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Postprint

This is the accepted version of a paper published in *Management Decision*. This paper has been peer-reviewed but does not include the final publisher proof-corrections or journal pagination.

Citation for the original published paper (version of record):

Melander, A., Löfving, M., Andersson, D., Elgh, F., Thulin, M. (2016)

Introducing the Hoshin Kanri strategic management system in manufacturing SMEs.

Management Decision

<https://doi.org/10.1108/MD-03-2016-0148>

Access to the published version may require subscription.

N.B. When citing this work, cite the original published paper.

Permanent link to this version:

<http://urn.kb.se/resolve?urn=urn:nbn:se:hj:diva-34116>

INTRODUCING THE HOSHIN KANRI STRATEGIC MANAGEMENT SYSTEM IN MANUFACTURING SMEs

Accepted for publication in Management Decision (August 2016).

**Anders Melander¹, Malin Löfving², David Andersson³,
Fredrik Elgh², Mikael Thulin³**

¹ *Jönköping University, Jönköping International Business School,
Jönköping, Sweden¹*

² *Jönköping University, School of Engineering, Jönköping, Sweden*

³ *Träcentrum, Nässjö, Sweden*

¹ Corresponding author: Anders Melander, mean@jibs.hj.se

ABSTRACT

Purpose

In this article the basic principles and introduction of the Hoshin Kanri (HK) strategic management system, as related to the management practices in manufacturing small and medium-sized enterprises (SMEs), are explored.

Approach

This article reports the findings from the introduction of HK to four manufacturing SMEs by following an assistance support-based research approach where teams of coaches and researchers observed and learned from the introduction phase. The overall design of the project is theory building and learning oriented.

Findings

It is suggested that the successful introduction of a strategic management system in manufacturing SMEs has to balance the inherent level of formalization therein, with the individual company's management practices. Based on HK as the strategic management system, pDCA is proposed as an alternative approach to the introduction, matching differences in management practices.

Research limitations

The explorative nature of this research provides room for subsequent studies by elaborating the knowledge on the introduction of strategic management systems in SMEs.

Practical implications

Awareness of the existing managerial practices is essential when introducing a new strategic management system in manufacturing SMEs. Such awareness is the starting point of customizing the introduction, so that proper levels of engagement and flexibility can be balanced with increasing systematic formalization, and optimized adequacy.

Originality

Following an assistance support-based research approach the result of this research project is summarized in the iterative pDCA model emphasizing engagement and flexibility when incrementally introducing strategic management systems in SMEs. This model addresses a hitherto under-researched topic in strategic management.

Keywords: Strategic Management System, Hoshin Kanri, Strategic Planning, Strategic Practices, Small and Medium-sized Enterprises (SMEs), Implementation

1. INTRODUCTION

Manufacturing SMEs are often characterized by flexibility and personalized management practices (Flamholtz and Randle, 2007: xi). However, such practices are regularly questioned as SMEs advance, as development is accompanied by an increased pressure to formalize work division, managerial tasks, and systems (Daily et al., 2002; Joyce and Woods, 2003; Phelps et al., 2007). An important part of such formalization is the introduction of a strategic management system, i.e., the validation of strategy development and implementation (Lorange, 1982; Romano and Ratnatunga, 1994; Kaplan and Norton, 2008; Achtenhagen et al., 2014). Both the formalization inherent in the strategic management system, and the way the system is introduced, can infer severe breaks from traditional management practices in the company (Flamholtz and Randle, 2007: 221ff.) Consequently, the choice of strategic management system, and the design of the introduction phase, are crucial for future success (Karami et al., 2006; Håkonsson et al., 2012). The dominating strategic management system in the market is the strategic planning model (SP) (Wolf and Floyd, 2013). However, Hoshin Kanri offers a complement to SP, as this strategic management system is closely linked to the increasingly popular lean management philosophy (Mulligan et al., 1996; Tennant and Roberts, 2001; Nicholas 2016). This article explores how the basic principles and introduction of Hoshin Kanri (HK) are related to managerial practices in manufacturing SMEs.

