

HOW TO LEVERAGE QMS SOFTWARE TO PROMOTE A CULTURE OF QUALITY

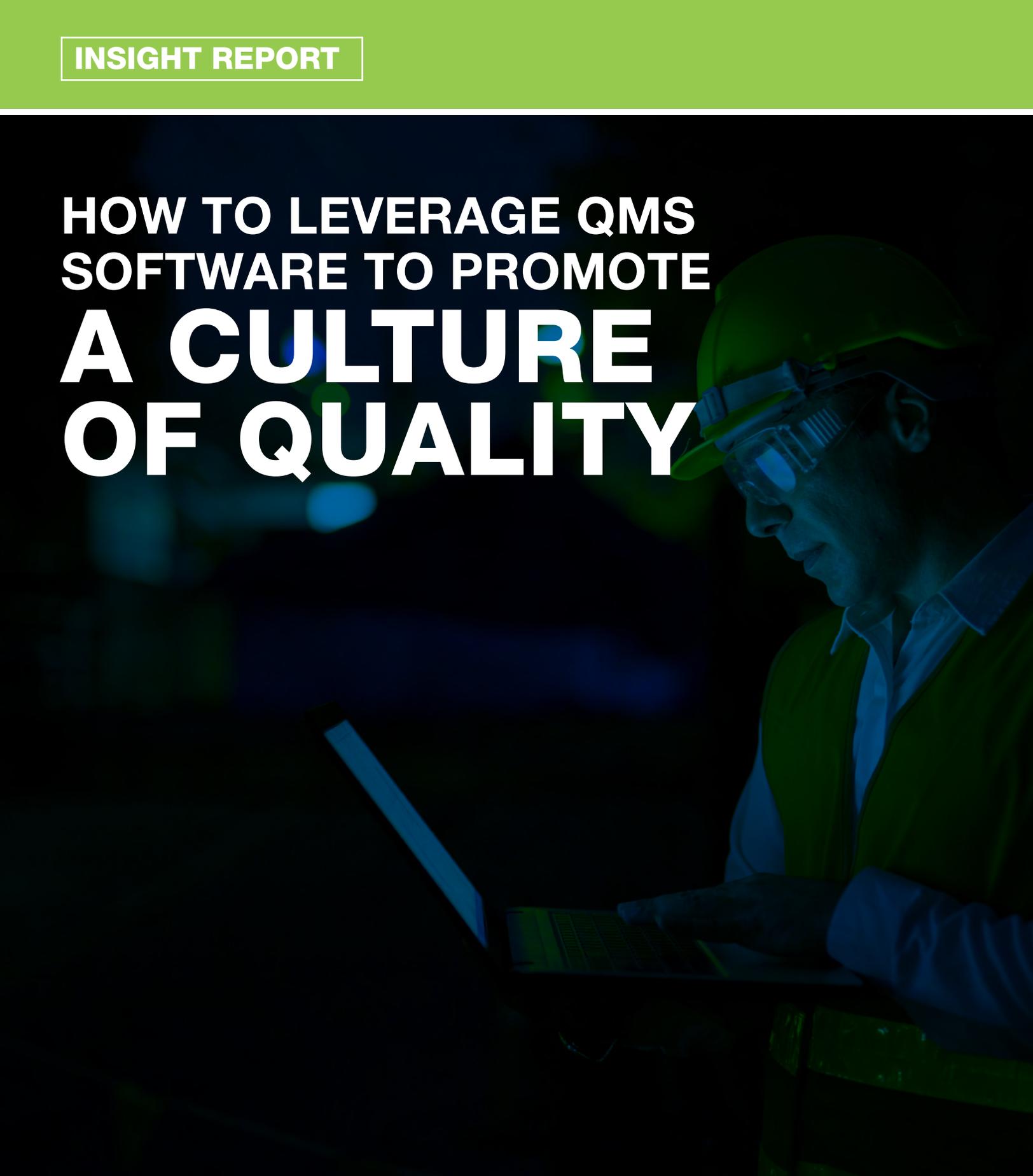
A photograph of a worker in profile, wearing a white hard hat and safety glasses, looking down at a laptop. The worker is wearing a blue safety vest over a white shirt. The background is dark with some blue light spots, suggesting an industrial or construction site at night or in low light.

