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Initiation of Hoshin Kanri in SMEs using a tentative process

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Abstract

Hoshin Kanri is a management method supporting strategic work. In spite of a number of Hoshin Kanri success stories in large organizations, little research attention are given to SMEs. This research encourages an increased focus on Hoshin Kanri in SMEs. In this paper a tentative process for the initiation of Hoshin Kanri in SMEs is outlined. We also identify factors influencing the initiation of Hoshin Kanri in SMEs based on findings from eight case studies. The result shows that the initiation of Hoshin Kanri varied in the case studies as the factors enable or hinder the initiation of Hoshin Kanri.

Keywords: Strategy deployment, policy deployment, small and medium-sized enterprises

Introduction
Hoshin Kanri is a strategic management method originally developed in Japan. Hoshin Kanri is widely adopted in Japanese companies, but less spread in Western companies. Even though the few companies in West that have applied Hoshin Kanri have won many reputable awards, Hoshin Kanri has not gained widespread popularity neither in industry nor in academia (Tennant and Roberts, 2001; Jolayemi, 2008; Nicholas, 2014). There is a potential of adopting Hoshin Kanri in organizations, as the approach is inclusive in nature, i.e., assumes the involvement of all employees and functions in a company, and integrates strategies into daily operations (Kondo, 1998; Marksberry, 2011; Nicholas, 2014).

When Hoshin Kanri is described in literature, it is often in terms of structured and systematic methodologies (Babich, 2005; Jackson, 2006; Jolayemi, 2008; Witcher, 2014). A review literature of Hoshin Kanri methods disclose a focus on complex methodology

consisting of numerous tools. Few of the identified methodologies communicated how to initiate and operationalise a Hoshin Kanri approach into an organization.

In spite of a number of Hoshin Kanri success stories in large organizations, there is few evidence of adoption of Hoshin Kanri in small and medium sized enterprises SMEs (Jolayemi, 2008). While larger companies are important for economies, SMEs are the backbone of modern economies. Over 99% of all manufacturing companies in European Union are SMEs (EC, 2014), and thus key drivers for economic recovery and growth. This calls for special attention towards the conditions of SMEs. One of the reasons why SMEs should adopt a Hoshin Kanri approach is that they often have an operational focus (Hudson et al., 2001; Ates et al., 2013). To remain competitive and grow, SMEs should focus both on operational and strategic issues. There is a great potential for SMEs to adopt a Hoshin Kanri approach in a manner that contributes to the strategic work. Hence, there is a remaining need for making the knowledge about Hoshin Kanri available and applicable in SMEs. This paper aims at increasing the understanding of how Hoshin Kanri can be initiated in SMEs. Specifically, the following research questions will be addressed:
1. How can Hoshin Kanri be initiated in SMEs?
2. What factors influence the initiation of Hoshin Kanri in SMEs?

For this paper, the initiation of Hoshin Kanri have been studied in eight SMEs. The paper reports on the experiences from these intervention and also elaborates on the factors influencing the initiation of Hoshin Kanri in SMEs. A tentative process to a Hoshin Kanri approach is also outlined.

A brief overview of Hoshin Kanri
Hoshin Kanri has been given different defintions or interpretations by various authors (see e.g. Akao, 1991; Kondo, 1998; Witcher and Butterworth, 1997; Lee and Dale, 1998; Tennant and Roberts, 2001; Hines et al., 2004). The meaning of Hoshin is shining metal, compass or pointing direction and Kanri means (daily) management or control (Jolayemi, 2008). Together the two words communicate the basic idea of the approach. King (1989) in Witcher (2014, p. 74) describes Hoshin Kanri as follows:

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

According to the seminal work by Akao (1991) Hoshin Kanri provides a step-by-step planning, implementation and review process for managed change. Previous studies (Jolyaemi, 2008; Nicholas, 2014) identified elements commonly associated with Hoshin Kanri processes. The most common elements are: PDCA, Vision, strategy, long and – medium term goals, Cascade objectives, Catchball, Means/ends and targets, Objectives linked to daily work. These elements will be briefly described below.

