

The Operations Playbook

A Systematic Approach for Achieving and Maintaining Operations Excellence

A REPORT FROM THE NATIONAL CENTER FOR THE MIDDLE MARKET AND DR. PETER WARD
OF THE FISHER COLLEGE OF BUSINESS CENTER FOR OPERATIONAL EXCELLENCE



In Collaboration With





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About This Report

Operational Excellence in The U.S. Middle Market

THE U.S. MIDDLE MARKET

The U.S. middle market is defined by companies with annual revenues between \$10 million and \$1 billion. In addition to their geographic and industry diversity, these companies are both publicly and privately held and include familyowned businesses and sole proprietorships.

While the middle market represents approximately 3% of all U.S. companies, it accounts for a third of U.S. private-sector GDP and jobs. The U.S. middle market is the segment that drives U.S. growth and competitiveness. *The Operations Playbook—A Systematic Approach for Achieving and Maintaining Operations Excellence* reports on insights from C-suite executives who lead middle market firms across the nation. As a point of comparison, this report also includes data about operations at larger companies (those with revenues above \$1 billion). The report reveals middle market companies' strengths and weaknesses, and suggests some ways they can improve their operational effectiveness.

OPERATIONAL EXCELLENCE

Every company depends on the excellence of its operations, whether in factories, back offices, service centers, logistics, or other activities. Operations effectiveness is a function of how well these activities are governed. There are four parts of governance that are crucial. The first part is problem-solving, which has to do with employees' ability to work collaboratively to find and fix mistakes or make improvements, and the degree to which they focus on root causes instead of symptoms. The second part of good governance concerns organizing and managing the day-to-day tasks of running the shop. The third part is the extent to which operations personnel do their work within a clearly understood strategic context. And the fourth part of operations effectiveness is people development, which ensures that operations management and personnel have the motivation and skills to keep improving their procedures as a whole.

Middle market companies rate themselves high on operational effectiveness—but they say it is difficult to make and sustain improvements in operations. This report explores that question and proposes paths by which they can sustain the gain.

HOW THE RESEARCH WAS CONDUCTED

The survey was conducted among 400 C-suite executives—250 of them from middle market firms, 150 from larger firms.

Participants were asked how they solve operations problems, how leaders manage on a daily basis, the extent to which operations activities are aligned with higher-level strategy and the approach their firms take to people-development activities, including coaching and training. Participants were also asked about the advanced operational methods they use and how successful they feel they have been with those methods. The design of the survey and the selection of the sample were managed by the National Center for the Middle Market.

THE NATIONAL CENTER FOR THE MIDDLE MARKET

Founded in 2011 in partnership with GE Capital, and located at The Ohio State University Fisher College of Business, the National Center for the Middle Market is the leading source of knowledge, leadership and innovative research on the U.S. middle market economy. The Center provides critical data, analysis, insights and perspectives to help accelerate growth, increase competitiveness and create jobs for companies, policymakers and other key stakeholders in this sector. The Center's website, which offers a range of tools and resources for middle market companies, can be visited at

DR. PETER WARD, FISHER COLLEGE OF BUSINESS

www.middlemarketcenter.org.

Peter Ward is a professor of operations management and holds the Richard M. Ross Chair in Management at Fisher, where he also serves as the chair of the Management Sciences department and academic director of the Master of Business Operational Excellence program. He arrived at Ohio State in 1988 after obtaining his doctoral degree following a career in industry that included stints at Wang Laboratories and the U.S. Bureau of Labor Statistics.

THE CENTER FOR OPERATIONAL EXCELLENCE

The Center for Operational Excellence at The Ohio State University Fisher College of Business works alongside its member companies to foster a problem-solving culture grounded in tried and tested operational excellence tools. The center is committed to providing the thought leadership to drive the far-reaching changes in behavior necessary to sustain long-lasting excellence and ultimately help members improve speed to market, reduce lead time, eliminate process waste, develop leaders and gain competitive edge. Members benefit by accessing Fisher faculty; building their own vision for operational excellence by interacting with change agents in a broad range of industries; and connecting with peers in fellow member companies to share best practices.

