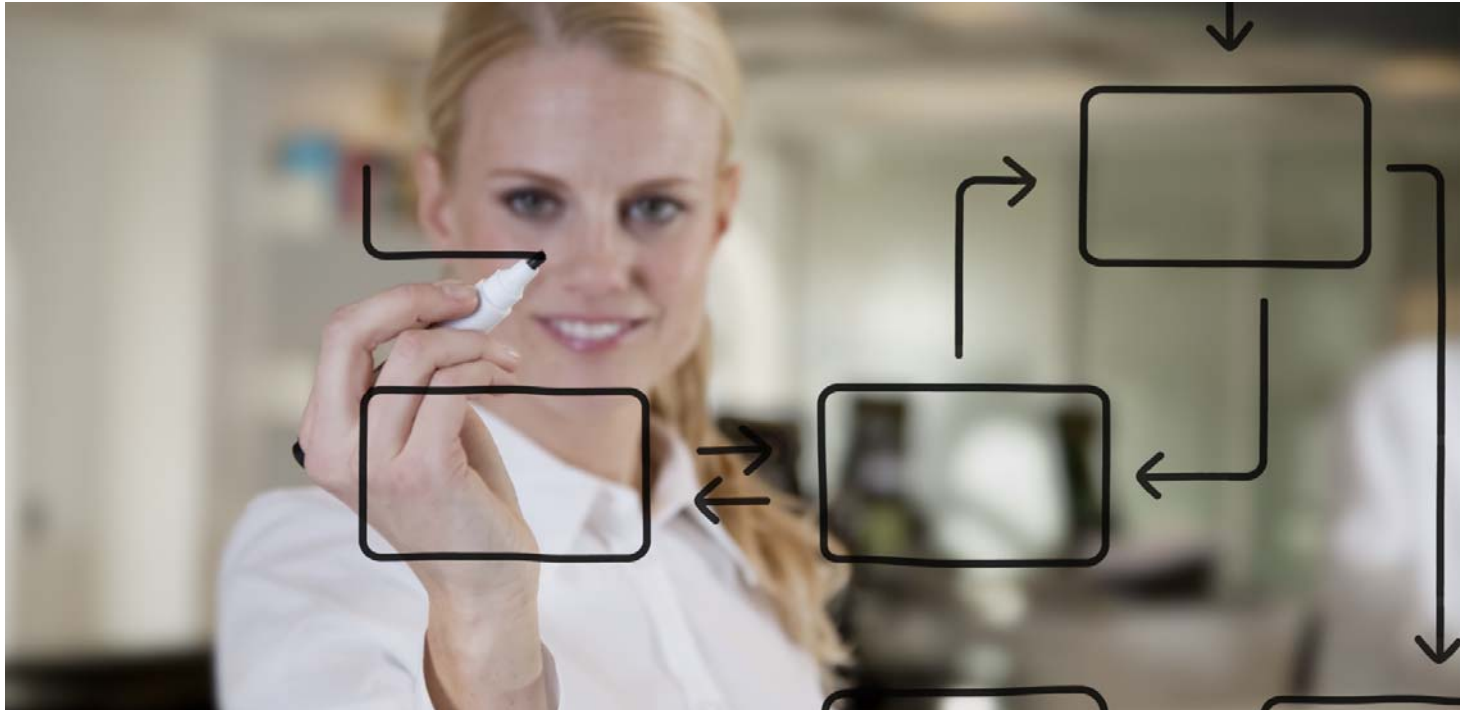


Complexity Management Journal

Issue 1/2011



Effective Process Management:

Accelerate Processes, Increase Profitability
and Ensure Quality

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Editorial

“Life punishes those who delay” – Converting this saying to process management lies at hand. Unstable processes, for example due to fast organizational growth, often results in poor timing. Proficient process management is especially known for quality increases within the early phases of the process and result in an acceleration of the later process stages.

Take the time and read what we have learned after 20 years of project work – only because of the successful cooperation with our clients.

Best regards,



Jörg Starkmann
CEO, Schuh Complexity Management, Inc.



Stephan Krumm
CEO, Schuh Group

Effective Process Management: Accelerate Processes, Increase Profitability and Ensure Quality

Oliver Koester/Michael A. Kurr

Schuh & Company has been involved in the area of process management for many years. The topic is neither new nor trendy. Yet, it is still highly relevant and the mastery of common issues encountered is still limited.

The explanation for the exceptional and constant relevance of the topic is essentially quite easy. A customer is content when a company delivers the ordered products or services at the promised time, in the promised quantity, and at the agreed upon price. If possible, this does not just happen once but as often as requested and always with the same or better quality.

Generally, to reach this point of high performance a good interaction between different functions, units, departments, teams, and employees within the company is necessary. This is where we arrive at the core of the problem. Processes have the unpleasant characteristic of reaching across established corporate structures. Unfortunately, this is of no interest to the client. Or have you heard any statements such as, “The products are good, but the product management, the electronics development, and after-sales service should really be improved.”?

The customer does not usually dissect his displeasure in such a detailed manner. That is not his responsibility, but one of the company. Therefore, it is only consistent if he collectively punishes the whole company. For companies it then makes sense to take a close look and explicitly address their processes to be able to answer some of the following questions:

- Which differing needs and requirements do my customers have for my processes?

- Which different processes do I actually have and how are they performed in detail?
- Which truly continuous processes do I need?
- Does my organization support or inhibit the smooth execution of our processes?
- For which areas should and can I make organizational adjustments to improve the process-related performance of my organization?

If your company does not struggle with any of the above-mentioned questions, look at your quality manual to see if you can find answers to the questions with regard to process continuity and above-average collaborations. With high probability you will notice that the described processes are consistently oriented along the structures of the company. The description of critical interfaces leaves a lot to be desired. Alternatively, the processes are all described, but they do not work optimally for day-to-day business. The interfaces along the processes create enormous frictional loss.

An older, but still accurate analysis by the University of St. Gallen, Switzerland, identified the causes and identified two topics as main drivers for weaknesses in processes and frictional loss. On the one hand, they are barriers that are created by hierarchies and structures of organizations. Between management levels not only is information lost, but the interfaces



are also often places of political and tactical power plays that are not always beneficial to the efficient coordination and control of processes. On the other hand, they are barriers that are created by the functional and subject-related organization of companies. In addition, the interfaces between company leadership offer opportunities for frictional loss. The cause not only lies with technical incompatibilities but also with human challenges that can be explained by the different personalities that are represented in the different departments. A sales person and developer can be used as typical examples.

