

Operational Effectiveness Unlocks Profits and Incremental Revenue

By Max R. Davis

Operations

Operations improvement can be the key to increased profit margins and revenues. Operational efficiency, quality, on time delivery, responsiveness, and asset utilization are all characteristics that can yield improved operational effectiveness. Underlying this approach is the criticality of increasing effectiveness by improving operational and business processes.

An integrated approach to business process improvement, people, and technology can allow companies to make more timely and effective business decisions, exponentially increasing value by improving efficiency and capturing opportunities through improved responsiveness.

Although it is sometimes easy to think of operations as dealing with physical products, the concept of service delivery is just as valid and can also yield significant returns when approached in this rigorous manner. This white paper refers to “products” implying a physical element. If your “product is a “service”, you will still likely have the delivery process issues that are described here. It has been observed that processes dealing with information and services have even greater opportunity for improvement than the traditional “production” processes. Our health care system, for example, has gotten much recent notoriety for the existence of opportunities to be streamlined and improved.

Approach

Operations are sometimes viewed within an enterprise as complex, expensive, slow to respond, inflexible, and not strategic. The Boulder Group believes that operations improvement begins with strategic alignment of the operational goals and objectives with the enterprise

strategy. Then, by measuring and understanding the existing strengths and performance gaps, an operational improvement roadmap can be constructed. This involves an integrated approach and view to the measures of process inputs and outputs and, as importantly, the overall process performance. We call this approach **Strategy to Results™**.

It is critical for companies to improve performance and efficiencies of their people, supply chain, and planning and operational processes, to increase business profits and capture incremental business. Operations improvement requires focused methodologies for monitoring and measuring so companies can fully understand, optimize, and align business processes. Then organizations can look beyond results to understand the actual performance of the series of business processes and how they impact the desired strategic contribution toward profitability and business capture.

Operations Assessment

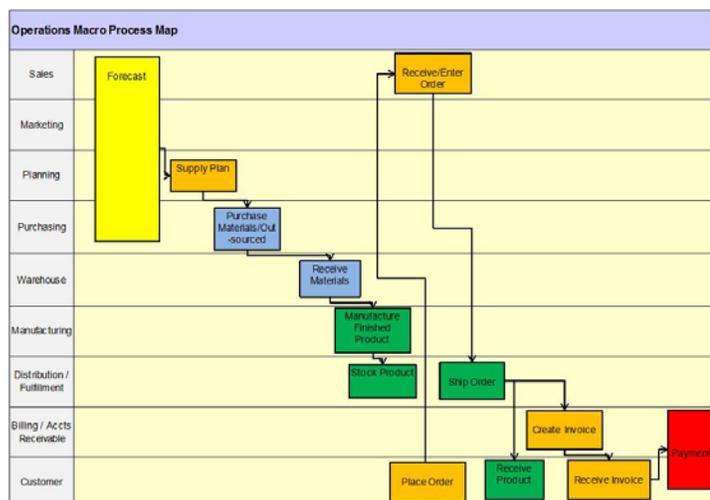
An overall assessment of the general characteristics of a company's operations can be achieved at a macro level by analyzing certain data and briefly reviewing the key sub processes in the revenue cycle. The key questions or data sets required are as follows:

- General flow map of product from raw through finished including supply chain, distribution and customer delivery
- Total unit flow through with seasonal data
- Total cycle time from start to customer delivery and all interim cycle times available.
- First Pass Yields metrics at test/inspection points
- Customer complaint/returns data
- Cost and Gross Margin per product
- Labor Input (hours or cost)

Using the **Strategy to Results** concept, a general roadmap is created to approach the key performance gaps or missing linkages in process execution and strategic goal attainment. Understanding gaps in

customer facing execution, slow response to business opportunities, quality issues, delivery issues, or cost/profitability issues are all areas that must be addressed. This roadmap consists of several key steps to ensure proper data gathering is in place not only to show process results (strategic goals) but to also give insight into process effectiveness. Process effectiveness metrics can include quality (First Pass Yield), Cycle Time, On Time Delivery, and productivity. These are all measures that can be employed to provide critical insight into process performance and effectiveness.