Executive Summary

When middle market executives put their minds to it, they can make big improvements in operational effectiveness. Whether they use a methodology like Six Sigma or take a more idiosyncratic approach to improving a process or task, their success rate tends to be high. On the whole middlemarket executives rate themselves highly on operational effectiveness; but they place the bar even higher, and see a strong need to improve their performance.

What middle market companies find especially difficult is sustaining the gains they make in operations. More than two-thirds say their companies have trouble making improvements stick. Only by sustained improvement, of course, can executives meet their goals boosting profits and increasing customer needs.

Our experience shows us, and the data confirms, that companies do a much better job of sustaining gains when they approach their operations as systems, with parts or subsystems that can be fine-tuned both individually and in concert. The four subsystems of any operation—problemsolving, daily management, strategic alignment and personnel development—can all, in our view, be improved through better management and careful governance.

Midsize companies can learn from their larger peers when it comes to using formal improvement methodologies; that much is clear. However, the research shows that midsize companies have better practices in many other areas, such as how they solve problems, how they conduct meetings, and the level of alignment between strategy and the daily activities of their operations staff. They also have an advantage in that they are more likely than larger companies to measure operational improvements not just by cost savings but by the extent to which the improvements increase customer satisfaction.

Key Takeaways for Middle Market Executives



MANAGE YOUR OPERATIONS AS A FOUR-PART SYSTEM

By breaking the governance challenge into four parts: problem-solving, daily management, strategic alignment, and people development, executives will have a clearer picture of what they may able to change and how to do it. Progress in each area helps to sustain progress in the whole system, and vice versa.



STAY CLOSE TO THE WORK

A company whose top managers are visible and engaged on the shop floor—whether that's a plant, a distribution center, or an office environment—will generally have faster problem-solving and a keener understanding of what matters to end customers.



FIND AN OPERATIONS PHILOSOPHY OR METHOD THAT WORKS FOR YOUR COMPANY

Their informality is often one of the strengths of midsize companies. But there is clear evidence that when these companies *do* turn to some more formal method of continuous improvement, they get excellent results. Time invested in finding and implementing such an approach will be well rewarded.



ENSURE THAT EVERYONE IN OPERATIONS KNOWS THE LARGER STRATEGY

If a leader tells people what to do, they may or may not follow. If he or she talks to people about the mission, they will do what's needed to achieve it—sometimes in smarter ways than the leader would have been able to imagine.

The Hallmarks of Operational Excellence

If you could spend a day in the part of an organization where its product or service comes together, and had access to the right data, it wouldn't be hard to tell if the organization was excellent at operations. In an ideal operation, the person in charge would know about every major problem, thanks to meetings he or she would have already held. The people on the front line would be working to solve problems, and looking for root causes to ensure that the problem didn't recur. The metrics that were important to the operation might show occasional dips, but their long-term trend would be positive. There would be visual controls (such as whiteboards and publicly displayed post-it notes) apprising everyone who needed to know how the day's work was going—every worker, supervisor, and visiting manager would know at a glance if things were in good shape. And every employee would be able to say exactly how his work contributed to the company's strategy.

These are the hallmarks of operational excellence. But relatively few companies exhibit them all, and even operations that achieve gains generally have trouble sustaining them over longer periods, according to an extensive survey of operations executives.

To get a sense of how good companies are at operations and how middle market companies can do better, the National Center for the Middle Market surveyed operations executives at 250 midsize companies. For comparative purposes, we also surveyed 150 executives of companies with sales above \$1 billion.\footnote{1} Our expectation was that mid-market companies would trail larger companies in the overall use of so-called continuous improvement methods, and this proved accurate. Yet the middle market companies had better approaches in some very important areas, and overall, were more apt than large companies (80% to 72%) to rate themselves as either excellent or very good at operations.