The overall Hoshin process consist of the PDCA methodology. Hoshin has been described as "s*imply PDCA applied to the planning and execution of a few critical (strategic) organizational objectives* " (King, 1989, in Witcher 2014 p. 73). PDCA is the Deming's P(lan), D(o), C(heck), A(ct) problem solving process (Jackson, 2006; Jolayemi, 2008; Sobek and Smalley, 2008; Shook, 2009; Witcher, 2014). The problem solving process is described as the heart of the Toyota Way (Shook, 2009). To communicate and

describe objectives or problems, an A3 report is often used (Sobek and Smalley, 2008). However, A3 is not only a report, but a communication tool and a way of thinking and working with problem solving (Shook, 2008).

Vision, strategy, long and –medium term goals. Annual strategic objectives are developed based on the vision and long term strategy into a few key objectives (3 - 5) that should be achieved during the year (Jackson, 2006; Nicholas, 2014, Witcher, 2014).

Cascade objectives. From the few key objectives, key functions are identified and involved in the analysis, planning and execution. The objecitves and plans are cascaded to all levels in the organization.

Catchball. Catchball refers to the two-way top-down, bottom-up process throguh which objectives and plans are spread in the organization. Objectives, plans annd activitites at each level in the organization are discussed with the next level (Lee and Dale, 1998; Tennant and Roberts, 2001; Nicholas, 2014, Witcher, 2014).

Ends/means and targets. This element is closly related to the catchballing as it describes that the goal (end) of each organizational level is to establish the actions (means) needed to achieve the goals and targets set by the next-higher level (Nicholas, 2014).

Objectives linked to daily work. As the Hoshin objectives are cascaded down in the organization, the lower level managers meet them via the daily plans, control and management.

Hoshin Kanri in SMEs

Tennant (2007) represents the only identified source with an explicit SME focus as it reports on an action research project in a small company (20 employees). He concludes that Hoshin Kanri offers a high potential in the SME context as the introduction of the model transformed the organizational culture in the case company into a more holistic view of the business. Tennant (ibid) urges for more studies of Hoshin Kanri in the SME context.

Research methodology

This article reports from the second phase of a research project financed by The Swedish Governmental Agency for Innovation Systems (VINNOVA) between 2013-2016, aiming to develop an agile method for strategic work for innovation and growth in SMEs. The ideas in Hoshin Kanri are proposed to be the base for the agile method.

This research is being carried out as action research. A project team consisting of three researchers and two expert trainers, initiated Hoshin Kanri in SMEs in Sweden. At each company, one coach and one researcher participated. The coach's role was to coaching them how Hoshin Kanri would enhance their strategy work. The researcher's role was mainly to observe the metodholdy, as well as observe the coach and the company's participants.

The paper is based on literature reviews and empirical studies. The main method used in this paper to collect empirical data is case studies. For this paper, eight case studies were conducted. The cases were selected through the companies' participation in the research project. The companies in the research project were selected based on following criteria: the first criteria was that a company should either belong to the wood industry, and if not, the company should work with lean principles (see for example, Liker, 2004). The next criteria were that a company should be a SME[1], and willingness to participate in the research project. The case companies are divided into two groups; A

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[1] A SME according to EC (2014) has between 11 and 250 employees, a turnover between 11 and 50 M € and a balance sheet between 11 and 43 M €.

and B. See Table 1 for more information about the companies. The unit of analysis was the initiation of a Hoshin Kanri approach in SMEs.

Table 1 – Characteristics of case companies

Company	Industry/products	No. of employees	Ownership
Group A			
A	Saw-mill	15	Family
B	Supplier to sport- and activity centers	36	Privately owned
C	Supplier of sheet metal	80	Family
D	Manufacturer of modular buildings	150	Listed company
Group B			
E	Electrical engineering and manufacturing	39	Privately owned
F	Manufacturer of doors	21	Family
G	Manufacturer of building components	18	Company group privately owned
H	Manufacturer of houses	27	Privately owned

The data were collected by means of reading documents, interviews, workshops, and observations at top management meetings, see Table 2. Between the meetings and workshops, there have been shorter telephone or Skype meetings with all case companies. In order to analyse the data and secure the learning process following actions were taken.

