

Forbes
INSIGHTS

THE RISING ECONOMIC POWER OF QUALITY

How Quality Ensures Growth and Enhances Profitability

IN ASSOCIATION WITH

ASQ

Forbes INSIGHTS

CONTENTS

1. FOREWORD....4

2. EXECUTIVE SUMMARY....6

3. METHODOLOGY....8

4. KEY FINDINGS....10

5. QUALITY DRIVES GROWTH....11

6. QUALITY CHALLENGES....16

7. MAKING QUALITY SUCCEED....23

8. HARNESSING THE POWER OF QUALITY DATA....29

9. QUALITY IN THE DIGITAL ERA....36

10. ACTION ITEMS....40

11. ACKNOWLEDGMENTS....42

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FOREWORD

Consumers today have a variety of information available that influences their buying habits and can greatly impact an organization's bottom line. Entire industries have shifted to accommodate the informed customer, with disruptive innovators relying on new business models and technologies to give them a competitive edge. Quality is an essential ingredient to the success of these industries, and can turn uncertainty into profitability.

Thriving in this challenging era of constant change requires infusing quality thinking into every process across every part of the enterprise. Organizations succeeding in their markets have learned to deliver world-class quality through products, process and people—even when products and services need to be delivered almost immediately. They harness the enormous economic potential of quality management to attain leadership within their industries.

These advancing organizations understand that—because of customer demand—responsiveness and change is vital to competitiveness. They also transform to design, build and ship products quickly to meet the needs of its customers. Once products are sold and shipped, the relationships with customers continue through ongoing monitoring and maintenance.

Organizations with established performance excellence programs in place see more significant, direct benefits as a result of their efforts than their less-developed counterparts. Companies with mature quality systems proactively engage their workforces, partners and customers in the continuous improvement of products and services.

These are among the types of organizations that have realized an increase in revenues and have boosted their bottom line. It's their outlook and incorporation of quality throughout the company that have trickled through to their customers that provide repeat business because of the value of a product or service.

These are the companies all organizations should aspire to be like. Where do you fit on the spectrum of companies reaping the financial benefits of enterprise-wide quality? How can quality benefit your business?



Eric Hayler
Board of Directors Chair, ASQ

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EXECUTIVE SUMMARY

In this report, Forbes Insights, in association with ASQ, a global community of quality professionals, explores the results of a survey of 1,869 senior executives and quality professionals, focusing on the links between quality efforts and corporate performance, as well as the evolving business value of quality.

The research reveals that top-level executives and quality professionals see a direct connection between the success of their continuous improvement or performance excellence initiatives and the success of their organizations as a whole. Close to half of all survey respondents say their quality efforts have resulted in increased profitability and have enhanced important key functions across their organizations.

The research examines the state of quality maturity, and the returns of continuous improvement efforts as measured against the bottom line. More than one-third of enterprises, 36%, regard themselves as "established" quality organizations, meaning quality is pervasive throughout their organization and culture. Another two in five—classified as "developing"—are moving forward with quality efforts, which currently may be spotty. Twenty-five percent currently have ineffectual or nonexistent quality efforts (Fig. 1). It should also be noted that within the final group classified as "siloed or struggling," 5% reported no quality efforts at all.

For the purposes of this survey, we defined quality initiatives as efforts to promote or implement quality, continuous improvement, performance excellence and any related activities.

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Figure 1 **How Respondents Rate Their Quality Maturity**

36% Established:

Our organization is considered the best in the industry and a benchmark; we recognize quality as a strategic asset and competitive differentiator; we have strong metrics in place to measure costs and benefits; continuous improvement or performance excellence efforts are directly tied to customer satisfaction and business performance; training and education is widespread, and available to all employees, contractors and partners.

39% Developing:

Our quality efforts are developing within business units or departments, but they lack a cohesive strategic focus; we may have strong quality training programs, but they're not necessarily available to all employees.

25% Siloed/Struggling:

Our quality efforts are siloed within specific areas of the organization; potential benefits are not fully understood or communicated by management. **Or:** We don't have ongoing formal quality, continuous improvement or performance excellence efforts in our organization at this time.

While these three categories will be used throughout the report to compare the experiences and attitudes of companies in various stages of quality maturity, it's important to note that these are self-designated categories. In many cases though, the data supports the maturation of the quality groups.

Throughout this report, we examine the trends, best practices and attitudes of the established organizations versus those whose senior executives and quality professionals report they are still developing quality cultures and those who are still struggling to initiate comprehensive performance excellence efforts within their organizations.

In addition to the survey, Forbes Insights conducted in-depth interviews with top executives and thought leaders (see Acknowledgments). They note that to succeed, quality initiatives need to be woven into every part of the organization, irrespective of industry. The shift to digital enterprises is bound to transform organizations' approaches and perceptions of quality or continuous improvement—from a focus on products to more emphasis on brand value, data and software delivery. As of today, there is little consensus on digital, as most quality professionals have not incorporated digital initiatives into their scope of responsibilities. The report closes with a forward look at this next frontier—quality in the digital era.

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METHODOLOGY

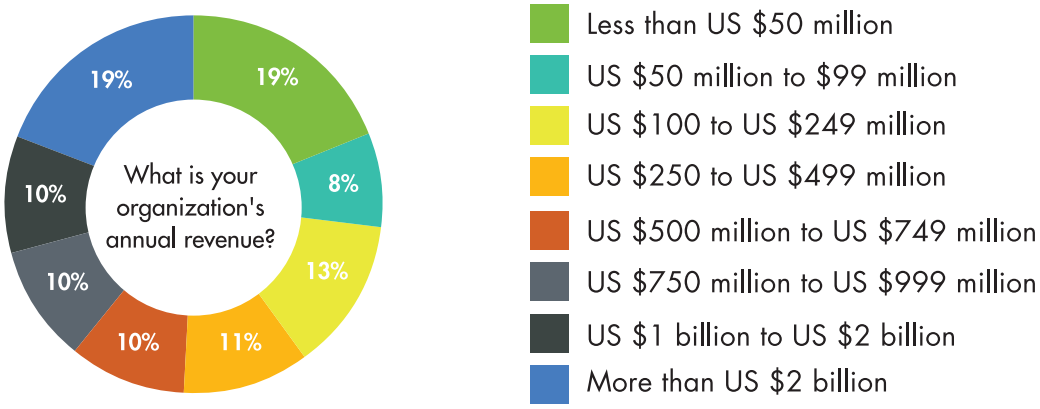
The insights and commentary found in this report are derived from both a survey and qualitative interviews. Partnering with ASQ, Forbes Insights conducted a global survey of 1,869 senior executives and quality professionals in March 2017. Of this group, 1,000 came from Forbes' executive database and 869 from ASQ's database. For identification purposes, Forbes respondents are labeled as "senior executives" in this report and ASQ respondents are labeled as "quality professionals."

What is your title?

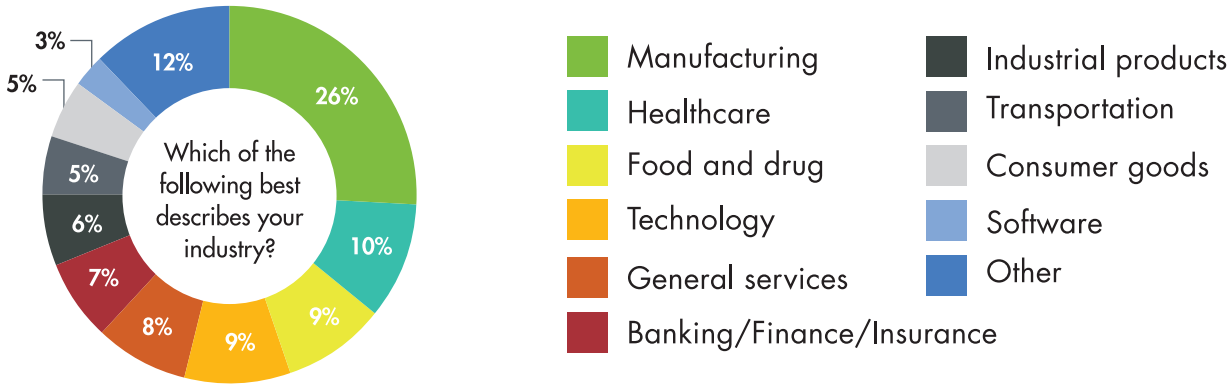
	Senior Executives	Quality Professionals
Senior Manager, Manager or below	0%	44%
SVP/VP	24%	2%
Chief Executive Officer	18%	4%
Chief Information Officer	17%	0%
Chief Financial Officer	12%	0%
Director	0%	13%
Chief Marketing Officer	10%	0%
Other C-level Executive	8%	1%
Chief Quality Officer	4%	5%
Chief Operating Officer	7%	1%
Other Quality Professionals	0%	30%