TABLE OF CONTENTS

HOW TO LEVERAGE QMS SOFTWARE TO PROMOTE A CULTURE OF QUALITY

Nicole Radziwill, Sonduren Fanarredha, and Graham Freeman

Introduction	1
Quality Management Software Promotes a Culture of Quality.....	1
Process Management.....	2
Construction.....	2
Leadership & Management Commitment.....	4
Healthcare	4
Employee Engagement & Communication	5
Hospitality.....	5
Conclusion	6
References	7
About the Authors / Disclaimer / About Intelex.....	8

How to Leverage QMS Software to Promote a Culture of Quality

© Copyright 2019 Intelex Technologies Inc.

intelex.com
1 877 932 3747
intelex@intelex.com

 @intelex  /intelextechnologies  /intelex-technologies  /intelexsoftware

INTRODUCTION

Behind every great organization is a proud, firmly rooted culture of quality – when every stakeholder shares the pride, passion, and commitment to deliver the highest quality products and services. This commitment, from top leadership to the front line, is what distinguishes these leading organizations from the competition.

Toyota, for example, has become synonymous with quality. The Toyota Production System (TPS) has been foundational to the company's success and was the building block on which Toyota built its world-renowned culture of quality. The TPS depends on respect and teamwork and aims to create an environment where everyone can thrive. It also incorporates standard work practices, elimination of waste, data-driven decision-making using statistical methods, and continuous improvement practices. (Womack & Jones, 1990)

When these elements are not a priority for everyone, your organization might function inefficiently, slowly fail over time, or even collapse after a catastrophic event.

When quality culture is absent, the work environment can be chaotic, and people feel a lack of purpose. Their commitment to the organization may falter. Communication may also be negatively impacted without visibility into the performance of the business. Ultimately, this slows down decision-making.

How can you start building a culture of quality today? In short: get organized! Make it easy for everyone to view, monitor, and contribute to your quality system. This Insight Report shows you how.

QUALITY MANAGEMENT SOFTWARE PROMOTES A CULTURE OF QUALITY

A lack of structure preserves weaknesses and introduces risk, especially as a business scales. Having the necessary systems and structures to monitor quality-related events (like nonconformances), manage controls, and support quality improvement activities provides a basis for collaboration and visibility.

A quality management software solution (QMS) will help you do all these things, plus set clear performance criteria that focus on the customer. Investing in a QMS and providing the right tools to align everyone to collectively achieve quality goals is paramount to success. When rolled out across an organization, a QMS:

- demonstrates executive commitment to quality
- establishes credibility of that commitment throughout all levels of the organization
- provides the support structure for driving quality improvement initiatives
- increases visibility, and
- drives employee engagement.

Regardless of what industry you're in, many organizations have stories about how a QMS has made these things possible. But what is it about QMS software that makes the difference? The short answer is that the software provides the necessary foundation to operationalize key workflows associated with quality. It facilitates the core elements common to every quality management approach – including Baldrige, EFQM, and ISO 9001:2015 -- that drive a [culture of quality](#):

1. Process Management.
2. Leadership and Management Commitment.
3. Employee Engagement and Effective Communication.

In this Insight Report, we look at how QMS software can provide the foundation to build a culture of quality through the lens of these three topics.

PROCESS MANAGEMENT

Construction

Construction projects have unique challenges, many of which span the already hazy boundaries between the culture of quality and the culture of safety. First, construction projects bring together multiple teams with many different specializations, such as architects, designers, engineers, and builders, all of whom join forces on a project-by-project basis and then move on to other teams on different projects. As a result, each project can have multiple teams that bring with them contrasting perspectives of both quality culture and safety culture. (Teräväinen 2018) These teams may also be habituated to their own work processes that may or may not integrate effectively with the management processes for the project. The consequence of these ad hoc relationships can often be a lack of communication, transparency, and [cultural cohesion](#).



