LNS Research

The Softer Side of Quality 4.0 Transformation

Executive Summary

Surging customer expectations, increasing product complexity, supply chain disruptions, loss of experienced personnel, and pressure to reduce time-to-market have made life much harder than it used to be for Quality Management leaders. Traditional Quality Management is no longer sufficient to stay ahead in the market as industrial and manufacturing companies have begun to apply Industry 4.0 methodologies to transform Quality. This transformation has enabled Quality leaders, when they are engaged, to shift their focus from solving traditional Quality problems to pursue higher level business partnerships with key functions. Research data shows that leaders in Quality 4.0 Transformation are executing change management skills to a greater effect than followers in the space.

While we have seen an increase in the number of reported Quality 4.0 transformation initiatives since we first asked the question five years ago, we also see that more than 50% of them are underperforming to their expected results.

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>
> **- James Wells**
> *Research Analyst*

Survey Demographics

The research data presented in this report is derived from the Quality 4.0 survey LNS Research launched in early 2021. The survey was taken by more than 300 business decision-makers, including managers, directors, vice presidents, and C-suite executives across several functions in manufacturing companies spread across the discrete, batch, and process & infrastructure industries in North America, Europe, and the Asia/Pacific region. The survey was also translated into German, French, and simplified Chinese for the non-English speaking countries.
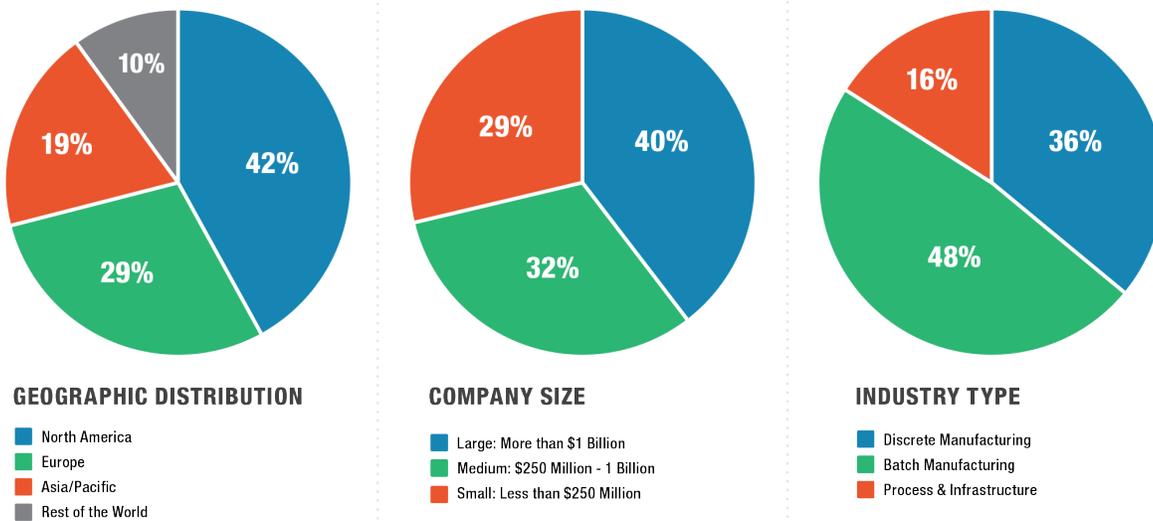
GEOGRAPHIC DISTRIBUTION
- North America — 42%
- Europe — 29%
- Asia/Pacific — 19%
- Rest of the World — 10%

COMPANY SIZE
- Large: More than $1 Billion — 40%
- Medium: $250 Million - 1 Billion — 32%
- Small: Less than $250 Million — 29%

INDUSTRY TYPE
- Discrete Manufacturing — 36%
- Batch Manufacturing — 48%
- Process & Infrastructure — 16%