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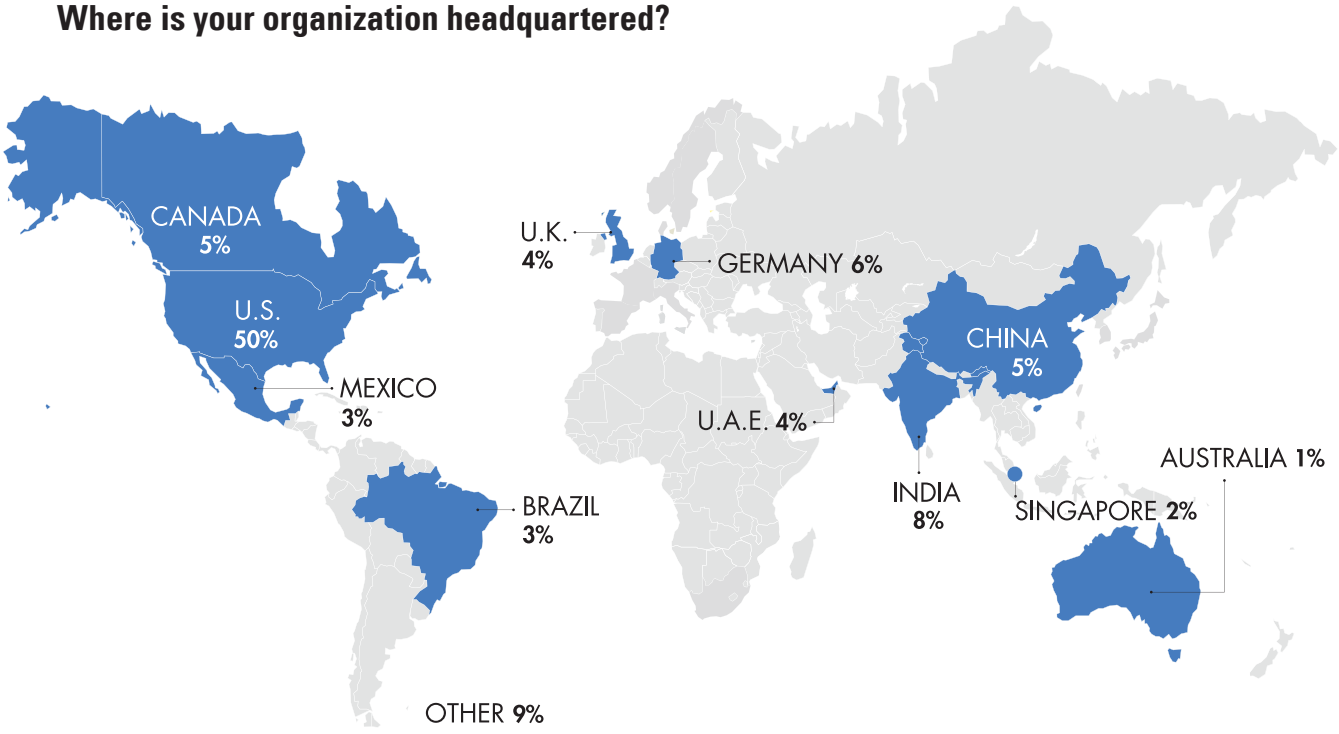
What is your organization's annual revenue?



Which of the following best describes your industry?



Where is your organization headquartered?



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KEY FINDINGS

Quality has a direct impact on profit growth. Organizations embracing continuous improvement or performance excellence in a significant way are more likely to see higher levels of productivity than those who are lagging in quality efforts. The areas of the business that benefit the most from quality initiatives include boosting customer growth and sales, followed by efficiency gains. Areas most likely to be touched by quality initiatives include operations, customer service and production.

Workforce preparedness and outdated processes are the greatest quality issues faced by organizations. Ongoing quality issues are hurting competitiveness and cutting into revenue. Negative quality issues are also proving to be a productivity sink, taking time away from employees' jobs. The amount of time consumed with quality issues is rising.

A spirit of collaboration and open communication is more essential to quality success than other initiatives. Stakeholders need to know they can speak up as issues arise, or if they have improvement ideas. While quality encompasses a broad variety of activities and programs, the most common denominators include collaboration and risk management. External forces such as customer demand are pushing quality. Continuous improvement and superior delivery to customers are the top values that define today's quality efforts.

Quality measurement is widespread, but more data is needed. Less than one-fourth of enterprises have extensive metrics for their quality efforts in place. The ability to obtain the right data at the right time is a continuing issue. Quality data that is available is widely distributed, and a majority of organizations have even opened up such data to their workforces. Customer satisfaction is the metric most often leveraged.

Digital transformation means new ways to approach quality. It makes speed essential in the ability to deliver quality outcomes, as well as to measure and report results.

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QUALITY DRIVES GROWTH

Quality may be the essential ingredient that transforms today's uncertainty into profitability. Entire industries are being disrupted by startups or innovators with new business models and technologies. Rapid time to market is critical to competitiveness, and there is enormous pressure to design, build and ship products at blazing speeds.

Thriving in this challenging era of change requires infusing quality thinking into every process across every part of the enterprise. Organizations succeeding in their markets have learned to deliver world-class quality through products, processes and people—even when products and services need to be delivered within milliseconds. They harness the enormous economic potential of quality management to attain leadership of their respective markets.

Close to half of senior executives and quality professionals in this survey report that their quality efforts have increased profitability. A total of 47% attribute profitability growth to their continuous improvement efforts. One in five credit significant growth, exceeding 5% in the most recent year (Fig. A-1).

Figure A-1 **How Quality Programs Affected Bottom Lines (Profitability) in Most Recent Fiscal Year**

Increased profitability by more than 10%	8%
Increased profitability 6%-10%	12%
Increased profitability 1%-5%	27%
Total Increased	**47%**
No discernable impact	28%
Decreased profitability 1%-5%	4%
Decreased profitability 6%-10%	2%
Decreased profitability by more than 10%	3%
Don't know/not sure	15%

Note: May not add to 100% due to rounding

When looking at the reported annual revenue growth of respondents' organizations, those in the established category in terms of quality were more likely to report significant growth than their less-advanced counterparts. Twenty-six percent of the established quality organizations experienced regular year-to-year growth exceeding 6%, versus 19% of the developing category (Fig. A-2).

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Figure A-2

How Quality Initiatives Affected Bottom Lines (Profitability) in Most Recent Fiscal Year - By Quality Maturity Level

(Percentage reporting growth greater than 6% growth per year)

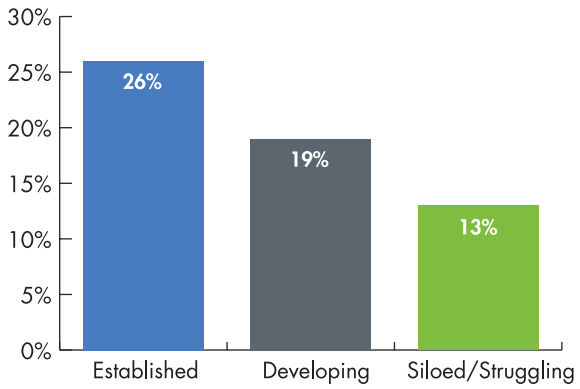
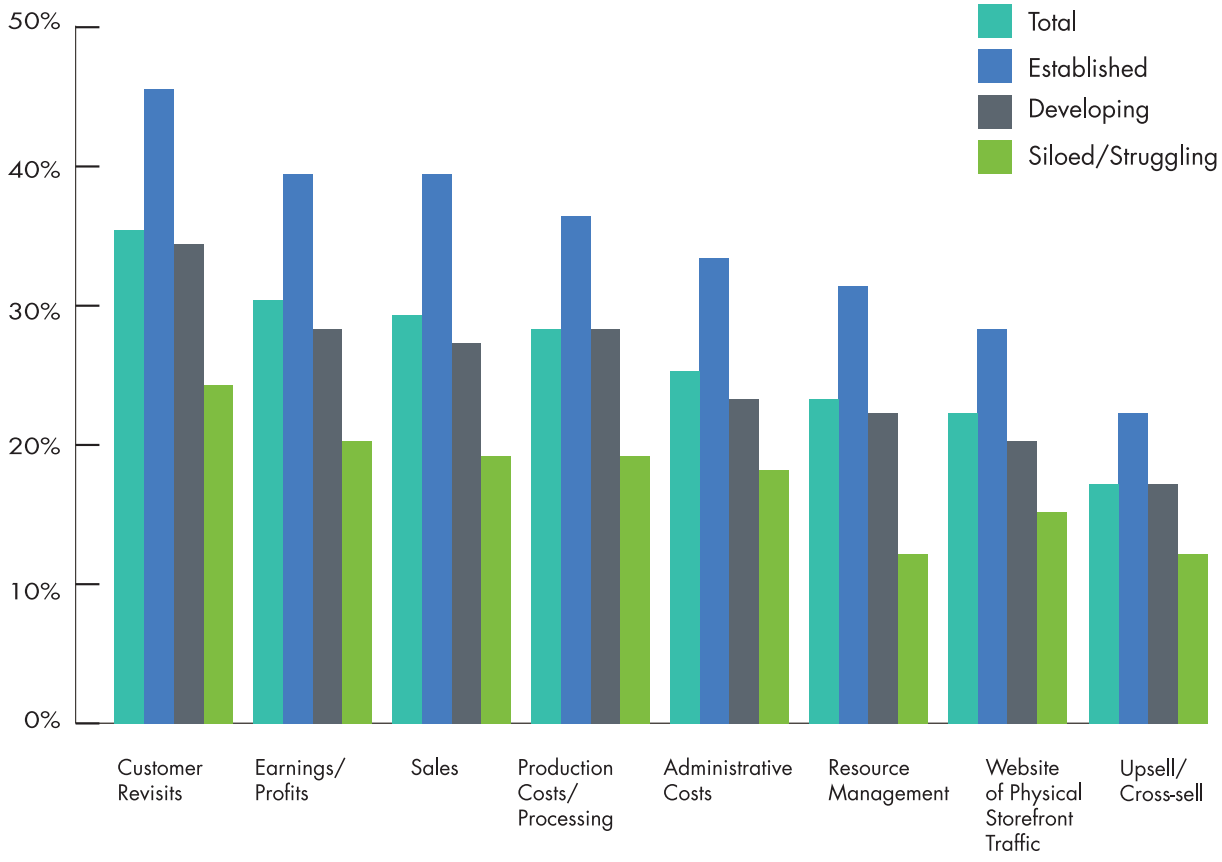


Figure A-3

Financial Impact of Quality on Key Business Functions Over Past 5 Years

(Percentage rating impact "6" and "7" on a scale of 1-7, with 7 meaning "significant positive impact")



