

Quality Management Data-Driven Decisions Fail and How to Fix It

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Article Info	ABSTRACT
Article history: Received : 11.01.2025 Revised : 13.02.2025 Accepted : 20.03.2025 Keywords: Continuous Improvement; Data Analytics; Decision-Making; Quality Control; Risk Management	The PwC survey regarding data-driven decision making of over 1,000 senior executives concludes that organizations with data-driven decision making are performing significantly better at their decision making. This statistic would suggest an optimistic outlook, but we see a poor sign with quality management, where more information is not always better. They have over 402.74 million terabytes of data to generate daily and yet most of the organizations are struggling to convert this information into fruitful quality improvements. In reality, bad data quality almost always creates wrong conclusions, which in turn costed money and missed opportunities. It is especially disturbing to note, however, that 49 percent of Fortune 1,000 companies have already benefitted of their value from their data based initiatives, of which, 37 percent involve reducing their total cost of ownership. Next, we will investigate why data driven decision making mostly fails in the quality management, and even more importantly, how to rectify these defects. We'll explore practical solutions that bridge gap between data collection and actual quality improvement, down to breaking down data silos and developing meaningful metrics. The purpose of our efforts is to assist you in transforming your quality management system into one which actually performs in generating results through use of data-based decision making.

1. The False Promise of Data in Quality Management

Organisations pay an average of USD 15.00 million a year with poor data quality, yet many businesses continue to harvest huge quantities of data without any strategy for using it to good effect. In quality management, the promise of data driven decision making rarely comes through, and adds to instead of subtracting complexity [1]-[4].

1.1 When More Data Becomes More Problems

With the increase in data collection, new problems in quality management have been presented. While powerful business intelligence systems are very powerful, they're only as reliable as the data that's supporting them. Additionally, there was nearly a double of incidence of data downtime, and time to resolution for data quality problems rose 166%. If information becomes an obstacle, rather than an enabler, data overload has occurred. Many quality managers deliberately continue this problem by creating more reports than are needed in order to guard against someone needing the information. Then, important data that needs to be considered

for making the decision is buried under excessive irrelevant information.

Reports that lack an intended direction are like maps that have no intended destinations – they don't serve their fundamental purpose of guiding decisions. In addition, the usefulness of data reduces with the passage of time, leading to a break between the planning horizon of different management levels [5]-[9].

1.2 The Disconnect Between Data Collection and Quality Improvement

Several of the manifestations of the gap between data collection and quality improvement are in the gap. Often, hours are lost by quality teams in the quest for new opportunities on faulty data. In addition, the data processing systems are very inefficient, and thus extremely laborious and time consuming.

Lastly, these challenges are compounded by technical barriers. Data preservation in many centers is poor since they do not have proper systems, they have poor IT capacity and poor data formats. Qualitative studies are even more

worrisome, demonstrating that clinicians and staff are having trouble collecting data and providing feedback using current technology systems, when a mix of clinical information systems is present. The disconnect also stems from measurement discrepancies. Usually senior leaders focus on lagging indicators (controls) of end results, e.g. revenue or units shipped. On the contrary, middle and front-line managers work on leading indicators—measurements of actions needed to create the future results. Often because of the

misalignment, confusion reigns and quality improvement initiatives are ineffective. There are many sources where data quality problems occur such as cross system inconsistencies, human error etc. The major issues include inaccurate data, incomplete information, duplicate records and outdated data. For example, a lack of data renders analysis useless; the absence of data forces staff to scurry in order to determine what data is missing [10]-[14].

Table 1: Common Causes of Failure in Data-Driven Decision Making

Cause of Failure	Description	Impact on Quality Management
Poor Data Quality	Inaccurate, incomplete, or outdated data	Leads to flawed conclusions and misguided actions
Lack of Analytical Skills	Inadequate training in interpreting data trends	Limits meaningful insights and strategic planning
Over-Reliance on Tools	Dependence on software without understanding context	Creates false confidence in outputs
Misaligned Metrics	KPIs that don't reflect actual business goals	Distorts performance evaluations
Siloed Data Systems	Disconnected databases across departments	Prevents holistic and integrated decisions

The data collection challenge is not limited to the collection itself. Many organizations find it difficult to define appropriate quality metrics, to effectively collect data, and to translate collected data into organizational change. Additionally, centers do not possess analytical expertise, and therefore, are incapable of collecting, storing and analyzing quality related information in a productive manner.

