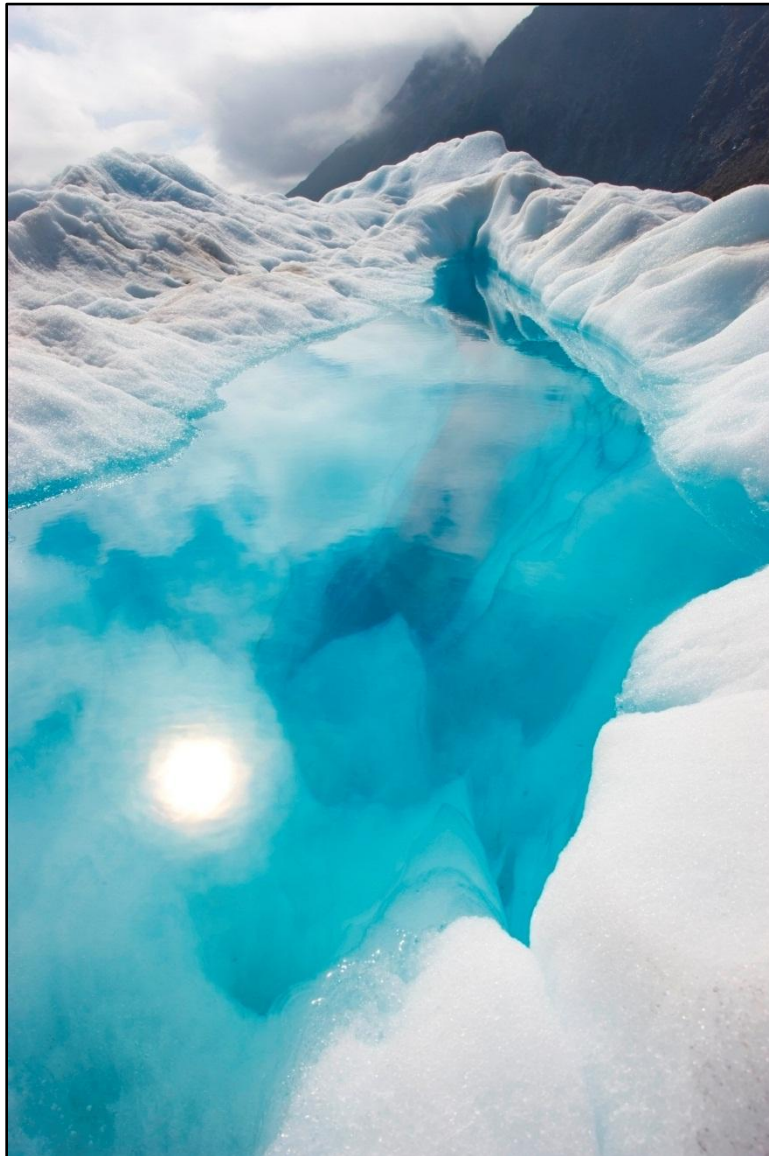




Writing a Report on Business Analytics

Alex Greenslade | Business Analytics | May 26

Contents

Table Of Figures.....	2
Executive Summary	4
1. Introduction.....	5
2. Scenario 1 – Advanced Decision-Making Analysis.....	6
2.1 Rational Decision-Making Model	6
2.2 Bounded Rationality	8
2.3 Multi-Criteria Decision Analysis (MCDA).....	9
2.4 Business Analytics	10
3. Scenario 2 – Organisational Culture and Change Intervention	12
3.1 PESTLE	12
3.2 Schein’s Three-Level Model of Organisational Culture	13
3.3 Hofstede’s Cultural Dimensions.....	15
3.4 Cultural Elements Requiring Transformation.....	16
3.4.1 Hierarchical Structure	16
3.4.2 Resistance to Change.....	16
3.5 Strategic Tools for Cultural Change	17
3.5.1 Kotter’s 8 Step-Change Model.....	17
3.5.2 Lewin’s Model.....	18
3.5.3 Socio-Technical Systems Theory	19
3.8 Barriers to Cultural Transformation	19
3.8.1 Ethical Considerations	20
3.9 Summary of Tata Steel’s Culture	20
4. Scenario 3 – Team Effectiveness & Development	21
4.1 Theoretical Frameworks	21
4.1.1 Hackman’s Model of Team Effectiveness.....	21
4.1.2 Tuckman’s Stages of Group Development	22
4.1.3 Lencioni’s Five Dysfunctions.....	23
4.2 Characteristics of High-Performing Teams	24
4.2.1 Psychological Safety.....	24

4.2.1 Edmondson's Psychological Safety Theory	24
4.2.3 Role Clarity	25
4.2.4 Belbin's Team Roles Theory	26
4.2.5 Team Agreements.....	27
4.3 Summary of Team Effectiveness.....	28
5. Scenario 4 – Performance Measurement & Control Systems	29
5.1 Key Performance Indicators (KPI's)	29
5.2 Kaplan & Norton's Balanced Scorecard.....	30
5.3 Analytics Dashboards	31
5.4 Theoretical Frameworks	32
5.4.1 Drucker's Management by Objectives Theory.....	32
5.4.2 Goodhart's Law	33
5.4.3 Goal-Setting Theory	34
5.4.4 Cybernetic Control Theory.....	35
5.4.5 Simons' Levers of Control Framework	36
5.5 Ethical Considerations	37
5.6 Summary of Performance Measurement & Control Systems	37
6. Conclusion.....	38
References.....	39

Table Of Figures

Figure 1 - Rational Decision-Making Model (Anna, 2024)	6
Figure 3 - Status Quo Bias (Pilat, Dan; Krastev, Sekoul, 2021)	7
Figure 2 - Confirmation Bias (Pilat & Krastev, 2021)	7
Figure 4 - Bounded Rationality (Jayachandran, 2022).....	8
Figure 5 - Multi-Criteria Decision Analysis (Sayed, 2025).....	9
Figure 6 - Business Analytics (UNSW Sydney, 2020)	10
Figure 7 - Resistance to Change (3 Ways Resistance to Organizational Change is Good for Business, 2018).....	11

Figure 8 – PESTLE (Iqbal, 2025)	12
Figure 9 - Schein's Three-Level Model (Michel, 2024)	14
Figure 10 - Hofstede's Cultural Dimensions (Miller K. , 2022)	15
Figure 11 - Resistance to Change (Sources of Resistance to Change, 2026)	16
Figure 12 - Kotter's 8-Step Change Model (Kotter's 8-Step change model, explained, 2026)	17
Figure 13 - Lewin's Model (Sharma, 2023)	18
Figure 14 - Socio-Technical Systems Theory (Clegg, Robinson, Davies, & Bolton, 2017)	19
Figure 15 - Hackman's Model of Team Effectiveness (Jay, 2026)	21
Figure 16 - Tuckman's Stages of Group Development (Sampson-Jones, 2026)	22
Figure 17 - Lencioni's Five Dysfunctions of a Team (Vastrik, 2023)	23
Figure 18 - Psychological Safety Theory (Edmondson, Psychological Safety Does Not Equal "Anything Goes", 2026)	24
Figure 19 - Belbin's Team Roles Theory (Belbin team roles, explained, 2026)	26
Figure 20 - Team Agreements (Co-creating Team Agreements, 2026)	27
Figure 23 - Kaplan & Norton's Balance Scorecard (Young, 2024)	30
Figure 24 - Analytics Dashboard (Hermawan, 2015)	31
Figure 21 – Drucker's Management by Objectives Theory (Matilda, 2026)	32
Figure 22 - Goodhart's Law (Frates, 2025)	33
Figure 25 - Locke & Latham's Goal-Setting Theory (Guzelsevdi, 2024)	34
Figure 26 - Cybernetic Control Theory (Case, 2023)	35
Figure 27 - Simons' Levers of Control Framework (Lindsay, 2015)	36

Executive Summary

This report critically examines key organisational challenges within Tata Steel, focusing on decision-making, organisational culture, team effectiveness, and performance measurement systems. It integrates management theory and business analytics, including descriptive, predictive, and prescriptive approaches, to assess operational performance and strategic alignment.

Decision-making is often constrained by cognitive bias, operational pressure, and incomplete data, limiting rational models. Analytics improves decision quality by enhancing visibility of trends, forecasting risks, and supporting optimised actions.

Organisational culture is shaped by hierarchy, risk aversion, and resistance to change. Using Schein's and Hofstede's frameworks, the analysis shows that while control and safety cultures support stability, they may restrict empowerment and innovation if not managed effectively.

Team effectiveness depends on psychological safety, role clarity, and accountability. High performance emerges through structured development, leadership, and team design, supported by theories such as Hackman, Lencioni, and Belbin.

Performance systems, including KPIs, balanced scorecards, and dashboards, improve visibility and alignment but may also cause metric distortion, over-monitoring, and unintended behaviours. Effective performance management therefore requires a balance of quantitative measures, qualitative judgement, and ethical oversight.

1. Introduction

Modern industrial organisations operate in complex, data-driven environments where effective management of decision-making, culture, teams, and performance systems is essential for sustained performance. In organisations such as Tata Steel, effectiveness depends not only on technical capability but also on the quality of managerial systems that shape behaviour, support change, and enable continuous improvement.

This report critically examines four key areas: decision-making, organisational culture and change, team effectiveness and development, and performance measurement systems. It applies established theories including rational decision-making models, Schein's cultural framework, Hofstede's cultural dimensions, Tuckman's model, Hackman's team effectiveness theory, and Kaplan and Norton's Balanced Scorecard.

The report also incorporates descriptive, predictive, and prescriptive business analytics to demonstrate how data-driven approaches improve organisational understanding and decision quality. However, it recognises the limitations of analytics and the continued importance of human judgement, organisational context, and ethical considerations.

The aim of the report is to provide a critical evaluation of how organisational performance can be enhanced through an integrated approach combining management theory, analytics, and practical managerial insight.

2. Scenario 1 – Advanced Decision-Making Analysis

Decision-making within large industrial organisations such as Tata Steel is essential for maintaining operational efficiency, product quality, and competitiveness. Within the laboratory environment, a key decision involved improving the reliability and consistency of Optical Emission Spectroscopy (OES) analysis for elemental testing of steel samples. Variability in nitrogen determination and sample preparation affected analytical repeatability and quality assurance, creating risks for steel grade classification, product conformity, and customer satisfaction.

