etq Quality Creates.™

Finally, a Quality Management System IT Leaders Will Love

It isn't easy being an IT manager today. Business users know what solutions they want – and need – to do their jobs better, and it's up to IT to magically make it happen. While business users anticipate all the capabilities and efficiency the software system will deliver, the IT manager is scratching her head wondering how she will manage the growing security, maintenance and global access requirements of the organizations IT environment. At the same time, she's tasked with fully integrating a myriad of enterprise systems such as ERP, MES, CRM and more – all with tech stacks bursting at the seams.

Make no mistake, Quality Management Systems (QMS) have been one of the guilty players when it comes to this scenario, yet today that's no longer the case. A new generation of cloud-native systems are making it easier for companies to meet their quality metrics and for IT to emerge as the hero, enabling this new level of quality and supporting digital transformation initiatives.

The Changing IT Department Landscape

Before we can understand how QMS can impact IT, it's important to understand the changing dynamics of the IT department. Consider the following four trends.

The rise of remote work. Despite the many challenges that COVID-19 has placed on the shoulders of IT, it has also taught them some valuable lessons as well. They've mastered the art of quickly shifting entire organizations to remote operations, ensuring a secure work environment from anywhere, and prioritizing digital transformation with a new level of urgency. One of the most valuable lessons, however, just may be the importance of the cloud in enabling all of this. Companies with most of their applications on-premise often found it impossible to complete critical tasks and remain up and running during the pandemic. In fact, according to Gartner, worldwide public cloud spending is forecast to rise 18.4% in 2021 to total $304.9 billion; and 70% of organizations plan to increase their cloud spending in the wake of COVID-19.

The new strategic business role of IT. To accomplish digital transformation, IT understands that it is expected to expand its scope beyond the data center and play a key role in addressing the business needs of the organization. It needs to understand the business challenges, corporate goals, the changing business needs and then how technology can advance those investments. IT is taking on a new role, shifting from the tactical to proactive leader and innovator that uses technology as a business differentiator. It is doing this by delivering proven, scalable systems that directly impact business goals, and by leading the enterprise through the shift to a cloud-first business.

The seamless enterprise. While IT is playing a growing a role as the strategic driver of the digital bus (make that a bullet train), it needs the whole company to help implement the vision and harmonize these transformative processes. The siloes are being torn down between lines of business, IT, Finance and other stakeholders, so that collaboration and innovation can be fostered enterprise wide. IT is partnering with its internal customers to move the business forward and derive more value and ROI.

The security imperative. According to results of the CSO Pandemic Impact Survey from the Center for Internet Security, 61% of security and IT leader respondents were concerned about an increase in cyber-attacks targeting their employees, and 26% have seen an increase in the volume, severity, and/or scope of cyber-attacks. This is one of the major concerns keeping IT managers up at night. Business leaders and all stakeholders want to be assured that critical systems and company data

are protected from ransomware and other breaches – whether in the cloud or on-premise. This is especially important in the remote work, distributed workforce environment post-COVID where employees may be using personal devices to access enterprise applications.

The drive for scalability, integration. The pace of business change is increasing, so while security is a key concern, IT managers are searching for scalable solutions that can expand to accommodate growing staff and business needs without having to upgrade to new systems when these changes occur. Since the lifeblood of true digital transformation is data and analytics, they want to make sure that new systems can easily integrate with existing ones so that data and information can flow freely across them and scale as data volumes rise. And, as tech stacks within companies continue to grow and become more complex, integration – especially when it involves bringing different entities together because of mergers and acquisitions, adding new geographies or even divesting of a division – can be one of the biggest challenges for IT. Additionally, to maximize the impact of digital transformation, it's critical to IT to harmonize the IT environment by consolidating the number and type of systems in use to and eliminate data siloes.

And with the pace of tech innovation, IT must help select systems that will keep pace organically or be destined to constantly rip and replace. In other words. you need to select a future proof system.

IT Plays a Role in the Culture of Quality

Today's IT departments have a lot on their minds when it comes to the changing prerequisites to their success. One key concern is helping to ensure that a culture of quality becomes a centerpiece to their digital transformation efforts. In fact, according to a survey ETQ commissioned in 2020, companies are investing more in quality as a strategic business growth initiative that brings a significant return on investment (an average 23 percent). The report also found that poor quality is costing organizations $49M per year on average.