Because this gap needs to be bridged, organizations need alignment on the accepted definition of quality improvement at the local and global level. This would provide a standardized approach of data collection and documentation of quality initiatives and become the basis of which

clinical teams must record. In addition, availability of high quality data, orderly data record keeping, and alignment of data collection processes can ameliorate these barriers to the implementation of the quality improvement program [15]-[19].

1.3 Data Silos: The Hidden Barrier to Effective Quality Control

12 hours a week on average is spent by knowledge workers running around departments searching for data. Given how ubiquitous data silos have become in the modern organization, this staggering statistic highlights the sheer importance of breaking down silos in order to achieve effective quality control [20]-[22].

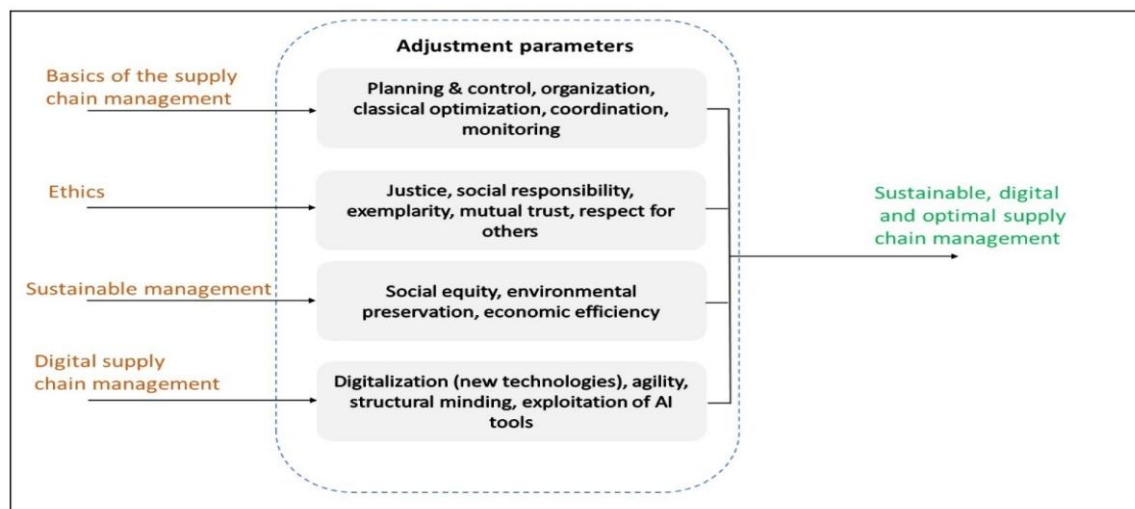


Fig 1. Departmental Isolation Corrupts Data Driven Decision Making

Poor information sharing and inappropriate communication channels between teams reflect departmental isolation, the most notable characteristics of which are the lack of information sharing and inability to communicate between different teams in the department. We have made quality teams work in silos, which results in quality teams developing their own systems and processes and finally ends up with fragmented data storage, which really impacts on data driven decisions.

These silos cost organizations up to USD 12.90 million in financial losses annually because of poor data quality. Usually, teams working in isolation

duplicate efforts across many systems that cost hundreds of thousands of dollars per year to support redundant datasets.

While there are many possible reasons for blame shifting in manufacturing environments, one of the most concerning is when different departments, such as design, engineering, production, quality and maintenance, get into a blame shifter not a blame solver modus operandi. Because each team instead spends time defending their 'territory' than working to find the solutions, the procedures for valuable identification of and problems shooting solutions is delayed.

Table 2: Strategic Fixes for Effective Data-Driven Quality Management

Solution Strategy	Implementation Approach	Expected Outcome
Data Governance Framework	Standardize data collection, validation, and ownership	Enhanced data reliability and transparency
Skill Development Programs	Train staff in analytics, visualization, and interpretation	Improved data literacy and better decision-making
Integrated Quality Platforms	Unified dashboards and ERP systems for centralized insights	Real-time visibility across operations
KPI Reassessment	Align metrics with core quality objectives	Relevant and actionable performance indicators
Cross-Functional Collaboration	Share data and insights across departments	More comprehensive and effective decisions

Beyond mere communication barrier, the isolation problem is extended. If quality management teams can develop independent ways of collecting and analyzing data, the hands-off over the years inevitably leads to systems that don't work together. This incompatibility becomes more and more difficult to work around to distribute critical information related to quality between departmental boundaries.