Second, the construction industry has the always-present challenge of maintaining the safety of both its workers and the users or inhabitants of the project. A construction project requires a resilient culture of both safety and quality that keeps a laser focus on preventing accidents, learning from the accidents that do occur, and ensuring end-to-end quality standards. As is the case in many industries, quality in the construction industry is tied closely to health and safety, as quality failures and nonconformances require rework that can lead to fatigue and workplace pressure, further resulting in an increase in accidents and recordable injuries. (Love 2016)

Third, every construction project relies on an extensive and complex supply chain that operates continuously. Managing the timely delivery of supplies and labor and ensuring that all permits and applications are filed and approved on time is a vital-but-daunting task upon which the eventual completion of the project depends.

Finally, the construction industry is under increasing pressure to ensure that its practices and projects meet requirements and standards for environmental sustainability.

While certification to [ISO 9001](#) has become commonplace in the construction industry, a software-based QMS can provide a reliable technology solution for integrating these processes and enhancing chances for success. With so many competing processes raising the spectre of crippling information overload, particularly on complex projects that span multiple job sites, software can bridge the gaps to ensure that managers can make data-based decisions and recommendations. (Bawden & Robinson 2009)

A software-based QMS can help to integrate data that relates to both quality and safety, which ensures that injuries and accidents are recorded, anticipated, and -- as a result of stronger organizational learning -- prevented. It can also be used to keep track of supplier qualifications and performance, ensure compliance with all permit and reporting requirements, analyze quality measurement processes, and streamline document control to promote consistency. This will make it possible to eliminate defects, prioritize worker safety, and exceed customer expectations. The result will be a QMS that promotes and supports a strong culture of quality in which people, processes, and tools work together to create safe, sustainable, and profitable construction projects.

LEADERSHIP & MANAGEMENT COMMITMENT

Healthcare

Quality management practices have had a significant impact on the healthcare industry. Many hospitals and the smaller departments that support them, such as critical care units and laboratories, now certify to ISO standards such as ISO 9001:2015 for quality management systems and ISO/IEC 17025:2017 for competence of testing and calibration laboratories to demonstrate their adherence to quality and safety requirements.

To achieve the level of efficiency that ensures patient safety and organizational resilience, hospitals must overcome some significant organizational challenges to which they have become habituated over time. Hospital environments frequently have rigid hierarchies that hinder communication among staff, discourage reporting accidents and deviations, and tolerate mechanical failure among devices such as monitors. (Chassin 2014) By failing to capture crucial data from patients and from staff interactions, healthcare organizations risk inadvertently losing or misinterpreting patient information, which can lead to higher rates of infection, incorrect procedures, and fatalities. Healthcare leadership therefore plays a crucial role in implementing a QMS to overcome the organizational barriers that can lead to such negative outcomes. Leadership must also model the behaviour that demonstrates commitment to a [culture of quality](#) for everyone in the organization.



In addition to ISO standards, many healthcare organizations are implementing a QMS based on Six Sigma, EFQM, and other frameworks dedicated exclusively to healthcare such as the High-Reliability Health Care Maturity Model (Chassin 2013) and the Public Health Accreditation Board. (Siegfried 2018). The complex demands of these frameworks and the data they produce mean that healthcare organizations are increasingly adopting software solutions to capture and organize data and make evidence-based decisions.

A software-based QMS that automates repetitive tasks, such as room allocation and the pharmaceutical supply chain, sends notifications and bulletins, and provides real-time data on hospital-acquired infections will mitigate risks for both patients and employees and improve overall patient outcomes. Tas et al (2016) found that there is a moderate to strong correlation between patient safety and quality management systems ($r = 0.66$; $p < 0.05$). This shows how critical quality management systems are to healthcare and demonstrates how important it is for leadership to enable their organizations by implementing QMS software.