In order to assist with quality efforts, IT departments need to be closely aligned with quality management and all lines of business to improve product quality, better integrate a QMS into the enterprise, and build a culture of quality that has a measurable business impact.

A lack of quality standards causes product defects, higher inventory carrying costs, increased warranty claims, higher scrap rates, potential recalls, degraded brand loyalty and diminished profitability. In addition, organizations spend more time and effort to address poor quality, track corrective actions, and respond to audits, all

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of which negatively impact productivity. And while a lack of quality is not necessarily an IT problem, IT can become part of the solution. Automating critical quality tasks, such as regulatory compliance control, corrective action plans, supplier management, risk assessment, training management, enterprise risk management and document control, can ensure that manual work doesn't impact efficiency, or create room for error.

Yet traditional Quality Management Systems have not always made it easy on the IT department. Without vendor-supplied APIs, they are difficult to integrate with existing enterprise systems. This creates a challenge in meeting requirements for new levels of security and user protocols to protect critical data. Additionally, these non-API integrations must be manually reworked each time new systems are added and new features and functionality are released.

Finally, integration isn't limited to just systems talking to each other. The connected organization demands that internal and external users be able to participate in driving to the highest levels of quality. Customers want to submit immediate feedback on products and provide suggestions for future enhancements; suppliers need to participate in maintaining quality, avoiding returns and addressing problems as early as possible in the product lifecycle.

The Problems with Traditional Quality Management Systems

IT teams are finding that aging quality systems are difficult to scale to meet the need for increasing collaboration, integration, security and analytics while keeping pace with the growing amount of quality data. They are forced to create bespoke integrations in order to collect data coming from other data sources like Product Lifecycle Management (PLM) or Manufacturing Execution Systems (MES). Legacy systems also can buckle under the dramatically higher transaction volumes that are a natural result of growth, scale and expansion. And as users demand more capabilities, these systems just can't provide the features needed to manage today's complex quality environment that involves internal and external stakeholders.

In a traditional on-premise architecture, IT "owns" both the software and the hardware. This means that they're responsible for procuring, updating and maintaining the full software stack and the hardware it's running on, ensuring that both meet the organization's needs. When there is a problem, they need

to “fix it now.” When their internal customers’ needs change, they need to “update it now.” When they need more power to support more users, data and applications, IT is expected to “buy it now.”

On top of these daily operational pressures , they’re often supporting what business leaders ask for, which is often some form of measurable ROI.

Yet even when the system is not on-premise, there can be challenges with traditional systems. Many times, hosted versions are simply the on-premise QMS version accessed through the cloud. It’s not a true Software-as-a-Service (SaaS)-based QMS, and as a result, it may have limitations in terms of configurability, scalability, security and upgradability. In addition, these systems are not architected to take advantage of the latest technologies from infrastructure providers like AWS.

Usability

Lighting fast and actionable information discovery that anticipates user needs

Visability

Infuse quality with advanced analytics and empower users to take informed action

Flexibility

Tap into the limitless power of Cloud Technology – supercharge your quality processes and make them right for you

Scalability

Break down the barriers that limit collaboration and innovate at the speed of business change

Next Generation QMS Designed for IT

Next-generation Quality Management Systems eliminate the resource-intensive, costly and challenging aspects of integrating and maintaining a QMS, while helping IT highlight its growing role as a strategic driver to the business and its commitment to quality.

This is accomplished by using a QMS built upon a true cloud-native architecture, to deliver exactly what IT needs to perform its job at maximum efficiency and maintain a feature-complete and engaging user experience for a range of users from, casual users to daily quality pros and systems admins. This is a major challenge, and yet, ETQ has just tackled this Gordian knot. According to a report by LNS Research, “ETQ has accomplished something few if any, industrial-oriented software companies have been able to do: convert their on-premise version of software into a true, ‘cloud-native’, multi-tenant software offering.”

We've accomplished this by listening acutely to the needs of our customers, leveraging best-in-class cloud tools from leading cloud providers and developing the solution that builds on the end user front-end capabilities developed over decades in a way that allows its customers to easily upgrade, preserving their existing investments in quality workflows and configurations by building on the strengths of the current code base.

Fundamentally, Reliance NXG is architected to use the most modern cloud-native applications and micro services to deliver a perpetually up to date and future proof back end, so that IT and end users can freely focus their limited resources on innovation at the application level.

