

# ***Data and AI Ecosystems: Ethics, Governance and Strategy***

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## Preface

This textbook arises from the recognition that contemporary data and artificial-intelligence practice is conducted under conditions that earlier management curricula did not anticipate and that existing treatments do not, in the author's judgement, address with the integration the conditions require. The conditions are well recognised in their separate dimensions. The ecosystem character of contemporary practice — the configurations of cloud platforms, foundation-model providers, data spaces, and counterparties through which any individual organisation now operates — has been developed substantially in the strategy and platforms literature, with foundational contributions by Marco Iansiti and Roy Levien, by Michael Jacobides, Carmelo Cennamo, and Annabelle Gawer, by Ron Adner, and in the contemporary literature on platforms initiated by Jean-Charles Rochet and Jean Tirole. The ethical and normative dimensions of the practice have been developed substantially in the philosophical literature, with the three traditions engaged in the chapters that follow — consequentialism, deontology, and virtue ethics — providing the principal resources through which the practice can be normatively evaluated. The governance and regulatory dimensions have been developed substantially in the management and public-administration literatures, with David Easton, Mark Moore, Anu Bradford, and others supplying the principal frameworks. The strategic dimensions have been developed substantially in the management literature, with Henry Mintzberg, Michael Porter, Gerry Johnson, Robert Kaplan, and others supplying the apparatus. What has been less developed, and what the present work attempts, is the integration of these dimensions into a treatment that engages contemporary practice as a single integrated discipline rather than as a series of separable analytical concerns.

The integration is structured around three pillars: ethics, governance, and strategy. The three pillars are not, on the account developed here, independent of one another. The strategic decisions an organisation makes about its data and artificial-intelligence practice are conducted within governance frameworks that determine what decisions are permissible and what conditions of accountability attend them; the governance frameworks themselves operate within ethical commitments that determine what conduct is acceptable and what relationships to affected parties are required. The reverse direction also holds: ethical commitments without governance frameworks remain aspirational and without strategic articulation remain

unimplemented; governance frameworks without strategic clarity produce administrative overhead without substantive direction. The three pillars are mutually constitutive, and the analytical apparatus through which each pillar is engaged is designed to support the integration that practitioners must conduct in operation.

The integration is conducted within the ecosystem context that contemporary practice has produced. That context is not, on the account developed here, a separable topic to be examined in its own right and then set aside. It is the condition within which the three pillars are exercised. Ethical analysis under contemporary conditions must reckon with consequences that propagate through layered configurations, with consent that is sought across ecosystem boundaries, and with character that is formed within configurations whose practices may not align with the virtues the organisation seeks to cultivate. Governance under contemporary conditions must reckon with the cross-boundary character of decisions whose conduct depends on parties outside the organisation's direct authority. Strategy under contemporary conditions must reckon with the ecosystem positions through which the organisation operates and the dependencies, exposures, and orchestration responsibilities those positions entail. The ecosystem material is accordingly distributed across the chapters where each of the three pillars is engaged, with the substantive treatment integrated into the chapters' principal arguments rather than presented as analytical supplement.

The chapters do not assume prior philosophical training, nor do they presuppose technical expertise in machine learning or data infrastructure. What they presuppose is the willingness to engage substantively with material whose seriousness has, in the field's first three decades, sometimes been understated. The philosophical traditions are developed in their own terms before being applied to contemporary practice. The technical foundations are developed at the level appropriate to executive engagement, with attention to what the executive must understand in order to exercise informed authority over decisions whose substance depends on the technical material. The governance, regulation, and strategy chapters draw on the management and public-administration literatures at the appropriate level of detail. The integration across these dimensions is the substantive contribution of the present work and the principal feature that distinguishes it from existing treatments.

The work is offered to several audiences. For the postgraduate student undertaking formal study of data and artificial-intelligence ethics, governance, or strategy, it supplies the conceptual and historical foundations on which more specialised study can be built. For the doctoral candidate whose research touches the field, it supplies a treatment whose engagement with the philosophical, governance, and strategic literatures is substantive rather than gestural, and on which doctoral-level argument can be developed. For the executive whose work places the integrated practice developed here at the centre of consequential decisions, it supplies vocabulary, frameworks, and historical perspective through which decisions of the kind the running case illustrates can be approached with greater fluency than the case-by-case improvisation that the absence of such resources typically produces. For the practitioner in emerging-economy contexts, where the work has been developed and where the running case is situated, it supplies the recognition that contemporary practice in such contexts is not a peripheral application of frameworks developed elsewhere but a substantive site at which the conditions of the practice are being worked out.