Often exaggerated from the process view there is still enormous room for conflict at this point. The result of these two phenomena can be described as “operative islands”. They are coined by being separated through hierarchical and functional interfaces. Often the two islands are aligned in a suboptimal manner to conduct daily business. They also tend to develop independently and optimize in different directions which does not always lead to an overall optimal state. This phenomenon is all too commonplace in today’s companies.

To translate the topic to processes, it is important to consider which customer requirements are to be served by which processes and to do so in a continuous manner independent from hierarchies and functions. A good example is always the order management process. It exists to varying degrees in all companies.

This journal will discuss the case study of SCHOTT forma vitrum ag in Switzerland. It shows how an order management process can be holistically and distinctively analyzed and optimized with smaller

and customized development parts. In other words, the process has to satisfy the customers’ individual and specific demands.

Such a process can look fundamentally different to one that serves standard products from a catalog or one that has to satisfy true product innovations. All three process types were found in more or less explicit form at the company. This fact was determined during a project with Schuh & Company and then incorporated and implemented into the process and organization. This is just an example for how process improvement can take on different facets and characteristics in practice.

Your Methodical Approach Should Be As Focused and Continuous as Your Processes

We only speak about a continuous process when it is possible to effectively and profitably link the company’s strategy to its operative level.

This idea sounds logical if not trivial, but is a very demanding challenge in practice. Only few companies are able to break down their strategy systematically across their processes, while at the same time not only allowing ideas and impulses of their employees, but using them effectively in discussions and implementing them. Often a conceptual approach in terms of processes platforms, and committees is already missing at this early stage.

It is possible to drive far-reaching, strategic change from the top-down in a company. The active and content-related involvement of the employees in such process projects lead to ideas and changes that

are evolutionary enhancements for processes of the existing business. The top-down guidelines and direction are important in form of clear goals, while it is necessary for the activity level to enhance the daily business with a continuous improvement system. This is only possible with the active involvement from the employees.

To successfully implement initiatives and projects that give rise to this continuity, it is helpful to follow a clear frame of reference. This frame will provide orientation and guidelines. We suggest and use the project management navigator. It combines all necessary project building blocks into an overall concept, establishes the reference for content, and thereby creates the basis for a systematic and coordinated approach (Fig. 1).

A special characteristic of the process management navigator is that it does not separate the analysis phase from the design and implementation phase as is commonplace. As much as possible, the necessary activities in each phase are performed simultaneously in order to sustain quick successes, motivation, and energy for the project. Additionally, the navigator

consists of single procedure modules that are coherent and based upon each other to lead to an effective overall concept. We will discuss the single modules in detail.

The harmonized and interlocking modules of the process management navigator ensure the effectiveness of the whole project and help to remain focused.

Strategy review: This module ensures that the company leadership identifies a clear need and goal for the initiative. The successful communication of this position is the starting point for the new design of the company processes. Within this communication it is necessary to convey a certain amount of urgency to the employees because this urgency is the main driver for the willingness to change. This is especially true when the company appears strong. In such cases, the missing urgency and willingness to change by employees can create large problems for change projects. If possible, the company should not wait until the need to communicate this urgency is apparent. In such a situation it might already be too late.

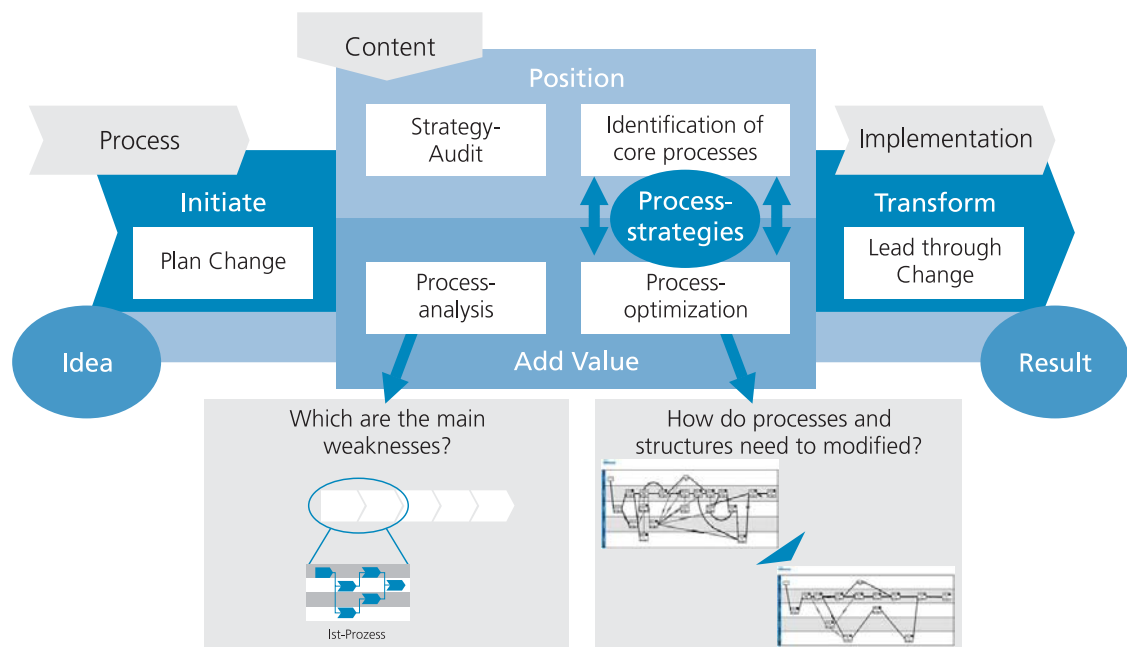


Figure 1: Effective Process Management with the Process Management Navigator

The main task of top management in this module is to define a strategy or reassess the existing one. On the basis of an environmental analysis as well as the company's strengths and weaknesses the strategy is tested for its suitability and feasibility. The discussion on the performance level leads to making previously implied assumptions explicit and to creating the common understanding for the company orientation. The documentation of the discussion and ideas creates an additional basis for the communication across the company.

The precise results of this module are clear priorities in terms of strategic success positions (SSP) in which the company can achieve above-average profits due to special abilities and development. SSPs therefore represent the external customer view onto the process environment of a company. They build the basis to break down the strategy in the consecutive steps into the processes and activities, while all the time not losing the customer as the focus. In such a manner the strategy can be successfully broken down for the operational levels. This approach corresponds with the principles of lean management to always focus all activities towards the view of the customer.