FIGURE 1 - Survey Demographics

Defining Quality 4.0

At LNS Research, we use the term Quality 4.0 to collectively refer to the transformation of Quality teams, processes, and technologies. To be more specific, we define it as the application of Industrial Transformation (IX) methodologies and emerging digital technologies to transform Quality Management and enable step change improvements in the value chain across product, suppliers, operations, logistics, and customer experience.
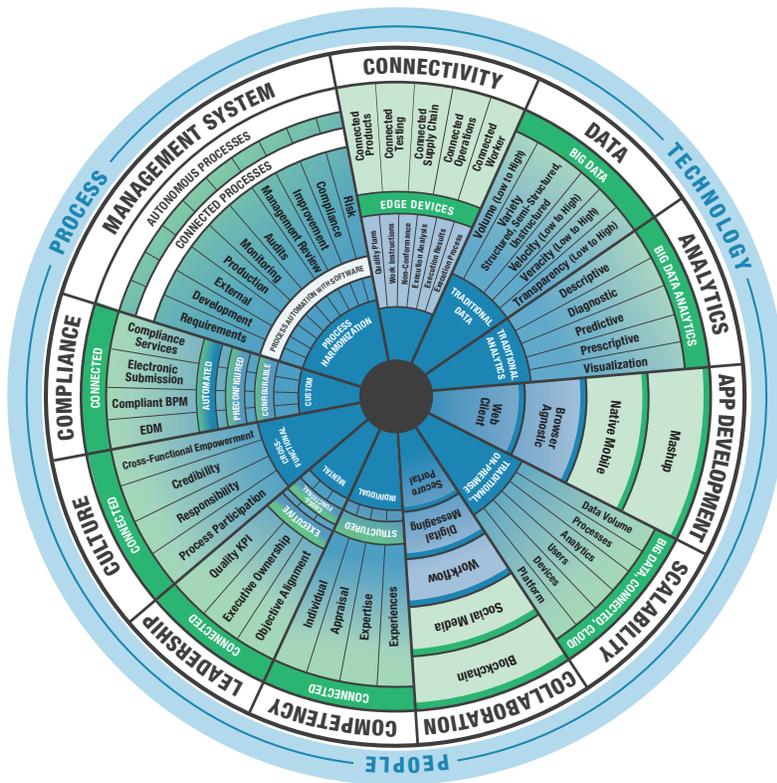

FIGURE 2 - Quality People, Process, and Technology Wheel

Quality 4.0 doesn't replace traditional Quality methods; it builds and improves upon them. While Quality 4.0 is a relatively new concept, it doesn't replace existing Quality principles and methodologies. It is mostly centered around identifying gaps in existing processes and digitally transforming them to attain step change benefits.

# Secret Sauce to Quality 4.0 Transformation Success

Most Industrial Transformations (IX) fail. In fact, our research shows that 72% of IX programs fail. Furthermore, more than 50% of Quality transformations are underperforming against their expectations. There are a variety of reasons for this underperformance and failure in the IX space. Transformation is hard. It's a long game with a lot of complicated parts and many players and stakeholders along the way. There is a figurative layer cake of facets that must be managed and considered. Fail to keep all the balls in the air and your initiative is more likely to be relegated to the scrap heap of "programs of the month."

One area that most transformation teams fail to give enough emphasis to are the soft skills associated with change management. It is really not surprising that this area of successful change management is underrated. Soft skills are hard to measure and spot in the wild. Sometimes it is a "know it when I see it" sort of thing. It's easy to overlook soft skills and conclude they aren't all that important to a transformation program's success or failure. That's where most are wrong.

