Analysing high performance in the manufacturing industry: the case of WP Haton

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Abstract

In order to reach high performance, manufacturing companies need to develop agile strategies and react quickly to changes in customer preferences. To be able to do this, manufacturing companies have implemented many new practices, from techniques such as MRP to supply chain management. A recent promising technique is the high performance organization (HPO) framework, a comprehensive and scientifically validated model which incorporates the factors that an organization has to pay dedicated attention to in order to achieve sustainable high performance. The HPO Framework can be used both to analyse an organization on the areas it needs to pay attention to in order to become an HPO, and to analyse an organisation which is already an HPO on its strong areas in order to identify best ideas. In this article the HPO Framework is used in the latter way, i.e. to analyse a manufacturing HPO WP Haton, on its strong areas in order to identify best ideas that potentially can be used by other organizations in their transformation to HPO.

Key words: high performance organisations, HPO Framework, manufacturing, excellence, performance

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Introduction

In a study of databases containing information on manufacturing strategies, practices and performances of more than 700 manufacturing companies, Szász (2012) showed that in order to reach high performance manufacturing companies need to develop agile strategies and react quickly to changes in customer preferences. To be able to do this, manufacturing companies have implemented many new strategic, tactical and operational practices, from techniques such as MRP to supply chain management (Ortega et al., 2012). Tickle et al. (2105) looked into the awareness, use and perceived effectiveness of 21 improvement techniques in the manufacturing sector in five countries and found that manufacturing companies are prone to using techniques like lean, QFD (quality function deployment, to measure customer satisfaction), quality management systems, six sigma and 5S (short, straighten, shine, standardize, sustain). Interestingly, more comprehensive techniques like Business Excellence and TQM were among the least used techniques. An improvement technique that quite recently has become popular in the manufacturing industry is that of the high performance work systems (HPWS). Leffakis and Moran (2014) found that implementing HPWS, essentially a bundle of complementary HMR practices, significantly increased operational performance of US mass customization manufacturers. Their findings were mirrored by Mao et al. (2013) who discovered that applying HPWS practices in Chinese manufacturing companies had a positive effect on employees' commitment and

their job satisfaction. That applying improvement techniques is worthwhile was shown by Kim et al. (2008) who found, in a study of American manufacturing SMEs, that those manufacturing companies that dedicatedly improved their operations, supply chain and market orientation outperformed companies that did not do this on multiple non-financial (such as delivery times, quality, new customer gains, customer retention) and financial (such as cost reductions, asset utilization, market share, return on investment, net profit) ratios. Belekoukias et al. (2014) investigated the impact of five lean methods (JIT, automation, kaizen, total productive maintenance, value stream mapping) on the operational performance of 140 manufacturing organizations and identified that JIT and automation had the biggest effect on operational performance while kaizen, TPM and VSM had a lesser or even negative effect on performance.

So it seems worthwhile for manufacturing companies to invest in the implementation of improvement techniques as a means to improve their organizational performance. Many of the companies have in the past decades turned to the technique of lean management. Moyano-Fuentes and Sacristán-Díaz (2012) looked at multiple empirical studies into the relation between lean and organizational performance and found that the main benefits of lean consisted of reducing process variability, scraps, and rework time, which in turn reduced production costs and lead times and increased process flexibility and quality conformance. Bortolotti et al. (2015) analysed a sample of the High Performance Manufacturing, which consisted of manufacturing plants operating in mechanical, electronics, and transportation equipment sectors in ten countries, and found that manufacturing plants that implemented lean successfully had, in comparison to plants with unsuccessful implementations, a culture of higher institutional collectivism, a future orientation, a humane orientation, and a lower level of assertiveness. In addition, these plants used so-called soft lean practices more extensively (i.e. lean practices concerning people and relations, problem solving, employees' training to perform multiple tasks, supplier partnerships, customer involvement, and continuous improvement). However, applying lean management does not always lead to positive organizational results. Camacho-Miñano et al. (2013), in an extensive study of the empirical literature into the effect of lean management on financial performance, found that profitability did not always increase when lean management was implemented. Bouville and Allis (2014) even found negative consequences of the introduction of lean management on the job satisfaction, employees' health and employees' intention to stay at a French multinational. A reason for these contradictory results could be that lean management mainly aims at improving operational processes and as a logical consequence increases operational and not organizational performance. This possible explanation is supported by Jasti et al. (2015) who uncovered, in a review of 546 articles on lean management published between 1988 and 2011, that most research studies concentrated on the application of lean management in operations and not across the complete organization. This finding is mirrored by Lesmeister et al. (2012, p. 17) who remarked that in manufacturing companies most improvement programs focus on shop-floor operations and "leaning operations which is critical but ignores the important fact that organizational factors influencing the strength of the internal organization can block or pave the way for high-performance manufacturing."