Process architecture, portfolio, and strategy:

The process architecture displays a visualization of the processes in the business model from a high and compiled level. The process environment is often not really known to everyone involved. Only the clear and defined description and visualization leads to the discussion and communication without creating misunderstandings. When this task is achieved, all processes can be reflected and evaluated with regard to the importance and achievement of the SSP. Combined with an assessment of the performance of the processes compared to the most successful competitor, it becomes clear which processes have to be restricted in which respects.

The aids to support and visualize this discussion are given by the process portfolio. The portfolio is defined by effectiveness and efficiency. In this case effectiveness represents the relative contribution of

the process to reach the SSP. In particular this can be the contribution of the process to reach certain customer requirements, such as cost efficiency. Efficiency, on the other hand, relates to the relative measure of the usage of resources which is necessary to reach the SSP. The center of the portfolio is defined along both axis by the performance of the best competitor. All processes are discussed with regard to these three aspects and entered into the portfolio. In addition, process strategies which lead to an increased effectiveness and efficiency, should be noted immediately and supporting and precise measures should be written down. The measures have to be aligned with the two subsequent aspects:

1. Within the context of the as-is analysis that needs to be performed in the next steps, the employees will provide additional suggestions for measures that are good and appropriate. At the end of the day, all measures have to be coherent. None of the measures should contradict themselves, neither should any measures be implemented that do not deliver a clear contribution to the end goal. This calibration should be performed explicitly.
2. The measures have to conform with the principles of operational excellence. Management should check to ensure that all necessary drivers to reach operational excellence are addressed and are supported by measures. A framework for operational excellence (or in short OPEX) can assist with the sequence of the proposed measures.

The result is a package of measures which successfully combines a strategic focus with the development of operational excellence. The portfolio displays the vital, yet often missing traction between strategic and operative levels (Fig. 2).

Process analysis and optimization: The company's employees have to be involved early on during the design phase of the change project. The process analysis is the primary medium to involve them. In a first step within the scope of the process anal-

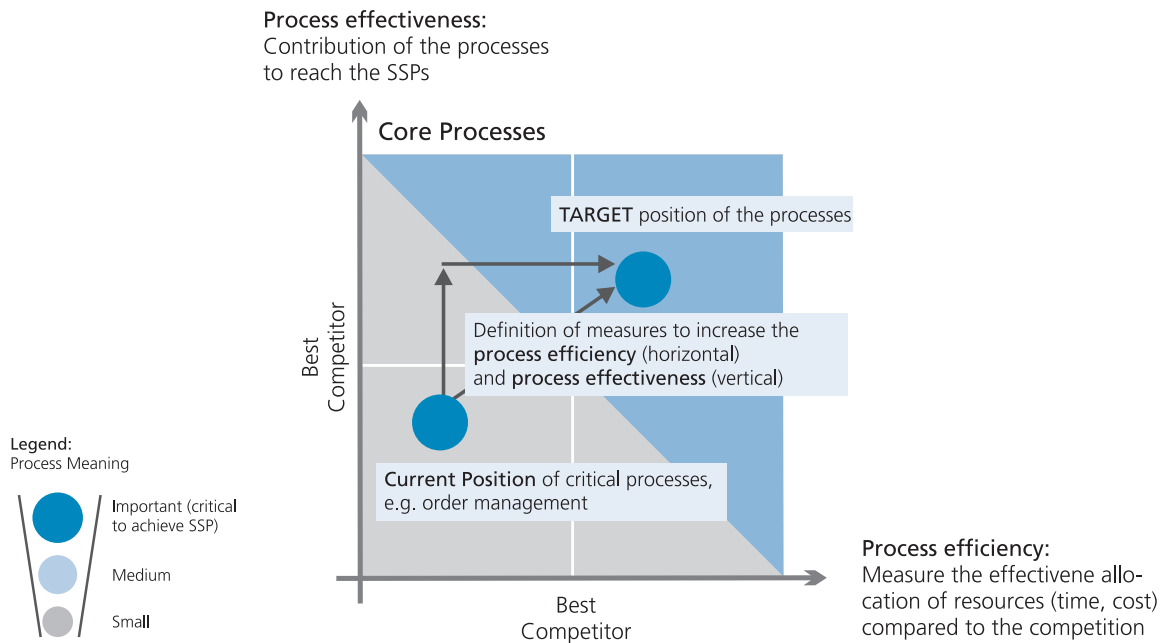


Figure 2: The Process Portfolio Visualizes Strategic Priorities

ysis, the most important processes are captured and modeled in the current state including all their weaknesses. Five central questions should be given priority:

1. What should the process achieve? Which SSPs or customer requirements should be realized with the overall process and specifically by the individual process steps?
2. Do the specific process steps make sense? Are their inputs and outputs clearly defined? (Ensure the optimal process framework)
3. Are the process capacities synchronized to avoid chronic bottlenecks? (Ensure the flow principle)
4. How is the process designed and controlled to achieve the best possible process performance? (Secure the design and control it through pull principles)
5. How is the process performance measured? How is the feedback, specifically between current and future process performance, in-

corporated to protect and improve the performance level? (Ensure a continuous performance improvement)

How this could look in a specific project is described in the case study in this issue for SCHOTT formavitrum ag. There we applied the method of the value stream analysis for the administration. Several alternatives to this approach exist that have to be evaluated with regard to their strengths and weaknesses as well as the specific company situation. Therefore, a general recommendation for the best method can not be made at this point.

Without a clear understanding of the current situation of the processes in the company an identification of the correct causes of mistakes and waste are not possible. No effective measures can be identified that exactly target the cause. The true current situation is necessary in order to clearly describe the difference that should be achieved between the current state and future state. Precisely this gap should be described with the exact measures. It should be noted, that the processes should not be evaluated on the basis of their quality manual and SOP descrip-

tions. They always deviate substantially from the way processes are performed in daily business. Therefore, it is useless to rely upon these descriptions for root cause analysis and measure development.

The result of this model are two building blocks. On the one hand, the measure lists that were created as part of the process analysis build the framework for the alignment with top down measures. On the other hand, the approach has to be transformed into a formal process management process. This is to ensure that the company enacts process management as its own process across the company and to avoid a one-time effort with external support. In addition, it is important to establish explicit process owners and to introduce process-oriented performance dialogs.

The assistance of experienced external consultants is initially advisable. They have the methodical and conceptual experience, have already experienced and mastered similar situations in other companies, and can therefore provide stability, neutrality, and most of all security to address the upcoming change. The goal has to be to enable the employees in the scope of trainings to perform the continuous process analysis and optimization independently in the mid and long term. In larger companies, a train-the-trainer concept is most appropriate, which carries the knowledge across the whole organization and helps to implement it.