Extant research on strategic management systems offers few answers on how the balance between formalization and traditional managerial practices should be accomplished. In the SME literature, the main focus thus far has been on either the existence of planning (measured as the existence of a written plan), or the relationship between formalized planning and performance (Mitchelmore and Rowley, 2013; Kraus et al., 2008), with few examples

examining how strategy in SMEs is actually managed (cf. Jones et al., 2007). Moreover, it is argued that the vast majority of proposed strategic management systems are based on the rational-analytical model of planning, separating the thinkers (management) from the doers (operations) (Marksberry, 2011; Wolf and Floyd, 2013). Hence, there is a need to explore strategic management systems that affect the highly personalized management practices in SMEs (Hutzschenreuter and Kleindienst, 2006). In this paper, Hoshin Kanri is introduced as a complementary system to the SP model in manufacturing SMEs. ‘Hoshin’ means shining metal, compass or direction pointer, and ‘Kanri’ means (daily) management or control (Jolayemi, 2008). Simply put, Hoshin Kanri consists of breakthrough objectives deployed by a scientific approach in the organization. The process may render powerful outcomes once these objectives are linked to the continuous improvement work (Kaizen), i.e., the linking of top-down and bottom-up approaches (Kondo, 1998; Osada, 1998; Marksberry, 2011).

There exists a vast array of literature on the implementation of strategy (cf. Okumus, 2003; Latif et al., 2013), and application of management systems (cf. Garengo and Biazzo, 2013; Assarlind and Gremyr, 2016). However, literature on how strategic management systems are implemented in SMEs is limited (cf. Hutzschenreuter and Kleindienst, 2006; Li et al., 2008). This article focuses on the first phase of an implementation process where the strategic management system is introduced by externals to top managers in manufacturing SMEs. This intervention approach is rather common (Assarlind et al., 2013). However, what is not so common is the research integration into the intervention process, hereon labeled as assistance support-based research (Gibb and Scott, 1985).

In the literature review, the formalization aspect in strategic management systems is used as a starting point when comparing the principles of Hoshin Kanri (HK) and the strategic planning

model (SP). Thereafter, the implications of these principles when introducing (strategic) management systems in SMEs are further discussed. Subsequently, the initial learnings from the project, assisting in the introduction of HK into manufacturing SMEs, are reported. The aspects from the literature review and the introduction phase are used to theorize on the applied models when implementing formalized strategic management systems in SMEs.

2. THEORETICAL BACKGROUND

2.1 Hoshin Kanri

The basis of HK was established in the 1950s, and although the origin is unclear, it is commonly argued that the model's conceptualization began in a course on quality control, sponsored by the Japan Association of Science and Technology (Tennant and Roberts, 2001). Moreover, it is proposed that its foundation was based on a blend of Edward Deming's lectures in Japan on the PDCA² cycle - causes of variation and process control - together with Peter Drucker's "Management by Objectives" philosophy (Babich, 2005). The link has always been strong between Total Quality Management (TQM) and Hoshin Kanri (Ishikawa, 1985). Witcher and Butterworth (1997) state that this link defines the uniqueness of Hoshin Kanri, as it represents the application of TQM in strategy. Ultimately, it is argued that HK could be regarded as a strategic management system: *"Hoshin Kanri provides an organizational architecture and transparency which is necessary if strategy and daily management are to combine in their use of TQM"* (Witcher and Butterworth, 1999: 324).

² The PDCA methodology is based on the systematic scientific method (Moen and Normans, 1996). The starting point is P(plan); analysing information, defining objectives and success measures, and plan. Followed by D(o); execute the plan, document problems and observations. Subsequently, C(heck); monitor outcomes to understand results, summarize learnings, and spot new problems. Then A(ct); integrate lessons learned, adjust methods, and identify new learning opportunities (Nicholas, 2014).

Today HK is widely adopted in Japanese companies, but less-so in Western ones (Nicholas, 2014). Moreover, the adopters of HK in the West are mostly large companies, and there are few reports on HK adopted by SMEs (Jolayemi, 2008). Tennant (2007) represents the only identified source with an explicit SME focus, reporting on an action research project in a small company (20 employees). Therein, it is concluded that HK offers a high potential in the SME context as the implementation of the model transformed the organizational culture in the case company, which now holds a more inclusive and holistic view of the business (ibid). Tennant also urges for more studies on HK in the SME context.

2.2 Traditional Strategic Management systems and the Hoshin Kanri Management System

According to the seminal work by Akao (1991), HK provides an annual step-by-step planning, deployment, and review process for managing change. Notwithstanding, from this common starting point, some differences exist in how the design is depicted (Marsden, 1998). Three alternative views of the process were identified in the literature review, as can be seen in Table 1. The PDCA methodology (PDCA = P(lan), D(o), C(heck), A(ct)) is used to structure the comparison of these, and to examine the different approaches in the three alternatives. The rationale behind this is that PDCA is the core process in HK (Mothersell et al., 2008). HK has been described as “*simply PDCA applied to the planning and execution of a few critical (strategic) organizational objectives*” (King, 1989, in Witcher, 2014: 73). Furthermore, the strategic planning model (SP) is added to the comparison in Table 1, as SP represents the dominating strategic management system which has been widely practiced for decades (Wolf and Floyd, 2013). In the aforementioned table, the four different views are compared.