Another big challenge is management isolation. A manager, when he separates himself out of reach from the shop floor, as it were, starts eroding worker-management relationships and morale. The separation gives an implicit message that quality is not a high priority, irrespective of the stated commitment for quality improvement initiatives [23]-[24].

2. Breaking Teams Information Barrier

To overcome these barriers, coordination across disciplines is needed but the road there is crude. To begin with, organizations need to set up a place where employees feel comfortable speaking in and offering feedback without any punishment. It is a basis to good working collaboration between different departments.

A clear documentation about data sources, processes and systems gives team members the understanding of context in which they process the information. Likewise, there is a need to create the

data governance policies to make it uniform in dealing with and handling data within the organization.

Breakdown of silos are driven by the importance of feedback loops. Organisations can proactively address problems gathered from end users of potential inaccuracies in data sets or reporting output as opposed to a reactive process after consequences have occurred.

For the solution, often time is it found that the data need to be centralized in the cloud tools and putting the data in a common pool will streamline your process to collect it. This centralization allows for data governance frameworks that are consistent and also for appropriate control over access to sensitive information.

Another very useful tool to break down silos is use of interdepartmental meetings. The purpose of these gatherings should be well planned and with clear objectives so that participation is encouraged from all departments, and all team's voice is heard. Structured interactions through the departments enable better understanding of the department's role in the larger picture of the organization.

However, cultural, as well as technical, changes are necessary in order to tear down data silos. Regular data audits help spot new silos so that organizations can merge them swiftly back into centralized systems before they cement. Moreover, it is important to create documentation of what

policies, standards, and procedures are followed by the team so that data can be adopted and stored in a central shared storage system [25].

2.1 When Quality Metrics Miss the Mark

A great many companies attend to counting what make sense to count, not those metrics that really

matter to quality improvement. More fundamentally, data analytics misaligns with the most important outcome: quality and thus impedes data driven decision making in quality management systems.



Fig 2. Why measuring What's Easy Is Dangerous, and Not What Matters

However, it's typical that quality teams focus on tracking simple metrics like lines of code, bug count, or test cases executed. Nevertheless the complexity of the practical quality management processes are not captured in such surface level measurements. For instance, rewarding developers and testers by code volume and bug counts respectively, leads to a shift from informational to behavioural measurements that can actually have a negative impact on quality.

Wells Fargo cross selling metric is a cautionary tell. It was ultimately the point of changing their customer service usage that they eventually lost a lot of reputations and got fined over \$2 billion. This shows how if you don't have the proper guardrails, then only focusing on the easily measurable metric will lead to unethical behavior and then leads to a poor product quality.

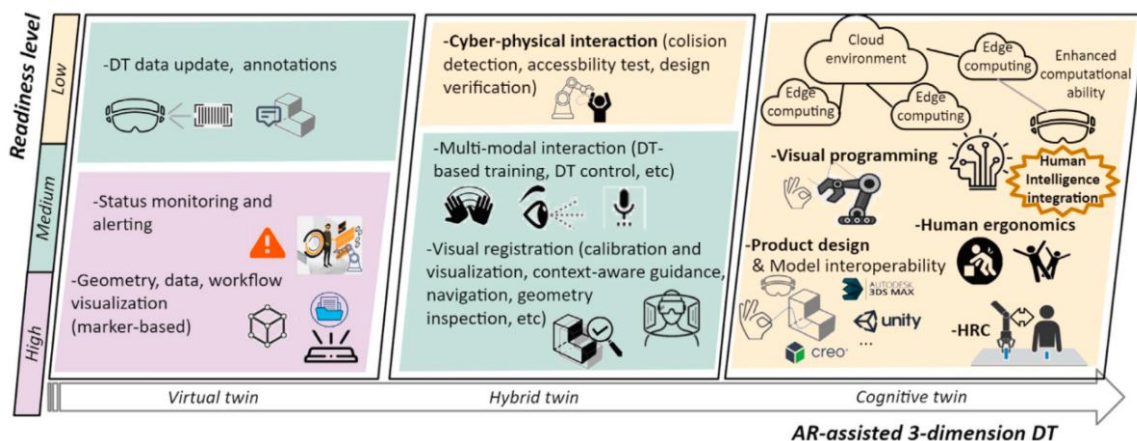


Fig 3. Metrics That Actually Deliver Quality Improvement Development

A good quality metric should be sensitive to multiple perspectives. Specific performance measures are needed for the external stakeholders: public and private payers, regulators, accreditors. Still, the quality metrics mania is actually the cause of the redirection of work from real improvement to managing an impossibly large number of measurements.

