



Complaint and failure management

Key insights from a cross-industry study



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Preface

To stay competitive in a fast-developing, digital and connected world, companies must design and deliver high-quality products that provide customers with significant value.

To reach these goals, companies need an effective and efficient Complaint and Failure Management (CFM) strategy and process.

CFM encompasses all the technical efforts that companies make to resolve the complaints and critiques they receive by fixing the underlying product issues. CFM generally aims to identify failures, clarify their root causes and find long-term solutions to prevent their reoccurrence during the product life cycle.

This report takes a detailed look at how companies apply CFM and how changes in the market environment are impacting CFM practices. Produced through a joint research initiative between McKinsey & Company and the Laboratory for Machine Tools and Production Engineering (WZL) at RWTH Aachen University, the report is based on data provided by 78 companies across various industries and regions of the globe.

Our research shows that companies have a strong, growing interest in CFM and the opportunities it creates to drive business value through product improvement and understanding the voice of the customer.

The report covers CFM in several dimensions including process objectives, performance measurement, management attention, and data orientation. We also assess the most relevant trends that will impact CFM in the future.

Best regards,

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In brief

CFM is a **top priority topic**: 81.7% of middle managers spend more than 30 minutes per week in CFM meetings, while 26.8% spend more than 90 minutes.

CFM holds great potential to stimulate **knowledge transfer** to similar or future projects. Today, most companies lack the mindset, processes, or IT support to implement such knowledge transfer. Only 47.4% of IT systems support advanced functions dedicated to CFM purposes.

Most participating companies **lack high-quality CFM data**. Only 32% of respondents said their data provides full transparency on the CFM process.

A majority of participating companies have room to improve **performance measurement** of the CFM process. Less than half (42.3%) of participants across industries have goal-oriented KPIs. Nearly two-thirds (62.3%) of respondents say they measure CFM KPIs on a monthly basis.

Participants predominantly use traditional sources such as written customer feedback (92.2%) or phone calls (87%) to obtain failure data. They rarely employ **more advanced data sources** such as social media (28.6%) or independent service providers (15.6%).

Less than half (41.2%) of participants say their CFM processes are prepared to handle **increasingly informed customers**, and fewer than one-quarter (24.6%) say their CFM programs are fully equipped to get the most **value from big data**.

CFM reference process –
Maturity levels by process
phase

Complaint and Failure Management (CFM) encompasses all efforts to solve product failures and non-conformities that lead to customer complaints or dissatisfaction indicated by external field data. Accordingly, CFM aims to quickly identify external failures, immediately clarify the root causes of those failures and find lasting ways to prevent their reoccurrence. The CFM process flow has three main phases:

DATA COLLECTION AND ORGANIZATION

CFM input variables consist of quality-relevant data from the field. CFM practitioners record and store failure data, then prepare and forward consolidated reports on these failures to decision makers. In order to record, structure, and process data appropriately, CFM relies on IT-based workflow management systems and accurate failure coding. The failure coding gives companies a language so they can identify and classify failures without ambiguity.

FAILURE VALUATION AND ELIMINATION

In this phase, companies search for causes behind the failures that have been identified and work to develop effective solutions. During failure valuation, they do a pre-analysis of the failures, and prioritize them by relevance and importance to guide further decision making. During failure elimination, companies describe the problems they are facing, analyze the causes of those problems and define measures to eliminate the failures. To support rapid-fire CFM decision making and promote efficiency, companies must have a strong infrastructure that includes operational processes, organizational structure, robust IT capabilities, and an effective performance management system.

EFFECTIVENESS REVIEW AND KNOWLEDGE TRANSFER

In this phase, companies implement the measures they have developed to improve the Quality Forward Chain (i.e., the development of future products). Companies can use the measures and knowledge they obtain through CFM to achieve both short-term improvements in current products and prevent similar issues over the long-term in future products. Tracking CFM results and learnings in a knowledge management system is useful for trend tracking and pattern recognition purposes. In the event that similar failures occur in the future, the knowledge stored in such a system can jumpstart problem solving and save companies the time and effort of reinventing the wheel.

Exhibit 1

Steps in Complaint and Failure Management (CFM) process.



Maturity levels by process phase

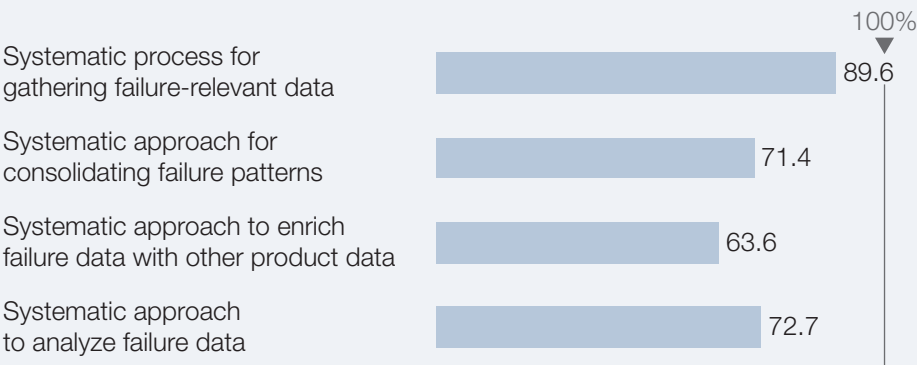
DATA COLLECTION AND ORGANIZATION

Across industries, participants demonstrate **high maturity** in collecting and organizing failure data, although a significant minority of companies do not systematically enrich failure data with other product data.

Exhibit 2

Maturity of process phase data collection and organization.

The maturity scores shown here are derived by combining the share of participants across industries who ‘thoroughly agree’ or ‘agree somewhat’ with each statement about their company. (n=74)



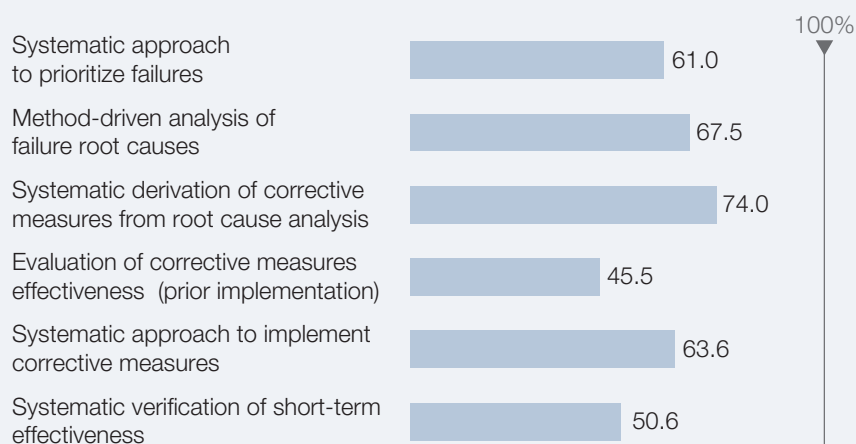
FAILURE VALUATION AND ELIMINATION

Our respondents collectively **show higher mid-range performance** on this phase. We do see potential for many companies across industries to do a better job in systematically evaluating and verifying the effectiveness of measures taken to correct failures.