Table 1. Views of Hoshin Kanri compared with strategic planning

	The six elements model (Tennant & Roberts, 2001)	The eight essential points of the Hoshin Kanri model (Kondo, 1998)	The extended ten step Hoshin Kanri model (Jolayemi, 2008)	The traditional strategic planning model (Andrews, 1987)
P(lan) Involves owners and/or top management teams	<ul style="list-style-type: none"> Five-year vision (review of internal and external obstacles, input from all managers) The one-year plan (deriving from the 5-year vision; a situational analysis and last year's performance) 	<ul style="list-style-type: none"> Annual policy Medium- to long-term policy The establishment of quality policy Converting methodological policy into objective policy Policy composition; aims, targets, and priority strategies 	<ul style="list-style-type: none"> Pre-planning analysis (analysis of the organizations' environment, both external and internal) Development of a mission statement Development of a value statement Development of a vision statement Long- and medium-term plans and goals Annual plan (vital few objectives) & annual strategies (targets, means, performance measures, the annual planning table) 	<ul style="list-style-type: none"> Analysis of the organizations' external environment, Analysis of the organizations' internal environment Formulation of a vision statement Determination of long-term goals Deciding on the plan of how to achieve the goals Deciding on how to use processes of performance, measurement, compensation etc., in order to implement the strategy
D(o) Involves extended parts of the organization	<ul style="list-style-type: none"> Deployment to departments (key implementation items) Detailed implementation (contingency planning: self-diagnosis, self-correction and visual presentation of action) 	<ul style="list-style-type: none"> Top-down and bottom-up deployment The meaning and practice of "catch-ball" in the deployment process 	<ul style="list-style-type: none"> Policy deployment and "catch-ball" process 	<ul style="list-style-type: none"> Put strategies into action
C(heck) Involves entire organization	<ul style="list-style-type: none"> Monthly diagnosis (attention to the process rather than the target) 	<ul style="list-style-type: none"> Top management internal QC audits 	<ul style="list-style-type: none"> Integration, implementation, daily management/daily control, and business fundamentals 	<ul style="list-style-type: none"> Follow up through formal control systems
A(act)	<ul style="list-style-type: none"> President's annual diagnosis (numerical targets, but also the process that underlies the results) 	<ul style="list-style-type: none"> Top management internal QC audits 	<ul style="list-style-type: none"> Reviews (daily/weekly/monthly reviews + annual review/ president's diagnosis) Standardization 	<ul style="list-style-type: none"> Annual review and monitoring of the strategy

Plan

The P(lan) phase in HK consists of the analysis being conducted, and the objectives being set.

In this phase, HK resembles the traditional strategic planning model (SP) (cf. Andrews, 1987;

Mintzberg, 2000: 35ff; Yang and Yeh, 2009) as it often includes traditional analytical tools

such as environmental analyses (Porter's Five Forces, PESTEL, SWOT etc.), as well as an internal analysis of resources and capabilities (cf. VRIN/VRIO).

One major difference between SP and HK is how the outcomes of such analyses are used. In SP, these are vital for the development of the strategic initiative. In HK, the primary use of an analysis is to set the overall organizational objectives, such as the vision, as well as one- or three-year objectives (cf. Akao, 1991; Babich, 2005; Hutchins, 2008). The aim in the HK model is to both keep holistic, and delimit, organizational objectives. In order to be holistic, the overall objective (vision) should be rather general, only stating the broad direction. Meanwhile, it is necessary to delimit the overall objective to a few strategic issues - or breakthrough objectives - which render concentrated efforts leading to fulfilment of the overall objective (Lee and Dale, 1998; Babich, 2005). The ability to focus and cling to a few well-defined issues, is vital for the success of HK (Witcher, 2003).

Do

In the D(o) phase, the key words in HK are deployment (policy deployment) and 'catch-balling'. Kenyon (2000 in Jolayemi 2008: 308), describe the practice as:

"Each group simply uses the strategy and strategic goal (or PPM) from above as its objective and goal. Each department or process owner selects the strategy most appropriate to the group's expertise or technical strengths. At each succeeding level, those strategies are owned, expanded and turned into implementation plans that contribute to reaching the objectives and the overall goal."

