



Prifysgol Cymru
Y Drindod Dewi Sant
University of Wales
Trinity Saint David

Doctor of Business Administration (DBA)

**LCDB7008 – Visions for the Future: Theoretical Perspectives on
Management**

**Topic 1:
“Has Management Really Changed?
A Critical Examination of Classical Foundations and Contemporary
Management”**

Assessment Report:

Student Name: Bitto Xavier

Student ID: 2528392

Submitted To: Dr Amare Desta

Word count: 7,577 (Excluding executive summary and references)

Executive Summary

This report critically examines the assertion that twenty-first-century management remains largely unchanged and rooted in industrial-era theory. The evidence supports neither a simple continuity thesis nor a clean replacement narrative. Management has changed substantially in technology, organisational forms, assumptions about workers, decision processes and scope of responsibility. Yet enduring problems of coordination, performance, authority, motivation, adaptation and accountability remain. The report therefore argues that contemporary management is best understood as adaptive and cumulative evolution: new ideas contest and recombine with older managerial logics rather than eliminating them.

Six propositions organise the analysis. Taylor's concern with efficiency and measurement persists in data-intensive and algorithmic forms; Fayolian planning and coordination, and Weberian formalisation, remain visible in governance and digital workflows; behavioural theory widened the model of the worker through motivation, participation and learning; systems and contingency thinking rejected universal prescriptions through interdependence and contextual fit; digitalisation, AI and hybrid work change the speed, scale and information base of management while creating new possibilities for surveillance; and sustainability, stakeholder expectations and resilience broaden what counts as organisational performance.

Using a critical thematic review of seminal texts, established critiques and recent peer-reviewed research, the report examines assumptions, evidence, limitations, practical implications and continuing explanatory value. The final judgement is that the claim that management has 'remained largely unchanged' is too strong. Modern management has changed meaningfully, but its historical foundations remain active. Managers therefore need to recognise when apparently modern tools reproduce older assumptions and when new conditions require different balances between efficiency and autonomy, control and trust, standardisation and adaptation, and organisational performance and wider stakeholder responsibility.

Table of Contents

Executive Summary	2
1. Introduction	5
2. Methodology	6
3. Classical Management Foundations.....	7
3.1 Industrial antecedents: division of labour and the problem of efficiency.....	7
3.2 Taylor: scientific management and measurable work	8
3.3 Fayol: administration, coordination and managerial authority.....	8
3.4 Weber: bureaucracy, rational authority and formalisation.....	9
3.5 Critical evaluation: persistence without stasis	10
4. The Behavioural and Human-Centred Shift.....	11
4.1 From labour as an input to people as social actors	11
4.2 Hawthorne and the problem of evidence	12
4.3 Motivation: Maslow, McGregor and the assumptions managers bring to work	13
4.4 Argyris, learning and the limits of managed humanism	13
4.5 A human shift, not a complete break.....	14
5. Systems, Contingency and Modern Foundations.....	15
5.1 Organisations as open systems	15
5.2 Contingency theory and the rejection of universal prescriptions	16
5.3 Learning, quality and evidence: refinement or return to measurement?	16
5.4 From stable planning to adaptation and dynamic capability	17
6. Contemporary Management Challenges	18
6.1 Artificial intelligence and algorithmic management	18
6.2 Knowledge work, motivation and managerial judgement.....	19
6.3 Organisational structure and digital coordination	20
6.4 Remote and hybrid work: trust, control and culture	21
6.5 Sustainability, stakeholders and resilience	22
7. Critical Synthesis: Transformation, Continuity and Recombination	23
7.1 Beyond a simple replacement narrative	23

7.2 What has genuinely transformed?.....	24
7.3 What has persisted?	25
7.4 Recombination and managerial paradox	26
7.5 Overall judgement	26
8. Conclusion	28
References.....	31

List of Tables

Table 1: Management theory evolution and contemporary persistence	11
Table 2: Evidence of continuity and substantive change	27

List of Figures

Figure 1: Evolution and layering of management thought.....	15
Figure 2: Selective recombination in contemporary management.	28

1. Introduction

The proposition that contemporary management remains rooted in nineteenth-century paradigms is deliberately provocative because it places two different questions together: whether management has changed, and whether older ideas continue to shape it. These are not equivalent. Organisations now operate with artificial intelligence, global digital infrastructures, knowledge-intensive work, hybrid teams and demands for environmental and social accountability that industrial-era theorists could not have anticipated. Yet the recurrent managerial problems of dividing and coordinating work, allocating authority, judging performance and securing cooperation are recognisable across periods. The issue is therefore not whether Taylor, Fayol or Weber can be found unchanged in a twenty-first-century organisation, but whether the assumptions and organising logics associated with classical management remain embedded beneath newer technologies and vocabularies.

Management thought developed in response to particular economic and social conditions. Smith's account of the division of labour prefigured the productivity logic later formalised by scientific management, while Taylor sought systematic control over work methods, Fayol articulated principles for administration and coordination, and Weber analysed the rational authority of bureaucracy (Smith, 1776; Taylor, 1911; Fayol, 1949; Weber, 1947). Their contributions made large-scale organisation more calculable and predictable, but they also rested on assumptions about authority, rationality and the treatment of labour that later schools challenged. Human-relations and behavioural writers shifted attention to informal groups, motivation, participation and learning; systems and contingency perspectives subsequently questioned the search for universal principles by treating organisations as open, interdependent and context-sensitive systems (Katz and Kahn, 1966; Lawrence and Lorsch, 1967). This development is better understood as accumulation and contestation than as a sequence in which each new school simply displaced the last (Wren and Bedeian, 2020).

That distinction matters because contemporary practices often combine apparently incompatible logics. Digital technologies can distribute information and support autonomous teams while also enabling detailed measurement and surveillance. Hybrid

work can weaken direct supervision yet generate new formal policies and digital controls. Sustainability can broaden organisational purpose while being implemented through targets, reporting systems and managerial accountability. Algorithmic management is especially revealing: computerised systems can allocate, monitor and evaluate work at a scale unavailable to Taylor, but the underlying interest in measurement, optimisation and control is familiar (Kellogg, Valentine and Christin, 2020; Baiocco and Fernández-Macías, 2022). Conversely, artificial intelligence is not merely a faster stopwatch. It can augment judgement, reshape decision rights and create new ethical and governance problems, demonstrating genuine qualitative change as well as continuity (Raisch and Krakowski, 2021).

The report therefore advances a qualified thesis. Management has not remained largely unchanged: its knowledge base, organisational forms, assumptions about workers and domain of responsibility have expanded substantially. However, change has not removed the classical foundations of management. Efficiency, formal authority, coordination, standardisation and performance measurement survive, sometimes in less visible or more technologically sophisticated forms. The report tests this thesis by moving from classical foundations to the behavioural shift, systems and contingency perspectives, and contemporary challenges involving AI, knowledge work, digital coordination, hybrid work, sustainability and resilience. Across these sections, the emphasis is critical rather than commemorative: what problem did a theory address; what assumptions did it make; how persuasive was its evidence; what did it neglect; and what remains useful in contemporary practice? The final synthesis evaluates whether the overall pattern is best characterised as paradigm replacement, continuity or selective recombination.