2.1 RATIONAL DECISION-MAKING MODEL

The decision-making process can be critically evaluated using the Rational Decision-Making Model, which provides a structured framework for analysing organisational decisions (Uzonwanne, 2016). The model involves identifying the problem, defining decision criteria, generating alternatives, evaluating potential solutions, selecting the most appropriate option, and implementing and monitoring the chosen strategy (Athuraliya, 2026).

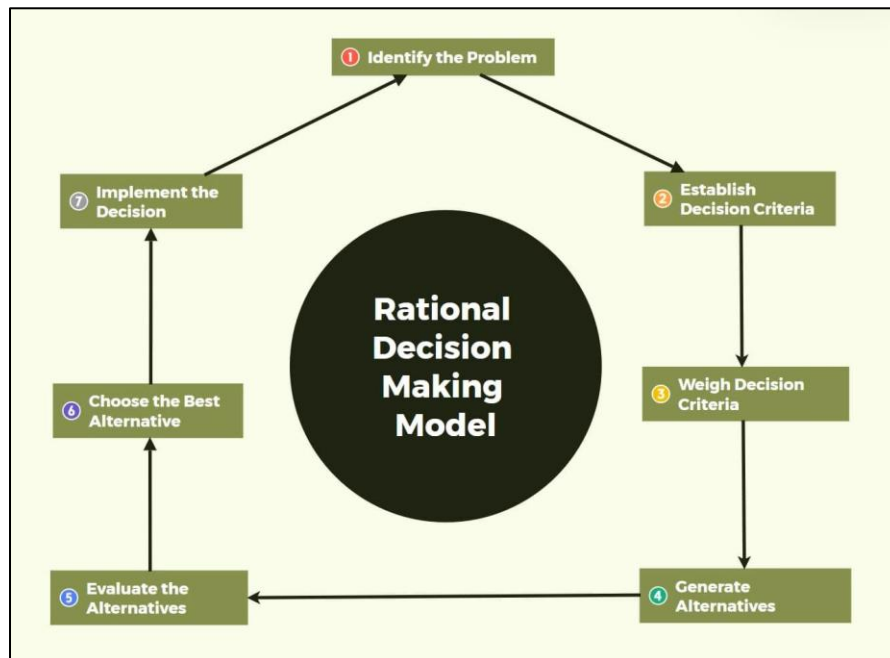


Figure 1 - Rational Decision-Making Model (Anna, 2024)

Within the Tata Steel laboratory environment, inconsistencies in OES performance were linked to sample preparation variation, worn milling equipment, and inconsistent surface finishes. Decision criteria focused on analytical accuracy, repeatability, operational efficiency, cost-effectiveness, and compliance with quality assurance standards.

Several solutions were considered, including maintaining existing procedures, improving sample preparation controls and enhancing operator training. The selected approach combined stricter sample preparation procedures, improved calibration monitoring, and additional validation checks, as this provided the most practical balance between operational efficiency and analytical reliability.

Although the Rational Decision-Making Model offered a structured framework, its effectiveness was limited by operational pressures and organisational constraints. Status quo bias encouraged reliance on established practices, while confirmation bias influenced interpretation of expected analytical outcomes (Ballinger, 2026). Time pressures also restricted opportunities for extensive testing and optimisation. The process highlighted missed opportunities for greater use of statistical analysis, historical performance data, and predictive maintenance to reduce calibration and equipment-related errors. Consequently, the approach remained largely reactive and dependent on operator experience rather than predictive quality management.

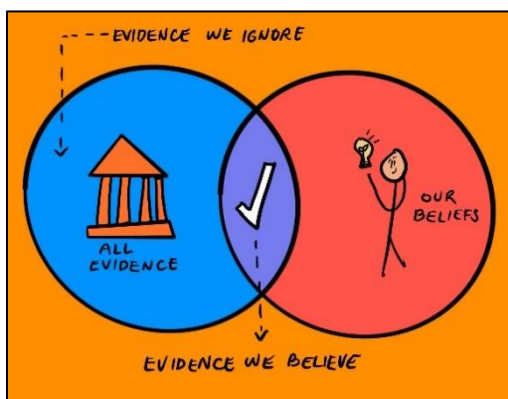


Figure 3 - Confirmation Bias (Pilat & Krastev, 2021)

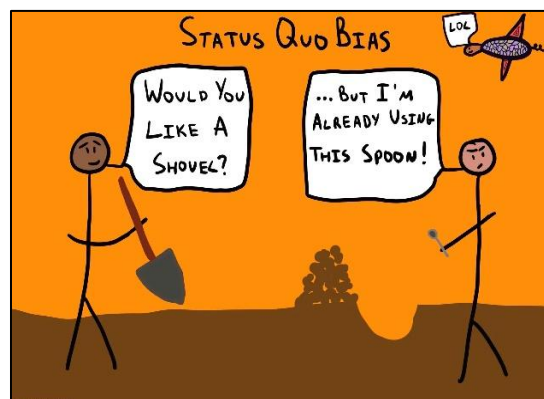


Figure 2 - Status Quo Bias (Pilat, Dan; Krastev, Sekoul, 2021)

2.2 BOUNDED RATIONALITY

Alternative theories may have improved decision effectiveness. Herbert Simon's theory of bounded rationality recognises that organisational decisions are often made with limited information, time, and cognitive capacity (Selten, 1990). Instead of achieving an optimal solution, organisations typically adopt a "satisficing" approach by selecting outcomes that are acceptable within operational constraints (Barros, 2010). This is particularly relevant within industrial laboratory environments where production continuity and turnaround time are critical factors.

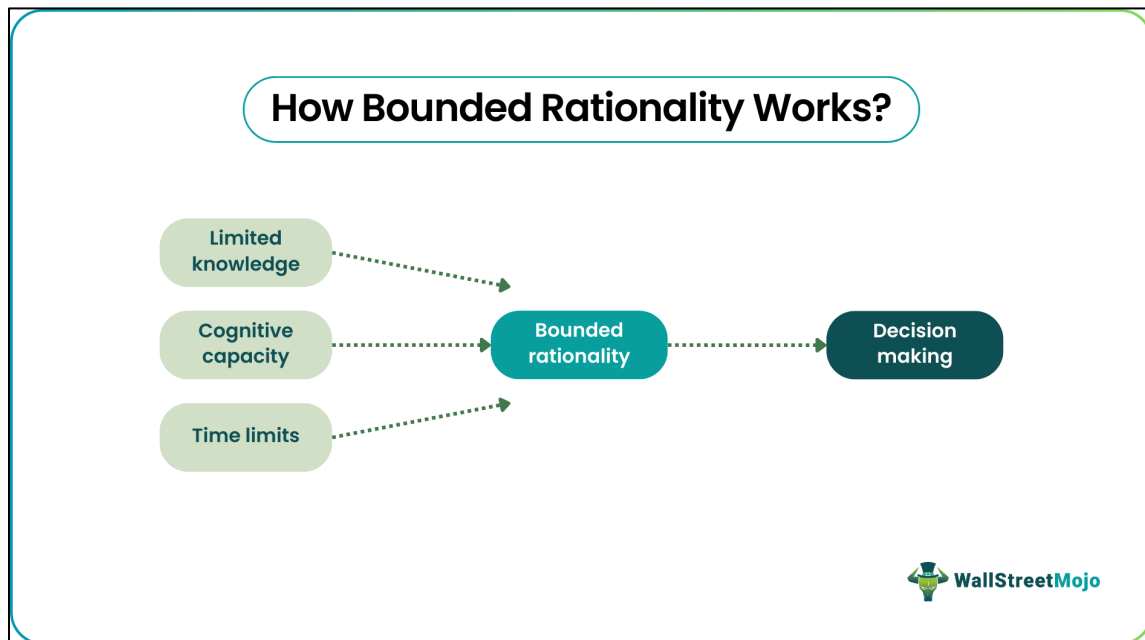


Figure 4 - Bounded Rationality (Jayachandran, 2022)

2.3 MULTI-CRITERIA DECISION ANALYSIS (MCDA)

Multi-Criteria Decision Analysis (MCDA) could also have improved the evaluation process by assessing factors such as analytical accuracy, cost, operational downtime, and implementation complexity in a structured manner (Schuyuler, 1995). This approach would have reduced subjectivity and increased transparency when selecting corrective actions.

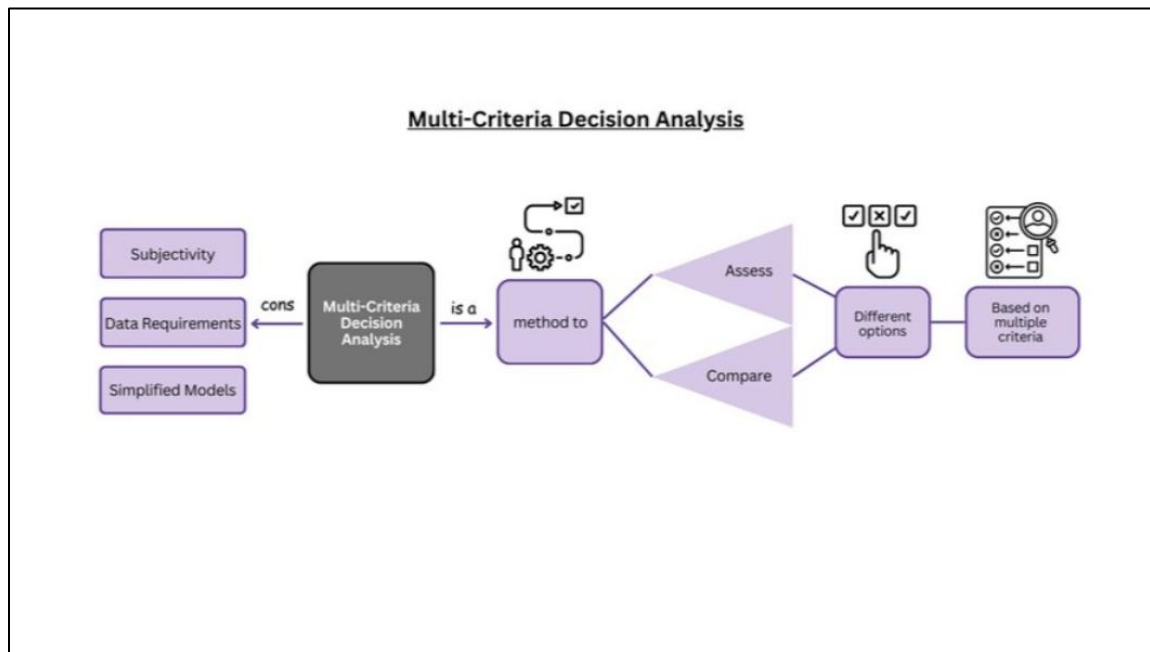


Figure 5 - Multi-Criteria Decision Analysis (Sayed, 2025)

2.4 BUSINESS ANALYTICS

Business analytics is important in improving organisational decision-making within industrial laboratory environments (IBM, 2026).