Overall objectives (vision, long-term objectives) are set at the top and are then interpreted in dialogue with members of the organization. The ultimate aim is that all layers of employees are invited to work on their own objectives in connection to the overall ones (Lee

and Dale 1998; Jolayemi, 2008). Jolayemi (ibid: 310) defines 'catch-ball' as *"relative up, down, and horizontal discussions and joint analysis necessary for effective determination of objectives, strategies and means."* In this phase, SP has become more 'open' over the last decades (Whittington et al., 2011) and the original idea of implementation as a close-ended and converging process has been balanced with a view that involves more integration, communication, and coordination (Okumus, 2003; Wolf and Floyd, 2013). Consequently, middle managers are now more often recognized as key stakeholders in the process, and it is argued that their participation in the formulation of strategies increases their commitment (Barton and Ambrosini, 2013). The openness of SP therefore most commonly refers to the communication of strategies, once they are formulated (Whittington et al., 2011). In HK, deployment and catch-balling are concepts that point to a different and somewhat challenging direction. In explanations, terms such as alignment, dialogue, and consensus building are used (Akao, 1991; Mulligan et al., 1996; Tennant and Roberts, 2001), implying a management practice that is based on creative, flexible, and responsive principles (ibid: 292). Here, employees are not only invited to participate by adding content to the overall strategy but are also trusted to translate objectives into actions. Consequently, it is argued that they will have more control over their own work, making them feel more satisfied and as a result their productivity will increase (Babich, 2005).

Check

In the third phase, namely the C(heck) phase, more differences have been identified. In this stage it is crucial both in HK and SP to annually review the execution of the decided actions (cf. Mintzberg, 2000, Nicolas, 2014). The difference between HK and SP is the primary reasons for this review. In terms of SP, reviews are traditionally driven by a need for

accountability. However, recently more emphasis has been laid on the learning aspect of reviews, which is more in line with the design suggested in HK (cf. Kaplan and Norton, 2008). This mix of short- and long-term review processes (cf. Lee and Dale, 1998) in HK represents an attempt to continuously learn, correct, and advance the strategy within all levels of the organization. HK aims for “*a participative and shared commonality of direction, rather than top-down command and control. The over-arching principle is that everybody should be involved in strategy (work)*” (Witcher, 2014: 88).

Act

Finally, the fourth phase, the A(ct), refers to the continuous learning and repetition that is the fundamental assumption in HK (Mothersell et al., 2008). The SP model often encloses both a feedback and learning module but this module is mainly focused on how to advance the present strategy (single-loop thinking) and not how to develop the strategic management system (double-loop thinking) (Heracleous, 1998; Schaffer and Willauer, 2003). On the other hand, Marksberry (2011) describes the ultimate aim of HK as reaching the level of an ongoing strategic conversation (2011: 363). This conversation should address both the continuous improvement of the process and the outcome of it. Feurer et al. (1995) argue that it is this ongoing improvement of strategy formulation that makes the HK system superior in dynamic environments, and Witcher (2014) proposes that this difference of emphasis is an important differentiator between the HK and SP models.

2.3 The introduction of a formalized strategic management system

The literature on the implementation of strategies is vast but research on the implementation of an annually based strategic management system is rather rare (Li et al., 2008). When tracing back to early literature, the formalization of management systems was related to

organizational growth, hence following a deterministic logic (cf. Gluck et al., 1982). In more recent SP literature, it is hierarchically imposed and the link to a specific development phase is weaker (Atkinson, 2006; Fernandes et al., 2006). Overall, extant literature hardly provides any direct comparison of the differences in regards to challenges encountered when introducing systems as those presented in this article.

In a review of the literature on HK from an application perspective, Silveira et al. (2013) detect twenty-three central aspects. Out of those, four are of particular interest when introducing HK to management. (1) HK is a management model that is centered in continuous improvement. The learning being that HK is not a quick fix. (2) HK requires active involvement of leadership. The learning being that HK is not a strategic management system that can be delegated to middle managers or to consultants. (3) HK is built on the Nemawashi philosophy. The learning being that HK is a management system that has to be lived and integrated in daily management. (4) In order for HK to work, there must be an existence of a clear vision that is challenging and relevant to all employees. The learning being that the necessary focus, fundamental in HK, is the result of an alignment with clear objectives.

As illustrated in the overview of the HK design, and in line with Silverira et al.'s (2013) arguments, top management's engagement in the process, the long-term approach, and a clear vision are crucial in the introduction phase (Osada, 1998). It is in this stage that the organizational direction is decided. The main focus in the literature is however, on the outlining of a clear vision. Both strategic management systems reviewed clearly emphasize the need for accurate and trustworthy facts in this phase. These future-oriented issues are by nature rather abstract (i.e., Who are we? What do we want to be?). However, the aim of the clear vision differs between SP and HK. SP emphasizes vision as the starting point for the

development of both a systematic and accurate strategic plan, whereas HK, after deciding on the objectives, stresses management's personal engagement in the proceeding phases of the organizational process. However, as stated above there are few ideas communicated on how to introduce the principles of the HK strategic management system (cf. Witcher and Chau, 2007; Akao, 1991; Babich, 2005; Hutchins, 2008).