Exhibit 3

Maturity of process phase failure valuation and elimination.

The maturity scores shown here are derived by combining the share of participants across industries who 'thoroughly agree' or 'agree somewhat' with each statement about their company. (n=74)



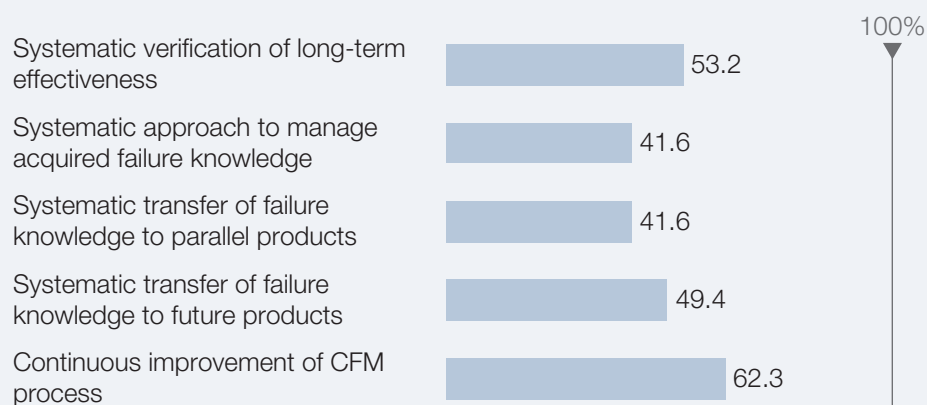
EFFECTIVENESS REVIEW AND KNOWLEDGE TRANSFER

Respondents show only **lower mid-range performance** at this stage of CFM. We see high potential for companies to improve the way they manage and transfer knowledge of failures and complaints.

Exhibit 4

Maturity of process phase Effectiveness review and knowledge transfer.

The maturity scores shown here are derived by combining the share of participants across industries who 'thoroughly agree' or 'agree somewhat' with each statement about their company. (n=74)





Key insights

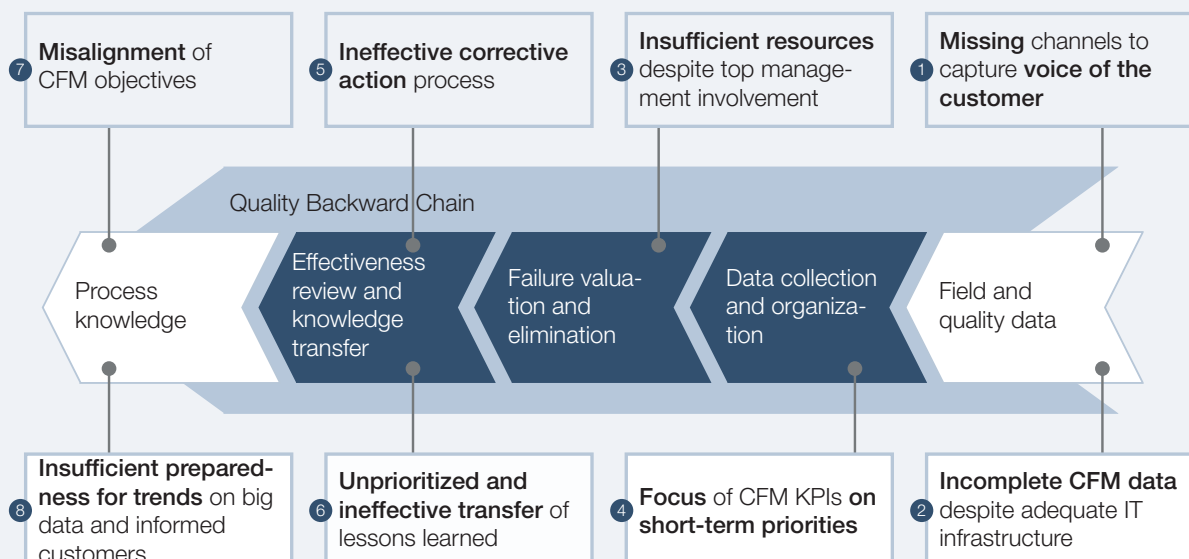
Complaint and Failure Management (CFM) plays a central role in helping companies satisfy customers, improve product quality, and reduce costs.

We have identified eight major pitfalls in current practices that companies must address in order to improve their CFM performance:

- Missing channels to capture voice of the customer
- Incomplete CFM data despite adequate IT Infrastructure
- Insufficient resources despite top management involvement
- Focus of CFM KPIs on short-term priorities
- Ineffective corrective action process
- Unprioritized and ineffective transfer of lessons learned
- Misalignment of CFM objectives
- Insufficient preparedness for trends on big data and more informed customers

Exhibit 5

Eight major pitfalls in current CFM practices.



1 Missing channels to capture voice of customer

Companies across all industries predominantly still use traditional sources such as written customer feedback or phone calls to obtain failure data. They rarely use more advanced sources such as social media or independent service providers.