A critical aid to understand process construction as well as where to gather for data for key process metrics is process mapping. A process map of the current state of a process in concert with process performance metrics allows identification of opportunities to eliminate waste (cycle time, duplicate handling, poor yields, and variability in outputs). These opportunities represent potential improvements that likely are being inhibited by obstacles (sometimes termed barriers) to implementation. Prioritization of these obstacles for removal actions is very important to optimizing impact on improvement as well as control of tasks and priorities.



Once prioritized, these obstacles can be removed. Establishing root cause for the existence of the obstacle is the essential to constructing the best approach to implementation of the process changes that will

eliminate the obstacle and provide measurable improvement in the associated metrics. These improvements must also show linkage to direct "bottom line" improvement. If not, the priority may be incorrect.

Some obstacles may have causes that lie in cultural or historical roots. Some examples are:

- Business is conducted as organizational silos
- Inadequate metrics, controls, and incentives
- Inadequate accountability
- Inadequate management conflict resolution

Other obstacles may be classified as business process barriers. Some examples are:

- Poor process design or implementation.
- High non-determinism (poor quality. Rework)
- Poor scheduling (starts control, push vs. pull).
- Large Lot / Work Package size.
- Inflexibility / long response.
- Inspection syndrome (with high rework, problematic quality).
- Inadequate communication.
- Lack of knowledge / skills
- Substitute processes in use
- Poor process input (ex. Sales and Operations Planning not implemented correctly)

Finally, many obstacles are classified under subject matter...in other words existing technology or best practices may hold the key to improvement. Some examples are as follows:

- Inadequate systems or methods required to meet strategic goals
- Unique equipment requirements have not been addressed
- Best practices are not utilized
- Physical layout sub-optimized
- Logistics not aligned with needs
- Supply chain not optimized

The organization must be equipped to identify, analyze and assess root cause for the improvement obstacles

(barriers) identified. This typically involves the establishment of a team with members from the functions or departments involved who have the combined expertise to install and assess the metrics as well as to identify the process opportunities and barriers. Enterprise business process expertise as well as management representation (typically team lead) are necessary elements in the team make-up. This team will also assess the impact that removal of that obstacle will have on the bottom line. This, along with the difficulty in implementing the removal steps (resource, time, management approvals) will assist in the prioritization process. This team will also be expected to charter sub-teams with expertise in specific process areas to drive barrier removal steps through root cause identification and removal.

Consultant Interaction

Training is required to provide team members with a common framework to create metrics, analyze the data, separate symptoms from causes, prioritize actions, and implement improvements that remove the barriers and capture the desired result. The consultant resource should be the inspirational leader, trainer, mentor, and improvement process guru through the team's efforts.

Team Training provides the framework for skills required to assess, measure, and implement improvement actions. This training is typically introduced as an overview then conducted in detail as each team proceeds through the improvement process. With all team receiving the same training, synergy between teams as process interactions are analyzed allow faster recognition of opportunities and smoother implementations across process or functional boundaries. There is no substitute for getting all participants on equal footing to challenge the status quo in a productive manner.

Consultant expertise in implementation of improvement programs provides team confidence in approaching what is typically a new experience for most members. Metrics installation, root cause assessment, tool application (Six Sigma, TOC, Lean), and the inspiration to approach obstacles with a methodology that is rapidly implemented and proven over many client programs are

all areas of consultant expertise. In addition, the consultant will have a personal operational background in past direct roles and brings invaluable learning to the client.

Architecture and Governance

Without top management involvement, improvement programs of any variety have historically floundered or were relegated to a minor role with the disappointing results being. An improvement program with enterprise strategically aligned goals driven by top management is the basis for significant improvement that is measurable and sustainable. Therefore, it is critical to align the improvement opportunity for management involvement, not only for governance, but to participate in barrier removals. Management must "clear the way" for the teams to operate in a timely and effective manner. Cultural barriers can only be resolved by top management since those roots may be deep in the organizations behaviors.