3. METHOD

This article reports on the first phase of a research project financed by The Swedish Governmental Agency for Innovation Systems (VINNOVA) between 2013 and 2016, which aimed to adapt the HK strategic management system to small- and medium-sized companies. In total, the project includes fourteen manufacturing SMEs and five researchers/trainers. It has also engaged experts, as well as three multinationals practicing HK as a reference group for the project. As literature on the introduction of formalized strategy practices in SMEs is fragmented, the overall design of the study is theory building and learning oriented.

The results reported in this article focus on the HK planning phase, consisting of a literature review and a study of the introduction of Hoshin Kanri in four manufacturing SMEs. As the literature has been reported, this section presents the methods used in the review, as well as in the empirical study.

The literature review was conducted in three stages. In the first and second stages, Google Scholar and Scopus were used to locate articles on SP and HK. These search engines were employed in order to cover research articles that are practitioner-oriented. The focus in this article is on the introduction of the two strategic management systems, but in order to cover

relevant literature, wider combinations of search words - including “strategic planning” and “implement, introduce, SME, formalize, practice” - were applied to encompass the SP model. In the search for relevant literature on HK, the leading search words “Hoshin Kanri and policy deployment” were combined with “implement, introduce, SME, formalize, and practice.” A huge number of articles were identified, however most of them focused on how managers implemented an internally formulated strategy within an existing strategic management system. In the next stage, the sample was delimited to articles discussing some aspects of strategic management system change within a company. As a result, five-hundred and five articles remained. Upon more detailed reading, only sixteen articles were identified as of high value; i.e., discussing the introduction of a strategic management system in a company, preferably an SME. In order to increase the amount of literature to be reviewed, a search for HK practitioner oriented books was added. This was broad, only using the term Hoshin Kanri and resulted in twenty-two books. An indication of the low interest for the topic is that Lorange’s (1982) seminal work on the “Implementation of Strategic Planning” has only been cited one-hundred and twenty-eight times, and the majority of these citations focused on the implementation of a specific strategy, or the role information management systems in strategic planning processes.

The starting point for this empirical work was the call from Whittington and Caillaet (2008) for more research on the activities within the strategy process. In order to achieve this aim, a multi-skilled research team of high competence in conducting assistance support-based research (Gibb and Scott, 1985) was built. Hence, the authors of this article possess theoretical knowledge in strategy and innovation work within SMEs, and practical knowledge of HK in large companies, as well as lean management in SMEs. In addition, the alliance between a university and a regional agency devoted to developing SMEs has enhanced the access to suitable coproducing companies in the study.

The assistance support-based research means that mixed research pairs a) were familiarized with the management in the companies, b) introduced the HK strategic management system, and c) observed and learned from the introduction phase. In previous visits, coaches from the regional agency recognized a need for developing strategic management systems in several companies. In this phase of the project, four of these companies were offered the opportunity to test the HK way of organizing their strategic practices. Aiming for theory building, it was decided to include a differentiated sample (Eisenhardt and Graebner, 2007). Hence, the size of the companies varied between fifteen and one-hundred and fifty employees. In addition, the ownership forms of the companies varied, and so did their familiarity with strategic planning and lean methods. The companies are introduced below, and thereafter the process followed in the introduction of HK is outlined.

Company A is a niche-oriented sawmill with fifteen employees. After a successful past, the company has been suffering from an unplanned succession, volatility in exchange rates, and changes in institutional rules over the last six years. The company was managed by the founder in a very personalized way until 2012. After the unplanned succession, the two daughters became owner-managers. Together with their spouses, they form an informal management team. The management team has no prior experience of formalized strategy work nor lean activities.

Company B is a niche-oriented supplier to sport and activity centers with thirty-six employees. The operations include production, sales (web-shop), installation, and safety controls of sports utilities. The company is owned by the CEO who has formed an informal and unwritten long-term vision of the company. It was decided that the daughter and her

spouse should succeed the CEO. Today the father, daughter, and her spouse compose an informal management team. The management team has no previous experience from formalized strategic practices nor lean inspired activities.

Company C is a sub-supplier of sheet metal with eighty employees in a highly competitive industry. It is a family owned company with several family members working there. One year prior to the start of this project, the CEO (a founder's son) formed a management team with seven participants (four being family members). A written long-term strategy was developed some years ago, but this document is rarely mentioned today. The company has recently participated in a national program introducing lean production.

Company D is a manufacturer of modular buildings, mainly for offices and schools, with one hundred and fifty employees in two locations. Company D is owned by a publicly listed company. They have a formal management team consisting of four people and an organized governance system with a written business plan. They have some past experience of strategic planning, and have previously attempted to introduce lean activities, but with limited success.