Table 2 – Data collection

Company	Initial meeting	Initiator in company	No of observations at top management meetings	No of interviews	No of workshops
Group A					
A	Sep. 2013	Sales responsible	0	4	2
B	Sep. 2013	CEO and administrator	0	3	6
C	Sep. 2013	CEO	1	2	2
D	Sep. 2013	CEO	1	5	5
Group B					
E	Oct. 2014	CEO/owner	1	2	4
F	Oct. 2014	CEO/owners	0	2	6
G	Feb. 2015	CEO	0	1	3
H	March 2015	Plant Manager	0	3	2

A) preparation of a fact sheet on each company, information compiled from previous contacts, homepages and official sources. B) the presence of two (often three) from the project team in all activities at the companies. All present took notes and afterwards they were transcribed within 24hours. C) A de-briefing session after each activity. The project team had between 30 minutes and 2 hours of drive to the participating companies. I.e., plenty of time to plan and evaluate the specific activity. D) a systematic evaluation of experiences in regular project meetings with the team, using the transcribed notes as a starting point. At these meetings each case companies was analysed and thereafter cross-case analysis were conducted.

The factors identified in this paper derives from the empirical findings, and were identified from the data analysis described above. All identified factors were synthesised

and grouped into the factors described in this paper. First all factors were analysed for each company, and thereafter a cross-case analysis was conducted. The aim with the cross-case analysis was to see if there existed patterns that hindered or enabled the initiation of Hoshin Kanri in the case companies.

Development of a tentative process for initiation of Hoshin Kanri
When outlining the tentative process of initiation, the advice deriving from the Hoshin Kanri literature was combined with the pre-knowledge gained by the project team in other similar projects. From this, we developed a tentative process in two phases covering the Plan part of the PDCA methodology.

In phase one, *the scanning,* interviews were made with top management and owner representatives, the aim was for the project team to understand the history of the company, the present strategies and strategists in the company, personal driving forces, as well as outlining the current situation. Depending on the management teams this could include several visits to the company. We started with interviews and later the aim was to conduct shadowing visits in order to catch the practice of strategizing in the company.

The scanning phase was followed by a *formulation phase* in which three initiation strategies were identified (Melander et al., 2015). The three initiation strategies are as follows:

(1) to apply a traditional strategic planning process, which included workshops, mapping the internal and external environment, the establishment of a vision and decision on long and short term objectives. This inititation is inspired by Jackson's (2006) scanning phase in his Hoshin Kanri process. This to be followed by a deployment process.

(2) to apply an iterative and cumulative experienced based strategy, in which the PDCA methodology is the primary tool repeatedly used to solve engaging issues. As top management is comfortable with this, gradual deployment of the technique takes place in the organization

(3) a combination of the two methods in which the second strategy gradually resulted in the adaption of more traditional planning tools establishing corporate objectives and vision.

One initiation straetgy was introduced in the case companies. The three initiation strategies have been developed during the initiation in the case companies. In the two first companies A and B, initiation strategy 1 was introduced and thereafter initiation 2 and 3 have been developed due to to different preprequsisites in the case companies. The prerequisites are in this paper translated into factors influecing the initiation of Hoshin Kanri.

Factors influencing the initiation of Hoshin Kanri in SMEs
This chapter will present and briefly describe the identified factors influencing the initiation of Hoshin Kanri. The factors were identified from the empirical findings. Table 3 summarizes the identified factors influencing the initiation of Hoshin Kanri in all case companies.

Written strategies and strategic work. As Hoshin aims at plan and execute strategic objectives and have a long term focus, the strategizing and use of written strategies influence the initiation of Hoshin Kanri. The use of written strategies are interesting as written strategies can be a tool to communicate the long term plans in the organization.

Table 3 – Identified factors influencing the initiation of Hoshin Kanri

	Company							
	Group A				Group B			
	A	**B**	**C**	**D**	**E**	**F**	**G**	**H**
Initiation strategy	1 (+2)	1	2	2	2	3	1	1
Written strategies	No	No	No	Yes	Yes	No	No	No
Strategic work	No	No	No	Yes	Yes	No	No	No
Strategic or operational focus	Operational	Both	Both	Both	Both	Both	Both	Both
Lean experience	No	No	Yes	Yes	Yes	No	No	No
Work with continuous improvement	No	No	Yes	No	Yes	No	No	No
Top management team	No	No	No	Yes	Yes	Yes	Yes	Yes
Top management team meetings	No	No	No	Yes	Yes	No	No	Yes
Leadership commitment	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Leadership involvement	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Organization open for change	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes (top management team)

Companies B, C, F, G and H had informal, non-written strategies, while companies D and E had a written strategies. Company A had no long term strategies, and focused on short term operational activities due to recent owner succession.