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> Our research shows that more than **50% of Quality transformations** are underperforming against their expectations for a variety of reasons.
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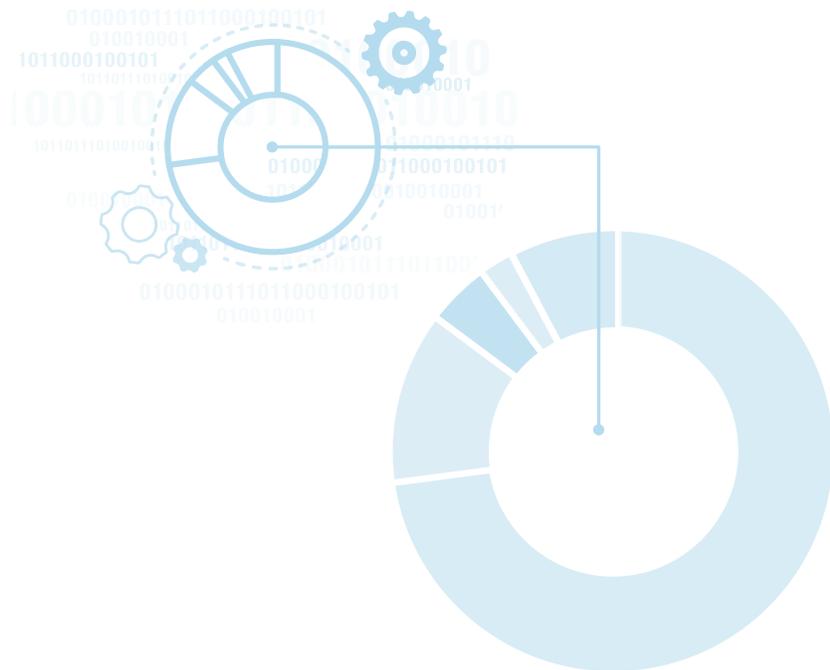
The LNS Research Maturity Model

At LNS Research, we have identified nine areas of practice that measure a transformation program's maturity. Those nine are divided into three groups: People, Process, and Technology.

PEOPLE	Leadership Culture Competency
PROCESS	Management Systems Agility and Scalability Risk and Compliance
TECHNOLOGY	Connectivity Platforms & Applications Data & Analytics

FIGURE 3 - Transformation Maturity - People Process Technology - Matrix

As you can see, even the nine categories of maturity are high level. There are several specific practices that fall under each. For this Research Spotlight, we will focus on the People group. Soft skills are about people; what we found about those who practice them compared to those who don't is compelling.

In previous research People in Industrial Transformation (IX): Leadership, Culture, and Organizational Best Practices, we reported that People issues are having an outsized impact on Industrial Transformation (IX) programs. The story is the same here in Quality Transformation (QX).
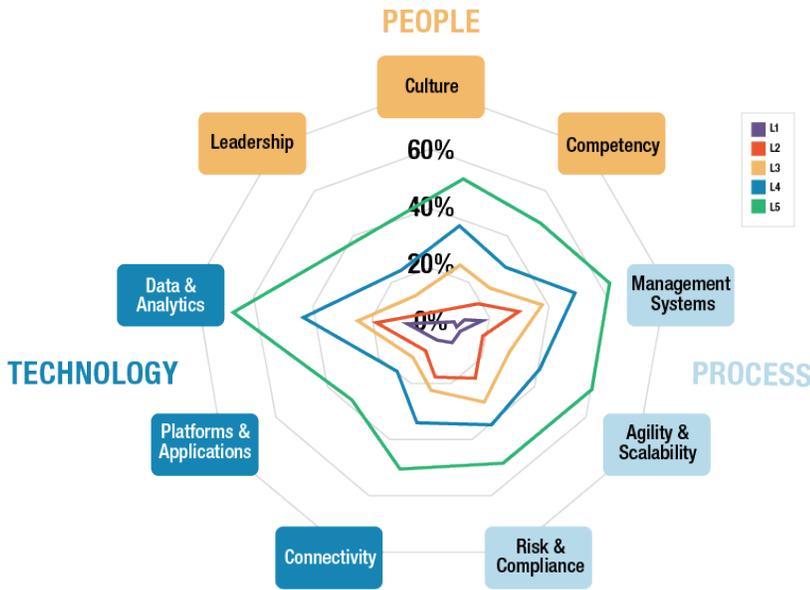

FIGURE 4 - Benchmark Your IX Maturity Journey Along Five Levels of Maturity - Autonomous Maturity

Let's spend a little time on how we define "soft skills" as it relates to an Industrial Transformation (IX). Soft skills are those practices related to what we do to "bring people along for the journey." In short, these are Leadership, Culture, and Competency skills. For this Research Spotlight, we will focus on Teamwork, Collaboration, Communication, Training, People Development, and Career Opportunity Creation as the identified practices. When we conducted the Quality 4.0 Maturity Survey early in 2021, we asked respondents about these practices, among many other things, and also about the results from their programs.