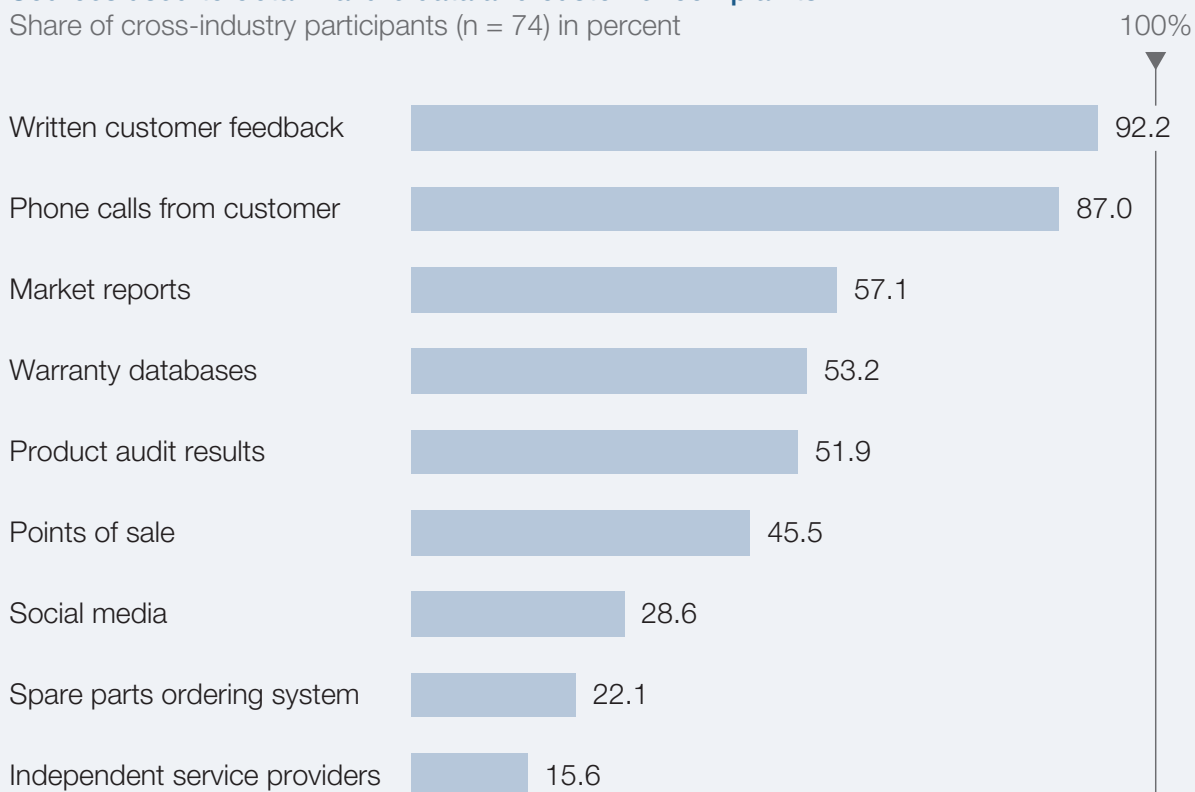
To keep pace with competitors and satisfy increasing customer demand for individualized products and services, companies must listen to and understand ‘the voice of the customer’.

Customers are more likely to reveal their honest opinions about products and services within the context of freewheeling social media platforms, forums, and blogs. As such, social media provides a valuable and growing source of data that companies can mine to obtain precise knowledge about customer requirements, which in turn will help them to develop solutions that satisfy customers and meet their needs.

Exhibit 6

Sources used to obtain failure data and customer complaints.¹

Share of cross-industry participants (n = 74) in percent



1 »We systematically derive corrective measures from our root cause analysis«

2 Incomplete CFM data despite adequate IT infrastructure

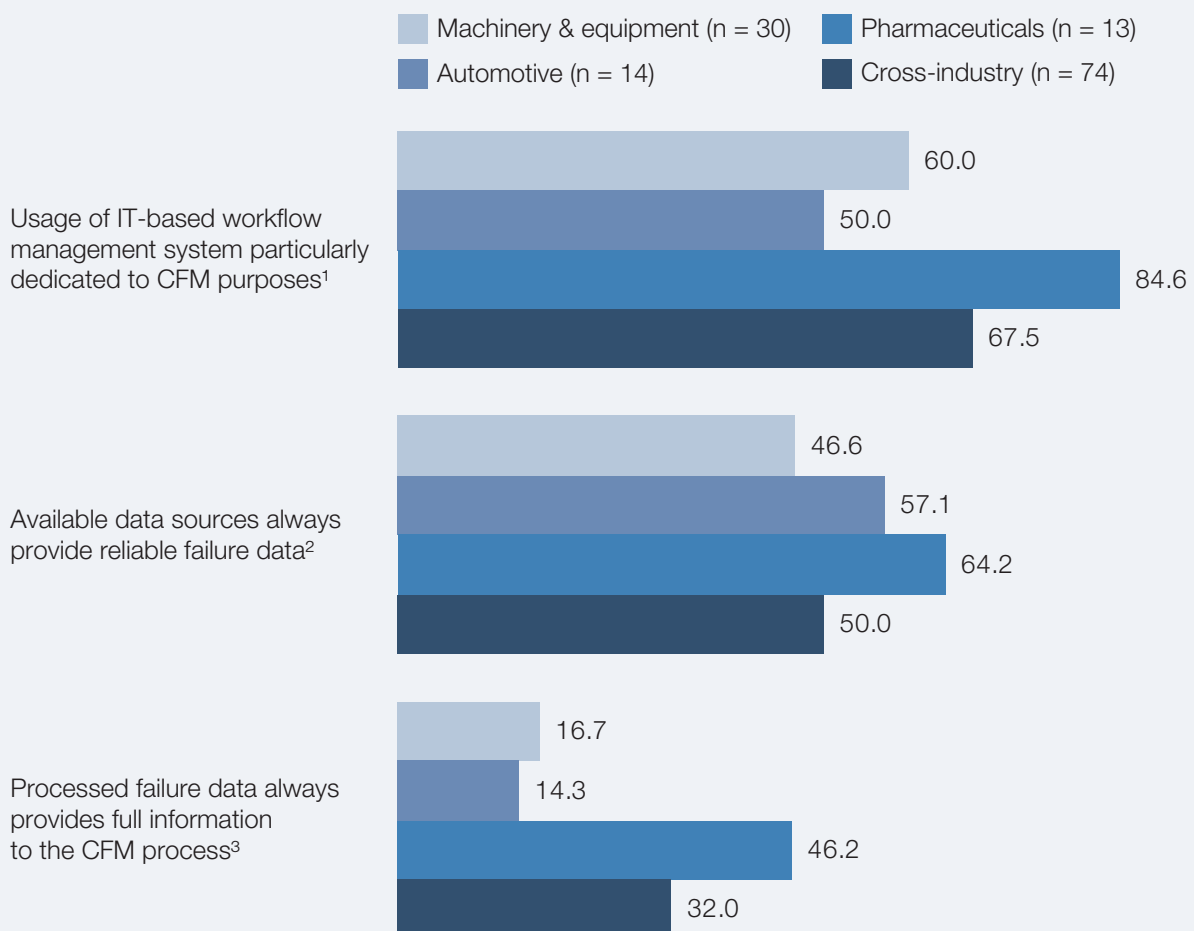
Across all industries, a large majority (67.5%) of companies have an appropriate IT infrastructure to support their CFM processes. Yet much smaller percentages of respondents report that the data entering their CFM processes is always reliable (50%) or comprehensive (32%).