Descriptive analytics supports analysis of historical data by identifying trends in analytical variability, calibration performance, instrument drift, and sample rework. This helps decision-makers recognise recurring operational issues (Gavin, 2019).

Predictive analytics improves this process by forecasting risks associated with analytical inconsistency and equipment failure (Shah, 2026). In the Tata Steel laboratory environment, predictive models could monitor calibration drift, milling equipment wear, and factors linked to variability in nitrogen analysis.

Prescriptive analytics provides recommendations for optimal corrective actions using available data. Examples include identifying suitable calibration intervals, preventative maintenance schedules, and effective sample preparation conditions to improve repeatability. This approach supports a transition from reactive quality control to proactive operational management (ParK University, 2025).

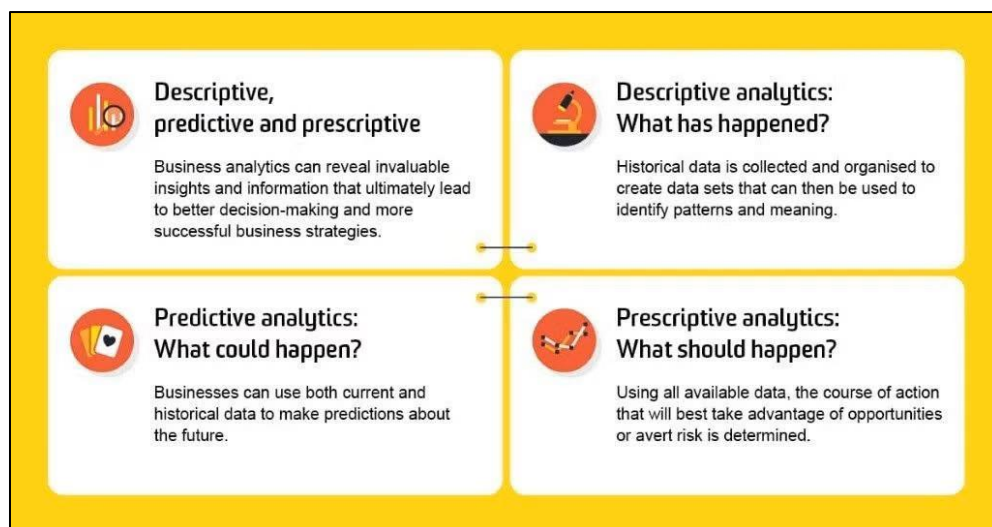


Figure 6 - Business Analytics (UNSW Sydney, 2020)

Despite its benefits, analytics-driven decision-making has limitations. Poor data quality, inconsistent recording practices, and limited system integration can reduce the reliability of outputs. Overreliance on automated systems may also undermine professional judgement and operator expertise. In addition, implementing advanced analytics requires investment in technology, training, and organisational change, which may lead to resistance in traditionally experience-based environments (Thomson, 2017).



Figure 7 - Resistance to Change (3 Ways Resistance to Organizational Change is Good for Business, 2018)

The decision-making within the Tata Steel laboratory highlights the challenge of balancing operational requirements, analytical reliability, and organisational performance. Although structured decision-making models provide useful frameworks, their effectiveness is limited by cognitive, operational, and organisational constraints. The use of descriptive, predictive, and prescriptive analytics offers opportunities to enhance decision quality, reduce uncertainty, and improve efficiency. However, optimal outcomes are achieved through combining data-driven insights with professional judgement, ensuring analytical tools complement rather than replace human expertise in industrial decision-making.

3. Scenario 2 – Organisational Culture and Change Intervention

Organisational culture significantly influences employee behaviour, operational effectiveness, and overall performance within large industrial organisations such as Tata Steel. In highly regulated manufacturing settings, culture shapes responses to safety procedures, operational targets, leadership expectations, and change initiatives (Chalmers, Marras, & Brannan, 2025).

It also plays a key role in communication, decision-making, accountability, and organisational adaptability to evolving operational and technological demands. As industrial organisations face increasing pressures from digital transformation, sustainability requirements, and efficiency targets, the evaluation and adaptation of organisational culture has become strategically important (Bogale & Debela, 2024).

3.1 PESTLE

External pressures including technological advancement, sustainability legislation, economic competitiveness, and workforce expectations create additional drivers for cultural transformation within industrial organisations. From a PESTLE perspective, these external influences increase the need for organisational adaptability and continuous improvement (Makos, 2026).



Figure 8 – PESTLE (Iqbal, 2025)

3.2 SCHEIN'S THREE-LEVEL MODEL OF ORGANISATIONAL CULTURE

The organisational culture within Tata Steel can be analysed using Schein's Three-Level Model, which consists of artefacts, espoused values, and underlying assumptions (Gerahhty, 2023).

At the artefact level, visible elements include formal safety procedures, structured reporting systems, performance management processes, and strict operational controls. The use of PPE, safety signage, and standardised procedures reflects a highly regulated, risk-aware industrial environment (Hattangadi, 2020).

At the espoused values level, the organisation promotes safety, accountability, operational excellence, continuous improvement, teamwork, and customer focus. These values are communicated through policies and performance frameworks, although a potential gap may exist between stated values and actual practice due to production pressures and operational demands (Somers, 2023).

At the level of underlying assumptions, culture is shaped by beliefs in hierarchical decision-making, routine-based operations, and a preference for stability over experimentation. While these support control and discipline, they may limit innovation and organisational flexibility, as such assumptions are deeply embedded and resistant to change (Somers, 2023).

Although Schein's model provides useful structural insight, it is largely descriptive and does not fully account for external pressures, or technological and competitive influences that continuously shape organisational culture in industrial environments (Millerd, 2019).

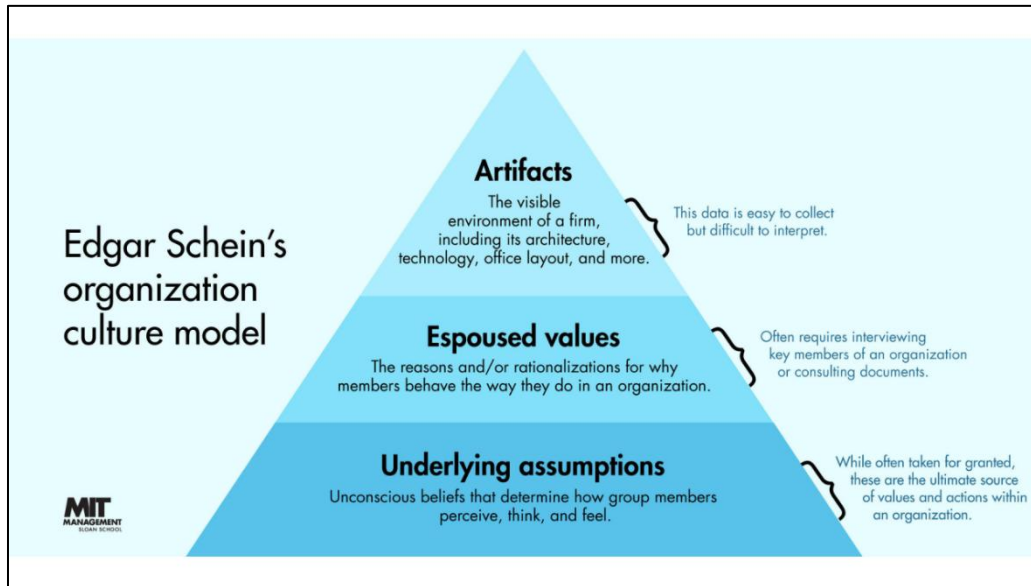


Figure 9 - Schein's Three-Level Model (Michel, 2024)

3.3 HOFSTEDE'S CULTURAL DIMENSIONS

Hofstede's Cultural Dimensions Theory provides a useful lens for analysing organisational culture within Tata Steel. The organisation shows relatively high uncertainty avoidance, reflected in its reliance on formal procedures, operational controls, and risk management systems to ensure safety and consistency. Moderate to high power distance is also evident through hierarchical structures and centralised decision-making, with employees often depending on managerial direction for operational issues (Burgess-Allen, 2025).

Collectivist tendencies are demonstrated through an emphasis on teamwork, shared responsibility, and cross-functional collaboration. A long-term orientation is also apparent in its focus on sustainability and continuous improvement.

However, Hofstede's model is limited in this context as it was developed to analyse national rather than organisational cultures. Large industrial organisations often contain multiple subcultures across departments and levels, meaning the framework may oversimplify the complexity of internal organisational behaviour (Signorini, Wiesemes, & Murphy, 2009).

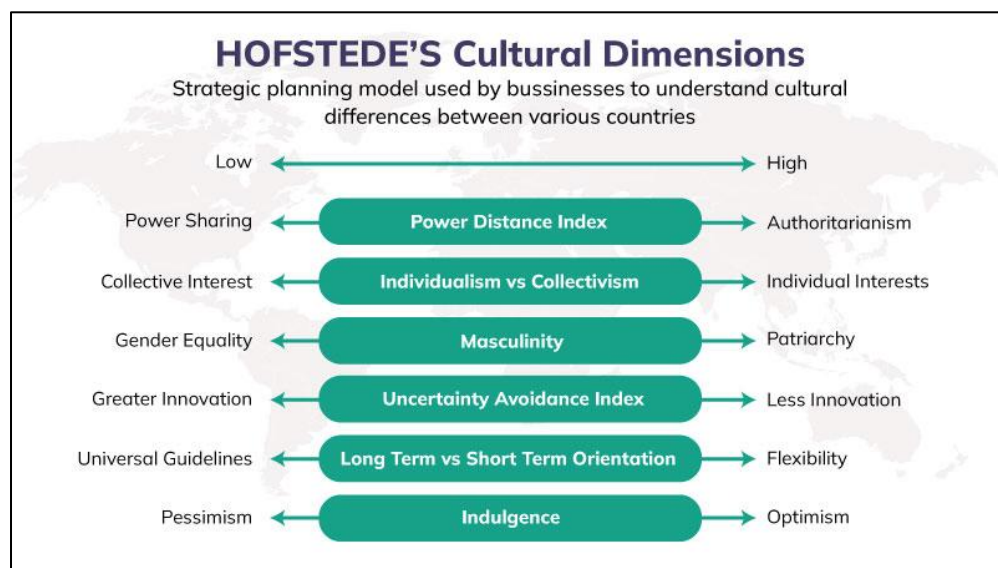


Figure 10 - Hofstede's Cultural Dimensions (Miller K. , 2022)

3.4 CULTURAL ELEMENTS REQUIRING TRANSFORMATION

Two significant cultural elements requiring transformation within Tata Steel are hierarchical decision-making dependency and resistance to organisational change.