Our decision to study operations effectiveness grew out of our desire to understand one of the mystifying realities of most businesses—namely, their inability to sustain operational improvements. In observing dozens of companies over the years, we had been struck by the regularity with which gains are made, then fade. Even when improvements are significant, it isn't unusual for a company to end up closer to where it started than at the stepped-up level it enjoyed at the conclusion of a change program.

Operational improvements tend to last longer—they are "stickier"—when they are comprehensive and systematic. Based on our research of dozens of companies, we have concluded that an operation should be managed as a system comprised of four interlocking subsystems:

- + **PROBLEM-SOLVING SUBSYSTEM** the approaches taken by operations staff when problems arise
- + DAILY MANAGEMENT SUBSYSTEM the practices leaders use every day to identify potential issues and ensure that critical activities are on track
- + STRATEGIC SUBSYSTEM the extent to which workers understand higher-level strategy and use that understanding to set priorities and guide their actions
- PEOPLE DEVELOPMENT SUBSYSTEM a company's ongoing attention to helping its staff add skills and capabilities to fill critical gaps in operations

¹ Two-hundred fifty of the companies surveyed fit our definition of being middle market (they have annual revenue of \$10 million to \$1 billion). The other 150 were large companies, with annual revenue above \$1 billion.

The Operational Governance System



These subsystems work in sync, with (for example) the strategic subsystem improving the problem-solving subsystem and the people-development subsystem keeping all the other subsystems strong. It is our belief that these subsystems comprise the core of any of operational governance system, and that that viewing operations as a system, and managing the system in an integrated way, makes a difference. Our survey gave us a chance to test that thesis and create a comprehensive profile of operational effectiveness.

Problem Solving Subsystem

No operations group, whether it's part of a midsize company or a large one, ignores problem-solving. A product company wouldn't be able to survive if some part of its assembly line kept breaking down. A service company would lose business if its customers were inconvenienced by delays. When they see such problems, most management teams get their people to work together and fix them.

But if problems with operations can't be ignored, they can certainly be handled sub-optimally. For instance, companies don't always have open discussions about operations problems; sometimes they cover them up or simply fail to report them. Nor do companies always look for the root causes of problems; they sometimes opt for quick solutions, potentially allowing a problem to re-emerge later. And companies often lack a well-defined approach to problemsolving, opting instead for a more ad-hoc response that can waste time and fail to take advantage of previous learning.

Perhaps because their top executives tend to be closer to operations, and because the feedback loops are shorter, midsize companies tend to be better than larger companies. For example, middle market organizations are more apt than large companies (70% to 60%) to say they report or discuss problems rather than trying to cover them up. And when problems occur, middle market companies are more likely to look for root causes as opposed to just making quick fixes (66% vs 55% for large companies). Bureaucratic reflexes

(such as delays and attempts to obfuscate or paper-over) aren't as common in organizations with less bureaucracy. This may make it easier for middle market companies to improve their processes incrementally, and without the expensive major change programs that larger companies often rely on.

On the other hand, only about one in five midsize companies strongly agrees that they have well-established methods for addressing problems once they surface. The percentage of strong agreement on this topic is even lower at large companies, suggesting this is a problem area for companies of all sizes and types.

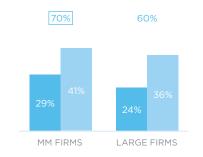
- + Institute an open reporting system to raise problems
- + Train supervisors and employees to use problemsolving tools that focus on identifying root causes
- + Use cross-functional, team-based approaches to solve problems
- + Share lessons learned to minimize problems from recurring

Problem Solving Assessment

PEOPLE WORK TOGETHER TO SOLVE PROBLEMS



WE REPORT OR DISCUSS PROBLEMS RATHER THAN COVERING THEM UP



WHEN PROBLEMS OCCUR, WE USUALLY FOCUS ON FINDING THE ROOT CAUSE RATHER THAN QUICK FIXES



THERE IS AN AGREED-UPON ROUTINE METHOD FOR ADDRESSING PROBLEMS WHEN THEY ARE UNCOVERED



PEOPLE IN THIS
ORGANIZATION OFTEN SEEM
TO BE SOLVING THE SAME
PROBLEM OVER AND OVER



AGREE STRONGLY

AGREE SOMEWHAT

SIGNIFICANT AT THE 90% CONFIDENCE LEVEL AS COMPARED TO THE CORRESPONDING STAT FOR LARGE FIRMS.