This phase of the research project was managed under a four-month period at the end of 2013. In order to secure the learning process, the following actions were taken. First, a factsheet on each company with information compiled from previous contacts, homepages, and official sources was prepared. Second, the presence of two (often three) members from the project team in all the companies' activities occurred, where all present took notes which were then transcribed and compared within twenty-four hours. Third, a forty-five to sixty minutes debriefing session occurred after each activity. Finally, the systematic evaluations of

experiences were addressed in weekly project meetings, using the transcribed notes as the starting point.

In the following, the empirical process is presented with the eleven most important learning points in this phase. Given the learning orientation of the study, the idea of ‘learning point’ suggested by Jarvis (2010), one of the most influential theorists in adult learning (Levinsohn, 2015), is followed within the result analysis. A learning point is defined as the emergence of a disjuncture; a mismatch between what the person expects to encounter and what (s)he actually discovers. In this project however, a learning point emerged when the researcher’s vital assumptions in the tentative processes were either confirmed or questioned. The identification and analyses of these occasions in the four cases were done in a systematic manner, and involved all five trainers/researchers. These analyses were followed by a revised literature review in order to reach further understanding of what forces triggered the learning points. The result of this ongoing learning process is presented in the final part of the article.

4. THE INTRODUCTION OF A HOSHIN KANRI INSPIRED STRATEGIC MANAGEMENT SYSTEM

When outlining the tentative process of introduction, the advice deriving from the literature review was combined with the pre-knowledge gained by the project team in other similar projects. From this, a tentative process in two phases, covering the Plan part of the PDCA model, was developed. Phase one, *the scanning*, was conducted via interviews with top management and owner representatives. The main purpose here was for the project team to understand the history of the company, its present strategies, strategists, and practices, as well as the personal driving forces, and to outline the current situation. Meanwhile, this phase also

aimed at encouraging management to reflect on the managerial practices within the company. Hence, the scanning differed from the traditional internal analysis of strengths and weaknesses as it was more contextual in nature. Depending on the status of the management teams, this could include several visits to the company, where the process began with interviews, and the intention to proceed by conducting shadowing sessions, in order to catch the practice of strategy work in the company.

The scanning stage was followed by a *formulation phase* in which two workshops with the top management team (TMT) were organized in each company. The theme of the first workshop was an analysis of the present situation (Positioning), and the second an outline of future visions (Objectives). Well-known analytical tools such as SWOT, PESTEL, and VRIO were introduced to sketch the present situation in the first workshop. In the second one, the aim was to introduce PDCA and the A3³ methodology in order to encourage the teams to make a preliminary decision on the company vision.

5. LEARNING POINTS

The activities undertaken at the four companies are summarized in the following table, subsequently addressing the learning points (11) within the process. Finally, the most critical learnings from the process are reflected upon.

³ A3 is a tool used to illustrate and communicate the PDCA process (Shook, 2008)

Table 2. Activities in four case companies

Activity/Company	Company A	Company B	Company C	Company D
Initial meeting with the CEO, signing the contract and deciding on how to proceed	Sept. 24-Oct. 1	Sept. 24-Oct. 1	Sept. 24-Oct. 1	Sept. 24-Oct. 1
The Scanning Phase				
Familiarization/interviews	Oct. 30 and Dec. 12. Interviews with all four in the informal Top Management Team (TMT) (1)	Oct. 30. Interviews with all three in the informal TMT (1)	Nov. 1. Interviews with two in the TMT (out of seven) (2)	Nov. 13- Dec. 11 Interviews with the chairman of the board and all four in the TMT (3)
Shadowing			Dec. 10, participating observation at TMT meeting (4h) (4), (5)	
The Formularization Phase				
Workshop one (Positioning)	Dec.18. (6) , with the TMT team	Nov.29 (7) , with the TMT team	Jan. 28. (8) , with the TMT team	Jan. 21 (9) , with the TMT team
Workshop two (Objectives)	Jan. 28. (10) , with the TMT team	Jan. 21 (11) , with the TMT team		

- (1) Initial interviews in companies A and B stressed the importance of the internal organization when initiating HK. In Company A, there was no formal managing director nor regular meetings, which made it difficult to organize interviews. In company B, all three in the management team were present on a daily basis, making it easy to arrange meetings. Furthermore, there had been some previous contacts with company B before the project started.
- (2) In Company C, the management team consisted of seven people. It was therefore decided that participation by the researchers in a management team meeting would be more practical than interviewing all management team members individually.
- (3) In company D, individual interviews (1-2 hours) were conducted with all four top management team members, and the chairman of the board. As the interviewees were geographically distant from each other, it was time consuming to arrange interviews.