Implementing counterbalance metrics has been proven one sore way. Quality issues may occur due to high production target, which will decrease customer satisfaction and profit. Quality key performance indicators help offset the negative incentives that are generated by production focused metrics.

Two essential criteria should be met if quality measurement shall achieve anything. It must be balanced first to meet both end user for judging quality and cost performance and the provider for continuous improvement. Second, it should be parsimonious, making assessments of quality, outcomes, costs through carefully selected metrics according to stakeholder needs.

2.2 Case: How Company X Changed Their Quality Metrics

A regional medical center going through a transformation provides great insight for getting the implementation of an effective metric in place. However, the organization had to first align its clinical workflows, data systems, and governance processes to make headway in value based care models.

Specifically, they changed things through partnership with a healthcare solutions provider, who implemented several key changes.

1. Developed advanced performance monitoring tools with enhanced logic for actionable insights
2. Changed EHR functionality to reduce identification, tracking, and improving functionality.
3. Introduced alternative care models that are value based.

The results proved remarkable. Overall, the medical center achieved a 65% raise not only in revenue producing quality metrics but also 250% better over performance metrics. Having achieved over 50,000 people that were previously uncontactable, they successfully created performance monitoring tools for over 50 metrics at executive, clinic and provider level.

That said, this highlights the importance of good metrics, which can be used to promote real quality improvements. It comes down to picking measurements that match with the goals of the organization whilst keeping an eye on the real quality outcomes. By showing how data driven decision making can become good for quality

management, when operationalized through standardized organizational governance and change management strategies, the medical center served as an example of an organization successfully navigating for data driven decision making that is also effective for quality management [26]-[29].

3. Why Quality Teams Resist Data Based Decision Making: The Human Element

Data driven decision making is often a challenging practice for the quality management professionals due to the heavy preference of deep reliance on the experience based approaches. The reason lies in the years of using intuition and also established practices, which have helped in guiding the quality control process through the years.

3.1 The Experience vs. Evidence Conflict.

Quality management decisions are supported by clinical expertise and patients experiences. That, however, is not the case with experience based approaches; they themselves are hampered by their own limitations. Clinician experience alone will not enable memory to adequately recall facts for valid clinical decisions. Additionally, without quality control groups, quality teams may be assigning improvements to particular interventions when other factors may be at play.

It becomes a challenge as data analytics challenges traditional integration of the quality professionals into account with the modern ones. However, many practitioners feel that the data driven approaches take away the years of their accumulated knowledge. The prevalence of this perception creates a cultural barrier where data is regarded as an enemy of the professional as opposed to a support to their professional skill set. Often, they encounter such resistance based on uncertainty about new processes. Quality teams will naturally take a defensive position when they encounter newly invented data tools or new and reinvented workflows. But this becomes some reaction, not just completely rational, as in the case when we replace stable, non data based reporting with new data based platforms.

3.2 Building Data Literacy in Quality Management Teams

Modern quality management turns out to be based on data literacy. There are specific skills quality teams must have to read, work with, analyze and communicate data well. Two thirds of executives are currently grappling with the biggest problem of transforming organizations into data driven ones: changing organizational culture and processes.

Such programs need to be built more structured. First, organizations should observe, survey, or

interview their team's current data literacy levels. This assessment is how we identify where quality teams need support in raising the level of data capabilities.

The main hindrance is that it is not frequently trained or supported. As several quality professionals expect data tools to be used, they may still have problems with lacking confidence using these tools which can lead to them hesitant to use data driven approaches. Training programs should aim to develop skills that give the practitioner effective application of data analysis, not replacement for the use of professional judgment.

It is also leadership which is responsible for promoting data literacy. Data and Experience can do great things together — Cooperation clear and combined can make the best of it. Case studies and success stories alleviate the concerns over how you would lose your valuable experience based insights in the pivot to data driven processes.