2. Methodology

This report uses a critical thematic literature review rather than a systematic review claiming exhaustive coverage. The evidence base combines seminal texts that established major management traditions with later scholarly critiques and recent peer-reviewed research on contemporary organisational conditions. Sources were selected for their relevance to the assignment's central claim, their influence on management thought

and, for current debates, the quality and recency of the evidence. Historical works are therefore retained where they are conceptually indispensable, while contemporary claims are supported mainly by journal research and authoritative institutional analysis.

The analysis follows the module's critical logic by examining arguments, concepts, assumptions, evidence, methodological limitations, implications for practice and contribution to knowledge. This is important because influential management ideas often become simplified as they move from research into managerial practice. Accordingly, the report distinguishes original theoretical propositions from later popular interpretations, compares counter-arguments, and avoids treating contemporary practices as proof of theoretical progress merely because they use new technology. The purpose is not to rank schools of management in isolation, but to evaluate how their logics persist, conflict and combine under changing organisational conditions.

3. Classical Management Foundations

3.1 Industrial antecedents: division of labour and the problem of efficiency

The classical tradition did not emerge from an abstract search for universal management rules; it developed alongside industrialisation, larger enterprises and the practical problem of coordinating specialised labour. Smith's analysis of the division of labour is an important precursor. He argued that specialisation could increase productivity through improved dexterity, reduced switching between tasks and the development of labour-saving machinery (Smith, 1776). This reasoning established a powerful managerial proposition: complex output can be improved by decomposing work into more specialised activities. Its strength was practical and economic, but the same proposition contains a tension that later management theory repeatedly revisits. Specialisation can improve efficiency while narrowing jobs, fragmenting knowledge and increasing dependence on coordination. In that sense, the classical management problem was never simply how to make individuals work faster; it was how to organise interdependent work at scale.

3.2 Taylor: scientific management and measurable work

Taylor transformed this productivity problem into a managerial method. Scientific management separated the design of work from its execution: management was expected to develop the 'science' of a task, select and train workers, secure cooperation and divide responsibility between managers and workers (Taylor, 1911). Its historical contribution should not be dismissed. In settings where production methods varied widely and output depended on individual craft routines, systematic measurement and standardisation offered a basis for learning, training and process improvement. Modern operations management still relies on the idea that work can be observed, compared and redesigned. Parker, Morgeson and Johns (2017), reviewing a century of work-design research, show that the design of tasks remains central to both performance and employee outcomes.

The weakness lies in the assumptions built into the approach. Taylor's model privileged managerial knowledge over worker discretion and treated efficiency as a problem that could be solved by identifying superior methods. This risks reducing work to what can be measured, underestimating tacit knowledge, social relations, creativity and the possibility that performance criteria themselves are contested. The claim that scientific management simply 'proved' one best way is therefore too strong. It was a normative programme for rationalising work as much as an empirically settled theory. Its contemporary relevance is similarly double-edged. Algorithmic management can now allocate tasks, measure pace and evaluate performance continuously. Baiocco and Fernández-Macías (2022) describe algorithmic management as computer-programmed procedures for coordinating labour, while Kellogg, Valentine and Christin (2020) show that algorithms create a new contested terrain of control. The technology is new; the ambition to make work visible, comparable and governable through measurement is recognisably Taylorist.

3.3 Fayol: administration, coordination and managerial authority

Where Taylor concentrated on work design, Fayol addressed the organisation as an administrative whole. His functions of planning, organising, commanding, coordinating and controlling, together with principles such as unity of command and scalar authority,

gave management a language for integrating specialised activities (Fayol, 1949). The enduring contribution is not that every one of Fayol's principles remains universally valid, but that managerial work requires some mechanism for setting direction, allocating responsibility and resolving interdependence. Strategic planning cycles, budgets, dashboards and approval processes continue to perform these functions even when organisations describe themselves as agile or decentralised.

Fayol's weakness is the universalising tendency of administrative principles. Organisational environments differ in uncertainty, professional autonomy, technology and institutional demands. A rigid scalar chain may reduce ambiguity in one context and slow learning in another. Later contingency research directly challenged the idea that one administrative arrangement could be optimal across conditions (Burns and Stalker, 1961; Lawrence and Lorsch, 1967). Yet rejecting universality does not eliminate the underlying coordination problem. Contemporary organisations often decentralise decision rights while simultaneously strengthening central governance over finance, risk, data or brand standards. The more useful conclusion is that Fayolian functions persist, but their location and execution have become more distributed.

3.4 Weber: bureaucracy, rational authority and formalisation

Weber's bureaucracy is frequently reduced to a synonym for red tape, but this misses its analytical purpose. Bureaucratic authority rests on formal offices, rules, expertise and an impersonal order rather than personal favour or arbitrary command (Weber, 1947 [1920]). For large organisations, these features can increase consistency, accountability and continuity. Formalisation also supports fairness when decisions must be explainable and repeatable. Adler and Borys (1996) sharpen this point by distinguishing coercive bureaucracy, which constrains employees, from enabling bureaucracy, which provides rules and systems that help people perform complex work. This distinction is particularly relevant to regulated or safety-critical organisations where complete informality would not necessarily be liberating.

The classical bureaucratic model nevertheless carries important limitations. Rules can become detached from purpose, hierarchy can slow information, and impersonal systems can obscure power by presenting organisational choices as neutral procedure.

Digitalisation does not automatically solve these problems. Enterprise systems, workflow engines and compliance platforms can make formalisation less visible while embedding it more deeply in day-to-day action. A software approval rule may be faster than paper bureaucracy yet harder for an employee to challenge because the rule appears as a technical constraint. Modern bureaucracy is therefore not simply Weber with computers; digital systems alter the speed, granularity and reach of formal control, even as the underlying logic of rule-based coordination persists.

3.5 Critical evaluation: persistence without stasis

Taken together, Taylor, Fayol and Weber addressed different dimensions of the same industrial problem: how to make large-scale collective activity predictable. Taylor rationalised tasks, Fayol rationalised administration and Weber rationalised authority. Their approaches created foundations for productivity and organisational scale, but they also concentrated epistemic and decision authority in management. That concentration is precisely what later behavioural and participative approaches would challenge. The fact that classical ideas remain visible does not prove that management is unchanged. Today's organisations operate with more educated workforces, stronger employment institutions, faster information flows and greater expectations of participation. What persists are selective logics - measurement, hierarchy, formalisation and coordination - whose meaning depends on how they are combined with newer assumptions about people and context.