3.4.1 Hierarchical Structure

The strong hierarchical structure within the organisation can restrict employee empowerment and reduce responsiveness to operational challenges. Decision-making authority is frequently concentrated at higher management levels, which can slow communication and limit opportunities for bottom-up problem solving and innovation. While hierarchical systems support operational control and accountability, excessive dependence on formal authority structures may reduce organisational agility and employee engagement (Hierarchical Structure: Advantages and Disadvantages, 2025).

3.4.2 Resistance to Change

Resistance to organisational change also represents a significant cultural challenge. In industrial organisations with long-established operational practices, employees may prefer familiar routines and demonstrate reluctance toward new technologies, systems, or working methods. This resistance may arise from uncertainty, fear of reduced competence, disruption to established practices, or concerns regarding increased accountability. Such cultural resistance can delay implementation of operational improvements and reduce the effectiveness of strategic transformation initiatives (Warrick, 2023).

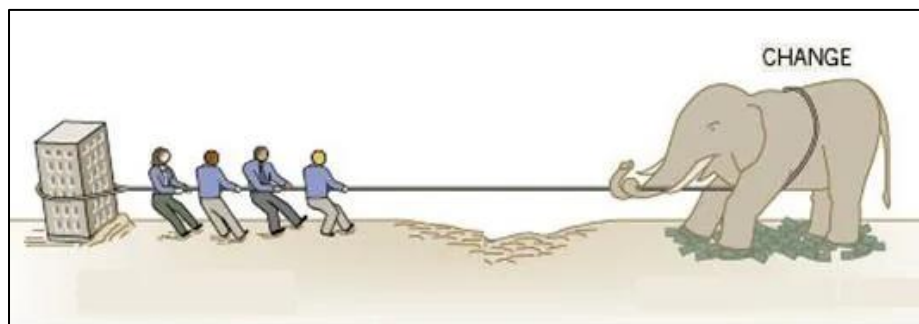


Figure 11 - Resistance to Change (Sources of Resistance to Change, 2026)

3.5 STRATEGIC TOOLS FOR CULTURAL CHANGE

Strategic interventions for cultural change can be justified using established change management theories such as Kotter's Eight-Step Change Model and Lewin's Change Management Model.

3.5.1 Kotter's 8 Step-Change Model

Kotter's framework emphasises the importance of creating urgency, building coalitions, developing a clear vision, communicating change effectively, and embedding new behaviours into organisational culture (Graves, et al., 2023). Within Tata Steel, leadership could create urgency by demonstrating how hierarchical rigidity and resistance to innovation limit operational efficiency and long-term competitiveness. Cross-functional improvement teams involving employees from multiple organisational levels could help reduce resistance and increase ownership of change initiatives. Communication strategies promoting collaboration, empowerment, and continuous improvement could further reinforce the desired cultural transition.

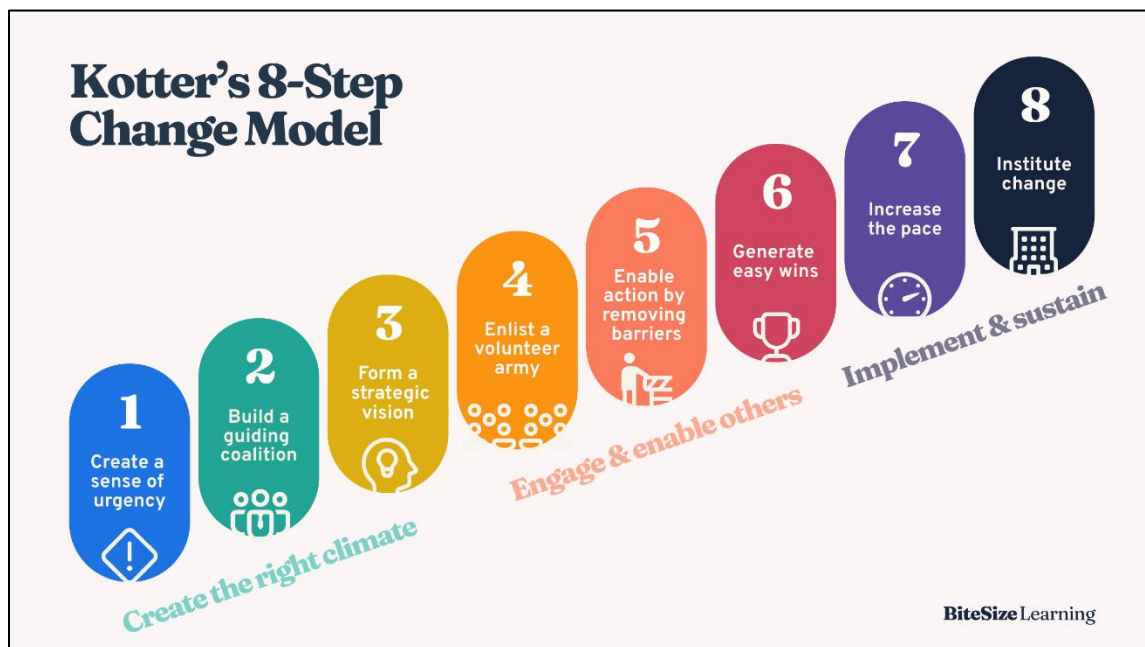


Figure 12 - Kotter's 8-Step Change Model (Kotter's 8-Step change model, explained, 2026)

3.5.2 Lewin's Model

Lewin's model provides an additional framework for understanding cultural transformation through the stages of unfreezing, change, and refreezing. The unfreezing stage would involve challenging existing assumptions surrounding hierarchy and resistance to change. During the change stage, the organisation could introduce more participative decision-making structures, digital systems, and employee-led improvement initiatives. The refreezing stage would require embedding new cultural behaviours through leadership reinforcement, revised performance management systems, and updated organisational procedures (Hussain, et al., 2016).

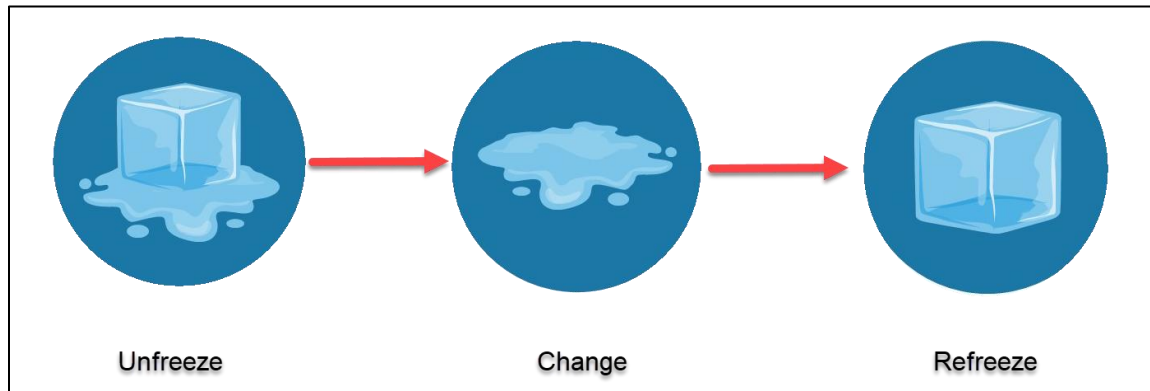


Figure 13 - Lewin's Model (Sharma, 2023)

3.5.3 Socio-Technical Systems Theory

A more advanced approach would involve fostering a participative, data-driven organisational culture. This would include the use of analytics dashboards, collaborative decision-making tools, and increased employee involvement in continuous improvement activities. This aligns with socio-technical systems theory, which proposes that organisational performance is optimised when people, structure, and technology are effectively integrated (Abbas & Michael, 2022).

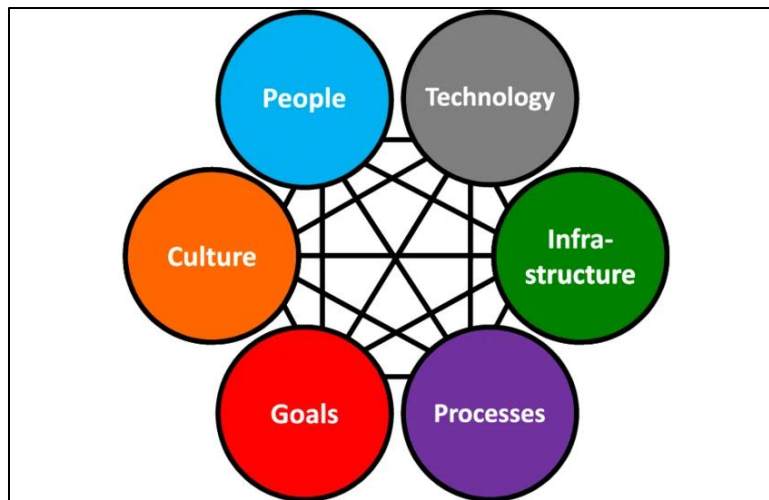


Figure 14 - Socio-Technical Systems Theory (Clegg, Robinson, Davies, & Bolton, 2017)

3.8 BARRIERS TO CULTURAL TRANSFORMATION

Despite potential benefits, cultural transformation may face several barriers. Structural resistance can arise due to deeply embedded hierarchical systems and traditional management practices. Behavioural resistance may also occur where employees and managers are reluctant to change established routines or existing authority structures. In addition, operational constraints such as production pressures, limited resources, and competing priorities may restrict the time and support available for change initiatives (Michala, 2010).