- (4) Participant observation was successful in company C. Two project members followed the management group of seven in a four-hour meeting.
- (5) It was difficult to motivate participant observation in the remaining three companies. In companies A and B, the management group was not formalized when the project started, and in Company D the management group was geographically dispersed and they only met between long-time intervals.
- (6) The first workshop in company A was dynamic. The systematic approach to positioning had to be abandoned after ninety minutes as the participants started to question the productivity of the meeting. After a break, it was decided to start work on one pressing strategic issue, using the PDCA methodology. Participants soon saw the benefit of this approach and the meeting ended successfully.
- (7) The approach to positioning concluded well in company B, and the A3 methodology was introduced.
- (8) Due to learning from (6) above, a new approach was tested in company C. The management team decided on a vital strategic issue and started to apply the PDCA/A3 methodology to conduct an environmental analysis. Frustration soon became obvious because internal leadership was lacking, and the issue chosen was a non-engager.
- (9) The management team in company D was geographically dispersed and did not have frequent meetings. There was a need for greater homogenization of the working procedures in the management group.
- (10) The second workshop in company A was successful, with a focus on the identified strategic issue. Within the discussion on this specific strategic issue, the long-term objective of the firm was also addressed, and the need for adding facts became apparent to participants. However, no decision was made on the objectives.

- (11) In company B, the tentative process continued. With the help of the A3/PDCA methodology, the participants did continue to work with the identification of long-term objectives.

6. LESSONS LEARNED

Based on the analysis, the most important learnings can be summarized as follows:

- The need for an extensive scanning phase was confirmed **(1-5)**. The length of the scanning phase was however a delicate issue, where the increase in knowledge and trust had to be balanced with the increase in costs and the participating companies' urge for results.
- The need for flexibility in the scanning phase was confirmed. Different methodological tools such as interviews and shadowing can be used, and the processes must be allowed to differ **(3,4)**.
- There was a tendency that the A3 methodology became undesirably dominant in the workshop meetings. Sometimes, participants seemed to pay more attention to filling in the A3 sheets than understanding the Hoshin logic.
- The importance of identifying engaging issues in the scanning phase was emphasized. The concept of 'engaging' was introduced to underline that it was impossible at this stage to decide whether those factors identified were strategic or not. At this point, it was believed to be most important to raise engagement. In company C, it was obvious that the first issue, to be "nice and tidy in the office", was neither strategic nor engaging **(8)**.
- A more extensive adaptation to the SME context is necessary in the formulation phase. The need for a revised approach was obvious in company A and D where the project

team had to experiment with a novel approach in which the formulation of a strategic position, visions, and long term objectives were abandoned, and instead an engaging issue, emerging from the scanning phase, was addressed with the PDCA methodology (5-6, 8-9).

7. A REVISED MODEL FOR THE IMPLEMENTATION OF HOSHIN KANRI IN SMEs

Jarvis (2010) argues that learning occurs when individuals experience a disjuncture; a mismatch between what the person expects to encounter and what (s)he actually discovers. What is expected to be encountered is decided by the individuals' prior knowledge, and the level of flexibility in expectations. What is discovered, can be divided into primary and secondary experiences, where the primary experience includes all senses, but the secondary is mediated by either an artefact or an individual, i.e., secondary sources which often equal a textbook or a teaching situation (Jarvis, 2006).

Due to the lack of literature on how to introduce HK, the tentative process initially used was mainly inspired by traditional planning behavior, in which analytical tools are introduced, facts are gathered in a systematic fashion and consequently evaluated upon in due time, in order to decide on the strategic direction of the company. The conclusion is that this approach overestimated both the value of the analytical process per se, as well as the resources at hand in the companies that participated in this study. Meanwhile, it was further realized that the tentative process underemphasized the need for prior contextual knowledge on the given organization, and the need to adapt to extant expectations.

As a consequence, the alternative model of introducing HK that emerged emphasizes a more flexible approach, in which the initial scanning phase is of utter importance. It is concluded that it is in this phase where an intimate knowledge of both the company and the key strategists should be established. This is needed in order to make the vital decision on how to balance the introduction of a more formalized fact-based process which relies on analytical tools, with a more iterative and cumulative process, focusing on flexibility in terms of learning from experience (cf. Kolb, 1984; Pittaway and Cope, 2007).