“Table 1” summaries this evolution. Its purpose is analytical rather than chronological: it shows that later schools add new assumptions and problem frames without making earlier managerial concerns disappear. This is why contemporary practice can be simultaneously human-centred and highly measured, decentralised and formally governed, adaptive and standardised.

Tradition	Central problem	Core proposition	Principal contribution	Critical limitation	Contemporary persistence
Smith / division of labour	Productivity through specialisation	Complex work can be decomposed into specialised tasks	Explains productivity gains from division of labour	Fragmentation and coordination costs	Specialised roles, process decomposition, modular work (Smith, 1776)
Taylor / scientific management	Efficiency and work design	Measurement and standardisation can identify improved methods	Systematic process analysis and training	Managerial control can suppress discretion and tacit knowledge	Algorithmic scheduling, productivity analytics (Taylor, 1911; Baiooco and Fernández-Macías, 2022)
Fayol administrative theory /	Coordination of the whole organisation	Planning, organising and control integrate specialised activity	Language of managerial functions and responsibility	Universal principles understate contextual variation	Strategic planning, governance, dashboards and approval systems (Fayol, 1949)
Weber bureaucracy /	Predictable and legitimate authority	Formal roles, rules and expertise rationalise administration	Consistency, continuity and accountability	Rigid or coercive formalisation can obstruct learning	Digital workflows, compliance and enterprise systems (Weber, 1947 [1920]; Adler and Borys, 1996)
Behavioural human-centred /	Cooperation, motivation and development	Social relations, assumptions and intrinsic needs shape performance	Employee voice, participation and richer views of motivation	Evidence is uneven; humanism can become another performance instrument	Engagement, autonomy, coaching, learning (McGregor, 1960; Deci, Olafsen and Ryan, 2017)
Systems contingency /	Interdependence and environmental fit	There is no universally optimal form; performance depends on relationships and context	Adaptation, feedback and whole-system analysis	Can become abstract or tautological if fit is defined after outcomes	Ecosystem thinking, adaptive structures, resilience (Katz and Kahn, 1966; Lawrence and Lorsch, 1967)
Contemporary digital stakeholder /	Speed, complexity and wider accountability	Technology and stakeholder pressures extend managerial capability and responsibility	Real-time coordination, augmented judgement, broader goals	Surveillance, opacity, competing objectives and new governance risks	AI, hybrid work, ESG, stakeholder governance and resilience (Raisch and Krakowski, 2021; Berg, Kölbel and Rigobon, 2022)

Table 1: Management theory evolution and contemporary persistence

Source: Author's synthesis based on the literature reviewed.

4. The Behavioural and Human-Centred Shift

4.1 From labour as an input to people as social actors

Behavioural management is often presented as a humane correction to classical control. That description is directionally correct but analytically incomplete. The more important shift was epistemological: performance could no longer be explained adequately by task design and formal authority alone. Informal groups, perceptions, motives and managerial assumptions became legitimate objects of management

knowledge. The human-centred tradition therefore widened what counted as an organisational cause. Yet it did not remove the performance objective that animated classical management; instead, it asked whether productivity and cooperation might be achieved through different social and psychological mechanisms.

Mary Parker Follett is especially important because her work does not fit neatly into a simple classical-versus-human-relations sequence. Her emphasis on integration, reciprocal influence and 'power with' rather than domination anticipated later participative and relational conceptions of leadership (Follett, 1941). Rather than treating conflict as something a manager simply suppresses, Follett saw the possibility of constructing solutions through interaction. This challenged the assumption that authority must always travel down a scalar chain. At the same time, participation in Follett's account was not an argument against organisational purpose. It was a different route to coordination: authority could emerge from the requirements of the situation and from joint problem solving rather than solely from position.

4.2 Hawthorne and the problem of evidence

The Hawthorne research associated with Mayo became emblematic of the claim that social attention and group relations matter for productivity (Mayo, 1933). Its historical influence is undeniable: it directed management attention towards informal organisation, supervision, morale and the social meaning of work. However, its status as decisive empirical proof is much weaker than popular management accounts suggest. Levitt and List's (2011) reanalysis of the original illumination experiments found little support for the simple story that people reliably improve performance merely because they know they are being observed. Changes in experimental conditions, incentives and small-sample dynamics complicate causal interpretation.

This methodological problem is useful for the present assessment because it demonstrates how management ideas acquire authority. A memorable label - the 'Hawthorne effect' - can travel much further than the evidence that originally supported it. The appropriate conclusion is not that social factors are unimportant; extensive later research clearly shows that work design, relationships and psychological experience affect outcomes. Rather, managers should resist converting a historically influential

research programme into a universal behavioural law. Critical management analysis requires separating the contribution of a theory from the mythology that later develops around it.

4.3 Motivation: Maslow, McGregor and the assumptions managers bring to work

Maslow's hierarchy of needs provided an intuitive way of thinking about motivation beyond wages and physical conditions (Maslow, 1943). Its influence on managerial practice is much greater than the strength of evidence for a rigid, universal hierarchy. Wahba and Bridwell's (1976) review found limited empirical support for the proposition that needs are activated in the fixed sequence commonly depicted in management textbooks. Cultural, occupational and individual differences further weaken a mechanical reading of the model. Maslow remains useful as a reminder that workers pursue multiple forms of value and meaning, but less useful as a diagnostic ladder that allows a manager to infer motivation from a person's supposed level.

McGregor's Theory X and Theory Y is more powerful when read as a critique of managerial assumptions rather than a classification of employees (McGregor, 1960). Theory X captures assumptions that people dislike work, avoid responsibility and require close direction; Theory Y assumes that self-direction and responsibility are possible where conditions support them. McGregor's contribution was to show that managerial beliefs can shape the systems through which employees are then observed. Tight controls may produce compliance and dependence, which can be taken as evidence that tight control was necessary in the first place. Conversely, autonomy without capability, information or accountability does not automatically create self-management. The theory therefore directs attention to a reciprocal process between managerial design and employee behaviour rather than to an intrinsically 'good' or 'bad' worker.

4.4 Argyris, learning and the limits of managed humanism

Argyris extended the human-centred critique by examining tensions between mature individuals and organisational systems that reward passivity or narrow dependence (Argyris, 1957). Later, Argyris and Schön (1978) distinguished single-loop learning -

correcting action within existing governing assumptions - from double-loop learning, in which those assumptions themselves are questioned. This distinction matters for contemporary management because organisations can become highly efficient at doing the wrong thing. Performance systems may detect variance while leaving the purpose, metric or power structure that created the problem untouched.

The behavioural tradition nevertheless contains its own managerial paradox. Human needs, engagement and autonomy can be valued intrinsically, but they can also be instrumentalised as techniques for securing higher performance. An organisation can invite employee voice while retaining unilateral control over targets, reward systems and strategic priorities. Deci, Olafsen and Ryan's (2017) review of self-determination theory in workplaces reinforces the importance of autonomy, competence and relatedness, but it also shows that motivational quality depends on organisational conditions rather than slogans. Human-centred management therefore represents genuine conceptual progress from the narrowest versions of classical theory, yet it does not abolish control. It relocates part of the management problem from direct supervision to the design of conditions under which people will regulate and coordinate their own behaviour.