But then organizations must acknowledge that data literacy is a never ending journey and not a one-off initiative. Technology adoption is sustained by regular touchpoints, feedback mechanisms and annual evaluations that adapt to new challenges of data adoption. Data teams that offer office hours and professional development programs, and who provide continuous support for quality management professionals.

Adoption rates are very dependent on incentive structures. Rewards for data driven projects and achievements should be established in order to create a reason for staff to look into data functions and share results. This approach fosters strong climate for collaboration between experience and data driven insights to make quality improvements.

3.3 Technology Pitfalls in Quality Management Systems

Quality Management System is the base to keep compliance and to put up a drive for continuous improvement. However, with the establishment of organizations, the QMS software becomes outdated QMS software and becomes the problem instead of the solution that slows down operational efficiency and compromises the whole thing.

4. When Your QMS Software Becomes Part of the Problem

At tracking compliance documentation, QMS software is very good; however, it often lacks of practical quality enhancement. Quality engineers spend too much time on documentations and can not do enough proactively to prevent defects. This approach takes away attention on practical

measures that would improve product quality and reduce scrap.

The other critical limitation has to do with the reactive nature of the traditional QMS software. Most of these systems only record, after the fact, and track problems that occur. The problem is that quality teams have no real time data insights to make immediate corrective actions on the manufacturing process.

Most of QMS platforms operate as post structured for data entry and documentary document. Most of these tools usually offer the sophisticated analytics capabilities that are required to dig into root causes on the shop floor. As a result, quality teams come to manage documents and stop making real improvements.

Integration challenges compound these issues. QMS platforms are usually not a perfect fit for other operational systems such as Enterprise Resource Planning (ERP) in which the two systems are not linked at times, thereby creating the sense of a disjointed process and multiple efforts. The implementation of QMS often produces no time savings because data must be moved manually between systems once disconnects occur.

4.1 Integrating Legacy Systems with the Modern Data Analytics Tools.

As a gap between old processes and now requirements grows, an integration between old and modern analytics tools becomes a key solution and it is the integration of the legacy systems with modern analytics tools. The integration process allows the organizations to add new features to their legacy systems without writing from scratch. The effective integration of a business unlocks the decades of valuable data collection, allowing the identification of patterns and improvement of decision making processes.

Typically difficult to integrate come from the scarcity of expertise on obsolete technologies. In 2023, it is estimated that the integration services market is worth around USD 483.00 billion, and will increase to USD 665.60 billion by 2028. This is an expansion that signals higher levels of opportunity for modernizing legacy systems and overcoming integration problems.

There are three main approaches in making a legacy system integrable: through service layers, data access layers, and APIs. Data is transformed from legacy applications to service layers prior to being delivered to modern systems. The data access layers create new database architectures to assist transfer of data in transforming a database or databases to another piece of application code, and APIs to give flexibility for future service integration.

Because iPaaS Integration Platform as a Service solutions require little or no coding, they can be

implemented in hours, faster than most other tools or products. This allows the legacy programming languages, data formats to be seamlessly transformed into modern-compatible forms using these platforms. Communication between applications is efficient via APIs with only necessary data shared and applications integrated into a single system through hundreds of apps.

Success in integration brings with it benefits beyond the technical. Automated data transfer reports help organizations with faster operational efficiency with less manual entry errors. Additionally, it enables teams to leverage existing reports and intelligence while speeding up deployment of new technologies faster than would otherwise be able to be accomplished through complete system modernization.

Documentation in the course of the an organization's work is crucial to ensure integration. Future maintenance and updates are helped during this process as these documentation becomes essential for future maintenance, and teams can easily understand the system interaction or issue and fix it. In addition to this, the regular security assessment secures the network from the created vulnerabilities during integration, and this ensures the protection of data integrity from first one to the next system in the integrated network.

4.2 Closing the Implementation Gap: From Data Collection to Quality Action

It still remains a persistent challenge to transform raw data into meaningful quality improvements as studies have shown that 84% of organizations lack the ability to convert data driven insights into practices. Systemic barriers are the main reason of this gap between data collection and practical implementation.

4.3 Why Insights Often Fail to Translate into Quality Improvements

Thus, research evidence and its implementation in practice remains unrealized in various regions of the globe. The web of implementation challenges is complex as organizations generally face challenges from both researchers and practitioners. However, much of the research fails to effectively implement itself due to time constraints imposed by barriers such as the lack of a practitioner's skills or resources required to implement research outcomes.

