard Business School Press, Boston, MA.
- Harding, P. (2000), "The global Nissan way towards motivation and productivity improvement", unpublished dissertation, MSc Industrial Administration, University of Cape Town, Cape Town.
- Hofstede, G. (1976), "Alienation at the top", *Organizational Dynamics*, Vol. 4 No. 4, pp. 44-60.
- Hoopes, D.G., Madsen, T.L. and Walker, G. (2003), "Why is there a resource-based view? Toward a theory of competitive heterogeneity", *Strategic Management Journal*, Vol. 24, pp. 889-902.
- Imai, M. (1986), *Kaizen: The Key to Japan's Competitive Success*, McGraw-Hill, New York, NY.
- Jarzabkowski, P. (2005), *Strategy as Practice: An Activity-based Approach*, Sage, London.
- Johnson, G., Melin, L. and Whittington, R. (2003), "Micro strategy and strategizing: towards an activity-based view", *Journal of Management Studies*, Vol. 40 No. 1, pp. 3-22.
- Kano, N. (1993), "A perspective on quality activities in American firms", *California Management Review*, Vol. 35, pp. 12-31.
- Kaplan, R.S. and Norton, D.P. (1993), "Putting the balanced scorecard to work", *Harvard Business Review*, Vol. 71 No. 5, pp. 134-42.

- Kaplan, R.S. and Norton, D.P. (1996), *The Balanced Scorecard: Translating Strategy into Action*, Harvard Business School Press, Boston, MA.
- King, B. (1989), *Hoshin Planning: The Developmental Approach*, GOAL/QPC, Methuen, MA.
- Kondo, Y. (1988), "Quality in Japan", in Juran, J.M. and Gryna, M. (Eds), *Juran's Quality Control Handbook*, 4th ed., McGraw-Hill, London, pp. 35F1-35F30.
- Koura, K. (1993), "Administrative aspects and key points of cross-functional management", in Kurogane, K. (Ed.), *Cross-functional Management: Principles and Practical Applications*, Chapter 3, Asian Productivity Organization, Tokyo.
- Leonard-Barton, D. (1992), "Core capabilities and core rigidities", *Strategic Management Journal*, Vol. 13, pp. 111-25.
- Levinthal, D.A. and March, J.G. (1993), "The myopia of learning", *Strategic Management Journal*, Vol. 14, pp. 95-112.
- Lillrank, P. (1995), "The transfer of management innovations from Japan", *Organization Studies*, Vol. 16 No. 6, pp. 971-89.
- Makadok, R. (2001), "Towards a synthesis of resource-based and dynamic capability views of rent creation", *Strategic Management Journal*, Vol. 22 No. 5, pp. 387-402.
- March, J.G. (1991), "Exploration and exploitation in organizational learning", *Organization Science*, Vol. 2 No. 1, pp. 71-87.
- Miles, M. and Huberman, A.M. (1984), *Qualitative Data Analysis*, Sage, Beverley Hills, CA.
- Mintzberg, H. (1994), *The Rise and Fall of Strategic Planning*, Prentice-Hall, London.
- Neely, A. and Adams, C. (2001), "The performance prism perspective", *Journal of Cost Management*, Vol. 15 No. 1, pp. 7-15.
- Nelson, R.R. and Winter, S. (1982), *An Evolutionary Theory of Economic Change*, Harvard University Press, Cambridge, MA.
- Nissan (2003), "Alliance vision – destination", Nissan Motor Company, available at: www.nissan-global.com
- NIST (2003), *Malcolm Baldrige National Quality Program*, National Institute of Science and Technology, Gaithersburg, MD.
- Nomi, T. (1991), "Promotion of hoshin kanri", in Akao, Y. (Ed.), *Hoshin Kanri: Policy Deployment for Successful TQM*, Chapter 2, Productivity Press, Cambridge, MA.
- Nonaka, N. and Takeuchi, H. (1995), *The Knowledge-creating Company*, Oxford University Press, Oxford.
- Ohno, T. (1988), *Toyota Production System: Beyond Large-scale Production*, Productivity Press, Cambridge, MA.
- Ordanini, A. and Rubera, G. (2008), "Strategic capabilities and internet resources in procurement: a resource-based view of B-to-B buying", *International Journal of Operations & Production Management*, Vol. 20 No. 1, pp. 27-52.
- Pandza, K., Horsburgh, S. and Polajnar, A. (2003), "A real options approach to managing resources and capabilities", *International Journal of Operations & Production Management*, Vol. 23 No. 9, pp. 1010-32.
- Penrose, E.T. (1959), *The Theory of the Growth of the Firm*, Basil Blackwell, Oxford.
- Porter, M.E. (1985), *Competitive Advantage: Creating and Sustaining Superior Performance*, The Free Press, New York, NY.
- Porter, M.E. (1996), "What is strategy?", *Harvard Business Review*, November-December, pp. 61-78.