While companies are beginning to realize the benefits of the cloud, as well as the role of a modern Quality Management System as a core business asset, IT departments should assess what it means to their operations. Below are key questions they should ask.

Will I need to deal with system updates? In a true cloud-native environment, continuous innovation of the QMS refreshes it with modern technologies from the hosting provider and cloud platforms such as AWS, Google, and Microsoft. These advanced infrastructure technologies can be easily integrated to enable more efficient data integration models, advanced analytics and easily configured apps and new features, all within a user interface that the user is familiar with.

What about maintenance? The cloud is always a more stable platform because it contains infinite redundancy and scalability. If a server breaks in a private cloud, administrators must work around the problem until they can order, install and configure a new one. If a server breaks in the public cloud ample back-up is dynamically reallocated to provide uninterrupted up-time.

How compatible is it with our existing systems? A cloud-native QMS, such as ETQ Reliance NXG, provides integration with other enterprise systems via REST application programming interfaces (APIs). Easy integration capabilities are especially key to companies looking to integrate a QMS with critical business platforms, such as their CRM, ERP, MES and other business applications.

How is security addressed? Your QMS should feature complete system administration, such as security monitoring and incident response; data protection, using the most secure industry best practices for encryption; and third-party penetration testing and verification combined with a risk-based vulnerability management. A cloud-based hosting environment offers best-in-class security solutions, and a 24x7 security operations center, as well as robust data backup and recovery options.

Reliance NXG is architected to use modular, cloud-native micro services. This approach enables customers to focus their innovation effort and resources at the end-user and application levels, while ETQ ensures their infrastructure and back end is perpetually up to date for a truly future-proof QMS. Some of the technologies and services ETQ has integrated in Reliance NXG include:

Amazon ElastiCache

Amazon Elastic Load Balancing

Amazon CloudFront

Amazon Elastic File System

Amazon Relational Database Service

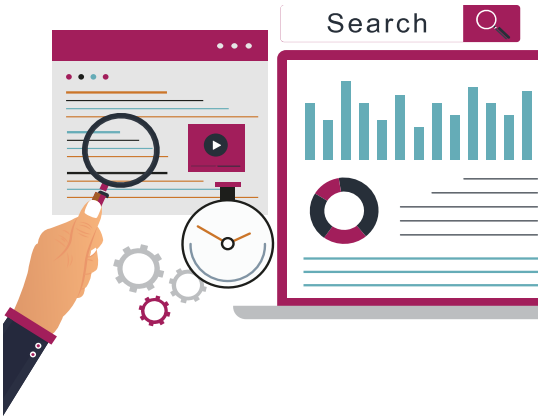
Amazon Simple Storage Service

AWS Elastic Container Services

AWS Cognito

AWS Global Accelerator

Datadog



Will we need to upgrade when our needs change? It's important to future-proof your QMS to keep pace with company growth – more users, more data and physical expansion. With a cloud-native QMS, companies can leverage the vast power of cloud technology to meet rising demand. Adding more users or more storage occurs dynamically, usually with little or no downtime.

Does it offer analytics to optimize our data? Given the deluge of enterprise-wide data – the lifeblood to true quality – data analytics is now a necessity to any QMS. Your QMS should feature analytics reports and dashboards to unlock operational insights. Also, the data should be accessible enterprise-wide, without requiring IT to unlock the data each time a user needs it or update complex queries every time the QMS is changed. A cloud-based data lake can enable secured data sharing for collaboration and should allow for integration with a data warehouse or third-party business intelligence/analytics tools.

What is the QMS roadmap? A strong next-generation QMS should allow end-users to easily innovate with new apps and other updates, because of the robust capabilities of the back end. With the system built upon a cloud-native infrastructure, this can more easily happen because of its scalability and continuous improvement.

How will it incorporate AI/ML? Quality programs will increasingly require machine learning and other AI capabilities that augment human intelligence and automate traditionally human-intensive tasks. ML-driven Quality Management Systems will be able to automatically identify anomalies in products to weed out defective units, or not only predict but alert users to the likelihood of supply-chain breakdowns because of weather conditions.

IT departments today are too busy assimilating into an increasingly complex environment, where software technology is no longer an enterprise resource but a strategic driver to the business. Whether it's a Quality Management System or another new piece of software, IT has no time for solutions that are not taking advantage of the cloud-based technology innovation to reduce the burden of modernization, maintenance and digital transformation.

Learn more at ETQ.com