

Hoshin Kanri and Total Quality Management

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Abstract: *The paper refers to the Japanese method Hoshin Kanri and aims to understand the usefulness of the Deming cycle (PDCA) to manage the achievement of objectives in strategic planning and continuous improvement of quality. The definitions, principles, and steps through which Hoshin Kanri has the potential to contribute to the continuous improvement of quality management are presented herein after.*

Keywords: *Hoshin Kanri, Policy deployment, PDCA cycle, Total Quality Management*

Introduction

The issue of continuous quality improvement is topical as measuring performance achieved by organizations through Total Quality Management (TQM). The theme of Hoshin Kanri is becoming more and more interesting, focusing on changing management to continually improve quality. An English bibliography researched by [17, 2] mentioned at the level of 2013 approximately. There are 140 publications on the subject (16 books, 23 chapters in books, 91 articles and 10 conferences). The years 1990-1995 reached a peak of publications that corresponded to the same extent to the topic of Total Quality Management in Western countries. Another peak occurred in 2006-2010, when TQM's popularity returned.

Overall, the content and context of literature are little changed at present, and publications almost all fall into the literature on quality management, rather than strategic strategy and strategic management of organizations [18, 16-18]. The most cited work on Hoshin Kanri in English is Hoshin Kanri: Policy Deployment for Successful TQM published by Yoji Akao (1991) - which came to be called the bible of Hoshin Kanri. Initially published in Japanese (1988), the book explains the "impulse to systemize Hoshin Kanri", noting that the term first appears in a 1962 Bridgestone Tire internal document. The first application of the Hoshin Kanri method outside of Japan was presented in the case of Florida Power & Light (the largest American energy company), a company that received Deming Award for Strategic Quality Management solutions in 1989.

1. Why Hoshin Kanri?

Hoshin Kanri is a management method used to strengthen, strengthen the operational strategy and continually improve quality. Despite a significant number of success stories with Hoshin Kanri in many sectors, researchers have paid attention to this issue. The essential problem, especially in the ever changing dynamic and complex environment, necessitates an essential change in how the strategic planning process is conducted. The focus of the strategic planning process must BE changed from the solution of the problems determining which is believed to exist, to define a process responsive to the wicked Characteristics of the assumed problems. This process is dynamic and changes continuously as long as additional learning happens.

Yoji Akao is considered to be the author of the Hoshin Kanri method as a method of strategic planning, a policy of implementing a link between the declared goals of a corporation and the components of the production area with obvious implications for production management. His studies stipulate the conditions for converting the performance requirements of an organization into individual responsibilities. The concepts presented by the author are in fact aware of their performance requirements and personal identification with them for increasing profitability, clarifying the roles of each employee, and defining performance monitoring methods.

The Hoshin Planning Method was developed in the 1960s in Japan (where Hoshin Kanri is used), contributing to the integration of Total Quality Management (TQM) with the business plan of an organization. The main motivation was the need to communicate company policy to all members of the organization

Y. Akao characterized the Hoshon Kanri method as a system to strengthen the organization's overall capacity to improve its functioning, stressing the need to apply the concept of quality control [1, 17] "Hoshin is a useful tool for planning, communication and control being considered to be far superior to other forms of planning, especially in the integration of Management Total Quality (TQM) with the business plan of an organization." [12, 415]. Hoshin's primary benefit is to focus activity on key things necessary for success [15, 2] Hoshin is a system of forms and rules that encourage employees to analyze situations, create plans for improvement, conduct performance checks, and take appropriate action. Hoshin Kanri has proved extremely effective in advancing companywide improvement plans by uniting the efforts of all employees. Juran's has emphasised on the "annual programs of quality improvement" (Juran, 1981), as one of the characteristics of Japanese industrial QC, leading to the quality revolution can be taken to mean the activity of Hoshin Kanri.

Quality has a longer history in the life of human kind than either cost or productivity, and is the only one of the three that is a common concern of both companies and customers [8, 426]. Hoshin Kanri is also effective in motivating employees. In Hoshin Kanri, annual policies are decided after top management's policy proposals have been reviewed and revised by a large number of middle managers.

Witcher (1999) argues that Hoshin Kanri provides an organizational architecture and transparency that is necessary if strategy and daily management are to combine in their use of TQM. The PDCA Cycle for the Hoshin Kanri form of strategic management.

Now, Hoshin Kanri has become an essential component in many organizations that are interested in applying management systems and especially new concepts such as Balanced Scorecard (BSC), TQM, and Lean Management or Six Sigma.