- Powell, T.C. (1995), "Total quality management as competitive advantage: a review and empirical study", *Strategic Management Journal*, Vol. 16, pp. 15-27.
- Prahalad, C.A. and Hamel, G. (1990), "The core competence of the corporation", *Harvard Business Review*, May-June, pp. 79-91.
- Priem, R. and Butler, J.E. (2001), "Is the resource-based 'view' a useful perspective for strategic management research?", *Academy of Management Review*, Vol. 26 No. 1, pp. 22-40.
- Rumelt, R.P. (1984), "Towards a strategic theory of the firm", in Lamb, R.B. (Ed.), *Competitive Strategic Management*, Prentice-Hall, Englewood Cliffs, NJ.
- Schoemaker, P.J.H. (1990), "Strategy, complexity, and economic rent", *Management Science*, Vol. 36 No. 10, pp. 1178-92.
- Senge, P. (1990), *The Fifth Discipline: The Art and Practice of the Learning Organization*, Doubleday, New York, NY.
- Simon, H.A. (1976), *Administrative Behaviour*, 3rd ed., The Free Press, London.
- Simons, R. (1995), *Levers of Control: How Managers Use Innovative Control Systems to Drive Strategic Renewal*, Harvard Business School Press, Boston, MA.
- Slack, N., Lewis, M. and Bates, H. (2004), "The two worlds of operations management research and practice: can they meet, should they meet?", *International Journal of Operations & Production Management*, Vol. 24 No. 4, pp. 372-87.
- Smart, P., Bessant, J. and Gupta, A. (2007), "Towards technological rules for designing innovation networks: a dynamic capabilities view", *International Journal of Operations & Production Management*, Vol. 27 No. 10, pp. 1069-92.
- Stalk, G., Evans, P. and Shulman, L.E. (1992), "Competing on capabilities: the new rules of corporate strategy", *Harvard Business Review*, May-June, pp. 57-69.
- Teece, D.C. (2007), "Explicating dynamic capabilities: the nature and micro-foundations of (sustainable) enterprise performance", *Strategic Management Journal*, Vol. 28, pp. 1319-50.
- Teece, D.C., Pisano, G. and Shuen, A. (1997), "Dynamic capabilities and strategic management", *Strategic Management Journal*, Vol. 18, pp. 509-33.
- Teece, D.C., Pisano, G. and Shuen, A. (2000), "Dynamic capabilities and strategic management", in Dosi, G., Nelson, R.R. and Winter, S.G. (Eds), *The Nature and Dynamics of Organizational Capabilities*, Oxford University Press, Oxford, pp. 334-62.
- Tushman, M. and Anderson, D. (1986), "Technological discontinuities and organizational environments", *Administrative Science Quarterly*, Vol. 31, pp. 439-65.
- Weick, K.E. (1976), "Educational organizations as loosely coupled systems", *Administrative Science Quarterly*, Vol. 21, pp. 1-19.
- Wernerfelt, B. (1984), "A resource-based view of the firm", *Strategic Management Journal*, Vol. 5, pp. 171-80.
- Westley, F. (1990), "Middle managers and strategy: microdynamics of inclusion", *Strategic Management Journal*, Vol. 11, pp. 337-52.
- Winter, S.G. (2000), "The satisfying principle in capability learning", *Strategic Management Journal*, Vol. 18 Nos 10/11, pp. 981-96.
- Winter, S.G. (2003), "Understanding dynamic capabilities", *Strategic Management Journal*, Vol. 24, pp. 991-5.
- Witcher, B.J. (2003), "Policy management of strategy (*hoshin kanri*)", *Strategic Change*, Vol. 12 No. 2, pp. 83-94.
- Witcher, B.J. and Butterworth, R. (1999), "*Hoshin kanri*: how Xerox manages", *Long Range Planning*, Vol. 32 No. 3, pp. 323-32.

-
- Witcher, B.J. and Butterworth, R. (2000), "Hoshin kanri at Hewlett Packard", *Journal of General Management*, Vol. 25 No. 4, pp. 70-85.
- Witcher, B.J. and Butterworth, R. (2001), "Hoshin kanri: policy management in Japanese-owned UK subsidiaries", *Journal of Management Studies*, Vol. 38 No. 5, pp. 651-74.
- Witcher, B.J., Chau, V.S. and Harding, P. (2007), "Top executive audits: strategic reviews of operational activities", *Managerial Auditing Journal*, Vol. 22 No. 1, pp. 95-105.

Further reading

- Schneiderman, A. (1999), "Why balanced scorecards fail", *Journal of Strategic Performance Measurement*, January, special edition, pp. 6-11.
- Witcher, B.J. and Chau, V.S. (2007), "Balanced scorecard and hoshin kanri: dynamic capabilities for managing strategic fit", *Management Decision*, Vol. 45 No. 3, pp. 518-38.

Corresponding author

Vinh Sum Chau can be contacted at: v.chau@uea.ac.uk

To purchase reprints of this article please e-mail: reprints@emeraldinsight.com
Or visit our web site for further details: www.emeraldinsight.com/reprints

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.