3.8.1 Ethical Considerations

Ethical considerations are also important during organisational transformation. Cultural change should be implemented transparently and fairly to avoid uncertainty, exclusion, or reduced employee trust. Increased use of monitoring and data-driven systems must balance efficiency with employee privacy and well-being. Leaders must also ensure that empowerment initiatives are supported with appropriate training and resources to prevent employees being given responsibility without sufficient support (Miller D. W., 2023).

3.9 SUMMARY OF TATA STEEL'S CULTURE

Overall, the organisational culture within Tata Steel is structured, safety-focused, and operationally disciplined, supporting stability and consistent performance. However, hierarchical dependency and resistance to innovation may limit adaptability and long-term competitiveness.

The use of Schein's and Hofstede's frameworks highlights the complexity of organisational behaviour and the need to balance operational control with flexibility, empowerment, and innovation. Effective cultural transformation therefore requires structured change management, strong leadership, employee engagement, and ongoing reinforcement of desired behaviours.

4. Scenario 3 – Team Effectiveness & Development

Team effectiveness significantly influences organisational performance, as outcomes depend on collaboration between individuals with varying technical skills and expertise. In manufacturing and engineering environments, employees often work in multidisciplinary teams under operational pressure, strict safety requirements, and production targets (Smet, et al., 2024). Team effectiveness therefore directly impacts productivity, communication, quality assurance, safety, and adaptability. High-performing teams develop not only through technical competence, but also through leadership, communication, trust, clear roles, and organisational support systems (Kitch, 2023).

4.1 THEORETICAL FRAMEWORKS

A range of theoretical frameworks has been developed to explain the characteristics and development of effective teams.

4.1.1 Hackman's Model of Team Effectiveness

Hackman's Model of Team Effectiveness states that effective teams require a clear direction, enabling structures, a supportive organisational context, stable membership, and effective coaching. The model is useful as it combines behavioural and structural factors of performance (Akin-Smith, 2025). However, it is limited in industrial settings, as it assumes stable teams, whereas manufacturing environments often involve shift work, changing workloads, and evolving operational demands (Pillans & Nayler, 2023).

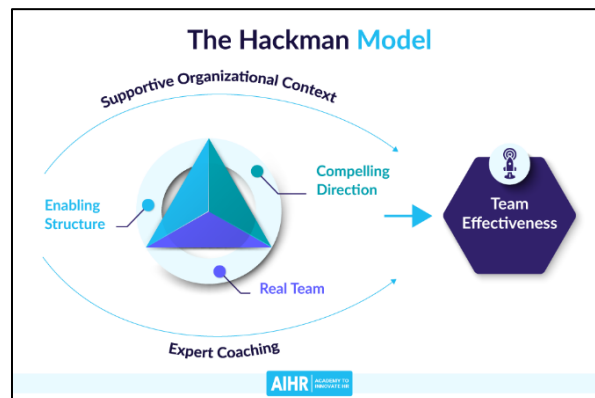


Figure 15 - Hackman's Model of Team Effectiveness (Jay, 2026)

4.1.2 Tuckman's Stages of Group Development

Tuckman's model of group development outlines team progression through forming, storming, norming, and performing stages, where cohesion and effectiveness develop as relationships and shared expectations are established. While useful for explaining group dynamics, it is limited by its assumption of a linear process. In industrial settings, teams may move between stages due to operational disruption, organisational change, or restructuring (Stein, 2026).

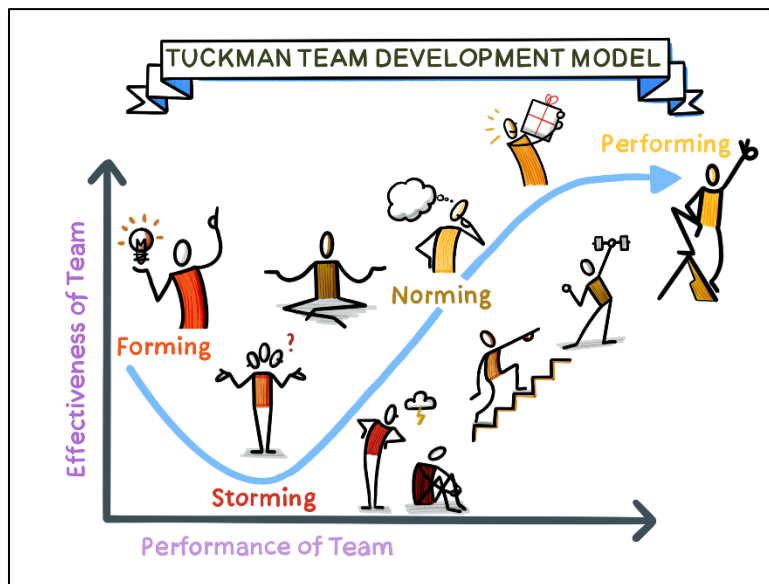


Figure 16 - Tuckman's Stages of Group Development (Sampson-Jones, 2026)

4.1.3 Lencioni's Five Dysfunctions of a Team

Lencioni's Five Dysfunctions of a Team identifies key barriers to team performance, including lack of trust, fear of conflict, low commitment, avoidance of accountability, and neglect of results. The model is useful as it focuses on interpersonal and psychological factors rather than structure alone (Lencioni, 2002). However, it is mainly diagnostic and provides limited direction on how to implement structured improvements (Oost, 2024).

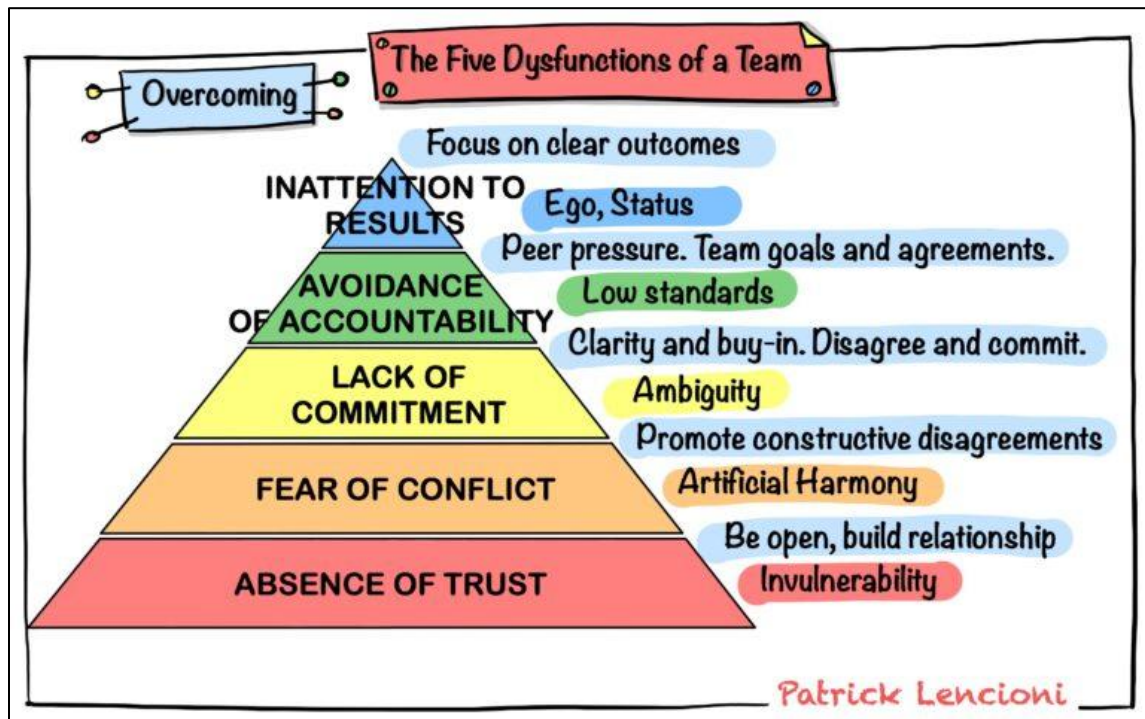


Figure 17 - Lencioni's Five Dysfunctions of a Team (Vastrik, 2023)

4.2 CHARACTERISTICS OF HIGH-PERFORMING TEAMS

Two key characteristics of high-performing teams are psychological safety and role clarity combined with shared accountability.

4.2.1 Psychological Safety

Psychological safety refers to an environment in which team members feel confident expressing opinions, raising concerns, and challenging ideas without fear of criticism or negative consequences (Edmondson, The Fearless Organization, 2018).

4.2.1 Edmondson's Psychological Safety Theory

This concept, linked to Edmondson's Psychological Safety Theory, is important in industrial and engineering environments, where employees need to report safety concerns, operational risks, and process failures openly. Teams with high psychological safety show improved learning, communication, and problem-solving. It also reduces groupthink and conformity bias by encouraging open discussion and diverse perspectives in decision-making (Edmondson, The Fearless Organization, 2018).

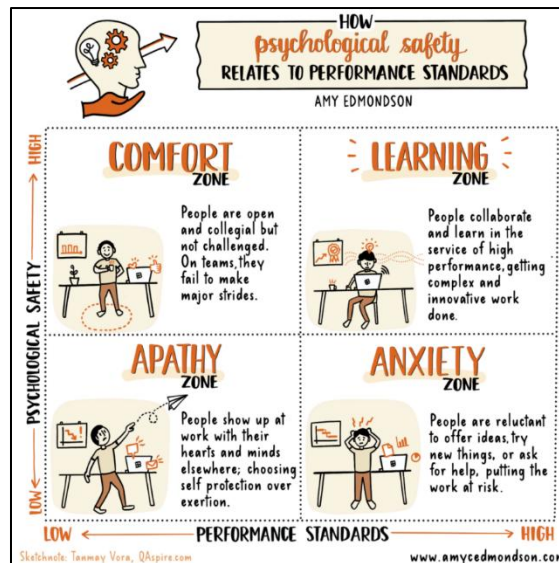


Figure 18 - Psychological Safety Theory (Edmondson, Psychological Safety Does Not Equal "Anything Goes", 2026)

Effective teams are not defined by the absence of conflict but by constructive, task-focused disagreement. Lencioni suggests that fear of conflict can create artificial harmony, where employees avoid challenging decisions despite recognising issues. In operational environments, this can weaken decision quality and increase the risk of avoidable errors. High-performing teams therefore require cultures that encourage respectful challenge and open communication rather than suppressing them.

To enhance psychological safety, a structured approach to reflection and communication could be implemented. This may include regular team debriefs, rotating facilitation roles, anonymous feedback channels, and “no-blame” reviews after incidents. Grounded in Edmondson’s psychological safety theory and supported by Hackman’s model, these practices would promote openness, trust, and shared learning, enabling better risk identification and decision-making.