Hoshin is applied in many areas including:

- Improving current business: efficiency, quality,
- Problem solving: Old or recurring problems, new difficulties,
- Technical, technological, management,
- Training, personal development or team development.

2. Definitions

Etymologically, the word Hoshin refers to the needle of a compass, that is, the method is used to indicate to all departments or members of an organization the direction towards the common goal. Kanri can be translated as "plan" or "planning."

Ho - method, policy, target.

Shin - glossy metal that looks the direction, brilliant compass.

Kanri - planning.

Thus, the translation shows that Hoshin's planning is "a methodology used to establish the strategic direction ... or policy management and policy development" [12, 415].

In practice, Hoshin is the process of translating strategic and qualitative goals established at the organizations highest hierarchical level into quantitative goals and specific action plans for each of the other levels of the organizational chart. In English, the phrase "Policy Deployment" is used.

The *Business Dictionary* defines Hoshin Kanri: "Japanese strategic planning process designed to ensure that mission, vision, goals, and annual objectives are communicated throughout the organization and implemented by everyone from top management to the shop floor. In this process,

the organization develops multiple (typically four) vision statements to encourage breakthrough thinking about its future direction. Then objectives and work plans are developed, based on the collectively chosen vision statement; and progress towards them is periodically monitored through performance audits. It is also called hoshin planning or policy deployment. "[19]

In the literature are presented a variety of definitions or interpretations for Hoshin Kanri (Nicholas, 2014; Kondo, 1998; Lee & Dale, 1998; Jolayemi, 2008; Witcher 1997, 1999, 2014)

✓ **Akao** defined Hoshin Kanri as:

"All organization activities for systematically accomplishing the long and mid-term goals, as well as yearly business targets which are established as the means to achieve business goals. In many cases, it is used for yearly targets." [1, 47]

"Hoshin Kanri provides a step-by-step planning, implementation, and review process for managed change. Furthermore, he describes Hoshin Kanri as 'The means by which both the overall control system and TQM are deployed' (Akao, 1991).

✓ **King (1989) in Witcher** [18, 74] describes Hoshin Kanri as follows:

"Hoshin [kanri] helps to control the direction of the institution by orchestrating change within an institution. This system includes tools for continuous improvement, breakthroughs, and implementation. The key to Hoshin [Kanri] is that it brings the total institution into the strategic planning process, both top-down and bottom-up. It ensures the direction, goals, and objectives of the institution are rationally developed, well defined, clearly communicated, monitored, and adapted based on system feedback."

✓ **Witcher & Butterworth** (1999) [16] say:

"What makes Hoshin Kanri different from other strategy formulation and implementation methodologies is the application of total quality management."

✓ **Zairi & Erskine** [15, 11]

"Policy management is the translation of Hoshin Kanri as it is known in Japan: hoshin means direction; kanri means deployment/administration/ management. There is a clear need to recognize Hoshin not as a general management tool but as a means to manage change."

"Policy management is the vehicle by which business plans are put together and communicated at all levels of the organisation."

The definition of Akao seems to be the most complete. This definition suggests a management process that encompasses the range of activities related to the strategic management process, and is more in line with the translation of Hoshin Kanri as a 'method for strategic direction setting'. As such, this is much broader than the meaning implicit in the term 'policy deployment' used by Akao who recognizes the limitations of his work in focusing on the deployment process.

Hoshin Kanri clarifies and manages improvement of priority issues which allows an organisation to break away from the status quo in its response to changing competitive situations and Akao argues that its unique intention is the integration of long and short term objectives, and its importance is that: *"It clarifies specific annual target policies derived from the long and medium term policies that encompass the long term visions of the company. It strives to achieve targets through action plans intended to improve the control system. These action plans are then deployed for their targets and their policies."* [1, 4]

'Control' in Japan means 'management', and 'system' refers to co-ordinated processes. In referring to a control system in a Japanese sense Akao is describing management of the whole organisation.

Hoshin Kanri include: policy deployment, management by policy, policy control, Hoshin planning and managing for results. It is also known as a step-by-step planning implementation, and review process for managed changed. It is a system approach to management of change in critical business processes.

3. Hoshin – PDCA Relationship

Hoshin is an evolutionary process that respects the principles of the PDCA cycle (Plan-Do-Check-Action).