In the more iterative and cumulative experience-based process, the scanning phase is followed by the practice of two core elements in HK: the PDCA cycle and continuous learning. Instead of introducing the entire yearly planning cycle, the engaging issue is chosen by the top management team. In other words, a “pDCA” technique is used to address this issue. The non-capitalized “p” in the term “pDCA”, indicates the focus on the planning is downplayed, and the emphasis is on introducing the entire learning cycle. Consequently, there are experimentations and frequent iterations of the process, in addition to the time taken to reflect and reconsider initial assumptions. To accomplish this, assistance is focused on releasing time for continuous learning in top management teams (cf. Jones et al., 2007). In figure one this process is illustrated.

Figure 1. The pDCA approach to implement the annual HK planning cycle

There are five important outcomes that make this approach interesting in the SME context. Firstly, as participants are to choose an urgent, distinct, and important issue (see issue in Step 1 in Figure 1) to address, they are engaged in the process and experience an added value when progress is made in the chosen matter. Secondly, it is likely that the chosen issue has been processed for some time in the organization. Facts have been accumulated and the processing is more a question of clarifying assumptions and releasing decision power. These two first outcomes will lead to a willingness to invest more time in further solving relevant issues (e.g., repetition). Thirdly, following the repeated pDCA technique (see issues respectively in Steps 2 – 5 in Figure 1), the inherent logic in the PDCA process becomes increasingly apparent, and the practicing of the method will eventually be broadened both to the strategic, and more daily, activities. Moreover, with the repetition of the process, a behavioral routine will be established in the top management group. Fourthly, as engaging issues are analyzed,

discussed, and reflected upon within the pDCA technique, it will render the accumulation of additional facts, and the development of an increasing group-based strategic awareness (Gibb and Scott, 1985). The addition of facts and strategic awareness gradually enhance the development of a PDCA based HK strategic management system (Step B in Figure 1).

Furthermore, the importance of support based assistance in the pDCA process cannot be underestimated in this process. Building on Scott and Gibb's (1985) concept of strategic awareness, there are the aims to develop a group based strategic awareness. In order to enhance the construction of such group based awareness, three types of collective knowledge need to be developed (cf. Pettigrew, 1987): processual knowledge (routinizing the use of PDCA based thinking), content knowledge (accumulating facts on the issue in focus), and contextual knowledge (accumulating facts on the organizational (inner) and industry trends (outer) context). As the management team proceed from one issue to another, these three types of knowledge will be developed incrementally. A crucial step is the codification of this knowledge as illustrated by the 'documents' in figure 1. In this regard, support assistance had to be explicit in our all our cases.

However, one cannot overlook that in two of the companies the more traditional SP model worked rather well in the introduction phase. It is assumed that this was due to these management teams' previous familiarity with traditional analytical tools, although such familiarity that could not be seen in their managerial practices. Given their familiarity with traditional tools, the choice can be to either reduce the number of strategic issues (in Step 1-5 in Figure 1) or proceed directly to the introduction of the annual HK cycle (Step B in Figure 1). These choices again highlight the importance of the initial scanning phase for deciding on the accurate balance between the fact-based process relying on analytical tools (PDCA), and

the more iterative and cumulative process focusing on learning from experience and aiming at subsequent behavioral changes (pDCA).

Based on the limited sample of companies in this study, the learning on how to introduce HK was directed by factors such as level of prior knowledge, flexibility in expectations, and familiarity with analytical tools, in the scanning phase. However, there is an obvious need of further studies in order to identify all important factors relating to (successful) introduction of HK in SMEs.

8. CONCLUSION

This article explores how the basic principles and introduction of Hoshin Kanri (HK) are related to managerial practices in manufacturing SMEs. Based on a literature review identifying the HK principles, and models of how to implement strategic management systems in SMEs, a tentative process of how to introduce HK in four SME companies was designed. However, the initial tentative process was only partially successful which has led to the theorization of an alternative approach. It is suggested that given the results from the scanning phase, the use of traditional analytical tools aiming at an accurate positioning of the firm in the planning phase in some SMEs, has to be balanced by an iterative and cumulative experience-based process (pDCA). This pDCA approach focuses on the implementation of two core processes in HK, namely PDCA and continuous improvements, as a way to build a reflective and learning-oriented management style, and encourage systematic experimentation. In addition, it also represents an alternative balance between formalization and flexibility which seems to be attractive to many SMEs.

However, in order to decide on the two processes, the prominence of the initial scanning phase is emphasized. The understanding of the managerial practices in the individual company is decisive for the successful introduction of a new strategic management system. However, in general the view after this explorative journey is that there exists an overemphasis on formalization, analytical tools, and the analytical process aimed at identifying the ultimate future position of the firm. It is proposed that the introduction of strategic management systems in SMEs should instead focus more on processes accentuating engagement, (controlled) experimentation, and immediate relevance for the people involved.

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