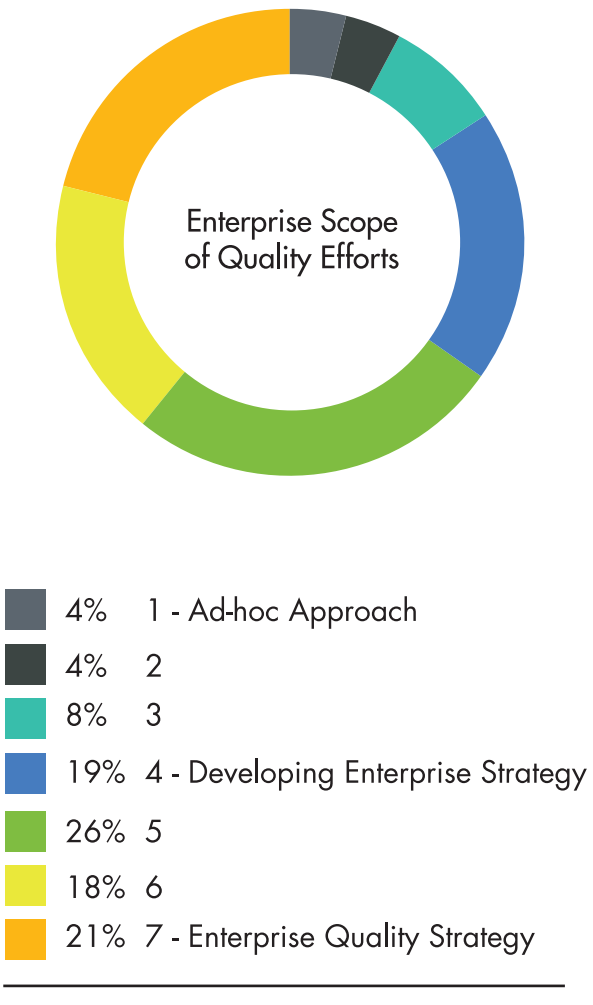
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Most of the benefits of quality tie into customer satisfaction. More than one-third of all survey respondents report their organizations' performance excellence efforts have had a significant, positive impact on customer revisits over the past five years. Thirty percent have seen positive results in their earnings and profits over a five-year period, and a similar number say their quality efforts have played a role in boosting sales (Fig. A-3).

Survey respondents who rated their organizations' quality initiatives as established are more likely to have experienced the wide range of benefits seen from their quality initiatives. Close to half, 45%, report quality has boosted customer revisits, compared with 34% of developing organizations and less than 24% of the siloed or struggling organizations. Close to two in five established quality organizations also have experienced growth in earnings and profits, contrasted with about one-quarter of developing and less than one-fifth of siloed/struggling organizations.

Quality management now extends across the enterprise, from production floors to front offices. Two in five see quality as a cross-enterprise initiative, ranking their quality management programs at or near enterprise quality strategy (rating the enterprise scope of their efforts as a "6" or a "7" on a scale of 1 to 7, as shown in Fig. A-4). Another segment of respondents in the survey, 45%, rate their enterprise focus moderately, with a "4" or "5" on the 1-7 scale. At the lower end of the scale, 17% indicate their enterprise scope rates lowest, either a "1," "2," or "3." The trends and attitudes of the leaders in this category, those with the highest enterprise-scale ratings, map closely to the established group self-identified within this survey, shown in Figure 1 in the Executive Summary.

Figure A-4 **Enterprise Scope of Quality Efforts**



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Almost 60% of all survey respondents report their quality management efforts involve operations, and 52% say customer service is part of their quality efforts. Half say quality is part of their production efforts—the traditional home of quality management over the years (Fig. A-5)

Figure A-5

Top 10 Business Areas Touched by Quality Initiatives
(Percentage rating impact "6" and "7" on a scale of 1-7, with 7 meaning "high impact")

	Total	Established	Developing	Siloed/ Struggling
Operations	59%	66%	59%	48%
Customer service/support	52%	60%	52%	41%
Production	51%	56%	53%	39%
Partner/vendor relations	42%	53%	40%	29%
Research and development	41%	51%	40%	29%
Training	42%	52%	40%	31%
Procurement/ purchasing	39%	47%	39%	28%
Sales/marketing	38%	51%	35%	25%
Human resources/ human capital	39%	50%	37%	25%
Supplier management	40%	48%	40%	27%

"Our mission is to strive to improve the health and quality of life for the people and communities we serve by providing world-class service and patient-centered care," says Mark P. Jarrett, chief quality officer, senior vice president and associate chief medical officer at Northwell Health in the New York metro area. Quality at Northwell means more than delivery of quality services—it's about "quality of life," he states. "It is not just reducing hospital-acquired conditions, but broader and patient-centric. Our success is defined by these improvements in the health and quality of life in our communities."

The definition of quality has evolved in recent times in a similar fashion across a broad range of industries, observes Michael Gravier, associate professor of marketing and global supply chain management at Bryant University in Rhode Island. "We are at a tipping point where the definition of quality is making a major shift to incorporate the consumer," he says, noting that in previous eras, quality was focused on operational concerns, such as defects per million. "The funny thing about quality is that we usually defined it based upon where it wasn't."

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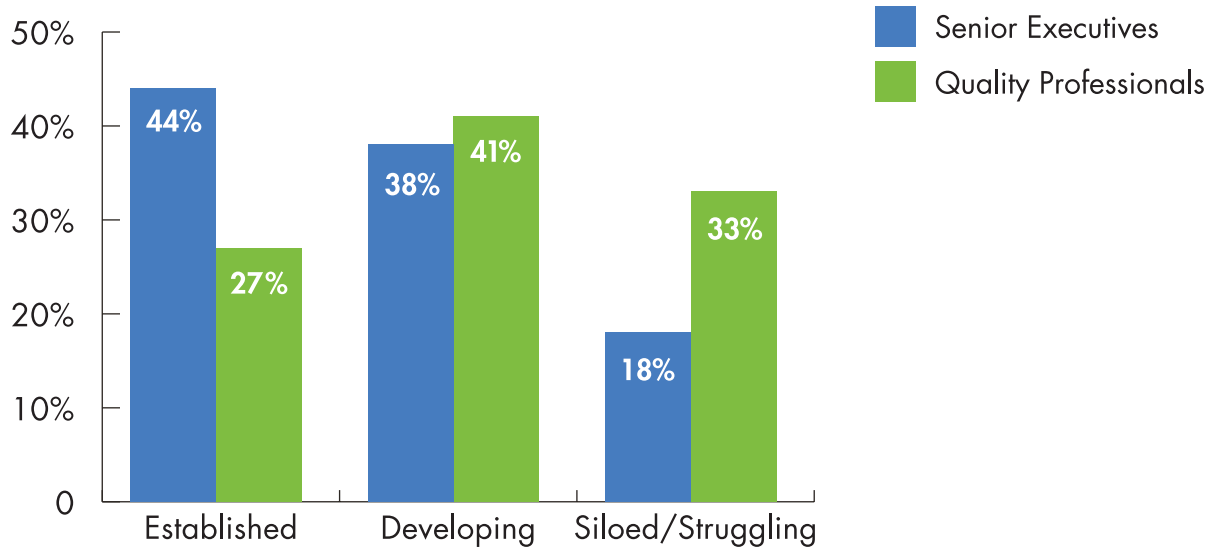
Most established quality organizations say their initiatives already encompass a range of key corporate functions—including operations, customer service, production, partner/vendor relations, research and development, training, and sales and marketing. By contrast, only three of these functions are covered in a majority of developing organizations, and none are prominently figured in siloed/struggling organizations.

Quality Growth as Seen by Senior Executives vs. Quality Professionals

Throughout this report, we explore the differences in experiences and attitudes between senior executives and quality professionals. To a large extent, these differences in perspectives are attributable to the job roles of members of the two groups. Senior executives are tasked with looking at the bigger picture, and marshaling appropriate resources from appropriate corners of their organizations to deliver bottom-line results, be it on an annual or quarterly basis. The term "quality" may not appear in their job description, but they understand that it is the foundation of everything they do. Quality professionals, on the other hand, are more focused on quality at the working level, and are more likely to see firsthand whether they are succeeding or require rethinking or re-engineering.

With this more expansive view of their enterprises' progress, senior executives are more likely to consider their organizations' quality initiatives to be established, meaning continuous improvement is embedded across their enterprises, and is part of most or all processes. Forty-four percent of senior executives consider their organizations to be established, versus 27% of quality professionals (Fig. A-6).

Figure A-6 How Respondents Rate Their Quality Maturity – By Job Roles



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QUALITY CHALLENGES

Continuous improvement and performance excellence do not happen spontaneously, are not propelled by simple executive decree, and are not contained within a single department or function. Such efforts need to be deeply embedded within the work styles and mindsets of employees and managers across the organization. On an assembly line within a quality-driven enterprise, employees know they can throw a switch to stop production if they see an anomaly—even if it is not in their area of responsibility. When engaging directly with customers, employees and managers understand they are empowered to call on any organizational resources that are necessary to deliver a superior experience. When working with teams and business executives, employees and managers feel free to speak up and propose new ways to handle processes.

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The challenge is for these employees and managers to have enough of the proper training, skills and awareness to be able to see continuous improvement initiatives through, especially as they are embedded into more extensive parts of their enterprises. The ability to provide and ensure such training is the greatest concern for business leaders and quality professionals. A majority, 54%, cite employee competence for future needs as their most vexing yet-to-be-resolved quality challenge, followed by outdated, rigid or slow processes. There is also an element of the digital enterprise, with a majority also concerned about quality in their data (Fig. B-1).