Daily Management Subsystem

Operations do not run themselves, even in the absence of problems, any operation needs a system of daily management—routines, informal flows, and organizational activities to get work done.

The daily management subsystem is comprised of three components. Visual controls are one—things like centrally located whiteboards where problems or the day's goals are updated regularly as a means of tracking progress and coordinating activities. With good visual controls, everyone from a line worker to a foreman to a visiting executive can quickly see how things are going. It is much easier to stay on track if there is general agreement on the tasks that have already been completed, the tasks that are still being worked on, and those that haven't even been started.

Our research shows that the operations departments of companies of all sizes could be better at implementing visual controls. Just 54% of large companies, and even fewer middle market companies, say they maintain such controls.

The second component of a daily management subsystem is accountability. You cannot run a tight ship without knowing that the work that everyone is responsible for on a given day is actually done. Yet at large companies, only a slight majority of operations leaders (54% again) do routine status checks. Middle-market companies, at 56%, are not much better.

The third component of daily management is what lean practitioners call "leader standard work." This is a set of tasks that operations leaders perform every day to stay on top of people and activities they oversee. A lot of it is what is colloquially known as "management by walking around"—though in the case of leader standard work, the walking around is anything but aimless.

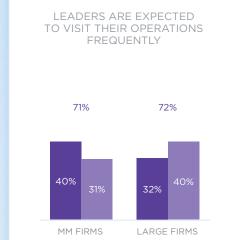
Leader standard work has a clear agenda; it entails going over lists of priorities with different staff members and workers in daily meetings that are often very informal, and that are often so short that they are conducted standing up. It isn't only the top operations executive who should be having these quick tactical meetings; at companies that do a good job with the daily management of operations, other managers hold meetings of their own, in the areas of *their* responsibility, throughout the day.

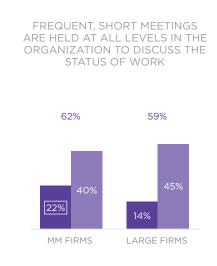
Midsize companies are more apt to report (22% versus 14% for large companies) that these frequent, short meetings take place routinely at all levels of their organizations. This may allow midsize companies to solve operational problems more efficiently and to more quickly escalate situations that require the attention of senior executives or of an owner.

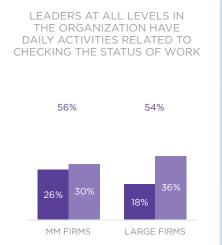
- + Implement visual controls (like white boards or digital signs) that report on production goals, defect rates, and safety measures
- + Develop "leader standard work," listing the set of tasks that operations leader should perform every day
- + Hold short, stand-up meetings on the shop floor at least once per day to discuss goals, answer questions, or address problems

² The components of a daily management subsystem were originally described by David Mann in his book, "Creating a Lean Culture," published in 2005 by Productivity Press.

Daily Management Assessment













Strategic Subsystem

It stands to reason that companies should communicate their strategies to the people who build their products and provide their services. If this communication happens, and the people working in operations internalize the strategy, they can do their part to make sure the strategy is successful. They can act on their own initiative and make suggestions to keep costs down. A service manager at an online retailer looking to minimize expensive returns can put in place processes to double-check for defects and omissions before products are shipped. They can make better judgment calls.

A boss would want this linkage from those who devise the strategy down to those who implement it for the same reason that a basketball player would want his brain to be linked to his arms.