Formation of an executive team (called the Business Improvement Team) consisting of the key general manager and his functional team is the first step toward creating the organizational architecture to drive the operational improvements. This team will typically meet weekly to review team progress, critical metrics, and respond to barrier escalations from the Operations Team. It is also important to note that formation of other parallel teams such as Sales and Marketing, Design/Development, and Finance/Accounting are typically necessary since many of the process obstacles are observed at organizational hand-offs. In addition, the holistic nature of driving improvements in an integrated manner across all organizational entities helps ensure a strategic approach to the priorities and also improves the capture of bottom line results as improvements are implemented. Also note that Information Technology must be a team member as will Human Resources and Finance/Accounting....support functions that control resources critical to obstacle removal. These teams are present to support the main functions in barrier removal and process implementations.

The consultant lead will also mentor the Business Improvement Team and ensure that governance and positive reinforcement of the team's efforts are recognized. In addition, the lead will provide continuous visibility to the teams' progress and realization of the desired results.

Below is a depiction of a typical Business Improvement Team and the Functional Improvement Teams



Results Realization

Improvement in the bottom line measures is the goal of any improvement program. The most important differentiation is how rapidly result improvements are seen and are the improvements long term, not merely “flash” readings. The Boulder Group has the experience and skill set to ensure implementations will begin to see result improvements in 60-90 days, but as importantly, impart the skills to teams so that process in business improvement becomes part of the enterprise's ongoing management process. We find the typical client engagement spanning 6 to 18 months. Past that, clients often engage us for periodic reviews and new member training in the teams. Like any skill, periodic refreshers and reinforcement are important in long term organizational behaviors as people and priorities change over time.

Supply Chain Management

Supply Chain Management has many component parts and almost as many interpretations. Although the continued strategic approach to outsource many aspects of the operations value chain is not new, most company's management processes have not adapted to effectively managing and involving the chain of sometimes disparate providers in the improvement process. Many consulting

efforts will break out Supply Chain Management as a separate improvement effort. This can have benefit, but as with most improvement programs, a holistic approach can leverage the results realization and ensure that improvements implemented will have the most strategic impact for the enterprise. The Boulder Group favors the latter holistic approach while still realizing that the many unique aspects of today's supply chain requires linkages and approaches that are required to effectively implement and improvement program.

In addition, planning, quality management, response times, capacity management, customer facing requirements, asset management, and risk management are all areas requiring management skills within an organizational that may not be accustomed to managing all critical aspects through a supplier set in a contractual relationship. But again, the end strategic result desired is the key aspect and any improvement approach will enhance the enterprise's supplier management process as well as involving the key providers in this effort.

Sales and Operations Planning

Planning has been referenced several times. A more rigorous definition and recognition of the critical process behind this term may be important. Sales and Operations Planning (S&OP) has also been approached as a unique process and skill set by some consultant organizations. The concept of involving sales, marketing, and the customer in demand planning is a best practice concept. The involvement of operations, supply chain, procurement, and distribution in the supply side planning is similarly a best practice. Strategically, the amalgamation of the **demand plan** and the **supply plan** to create the final **enterprise plan** that, with all constraints, best satisfies all strategic aspects.

The S&OP process involved may in fact have barriers to execution. Speed, accuracy, and completeness of the plan are all important aspects. Speed in execution of the planning cycle may in fact be a barrier to responsiveness. As a key factor in the operations execution process, this barrier would be exposed and addressed in The Boulder Group's approach to operations improvement. Recognizing that this barrier may also involve significant portions of the supply chain as well as potentially complex distribution processes, this process may in fact warrant a focused approach as a sub-team within the overall process improvement program.