The outright contradiction comes from the fact that one key factor here is the separation between the place where research evidence has been developed and where it must be put in practice. This leads to substantial disconnect that creates a huge barrier to actually apply the quality improvements. Organisations often suffer from

competing pressures as introductory commitments and publishing on practical problem solving absorbs virtually all involvement.

Yet another obstacle is the language barrier between researchers and practitioners. While research findings are certainly valuable, they can be difficult to access due to the use of complex terminology and academic jargon. The gap in this communication is what jeopardizes the practical use of insights even after the underlying data is found to be valuable.

5. Actionable Workflows from Data Analysis

To successfully implement data driven decisions there needs to be a structure around the workflow creation. Organizations that are strong with respect to the flow of data – the data that flows through an organization – are far more likely to take raw information and turn it into actionable improvement. These workflows not only give structure for data management strategies so they are consistent and reliable, but also provide essential structure for decisions in quality related matters.

However, good data workflows include automated quality checks to ensure integrity of the data. For example, automated production data flagging processes guarantee data of good quality to help in making forecasting and quality management decisions. This approach systematically pinpoints any issues before they can devalue the product quality.

How successfully implementation is implemented often hinges on the relationships between researchers and practitioners. These studies show that increasing the connectivity between these groups increases researchers' access to research evidence. By embedding research models, teams can achieve better link to the implementation gap through researchers working within organizations, while retaining academic affiliations.

For successful implementation building mutually beneficial relationship is very important. Such support systems need to be in place for this to happen as this requires constant contact amongst stakeholders, practitioners, and researchers. Continuing that collaboration ensures insights translate into actualization well.

Therefore, organizations need to simplify complex ideas into clear and understandable language without any ambiguity. By clarifying the insights to particular audience and using well designed visuals, such things can be understood and acted upon by the teams based on data driven recommendation. Real-time exploration of the data is made possible by interactive dashboards that allow stakeholders to focus on metrics that matter the most in our quality improvement goals.

This means that the process to implement should be evaluated and refined continuously. Teams should regularly assess their processes to be better accurate and fast enough for current business demands and new tools that appear. Organizations can be successful through programmatic implementation to achieve the integrated changes into standard operating procedures as opposed to just being isolated interventions.

5.1 Real-Time Quality Monitoring: Promises and Pitfalls

In modern quality management, real time monitoring becomes a vital system for obtaining real time information with respect to system health and performance. With organizations moving towards data driven decision making, continuous monitoring systems have both opportunities and large challenges in implementing.

The Challenges of Implementing Continuous Data Monitoring

The required hardware and software for real time data processing are extremely complex and cost expensive. With the financial implications being worse than estimated, smaller businesses, with acquisition and maintenance expenses often being a struggle, are the ones that organizations often underestimate.

There is a need to focus on prioritization of tasks in continuous monitoring environments. Given that multiple tasks compete for system attention, quality teams are pressurised to make efficient resource management and allocating processing power. In manufacturing settings where even slight variations in process conditions can influence the integrity of the product, this challenge becomes more extreme.

Real time monitoring implementations are substantially risky due to data privacy and security concerns. Without the knowledge of controls for data quality, non-tech professionals using low code and no code data analysis tools tend to produce inconsistent results. In addition, sharing data with these teams can expose sensitive data or break regulations unintentionally.

Real time systems become complex demands a lot of expertise in setup as well as maintenance. In critical industries like healthcare, even a minor inaccuracy can have devastating effects, and therefore a quality team must maintain a fine balance between speed and accuracy. These also cannot perform complex calculations such as data averaging for transactions.

5.2 Maintaining Responsiveness and Stability in Quality Control

The fundamental challenge with maintaining equilibrium between stability and flexibility in

quality management is that the two are antithetical. Flexibility means your organization can stay innovative and resilient in the future, while instability guarantees consistency and reliability in your present and future operations. Major process variations are key factors that inhibit contamination of the product in the environments such as biopharmaceutical production, where even minor process variations can have major impact on product quality.

Real time monitoring tools must be nondestructive and noninvasive, with the ability to give quick, all encompassing information. Organizations will be able to run processes with consistent quality standards and reduce risks from batch failures by drawing on continuous monitoring of critical variables. However, teams still tend to miss opportunities for long term trends in the focus on instant insight.