Midsize and large companies both see themselves as good at communicating strategy at a high level, but they are much less confident that these messages and the strategic vision get through to people in operations. The disconnect is especially pronounced at large firms. Whether it's because there are just so many employees and layers of management at these organizations, or because the CEO can't possibly make it to every location, or because the strategies are just plain complicated, only 6% of executives at large organizations agree strongly that people at all levels can articulate the connection between their work and the company's strategic intentions. For midsize companies, the proportion, while not high, is almost three times greater—17%.

Indeed, midsize companies see themselves as doing a better job of educating all employees on strategy. We have seen this up close at some midsize healthcare providers, which, as a group, appear to be particularly strong in the area of strategic alignment. It's true, healthcare systems (by which we basically mean hospitals) have the advantage of being

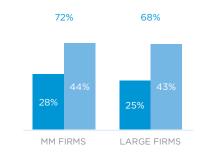
geographically concentrated (an advantage that, say, a global chemical company, with plants all over the world, may not have), and of having an unusually high proportion of well-educated employees. Still, what has impressed us is the extent to which the operations people at the best managed healthcare systems—nurses in particular—understand the strategy and find ways to advance it. Of course, this close connection between strategy and daily operations is not found in every hospital. But at the hospitals that have connected the dots, it's not unusual for every nurse to be able to articulate what the hospital is trying to achieve, which typically boils down to improving patient health outcomes in dozens of clearly measurable ways. And what a difference this kind of alignment makes.

Widespread understanding of what an organization is trying to achieve is one of the two significant parts of an effective strategic subsystem. The other part is using that understanding to decide which projects to take on and which projects to filter out. An operation with a good strategic subsystem doesn't devote resources to projects or activities that aren't priorities. It knows it cannot afford—and shouldn't try—to be best in class at everything.

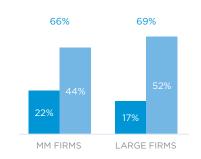
- + Help executives and supervisors to communicate and interpret the organization's strategy down to the shop floor
- + Check for understanding by soliciting production ideas from employees and encouraging them to challenge the status guo
- + Ensure projects are prioritized and aligned with the organization's strategy

Strategic Assessment

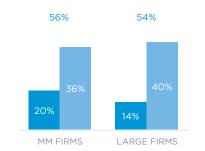
LEADERS AT ALL LEVELS ARE EXPECTED TO INTERPRET THE ORGANIZATION'S STRATEGY TO BE MEANINGFUL TO ALL INDIVIDUALS WHO WORK IN THEIR AREA



STRATEGIES ARE LINKED TO SPECIFIC PROJECTS



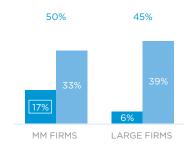
ALL PROJECTS ARE FILTERED FOR PRIORITY AND FIT WITH THE ORGANIZATION'S STRATEGY



STRATEGIC PROJECTS ARE RESOURCED APPROPRIATELY



PEOPLE AT ALL LEVELS OF THE ORGANIZATION CAN ARTICULATE HOW THEIR WORK RELATES TO ORGANIZATIONAL STRATEGY



AGREE STRONGLY AGREE SOMEWHAT

SIGNIFICANT AT THE 90% CONFIDENCE LEVEL
AS COMPARED TO THE CORRESPONDING STAT

FOR LARGE FIRMS.

People Development Subsystem

In a sense, the people development subsystem is the most critical part of operations governance. After all, nobody comes into a factory, a retail store, or service center knowing what to do; they must be trained and coached. Without well-trained, well-coached, and well-led people who understand their roles, none of the other subsystems—problem-solving, daily management, strategic alignment—will function effectively.

Among the organizations in our survey—both midsize and large—about 30% agree strongly that coaching is in the job description of all of their leaders. Following through on this, however, is another matter. Less than half that number of respondents agree strongly that leaders at their companies receive training in how to coach. (The proportion of middle market companies who say their leaders receive training in how to coach is especially low—just 11%.) One problem may be the tendency (not just in operations but in every field) to promote people into management positions based on technical expertise, not on their ability to manage or motivate others.