Implementation and success controlling: An important contribution for the success of process improvements is provided through precise implementation and success controlling. This has to make the following three aspects transparent:

1. Implementation success of the measures in connection with their contribution to the overall goal
2. Performance of the processes by means of the generated process output

3. Performance of the single process phases in reliance of their contribution to the process output

The first point serves to ensure the implementation on the level of the single measures. Because the sum of all measures is to achieve change, it is important to have the contribution of each measure in mind with regard to the overall goals. The overall goal is often on the level of process output defined such as throughput time of the order management process. In this respect, point 2 has to ensure that transparency is achieved with regard to reaching the goal on that respective level of process output. The decisive step is point 3. It creates transparency about the performance of the whole process and is broken down into the single process steps and which contribution each single phase has in the process. Point 3 therefore enables the understanding of how the whole process engages and how each single process step relates to the end process result.

Even though such a transparency is of utmost importance, few companies possess this end-to-end process transparency. Generally, a vast amount of KPIs and performance figures which all provide a certain amount of insight, can be found, yet in sum they do not provide a clear picture and are not referenced to each other. For the success of the implementation it is important that all employees understand the structure of the processes and know their specific value contribution. Only the transparency provides the process results that are recognized as true teamwork by the employees.

To support point 2 and 3, Schuh & Company utilizes the “Value Tree” concept which was adapted to address the specific challenges of process management. It ensures that the newly designed process is concentrated on 1 to 2 main goals. Each process phase derives specific result contributions. The outcome is not lots of unused data, but an extremely focused, process-related instrument which tells a story and is accepted as a controlling instrument.

The continuity of the approach, the active involvement of the employees as well as the organizational roots of the topic are the most important drivers for sustainable success

The strategy has to be consistently linked with the most important processes and all critical activities. The principal instrument to achieve this is the process portfolio. It translates the strategies into processes and provides the formulation of precise process strategies and matching measures.

These top-down targets are confronted and aligned with the employees' ideas and impulses and the operational excellence principles. This leads to a holistically orchestrated roadmap including specific measures. The active reliance on the knowledge and input of the employees creates the acceptance for change and the necessary steps to ensure a successful implementation.

For the sustainable effectiveness of such initiatives it is indispensable to create the necessary structural and organizational preconditions in order to transform the experiences into a continuous improvement process. This can be achieved with the above described and institutionalized performance dialogs. The goal is to make process improvements part of the everyday responsibility of each employee and not to just rely on it on a project by project basis. When it is possible to anchor the ideas of such an initiative sustainably into the company processes, an important step towards the survival in the mid and long term has been taken.

An overview of success factors:

1. Methodical and conceptual continuity of the approach
2. Explicit strategy and strategic communication
3. Process-related goals (traceable to the strategy)
4. Systematic check of the process performance (including single process phases)

5. Continuous description of the most important processes down to the activities
6. Active and early involvement of employees
7. Conversion of the project results into continuous improvement

Our experience from more than 20 years of project work shows that dramatic process improvements through stabilization, control, and continuous improvement are not uncommon. In our projects we often see drastically reduced throughput times, reduced inventory, as well as improved adherence to delivery dates. The following table shows the results that were achieved in a project to improve the order management process.

Performance Figure	Beginning of Project	End of Project
Order Confirmation within 24 hrs.	45 %	97 %
Adherence to delivery deadlines by suppliers	51 %	85 %
Standard delivery time	32.9 days	14.3 days
Adherence to delivery deadlines to customers	36 %	78 %
Inventory turnover	2.7 months	2.4 months

If you would like to know where you stand with regard to your process management approach, we can assist you. Within the scope of a one day process management audit, we can provide you a precise overview of your current performance, where your opportunities lie, and how you can take advantage them.

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Customer Orientation in Companies – A Pure Sales Task? (Part 2)

Michael A. Kurr/Volker Eissele and Jennifer Stach (Mercedes-Benz)

Based on the theoretical conceptual discussions in the first part of this article, we now describe how the approach was specifically used in a large workshop series at Mercedes-Benz Vans. The workshops were held with the management team and were conceptually closely related to the previously described approach. This approach was tested in a pilot phase and the final workshop concept was derived based on the collected insights. The workshops were in the pursuit of two goals. On one hand, to familiarize employees that were far removed from the customer towards the topic customer satisfaction and on the other hand, to develop precise process oriented measure to increase the customer satisfaction. This leads directly to the answer of the following question:

Is customer satisfaction a pure sales task?

Within the scope of the performed pilot phase, it was noted that a cross-functional participation in the workshops ensures the quality and breadth of the discussions. The ideas and measures that are developed together displayed the different perspectives and viewpoints of the participants. Thus, the suggestions were holistic in a manner that would not have been possible to achieve with a solely functional view. We can already conclude that the necessary holistic handling of the topic is not a pure sales task. The sales department is at this point in charge of the workshop design and executions. Therefore, the department can be considered as a type of missionary for the topic. To realize this role, a team that reported directly to the sales director was formed at Mercedes-Benz Vans. The content discussion still had to be cross-functional and participative.

An additional important insight from the pilot phase consists of the fact that it was sufficient for the workshops to hold the discussions along the high aggregated level of the process model as discussed in the first part of the article. A more detailed level leads to discussions that often end in a functional

oriented expert exchange that does not only exclude parts of the participants, but also does not conform with the goals.

To further visualize the discussions, several case studies were developed ahead of the workshops that detailed specific customer situations of the company. The cases were from the customer viewpoint and in this respect made up. The addressed challenges of the company all had a true setting and addressed different topics. This approach ensures a factual discussion of process weaknesses without trying to find scapegoats.

Searching for root cause of problems

Based on the insights from the pilot phase, the following approach for the workshop series was designed.

The introductory discussion always started with a common review of the case study that was selected for the day. The selection was not haphazard, but was related to the content of the day and participant structure and therefore appropriate for all repre-

sented functions. In a first simple step, the problem was introduced. The case study served to discuss at which points of the process the customer began to be upset. The result of the discussion was noted on the plot to be used in future discussions.