However, limitations exist. Psychological safety initiatives may fail without consistent leadership support, particularly in hierarchical cultures where open challenge may be viewed negatively. Role-mapping systems may also become bureaucratic or perceived as excessive monitoring if poorly implemented, and require continual updating in dynamic environments (Eldor, Hodor, & Cappelli, 2023).

4.2.3 Role Clarity

The second key characteristic of high-performing teams is role clarity combined with shared accountability. Clear understanding of responsibilities enables team members to coordinate effectively, reduce duplication of effort, and improve operational efficiency.

4.2.4 Belbin's Team Roles Theory

Belbin's Team Roles Theory highlights the importance of balancing complementary strengths within teams to optimise performance. According to Belbin, effective teams require a combination of behavioural and functional roles, such as coordinators, implementers, completer-finishers, and specialists (Aritzeta, Swailes, & Senior, 2007). Role clarity improves ownership of tasks and enables individuals to understand how their contribution supports wider organisational objectives. However, excessive role rigidity may reduce adaptability and limit collaboration, particularly in dynamic operational environments where flexibility is required (Lupuleac, Lupuleac, & Rusu, 2013).



Figure 19 - Belbin's Team Roles Theory (Belbin team roles, explained, 2026)

To improve role clarity and accountability would involve a dynamic competency and role-mapping system. This would assess employee skills, training, and capabilities to allocate responsibilities based on competence and workload. Whilst development planning would increase flexibility and resilience. Aligned with Belbin's team roles and Hackman's enabling structures, this approach would improve coordination, reduce reliance on individuals, and enhance adaptability during operational change.

4.2.5 Team Agreements

Team working agreements support team cohesion by defining shared expectations and reducing uncertainty in interpersonal interactions. Clear behavioural standards strengthen trust and communication while minimising conflict caused by misunderstanding or inconsistent practices. They also improve accountability by clarifying individual and collective responsibilities and performance expectations. In addition, structured agreements enhance performance by improving coordination, communication efficiency, and encouraging continuous improvement within teams (Kanojia, 2026).



Figure 20 - Team Agreements (Co-creating Team Agreements, 2026)

Research indicates that team working agreements can improve cohesion, accountability, and performance by defining expectations around communication, roles, decision-making, and conflict management (Koponen, 2025). However, their effectiveness depends on development and reinforcement. Manager-imposed agreements may reduce engagement, while co-created agreements increase ownership and trust. Overly rigid frameworks may also limit flexibility and innovation, so a balance between structure and adaptability is required (Verwijs, 2022).

4.3 SUMMARY OF TEAM EFFECTIVENESS

Overall, team effectiveness in industrial organisations is influenced by behavioural, structural, and psychological factors, rather than technical competence alone. Theoretical models such as Hackman, Tuckman, Lencioni, and Belbin offer useful but incomplete explanations of team performance. High-performing teams are defined by psychological safety, clear roles, effective communication, and shared accountability.

Interventions such as structured reflection and competency mapping can strengthen these factors when supported by effective leadership and organisational culture. Team working agreements also reinforce behavioural expectations and improve collaboration. Ultimately, sustained team effectiveness requires a balanced combination of leadership, organisational support, trust, and structured development practices.

5. Scenario 4 – Performance Measurement & Control Systems

Performance measurement and control systems are key elements of effective management. They enable monitoring of operational performance, assessment of progress against objectives, and implementation of corrective actions. In manufacturing and engineering contexts, these systems are particularly important due to requirements for safety, efficiency, quality, and productivity under operational and commercial pressures. They also influence employee behaviour, organisational priorities, and strategic decision-making, rather than solely evaluating outcomes (Lagerstrom, 2002).

5.1 KEY PERFORMANCE INDICATORS (KPI'S)

Within a managerial context, Key Performance Indicators (KPIs) are widely used to monitor performance. They provide measurable targets for assessing productivity, efficiency, attendance, quality, and compliance with operational standards (Twin, 2026).

5.2 KAPLAN & NORTON'S BALANCED SCORECARD

The Balanced Scorecard, developed by Kaplan and Norton, is a framework for assessing organisational performance across four perspectives, financial, customer, internal, and learning and growth. Unlike traditional KPI systems, it aligns operational activities with long-term strategy by combining financial and non-financial measures (Kaplan & Norton, 1992). In industrial organisations, it enables evaluation of productivity, cost control, employee development, innovation, customer satisfaction, and process improvement.

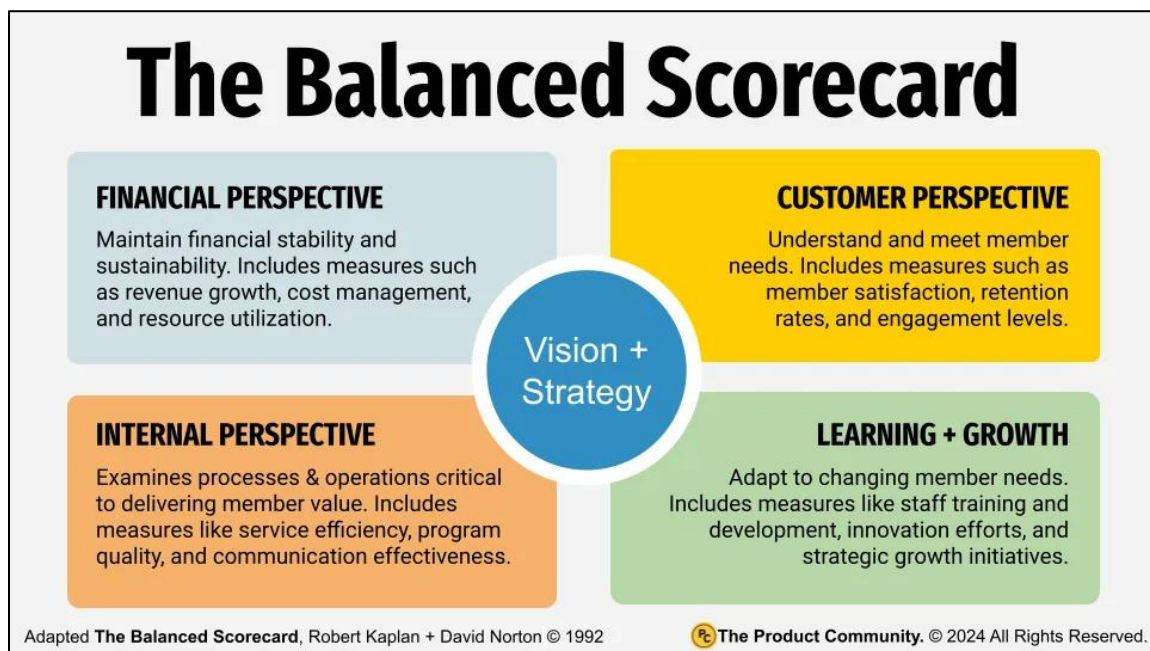


Figure 21 - Kaplan & Norton's Balance Scorecard (Young, 2024)

However, it also has limitations. Implementation can become complex and bureaucratic in large organisations with multiple functions. The model may also assume causal links between indicators that do not always exist, as improvements in areas such as training or engagement do not necessarily lead to immediate operational gains. Its effectiveness therefore depends on appropriate alignment, and managerial interpretation (Hristov & Chirico, 2016).

5.3 ANALYTICS DASHBOARDS

Analytics dashboards are increasingly important in modern performance management systems. They provide real-time visualisation of operational data, allowing managers to track performance trends, identify deviations, and respond quickly to issues. Dashboards support descriptive analytics by displaying historical and current data such as production efficiency, downtime, quality, and safety metrics. This enhances managerial visibility and enables more responsive decision-making in dynamic environments (Undru, 2024).



Figure 22 - Analytics Dashboard (Hermawan, 2015)

However, dashboards also present challenges. Excessive data can lead to information overload, making it difficult for managers to prioritise key issues. They may also encourage reactive decision-making focused on short-term variation rather than long-term improvement. Their effectiveness depends on data quality, system integration, and accurate reporting, as poor or inconsistent data can reduce confidence and weaken decision-making (Katz, 2026).

5.4 THEORETICAL FRAMEWORKS

5.4.1 Drucker's Management by Objectives Theory

KPIs align with Drucker's Management by Objectives theory, which emphasises clear, measurable goals to direct employee behaviour towards organisational objectives. In industrial settings, KPIs may include output levels, safety compliance, defect rates, training completion, and response times to operational issues (Versaw, 2018).



Figure 23 – Drucker's Management by Objectives Theory (Matilda, 2026)

Although KPIs provide clarity and accountability, they also present significant limitations. One major criticism is that KPIs can encourage target-focused behaviour rather than genuine performance improvement. Employees may prioritise achieving measurable targets at the expense of broader organisational objectives or long-term development (Levasseur, 2025).

5.4.2 Goodhart's Law

This issue is linked to Goodhart's Law, which suggests that once a measure becomes a target, it loses effectiveness as a true measure. As a result, employees may prioritise improving reported figures rather than actual performance. KPIs also have limitations in capturing qualitative factors such as leadership, teamwork, communication, creativity, and problem-solving, which are essential in complex industrial environments but difficult to measure accurately (Mitton, 2024).



Figure 24 - Goodhart's Law (Frates, 2025)

5.4.3 Goal-Setting Theory

The selection of performance indicators is supported by management and analytics theory. Locke and Latham's Goal-Setting Theory proposes that specific, challenging goals enhance employee motivation and performance when accompanied by effective feedback (Diefendorff & Seaton, 2015). This underpins the use of KPIs and dashboards, as they provide measurable targets and ongoing performance feedback.



Figure 25 - Locke & Latham's Goal-Setting Theory (Guzelsevdi, 2024)

5.4.4 Cybernetic Control Theory

Cybernetic Control Theory also provides justification for performance measurement systems by conceptualising organisations as self-regulating systems that compare actual performance against target standards and implement corrective actions when deviations occur (Kefalas, 2003).