1. It just begins with the ACTION stage, where strategic objectives and priorities are set at the top of the hierarchy.
2. The second step is PLANIFICATION, in which each division, department, department, workshop, service, etc. establishes the objectives, resources and means necessary for the specific work tasks arising from the overall objectives. At this stage, the necessary indicators are set for monitoring progress and the alignment of specific objectives, ie the correlation between them and their specific contributions to the achievement of global objectives.
3. The third stage (DO) begins after agreeing, accepting and communicating the specific objectives and plans that need to be effectively accomplished in daily work.
4. In the fourth step (CHECK), the activities are monitored, verified and improved, by constant comparison of the result indicators with the planned values.

After each year, the results are analyzed, and the conclusions are used to start the 4 steps of the PDCA cycle. To be successful, HOSHIN has to address 3 key elements in terms of objectives, strategies, plans and indicators, globally and specifically:

1. Vertical integration.
2. Align horizontally.
3. Continuous improvement.

Policy transformation is done by using the main elements; vision, mission, policy, strategy, method and activity following the PDCA quality management cycle of policy implementation, as shown in Figure no. 1. [13]

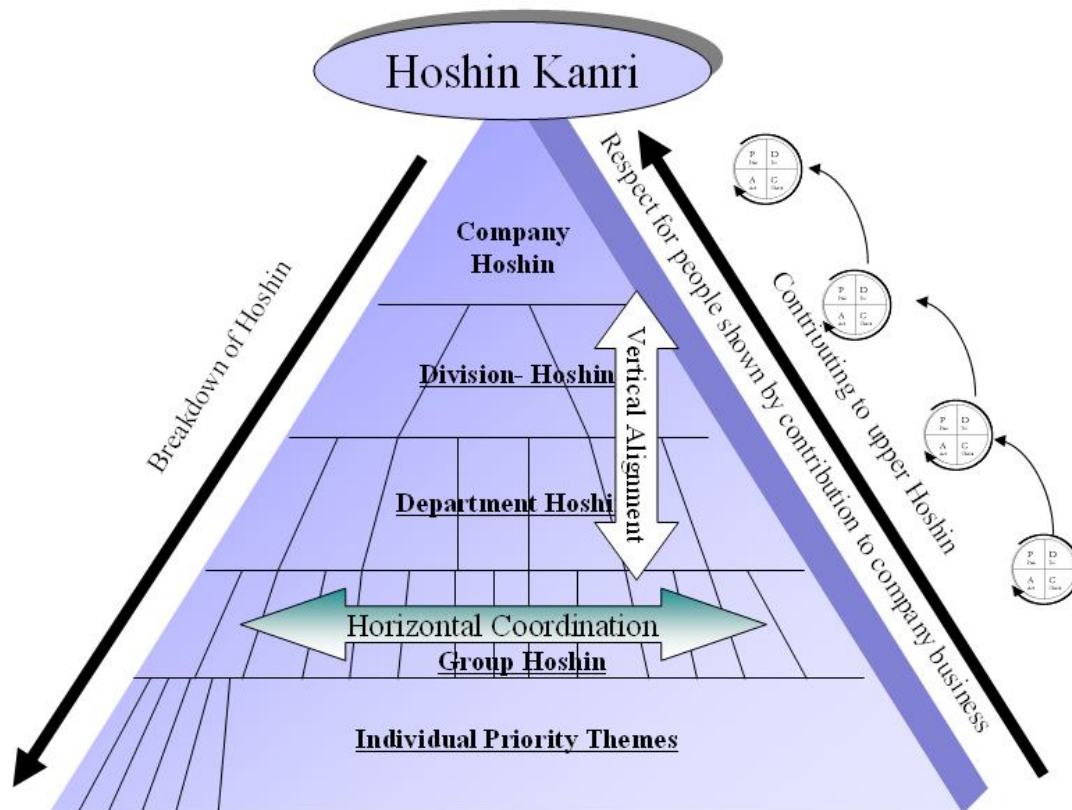


Figure no. 1 The Framework of Policy Deployment

In addition, the communication of the decisions taken and the results must be carried out at all stages of the PDCA process (Akao, 1991; Lee & Dale, 1998; Hutchins, 2012; Nicholas 2014 et al.) PDCA is the vehicle for which the Hoshin Kanri approach is based.