Thus there is a need for a more holistic technique which can be used to analyse and subsequently improve the organizational performance of manufacturing companies. To have a technique like that available is all the more important as Camacho-Miñano et al. (2013) noticed in their aforementioned literate review that organizations that used the most comprehensive models (i.e. considering financial and operational indicators and contextual factors) did experience a positive and significant impact of lean on financial performance. Such a tool is in this article introduced to the manufacturing industry: the high performance organization (HPO) framework (Waal, 2012b). This framework was developed based on data from many industries, including the manufacturing industry, and has thus far been applied in the diamond (Waal et al, 2014a), education (Waal and Sultan, 2012), banking (Waal and Frijns, 2011), food (Waal and Haas, 2013), governmental (Waal et al, 2014c), insurance (Honyenuga et al., 2014), media (Waal et al., 2015), training (Waal et al, 2014b) and transport (Waal and Frijns, 2014) sectors. The HPO Framework can be used to analyse an organization on the areas it needs to pay attention to in order to become an HPO, and it can be used to analyse an HPO on its strong areas in order to identify best ideas that potentially could be used by other organizations in their transformation to HPO. In this article the HPO Framework is used in the latter way, i.e. to analyse a manufacturing HPO, WP Haton, on its strong areas in order to identify best ideas. The remainder of this article is structured as follows. In the next two sections the HPO Framework and the case company are described. Subsequently the research approach and the identified best ideas are discussed. The article ends with a conclusion.

The HPO Framework

The high performance organization (HPO) framework was developed based on a descriptive literature review (Phase 1) and empirical study in the form of a worldwide questionnaire (Phase 2) (Waal, 2006 rev. 2010, 2012a+b). The first phase of the study consisted of collecting the studies on high performance and excellence that were to be included in the empirical study. Criteria for including studies in the research were that the study: (1) was aimed specifically at identifying HPO factors or best practices; (2) consisted of either a survey with a sufficient large number of respondents, so that its results could be assumed to be (fairly) generic, or of in-depth case studies of several companies so the results were at least valid for more than one organization; (3) employed triangulation by using more than one research method; and (4) included written documentation containing an account and justification of the research method, research approach and selection of the research population, a well-described analysis, and retraceable results and conclusions allowing assessment of the quality of the research method. The literature search yielded 290 studies which satisfied all or some of the four criteria. The identification process of the HPO characteristics consisted of a succession of steps. First, elements were extracted from each of the publications that the authors themselves regarded as essential for high performance. These elements were then entered in a matrix which listed all the factors included in the framework. Because different authors used different terminologies in their publications, similar elements were placed in groups under a factor and each group - later to be named ‘characteristic’- was given an appropriate description. Subsequently, a matrix was constructed for each factor listing a number of characteristics. A total of 189 characteristics were identified. After that, the ‘weighted importance’, i.e. the number of times a characteristic occurred in the individual study categories, was calculated

for each of the characteristics. Finally, the characteristics with a weighted importance of at least six percent were chosen as the HPO characteristics that potentially make up a HPO, this were 35 characteristics.

In Phase 2 the 35 potential HPO characteristics were included in a questionnaire which was administered during lectures and workshops given to managers by the author and his colleagues all over the world. The respondents of the questionnaire were asked to indicate how well their organization performed on the various HPO characteristics on a scale of 1 (very poor) to 10 (excellent) and also how its organizational results compared with its peer group. Two types of competitive performance were established (Matear et al., 2004): (1) Relative Performance (RP) versus competitors: RP = 1 – ([RPT - RPW] / [RPT]), in which RPT = total number of competitors and RPW = number of competitors with worse performance; (2) Historic Performance (HP) of the past five years (possible answers: worse, the same, or better). These subjective measures of organizational performance are accepted indicators of real performance (Dawes, 1999; Heap and Bolton, 2004; Jing and Avery, 2008). The questionnaire yielded 2015 responses of 1470 organizations. With a non-parametric Mann-Whitney test 35 characteristics, categorized in five factors, with both a significant and a strong correlation with organizational performance were extracted and identified. The factor scales showed acceptable reliability (Hair et al., 1998) with Cronbach alpha values close to or above 0.60.