EMPLOYEE ENGAGEMENT & COMMUNICATION

Hospitality

In the hospitality industry, front line staff like desk clerks and maintenance staff often have stressful schedules and work under difficult physical conditions. But still, the levels of engagement in this industry are consistently reported to be higher than in most others. To find out why, Buil et al (2019) asked 323 hotel workers about their leaders, their companies, their work conditions, and themselves. The results revealed actionable insights into building a quality culture.

Among the most satisfied respondents, data showed transformational leaders collaborating with proactive workers to achieve shared outcomes. As a result, the authors recommended training supervisors and managers to be *transformational leaders* and selecting workers with proactive personalities.

Transformational leaders were able to communicate a clear and positive vision of the future, and treated staff as respected individuals whose professional development was important. Most significantly, these leaders fostered trust, involvement and cooperation and encouraged out-of-the box, collaborative thinking for problem solving.

Proactive workers excel at identifying new opportunities and are always seeking ways to improve and to help others improve. They are engaged with their work because they identify with their organization and feel a strong sense of belonging.

Quality management software can help both groups of people better embody these characteristics. Leaders, for example, can use the software platform to stimulate involvement and cooperation. Mobile platforms ensure that every staff member has access to the same data and dashboards and can share insights based on a common understanding. Everyone can, for example, contribute to root cause analysis projects

or team-based 8D problem solving. Because information is power, empowered staff are more likely to feel that critical sense of belonging.

Strong management support is essential. Reflecting on the recent GB/T32230-2015 – Guidelines for Quality Culture Development in Enterprises (China Standard Press, 2015) Michael Noble (2019) calls out the importance of engagement in the context of management's support and leadership of change processes. He says "The new guideline makes several points:

- a. the culture must be driven and directed from the top,
- b. that without leadership, a quality culture is unlikely to happen,
- c. that leadership by itself is insufficient and if the staff are not engaged then the process will fail,
- d. that Quality Culture is NOT a cookie-cutter operation. Each organization is unique, and their culture must have the freedom to reflect that. And importantly,
- e. building a Quality Culture is NOT a one-and-done activity; culture is a philosophy/attitude that must mature and change with experience."

Software-based quality management systems can make it easier to do (and demonstrate) each of these things. It can help employees get proper training, gain visibility into core processes, and work more confidently. It also opens two-way communication channels -- not just with a single workgroup, but across your organization -- no matter where they are geographically located. To ensure smooth change management when introducing these systems, start by explaining how quality management software will impact everyone's roles and responsibilities. Understanding is the key to acceptance.

When front line staff can capture nonconformances, log action items, and share continuous improvement opportunities through a mobile device or shared workstations, everyone benefits. Not all QMS software emphasizes the kind of two-way communication that leads to true engagement, so be sure to select vendors that make it easy for people to gain knowledge, provide feedback, and join in discussions. When you implement QMS software, you take a definitive step towards building a culture of quality in your organization by ensuring that everyone has a voice.

CONCLUSION

Quality management software can provide the requisite framework and structure necessary to build and grow a culture of quality. This Insight Report explored three essential pillars for management that will help cultivate a culture of quality, and how software plays a critical role in operationalizing them. Adopting, implementing and integrating a quality management system into your organization's day-to-day business can help it overcome common obstacles and achieve success.