Based on the common understanding of the symptoms, the evaluation of the company processes could start and thus also the search for the important causes of problems. The entry into the root cause analysis is provided by the question, “At which point of the process model does the dissatisfaction of the customer become obvious?” Generally the problems can be found when the services are performed which is either during the order acquisition, the operative production, or after-sales service. The reason is that the conventional interaction between customer and company traditionally lies on the level of service performance. Based on these points in the process model, we asked several times for the “Why?”. The goal of the discussion was to determine the exact cause-effect relationship, visualize it in the process model, and to identify possible problem causes not only causal but symptomatically.

With the described approach it was possible to develop a common understanding across functions about why the customer became displeased and what the relation to the process was. Most of the time this deals with complex forces of partial self-reinforcing processes and activities that initially cannot be fully understood or comprehended. The common understanding builds the basis for the next steps of the workshop.

The holistic development of improvement measures

Following this analysis phase, the workshop participants were asked to decide the main cause of the problems and to plan measures accordingly. Only the true causes of problems are the right starting point to improve the situation sustainably and not just in the short-term. Consequently, ideas and measures should start on the cause level.

The discussions about the causes were not a large challenge anymore because of the analysis that was performed together and the basis was determined and discussed. This looked quite differently as far as the precise development of measures was concerned, because creative “out-of-the-box” thinking was required. However, the previous discussions about the case study and the cross-functional participation assisted in this part.

The main levers to improve the customer satisfaction that were identified as part of the workshop and were later on defined as part of the process strategies lie in the following areas:

- Improvement of (multi) project management
- Process optimization, especially concerning cross-functional processes
- Clarification of important interfaces

It should be emphasized that it is possible to identify some of the areas without an elaborate work shop. The employees hold the knowledge. However, the process that leads to the identification of the problem areas is at least as important. In this case the topics are the result of a cross-functional discussion between the whole leadership team of the company and the common understanding about where the largest opportunities are and which measures should be taken. They are suggestions by the employees who will later on be affected by these measures. This leads to a high identification with the ideas and the ability to implement them is increased.

Conclusion

The presented approach pursues two goals. First, to keep the customer in the mind of the employees and to thereby increase the customer orientation of the company as a whole. Secondly, to develop structured and systematic improvements measures that help to reach the goal of consistent

improvement of customer satisfaction. This is not only achieved through well meant messages, but with precise and concrete connections between the drivers of satisfaction and the company processes as well as the roles and tasks of employees. In front of this background, the participative discussion is already a good step into the right direction. Through the presented approach, it is possible to make the connection between the employees activities and processes and their effect onto the customer satisfaction. The responsibility of each and every employee for the topic customer satisfaction become transparent in this process. Another important aspect of the approach is the consistent process orientation that enables a goal-oriented cross-functional discourse and assists the understanding about cooperation in the company. The awareness is created that it is not enough to look at each single aspect of the company individually and then optimize, but that only when the overall system with its complex cause and effect relationships is considered improvements can be achieved.

Addressing our initial question again; is customer orientation a pure sales task? The article has shown that a participative discussion that addresses the interactions between the company and the customer stand in causal relation to each other. These interrelations do not necessarily have to be obvious and can often only be determined through intensive analysis and when looking at it with several different perspectives. Measures that appear to be logical in the first place often only address the symptoms and not the true causes. Therefore, they do not go far enough and are not sustainable. The task to navigate through the complexity of the often intricate correlations cannot be the sole job of the sales department. The seemingly very sales-driven topic of customer satisfaction reaches far beyond the sales organization and can only be minimally influenced by the sales department alone. The sales department should play the role of a missionary for the topic, yet it should not be solely held accountable for it. In the case of Mercedes-Benz Vans, this means that more than 500 managers from all functions and departments par-

ticipated in the workshop series. Cross-functional teams discussed intensively and developed process solutions together. The sales team was responsible for the workshop series, the documentation and the follow-up process. The actual change with regard to customer satisfaction can only be achieved if all departments work together.

“The realization of the workshop series enabled all managers at Mercedes-Benz Vans to become more aware of the topic of customer satisfaction. We connected seemingly far removed functions with the customer. The intensive and intentionally cross-functional discussions in the workshops led to numerous improvements. These are now being implemented by the newly created “customer satisfaction management” team. Schuh & Company effectively supported us in the conceptional phase as well as with the implementation of the team and the first workshop.”

(Jennifer Stach, Mercedes-Benz Transporter)

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Customer Satisfaction Management

Acceleration Through Quality – Accelerating Order-Specific Processing by Increasing the Quality in the Early Phase

Oliver Koester/Michael A. Kurr/Jan Eilers/Uwe Tomschin (SCHOTT forma vitrum ag)

The phenomenon of possible acceleration and stabilization of “end-to-end” processes through the precise increase of the quality of specific process steps is in itself not a new concept. However, it still seems to be counterintuitive and therefore hard to implement. For arguments sake, the customer is most often cited as the reason. He does not want to wait for an answer forever and otherwise might be lost. Urgency is created and everything takes place at increasing, yet often uncontrolled speed. Experience teaches that it often pays off to take the necessary time at important stations in order to achieve a qualitative process performance.

The order management process as a reflection and starting point for operational excellence

The situation was typical for a company whose core value-added process, the order management process, does not run sufficiently stable. The reasons can be numerous. Often it can be traced to rapid growth in the past, an emerging business segment, or organizational complexity. In this case, it was a mixture of several components. A more or less disappointing adherence to delivery dates, too long and strongly fluctuating throughput times, as well as comparatively high scrap rates were often the result. Schuh & Company was hired to analyze the fundamental weaknesses of the order management process step-by-step, suggest action items, and oversee their implementation.

Only the holistic view of the process as well as the analysis of the causes leads to approaches of sustainable improvement and acceptance by the employees

The starting point of every process analysis has to be the modeling of the current situation. In this case, the most important phases of the order management process were segregated and for each the

company found an expert team. Within a half-day expert workshop, the order management process was captured with the help of the values stream analysis for administrative processes. Process and throughput times were also determined and the main weaknesses were identified and discussed. Figure 1 shows an excerpt of how such a modeling and discussion could look and how they can be created by directly working with the company employees (Figure 1: Example for the current modeling of a phase of the order management process).

The analysis revealed the need for action in the following five areas:

- Inadequately clarified processes and frequent questions
- Partially ambiguous and non-homogenous product specifications along the process
- Strongly fluctuating lot sizes
- Complex, often inappropriate production planning and timing
- Complex final inspections and release



Figure 1: Current State Map of an Order Processing Value Stream Section

The employees accepted the results of the analysis, because they were clearly based on the input from the expert workshop and everyone was deeply involved in the identification of the areas. The result was easily comprehensible and understandable for everyone involved. Thus, the developed solutions were accepted and successfully handled and implemented.