The research yielded the following five HPO factors (in the Appendix the 35 HPO characteristics are given):

1. *Management Quality*. Belief and trust in others and fair treatment are encouraged in an HPO. Managers are trustworthy, live with integrity, show commitment, enthusiasm, and respect, and have a decisive, action-focused decision-making style. Management holds people accountable for their results by maintaining clear accountability for performance. Values and strategy are communicated throughout the organization, so everyone knows and embraces these.
2. *Openness and Action-Orientation*. An HPO has an open culture, which means that management values the opinions of employees and involves them in important organizational processes. Making mistakes is allowed and is regarded as an opportunity to learn. Employees spend a lot of time on dialogue, knowledge exchange, and learning, to develop new ideas aimed at increasing their performance and make the organization performance-driven. Managers are personally involved in experimenting thereby fostering an environment of change in the organization.
3. *Long-Term Orientation*. An HPO grows through partnerships with suppliers and customers, so long-term commitment is extended to all stakeholders. Vacancies are filled by high-potential internal candidates first, and people are encouraged to become leaders. An HPO creates a safe and secure workplace (both physical and mental), and dismisses employees only as a last resort.
4. *Continuous Improvement and Renewal*. An HPO compensates for dying strategies by renewing them and making them unique. The organization continuously improves, simplifies and aligns its processes and innovates its products and services, creating new sources of competitive advantage to

respond to market developments. Furthermore, the HPO manages its core competences efficiently, and sources out non-core competences.

5. *Employee Quality*. An HPO assembles and recruits a diverse and complementary management team and workforce with maximum work flexibility. The workforce is trained to be resilient and flexible. They are encouraged to develop their skills to accomplish extraordinary results and are held responsible for their performance, as a result of which creativity is increased, leading to better results.

The HPO research shows that there is a direct and positive relationship between the five HPO factors and competitive performance: the higher the scores on the HPO factors (HPO scores), the better the results of the organization, and the lower the HPO scores the lower the competitive performance. The research also shows that all HPO factors need to have equal scores, and that when the organization achieves an average score of 8.5 or higher on all factors it can be considered to be an HPO. An organization can evaluate its HPO status by conducting an HPO Diagnosis. During this diagnosis management and employees fill in the HPO Questionnaire, consisting of questions based on the 35 HPO characteristics with possible answers on an absolute scale of 1 (very poor) to 10 (excellent). The individual scores are averaged to scores on the HPO factors for the complete organization. These average scores indicate for which HPO factors and HPO characteristics the organization has to take improvement action in order to become an HPO.