Figure B-1 **Respondents' Top 10 Most Vexing Yet-to-Be-Resolved or Ongoing Quality Issues**

	Total	Established	Developing	Siloed/ Struggling
Employee competence for future needs	54%	55%	52%	55%
Outdated, rigid or slow internal/ operational processes	53%	50%	52%	59%
Need for greater data quality	52%	53%	52%	50%
Quality issues from suppliers	51%	54%	51%	47%
Wasted or unaccounted resources	46%	48%	45%	45%
Employee turnover	45%	46%	48%	41%
Delays from suppliers in product or service delivery	42%	47%	40%	37%
Information technology shortfalls/buggy software	41%	41%	41%	38%
Changing standards and regulations	41%	46%	41%	33%
Lack of leadership support	40%	34%	37%	55%

To a great degree, established quality organizations suffer from many of the same issues as their less-developed counterparts—they may just be taking more proactive measures to handle the challenges. A majority of all survey respondents, 54%, report identifying or securing employee competence to make quality initiatives successful is a major issue, which is the same level as their less-advanced counterparts. Established quality organizations are also more likely to be facing quality issues that arise with suppliers—54%, versus 47% of lagging organizations. This may be due to heightened awareness and standards for quality that established organizations bring to the table.

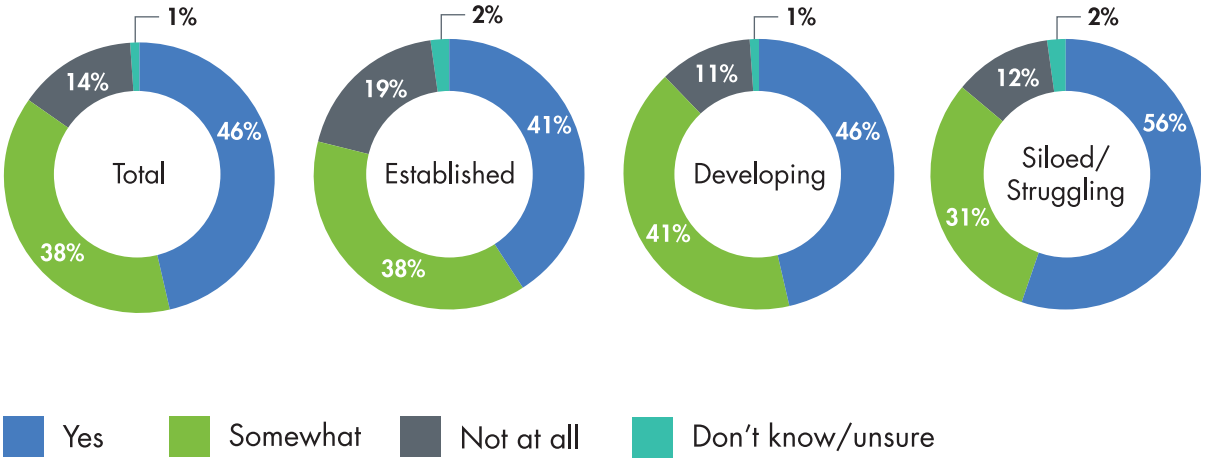
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Often, addressing quality issues means marshaling employees to dig deep and collaborate on challenges. For one company, growth in product sales resulted in calls to the customer call center on a proportionate basis. The company was challenged with either continually increasing staff to its call center, or taking a deep dive to explore ways to reduce the need for customer calls. "We were growing so quickly, the alternatives were to just keep throwing lots of people at our care center, or go in and do an improvement process and find out what's going on," says William McMahon, chief operating officer of Nautilus, Inc., a provider of fitness equipment.

The company discovered that many issues arose from damage that occurred to its fitness equipment during shipping. In response, the company's product designers set out to create packaging that would resist damage during the shipping process. At the same time, it was often arduous for customers to follow up with phone calls. "We spent a lot of time on the phone, listening to customers, looking at our process flow and what we needed to empower care reps to resolve in one call. That meant training for the reps, and giving them more authority to resolve an issue immediately—to give them the tools they need to help their customers." As a result of this concerted effort, 18 months after the effort was initiated, the company has customer response metrics with the same size team and more sales. "We answer 85% to 90% of our calls within 20 seconds, and our first-time resolution rates have gone up 500%," McMahon says.

Eighty-four percent of all survey respondents agree that these issues are, to some extent, affecting the overall competitiveness of their organizations (Fig. B-2.) One in five say these issues are eating away at more than 10% of their organization's revenue (Fig. B-3).

Figure B-2 **Believe Yet-to-Be-Resolved or Ongoing Quality Issues Affecting Overall Competitiveness?**



Note: May not add to 100% due to rounding

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Figure B-3 **Estimated Annual Business Cost of Yet-to-Be-Resolved or Ongoing Quality-Related Issues**

	Total	Established	Developing	Siloed/ Struggling
Less than 1% of revenue	14%	18%	12%	9%
1%-5% of revenue	30%	32%	30%	27%
6%-10% of revenue	21%	22%	20%	19%
11%-15% of revenue	9%	8%	10%	9%
16%-20% of revenue	6%	5%	8%	6%
More than 20% of revenue	5%	4%	4%	7%
More than 10% of revenue	**20%**	**17%**	**22%**	**22%**
Don't know	15%	10%	15%	22%

Note: May not add to 100% due to rounding

Both internally facing and outwardly facing continuous improvement initiatives should have a common foundation, says Bryant University's Gravier. "The entire organization should be focused on its end market. Few leaders have mastered the art of orienting their organizational cultures to achieve a holistic focus on the end market. This is why in most cases, quality tends to reside in operations, particularly in manufacturing companies: The product provides a tangible focus that is easy to measure and assess, using methodologies and systems specific to manufacturing operations, from a statistical control approach.

"This can lead companies to an internal focus, which can be dangerous, because it can then lead to underserving the market," Gravier continues. "Companies like McDonald's, Toyota and Apple have consistent records for integrating external quality with internal quality, showing that it can be done, although even in these companies, the internal and external focuses tend to be managed separately and with different methodologies. But they have mastered the art of dialogue between internal and external quality methods by having a pervasive, market-oriented culture—a powerful competitive tool when paired with rigorous internal quality programs."

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Even the most advanced quality organizations are wrestling with ongoing quality issues, as indicated by at least 41% of this group. A majority of siloed and struggling organizations, 56%, concur they are being hampered by quality concerns. The potential costs of inadequate quality are also closely even, regardless of how well developed a quality culture may be.

Quality issues are taking time away from employees' jobs, the survey shows. Thirty-seven percent state that more than 10% of employees' time is consumed in addressing yet-to-be-resolved quality issues each week (Fig. B-4). In established quality organizations, this is less of a problem—33% see quality issues taking up more than 10% of staff members' time, compared with 42% of their lagging counterparts.

Figure B-4 **Amount of Line Employee or Staff Time Spent Addressing Yet-to-Be-Resolved or Ongoing Quality-Related Issues per Week**

	Total	Established	Developing	Siloed/ Struggling
Less than 5%	33%	39%	31%	29%
5%-10%	23%	22%	26%	20%
11%-25%	20%	17%	21%	22%
26%-50%	10%	9%	10%	14%
More than 50%	6%	7%	6%	7%
More than 10%	**37%**	**33%**	**37%**	**42%**
Don't know/ unsure	7%	5%	7%	9%

Note: May not add to 100% due to rounding

Overall, the amount of time consumed with quality issues is rising. Close to half of all survey respondents, 44%, say the amount of time employees spend addressing unresolved or ongoing quality issues has increased over the past three years (Fig. B-5).

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Figure B-5 **How Amount of Staff Time for Addressing Unresolved or Ongoing Quality Issues per Week Has Changed Over Past 3 Years**

	Total	Established	Developing	Siloed/ Struggling
Increased significantly	14%	17%	12%	12%
Increased moderately	31%	29%	32%	31%
Increased=	**44%**	**46%**	**44%**	**42%**
Has not changed	27%	26%	29%	28%
Decreased moderately	15%	17%	16%	13%
Decreased significantly	8%	9%	7%	7%
Don't know/unsure	5%	3%	4%	10%

Note: May not add to 100% due to rounding

Quality Challenges as Seen by Senior Executives vs. Quality Professionals

Senior executives are more attuned to the challenges digital technology adoption and disruption are posing to quality efforts than quality professionals. Most executives see data itself as an essential part of continuous improvement. Sixty-eight percent of senior executives see data quality as an issue affecting their organization's quality delivery, a number that is double that of quality professionals. Even more strikingly, a majority of executives say online and digital security is a major quality challenge, a concern shared by only 9% of quality professionals. Quality professionals, however, regard outdated and slow processes as their biggest challenge (Fig. B-6).

Senior executives also voice much greater concern than their quality professional counterparts about the overall customer experience online as requiring quality thinking (49% versus 8%). The ability of competitors to replicate products and services—potentially of lower quality—also weighs more heavily on the minds of senior executives than on quality professionals (51% versus 7%).

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Figure B-6 **Respondents' Most Vexing Yet-to-Be-Resolved or Ongoing Quality Issues – By Job Roles**

	Senior Executives	Quality Professionals
Need for greater data quality	68%	33%
Employee competence for future needs	67%	39%
Employee turnover	61%	28%
Quality issues from suppliers	58%	43%
Wasted or unaccounted resources	57%	33%
Delays from suppliers in product or service delivery	57%	25%
Outdated, rigid or slow internal/ operational processes	55%	50%
Online/digital security vulnerabilities	54%	9%
Information technology shortfalls/ buggy software	53%	26%
Communication issues with customers	52%	21%
Counterfeit products in the marketplace	51%	7%
Changing standards and regulations	49%	31%
Subpar user or customer experience online	49%	8%
Lack of leadership support	45%	35%
Inadequate budget allocations	45%	30%
Lack of general management skills	43%	32%
Lack of understanding customer needs	41%	24%
Other	0%	5%
None of the above	1%	2%

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MAKING QUALITY SUCCEED

Continuous improvement and performance excellence comes in many different forms and flavors. Some organizations may have a formal quality program or quality department that provides guidance and serves as a center of excellence. But quality also is seen across many other types of endeavors as well. It is seen in corporate management hierarchies, where decision making is pushed down to all levels of organizations and employees are empowered to take actions as they see appropriate. It is seen in customer engagements, in which efforts are made to remove all barriers to a superior experience.