Companies need to do a much better job of dependably generating the reliable and complete failure data that CFM processes need to produce good results.

Exhibit 7

Handling and quality of data processed in the CFM process.

Share of agreement among participants in percent



- 1 »We have an IT-based workflow management system particularly dedicated to CFM purposes.«
- 2 »Our available data sources always provide reliable failure data.«
- 3 »The processed failure data always provides full information to the CFM process.«

3 Insufficient resources despite top management involvement

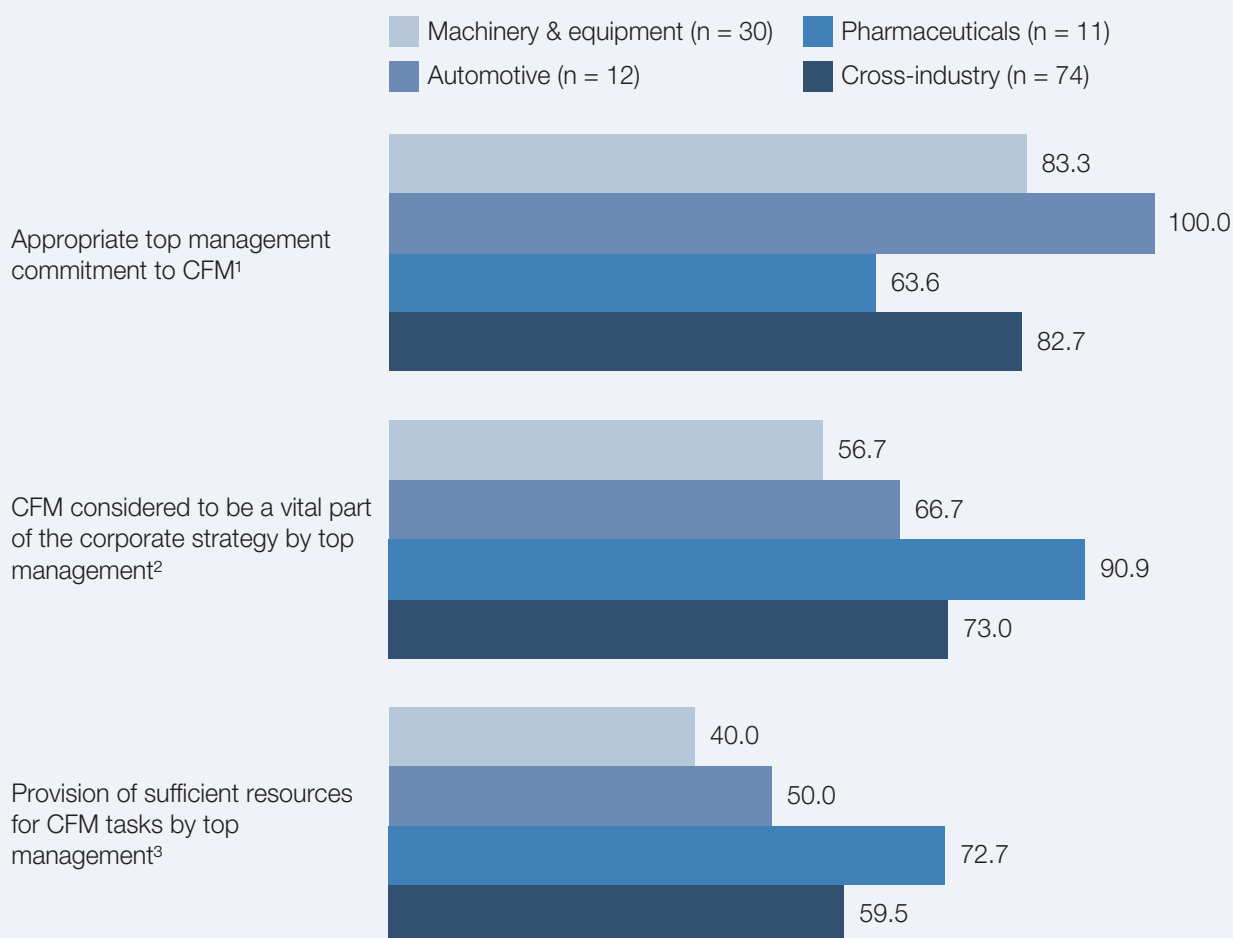
Most survey participants agree that top management is highly committed to CFM, but there is more variance on the question of whether senior management considers CFM to be a strategic priority. Across industries, 27% of respondents report that their top management does not treat CFM as a vital strategic priority, while more than 40% state that their leadership fails to provide sufficient resources for CFM tasks.

This data shows that many companies need to do a better job of aligning resource allocation for CFM with the stated commitments from management.

Exhibit 8

Top management support for governing the CFM process.

Share of agreement among participants in percent



1 »Top management commitment to CFM is appropriate.«

2 »Top management considers CFM to be a vital part of our corporate strategy.«

3 »Top management provides sufficient resources for CFM tasks.«

4 Focus of CFM KPIs on the short-term

Most companies focus on measuring those CFM KPIs that relate to operational and monetary factors such as process throughput times, costs, and failure rates.

Respondents claim that protecting customer satisfaction is a top CFM priority (see page 18), but only the automotive industry reliably collects customer satisfaction data as part of its CFM process.

Many companies could improve the way they measure CFM performance by tracking a broad, multi-dimensional range of CFM KPIs.