4.5 A human shift, not a complete break

The strongest interpretation is that behavioural approaches transformed management's model of the person more deeply than they transformed the existence of managerial objectives. Workers became social actors, sources of knowledge and potential participants in decision-making rather than merely units of labour. Yet performance, coordination and organisational purpose remained. This explains why modern workplaces frequently combine empowerment with metrics, team autonomy with budget authority, and employee voice with formal accountability. The change is real because the legitimacy of authority increasingly depends on explanation, expertise and participation; the continuity is real because organisations still require mechanisms for aligning individual action with collective goals.

Figure 1 represents this development as layering rather than replacement. Classical logics continue to flow into later approaches, while behavioural, systems and contemporary perspectives add new ways of understanding motivation, context and

responsibility. The next intellectual move therefore arises from a limitation shared by both classical and behavioural schools: neither, on its own, adequately explains how organisational outcomes emerge from interdependence with technology, structure and a changing external environment.

Figure 1. Evolution and persistence in management thought

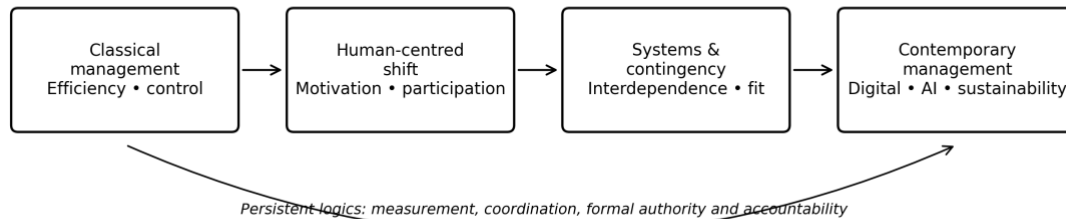


Figure 1: Evolution and layering of management thought

Source: Author's synthesis based on the literature reviewed.

5. Systems, Contingency and Modern Foundations

5.1 Organisations as open systems

Systems thinking changed the unit of analysis. Rather than assuming that an organisation could be optimised by improving isolated tasks or by managing individual motivation, open-systems theory emphasised relationships among parts and exchanges with the environment. Katz and Kahn (1966) conceptualised organisations as systems of inputs, transformations and outputs sustained through interaction with their surroundings. The implication is significant: a local improvement may damage the whole if it shifts costs, delays or risks elsewhere. This logic is visible in contemporary supply chains, digital ecosystems and sustainability problems, where managerial choices routinely cross functional and organisational boundaries.

The attraction of systems thinking is its capacity to expose feedback and unintended consequences. Concepts such as reinforcing and balancing loops, stocks and flows, system archetypes and the 'iceberg' perspective encourage managers to look beyond visible events towards patterns and structures that reproduce them. Yet systems language can also become so encompassing that almost any outcome can be described

after the fact as a property of interdependence. Its practical value therefore depends on whether relationships are specified rigorously enough to guide diagnosis and action. A systems diagram is not evidence by itself; it is a hypothesis about causal structure that must be tested against organisational data and experience.

5.2 Contingency theory and the rejection of universal prescriptions

Contingency research directly challenged the classical search for a single best form of organisation. Burns and Stalker (1961) distinguished more mechanistic and organic forms in relation to environmental conditions, while Lawrence and Lorsch (1967) linked differentiation and integration to environmental uncertainty. The important proposition is not that flexible structures are always superior, but that effectiveness depends on fit among environment, technology, tasks and organising arrangements. A highly regulated, safety-critical operation may rationally require formal procedures that would be dysfunctional in an exploratory design team.

This was a genuine conceptual shift because it weakened claims of universal management principles. However, contingency theory is not free of problems. 'It depends' can become tautological if good performance is used to infer that the organisation must have achieved fit. Managers also face multiple, sometimes contradictory contingencies: the same firm may need standardisation for cybersecurity, local discretion for customer service and experimentation for innovation. Context is not a single variable to be matched with a single structure. Contingency thinking is therefore more valuable as an antidote to universalism than as a formula that mechanically identifies the correct organisational design.

5.3 Learning, quality and evidence: refinement or return to measurement?

Senge's learning-organisation framework brought systems thinking into managerial practice by linking personal mastery, mental models, shared vision, team learning and systems thinking (Senge, 1990). Its continuing appeal lies in the recognition that adaptation requires more than periodic restructuring; organisations must learn how their own assumptions shape action. The framework also connects with Argyris and Schön's double-loop learning by asking whether organisations can question the rules through

which they interpret performance. Nevertheless, the learning organisation is largely a normative ideal. Shared vision and systems awareness are difficult to operationalise consistently, and power differences may limit whose assumptions are actually open to challenge. A firm can proclaim learning while still punishing the local experimentation on which learning depends.

Quality management and quantitative approaches introduce a related tension. Deming's work emphasised variation, process improvement and system responsibility rather than blaming individuals for every defect (Deming, 2018). The Balanced Scorecard later broadened measurement beyond short-term finance by linking measures to strategy (Kaplan and Norton, 1992). These approaches move beyond simple Taylorism because measurement is used to understand processes and multiple outcomes. Yet they also demonstrate the persistence of the managerial desire to make organisational reality visible through indicators. Evidence-based management can improve judgement only when managers question the validity of the evidence, not when a dashboard is treated as neutral truth. Metrics can focus attention, but they can also narrow it.

5.4 From stable planning to adaptation and dynamic capability

Modern strategy research similarly reframed management around adaptation. Teece, Pisano and Shuen's (1997) dynamic-capabilities perspective asks how organisations integrate, build and reconfigure capabilities as environments change. This extends contingency logic: it is not enough to fit the current environment; firms require processes for changing the fit itself. Drucker's later work on knowledge-worker productivity also moved managerial attention away from purely physical output towards the conditions under which expertise creates value (Drucker, 1999), while Mintzberg's observational work challenged idealised descriptions of managerial activity by showing fragmented, interpersonal and informational roles in practice (Mintzberg, 1973). These contributions weaken the image of the manager as a detached planner executing a stable design.

However, they do not make planning, measurement or formal authority irrelevant. Adaptive organisations still allocate resources, evaluate trade-offs and establish decision rights. This is the bridge to contemporary management. Systems and contingency theories prepared management thought for complexity by making interdependence and

context central. Twenty-first-century digital, ecological and geopolitical pressures intensify precisely those conditions. The question is whether new technologies and responsibilities merely increase the complexity of an old managerial task, or whether they alter the nature and purpose of management itself.