LNS Research found that, in general, those who practiced the above-mentioned soft skills in a robust way also had better results from their Quality 4.0 program. In our conducted survey, respondents reported if their Quality 4.0 program was delivering results on a scale from no results to exceeding results. Let's unpack how soft skills relate to results.

Leadership

Challenge: How do you get the company excited about the change?

Internal Communication: is the practice of giving regular updates on progress of strategic programs to the employee population. It's an important practice because it is inclusive and makes recipients feel as though they are important and a part of the change. Additionally, elevating the message by having it come from the executive level adds importance to the effort and creates great visibility for the teams driving the change. An exemplar of this practice in the consumer durable goods space branded their initiative and enlisted their CEO in the effort, showcasing the initiative within a series of CEO communications to the company. We do not have a specific communication recommendation, other than it should reflect the company culture, as every organization is different. However, in our Quality 4.0 Maturity Survey, we found that those who reported significant improvement as a result of their Quality 4.0 programs were more than twice as likely to regularly communicate internally about the program's progress than those who did not see significant improvement.

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Quality 4.0 Leadership Communication Regularity
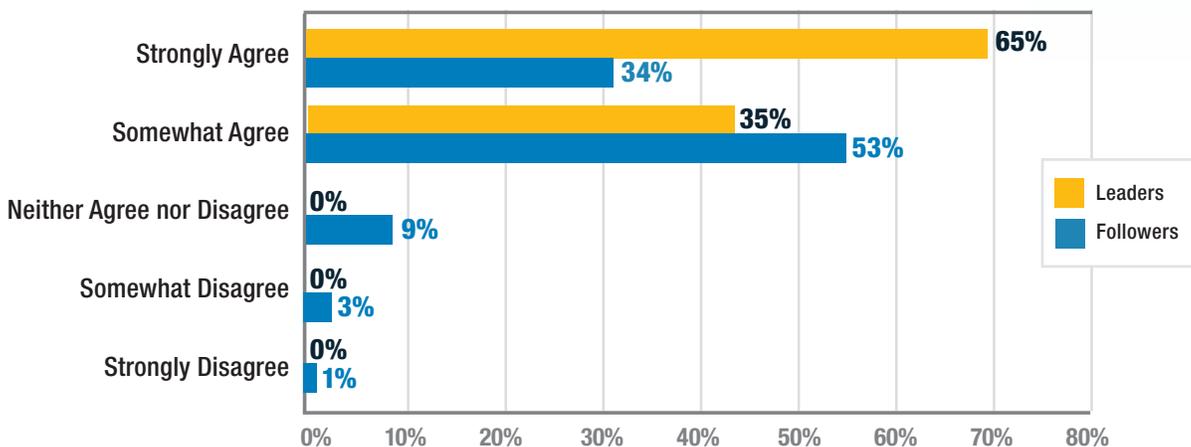

FIGURE 5 - Quality 4.0 Program Communications by Results

Culture

Challenge: How do you get everyone on board?

Inclusion: is a scoping question. Inclusion is about how broad the program is, which functions are included in the scope, which functions have a voice in charting the path of the Quality 4.0 program, and what job roles will be impacted by the Quality 4.0 program. In three areas where inclusion is measured, we found that Quality Leaders are doing more than Followers and achieving results for it. Those areas of inclusion are:

- How broad or narrow is the scope of the Quality Transformation (QX) program?

- Who is included in the Digital Council?

- What use cases are included in the scope?

In all three areas, the results were similar. Quality Leaders are nearly twice as likely to include other functional areas in the scope of their Quality 4.0 program.