Exhibit 9

Used KPIs to for process controlling.¹

Showing percentage of agreement among participants based on answers »thoroughly agree« and »agree somewhat«; cross-industry



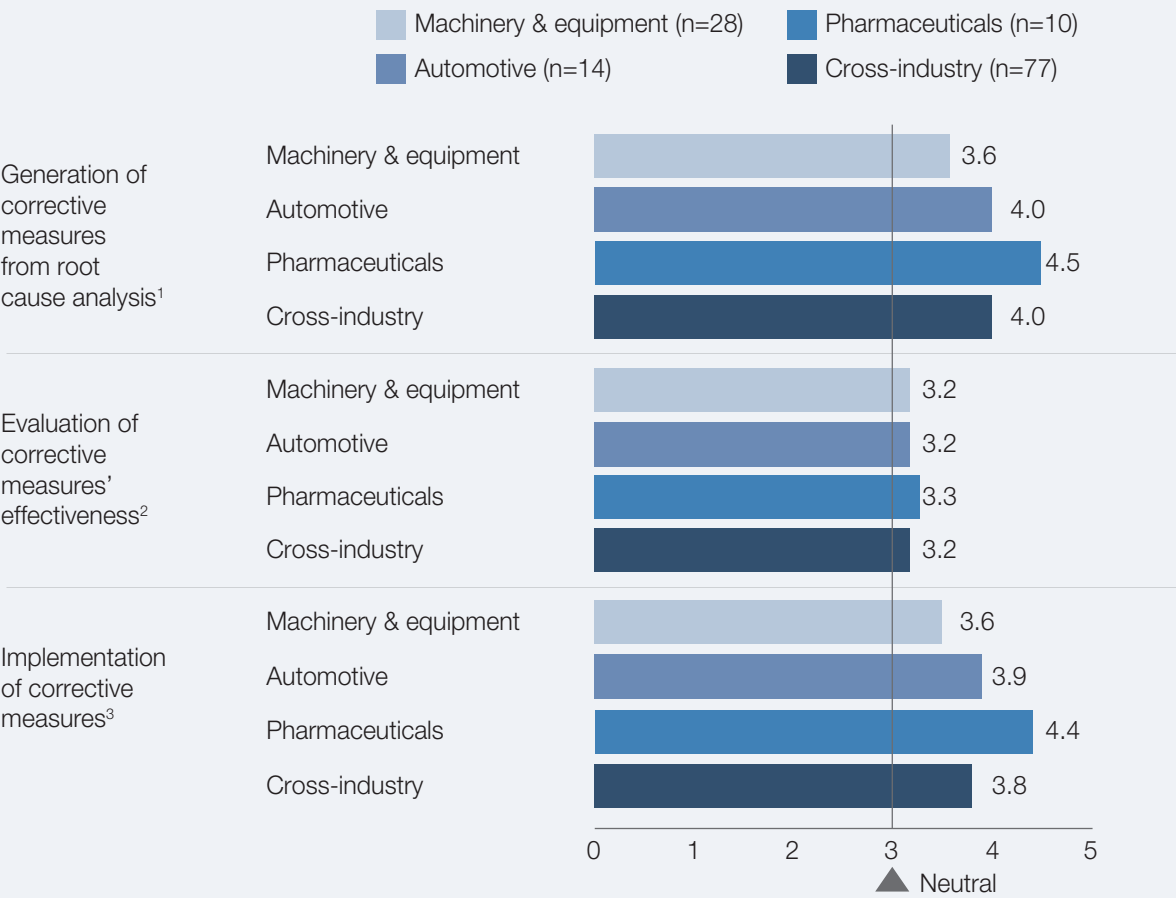
1 »Which of the given global CFM KPIs are measured in your company? (Select all that apply).«

5 Ineffective corrective action process

Many respondents perceive corrective CFM measures as being ineffective. We believe that companies across industries – even those that generally have high maturity regarding failure valuation and elimination – could benefit from taking a more systematic approach to evaluating corrective CFM measures prior to implementation.

Such a systematic approach will help companies to do a better job of resolving the root causes of complaints and failures, reducing the odds that they might need to re-open and repeat CFM processes to deal with the same unresolved failure later on.

Exhibit 10
Effectiveness of corrective measure processes by industry segment.
 Shown on a 5-point Likert scale, where 1 is »thoroughly disagree« and 5 is »thoroughly agree«



1 »We systematically derive corrective measures from our root cause analysis.«
2 »We have a defined approach to evaluate the effectiveness of potential corrective measures prior to their implementation.«
3 »The implementation of corrective measures follows a systematic approach of how to implement orrective actions.«

6 Unprioritized and ineffective transfer of lessons learned

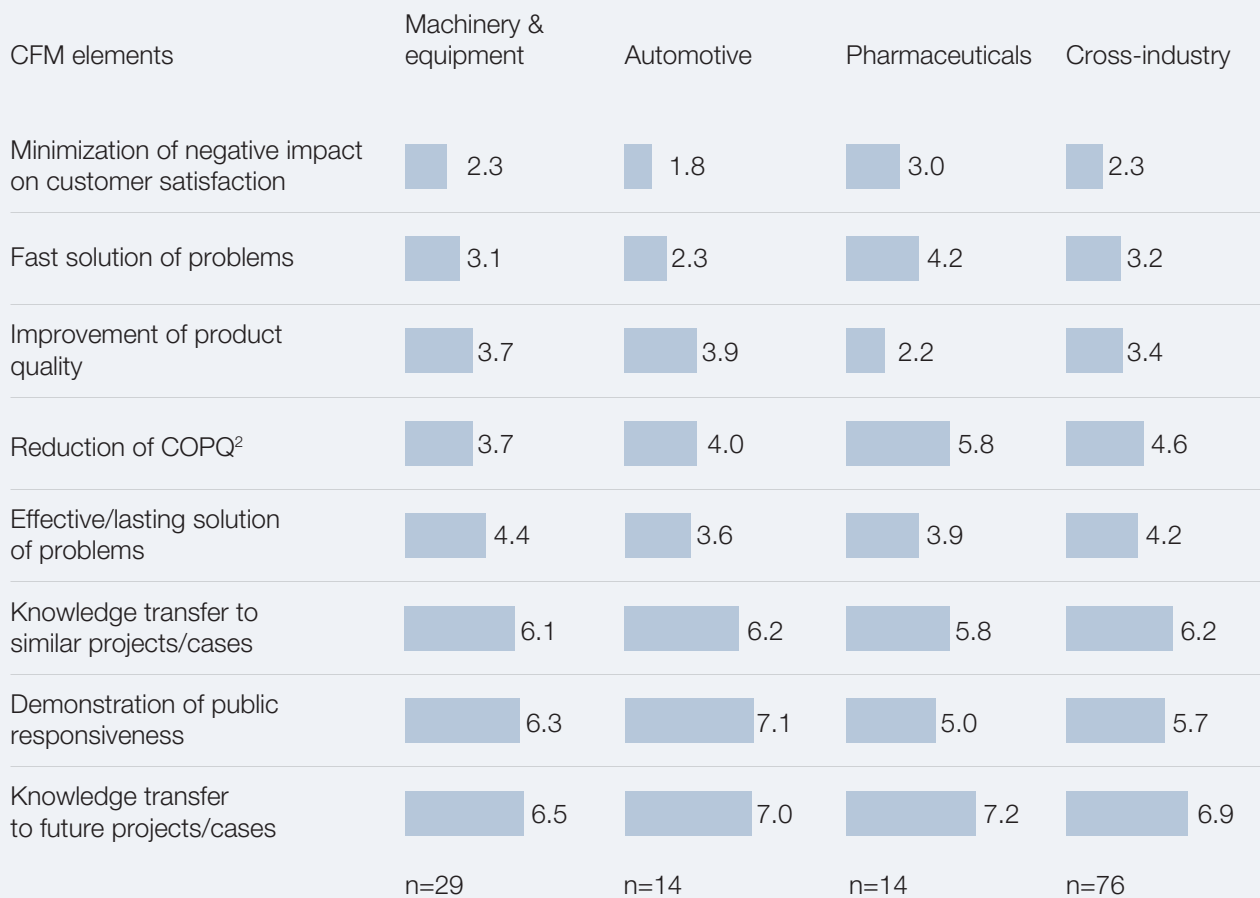
Although respondents say that improving product quality is a high priority, they also admit that their companies place little value on closing the feedback loop with knowledge transfer.