6. Contemporary Management Challenges

Systems and contingency approaches made environmental interdependence and contextual fit central to management. Contemporary conditions test how far those frameworks can stretch. Digitalisation, AI, knowledge-intensive work, hybrid arrangements and stakeholder pressures create capabilities and risks that have no direct industrial-era equivalent. Yet they also reveal the persistence of older concerns with coordination, control and accountability. The critical question is therefore not whether technology or sustainability is 'new', but whether these developments change the underlying managerial relationship between objectives, authority, information and people.

6.1 Artificial intelligence and algorithmic management

Digital transformation alters organisations by changing information flows, decision processes and the boundaries between human and machine work. Vial's (2019) review emphasises that digital transformation is not simply technology adoption; digital technologies can trigger disruptions that require changes in organisational structures, value creation and capabilities. Artificial intelligence extends this shift because some tasks previously treated as managerial judgement - forecasting, matching, scheduling, ranking and monitoring - can be partially automated.

Algorithmic management provides the clearest continuity with scientific management. Digital systems can assign work, set priorities, monitor behavioural data and evaluate outcomes continuously (Baiocco and Fernández-Macías, 2022). Kellogg, Valentine and Christin (2020) show that algorithmic control changes the terrain on which workers and organisations contest direction, evaluation and discipline. This resembles Taylorism in its preference for measurement and optimisation, but describing it as nothing more than digital Taylorism understates the qualitative difference. Algorithms can combine data at a scale and speed unavailable to human supervisors, operate through opaque models,

personalise controls and shift power towards those who design data rules. Control may become both more granular and less visible.

The managerial implications are therefore paradoxical. Algorithmic systems can remove routine coordination work and produce more consistent decisions, but they can also reduce employees' ability to understand or contest how judgements are made. Efficiency gains do not settle questions of fairness, privacy or accountability. Raisch and Krakowski (2021) conceptualise AI in management through an automation-augmentation paradox: organisations gain most when they avoid treating automation and human augmentation as mutually exclusive. Human judgement remains important where goals are ambiguous, data are incomplete or values conflict. The contemporary manager is consequently not simply replaced by an algorithm; managerial responsibility increasingly includes deciding what should be automated, what should remain contestable and who is accountable when machine-supported decisions cause harm.

This is a substantive change in managerial capability, but it also exposes a classical continuity. Taylor's central question was how management could know and control the work process. AI intensifies that aspiration while changing the epistemic basis of control from direct observation to data inference. The lesson is not that management has returned to 1911, but that technological novelty can coexist with very old assumptions about what good management should optimise.

6.2 Knowledge work, motivation and managerial judgement

Knowledge-intensive work places different limits on direct control. The valuable output of a designer, engineer, analyst or researcher may depend on judgement, learning and creativity that cannot be specified completely in advance. Drucker (1999) argued that knowledge-worker productivity would become a central management challenge, and later work-design research confirms that autonomy, task characteristics and social context influence both performance and employee experience (Parker, Morgeson and Johns, 2017). Self-determination theory further indicates that motivation is strengthened when work supports autonomy, competence and relatedness rather than relying only on external control (Deci, Olafsen and Ryan, 2017).

This does not mean knowledge work is beyond measurement. Projects still have budgets, quality standards, deadlines and strategic priorities. The difference is that managers often have less direct knowledge of how expert work should be done, making control through detailed task prescription less effective. Authority therefore shifts partially from position to expertise. McGregor's Theory Y becomes more plausible in such settings, but the practical challenge is to combine discretion with accountability. Too little autonomy can suppress initiative; too little coordination can produce duplication, local optimisation and strategic drift.

AI further complicates the boundary between expertise and management. Decision-support systems can augment pattern recognition and reduce information-processing burdens, but they can also create automation bias or encourage managers to defer to outputs they do not fully understand. Evidence-based management therefore requires more than collecting data. It requires judgement about measurement quality, causal inference and the values embedded in objectives. The manager's role shifts from possessing all relevant knowledge towards orchestrating expertise, challenging assumptions and creating conditions in which human and technological capabilities complement each other. That is a stronger departure from classical managerial omniscience than the mere use of faster tools.

6.3 Organisational structure and digital coordination

Digital infrastructures make it easier to coordinate across geography, organisational boundaries and professional communities. Networked teams, platform ecosystems and cross-functional structures can distribute information without routing every decision through a vertical hierarchy. This weakens the classical assumption that coordination necessarily requires close co-location or a long scalar chain. Yet formal organisation does not disappear. Digital collaboration requires access rights, standards, interfaces, escalation rules and accountability for data and decisions. In practice, decentralisation at one level may depend on stronger standardisation at another.

This is where Weber's bureaucracy becomes particularly relevant. Digital workflows can be enabling when they clarify responsibilities and reduce arbitrary treatment, or coercive when they force diverse situations through rigid categories (Adler and Borys,

1996). The organisation may appear 'flat' to users while a hidden architecture of permissions, metrics and governance makes the system highly structured. Similarly, enterprise platforms integrate information across functions in ways Fayol could not imagine, but their purpose remains coordination. Digital structure therefore represents neither the death of hierarchy nor its simple survival; authority is increasingly distributed across managers, professionals, standards and technical systems.

Hamel and Zanini (2020) criticise bureaucratic organisations for concentrating power and constraining initiative, arguing for more human-centred and entrepreneurial forms. Their critique identifies a genuine contemporary tension, but the alternative is not organisation without rules. The harder question is what should be standardised and what should remain locally adaptable. Digital organisations succeed not by choosing hierarchy or networks once and for all, but by designing interfaces between them.

6.4 Remote and hybrid work: trust, control and culture

The rapid normalisation of remote and hybrid work offers a natural test of classical assumptions about supervision. When employees are not physically co-located, visibility of effort falls and coordination must rely more heavily on digital communication, explicit outcomes and trust. A large randomised controlled trial at Trip.com found that hybrid working improved retention and job satisfaction without damaging performance, challenging the assumption that physical presence is necessary for control or productivity (Bloom, Han and Liang, 2024). The evidence is context-specific - largely educated employees in one company - but stronger than anecdotal claims that either office work or remote work is universally superior.

Hybrid work nevertheless generates new forms of formalisation. Organisations develop rules on availability, cybersecurity, data handling, meeting norms and office attendance. Some also use digital monitoring, which can recreate close supervision through software rather than physical presence. The result is a revealing recombination of Theory Y and Theory X: organisations may publicly emphasise autonomy while simultaneously collecting more behavioural data than a traditional office manager could observe. Whether this is experienced as coordination or surveillance depends on transparency, proportionality and the employee's ability to influence the rules.

Culture also becomes a more explicit managerial object when informal contact is reduced. The human-relations insight that social connection affects work has not become obsolete; it has become harder to rely on accidentally. Managers must design opportunities for knowledge sharing, belonging and conflict resolution across digital and physical settings. Hybrid work therefore represents genuine change in the spatial and technological conditions of management while leaving unresolved the old question of how much trust and control an organisation requires.