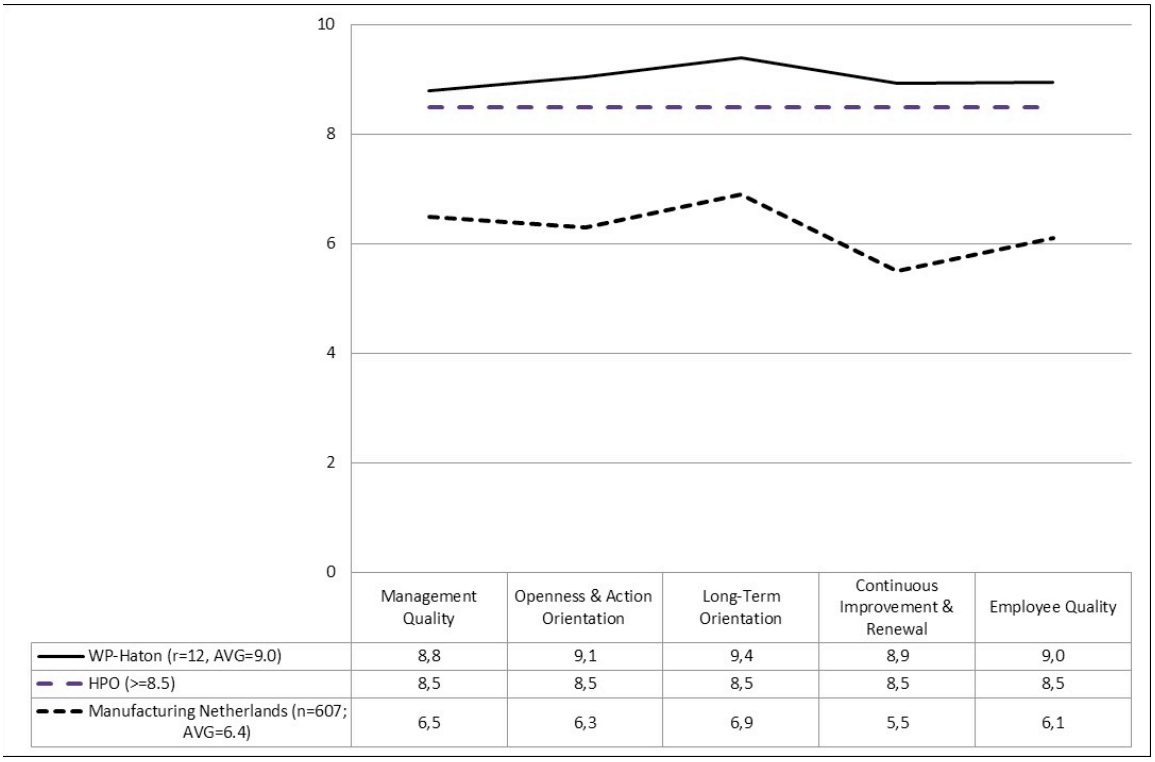
The Case Company: WP Haton

WP Haton is a Dutch company specializing in manufacturing bakery equipment for Dough Handling (WP Haton, 2015), which can run from a small traditional bakery to an industrial line of one hundred meters. The company is part of the WP Bakery Group based in Germany and employed 139 people at the time of the research. The mission of the company, “WP-Haton – the premium brand in dough make-up systems worldwide,” is translated in a vision of being leading in technology, having competence in workmanship, providing emotion by innovation, approaching implementations by transfer of know-how within and know-how carriers around the organization, and striving for co-creation of concepts with customers and suppliers. This vision has been converted in the following goals: a strong financial structure, continuous growth, pro-active in marketing and service, image leader in the bakery world, and an attractive employer. The company devises, manufactures and supplies innovative total concepts for automated dough processing in bakeries, in a wide range of modularized production lines with names such as Crustica™, Baguetta™, Classica™, Instant™, Easy Toast™, Ryena™ and Sweety™, and sells these worldwide. WP Haton strives for market recognition for the quality, variety, longevity and reliability of these product lines. In addition, the company stands for open communication, and honest and sincere commitment with its customers resulting in pleasant and professional relationships where the competitive advantage of the customers is WP Haton’s guiding principle. As part of this commitment to customers the company developed a training centre, the Haton Dough Centre, as a separate component of the production factory, right in the middle of the operating area. Here WP Bakery Group equipment is demonstrated and tested and bakers, agents, distributors, technicians and their affiliates receive detailed information on the benefits and use of the production line and equipment.

Research Approach

After one of the presentations the author regularly gives on the topic of HPO he was approached by representatives of WP Haton who claimed that at their company many of the characteristics of HPO were already in place and practiced. This naturally raised the interest of the author and an appointment was made for him to visit WP Haton and interview several of its representatives. In preparation the HPO Questionnaire was distributed among a sample of approximately 60 of WH Haton's personnel. This sample was selected by WP Haton's finance director who made sure a cross-section of the company's personnel was asked to participate. In total 12 valid questionnaires were received back, 2 from higher management, 6 from middle management, and 4 from employees. Figure 1 depicts the HPO scores for WP Haton, as calculated from these 12 questionnaires. The appendix lists the detailed scores for the 35 HPO characteristics for the total company, and for higher management, middle management, and employees.