Most of the time an early clarification accelerates the speed of the later phases of the process

The center of the approved measures was the reorganization of the early phase of the order management process. The focus lay on the early and extensive clarification along all specifications of the whole order management process. Starting with the product and packaging characteristics, the production, extending all the way to the quality with regards to product functions and testing procedures. In the past, early production releases based on insufficiently clarified specifications sometimes led to major disruptions along the processes. It was not ensured that all specifications fit together continuously. Another problem was caused when changes to orders that were performed in the past in similar yet not identical form,

were underestimated. The results were huge efforts towards the end of the order management process that were neither intended nor scheduled and always led to increased capacitive stress. These two topics caused many other challenges, which is why the optimization of the early phase of the order management process was the first step.

The measures to reorganize the processes pursue three goals:

- The preferably objective classification of orders on hand (adaptation development versus new development)
- Completeness of all specifications prior to the start of production
- Consistency of all specifications along the whole order processing

To reach these goals, the three topics content, process, and structure needed to be addressed.

- **Content**
 - 1) Definition and description of the criteria that lead to the differentiation of new and adaptation development.

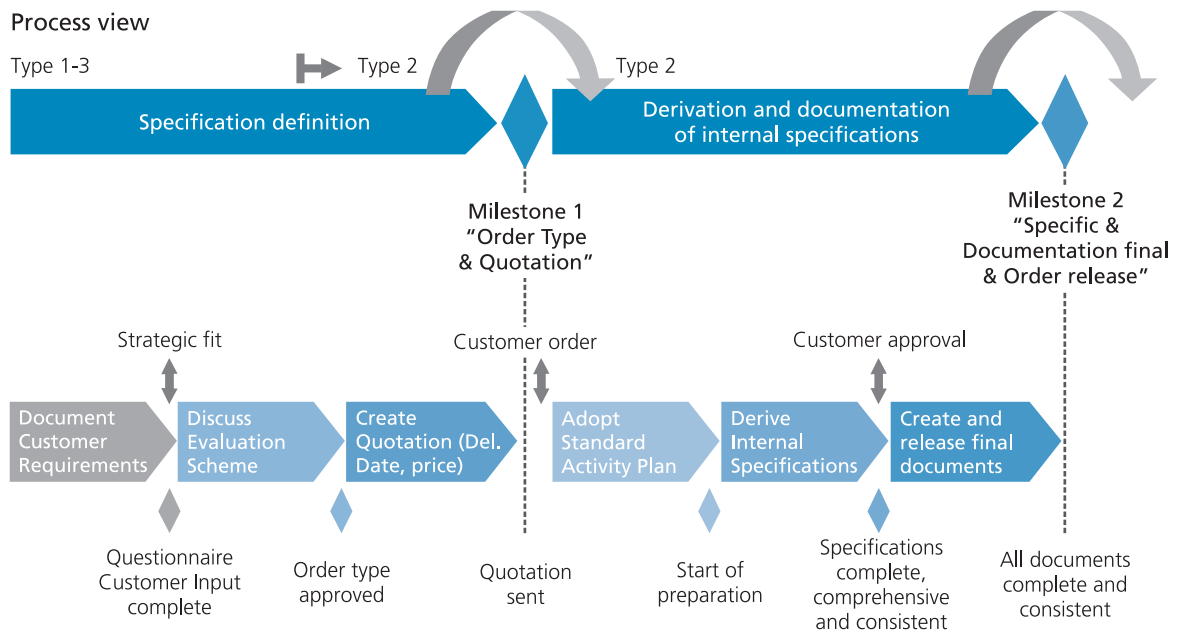


Figure 2: The redesigned process on levels 1 and 2 (of 5)

2) Collection, correction and description of all necessary and subject-specific detail specifications along the entire order management process in a specification matrix. Organizing and keeping contents and templates in a centrally kept master database.

- **Process**

Definition of a target order management process on five detailed levels to standardize order specific customer inquiries as well as derive and define all necessary specifications along order processing after receipt of the orders (Fig. 2).

- **Structure**

Development of organizational elements to optimally support the new process including the definition and implementation of three new process roles including the goals and roles, responsibilities and expertise.

- **Manager for Strategic Orders**

A functionally independent and neutral role, responsible for the coordination, control, and

documentation of the whole order processing procedure from customer inquiry to on-time delivery of the product for orders that are especially important.

- **Clearing House**

A role close to sales that is responsible for the completeness of the customer specifications as well as the control of the interdisciplinary discussion to objectively classify the order types.

- **Adaptation Engineering**

A role close to production that is responsible for the deduction of all order and content-specific specification during the process phase as well as the development for adjustments to drawings with little scale (without involving the development department)

The successful implementation of all topics up to the fifth process level was achieved after the concept phase with the help of Schuh & Company. Predefined work packages were consistently transferred to

the company and thereby shifted the responsibilities to ensure success. The transfer and implementation phases that relied on drastically less external consulting ensured that the content-related questions that had not been answered were addressed. The work progress was still made transparent and the need for action recognized, described, and transferred into the project planning.

Quick, operative successes as well as active employee participation build the foundation for the continuous improvement process

The achieved results are multi-faceted. The highest priority is given to problems that needed operative improvements. First and foremost, the stabilization and decrease of throughput times along the Lean Principles and the increase of the adherence to delivery times should be mentioned in our case. To achieve lasting effects, the introduced process standardization and the intensively practiced cross-functional discussion and teamwork culture were of more importance. These should and can lead in the next step of the implementation to the continuous improvement process that not only creates continuous improvement, but also optimizes other similar processes step-by-step. The project with Schuh & Company for the process-oriented reorganization of order management can serve as pilot project and model.

About the Company

SCHOTT forma vitrum ag is a subsidiary of the SCHOTT Group. SCHOTT Pharmaceutical Packaging is one of seven business units of the SCHOTT Group and one of the world's leading suppliers of parenteral packaging for the pharmaceutical industry. More than 600 production lines in 14 countries worldwide produce more than 7 billion syringes, vials, ampoules, cartridges and special articles of tubing glass or polymer. Excellent raw materials,

state-of-the art manufacturing, the use of the latest technologies, continuous research, and development enable innovative product solutions that meet our customer's stringent demands. The back-up possibilities offered by our production sites situated all over the world provide flexibility, reliability, and security to our partners. Our production facilities operate in a GMP environment, and our products comply with USP, EP and JP international standards.