6.5 Sustainability, stakeholders and resilience

The most substantial expansion of management's purpose may lie outside technology. Stakeholder theory argues that the firm should be understood through relationships with multiple groups that affect or are affected by organisational activity, rather than through shareholder returns alone (Freeman, 1984). Elkington's (1997) triple-bottom-line formulation similarly broadened performance to include social and environmental dimensions. These perspectives challenge the narrowest classical emphasis on internal efficiency because a technically efficient organisation may still externalise environmental damage, insecure work or social costs.

However, stakeholder language does not remove conflict among objectives. Employees may prefer job security, investors may seek returns, communities may oppose expansion and environmental constraints may require costly investment. Hahn et al. (2015) argue that corporate sustainability contains persistent tensions rather than simple win-win alignment. Management therefore faces a normative as well as technical problem: whose interests count, over what time horizon, and how are trade-offs justified? This is qualitatively different from optimising a single production function, although managers often implement wider objectives using familiar instruments such as targets, audits, reporting lines and incentive systems.

ESG measurement illustrates both the value and limitation of this translation into metrics. Berg, Kölbel and Rigobon (2022) document substantial divergence among ESG ratings, showing that apparently quantitative sustainability scores can reflect different scopes, measures and weighting choices. The lesson parallels earlier critiques of performance measurement: numbers can support accountability, but they do not make

contested concepts objective. A dashboard can conceal disagreement about what is being measured just as easily as it can reveal performance.

Resilience adds a further challenge to the classical pursuit of efficiency. Highly optimised systems may remove redundancy and slack, yet the same features can reduce capacity to absorb disruption. Ducheck (2020) conceptualises organisational resilience as a capability involving anticipation, coping and adaptation. This does not imply that efficiency is irrelevant; organisations with unlimited slack would also fail. It means that managers must judge when spare capacity, multiple suppliers, buffers or decentralised decision rights are valuable insurance rather than waste. The tension between lean efficiency and resilience is therefore a contemporary example of contingency thinking under conditions of uncertainty.

Taken together, sustainability and resilience broaden both the time horizon and the set of outcomes management must consider. They are more than new labels for old efficiency problems because they change what counts as organisational success. Yet their implementation often travels through classical mechanisms of objective setting, measurement, responsibility and control. Contemporary management thus extends the managerial agenda while retaining much of the machinery through which organisations pursue it.

7. Critical Synthesis: Transformation, Continuity and Recombination

7.1 Beyond a simple replacement narrative

The historical and contemporary evidence does not support a linear account in which scientific management was replaced by human relations, which was replaced by systems thinking, which was then superseded by digital management. Organisations routinely use several of these logics at the same time. A regulated technology company may rely on Weberian formalisation for compliance, Taylor-like analytics for operational performance, Theory Y assumptions for expert teams, systems thinking for platform dependencies and stakeholder frameworks for social legitimacy. Management thought is therefore

cumulative, but not merely additive: later approaches often reinterpret or constrain earlier ones, and conflicts between them remain visible in practice.

This matters for the wording of the assessment claim. To say that management remains 'rooted' in earlier paradigms can be justified if roots mean enduring intellectual foundations. To say it has remained 'largely unchanged' is much harder to defend because the legitimate objects of management, the distribution of knowledge and the organisational environment have all shifted. The conceptual mistake is to treat continuity of managerial problems as evidence of continuity of managerial solutions. Coordination is enduring; the institutional and technological arrangements through which coordination occurs are not.

7.2 What has genuinely transformed?

The first substantive transformation concerns assumptions about employees. Classical management gave management privileged authority to analyse and direct work. Behavioural theory did not eliminate hierarchy, but it made social relations, motivation and employee interpretation central explanatory variables. Contemporary knowledge work takes this further because the person being managed may possess expertise that the manager cannot substitute. Autonomy is consequently not only a motivational benefit; it can be an operational necessity. The legitimacy of managerial authority increasingly depends on enabling expertise and creating conditions for coordination rather than on possessing superior technical knowledge.

Second, organisational design has become more explicitly contingent and permeable. Classical hierarchy assumed relatively clear organisational boundaries. Modern firms coordinate through suppliers, platforms, professional networks, distributed teams and digital infrastructures. The management problem has shifted from designing one internal hierarchy towards governing relationships among multiple forms of authority. This does not remove hierarchy, but it makes hierarchy only one coordination mechanism among standards, markets, networks, professional expertise and algorithms.

Third, the informational basis of management has changed. Digital systems provide real-time data and predictive capabilities unavailable to earlier managers, while AI can

automate or augment parts of decision-making. The change is not simply quantitative. When an algorithm ranks workers, recommends credit, forecasts demand or filters applicants, part of managerial judgement becomes encoded in a technical artefact. Questions of model design, bias, transparency and accountability therefore enter management itself. Classical theorists addressed who should decide and how work should be controlled; contemporary managers must additionally govern the systems that increasingly participate in deciding.

Fourth, managerial responsibility has expanded. Stakeholder, sustainability and resilience perspectives force organisations to consider impacts and time horizons that narrow production-efficiency models largely externalised. Environmental limits, labour standards, data ethics and supply-chain resilience make effectiveness a multi-dimensional and contested concept. These are not merely additional KPIs. They change the argument about what organisational performance is for, even though organisations often respond by translating them into familiar targets and reporting systems.

7.3 What has persisted?

The strongest continuity lies in managerial purposes. Organisations still need to establish priorities, divide labour, coordinate interdependent activity, evaluate performance, resolve conflict and remain viable. Taylor, Fayol and Weber continue to matter because they formalised recurring aspects of these problems. Measurement has not disappeared; it has become more data-intensive. Formal rules have not disappeared; they have migrated into software, standards and governance. Hierarchy has not disappeared; it coexists with projects, networks and expert authority. Planning has not disappeared; it is increasingly iterative and scenario-based rather than assuming a stable environment.

Persistence, however, should not be confused with equivalence. An algorithmic performance system is not simply a digital stopwatch. Its capacity to infer, personalise and act at scale alters both the intensity of control and the possibilities for challenge. Likewise, a global enterprise platform is not simply Fayol's scalar chain transferred online; it can connect peers across functions and distribute information horizontally. The more

defensible argument is that classical logics are reproduced selectively inside organisational arrangements that are qualitatively different in other respects.

7.4 Recombination and managerial paradox

Contemporary organisations are characterised by combinations that earlier theory often treated as alternatives. They seek autonomy and surveillance, agility and standardisation, decentralised expertise and centralised risk control, lean efficiency and resilience buffers, stakeholder commitments and financial discipline. These are not necessarily signs of theoretical confusion. Different logics may address different risks at different levels. For example, a product team may be autonomous in experimentation while cybersecurity standards remain non-negotiable; local customer decisions may be decentralised while financial capital allocation remains centralised.