Companies can only achieve the full benefits of CFM if they capture higher quality data (see page 17), transform that data into knowledge, and then use that knowledge to improve business processes in ways that reduce the risk of future failures and complaints.

Exhibit 11

Priority ranking of CFM.¹

Showing the results of forced rank of CFM elements from 1-9 where 1=top priority and 9=last priority



1 »Please rank the following process objectives according to their actual priority in your company.«

2 »COPQ: costs of poor quality.«

7 Misalignment of CFM objectives

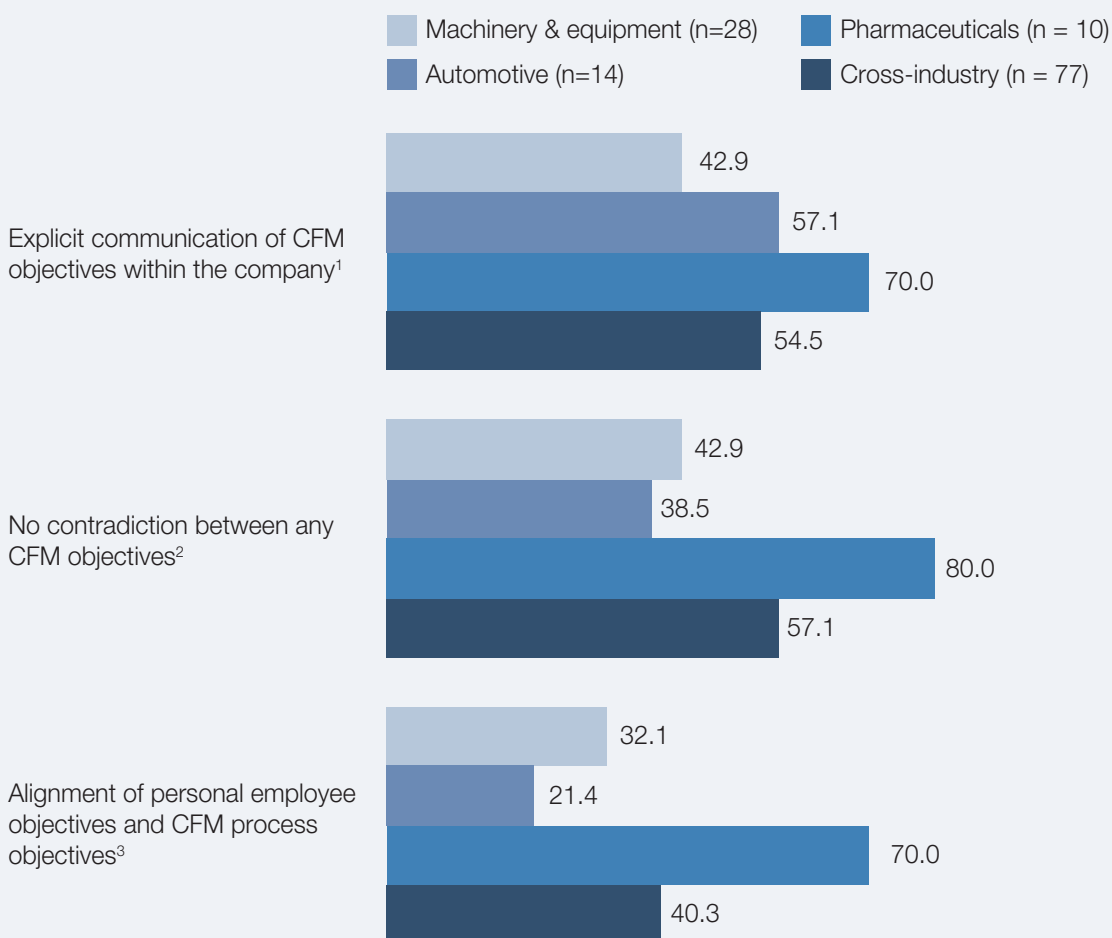
Many companies do not have clear internal communications around CFM objectives. As a result, multiple CFM objectives may conflict with one another or with larger corporate strategic goals. This can lead to situations where optimization of local CFM processes still may not help companies improve their overall CFM performance.

In addition, the objectives of individual employees are often not aligned with CFM process goals. Only 32.1% of machinery & equipment companies and just 21.4% of automotive companies report having such alignment.

Exhibit 12

Top management support for governing the CFM process.