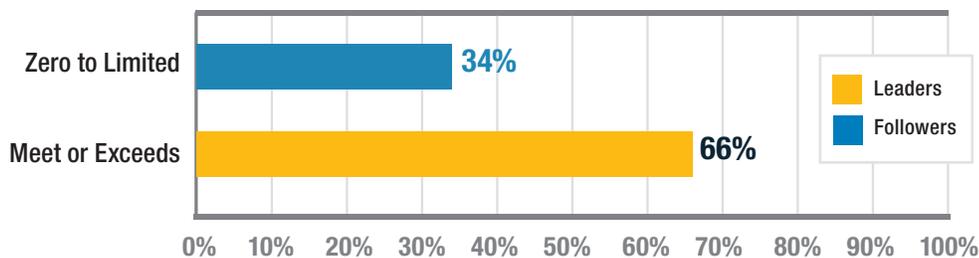## Functional Areas Included by Results

FIGURE 6 - Quality 4.0 Cross-Functional Inclusion

Use cases are defined ways in which a user can use the tools and technology available through the program to accomplish their day-to-day job responsibilities. Quality Leaders include more use cases than Followers.
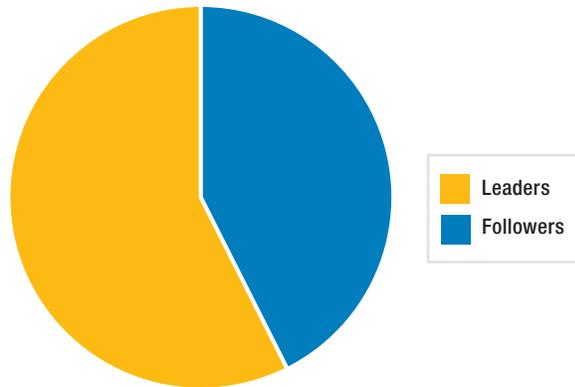

FIGURE 7 - Quality 4.0 Use Case Inclusion

Quality Leaders are 32% more likely to have a cross-functional Digital Council operating in the company. Those same leaders are twice as likely to have Quality 4.0 in scope of the Digital Council, as well as three times more likely to have broad cross-functional participation within it.

Quality Impact from the Digital Council: One of the most interesting results of this study is related to insights reported in our previous research about the perception of the role of Quality within the organization. In that report, there were a few interesting conclusions worth pointing out here as well. Among them are:

- Quality is too compliance-focused, based more on adherence to the rules.

- Quality often serves as the policing function of a company, catching people out of compliance.

- Quality goals don't align with the broader organizational goals and, therefore, lack full-company buy-in.