The survey also sought to define the types of programs or initiatives that are considered part of a quality effort, and it found quality is taking many forms across enterprises. The most often-cited approach is through encouragement of employee participation and collaboration, employed by 67%.

Collaboration—enhanced by risk management—is a critical enabler of successful continuous improvement. It "requires a culture that drives the willingness to be open; and talk about what's actually happened, versus people being siloed and being afraid to say things," says Nautilus' McMahon. "We expect people to speak up, even if it's not in their area. We've fostered that environment, so a lot of it is about Pareto charts and efficiencies and things you can measure, and the other half of that internal culture is creating that environment where you can talk about what's wrong if something's wrong. It's really okay to talk about something that's wrong."

More than two-thirds also define their quality effort through a risk management program. Nearly two-thirds have built their performance excellence programs around the primary tools used within the discipline—such as cause-and-effect diagrams, checklists, control charts, histograms and Pareto charts. Data analytics—which enables better scrutiny of the results of these efforts—also plays a large part in quality efforts, employed at close to two-thirds of participating organizations (Fig. C-1).

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Figure C-1 **Top 10 Characteristics of Enterprise Quality Efforts**

	Total	Established	Developing	Siloed/ Struggling
Encouragement of employee input and collaboration	67%	74%	67%	57%
Risk management program	66%	74%	65%	56%
Use of primary tools—cause and effect diagrams, checklists, control charts, histograms, Pareto charts	65%	69%	66%	60%
Results measured through data analytics	64%	72%	61%	56%
Quality policies originated and managed by departments or business units	64%	69%	65%	54%
Formal quality planning and assurance program	62%	66%	61%	55%
End-to-end customer experience	58%	70%	53%	47%
Enterprise quality policy, published and communicated	56%	63%	56%	46%
Services delivery excellence	56%	65%	55%	45%
Business process re-engineering or redesign efforts	55%	62%	55%	46%

"A well-oiled machine produces the best, most consistent output, so it's critical to make sure that your internal team, processes and systems are streamlined—every employee and department should serve a role in improving the customer experience and driving business growth," says Craig Malloy, CEO at Lifesize, a conferencing technology provider. "We have united every department's efforts behind the goal of creating the best customer experience. Our product development, marketing, sales and customer success teams work in lockstep to deliver a seamless experience, from the buyer's first impression until long past the point of sale."

Equally critical parts of any continuous improvement effort are those policies and practices that are being facilitated at the individual departmental level as well. "We do not have a company-wide management program since management qualities and procedures tend to differ by department, but we have set up a company-wide expectation of thinking outside of the box," says David Fetterolf, president of language services at Stratus Video, a telehealth and language services company. "I like to encourage entrepreneurial spirit. If someone on our team has a different or innovative way to tackle a problem, I encourage them to come forward. That goes for every level of the organization."

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A majority of all survey respondents, 62%, also indicate that their quality efforts are considered to be formal initiatives that have been put in place within their organizations. This means they have the support of upper management, and it confirms the survey findings of senior executive awareness and commitment to quality objectives.

"We have a quality management program as well as training for each team that explains their part in delivering predictable quality to our customers," says Tim Lang, senior executive vice president and CTO of MicroStrategy, an analytics software company. "We knew we needed to reinforce the message that quality is critical to our company's success. It's important to have quality-centric programs to enforce best practices and provide strategic direction for everyone in the company, from the CEO down."

Malloy says his organization does not have a formal quality management program, "but delivering quality is something that we encourage our employees to think about each and every day. We want them to ask themselves, 'What can I do today to create a meaningful experience for our customers? How do I ensure that, regardless of my role, my work connects our business and defines the nature of our partnership with our customers?' When you make quality a key element of your success and the success of your customer, there isn't really a need for a specific quality initiative. It becomes baked into the way employees approach their jobs and output."

The variety of forms quality efforts take is more widely seen within the established quality organizations participating in the survey. For instance, employee collaboration is encouraged at close to three-fourths of these enterprises, versus 67% of developing organizations and 57% of lagging. Risk management is also more likely a part of established quality organizations, as are data quality and efforts to deliver superior end-to-end customer experiences. Wide gaps between established and lagging organizations are seen in terms of emphasis on services delivery as part of quality initiatives, as well as engagement with customers and partners to boost innovation.

While quality is often seen as the brainchild of advocates within organizations who seek to reduce waste and repeated processes, much of the impetus is actually coming from forces on the outside—especially today's customers. The most prominent driver for all survey respondents' performance excellence initiatives is customer demand for quality, cited by two-thirds. A little over 60% are looking to quality initiatives to increase customer value, as well as to boost the overall customer experience. Maintaining brand reputation is also a key consideration when launching a quality initiative (Fig. C-2).

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Figure C-2 **Top 10 Enterprise Quality Drivers**

(Percentage rating impact "6" and "7" on a scale of 1-7, with 7 meaning "significant driver")

	Total	Established	Developing	Siloed/ Struggling
Brand reputation reliability	63%	73%	62%	49%
Customer demand for quality	67%	71%	69%	57%
Customer value	64%	69%	66%	52%
Improving overall customer experience	63%	70%	64%	52%
Brand value	60%	66%	60%	51%
Profitability	57%	63%	56%	52%
Enabling compliance	56%	64%	55%	44%
Improving operational efficiency	56%	61%	57%	48%
Competitive differentiation	55%	65%	53%	44%
Reducing costs	52%	55%	50%	51%

Quality "starts and ends with the customer," says Matt Girvan, the cofounder and president of My Gung Ho LLC, a mobile app development company. "To be able to meet our customers' needs, we have to first focus internally to find signs of quality issues before the customers see them, and then also make it right if a customer actually experiences one of our misses." Girvan, who has worked with companies such as Jaguar, Nissan and Danaher, says that internal operational quality and external customer quality should always be seen as one and the same. "Proactively, you're trying to catch internal mistakes; and with the same gusto, you're trying to fix things afterward that couldn't have been anticipated. Good companies work on both ends of the spectrum with the same focus: the customer."

Interestingly, the need to enhance a corporate brand is the main driving force for established quality organizations—73% cite this as their key driver, versus 49% of all respondents with lagging organizations. For lagging organizations, customer demands are creating the need for more quality thinking.

Just as important as the delivery of quality across enterprises are the stated values that underpin and justify these efforts. All survey respondents were asked to describe their corporate quality values, defined as values related to the promotion and implementation of quality, continuous improvement, performance excellence and any related activities. More than three-fourths say the main value sought from their programs is to continuously improve and deliver, followed by the ability to meet or surpass customer expectations. The active solicitation and embrace of customer feedback is also a leading component of corporate quality initiatives (Fig. C-3).

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Figure C-3 **Top 10 Enterprise Quality Values**

	Total	Established	Developing	Siloed/ Struggling
Continuously improve/ continuously deliver	77%	84%	79%	64%
Meet or surpass customer expectations	69%	76%	70%	57%
Encourage and value customer feedback	67%	78%	65%	53%
Deliver superior user or customer experience	65%	74%	66%	52%
Encourage and respect employee feedback	63%	72%	65%	49%
Provide active quality leadership	61%	74%	60%	46%
Base decisions on data	60%	69%	58%	50%
Enhance sustainability	55%	68%	52%	42%
Reward employee feedback	51%	65%	49%	36%
Fail fast and learn	48%	55%	47%	39%

For some companies, products don't get shipped without customer sign-off. Such is the case with Sapho, which provides a software integration platform. "Software quality has gotten really sloppy these days because SaaS is easy to patch in real time," says Peter Yared, founder and chief technology officer of Sapho, and former CIO of CBS Interactive. To meet this challenge, his company has fully replicated several of its customers' infrastructures, and it runs tests against those environments. "One of our core tenets is craftsmanship," he adds. "Quality is not just 'something works.' It must also meet the needs of what people want from it, and also have an artistic quality."

For established quality organizations, the credo is continuous delivery and continuous improvement. The vast majority of all survey respondents who consider their quality engagements to be strategic, 84%, assign this as their most prominent value. Respondents at developing organizations follow at 79%, while 64% of those at lagging organizations see this as their overarching value. Encouraging customer feedback is also a critical value for close to four-fifths of established organizations, but only 53% of lagging organizations enshrine this value.

"Quality is about getting the best people, training them and trusting them to make decisions for their own departments," says Fetterolf. "I have always believed in the power of ongoing training and investing in our team. For me, a quality organization is all about setting up a culture that encourages personal growth, and putting the right processes in place so that my team members can

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Quality Success as Seen by Senior Executives vs. Quality Professionals

Senior executives see quality as an effort that needs to reach across enterprise silos and boundaries. They see continuous improvement closely aligned with innovation, shared development and information systems performance. Hiring and human capital management are also closely intertwined with quality as senior executives envision it. In contrast, quality professionals are more focused on the management of specific programs and implementation of tools (Fig. C-4).