SCHOTT is a multinational, technology-based group developing and manufacturing specialty materials, components and systems for more than 125 years to improve how people live and work. Their main markets are household appliances, pharmaceutical industries, solar energy, electronics, optics as well as automotive. The SCHOTT Group is represented with production and sales office in all major markets. Approximately 17,000 employees generated global sales of 2.2 billion Euro in the year 2007/2008. The technological and corporate competence of the company is combined with a social and ecological responsibility. The SCHOTT AG participates in the Carl Zeiss Foundation.

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Uwe Tomschin
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Managing Director

Successful Teamwork – From the Analysis to the Implementation

Michael Kurr and Jan Eilers (Schuh & Company) in conversation with Uwe Tomschin, Managing Director of SCHOTT forma vitrum ag in St. Gallen, Switzerland.

Mr. Tomschin, how would you characterize the project overall? What was special?

We were faced with enormous operative challenges in this for us relatively new and quickly growing business unit. Together with Schuh & Company, we were able to quickly isolate the most important problems in the order management process during the analysis phase. The employees of course already knew many of the emerging problems, but it was necessary to gather them in a condensed, cross-functional manner across the whole process in order to identify the underlying causes. This increased the employees' motivation and spread confidence to tackle the right issues consistently and to improve the operative results further.

To me it was important that the project was transparent to everyone involved, that it was not perceived as a typical cost-cutting project, but that we were searching together for solutions to support the emerging business unit with a relatively lean order management process. This required a quick elimination of the most pestering problems and the consistent monitoring of the implementation of the concept to reorganize the order processing.

What were the largest challenges in the project?

In the majority of comparable change projects it is difficult for the employees to shrug off their habits and to shift from functional thinking and acting towards a process-oriented operation. The corporate structure certainly brings with it certain process interfaces. Because of the local proximity of the different corporate functions, the challenge in our case was more or less in aligning every function towards a common goal and at the same time cope with the specific requirements of the individual process steps.

“Unfortunately, good processes are often misunderstood as missing creativity – in an emergency room the urgency is not “felt” for the benefit of the patient.”

Uwe Tomschin

During daily business this sometimes means that the specific interest of an isolated process step was last in order to achieve the best results for the overall process and thereby the customer.

A core element at this point was the segmentation of the order processing into two separate processes, which lived up to the different requirements of requested services. It was important that the classification of the orders was performed as objectively as possible.

What do you regard as key factors for a successful cooperation with external consultants?

The basis for a constructive cooperation is to first build trust between the internal project lead, the external consultants, and the employees, which was also the case in this project. After an initial phase of skepticism, we were able to achieve this by involving a broad base of employees participatively in the development of solutions, avoiding solely top-down input and relying on an intensive communication of the project goals.

Additionally, it is important that the external consultants have a deep understanding of the content to be accepted as a partner on the same level. This was quickly realized in our project. Lastly, a consistently holistic evaluation of the whole processes across functional and departmental borders was performed, which might have been difficult without external help.

Right away, we considered to involve Schuh & Company beyond the initial concept development phase for the implementation of the developed process. We made this dependent upon the quality of the work together and not commission all parts right away.



(from left to right) Michael A. Kurr (Schuh & Company.), Uwe Tomschin (SCHOTT forma vitrum ag), Jan Eilers (Schuh & Company)

How do you determine the success of the work?

We knew from the beginning that we needed thorough changes in the process flow of the order processing in the evaluated business unit if we wanted to create sustainable success. This did not deter us from stating activities with short-term results and successes that could quickly be realized in many cases. The employees can trace many of the realized effects to the positive effects of the intense content-related discussions of the cross-functional teams and the respective awareness. Besides the operative improvements, we also see a change towards a process-oriented thinking and acting. This can be attributed to the structural changes and the roles of the cross-functional process owners.

Looking back, would you do a similar project again and are there any specialties that you noted when working with Schuh & Company?

Yes, our expectations were very completely fulfilled in the project. We always prolonged the project with Schuh & Company in the upcoming phase over the past few months. The project was offered in modules and we could have aborted it at any point, which we did not do. On the contrary, we also plan to work with Schuh & Company in the future when we face similar challenges.

In my opinion, this is not a usual result, because the project started under difficult circumstances and we had to pull ourselves together. However, looking back, even this worked in our favor. We were always able to treat each other openly and honestly, which is not common. In retrospect, I would definitely say that we learned a lot over the course of this project and celebrated many successes together.

About

After receiving his engineering degree from the University of Wiesbaden, Germany, in 1992, Uwe Tomschin held many positions in the production environment of SCHOTT AG in the UK and Japan. After several years in venture capital, he managed a site for TFT Display Glass in Korea. Mr. Tomschin is currently managing director of SCHOTT forma vitrum ag in St. Gallen, Switzerland, since 2008.



Uwe Tomschin
Managing Director
SCHOTT forma vitrum ag, St. Gallen, Switzerland

Lean Certification Helps to Make Achievements Sustainable

Hans R. Tanner/Laura L. Lucas

The best Lean professionals performing strategically suited Lean activities, resulting in a continuously flowing stream of significant improvements. That's the vision most companies have for their Lean implementation. A well suited certification system greatly helps to achieve and sustain this vision.

While implementing Lean in every aspect of the company is the key to success, Lean manufacturing is most often the area that receives all the attention. But why have short lived success in a Lean manufacturing plant, while engineering, customer service, and administrative functions are in a state of wasteful, disorganized chaos? You may be able to produce products but are your customers satisfied with quality, timeliness and the support you offer? Are all of your employees working at 100% and taking the initiative to continuously improve their working environment and standards?

One of the most difficult questions in the Lean Journey for any business is where do we start? Can you already see areas or people that will be resistant to change? Once Lean Management is accepted, does your company have what it takes to consistently maintain and improve it?

Anyone can go to a Lean training class, but does the rest of the company really benefit from this with solid core changes being made and the ability to implement continuous improvement? Employees come and go taking their knowledge with them. Having Lean Management firmly in place is essential to maintaining core company values. Lean Management is an organizational culture change that needs to be driven from top to bottom and implemented from the bottom up. Therefore, establishing Lean standards are the foundation for any business. These standards define a common business language

which is required to cost-effectively enable business process integration between systems, both inside an organization and across the value chain. With an established Lean standard, businesses gain greater confidence in their project choices and their ability to exceed common expectations.