Contingency and systems thinking help explain this coexistence by directing attention to fit and interdependence, but they do not resolve all conflicts. Power and values matter. A system can be internally coherent and still distribute benefits unfairly; a structure can fit a competitive environment while imposing unacceptable surveillance on workers. This is why contemporary management cannot be reduced to technical optimisation. Managers make choices about whose objectives are prioritised, which risks are tolerated and what forms of control are legitimate. The evolution of management theory has therefore expanded not only the number of available tools but also the ethical and political questions that competent management must address.

7.5 Overall judgement

‘Table 2’ crystallises the evidence. The balance favours substantial transformation combined with deep continuity. The most significant changes concern the model of the employee, the distribution of expertise, the openness of organisational boundaries, the informational capabilities of management and the scope of organisational responsibility. The strongest continuities concern the need for coordination and the recurrent use of measurement, formalisation, planning and accountability to achieve it. No single school captures this combination adequately.

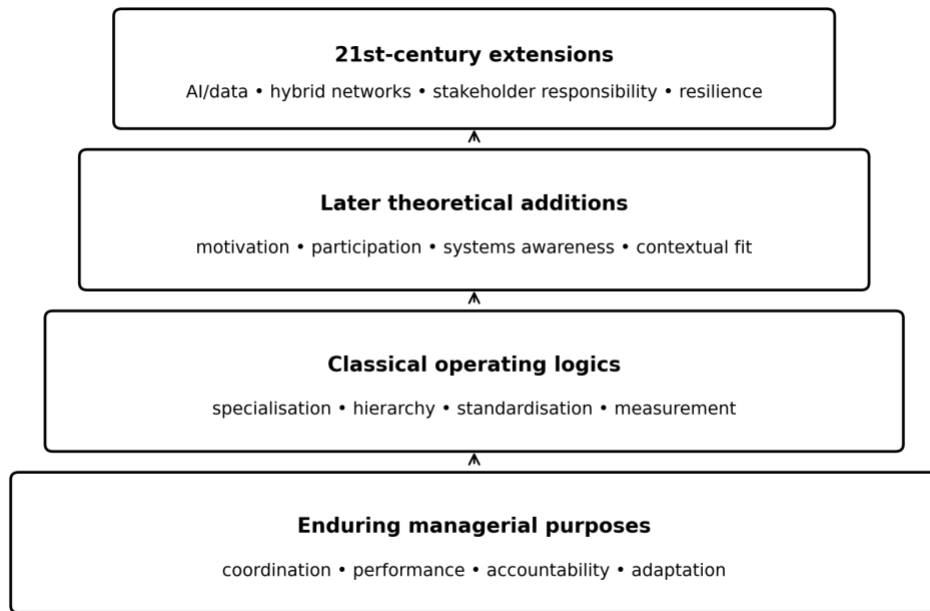
The report therefore rejects both extremes. A complete-paradigm-shift thesis exaggerates novelty and overlooks the classical architecture embedded in modern systems. An unchanged-management thesis ignores the genuine redistribution of knowledge, the rise of participative and contingent approaches, the technological mediation of authority, and the widening of managerial responsibility. Contemporary management is best characterised as selective recombination: classical operating logics remain available, behavioural insights reshape how people are understood, systems and contingency theory explain context and interdependence, and digital and stakeholder pressures extend both managerial capability and obligation. The central implication is that managerial sophistication lies less in adopting the newest label than in recognising which assumptions a practice carries and whether those assumptions fit the problem, people and context at hand.

Analytical dimension	Evidence of continuity	Evidence of substantive change	Critical judgement
Work design and performance	Targets, standardisation and quantification remain central.	Knowledge work and AI alter what can be specified, measured and automated.	Taylorist logic persists, but digital capacity changes the intensity and object of measurement.
Authority and structure	Formal roles, hierarchy and governance remain widespread.	Networks, projects, expert authority and platforms distribute coordination across boundaries.	Hierarchy is recombined with other modes rather than abolished.
People and motivation	Organisations still align individual behaviour with collective objectives.	Social needs, autonomy, learning and employee voice have greater theoretical and practical legitimacy.	The model of the worker has changed more than the need for organisational accountability.
Decision-making	Planning, metrics and formal review remain core managerial routines.	Real-time data, distributed expertise and AI alter the informational basis of judgement.	Classical functions persist, but who/what participates in decisions has changed.
Environment and strategy	Managers still seek organisational viability and performance.	Open systems, uncertainty, sustainability and resilience broaden context and time horizon.	Effectiveness is now more explicitly contingent and multi-dimensional.
Responsibility and purpose	Objectives are still translated into targets, roles and controls.	Stakeholder and environmental concerns challenge narrow shareholder or production priorities.	The machinery of management is familiar; the legitimate scope of responsibility has expanded.

Table 2: Evidence of continuity and substantive change

Source: Author's synthesis based on the literature reviewed.

Figure 2. Selective recombination rather than theoretical replacement



Contemporary management adds layers of capability without eliminating older organising logics.

Figure 2: Selective recombination in contemporary management.

Source: Author's synthesis based on the literature reviewed.

8. Conclusion

The assertion that management has remained largely unchanged and rooted in nineteenth-century paradigms captures an important continuity, but overstates it. Classical management established durable ways of thinking about efficiency, specialisation, authority, coordination and control. Those concerns remain visible in contemporary organisations, and many of the technologies presented as new managerial innovations continue to operationalise them. Algorithmic performance management extends Taylor's interest in measurable work; digital workflows reproduce aspects of Weberian formalisation; and strategic planning, target setting and managerial accountability retain a recognisably Fayolian logic. In this sense, contemporary management has not escaped its intellectual inheritance.

However, continuity of foundations is not the same as continuity of management itself. Behavioural and human-centred theories altered the assumptions through which employees were understood by making social relations, motivation, participation and

learning legitimate parts of management analysis. Systems and contingency approaches then weakened the idea of a universal best method, locating organisational effectiveness in interdependence and contextual fit. These were substantive conceptual developments, not merely new vocabulary. Contemporary knowledge work deepens the shift because authority increasingly depends on expertise that may be distributed throughout an organisation rather than concentrated in the managerial hierarchy.

Twenty-first-century conditions extend that transformation. Digital systems and AI change the speed, scale and informational basis of coordination, but they also produce new problems of opacity, surveillance, fairness and accountability. Hybrid work challenges the assumption that supervision requires physical presence, while simultaneously generating new digital rules and monitoring practices. Sustainability, stakeholder governance and resilience expand the scope of managerial responsibility beyond internal productivity and short-term financial performance. Managers are increasingly required to make judgements about environmental impact, competing stakeholder claims, technological risk and the resilience of interdependent systems. Classical management provides no complete answer to these problems, even though its mechanisms of objectives, measurement and formal accountability are often used to manage them.

The overall pattern is therefore better described as adaptive, cumulative evolution than as either revolution or stasis. Management theories coexist because they address different dimensions of organisational life and operate at different levels. A contemporary organisation can rationally be bureaucratic in safety-critical processes, participative in expert work, contingent in structure and systems-oriented in strategy. It can also combine these logics badly: autonomy can become rhetorical while surveillance expands; sustainability can become a reporting exercise; agility can become another standardised ritual. The task of critical management is to recognise these tensions rather than assume that a modern label guarantees a modern practice.