Figure C-4 **Top 10 Characteristics of Enterprise Quality Efforts – By Job Roles**

	Senior Executives	Quality Professionals
End-to-end customer experience	79%	33%
Risk management program	76%	55%
Encouragement of employee input and collaboration	75%	58%
Quality policies originated and managed by departments or business units	75%	51%
Hiring policies and practices reflecting quality commitment	75%	24%
Services delivery excellence	74%	36%
Business process re-engineering or redesign efforts	71%	38%
Shared development/innovation with partners, suppliers	71%	29%
Shared development/innovation with customers	71%	30%
Results measured through data analytics	70%	57%

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HARNESSING THE POWER OF QUALITY DATA

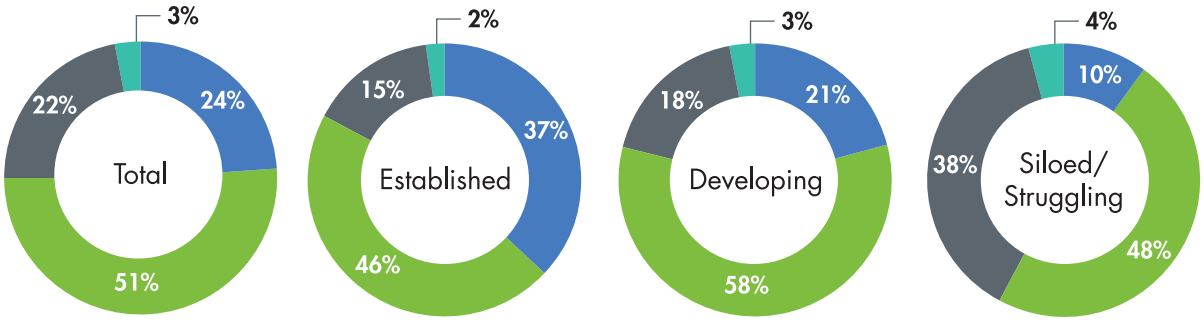
Data is flowing in from all corners of today's enterprises, providing executives and quality professionals unprecedented opportunities to track and measure the progress of their efforts. Not only is transaction data available to decision makers, but there is also an increasing amount of data on customer website visits, purchasing preferences, product adoption, product performance, employee interactions and all other important processes. This is a resource that enables enterprises to tie the adoption of continuous improvement efforts to results in the market, as well as to identify issues that need to be addressed.

A majority of all respondents, 75%, measure the impact of their quality programs to some degree. However, only one in four say this measurement is extensive. Established quality organizations are well along with formal measurement of quality, but only 37% of all respondents in this group report extensive measurement is now conducted (Fig. D-1).

Data may be in abundance across organizations, but for most decision makers, there is not enough of the right data. Less than one-third of all survey respondents say most of the data they need to track progress or make decisions is currently available. Even among established quality organizations, less than half report they have most of the data they require. For siloed or struggling organizations, the situation is even more dire—only 18% have access to the data they require to effectively measure the progress of their quality efforts (Fig. D-2).

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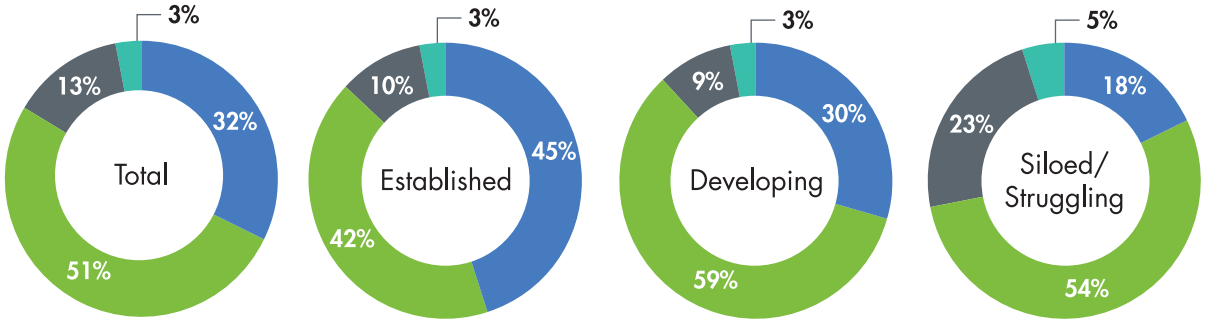
Figure D-1 **Formally Measure Impact of Quality?**



Note: May not add to 100% due to rounding

Yes, extensively
Some parts are measured
Not measured
Don't know/not sure

Figure D-2 **All External and Internal Data for Driving and Measuring Quality Initiatives Available Today?**



Note: May not add to 100% due to rounding

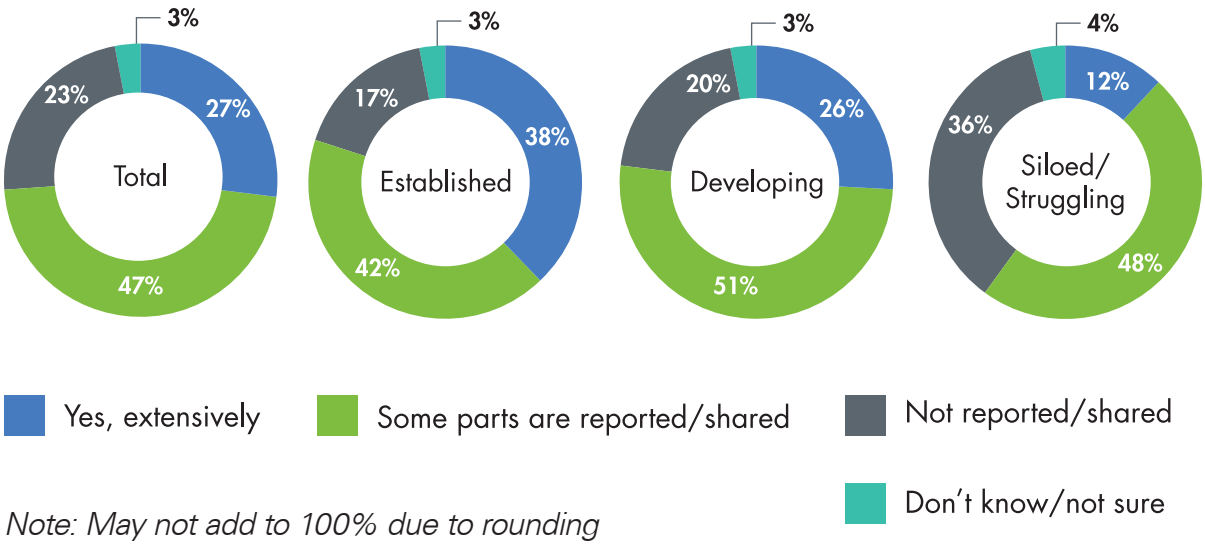
Yes, most or all is accessible
Some, or portions, is accessible
Very little to none is accessible
Don't know/not sure

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"We generally don't try to tie quality directly to sales dollars—in my experience, this often leads to team members innocently creating return on invested capital studies for potential quality improvements," says Girvan. "This tradeoff thinking often has the reverse effect than was intended. Good quality drives better business, period."

An important element of continuous improvement efforts is the ability to openly share and discuss data on the progress of these efforts. Overall, three in four also report and share at least some of their quality information with other constituents or stakeholders across their organizations (Fig. D-3). Quality data is most extensively shared within organizations that are considered established in their quality initiatives, demonstrating the importance of enabling enterprise stakeholders to see and track their progress. Thirty-eight percent of these leading organizations report their data is shared extensively. By contrast, there is very limited sharing of data within lagging organizations—only 12% are able to extensively share such information.

Figure D-3 **Provide Information Reporting and Sharing on Quality Impact?**



Note: May not add to 100% due to rounding

When most indicate this information is shared with their top-level executives, a majority, 51%, say it is also shared with just about all of their employees (Fig. D-4). "The standard belief is that companies have a responsibility to their investors first, then their customers, then their employees. I challenge leaders to invert that model," says Stratus Video's Fetterolf. "I find that when I focus on the quality and management of our team, that they bring a higher level of customer service to our clients, who then do more business with us that benefits our investors."

For organizations within the established quality category, the sharing of performance excellence data across all levels of their organizations is a key element to the success of their programs. Close to six in 10 even share data with all or most of their workforces. By contrast, only 41% of lagging organizations enable sharing across their employee bases.

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Figure D-4 **With Whom Is Quality Data Shared?**

	Total	Established	Developing	Siloed/ Struggling
Executive management	78%	78%	79%	77%
Quality teams/managers	71%	74%	70%	69%
Employees directly affected or involved	62%	63%	64%	58%
All/most employees	51%	58%	49%	41%
Shareholders/investors	28%	32%	27%	20%
General public/press release	11%	11%	11%	11%

"Just like a doctor diagnoses symptoms, you must regularly conduct a health check across your organization and identify and remove the hurdles to delivering quality," says MicroStrategy's Lang. "It takes courage and direction to deliver these changes, as hurdles are often across departments and throughout multiple levels of leadership. You can expect all forms of these obstacles to change, so it's critical to ground all of your improvements with empirical data and metrics. At MicroStrategy, we use our own product to manage quality. We connect our product directly to our systems of record and broadcast enterprise quality dashboards. Transparency is one of our core values, and when quality is your focus, using the same data to tell the same quality improvement story across the enterprise is incredibly powerful."

Key performance indicators (KPIs) are also an essential part of measuring the outcomes of continuous improvement efforts. A majority, 56%, report their KPIs are configured to track the performance of workgroups. Another 52% say they have linked their quality KPIs to their overall business vision, and half are comparing KPIs with overall organization performance (Fig. D-5).

Established quality organizations are almost twice as likely to be linking quality KPIs to their overall business visions as struggling organizations (62% versus 37%), an indicator of the strategic value quality has in leading enterprises. There is also greater linkage between quality KPIs and group performance in established organizations, as well as sharing of KPI data, mirroring the overall sharing of data discussed above.