Figure 1: The HPO scores of WP Haton, compared with the average scores for the Dutch manufacturing industry



	Management Quality	Openness & Action Orientation	Long-Term Orientation	Continuous Improvement & Renewal	Employee Quality
WP-Haton (r=12, AVG=9.0)	8,8	9,1	9,4	8,9	9,0
HPO (>=8.5)	8,5	8,5	8,5	8,5	8,5
Manufacturing Netherlands (n=607; AVG=6.4)	6,5	6,3	6,9	5,5	6,1

An HPO scores at least an 8.5 on each of the HPO Factors (Waal, 2012b) and, as Figure 1 shows, based on the received HPO Questionnaires WP Haton is clearly an HPO. The company also scores much higher than the average Dutch manufacturing company, as the average score for the manufacturing industry (as calculated from the data collected in the HPO database of the author from manufacturing companies in the Netherlands) is 6.4 compared to WP Haton's 9.0 average score. It is interesting to see that in itself WP Haton seems to basically be a typical Dutch manufacturing company as the shapes of the HPO lines for WP Haton and the Dutch manufacturing industry more or less match: WP Haton's line is

less outspoken and has a slight dip at HPO Factor Management Quality but for the rest the graphs are comparable. This means that WP Haton., although operating in the same environment as its peer group, seems to be doing everything related to high performance much better than this peer group. As the HPO definition predicts, this difference should also be seen in the financial and non-financial results of WP Haton. This is indeed the case as the company had on average over the past five years an EBIT (earnings before interest and tax) of 7 to 8 percent while its peer group scores between 4 and 6 percent (ING, 2014). In the past two years the efficiency of the company also increased: with 32 employees less the turnover increased 11 percent while another 15 to 20 percent efficiency gain is expected this year.

The author visited the company at its location in the Dutch town of Panningen where he got a tour of the facilities and spoke to several employees on the work floor. Subsequently he conducted an interview with two representatives from the company, the finance director and the project manager. This interview was taped and transcribed by a third party. Thereafter this article was written based on this transcription, and the first draft was send to the interviewees for review. The article was updated and permission for publication was obtained from the company.

WP Haton's Best Ideas

In this section the identified best ideas as practiced at WP Haton are described. These ideas are grouped according to groups of HPO characteristics which have the highest scores (see the Appendix).

Unique strategy/client orientation

This sub-section looks at how WP Haton deals with the HPO characteristics 'The organization has adopted a strategy that sets it clearly apart from other organizations' and 'The organization is aimed at servicing the customers as best as possible.' WP Haton no longer looks at which machine it can sell to the customer but concentrates on devising and subsequently selling a customized 'bread solution' to the client which nearly always consist of a complete production line and no longer individual machines. This is emphatically done in co-creation with customers. This concept of 'Think in Bread, not in Steel' made WP Haton a unique company as most competitors in the industry only sold individual machines and thus were not able to offer a complete bread production line. However, soon competitors started to imitate this concept and thus WP Haton had to invent a new concept. This was done in the form of the so-called Haton Experience Centre which basically is an experience hall which was created in the middle of the company's production facility in Panningen. In this hall the various machines on offer are installed and customers can play around and test these. Therefore the hall is not a sales demonstration place where customers can look but not touch, it is expressly intended for people to actually work with these machines. WP Haton employs two bakers, named dough technologists, who help visiting bakers (the clients) look for and devise specific solutions for their bread production, either on their current machine or on another WP Haton machine. In addition, the technologists can show customers, before they install the production line at their facilities, how to achieve the proper settings for their machines which saves customers a lot of time and aggravation. In the past year 92 organizations, with in total 300 people, paid a visit

to the bread factory and having this unique hall has increased both the reputation of WP Haton as a leading company and its sales. In addition WP Haton has a 'Bread Laboratory' in which it develops new and more cost-efficient way for creating various bread types. This again is always done in co-creation with customers whose bakers, together with WP Haton's dough technologists look at how WP Haton's machines can optimally be adjusted.