Companies D and E reviewed their strategies annually. In this annual process, company E identified and prioritised activities in an action plan aligned with the strategies.

Lean experience and work with continuous improvement. Hoshin aims at strategies and long term plans and cascading of them into the organisation. Continuous improvement is a mindset for change and should support strategic objectives. Continuous improvement is vital in lean (Liker, 2004) and considering this, Hoshin, continuous improvement fit hand-in-hand (Kesterson, 2014). In this paper lean experience means that a company has worked with the tools and methods as included in lean production. Continuous improvements is a key part of lean production, but it is not sure that all companies with lean experience work with continuous improvements. Due to this, the

work with continuous improvements is separated from lean experience. Work with continuous improvements in this paper includes an experience and application of the PDCA methodologies, experience of daily management and an overall continuous improvements mindset.

Company D had some experience of lean principles as they had taken some courses and used some lean tools in manufacturing. Companies C and E had successfully participated in a lean manufacturing programme and worked with continuous improvements in manufacturing. Company E had a problem solving approach in manufacturing and documented their improvements in A3 reports.

Strategic or operational focus. The focus of the company influences the initiation of Hoshin Kanri as the benefits of working with Hoshin Kanri may take long time to see. The adoption of Hoshin Kanri takes time, up to four years according to Hoshin experts (Kesterson, 2014), and it is more a way of living than implementation of a project. Considering this, companies initiating Hoshin Kanri should have a more long term strategic focus. However, to engage the employees and keep them interested, small quick wins needs to be reached in the initiation. The small quick wins is assumed to be operational issues that engage the employees today.

Companies A and F had a fire fighting mentality before Hoshin Kanri was initiated, and decided to work with operational issues like customer claims using the PDCA methodology. In company A, initiation strategy 1 was introduced. However, company A had a strong operational focus and as the strategic work was not an engager, this initiation strategy was s abandoned in favour of initiation strategy 2 focusing on operational issues. Company F included strategic objectives in their Hoshin process to understand what they should improve in their organization. Companies G and H focused on operational issues, but thought a lot about strategies, and therefore it was decided that initiation strategy 1 should be introduced in these companies.

Leadership commitment Leadership commitment and involvement influence the initiation of Hoshin Kanri as the leader sets the directions for the organization. Without commitment and involvement from both CEO and top management, the true importance of the initiative will be in doubt and the energy behind it may decrease.

The case companies agreed to participate in the research project as the contact person was convinced about the potential benefits of adopting Hoshin Kanri. Hoshin Kanri was manifested through commitment from the contact person (see Table 2) as well as allocation of resources and time. The top managers got involved early in the initiation process and in most case companies, the top management team identified the strategic objectives or problem areas as well as gaps and hinders together. Thereafter an owner for each activity in the action plan was identified. This lead to involvement from most of the top management. However, in company A, the owners were skeptical to Hoshin Kanri as they had a strong focus on solving operational issues.

Top management team and regular top management team meetings. Top management and regular top management team meetings influence the initiation of Hoshin Kanri as Hoshin Kanri is inclusive in its nature as well as a structured process. Teamwork, engagement and involvement are vital in Hoshin Kanri. Considering this, the people in the top management team will work together and therefore it is of importance to understand if and how the top management team worked together before the initiation of Hoshin Kanri.

Hoshin is also an iterative and structured process for working with strategic objectives (Tennant and Roberts, 2001). This means that the top management team should meet on regular basis to discuss the progress of the strategic objectives. If the top managers are not used to work together and do not have regular top management team meetings this may hinder or delay the initiation of Hoshin Kanri.

Companies B and F had informal top management teams with irregular meetings. The need to meet and discuss the Hoshin issues forced them to meet on more regular basis. Companies C and F had formal top management teams with regular meetings. There existed agendas and documents from these top management meetings, but mostly they discussed operational issues before the initiation of Hoshin Kanri.

Organization open for change and organizational culture. The organizational culture and its openness for change influence the initiation of Hoshin Kanri as Hoshin Kanri includes change in how the organization plans and deploys its strategy. As written above, Hoshin is inclusive and everyone's will be involved, the employees will deploy the strategic objectives and they will be impacted by the end result (Tennant and Roberts, 2001; Kesterson, 2014). Therefore it is important to understand the organizational culture and its openness for change before initiating Hoshin Kanri.