Operational Asset Effectiveness

In a company or enterprise with capital intensive processes, asset management is a necessary skill to be addressed not only in capital and capacity planning but also in the strategic aspects of achievement of the enterprise goals. Again, with The Boulder Group's holistic approach, obstacles or barriers to realization of the enterprise strategic goals may be identified as opportunities to improve Operational Asset Effectiveness. An Asset Effectiveness program must measure the ability to extract the most strategic value from the existing asset base. Also, the program should provide the framework to project future asset investment to further improve the strategic value. This value extraction enables companies or enterprises to achieve the highest sustainable throughput rate of sellable product at the lowest total cost through improvements in:

- Operating processes and practices
- Equipment condition and performance
- Production process capability and capacity

Installation of metrics and analysis analytical data across several functions, including production volume and capacity, planning, engineering, operations, quality assurance and maintenance to drive key performance indicators. These indicators are then used to diagnose root-cause issues of underperforming asset infrastructures. Operational Asset Effectiveness can be a very powerful analytical instrument to develop insight into an organization's operational health and its ability to respond to various business, market or competitive conditions in addition to its role in capital preservation and optimization.

The base model for OAE contains the following equation: **utilization X throughput X acceptance**. The Boulder Group consultants have worked with clients that have experienced improvements in asset effectiveness from 55% to 85% in short time frames. Maintenance effectiveness utilizing metrics that expose quality, reliability, and time to repair along with better changeover and precision can be addressed effectively and rapidly.

Generic Operational Problem Symptoms

Below are listed some common examples of generic operational problems and related symptoms that have been encountered in various companies.

- Long manufacturing cycle times- slow response to change in demand, extra inventory investment, quality difficult to control, poor on time delivery from supply chain,
- Poor internal quality – extra inventory, inflated costs, slower response time, escapes into field quality problems
- Poor finished product on time delivery – customer dissatisfaction, missed sales opportunities, inflated inventory to cover up
- Poor/inaccurate planning – many schedule changes during execution, supply chain can't respond, missed sales opportunities, not including customer inputs in process, poor customer satisfaction
- Inadequate supply chain response – not including providers in planning process, poor communications, lack of management responsibility, too much inventory at suppliers
- Poor asset utilization – capacity mismatched to demand, “just in case” inventories, poor machine up time, poor maintenance programs
- Departmental “silo mentality” – long cycle times, slow response time, poor quality (“not my problem”), poor communications, substitute processes used, overall strategy not consistent
- Capacity inadequate to meet demand – long cycle times mask response to schedule changes, planning process inaccurate, supply chain to included in planning, poor quality degrading output , slow approval cycle for capital investment,

Summary

Operational performance is typically a fruitful area to apply a proven improvement methodology. Again, a **holistic** approach that begins with the overall **enterprise strategy** and involves all key functions such as **sales, marketing, design, supply chain, and the key support functions** will yield the most positive impact in the least time invested. All strategic goals can be evaluated in the light of overall worth to the enterprise, and improvements can be made with the knowledge that they are driven by the appropriate priority and urgency.

The consultant team is vital in the learning and change management process that accompanies an improvement program. Most of us have experienced the “program of the month [year]” that has been enthusiastically introduced, hastily implemented, then only to see momentum and results flounder in a short time frame as priorities change. Many companies have also discovered that improvement programs driven internally do not provide the continuous process improvements that are necessary to stay on top in a very competitive business environment. The cultural changes that are required to provide this change management process are typically not able to be driven from within the organization.. The Boulder Group believes that lasting value is created through learning but also through the institutionalization of a new set of improvement skills and a management process that reinforces these improvements and guides the application strategically for optimum impact.

An Evaluation (term we used) providing the Roadmap and quantified opportunity for the Improvement Program is key to generating enthusiasm as the Team Architecture and training is rolled out. Enthusiasm and buy in by the management team is necessary for full rapid implementation and maximum result impact. The leadership of the consultant team, with many years of experience in process improvement and change management, provides the stability and focus as the enterprise learns and internalizes these new behaviors in the continuous improvement environment.

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The Boulder Group is a national consulting firm that is committed to providing enduring solutions that deliver long term value to our commercial and governmental clients.

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