Another concept the company devised is 'Blue Value' which is based on pro-active service thinking. Most service delivery is reactive where a company reacts on a particular request or complaint of one of its customers. WP Haton has created an electronic connection (telemetry) between its machines at customers' locations and headquarters in Panningen. From there these customers' machines are constantly monitored on anomalies in such a way that WP Haton can warn a particular client when something out of the ordinary happens: "We can see that during the night shift you experience on the third machine in the fourth line regular malfunctions. We suspect this is due to a wrong setting on this machine by operator XYZ, as he is always on duty during this shift. We recommend giving this operator an extra training so he knows exactly what to do. And this will increase your efficiency form the current 85 percent back to 93 percent." Clients appreciate this 'Blue Control' service a lot as it makes it possible for them to correct inefficiencies quicker than normal and even to prevent problems from actually occurring. In addition WP Haton gives every client a 'Blue Box' which is a first aid case which contains the parts of the machines located at the client which suffer most from wear and tear. This makes it possible for the client's engineers to immediately fix a problem instead of having to wait for WP Haton to ship the right parts. This is especially important with international clients where it could take several days to get a new part on their location, creating much inefficiencies and loss of revenue. In this way WP Haton is basically selling business continuity to its clients.

Process improvement

This sub-section looks at how WP Haton deals with the HPO characteristics 'In the organization processes are continuously improved,' 'In the organization processes are continuously simplified' and 'In the organization processes are continuously aligned'. Process improvements at WP Haton are undertaken in consultation with the company's suppliers. An example of this is the reduction in inventory. WP Haton now tells its suppliers that it is budgeting to produce 35 pieces of a particular bakery machine in the upcoming year. At any given moment however WP Haton will only be working on one machine at a time so it only needs parts for one machine. Therefore it leaves it to the production planning of the suppliers themselves when and how many parts they want to produce at a given time, as long as there are always enough parts ready on call for one machine to be produced. This lowers the inventory costs at WP Haton while at the same time increasing production flexibility at the suppliers, a clear win-win situation. Inside WP Haton the production employees are always looking for ways to standardize the workflow. One important way has been the use of standardized trolleys per type of machine. In this trolley all parts for the machine are placed after which it is brought to the assembly area. In this way the production employee has all parts at his disposal while at the same time it is visually easy for the foreman to check the progress of the work, causing lead times having been halved. These trolleys are also used at the suppliers who hang their parts directly in the trolley, saving on costly packing material. This cost

saving has been equally split between WP Haton and the suppliers. Another improvement has been to let employees rotate over the departments to learn what these departments are doing and, even more important, to see first-hand the effects of the actions of their department on the other departments. For instance, the technical draftsman who designed a new machine on paper has helped to actually build the machine on the production floor, so he was able to see whether what worked on paper actually also worked in practice. This rotation has created many process simplifications and better process alignments over the complete manufacturing process.

Innovation

This sub-section looks at how WP Haton deals with the HPO characteristics 'The organization continuously innovates its core competencies' and 'The organization continuously innovates its products, processes and services.' WP Haton has increased the innovativeness capability of the company by making a controversial move: abandoning the R&D department. The reasons for this were that the physical door of the department turned out to be a psychological barrier, in the sense that not many production employees dared to walk into the office of the highly-educated R&D people; an excuse for other departments to figuratively speaking throw any problems or issues they encountered over the wall into the R&D department; and R&D people increasingly invented complicated solutions which were either too expensive for customers or too difficult for them to put into practice. None of these occurrences helped WP Haton to be very innovative, so it was decided to physically abandon the R&D department, let go of several R&D people, and place the remainder R&D personnel on the work floor, amidst the production staff and the machinery in the central based 'Blue Innovation Centre.' This made it easier for the latter to approach R&D personnel with questions and also, because there were less R&D people to give support, production personnel increasingly needed to come up with their own ideas and solutions. As an added benefit the solutions production and R&D personnel now jointly came up turned out to be very practical of nature which expressed themselves in immediate efficiency and cost gains. One of these mutual innovations was the modular construction of machines which made it easier to assemble a new machine and to swap parts between machines. Another benefit WP Hatton noticed from placing R&D people on the production floor was that R&D people started to talk more the language of production personnel which was much more visual than word-based, making it possible for production personnel (who often had started directly out of high school without any further education) to express their practical ideas.