A note on the running case. The case threads through the chapters as a continuing illustration of how the integrative practice developed here is conducted in operation. The case organisation is a multi-site manufacturer of mid-tier industrial inputs, with operations across several markets, and the protagonist is the organisation's Chief Operating Officer. The role is generic by design — it is given no personal name or biography, because the analytical purpose of the case is to illustrate the encounters that an executive in the role would face. The case is composite, drawn from the practice of organisations of comparable scale and posture, with details adapted for analytical clarity. The case does not always end well; some decisions, in the case as in practice, are made under conditions that preclude a confidently good outcome. The case is designed to model the analytical work through which decisions can be improved, without misrepresenting the conditions under which the work occurs.

The intellectual debts it has incurred are substantial; the principal ones are recorded in the consolidated bibliography in the back matter, and in the narrative references throughout the text. The combination it attempts — the integration of ethics, governance, and strategy with the ecosystem material as analytical substrate — is not, to the author's knowledge, available in comparable form elsewhere. It is offered with the recognition that the combination raises questions of completeness and balance that future scholarship will continue to engage, and as the substantive

opening of an integration that the field's continuing development will continue to shape.

Dr Thanakit Ouanhlee

Thailand, 2026

## How to Use This Textbook

This textbook is designed to support both sequential reading and selective reference. Several features of its construction warrant brief description.

Each chapter opens with a substantial introduction whose function is twofold: to position the chapter's material within the textbook's wider argument, and to draw the reader into the analytical work the chapter will conduct through an encounter with the running case. The chapter introduction is not optional reading; it supplies the orientation against which the chapter's principal sections are to be read.

Each chapter develops its material through numbered sections, the last of which typically returns to the running case to apply the material to a specific decision the case has presented. The applied section is not a summary; it is the working-through of the chapter's apparatus on a specific problem, and is the principal place where the chapter's resources are shown in operational use.

Each chapter closes with a set of critical thinking questions intended for individual or cohort use. The questions are not narrowly factual; they engage the chapter's material substantively and invite the reader to apply it to circumstances drawn from the reader's own organisational experience. The critical thinking questions are followed by a section of further reading, which identifies the principal sources on which the chapter's argument has drawn and which a reader seeking to develop the material further may consult.

The textbook makes no use of parenthetical citations within its body text, by an editorial choice intended to preserve the readability of the prose without sacrificing the substantive engagement with sources. References to authors and their works are made narratively, with the consolidated bibliography in the back matter providing full bibliographic details for all works named in the textbook. A reader wishing to verify a specific claim or follow a specific reference will find the relevant entry in the bibliography under the named author.

The running case threads through the textbook as a continuing illustration of how the integrative practice the textbook develops is conducted in operation. The case is composite rather than literal, drawn from the practice of organisations of comparable scale and posture with details adapted for analytical clarity. The case is described at length in the dedicated note that follows this section.

A glossary of key terms in the back matter provides concise definitions of the technical and theoretical vocabulary the textbook deploys. The glossary is intended for reference rather than for sequential reading; readers encountering an unfamiliar term may find the glossary entry useful as a working orientation, with the chapter in which the term is developed providing the substantive treatment.

The textbook may be read in sequence, with each chapter building on the materials of those that precede it. It may also be read selectively, with attention to the chapters most relevant to the reader's immediate concerns. Cross-references between chapters are indicated in the text where they bear on the argument under development. Readers using the textbook for selective reference will find the table of contents and the glossary the principal points of orientation.

## Note on the Running Case

A running case threads through the textbook as a continuing illustration of how the integrative practice the textbook develops is exercised in operation. The case organisation is a multi-site manufacturer of mid-tier industrial inputs, with operations across several markets and revenues in the mid-hundreds of millions of pounds sterling. The organisation has a workforce in the low thousands, distributed across production sites and a smaller corporate function. It supplies components to customers in the automotive, consumer durables, and industrial equipment sectors. It operates as a private company under the direction of a board whose composition includes executive members, non-executive members with manufacturing and finance backgrounds, and an independent chair.

The protagonist of the running case is the organisation's Chief Operating Officer. The role is generic by design. The textbook does not assign the Chief Operating Officer a personal name, a personal biography, or a personal style, because the analytical purpose of the case is to illustrate the encounters that an executive in the role would face rather than to follow the development of a particular individual. The Chief Operating Officer occupies the seat at the boardroom table at which operational, technological, ethical, and governance matters most often converge. The role is therefore positioned to encounter the decisions through which the three pillars of the textbook are tested in practice.

Across the chapters that follow, the Chief Operating Officer encounters, in approximate sequence: a board request for an account of how the organisation thinks about ethics in its use of data and artificial intelligence; an internal proposal to deploy a predictive model in a function the organisation has not previously instrumented; an environmental impact disclosure that includes the energy consumption of the organisation's analytical workloads; a regulatory enquiry from a jurisdiction in which the organisation operates indirectly through customers; a strategic review at which an artificial-intelligence dependency proves to be the binding constraint on the strategy under consideration; a performance-measurement redesign in which the indicators that previously sufficed prove to mismeasure the organisation's actual conduct; and a closing board session at which the integration of ethics, governance, and strategy is assessed against the organisation's stated commitments.