Showing percentage of agreement among participants



1 »Our CFM process objectives are not communicated explicitly within the company.«

2 »Our CFM process objectives do not contradict each other.«

3 »The personal objectives of our employees are aligned with the objectives of the CFM process.«

8 Insufficient preparedness for trends on big data and informed customers

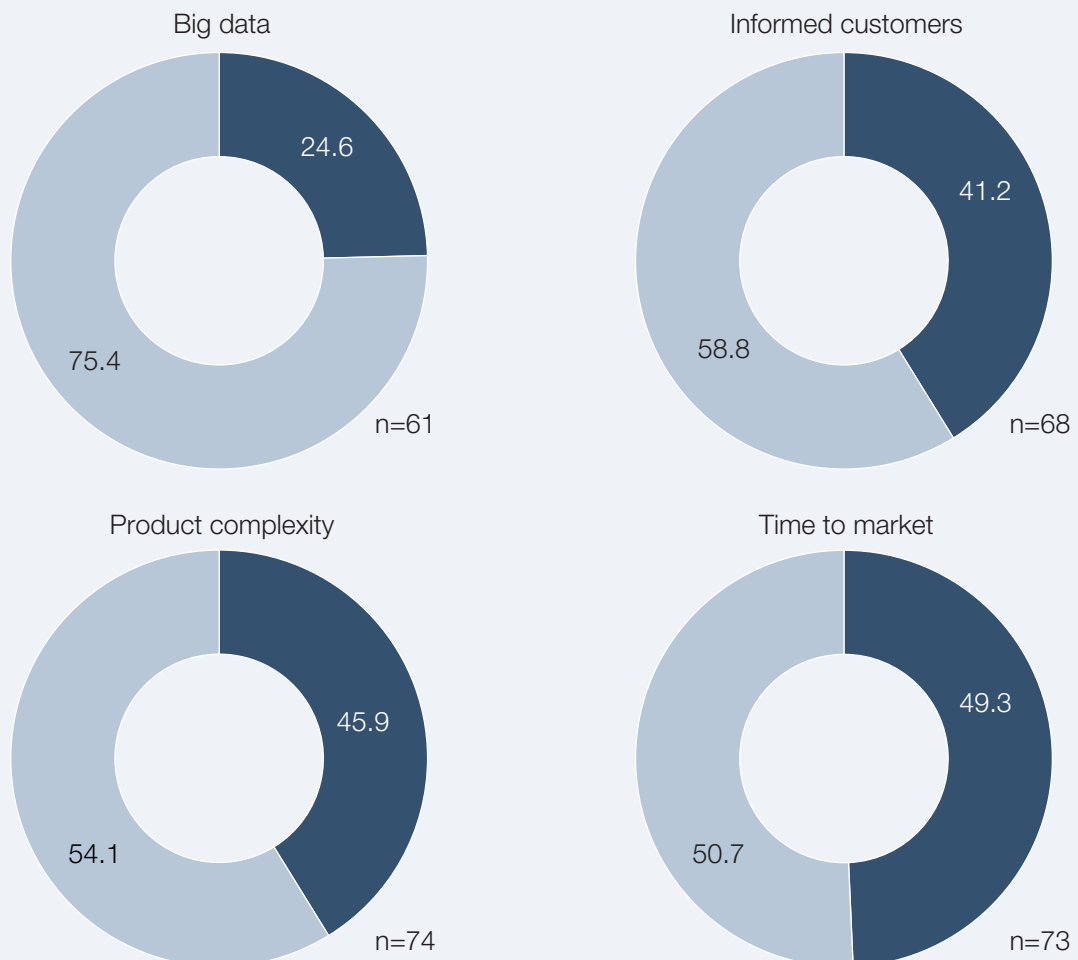
To ensure that their CFM processes meet future requirements, companies should take immediate steps to prepare themselves for industry shifts.

At the moment, less than half (41.2%) of respondents say their CFM processes are prepared to handle increasingly informed customers, and fewer than one-quarter (24.6%) say their CFM programs are fully equipped to get the most value from big data.

Exhibit 13

Preparedness of industry trends.¹

Showing percentage of agreement among participants based on answers »thoroughly agree« and »agree somewhat«; cross-industry



1

»Our company has decisively taken all measures to address this trend in CFM context.«

Conclusions



What can companies do to address these eight pitfalls? First, they should add customer-focused channels to their data sources and listen to them carefully. For example, they can conduct sentiment analyses on social media platforms such as large networks, specialist forums and blogs. In addition, they can increase their attention to internal and external customer surveys; both score-based results such as NPS and verbatim text provide valuable insights into the voice of the customer.

Second, they can review the completeness and correctness of their data sources such as complaints, warranty repairs and spare parts consumption. This should also include a review of the workflow and governance that leads from data analysis to failure valuation and decision making.

Third, companies need to review the CFM staffing process and “rules of the game” for allocating resources to failure elimination. A standard prioritization methodology and aligned capacity model per failure type will facilitate selecting the right failures and staffing them appropriately with the required technical experts.

Fourth, we see a need to find a better balance between short-term and mid-term CFM KPIs. Operational and monetary factors such as throughput times, failure rates, and costs are important, but need to be complemented with KPIs on effectiveness and sustainability such as customer satisfaction impact and reopening rates.

Fifth, companies will benefit from making the corrective action process more effective through transfer of lessons learned. Best-practice companies systematically embed lessons learned from previous failures into preventive mechanisms such as risk management with FMEAs, design and testing guidelines, standard work, and control plans.

Sixth, we have seen significant benefits from aligning objectives and incentives on CFM across all functions. Reducing costs of poor quality (e.g., warranty costs) and increasing customer satisfaction should be dear to the heart of every function, not just quality.

Last, companies should quickly build their capabilities on applying advanced analytics to big data sets in CFM. Best-practice companies continuously search all data sources for early-rising failures and trigger automatic warning lights for the CFM organization. They also use product lifecycle data from sourcing, production and service to conduct automated root cause analysis.