Involving employees

This sub-section looks at how WP Haton deals with the HPO characteristics 'The management of the organization frequently engages in a dialogue with employees,' 'Organizational members spend much time on communication, knowledge exchange and learning' and 'Organizational members are always involved in important processes.' The management asks employees to be responsible for certain areas of the facility and treat these areas as being of themselves. This means there is a particular employee in charge of the Reception, the canteen, or the Haton Experience Centre and these employees are constantly busy with improving their area in such a way that visiting customers can be impressed and

satisfied. This way of working is a consequence of the philosophy of management which gives a lot of responsibility to employees, under the motto of "You want Haton to be a success? Then we want to have your contribution!" This means that management agrees targets and deadlines with employees and then let them free in their way of execution. There is mutual trust that 'an agreement is an agreement' and that management will be informed in case of any severe problems. Another appearance is that meetings have changed of character. Where these used to be a place where employees mainly 'dumped' their problems on management table, they have now changed in discussion forums where employees put forward their problems and ideas for improvement, after which they are discussed and a course of action is mutually agreed upon. This is illustrated by a saying at WP Haton: "We have stopped with meetings and have started with talking to each other again." To facilitate this culture most rooms in the building don't have doors or even walls anymore so it easy for people to see each other and to stop by to have a conversation. In addition the emphasis on involving employees at WP Haton has led to a culture where every idea is taken seriously, no matter on which organizational level it originated.

Quality of management

This sub-section looks at how WP Haton deals with the HPO characteristics concerning the quality of management. The company expects its managers to frequently walk the floor and interact with personnel, in such a way that they get to know the people, their situation, their family circumstances, and their needs and wishes. This walking around also makes it easier for them to pick up on problems and on any ideas employees might have and to have regular dialogues. In addition it creates a support basis among the people for their managers which makes it easier for them to get things done. At the same time managers are expected to set clear boundaries for employees ("you can go so far and not further") and a clear course for their department and for the company as a whole. At the same time managers do no longer look at the time employees are physically present. The company has gotten rid of its time-clock which was experienced by employees as a tool of repression which always measured time to their disadvantage. Instead both managers and employees have become result-oriented around the jobs to be done: "This machine has to be ready at the end of Friday, so let's plan in the team around that." Management does control the agreements made but not for the sake of controlling the quality delivered by employees or for second-guessing their work but for the sake of verification of the progress made so customers can be notified if any delay arises, and for continuously identifying opportunities for improvement. This control is associated with management giving employees regular compliments, treating them on cake, providing them with additional training as a reward, or giving them a new challenging job in the company. Finally management is charged not with getting employees, and themselves, out of their comfort zone as the company has noticed that the results of this were often mediocre, you can only get so good at something you were bad at. Instead, management strives to expand everyone's comfort zone to the maximum by coaching employees and colleagues, and by providing enough training to employees and to themselves.

Relations with stakeholders

This sub-section looks at how WP Haton deals with the HPO characteristics 'The organization grows through partnerships with suppliers and/or customers' and 'The organization maintains good and long-term relationships with all stakeholders.' WP Haton takes corporate social responsibility seriously and practices in various forms. One of them is some of WP Haton's employees teach on technical academies where they specifically convey the message that technique is fun and worthwhile. Another is to help people who are on the dole to a new job by creating not only positions in WP Haton where these people can gain much needed work experience but also by visiting employers in the region to ask them to create similar opportunities. At WP Haton these people are not left to their own devices but they each get a coach who coaches and nurtures them in a way that they can develop themselves and can get off the dole permanently.

Conclusion

At the end of the visit of the author to the case company it was agreed with WP Haton's management that the HPO Framework was able to accurately identify the areas where the company excelled. This gave the possibility to target the interview questions precisely and also to give direction to the discussion held during the walk around the production floor, in order to efficiently gather the information for the best ideas. As such, the framework turned out to be a useful analysis tool for the manufacturing industry. At the same time, management remarked that the scores of the HPO Questionnaire provided them with an area it wanted to pay more attention to in the coming year, in order to improve WP Haton even further. This area was that of performance management, consisting of the HPO characteristics 'In the organization everything that matters to the organization's performance is explicitly reported' and 'In the organization both financial and non-financial information is reported to organizational members.' This was an added bonus for WP Haton's management from the HPO research done at their company and as such they were not only happy to share their best ideas with other companies, both inside and outside the manufacturing industry, but also to have learned something themselves.