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Figure D-5 **Ways in Which Key Performance Indicators (KPIs) Are Linked to Quality**

	Total	Established	Developing	Siloed/ Struggling
KPIs track the performance of groups	56%	60%	59%	46%
KPIs can be tracked to the business vision	52%	62%	51%	37%
Performance vs. KPIs is transparent/shared	50%	58%	51%	36%
KPIs track the performance of individuals	45%	53%	44%	34%
Appropriate incentives reinforce and drive performance against KPIs	43%	52%	43%	31%
KPIs promote cooperation among business units	43%	52%	43%	30%
All staff—from "line" to CEO—understand how their performance fits in	43%	56%	40%	30%
KPIs are benchmarked against the best, highest-performing organizations in the industry	37%	47%	36%	24%
We have no formal KPIs associated with quality programs at this time	11%	2%	8%	27%

The most often-leveraged metrics employed include customer satisfaction/complaints (71%), meeting compliance standards/audits (59%), product returns/complaints (57%), customer experience (55%), and overall sales or revenue (53%) (Fig. D-6).

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Figure D-6 **Top 10 Broad-Based Metrics by Which Quality Is Measured**

	Total	Established	Developing	Siloed/ Struggling
Customer satisfaction/ complaints	71%	74%	73%	63%
Meeting compliance standards/audits	59%	64%	57%	54%
Product returns/ complaints	57%	59%	57%	54%
Customer experience	55%	64%	52%	46%
Overall sales or revenue	53%	56%	54%	46%
Customer retention/ churn	49%	57%	49%	38%
Employee output/ productivity	49%	56%	48%	39%
Employee satisfaction	46%	54%	46%	34%
Supplier/partner complaints	45%	53%	44%	34%
Employee retention/ turnover	43%	50%	43%	32%

MicroStrategy implemented what the company calls a Universal Benchmark initiative, Lang explains. "We needed to cultivate an understanding of every process as it relates to our competitors and industry leaders. The Universal Benchmark is a methodical measurement of each product process that will tell us where we need to invest, where we need to improve and where we're setting best-in-class standards. Initially, these insights will be used by our product management, engineering and customer service teams—which will help them better prepare product and development plans, and provide insight into how best to support our customer base. The vision is to eventually provide insight to our finance, human resources, marketing and sales teams too, giving a holistic view into the people, product and processes."

It's important to frame quality efforts in terms of solid goals, says Nautilus' McMahon. "You have to have measures you agree to before you start a program. How are we going to know when we've reached a success point?" he asks. "From there we move the goal posts further, to try to improve more. It isn't just around the metrics, it's around the core concept of trying to do right by the customer," he adds.

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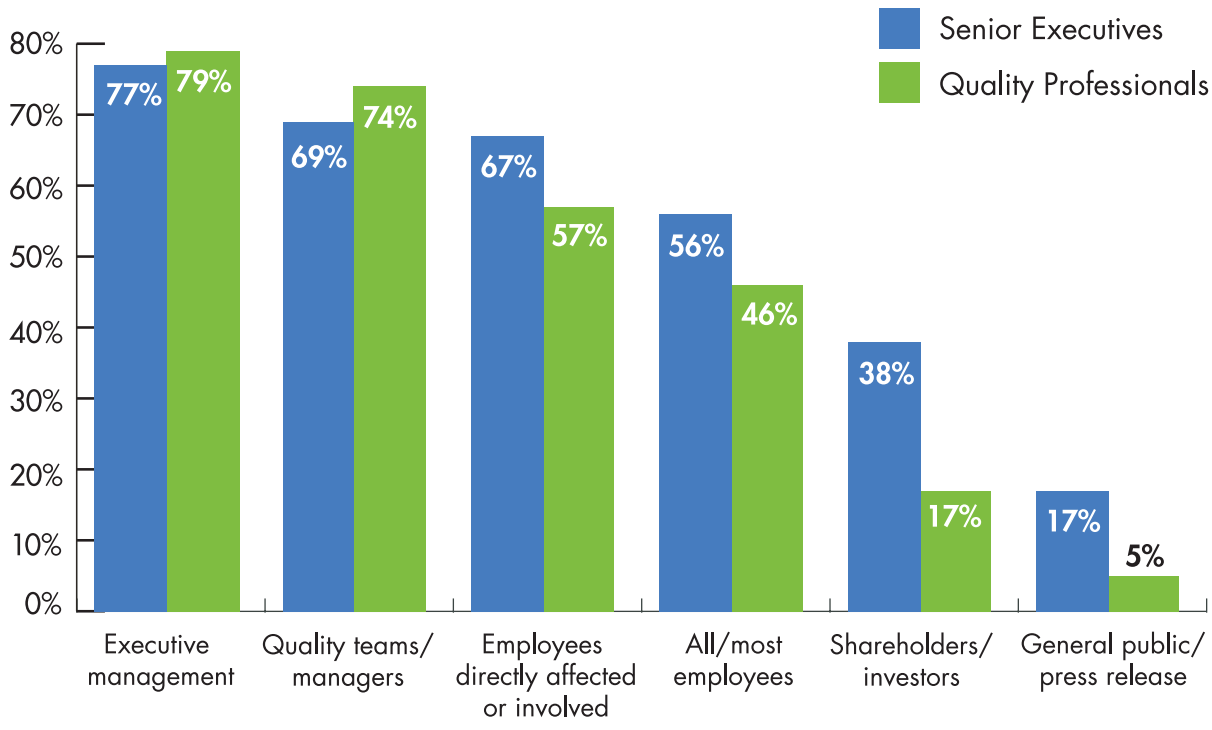
For organizations, achieving customer satisfaction and lowering, or eliminating, complaints is the most important metric by which to gauge their continuous improvement efforts. Senior executives in developing and lagging organizations also see this metric as key to their nascent efforts.

"Key customers, the patient and family for healthcare, must be at the center of all quality efforts," says Northwell's Jarrett. "Our quality strategy is based on three principles that serve as priorities across multiple years—so they don't become the flavor of the month. They are: lowest preventable mortality; safest healthcare (zero healthcare-acquired conditions); and best value (utilizing evidence-based practice). All quality and safety efforts need to fit into improving one of these three categories."

Quality and Data as Seen by Senior Executives vs. Quality Professionals

Senior executives see more extensive reporting and sharing of quality information taking place than quality professionals. Both groups agree there is extensive sharing of continuous improvement data among their own groups, and majorities say that data is also provided to employees directly impacted by quality initiatives. However, senior executives see quality information going beyond groups directly engaged in their programs, with data distributed across the entirety of their workforces, as well as with shareholders or investors (Fig. D-7).

Figure D-7 With Whom Is Quality Data Shared? – By Job Roles



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QUALITY IN THE DIGITAL ERA

In recent years, nothing has been shaking the ground beneath enterprises more than the rise of digital organizations. Enterprises built on cloud computing services and mobile apps are disrupting entire markets with new business models, such as ride sharing, home sharing and online food delivery. In many cases, these disruptors have few employees and few assets, as they act as brokers of information, linking buyers with products and services produced elsewhere. Even within a relatively staid industry such as insurance, a new breed of tech- and data-driven "InsurTech" companies are gaining ground with more innovative ways to deliver services. Large, established corporations are moving in this direction as well, looking to digitize processes and adopt business models that offer digital channels of engagement.

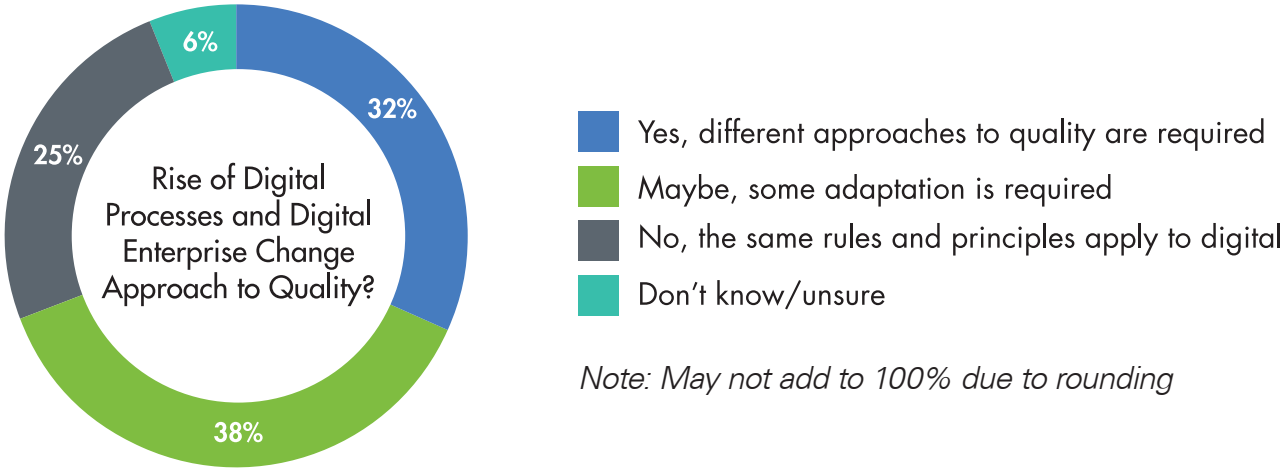
The question is, what impact will this movement have on quality, which traditionally has been focused on physical goods production and service delivery? Do digitized processes—perhaps enhanced by artificial intelligence—require the same attention and rigor as physical production processes to ensure quality?

A majority of enterprises, 70%, report that digital processes and the movement to digital enterprises have been transforming their continuous improvement initiatives to some extent (Fig. E-1). A majority, 52%, state that digital processes are requiring faster responses to issues or changes in product or service delivery. There is also a broad range of other adaptations indicated by close to half of all respondents, including the availability of more actionable data, a greater focus on services and information quality, and more attention required for online user or customer experiences (Fig. E-2).

Organizations within the established category are embracing digital transformation as key to their quality efforts, while also acknowledging that it is changing major components of those efforts. A majority of all respondents in leading organizations, for example, agree that digital engagements produce data that is more actionable than traditional, more manual processes have traditionally delivered. This creates different sets of performance expectations, versus about one-third of lagging organizations aware of such changes. At the same time, a large share of all respondents (42%) within established organizations state that digital is still a relatively new phenomenon, and performance expectations have yet to be set.