Moreover, we found that Leaders are nearly twice as likely to report Quality benefits from the Digital Council, supporting their helpfulness and importance in Quality transformation.
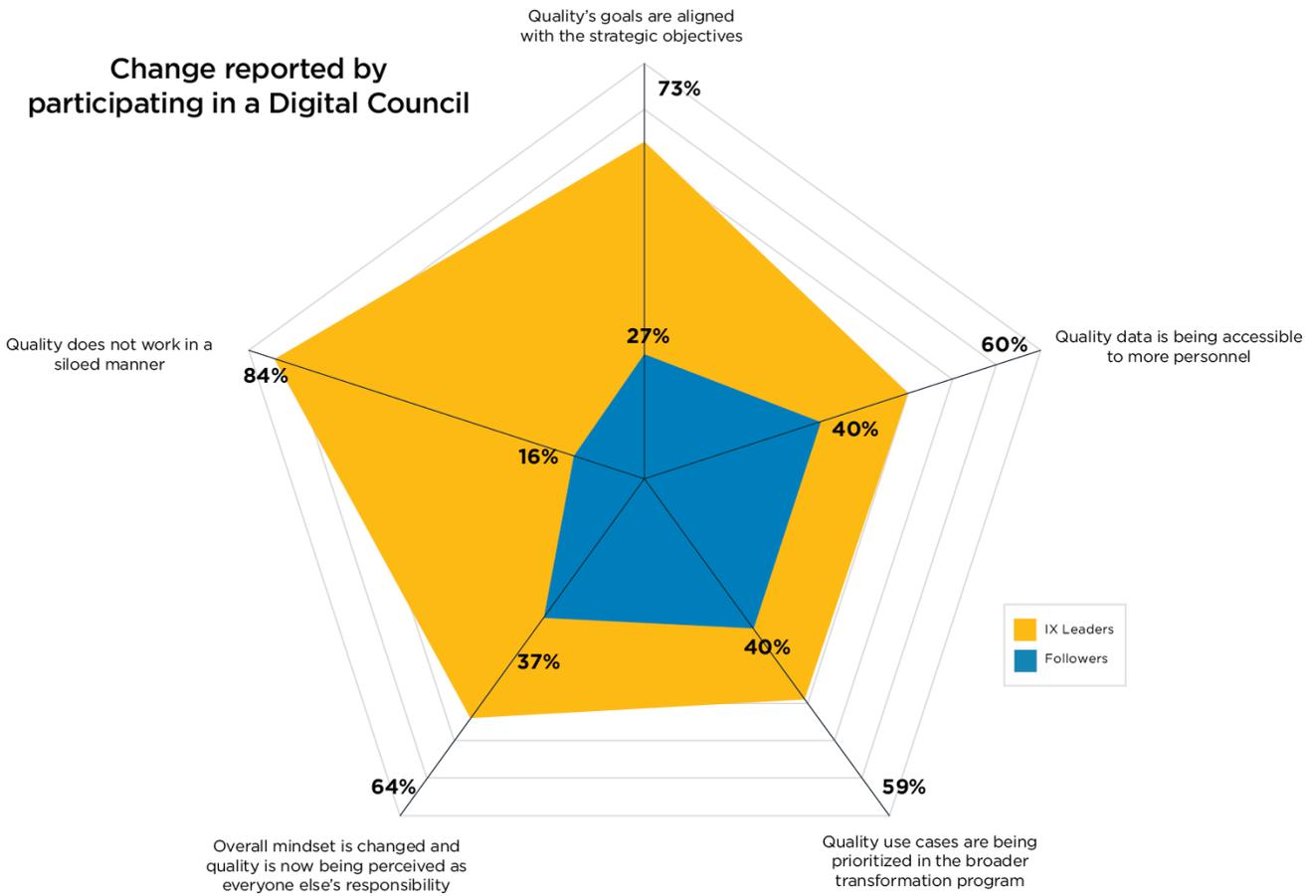

Change reported by participating in a Digital Council

Quality's goals are aligned with the strategic objectives — 73% / 27%

Quality data is being accessible to more personnel — 60% / 40%

Quality use cases are being prioritized in the broader transformation program — 59% / 40%

Overall mindset is changed and quality is now being perceived as everyone else's responsibility — 64% / 37%

Quality does not work in a siloed manner — 84% / 16%

IX Leaders
Followers

FIGURE 8 - Quality Benefits of a Digital Council

Competency

Challenge: How do you bring everyone along for the journey?

Cross-functional Collaboration, Training and Career Path Development: Also in our previous Research Spotlight on Quality 4.0 leadership Imperatives, several shortcomings related to Culture of Quality were revealed. Some were addressed by the presence of a robust Digital Council. However, others were not. Cross-functional collaboration is one of those areas that are helped by a Digital Council but not completely. Quality Leaders are doing more holistically to enable cross-functional collaboration of their teams with other business partner functions. Those meeting or exceeding their results are doing nearly twice as much across the board to enable cross-functional collaboration than those not meeting their results goals. Some of the tactics Quality Leaders are employing include:

- Role sharing across Quality and Digital

- Creating career tracks across Quality and Digital

- Establishing a dedicated Digital Quality role

- Establishing a common vocabulary

- Establishing a training program on Digital for Quality personnel

- Building career development paths bringing other functional experience into the mix