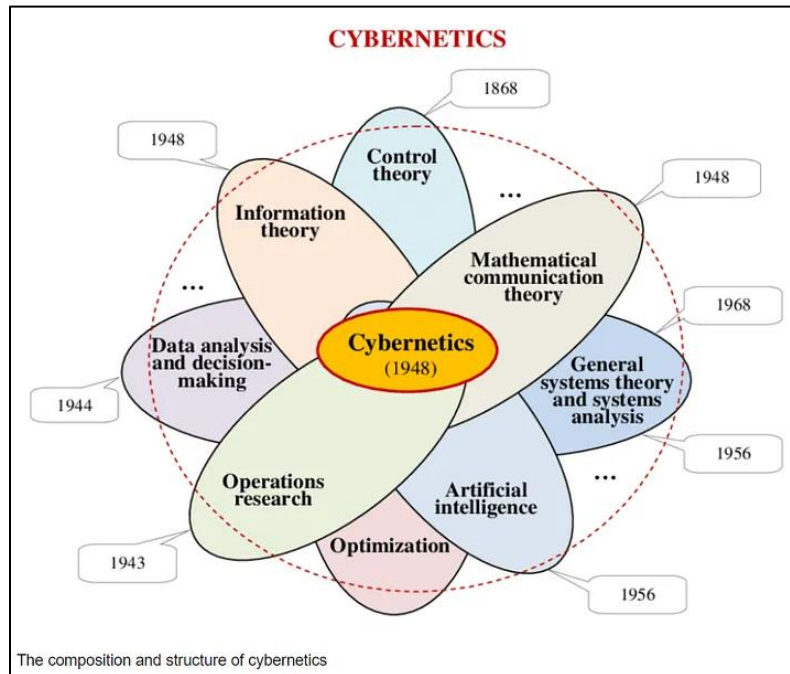


Figure 26 - Cybernetic Control Theory (Case, 2023)

5.4.5 Simons' Levers of Control Framework

Simons' Levers of Control framework explains organisational control through belief systems, boundary systems, diagnostic controls, and interactive controls. Diagnostic controls include KPIs and dashboards used to monitor performance, while interactive controls support strategic dialogue and organisational learning (Mulder, 2025). Many organisations over-rely on diagnostic controls and underuse interactive controls, limiting innovation, communication, and strategic flexibility (Tessier & Otley, 2012).

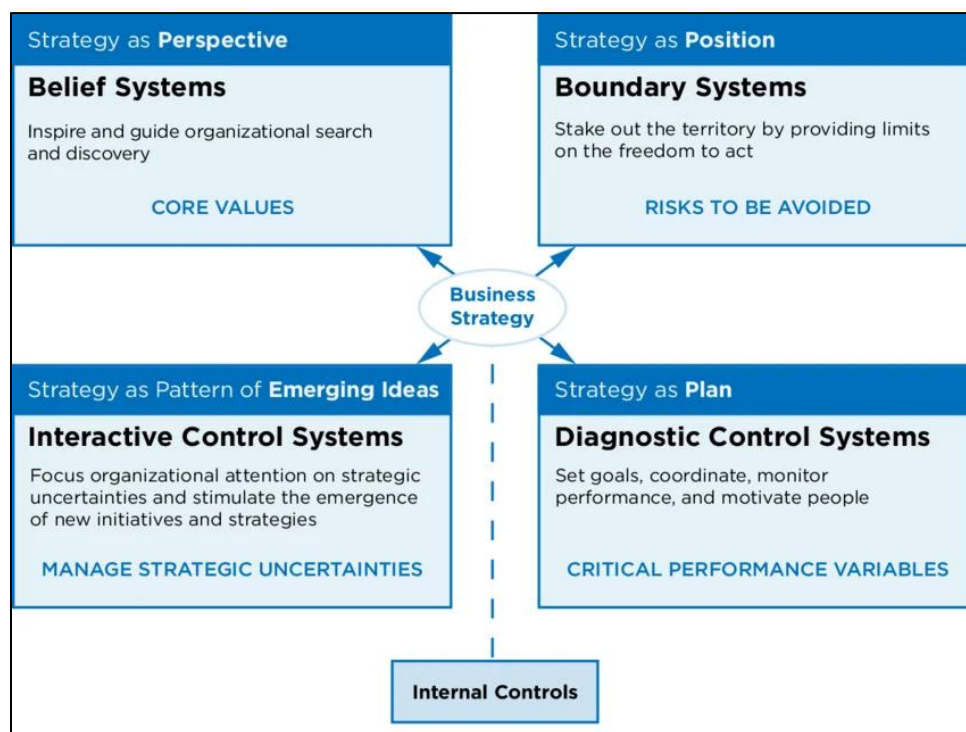


Figure 27 - Simons' Levers of Control Framework (Lindsay, 2015)

However, limitations exist. Overreliance on quantitative metrics may reduce managerial judgement and undervalue qualitative insight. Excessive monitoring can also increase stress, reduce autonomy, and create perceptions of surveillance, harming trust and morale. In addition, performance systems may be manipulated, with employees “gaming” metrics rather than improving actual performance (Kruis, Spekle, & Widener, 2016).

5.5 ETHICAL CONSIDERATIONS

Ethical considerations are important in performance measurement systems. Organisations must ensure indicators are fair, transparent, and relevant to job roles, with employees understanding how data is collected and used in decision-making. Data privacy and confidentiality are also essential, particularly with increased use of digital monitoring and analytics. Managers must also ensure systems do not create undue pressure, encourage unsafe behaviour, or disadvantage employees through biased or inappropriate measures (Dhiman, 2025).

5.6 SUMMARY OF PERFORMANCE MEASUREMENT & CONTROL SYSTEMS

Measuring team and organisational effectiveness is more complex than individual performance, as outcomes depend on behavioural, structural, and relational factors that are not easily quantified. Team effectiveness is often assessed using productivity, communication, collaboration, safety, error rates, and achievement of objectives. Hackman's Model of Team Effectiveness emphasises not only performance outcomes but also cohesion, adaptability, and sustainability, highlighting the need to include behavioural indicators such as engagement, communication, and learning.

At organisational level, effectiveness is typically measured through productivity, financial performance, quality, customer satisfaction, and safety. However, reliance on aggregated measures can create bias, masking local issues such as safety risks, communication breakdowns, or disengagement within specific areas. Managers must therefore interpret performance data critically rather than relying solely on headline indicators.

6. Conclusion

This report has critically examined four key areas of organisational management within a large industrial context: decision-making, organisational culture, team effectiveness, and performance measurement systems. Across all areas, organisational performance is shown to result from the interaction between structured systems, human behaviour, and data-driven insight.

In decision-making, rational models provide structure but are constrained by cognitive bias and operational limitations. Business analytics improves decision quality by enabling more predictive and prescriptive approaches.

Organisational culture analysis indicates that hierarchical, control-focused cultures support safety and discipline but may limit innovation and adaptability without empowerment and flexibility. Effective cultural change requires structured change management, leadership commitment, and behavioural reinforcement.

Team effectiveness depends on psychological and structural factors, particularly psychological safety, role clarity, and shared accountability. Theories of team development show that high performance must be intentionally developed and continuously supported.

Performance measurement systems align behaviour with organisational goals but can create unintended effects such as metric distortion, over-monitoring, and reduced autonomy. A balanced approach combining quantitative metrics, qualitative judgement, and ethical oversight is required.

Overall, optimal organisational performance is achieved not through a single model, but through the integration of management theory, analytics, and human-centred leadership.

References

- 3 Ways Resistance to Organizational Change is Good for Business. (2018, April 2). Retrieved from Culture Pros: <https://www.corporateculturepros.com/3-ways-resistance-to-change-is-good/>
- Abbas, R., & Michael, K. (2022). Socio - technical theory . In S. Papagiannidis, *TheoryHub Book*.
- Akin-Smith, J. (2025, March 7). *Team Effectiveness Models: Create High-Performance Teams*. Retrieved from James Akin-Smith The CEO Coach: <https://www.jamesakinsmith.co.uk/team-effectiveness-models/>
- Anna. (2024, December 18). *Top Decision-Making Models Every Leader Should Know*. Retrieved from xmind: <https://xmind.com/blog/top-decision-making-models>
- Aritzeta, A., Swailes, S., & Senior, B. (2007). Belbin's Team Role Model: Development, Validity and Applications for Team Building. *Journal of Management Studies*.
- Athuraliya, A. (2026, April 20). *Rational Decision-Making Model: Steps, Examples, and Templates*. Retrieved from Creately: <https://creately.com/guides/rational-decision-making-model/>
- Ballinger, J. (2026, April 11). *Status Quo bias*. Retrieved from The Behaviours agency: <https://thebehavioursagency.com/latest/status-quo-bias>
- Barros, G. (2010). Herbert A. Simon and the concept. *Brazilian Journal of Political Economy*.
- Belbin team roles, explained*. (2026, May 19). Retrieved from BiteSize Learning: <https://www.bitesizelearning.co.uk/resources/belbin-team-roles-explained>
- Bogale, A. T., & Debela, K. L. (2024). Organizational culture: a systematic review. *Cogent Business & Management*.
- Burgess-Allen, C. (2025). Hofstede's Cultural Dimensions Theory [Recorded by C. Burgess-Allen].
- Case, A. (2023, January 18). *Why We Need to Know Cybernetics // Part I*. Retrieved from Medium: <https://caseorganic.medium.com/why-we-need-to-know-cybernetics-fidbbc4b5d8d>
- Chalmers, R., Marras, A., & Brannan, G. (2025). *Organizational Culture*. Treasure Island (FL).