More and more organizations have resorted to hybrid reactions to tackle these challenges. Combined with batch processing for non time sensitive tasks and real time processing for vital operations, the monitoring strategy can be optimized by quality teams. It allows rapid pattern detection with system stability.

Notably, implementation of APC through real time monitoring has significantly improved the capability of fault detection. Immediate data acquisition differs from periodic sampling based methods, which can quickly make the necessary corrections to keep processes in specified parameters. The most useful application of this rapid response capability has been in reducing downtime and costs due to nonconforming products.

Ultimately, the data quality control process needs to be robust in order to achieve effective real time monitoring. Organisations need to provide systemised approaches to identify and rectify data quality issues as needed. By improving the data quality continuously, the quality team can better handle the dimensions of real time monitoring and deliver proper results.

6. How to Build a Quality Culture that Works for You

Over half of the organizations are finding it difficult to manage an effective data driven culture. To build such a culture, fundamental changes are needed in how teams work with quality management and decision making process.

6.1 Leadership Approaches to Data Driven Decision Making

Strategic data initiatives demand the involvement of organizational leaders who have to actively participate in creating a robust data driven culture

in their organizations. Leaders make it transparent about the organisation's data needs and interact with data solutions, thus laying the ground for cultural change. Resource allocation and active involvement in data driven projects from the top leaders give a ripple effect in the organization. It starts with creating value through strategic insights, and it's rather successful data driven leadership. If your organization uses this data focus, it is 58% more likely to exceed revenue targets than those without data focus. By analysing historical data, economic indicators and patterns of consumer behavior, the leader can proactively adapt strategies and respond swiftly to the changes of the market.

6.2 Training Strategies for Quality Teams

Data literacy becomes the bridge for quality teams to be able to properly interpret and harness the data insights. Two out of three executives say that the main challenge to making their businesses data-driven is organizational culture change. Structured learning paths from data concepts to advanced analytics for successful implementation exist.

Intuitive tools (i.e. tools with drag and drop interfaces) are provided by organizations that help nontechnical staff to analyze data without learning programming. Self service platforms make data democratized, allowing members of different departments to explore insights on their own. Dedicated mentors, internal knowledge bases and regular Q&A sessions are networking to keep product engineers updated with their skills continuously.

6.3 Support of Quality Improvement Incentive Structures

Motives for recognizing and rewarding achievements while inspiring organization-wide data driven innovation. Financial incentivization, however well structured, will not improve quality process engagement. For instance, one healthcare institution had a big success when a performance based reward system was implemented, whereby the division would get full funding disbursement once the divisions reached an average compliance 75% and above.

Behavioral economics principles should determine the effectiveness of incentive structures. Reallocating some regular funding to rewards puts them more in the spotlight. Further, successful implementation of hospital and departmental quality improvement efforts depends on aligning hospital and departmental missions.

Breaking down the traditional silos requires the use of cross functional teams including data specialists. These agile teams of analytical people with domain knowledge allow them to improve

rapidly in response to changing business needs. They maintain improvement of quality initiatives through iterative processes and short development cycles.

Going from data driven to a data driven culture is more like a marathon than a sprint. To succeed, you must enable the ownership of both data that can be accessed and used effectively. In the ability to engage in collaborative conversations guided by data in meaningful ways, organizations can help teams to become more data literate, enabling better quality improvements.

7. CONCLUSION

Although quality management has the potential to be significantly improved by data-driven decision making, organizations continue to struggle to realize this promise. The root of all problems continues to be poor data quality, departmental silos, and misaligned metrics, costing businesses millions a year. Strategically, quality teams should bridge the gap between collecting data and practical application. Robust data governance in successful organizations goes hand in hand with human expertise, which appreciates that technology facilitates, rather than replaces, professional judgment. With this, you are breaking down information barriers, implementing meaning metrics and promoting data literacy, which become the key steps to effective quality management. If we can take the time to listen to our data and our practical experience, then cultivating a culture in which we embrace both data driven insights and practical experience will be the key to a future in quality management. Proper training, the adoption of the right technology solutions, and maintaining open communication channels put an organization in the best position though. Choices for quality improvement include balanced approaches that recognize the strength of both analytical capabilities and human expertise in sustainable systems, which produce measurable results.

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