Peer group characteristics



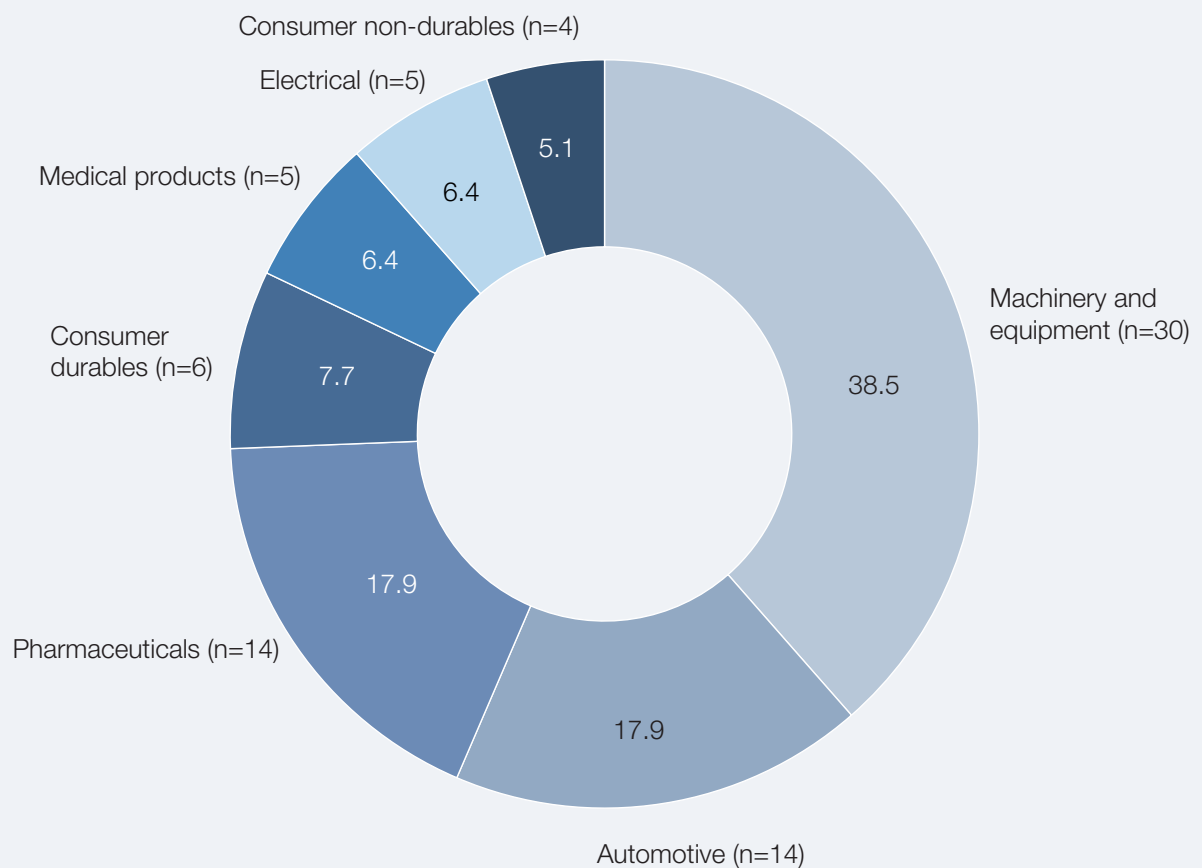
The 78 participants in this benchmarking study represent a wide range of industries, with especially significant representation in machinery and equipment, automotive, and pharmaceuticals industries.

This diverse set of participants provided valuable insights into the current state of complaint and failure management across various industries.

Exhibit 14

Industry of benchmarking participants.

Shown in percentage

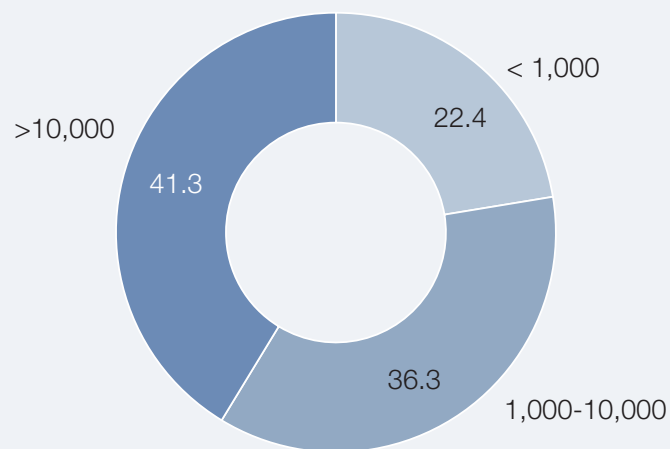


Participants represent employers of all sizes, from global corporations to much smaller companies. Over 40% of participants work for large corporations with more than 10,000 employees.

Exhibit 15

Participating companies by number of employees.

Shown in percentage

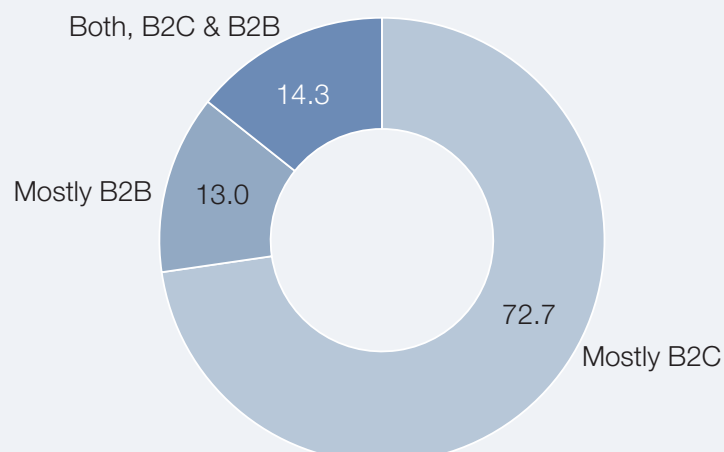


Representatives of B2C (business-to-consumer) companies far outnumber those who work at B2B (business-to-business) firms. Few participants described their companies as being both B2B and B2C.

Exhibit 16

Participating companies by number of employees.

Shown in percentage



About us



LABORATORY FOR MACHINE TOOLS AND PRODUCTION ENGINEERING (WZL)

For many decades, the **Laboratory for Machine Tools and Production Engineering (WZL)** of RWTH Aachen University has enjoyed a strong global reputation for research and innovation in production engineering. WZL's research across six different work areas covers a broad spectrum from fundamental theories to practical and industrial applications.

WZL's **Organizational Development** department helps organizations prepare for future challenges by applying an entrepreneurial mindset and systematically identifying areas where they can take action and implement change initiatives. WZL understands organizations are complex sociotechnical systems that require an interdisciplinary approach to achieve sustainable performance. Accordingly, WZL focuses on harmonizing three perspectives: customer, management, and operational.

The WZL team consists of industrial engineers, economists, and psychologists. These specialists join forces to solve academic and practical problems related to technological, demographic, and social change.

MCKINSEY & COMPANY, INC.

McKinsey & Company is a Global Management Consulting Firm with 100+ offices across 60+ countries around the world.

McKinsey's **Operations Practice** was founded in 1997 to assist clients in solving complex strategic and operational problems from diagnosis to hands-on implementation and capability building. Since then, the practice has grown and evolved to become the world's preeminent operations consultancy. The practice combines practical, global operations expertise with the comprehensive business understanding that underpins all McKinsey disciplines. It works across a wide range of industrial, service, and institutional segments in functional areas that include procurement, product development, supply chain, manufacturing, quality, service operations, and large-scale capital projects.

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