4. The Principles of Hoshin Kanri

The principles of Hoshin Kanri can be summarized as follows [9]:

1. Objectives aligned all over the institution to accomplish common goals;
2. Each and every one in the institution is responsible for the process of recurring review mechanism, emphasis on corrective action;
3. Prevalent understanding of TQM and the PDCA cycle;
4. Catchall between different levels of institution;
5. Emphasis on a few number of advanced items;
6. Active, flexible, and endlessly improvement.
7. Goals are contingent on customer needs;
8. Concentration on processes, not results;
9. Profound analysis of previous stage;
10. Top-down and bottom-up planning;
11. Means deployed with targets;
12. Based on day-to-day control;
13. Bringing about the results.

5. Planning and the Implementation

Akao proposed 10 Steps for applying Hoshin Kanri as outlined below (Akao, 1991) quoted by Hanana [4, 188] Figure no. 2:

- ✓ **Establishing annual policy**
Step 1: Establish an institution motto, quality policy, and promotion plan.
Step 2: Devise long and medium term management strategies.
Step 3: Collect and analyze the information.
- ✓ **Aligning institutional action (Deploying annual policy)**
Step 4: Plan the target and means.
Step 5: Set control items and prepare a control item list.
Step 6: Deploy the target and means.
Step 7: Deploy the control items.
- ✓ **Integrating institutional action through implementation (Implementing annual policy)**
Step 8: Implement the policy plan.
- ✓ **Reviewing the results of institutional action (Reviewing annual policy)**
Step 9: Check the results of the implementation.
Step 10: Prepare the status report for implementing Hoshin Kanri.

Planning and implementation are critical elements of Hoshin Kanri, which implies that the process of determining objectives, developing means to achieve goals, and implementation are crucial to the success of the organization. Everyone in the organization must be involved in local planning to ensure a full and significant involvement in the overall process. Figure 3 presents a model of the Hoshin planning system, which can be compared to a Shewhart chart - the "Plan-DO-Check-Act" (PDCA) cycle for continuous improvement. [14]

The main elements of the model refer to [12, 417]:

- Five-year vision - belongs to the president and the executive group.
- One year plan (based on the performance of the previous year)
- Development at department level
- Detailed implementation

- Monthly diagnosis
- The President's annual diagnosis.

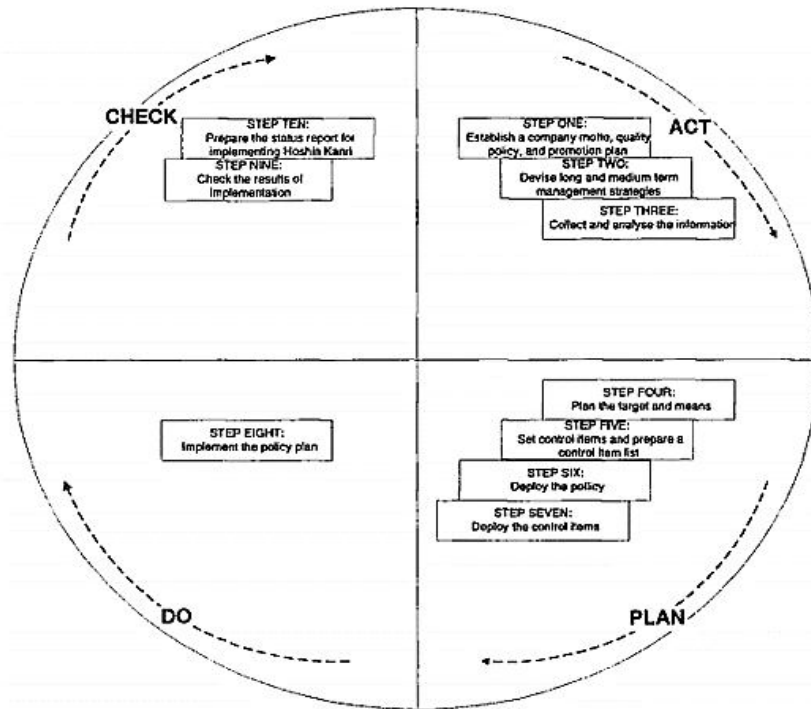


Figure no. 2 PDCA & Akao's 10 Steps of Hoshin Kanri

The President's audit focuses on quantitative targets, storing information in summary and detail.