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Appendix

This appendix lists the 35 characteristics of the five HPO factors and the scores for WP Haton (total scores, and scores for higher and middle management and employees)

HPO factor	Aspect	Characteristic	Total	Higher management (n=2)	Middle Management (n=6)	Employees (n=4)
Continuous improvement	1	The organization has adopted a strategy that sets it clearly apart from other organizations.	9.0	9.5	8.8	9.0
Continuous improvement	2	In the organization processes are continuously improved.	9.2	10.0	9,0	9.0
Continuous improvement	3	In the organization processes are continuously simplified.	9.1	10.0	8.8	9.0
Continuous improvement	4	In the organization processes are continuously aligned.	8.5	9.0	8.3	8.5
Continuous improvement	5	In the organization everything that matters to the organization's performance is explicitly reported.	8.4	8.5	9.0	8.0
Continuous improvement	6	In the organization both financial and non-financial information is reported to organizational members.	8.7	6.5	9.0	9.2
Continuous improvement	7	The organization continuously innovates its core competencies.	9.4	10.0	9.0	9.5
Continuous improvement	8	The organization continuously innovates its products, processes and services.	9.2	10.0	9.3	8.8
Openness & Action Orientation	9	The management of the organization frequently engages in a dialogue with employees.	8.9	10.0	8.8	8.7

Openness & Action Orientation	10	Organizational members spend much time on communication, knowledge exchange and learning.	9.2	10.0	8.8	9.2
Openness & Action Orientation	11	Organizational members are always involved in important processes.	8.9	8.5	9.3	8.8
Openness & Action Orientation	12	The management of the organization allows making mistakes.	8.7	9.0	7.3	9.5
Openness & Action Orientation	13	The management of the organization welcomes change.	9.5	10.0	9.0	9.7
Openness & Action Orientation	14	The organization is performance driven.	9.2	10.0	9.5	8.7
Quality of Management	15	The management of the organization is trusted by organizational members.	8.5	8.5	8.0	8.8
Quality of Management	16	The management of the organization has integrity.	9.0	10.0	8.3	9.2
Quality of Management	17	The management of the organization is a role model for organizational members.	8.5	9.0	7.5	9.0
Quality of Management	18	The management of the organization applies fast decision making.	9.1	9.0	8.5	9.5
Quality of Management	19	The management of the organization applies fast action taking.	9.3	9.5	8.8	9.5
Quality of Management	20	The management of the organization coaches organizational members to achieve better results.	8.5	8.5	7.3	9.3

Quality of Management	21	The management of the organization focuses on achieving results.	9.6	9.5	9.3	9.8
Quality of Management	22	The management of the organization is very effective.	8.3	8.5	7.5	8.8
Quality of Management	23	The management of the organization applies strong leadership.	8.8	9.0	9.3	8.3
Quality of Management	24	The management of the organization is confident.	8.9	9.5	7.8	9.5
Quality of Management	25	The management of the organization is decisive with regard to non-performers.	8.3	8.5	7.5	8.8
Quality of Management	26	The management of the organization always holds organizational members responsible for their results.	8.8	9.5	8.0	9.0
Quality of Employees	27	The management of the organization inspires organizational members to accomplish extraordinary results.	9.2	9.5	8.8	9.3
Quality of Employees	28	Organizational members are trained to be resilient and flexible.	9.3	9.5	9.5	9.0
Quality of Employees	29	The organization has a diverse and complementary workforce.	8.7	9.0	8.5	8.7
Quality of Employees	30	The organization grows through partnerships with suppliers and/or customers.	9.0	8.5	9.3	9.0
Long Term Orientation	31	The organization maintains good and long-term relationships with all stakeholders.	9.5	10.0	9.5	9.3
Long Term Orientation	32	The organization is aimed at servicing the customers as best as possible.	9.8	10.0	9.8	9.7

Long Term Orientation	33	The management of the organization has been with the company for a long time.	9.7	10.0	10.0	9.3
Long Term Orientation	34	New management is promoted from within the organization.	8.9	9.0	9.0	8.8
Long Term Orientation	35	The organization is a secure workplace for organizational members.	9.5	10.0	9.8	9.2
		Average HPO score	***9.0***	***9.3***	***8.7***	***9.1***