Enter three professional organizations, forming an alliance to establish the standard for continuous improvement and Lean practices – the Society of Manufacturing Engineers (SME), the Association for Manufacturing Excellence (AME), and the Shingo Prize for Excellence in Manufacturing. Before the launch of this industry-leading Lean Certification program in 2006, the industry lacked a true consistent standard for Lean professional development and credentialing. Each program functioned independently, leaving organizations with the difficult task of determining whether their current and newly hired employee's knowledge and skills fit their Lean practices. These leading organizations brought industry together to create a rigorous Lean Certification program that Lean-oriented companies and individuals recognize as comprehensive, timely, and effective. In 2010, the American Society for Quality (ASQ) joined this collaborative alliance, which truly aligns these leading organizations to a single standard for Lean certification, providing manufacturers and their supply chains with a roadmap for workforce development. This Lean program, recognized by the logo shown in Figure 1, is the benchmark for achievements and personal growth in Lean.



Figure 1: ME/AME/ASQ/Shingo Prize Lean Certification Logo

Multiple certification levels are available based on key applications – tactical, integrative and strategic (Fig. 2). As companies seek resources for improvement projects, they can quickly and confidently select the right Lean professional based on their specific business requirements. Companies can now have a clear understanding of the capability of their resources. By effectively using these resources, they can confidently attain their Lean goals faster and more efficiently. The Lean Certification program provides the opportunity for significant training and development for both individuals and companies. Individuals begin at the tactical level (Bronze). As their career progresses, candidates build upon their professional

knowledge and skill set while also advancing within the Lean Certification program. Companies have the same option to develop their employees using the Lean Certification structure as their guide.

Mentoring is a fundamental part of the certification program. As certification candidates progress, they are encouraged to mentor or coach others. This sharing of knowledge helps to mold new Lean experts with a clear understanding of the industry standard. This unique and distinguishing feature reinforces the alignment of Lean principles (Fig. 2).

The Lean Certification program comprises Bronze, Silver and Gold levels to represent the growing achievement by Lean practitioners. Starting with the tactical nature of the Bronze level, candidates build their way to Silver and then Gold as they learn and gain additional experiences. Individuals or companies can set the pace at which progression develops. All certification candidates must complete the requirements of each level before they progress to the next level. The progression model shows how each certification builds upon the development achieved in the previous certification. The Bronze Certification level evaluates a person's TACTICAL Lean experience. Attaining Lean Bronze Certifica-

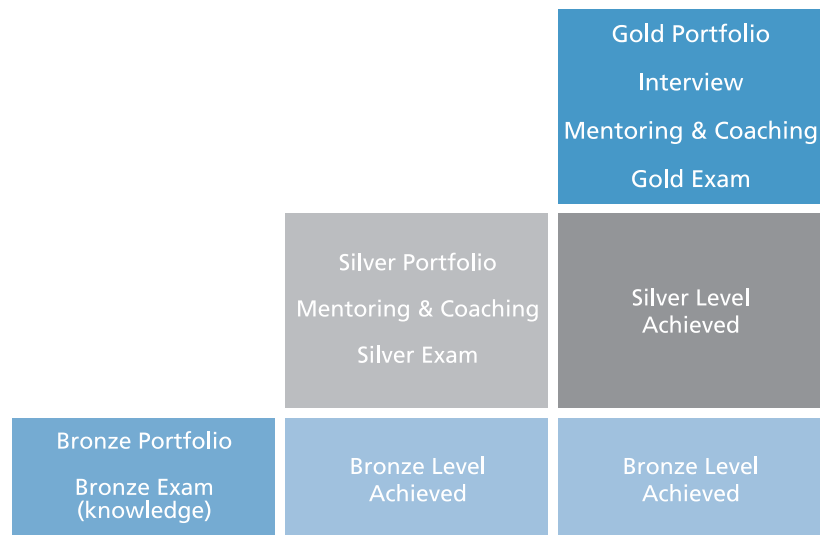


Figure 2: Structure of the SME/AME / ASQ/Shingo Prize Certificate Family

tion shows that candidates possess a solid understanding of Lean principles and tools. They are able to tactically implement Lean to drive improvements and show measurable results. They deploy and apply Lean principles, concepts, and methods locally within a work cell, work group, or value stream. In addition, they are expected to teach the basic tools of Lean. This is the starting point for every certification candidate. Every candidate must complete the Bronze-level requirements before progressing to the next level. Achieving certification in each level consists of 2 phases.

Phase I – Exam

The examination is the beginning phase in the certification process. Exam content is linked to a specific body of knowledge. Candidates pursuing Lean Bronze Certification are expected to successfully pass the approximately 170-question, 3-hour open-book exam before moving to the portfolio phase.

Phase II – Portfolio Development

Lean Certification candidates continually exercise their Lean knowledge by participating in activities in which they apply Lean principles and tools. At the Bronze-Level, practitioners demonstrate their experience through the development of their Lean portfolio. In the portfolio, using the Plan-Do-Check-Act cycle, candidates provide summary documentation of their best Lean events, projects, and activities completed, in addition to the results and an overall reflection of their work. The portfolio is reviewed by peers who are Lean Certified. This important phase highlights the peer-to-peer development inherent in the program.

Success has to be planned and earned. Lean Management that is strategically driven by standardized Certifications ensures success through focus, structure, discipline, and ownership. The SME / AME / ASQ / Shingo Prize Lean Certification family provides an ideal tool to support it. More information can be found at www.actlean.org/leancert

General Requirements to Qualify for the Lean Bronze Certificate

- Successful completion of the exam
- Education, training & development requirements
- 5 tactical Lean projects and a portfolio reflection that passes peer review

Lean Certification Value for Companies and Individuals

Lean Certificates can help companies to

- Support a clear understanding of the capabilities of their resources
- Structure their Lean training efforts and provide systematic training
- Provide systematic mentoring and develop their own internal Lean experts
- Standardize Lean practices within their organizations, regardless of size or industry

As an individual, Lean certifications are beneficial to

- Develop career planning milestones
- Gain a portable career credential
- Share and gain Lean knowledge through mentoring others
- Align to the Lean knowledge and competency standard
- Attain abilities recognized across the industry

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Company

Schuh & Company focuses on providing solutions and methods for managing the ever increasing complexity of today's enterprises, products and processes. With this approach, the company was established as an implementation-oriented problem solver in the industry. Today the company consists of about 40 people committed to ensure your company's success through their work as strategy and organizational consultants, as well as management coaches.

Schuh & Company is headquartered in Aachen, Germany, with subsidiaries in St. Gallen, Switzerland (since 1991), and Atlanta, GA, USA (since 1997).

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