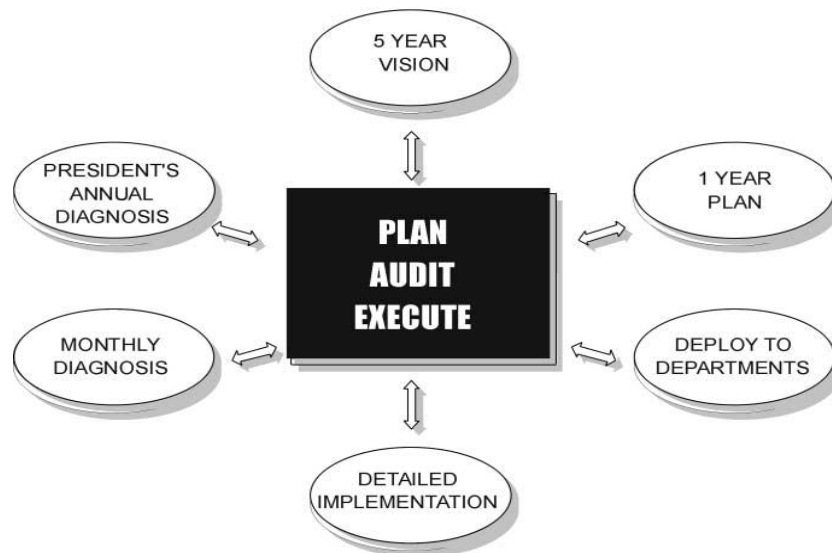


Figure no. 3. The Hoshin planning system

Zairi & Erskine [15, 8] hand describes the two activities of HOSHIN and performance measurement in terms of:

1. *Process management*: this is a senior management responsibility, deciding on the right things to do, developing the right objectives and communicating them at all levels in the right way.
2. *Performance measurement*: quality improvements take place through team efforts and a multi-functional approach. Performance measurement therefore becomes the responsibility of process workers who have the ultimate task of carrying out the necessary improvements.

6. Hoshin in the Context of Strategic Management and TQM

Annual priority implementation items relating to cross-functional management areas such as quality assurance and profit management were determined in accordance with the annual policies of managers within the regular organization and were implemented by the relevant departments within that organization. Senior managers conducted diagnoses in order to check how this was being done, examine the results achieved, and identify any problems associated with it, as well as to assist in setting and fine-tuning policy. The company termed this approach “*hoshin kanri*” (Miyaji, 1969) quoted by Kondo. [8, 425]

Hoshin is also a quality management tool and has its roots in holistic quality thinking. To understand the power of Hoshin one must also understand the fundamentals and limitations of TQM. On the other hand, HOSHIN is focusing on sustainability and building strengths for increased competitiveness. While this process focuses on results, it only does so by continuously improving the processes concerned so that repeatability of performance and consistency can be ensured. HOSHIN introduces discipline, conveys the same goal at all levels and ensures goal congruence or real alignment [15, 7].

Conclusions - Benefits of Hoshin Kanri

What does this method solve? The answer may be:

- Focusing on results and continuous improvement of processes;
- Solves communication problems;
- Focusing on sustainability of results and building strengths for competitiveness;
- Listening to the voice of the client.

There is a clear need to recognise Hoshin not as a general management tool but as a means to manage change. It is a powerful but resource intensive tool and so must be used sparingly.

A prerequisite for applying the Hoshin method is the existence of a series of organizational prerequisites including: leadership, teamwork, self-evaluation, and continuous improvement. "The organization tends to generate a culture of managerial control directed towards the individual and problem solving, rather than a culture of teamwork and continuous improvement. Hoshin's planning tends to focus on self-evaluation with individual participation and flexibility". [12, 419]

Hoshin-based organizations include AT & T, Digital, Hewlett-Packard, Nissan and associated companies, Philips, Procter & Gamble, Rover and Xerox. Literature indicates that the method is more widespread in America than in Europe or the UK. It can be said that Hoshin Kanri is an effective planning methodology that has a number of advantages over conventional planning techniques. The benefits of the Hoshin Kanri method as a planning tool compared to conventional planning systems include: integrating strategic objectives with daily tactical management, plan-to-check-cycle implementation for process management and parallel planning. the methodology that focuses on the vision of Hoshin Kanri. [3, 13]

"The benefits of Hoshin Kanri as a Quality Management tool compared to conventional planning systems include the integration of strategic objectives with daily tactical management, the application of PDCA process management, parallel planning and execution methodology, corporate approach, improved communication, increased consensus and participation." [12, 419]

Integrated management systems used by the companies (developed based on families of ISO 9000, 14000, 18000 standards) help to implement Hoshin Kanri by meeting certain requirements related to the stages of plan, act and check. [2, 235]

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