The case is composite rather than literal, drawn from the practice of organisations of comparable scale and posture with details adapted for analytical clarity. The case is not designed to provide answers that the reader can transport to a different organisation; it is designed to model the analytical work whose conclusions each organisation must reach in its own terms.

The Chief Operating Officer's encounters in the running case do not always end well. Some decisions, in the case as in practice, are made under conditions that preclude a confidently good outcome. The case allows the reader to observe the analytical work through which decisions can be improved, without misrepresenting the conditions under which the work occurs.

## Note on Conventions

Several editorial conventions deserve brief description.

The textbook is written in impersonal prose. First-person and second-person constructions are avoided in the body text, on the basis that the analytical work the textbook develops is conducted by the reader rather than by a narrator, and that the impersonal register supports the reader's engagement with the material rather than the reader's encounter with a narrator's persona.

References to the case-organisation's protagonist are made by role rather than by name: 'the Chief Operating Officer' is the role through which the running case is conducted, and the role is treated as analytically rather than biographically determined. The convention is one of the textbook's principal stylistic features and should be read as a substantive choice rather than as an editorial economy.

Citations of academic and applied literature are made narratively within the text — by author and, where relevant, by work — rather than parenthetically. The convention preserves the readability of the prose without sacrificing the substantive engagement with sources, and the consolidated bibliography in the back matter provides full bibliographic details for all works named in the textbook.

British English conventions are observed throughout. Spellings such as 'organisation', 'analyse', 'recognise', and 'centre' should be read as deliberate rather than as errors of editorial inattention. Readers more accustomed to American English will encounter occasional variations between the textbook's conventions and those they will be more familiar with.

The em dash is used in preference to the en dash for parenthetical and explanatory passages, set off with surrounding spaces — as in this sentence — for the clarity its setting-off of subordinate clauses provides. The convention follows established academic practice in British and European publishing.

The textbook makes regular use of long sentences whose construction reflects the analytical complexity of the material being addressed. Readers accustomed to shorter sentences should not, for the most part, take this as a stylistic affectation. The sentences are constructed in the way they are because the material admits of

treatment in that form, and shorter sentences would, in many cases, conceal the analytical structure that the longer form makes available.

## Acknowledgements

This book has been written with the support of a community of colleagues, mentors, and practitioners whose engagement has shaped its content across the twelve chapters. To acknowledge that community is not a formality. The integrative practice the book attempts to articulate is itself the product of many years of collective engagement, and the debts recorded here are real ones.

My doctoral and post-doctoral supervisors and colleagues at California Intercontinental University and the University of Salford shaped my engagement with the academic disciplines within which the book operates. My grounding in quantitative, qualitative, and mixed-methods research, and in the wider conventions of academic practice, developed over roughly the past decade of work with these institutions. That formation is visible in the book's analytical approach and in its methodological positioning.

My colleagues across the Thai manufacturing community — particularly in the textile and wider light-manufacturing sectors and the surrounding industrial regions — provided the operational context the book depends on. Engagement with day-to-day operations, with workforce dynamics, with regulatory and institutional considerations, and with the practical realities of Thai industrial operations has shaped the book in ways that purely academic study could not.

The wider practitioner community across Thailand, Southeast Asia, and other emerging-economy contexts provided the perspective that distinguishes the book's positioning from the developed-economy practitioner literature alone. Conversations with practitioners in these contexts, and the professional perspective they work from, shaped the selection of cases, the analytical framing, and the orientation of the book as a whole.

Fellow academics and practitioners brought questions, case discussions, and an engagement with contemporary material that supported the book's development beyond what individual reflection could have achieved. Much of the book was tested first in conversation with them.

The academic community working in analytics, artificial intelligence, business administration, organisational behaviour, and related disciplines provided the literature the book draws on across its twelve chapters. The analytical positions the

book articulates were developed in engagement with that scholarly conversation, and the integration the book attempts would not have been possible without it.

My family supported the sustained work that writing a book over an extended period requires. That work is not separable from the life within which it takes place, and the support of my family is therefore part of what the book represents, acknowledged here with gratitude.

Errors of fact, interpretation, or analytical positioning that remain in the book are my own responsibility. The support of the community has shaped the book's strengths; its limitations are independent of that support and reflect the boundaries any single author working across the breadth of contemporary data and artificial-intelligence practice will encounter. Feedback from readers in the practitioner and academic communities will be welcomed, and will inform any subsequent edition that the continuing development of the field may warrant.