Company F was open for change as they quickly implemented daily management in manufacturing and worked with the activities that was rolled down to them. In company E they worked and lived with continuous improvements and opened up for and supported the initiation of Hoshin Kanri. Company A was more resistant to this change as they focused on solving the operational issues. In company H the top management knew they needed a change due to a heavy workload on these people. Due to this, the top management team were open for adopting Hoshin Kanri as a way to structure and prioritise their work.

Discussion

The findings indicate that the factors described above are likely to enable or hinder the initiation of Hoshin Kanri in SMEs. Some factors enabling or hindering the initiation will be discussed below.

The most important factor for initiation of Hoshin Kanri is leadership commitment. If the CEO is not committed and involved, the adoption will likely fail. Leadership commitment is also an enabling factor, or according to Ellen Domb in Kesterson (2014, p. 79), "*It [Hoshin Kanri] needs* to *be "personally owned" by the CEO*". Here it may be easier for SMEs than larger companies to adopt Hoshin Kanri as the ownership/management and decision-making often are one.

More enabling factors for initiation of Hoshin Kanri are the top management team with regular and structured meetings. As Hoshin Kanri includes involvement, engagement and cascading of activities, it is assumed that the top management team must be a team and work together. If this do not exist, the initiation of Hoshin Kanri may be delayed or hindered.

Written strategies and strategic work are good basis for the initiation of Hoshin Kanri and here viewed as enabling factors. Here a strategic focus is also included as it can be assumed that companies having written strategies and strategic work have a long term focus. The initiation and adoption of Hoshin Kanri may be easier and go faster if a company are used to plan and execute strategies. The findings indicate that the identification of the vital few strategic objectives can be easier if a company already has written strategies. One example is company E that easily decided which strategic objectives/challenges they needed to focus on when we initiated Hoshin Kanri. If

companies do not have written strategies, it can be a first step to work with, if this is an engager. Company F had informal strategies and decided that the first activity in the initiation of Hoshin Kanri should be to formalise the strategy as well as involving the white collars in this process. This activity engage all the participants and lead to a shared view of the long term plans. Here there may also be a difference in SMEs and larger companies. In the case companies, only a few companies had a written strategy and reviewed and updated it on regular basis. For larger organizations, it may be easier to initiate Hoshin Kanri as they may have a more formalised strategic work with written strategies.

As our approach to Hoshin focus on PDCA and A3 methodologies it can be assumed that an organization that already work with continuous improvements with a problem solving approach and experience of A3 reports could adopt the Hoshin Kanri approach faster. As we are in the beginning of studying the adoption of Hoshin Kanri in SMEs, this will be further investigated when more activities have been cascaded down into the organization.

Conclusion

The aim with this paper was to increase the understanding of how Hoshin Kanri can be initiated in SMEs. The first research question aimed at investigating how Hoshin Kanri can be initiated in SMEs. A tentative process with three initiation strategies was outlined. The tentative process has also been introduced in eight SMEs. The choice of initiation strategy and outcome of initiation depended on the identified factors.

The second research question aimed at identification of factors influencing the initiation of Hoshin Kanri. The factors influencing the initiation of Hoshin Kanri in SMEs are summarized in Table 3 and the findings indicate that these factors can hinder or enable the initiation. Leadership commitment and engagement was found to be one of the most vital factors for initiating Hoshin Kanri.

Nicholas (2014) concluded that there exist few evidence of empirical studies of Hoshin Kanri. This paper contributes to deepen the knowledge of Hoshin Kanri in practice by conducting empirical studies of the initiation of Hoshin Kanri in eight SMEs.

Hoshin Kanri supports companies towards a sustainable growth by involving employees and organizing the strategic work. This paper is a step closer to make Hoshin Kanri available and applicable in SMEs.

Future research

The research project continues until September 2016 and we will continue coaching the participating companies and studying their initiation and adoption of Hoshin Kanri. The next step in our research is to further test and refine the alternative strategic model to Hoshin Kanri in more SMEs.

The identified factors influencing the initiation of a Hoshin Kanri approach will be investigated further. Additional literature will be added to deepen the understanding of the factors.

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