REFERENCES

- American Society for Quality (ASQ)/Forbes. (2014). Culture of Quality: Accelerating Growth and Performance in the Enterprise. Available from https://www.forbes.com/forbesinsights/asq_v4/
- Bawden, D., & Robinson, L. (2009). The dark side of information: overload, anxiety and other paradoxes and pathologies. *Journal of information science*, 35(2), 180-191.
- Buil, I., Martínez, E., & Matute, J. (2019). Transformational leadership and employee performance: The role of identification, engagement and proactive personality. *International Journal of Hospitality Management*, 77, 64-75.
- Chassin, Mark. R., Loeb, Jerod M. (2013). High-Reliability Health Care: Getting There from Here. *The Milbank Quarterly*, 91(3), 459-490.
- China Standard Press. (2015). Chinese National Standard, GB/T32230-2015—Guidelines for Quality Culture Development in Enterprises.
- Love, Peter E.D., Teo, Pauline, Morrison, John, & Grove, Matthew. (2016). Quality and Safety in Construction: Creating a No-Harm Environment. *Journal of Construction Engineering and Management*, 142(8), 1-10.
- Noble, M. (2019, Feb 4). GB/T32230: Quality Culture and the Medical Laboratory. Available from <https://www.medicallaboratoryquality.com/2019/02/gbt32230-quality-culture-and-medical.html>
- Siegfried, Alexa, Heffernan, Megan, Kennedy, Mallory, & Meit, Michael. (2018). Quality Improvement and Performance Management Benefits of Public Health Accreditation: National Evaluation Findings. *Journal of Public Health Management and Practice*, 24(3 Supp), 3-9.
- Tas, Y., Akpınar, A. T., & İŞÇİ, E (2016). The Effects of Quality Management System on Patient Safety Culture in Hospitals. *Research Journal of Politics, Economics & Management/Siyaset, Ekonomi ve Yönetim Arastirmalari Dergisi*, 4(2).
- Teräväinen, Ville, Junnonen, Juha-Matti, & Ami-Löyty, Simo. (2018). Organizational Culture: Case of the Finnish Construction Industry. *Construction Economics and Building*, 18(1), 48-69.
- Womack, J. P., Jones, D. T., & Roos, D. (1990). *Machine that changed the world*. Simon and Schuster.
- Zhang, Z. (2000). Developing a model of quality management methods and evaluating their effects on business performance. *Total Quality Management*, 11(1), 129-137.

ABOUT THE AUTHORS

NICOLE RADZIWILL

Nicole Radziwill is Quality Practice Lead at InteleX in Toronto, Ontario. She uses data science and applied machine learning to enhance quality and catalyze innovation in industrial systems. Nicole is a Fellow of the American Society for Quality (ASQ), a Certified Six Sigma Black Belt (CSSBB), a Certified Manager of Quality and Organizational Excellence (CMQ/OE), and editor of Software Quality Professional with a PhD in Quality Systems from Indiana State. She is one of ASQ's Influential Voices and blogs at <http://qualityandinnovation.com>.

SONDUREN FANARREDHA

Sonduren Fanarredha is the Product Marketing Manager at InteleX, specializing in quality management software.

GRAHAM FREEMAN

Graham Freeman is a technical writer and researcher. He is a Content Specialist at InteleX.

Disclaimer

This material provided by the InteleX Community and EHSQ Alliance is for informational purposes only. The material may include notification of regulatory activity, regulatory explanation and interpretation, policies and procedures, and best practices and guidelines that are intended to educate and inform you with regard to EHSQ topics of general interest. Opinions are those of the authors, and do not necessarily reflect the opinion of InteleX. The material is intended solely as guidance and you are responsible for any determination of whether the material meets your needs. Furthermore, you are responsible for complying with all relevant and applicable regulations. We are not responsible for any damage or loss, direct or indirect, arising out of or resulting from your selection or use of the materials. Academic institutions can freely reproduce this content for educational purposes.

About InteleX

InteleX Technologies is a Toronto, Canada-based provider of Environmental, Health & Safety, and Quality (EHSQ) Management and workflow software for organizations of all sizes. The company is a leader in software-as-a-service solutions and serves customers from across a wide range of industries, located around the world. The InteleX platform is a mobile solution and provides integrated tools for front-line EHSQ professionals. We can be found at www.inteleX.com.