- Clegg, C. W., Robinson, M. A., Davies, M. C., & Bolton, L. (2017). Applying organizational psychology as a design science: A method for predicting malfunctions in socio-Technical systems. *Design Science* 3.
- Co-creating Team Agreements*. (2026, May 19). Retrieved from Management30: <https://management30.com/blog/team-agreements/>
- Dhiman, S. (2025, December 10). *Ethics in Performance Management*. Retrieved from Peoplebox.ai: <https://www.peoplebox.ai/blog/ethics-in-performance-management/>
- Diefendorff, J. M., & Seaton, G. A. (2015). Work Motivation. *International Encyclopedia of the Social & Behavioral Sciences*.
- Edmondson, A. (2018). *The Fearless Organization*. Wiley.
- Edmondson, A. (2026, May 19). *Psychological Safety Does Not Equal “Anything Goes”*. Retrieved from Amy C. Edmondson: <https://amycedmondson.com/psychological-safety-%E2%89%A0anything-goes/>
- Eldor, L., Hodor, M., & Cappelli, P. (2023). The limits of psychological safety: Nonlinear relationships with performance. *Organizational Behavior and Human Decision Processes*.
- Frates, N. (2025, February 1). *Goodhart’s Law*. Retrieved from nickfrates.com: <https://www.nickfrates.com/blog/goodhart-s-law>
- Gavin, M. (2019). Business Analytics: What It Is & Why It's Important. *Digital Transformation & AI*.
- Gerahhty, T. (2023). *Edgar Schein’s Three Layers of Organisational Culture*.
- Graves, L., Dalgarno, N., Hoorn, R. V., Hastings-Truelove, A., Mulder, J., Kolomitro, K., . . . Wylick, R. v. (2023). Creating change: Kotter’s Change Management Model in action. *Canadian Medical Education Journal*.
- Guzelsevdi, C. (2024, June 12). *Locke and Latham’s Goal Setting Theory*. Retrieved from Project Cubicle: <https://www.projectcubicle.com/locke-and-lathams-goal-setting-theory/>
- Hattangadi, V. (2020). Edgar Schein's three levels of Organizational Culture. *Juni Khyat Journal*.
- Hermawan, I. S. (2015, September 1). *Dashboard (management information systems)*. Retrieved from LinkedIn: <https://www.linkedin.com/pulse/dashboard-management-information-systems-ignatius-hermawan-iggy->

- Hierarchical Structure: Advantages and Disadvantages*. (2025, January 1). Retrieved from LogicMelon: <https://logicmelon.com/blog-post/hierarchical-structure/>
- Hristov, I., & Chirico, A. (2016). The Limits of the Balanced Scorecard. *Journal of Social Sciences*.
- Hussain, S. T., Lei, S., Akram, T., Haider, M. J., Hussain, S. H., & Ali, M. (2016). Kurt Lewin's change model: A critical review of the role of leadership and employee involvement in organizational change. *Journal of Innovation & Knowledge*.
- IBM. (2026, May 19). *What is business analytics?* Retrieved from IBM: <https://www.ibm.com/think/topics/business-analytics>
- Iqbal, A. (2025). PESTLE Analysis: The CEO's Guide to Future-Proofing a Business. *TechnoPreneurship*.
- Jay, S. (2026, May 19). *11 Team Effectiveness Models to Build High-Performing Teams*. Retrieved from AIHR: <https://www.aihr.com/blog/team-effectiveness-models/>
- Jayachandran, A. (2022, August 03). *Bounded Rationality*. Retrieved from WallStreetMojo: <https://www.wallstreetmojo.com/bounded-rationality/>
- Kanojia, S. (2026, March 3). *What are team working agreements? Definition, structure and examples*. Retrieved from Plane: <https://plane.so/blog/what-are-team-working-agreements-definition-structure-examples>
- Kaplan, R. S., & Norton, D. P. (1992, January 01). *The Balanced Scorecard—Measures that Drive Performance*. Retrieved from Harvard Business Review: <https://hbr.org/1992/01/the-balanced-scorecard-measures-that-drive-performance-2>
- Katz, E. (2026, May 19). *What Are the Limitations of Dashboards?* Retrieved from Anodot: <https://www.anodot.com/blog/limitations-of-dashboards/>
- Kefalas, A. G. (2003). Cybernetics. *Encyclopedia of Information Systems*.
- Kitch, B. (2023, December 7). *Understanding team effectiveness: Mural's guide for managers and team leaders*. Retrieved from Mural: <https://www.mural.co/blog/team-effectiveness>
- Koponen, A.-P. (2025, May 7). *The essential guide to agile team working agreements*. Retrieved from Swarmia: <https://www.swarmia.com/blog/agile-team-working-agreements/>
- Kotter's 8-Step change model, explained*. (2026, May 19). Retrieved from BiteSize Learning: <https://www.bitesizelearning.co.uk/resources/kotters-8-step-change-model>

- Kruis, A.-M., Spekle, R. F., & Widener, S. K. (2016). The Levers of Control Framework: An exploratory analysis of balance. *Management Accounting Research*.
- Lagerstrom, M. (2002). *Performance Measurement & Management Control Systems*.
- Lencioni, P. (2002). *The Five Dysfunctions of a Team*. Jossey-Bass.
- Levasseur, R. E. (2025). Decision Myopia: The Problem with KPIs—A Management Decision Making Perspective. *Open Journal of Business and Management*.
- Lindsay, M. R. (2015). *Developing Robust Strategy for Uncertain Times: Expanding our Concept of Management Control to Deal with Dynamic Markets PART II: MANAGEMENT CONTROL SYSTEM DESIGN FOR MEETING THE CHALLENGE*.
- Lupuleac, S., Lupuleac, Z.-L., & Rusu, C. (2013). Problems of Assessing Team Roles Balance -Team Design. *Procedia Economics and Finance*.
- Makos, J. (2026, May 19). *What is PESTLE Analysis?* . Retrieved from PESTLE Analysis: <https://pestleanalysis.com/what-is-pestle-analysis/>
- Matilda. (2026, May 19). *What is Management by Objectives? Here's all you need to know*. Retrieved from Noxit: <https://noxit.io/management-by-objectives-all-you-need-to-know/>
- Michala, J. M. (2010). Cultural Catalysts and Barriers of Organizational Change. *Journal of Intercultural Management*.
- Michel, S. (2024, December 27). *The three levels of an organization's culture and its implication for leaders*. Retrieved from LinkedIn: <https://www.linkedin.com/pulse/three-levels-organizations-culture-its-implication-leaders-michel-mnz9f>
- Miller, D. W. (2023). *The Ethics of Organizational Change*.
- Miller, K. (2022, March 14). *Hofstede's Cultural Dimensions: Implications and How to Apply*. Retrieved from CrowJack: <https://crowjack.com/blog/strategy/hofstedes-cultural-dimensions>
- Millerd, P. (2019, November 1). *Edgar Schein's 3 Levels of Culture & Why Change Fails*. Retrieved from Paul Millerd: <https://pmillerd.com/edgar-scheins-anxiety-assumptions-powerful-ideas-on-culture/>
- Mitton, L. (2024, March 06). *What is Goodhart's Law?* Retrieved from Splunk: https://www.splunk.com/en_us/blog/learn/goodharts-law.html
- Mulder, P. (2025, April 30). *Levers of Control Model (Simons)*. Retrieved from toolshero: <https://www.toolshero.com/strategy/levers-of-control-model/>

- Oost, M. (2024, July 9). *Stop dysfunctioning Lencioni*. Retrieved from Medium: <https://martyoo.medium.com/stop-dysfunctional-lencioni-25f45d32377f>
- ParK University. (2025). *What Is Business Analytics? An Overview*.
- Pilat, D., & Krastev, S. (2021, May 19). *Why do we favor our existing beliefs?* Retrieved from The Decision Lab: <https://thedecisionlab.com/biases/confirmation-bias>
- Pilat, Dan; Krastev, Sekoul. (2021, May 19). *Why do we tend to leave things as they are*. Retrieved from The Decision Lab: <https://thedecisionlab.com/biases/status-quo-bias>
- Pillans, G., & Nayler, J. (2023). *Team Effectiveness*.
- Sampson-Jones, S. (2026). *From Forming to Performing: Understanding Tuckman's Model of Team Development*.
- Sayed, A. (2025, June 26). *Multi Criteria Decision Analysis (MCDA)*. Retrieved from LinkedIn: <https://www.linkedin.com/pulse/multi-criteria-decision-analysis-mcda-ayman-sayed-pmp-vma-8spxf>
- Schuyuler, J. R. (1995). Decision analysis in projects. *PM Network*.
- Selten, R. (1990). Bounded Rationality. *Journal of Institutional and Theoretical Economics*.
- Shah, V. (2026). What is business analytics? Types, benefits & real examples. *business analytics*.
- Sharma, N. (2023, January 1). *Kurt Lewin – Three Stages of Change*. Retrieved from LeadershipYoda: <https://leadershipyoda.com/kurt-lewin-three-stages-of-change/>
- Signorini, P., Wiesemes, R., & Murphy, R. (2009). Developing alternative frameworks for exploring intercultural learning: A critique of Hofstede's cultural difference model. *Teaching in Higher Education*.
- Smet, A. D., D'Auria, G., Meijknecht, L., Albaharna, M., Fifer, A., & Rubenstein, K. (2024). Go, teams: When teams get healthier, the whole organization benefits. *McKinsey & Company*.
- Somers, M. (2023). 5 enduring management ideas from MIT Sloan's Edgar Schein. *Organizational Culture*.
- Sources of Resistance to Change*. (2026, May 19). Retrieved from MBA Knowledge Base: <https://mbaknol.com/modern-management-concepts/sources-of-resistance-to-change/>

- Stein, J. (2026, May 19). *Using the Stages of Team Development*. Retrieved from Human Resources: <https://hr.mit.edu/learning-topics/teams/articles/stages-development>
- Tessier, S., & Otley, D. (2012). A conceptual development of Simons' Levers of Control framework. *Management Accounting Research*.
- Thomson, L. A. (2017). *The Seven Pitfalls of Data-Driven Decision-Making (And How to Avoid Them)*.
- Twin, A. (2026, February 18). *KPIs: What Are Key Performance Indicators? Types and Examples*. Retrieved from Investopedia: <https://www.investopedia.com/terms/k/kpi.asp>
- Undru, A. (2024, June 24). *Business analytics dashboard: Benefits, examples, and more*. Retrieved from ThoughtSpot: <https://www.thoughtspot.com/data-trends/dashboard/business-analytics-dashboard>
- UNSW Sydney. (2020). *Descriptive, predictive and prescriptive analytics: What are the differences?*
- Uzonwanne, F. C. (2016). Rational Model of Decision Making. *Global Encyclopedia of Public Administration, Public Policy, and Governance*.
- Vastrik, J. (2023, June 22). *How I run "The Five Dysfunctions of a Team" workshop*. Retrieved from JULIA VÄSTRIK: <https://juliavastrik.com/trainings/how-i-run-the-five-dysfunctions-of-a-team-workshop/>
- Versaw, R. (2018, July 09). *Five Steps To Build World Class KPIs*. Retrieved from Forbes: <https://www.forbes.com/sites/forbestechcouncil/2018/07/09/five-steps-to-build-world-class-kpis/>
- Verwijns, C. (2022). In-Depth: How To Create Better Work Agreements For Your Team. *The Liberators*.
- Warrick, D. (2023). Revisiting resistance to change and how to manage it: What has been learned and what organizations need to do. *Business Horizons*.
- Young, J. (2024). *Balanced Scorecard*.