- Promoting skillsets from within; Six Sigma Black Belts and Quality Engineers are particularly suited to assume data science roles
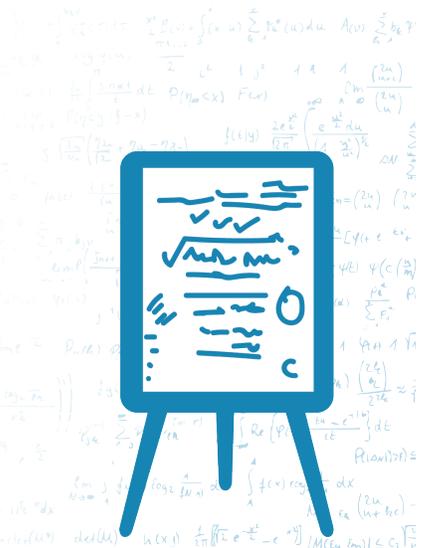
Followers are significantly more likely to be doing nothing about collaboration, reporting less or no collaboration with other specific groups across the board than Leaders.
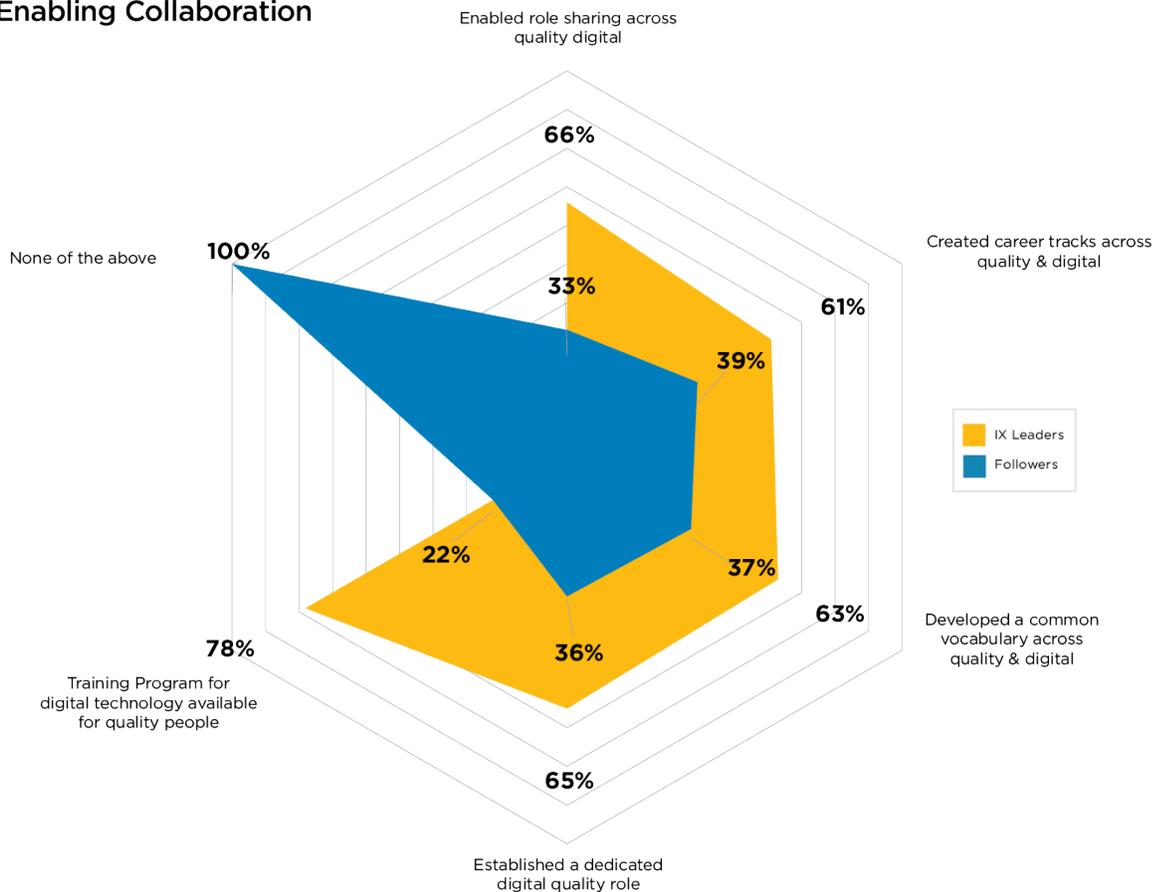
Enabling Collaboration