The practical implication is that effective managers need historical as well as contemporary literacy. Understanding Taylor, Fayol and Weber helps reveal the assumptions embedded in metrics, workflows and hierarchies; behavioural theory

exposes the human consequences of those arrangements; systems and contingency thinking prevent universal solutions from being applied without regard to context; and contemporary research widens attention to AI governance, knowledge work, stakeholders and resilience. The final judgement is therefore a 'both-and' position, but not an evasive one: management has transformed substantially in form, knowledge, responsibility and organisational context, while continuing to draw on classical logics for the enduring work of coordinating collective action. Its roots remain visible, but the organisation growing from them is materially different.

References

- Adler, P.S. and Borys, B. (1996) 'Two types of bureaucracy: enabling and coercive', *Administrative Science Quarterly*, 41(1), pp. 61–89. doi:10.2307/2393986.
- Argyris, C. (1957) *Personality and Organization: The Conflict between System and the Individual*. New York: Harper.
- Argyris, C. and Schön, D.A. (1978) *Organizational Learning: A Theory of Action Perspective*. Reading, MA: Addison-Wesley.
- Baiocco, S. and Fernández-Macías, E. (2022) *The Algorithmic Management of Work: A Basic Compass*. Luxembourg: Publications Office of the European Union, Joint Research Centre (JRC129819).
- Berg, F., Kölbel, J.F. and Rigobon, R. (2022) 'Aggregate confusion: the divergence of ESG ratings', *Review of Finance*, 26(6), pp. 1315–1344. doi:10.1093/rof/rfac033.
- Bloom, N., Han, R. and Liang, J. (2024) 'Hybrid working from home improves retention without damaging performance', *Nature*, 630, pp. 920–925. doi:10.1038/s41586-024-07500-2.
- Burns, T. and Stalker, G.M. (1961) *The Management of Innovation*. London: Tavistock.
- Deci, E.L., Olafsen, A.H. and Ryan, R.M. (2017) 'Self-determination theory in work organizations: the state of a science', *Annual Review of Organizational Psychology and Organizational Behavior*, 4, pp. 19–43. doi:10.1146/annurev-orgpsych-032516-113108.
- Deming, W.E. (2018) *Out of the Crisis*. Cambridge, MA: MIT Press.
- Drucker, P.F. (1999) 'Knowledge-worker productivity: the biggest challenge', *California Management Review*, 41(2), pp. 79–94. doi:10.2307/41165987.
- Duchek, S. (2020) 'Organizational resilience: a capability-based conceptualization', *Business Research*, 13, pp. 215–246. doi:10.1007/s40685-019-0085-7.
- Elkington, J. (1997) *Cannibals with Forks: The Triple Bottom Line of 21st Century Business*. Oxford: Capstone.
- Fayol, H. (1949) *General and Industrial Management*. Translated by C. Storrs. London: Pitman.
- Follett, M.P. (1941) *Dynamic Administration: The Collected Papers of Mary Parker Follett*. Edited by H.C. Metcalf and L. Urwick. London: Management Publications Trust.
- Freeman, R.E. (1984) *Strategic Management: A Stakeholder Approach*. Boston, MA: Pitman.
- Hahn, T., Pinkse, J., Preuss, L. and Figge, F. (2015) 'Tensions in corporate sustainability: towards an integrative framework', *Journal of Business Ethics*, 127(2), pp. 297–316.
- Hamel, G. and Zanini, M. (2020) *Humanocracy: Creating Organizations as Amazing as the People Inside Them*. Boston, MA: Harvard Business Review Press.
- Kaplan, R.S. and Norton, D.P. (1992) 'The Balanced Scorecard—measures that drive performance', *Harvard Business Review*, 70(1), pp. 71–79.
- Katz, D. and Kahn, R.L. (1966) *The Social Psychology of Organizations*. New York: Wiley.
- Kellogg, K.C., Valentine, M.A. and Christin, A. (2020) 'Algorithms at work: the new contested terrain of control', *Academy of Management Annals*, 14(1), pp. 366–410. doi:10.5465/annals.2018.0174.

- Lawrence, P.R. and Lorsch, J.W. (1967) *Organization and Environment: Managing Differentiation and Integration*. Boston, MA: Division of Research, Graduate School of Business Administration, Harvard University.
- Levitt, S.D. and List, J.A. (2011) 'Was there really a Hawthorne effect at the Hawthorne plant? An analysis of the original illumination experiments', *American Economic Journal: Applied Economics*, 3(1), pp. 224–238. doi:10.1257/app.3.1.224.
- Maslow, A.H. (1943) 'A theory of human motivation', *Psychological Review*, 50(4), pp. 370–396. doi:10.1037/h0054346.
- Mayo, E. (1933) *The Human Problems of an Industrial Civilization*. Boston, MA: Harvard University Press.
- McGregor, D. (1960) *The Human Side of Enterprise*. New York: McGraw-Hill.
- Mintzberg, H. (1973) *The Nature of Managerial Work*. New York: Harper & Row.
- Parker, S.K., Morgeson, F.P. and Johns, G. (2017) 'One hundred years of work design research: looking back and looking forward', *Journal of Applied Psychology*, 102(3), pp. 403–420. doi:10.1037/apl0000106.
- Raisch, S. and Krakowski, S. (2021) 'Artificial intelligence and management: the automation–augmentation paradox', *Academy of Management Review*, 46(1), pp. 192–210. doi:10.5465/amr.2018.0072.
- Senge, P.M. (1990) *The Fifth Discipline: The Art and Practice of the Learning Organization*. New York: Doubleday.
- Smith, A. (1776) *An Inquiry into the Nature and Causes of the Wealth of Nations*. London: W. Strahan and T. Cadell.
- Taylor, F.W. (1911) *The Principles of Scientific Management*. New York: Harper & Brothers.
- Teece, D.J., Pisano, G. and Shuen, A. (1997) 'Dynamic capabilities and strategic management', *Strategic Management Journal*, 18(7), pp. 509–533.
- Vial, G. (2019) 'Understanding digital transformation: a review and a research agenda', *Journal of Strategic Information Systems*, 28(2), pp. 118–144. doi:10.1016/j.jsis.2019.01.003.
- Wahba, M.A. and Bridwell, L.G. (1976) 'Maslow reconsidered: a review of research on the need hierarchy theory', *Organizational Behavior and Human Performance*, 15(2), pp. 212–240. doi:10.1016/0030-5073(76)90038-6.
- Weber, M. (1947 [1920]) *The Theory of Social and Economic Organization*. Translated by A.M. Henderson and T. Parsons. New York: Oxford University Press.
- Wren, D.A. and Bedeian, A.G. (2020) *The Evolution of Management Thought*. 8th edn. Hoboken, NJ: Wiley.