Companies that do a good job with people development subsystems gain a big advantage. An example among large companies is Autoliv, a Swedish-American manufacturer (2013 sales: \$8.8 billion) that has put in place a world-class system for making automotive safety products including airbags. The people part of Autoliv's governance system includes a matrix for identifying skills gaps in workers, and a small team focused on skills development, certification training, and on disseminating needed expertise. This subsystem has helped Autoliv move past several operational struggles it had in the past, and has helped it get to a better place financially. (Autoliv's shares have risen seven-fold over the last five years.)

- + Identify key functional experts and post contact information or make it readily available when there is a problem
- + Provide training on how to coach for new supervisors and frequent refresher courses for existing managers

People Development Assessment

PEOPLE WHO WORK IN THE ORGANIZATION KNOW WHOM TO CALL WHEN THERE IS A PROBLEM



COACHING IS PART OF EVERY LEADER'S JOB DESCRIPTION IN THIS ORGANIZATION



ALL EMPLOYEES ARE TAUGHT ABOUT THE WORK OF OTHER UPSTREAM AND DOWNSTREAM DEPARTMENTS OF THE ORGANIZATION



TRAINING ON HOW TO COACH IS PROVIDED TO ALL LEADERS IN THIS ORGANIZATION



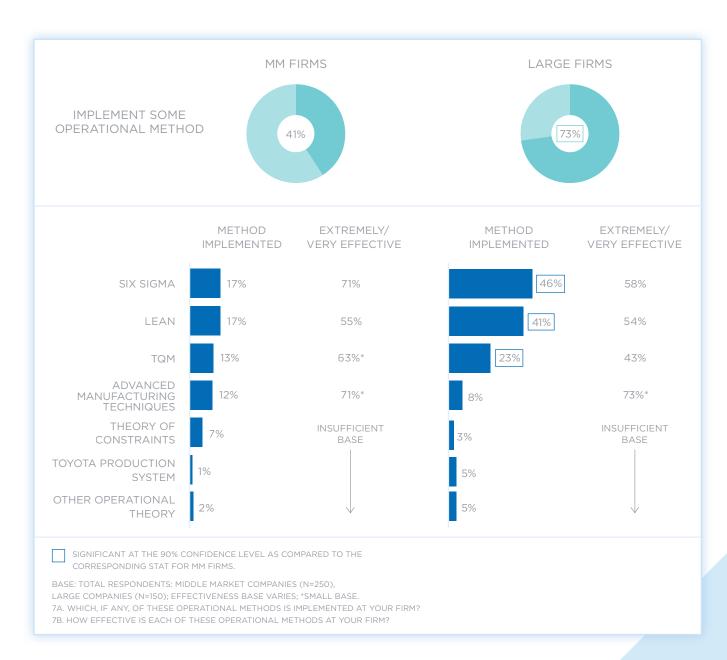
AGREE STRONGLY AGREE SOMEWHAT

Continuous Improvement Methods Most Often Used

Our research shows that large firms are significantly more likely than middle market firms to implement an identifiable set of continuous improvement methods. Some three-quarters of the large companies in our survey implement either six sigma, lean, or some other programmatic method of continuous improvement; only 41% of mid-market companies do so.

That said, the mid-market companies in our survey that had implemented methodologies such as six sigma and total quality management reported better results from them than

did larger firms. One possible explanation is mid-market firms' tendency to use such programs not to reduce costs but to increase customer satisfaction—an area where the payoffs tends to be more varied and where the law of diminishing returns doesn't apply in the same way. Midsize companies' greater use of quick tactical meetings may also be a factor in the higher success rates they get when using formal operational improvement methods. Although such meetings can be done to review all kinds of work, they lend themselves especially well to keeping tabs on process initiatives.