FIGURE 9 - Enabling Collaboration on Quality 4.0

Training is an investment in people development. Industrial Transformation (IX) introduces a whole new set of skills and ways of thinking and working. Since it is unrealistic and expensive to replace an entire or even a significant portion of the employee population without major upsets in performance, training in the digital age is a necessity to prepare the existing worker for the new skills and tools they will soon be using. IX creates new roles, which creates career growth opportunities for those who can respond to the change. LNS Research has found that Quality Leaders are 72% more likely to have a digital training program for Quality personnel. Furthermore, they are also nearly twice as likely to have a dedicated digital quality role.

Summary & Recommendations

Our research has shown that practicing collaboration, inclusion, cross-functional teamwork, communication, training, and career path development pays dividends to Quality 4.0 transformation programs.

Across the different soft skill practices that we discussed, organizations that report meeting or exceeding their expected results are generally about twice as likely to be doing more in each of the soft skill areas than those who had limited to no results.

The chief recommendations out of this research are as follows:

- **First, establish a Digital Council and a Quality Council if there is not one already in operation.** If one exists, make sure that your Quality Management executives get a seat at that table and advocate that other essential, internal business partners join you there.

- **Second, scope your Quality 4.0 program to be more inclusive of other functional areas rather than less.** Having partners to pull with you makes for less work for each individual.

- **Third, change is scary and difficult for people who don't know what's going on.** Avoid frightening frontline workers away by sharing open and regular communication about the program, and throughout it. It's important for these workers to understand the five Ws and an H – who, what, when, where, why, and how.

- **Lastly, establish a training program for frontline workers.** Bring people along on the transformation journey and help them work toward any new possible career opportunities within your organization that may result from your transformation program.
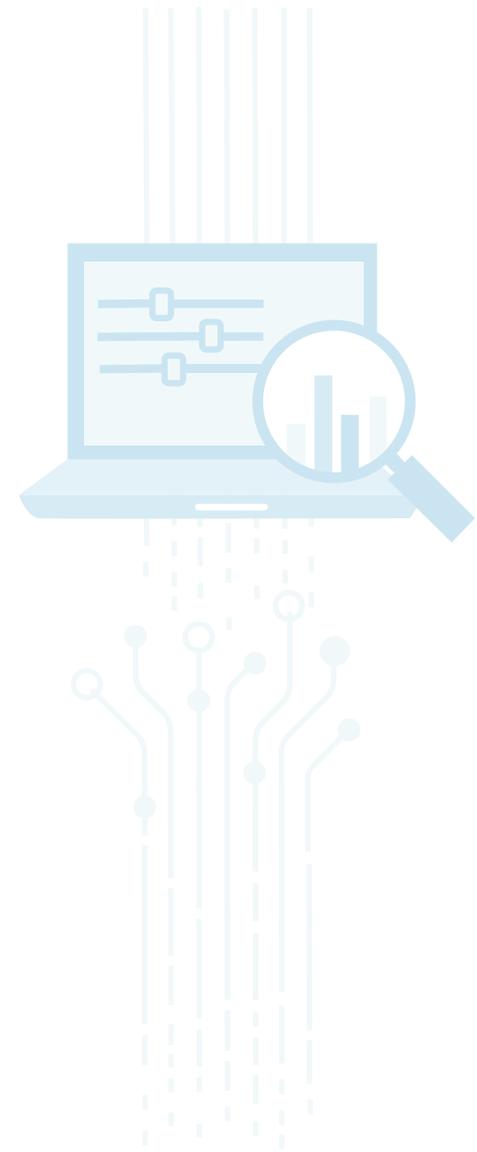
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