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Figure E-1 **Rise of Digital Processes and Digital Enterprise Change Approach to Quality?**



Note: May not add to 100% due to rounding

Figure E-2 **How Digital Processes/Digital Enterprises Change Quality Approaches**

	Total	Established	Developing	Siloed/ Struggling
The speed of digital accelerates required responses to issues/ changes	52%	58%	50%	45%
Digital engagements provide more data that is actionable	48%	58%	45%	40%
Digital drives greater focus on services and information quality	48%	56%	47%	40%
Increases emphasis on online user or customer experience	48%	55%	47%	38%
Performance expecta-tions are different than for traditional processes	47%	54%	47%	36%
Performance expecta-tions for digital have not yet been established	39%	42%	40%	34%
Quality expectations for digital have not yet been established	39%	41%	40%	34%

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Digital leaves an easier trail to follow for analysis. A majority, 62%, agree that the advent of digital has made it easier to share and distribute information on continuous improvement progress or challenges. By a wide margin, respondents with established quality organizations agree that digital has made their jobs easier—69% state it has made it easier to report and share data, versus 51% of their lagging counterparts (Fig. E-3).

Figure E-3 **Quality Data Impact on Progress Reporting**

	Total	Established	Developing	Siloed/ Struggling
Much easier to report/ share	25%	32%	23%	19%
Somewhat easier	37%	37%	40%	33%
No difference	15%	15%	15%	16%
Somewhat more difficult	9%	10%	9%	9%
Much more difficult	2%	1%	1%	3%
Don't know/unsure	11%	5%	11%	20%

Note: May not add to 100% due to rounding

"In modern times, customer responses are recorded in real time no matter where they happen in the world," says Bryant University's Gravier. "The shorter and more direct the producer-market connection, the more the producer and customer will naturally act on that exchange of information."

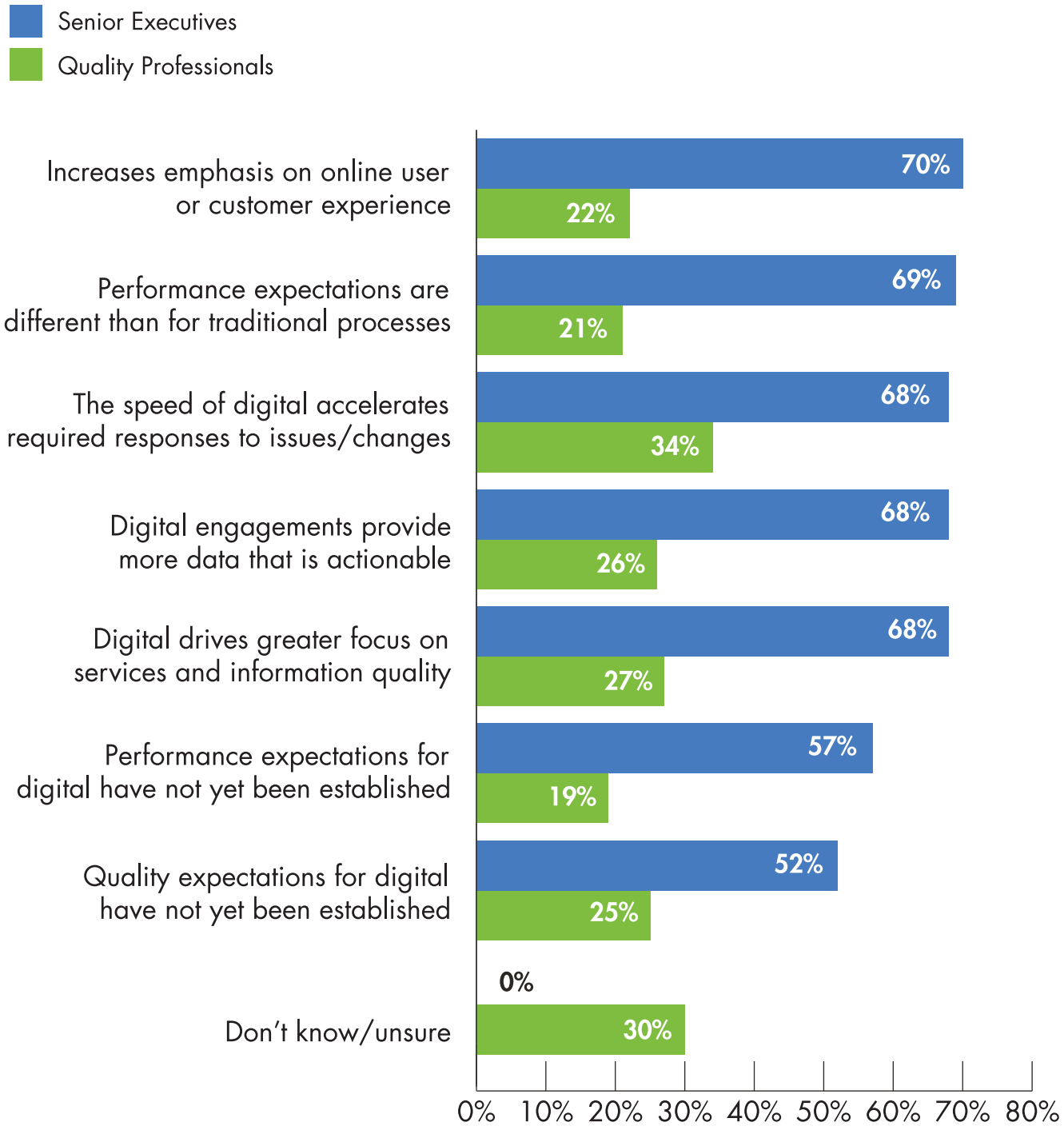
There are additional benefits to digitization beyond data and faster delivery of services. "Digital channels make everything easier," says Fetterolf. "I can now hire the best talent from anywhere in the world. Immediacy and connection quality have allowed me to build a remote team, something that has been crucial for our growth."

Digital Quality as Seen by Senior Executives vs. Quality Professionals

While senior executives and quality professionals agree that digital technologies are reshaping the implementation and delivery of continuous improvement within their enterprises, executives are more cognizant of the impending changes that are part of this upcoming transformation. Most business leaders see digital changing the equation for quality delivery within customer engagements, the creation of valuable data as part of feedback loops, and the potential acceleration of product and service delivery. In most cases, less than one-third of quality professionals are preparing for these shifts. Close to one-third even admit they are not aware of the implications of the digital shift (Fig. E-4).

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Figure E-4 **How Digital Processes/Digital Enterprises Change Quality Approaches – By Job Roles**



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ACTION ITEMS

This survey of top-tier executives and quality professionals shows strong commitment at all organizational levels to raising the quality bar. Companies are challenged to get their workforces on board with awareness and skills, as well as overcoming outdated, rigid or slow processes. However, professionals immersed in quality management are neither prepared for the digital wave that is sweeping through enterprises nor the repercussions digitized processes and product or service delivery will have on continuous improvement initiatives. Digital means value must be pushed out to customers faster than ever before.

The following are recommendations for managing and succeeding with quality in the months and years ahead.

Incorporate performance excellence into business cases. Promoting investment into quality initiatives may pay dividends many times over. However, the business needs to clearly see the potential, or proofs of concept. All survey respondents see a direct connection between the success of their quality initiatives and the success of the entire organization. A majority agree their continuous improvement efforts have resulted in increased profitability and have enhanced various key functions across their organizations, especially in customer service, operations and production.

Remember that corporate culture matters. While there are many robust tools and methodologies for boosting and measuring performance excellence, it ultimately takes motivated people to deliver quality success. "Measurements are one thing, but ultimately those are measurements of effort and effectiveness," says McMahon. "It's people who deliver that. Everybody needs to take a piece of quality and own it. And it's much easier to rally people around a goal, such as 'let's make the best products we can; let's do it the most efficient way we can so we can grow and be profitable.' That's an easier cry than: 'Hey, our Pareto chart shows the following 10 things are wrong; what are we going to do?'"

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Ultimately, it's about the customer. Continuous improvement may have a positive impact on internal operations, but in today's competitive economy, it's important that all efforts are directed to improving the customer experience. "Quality has always been externally focused on customers, but the means to achieve quality has shifted over time from focusing internally on operations to focusing on the customer," says Gravier. "This shift is primarily driven by three factors. As competition increases, customers use their enhanced bargaining power to demand either more price concessions or more features per dollar. As production technology matures, there's a tendency for both economies of scope and scale to improve, which empowers producers to generate more income by more closely matching products to the needs of smaller market segments. As distribution channels mature, human social connections play a powerful yet all too often underappreciated role."

Measure everything. The saying "You can't manage what you can't measure" holds true for quality initiatives. "In the digital age, we now have access to far more data to inform our decisions," says Girvan. "It takes a broad approach, which looks deeply at specifics, like the number of steps a user has to go through to achieve what they want."

Run an open, no-fault environment. The survey identified the ability to collaborate as critical to quality delivery. Employees need to feel they can work across organizational boundaries to solve problems and deliver improvement, and communicate openly when they see issues or wish to suggest new ways of working.

Prepare for digital disruption to conventional quality wisdom. The potential impact of digitization on corporate processes and products is still relatively unknown. But what is clear is that quality thinking must evolve along with it. For instance, the rise of digital products, which can be shipped to customers in almost an instant, requires more automated and systematic approaches to ensure such products are of the highest quality.

In today's fast-moving, increasingly digitizing economy, continuous improvement must pervade all activities across organizations. By following these steps, organizations will be assured of the growth and enhanced profitability quality will deliver.

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- **Tim Lang,** CTO and Senior Executive VP, MicroStrategy
- **Craig Malloy,** CEO, Lifesize
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