Metrics Used to Judge Operational Excellence



Conclusion Middle Market Companies' March Toward Operational Excellence

It's no secret where the impediments are when middle market companies are trying to improve their operations. The biggest challenge, which middle market companies share with their larger peers, is sustaining operational gains that have already been made. Middle market companies also face a challenge that larger companies don't have, namely their disinclination to employ proven operational methods, especially lean production, which has been in wide use since James Womack, Daniel Jones, and Daniel Roos put lean in the spotlight in their 1990 book, *The Machine That Changed the World*.

The good news is that middle market companies have plenty of strengths to make up for the things they aren't doing. One strength is the greater focus that midsize companies place on customer satisfaction. Another measure of operational effectiveness is the involvement of senior leadership in establishing operational goals. The owner is deeply involved in operations at a third of all mid-market companies; only 15% of large firms say their owners are involved in this way. Having a sleeves-rolled-up owner may well encourage other good practices, such as midmarket companies' speed in spotting operational problems, their determination to get to root causes, and their interest in openly considering improvement ideas. An owner who is frequently on site, talking to staff and participating in problem-solving, would also tend to discourage a culture of covering up problems. Midsize companies do have less "book-learning" than larger companies, and trail their larger peers in the use of more formal best practices and state-of-the-art operations methods. But these weaknesses are, in many cases, easier to fix than having a top management team that is disengaged or not first and foremost focused on customers.

Success comes back to good governance. However big or small your company is, there are some basic practices that will determine its success in certain areas; in operations, the practices to focus on are problem-solving, daily management, strategic alignment and people development. Management may know, or think it knows, what to do in each of these areas. But in the end, if your company is to achieve excellence, its leader will have to get their arms around the governance challenge.

Operational Excellence Questionnaire

Please indicate how much you agree or disagree with each of the following statements. Please select one answer for each statement:

5 STRONGLY AGREE 4 SOMEWHAT AGREE 3 NEITHER AGREE OR DISAGREE 2 SOMEWHAT DISAGREE STRONGLY DISAGREE **DAILY MANAGEMENT SUBSYSTEM** Leaders at all levels in my organization have daily activities related to checking the status of operations Visual controls are maintained at all levels of the organization that provide quick indication of the status of operations Frequent, short meetings are held at all levels in the organization to uncover and solve operational problems Frequent, short meetings are held at all levels in the organization to discuss the status of work Leaders are expected to visit their operations frequently Employees generally want to excel at whatever work they are assigned Your company's score STRATEGIC SUBSYSTEM People at all levels of the organization can articulate how their work relates to organizational strategy Strategies are linked to specific projects Strategic projects are resourced appropriately All projects are filtered for priority and fit with the organization's strategy Leaders at all levels are expected to interpret the organization's strategy to be meaningful to all individuals who work in their area Your company's score PEOPLE DEVELOPMENT SUBSYSTEM Coaching is part of every leader's job description in this organization People who work in the organization know whom to call on when there is a problem Training on how to coach is provided to all leaders in this organization All employees are taught about the work of other upstream and downstream departments in the organization Your company's score PROBLEM SOLVING SUBSYSTEM There is an agreed-upon routine method for addressing problems when they are uncovered Reporting or discussing problems rather than covering them up is common in this organization People in this organization often seem to be solving the same problem over and over When problems occur, we usually focus on finding the root cause rather than quick fixes People work together to solve problems

AVERAGE SCORES FOR MIDDLE MARKET COMPANIES:

Daily Management Subsystem = 18 Strategic Subsystem = 18

Your company's score

People Development Subsystem = 14 Problem Solving Subsystem = 18



The National Center for the Middle Market is the leading source of knowledge, leadership, and innovative research focused on the U.S. Middle Market economy. The Center provides critical data, analysis, insights, and perspectives to help accelerate growth, increase competitiveness, and create jobs for companies, policymakers, and other key stakeholders in this sector. Stay connected to the Center by contacting middlemarketcenter@fisher.osu.edu.



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