CHALMERS
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From Established to Emerging:

Reconfiguring the Operating Model for an Electric Freight Firm's Expansion into the UAE

Master's thesis in Master Programme Quality & Operations Management

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"All models are wrong, but some are useful."

George E. P. Box

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Abstract

The road freight transition towards electrified and autonomous operations is increasingly being driven from emerging markets, where state-led infrastructure investment and aggressive decarbonisation targets create conditions for rapid deployment. For firms translating a mature home market operating model into such environments, existing internationalisation frameworks identify structural differences between markets at the firm and country level, but say little about how those differences should be addressed at the level of specific mechanisms.

This thesis develops a structured procedure through which the operating-model reconfigurations required when a firm expands from an established home market into a foreign emerging market can be identified systematically rather than only observed retrospectively. It applies this procedure to a freight technology firm undergoing such an expansion, in order to examine how the operating model is reconfigured. The empirical setting is the case company's UAE deployment, contrasted against its European baseline. The European configuration was developed through nine semi structured interviews with operations staff and a pre interview priority survey, while the UAE configuration was developed through a workshop with the local Operations Lead, supplemented by PESTEL based secondary research. Both were structured cell by cell through the Slack and Lewis (2020) operations strategy matrix.

The assessment produced five distinct types of reconfiguration: structural redesign, mixed adaptation, temporal convergence, market-driven intensification and transfer amplification. The central finding is that operating model translation is not a binary choice between standardisation and adaptation, but a layered process in which different elements undergo different kinds of reconfiguration depending on host market conditions, operational maturity, and organisational embedding. The procedure developed to surface these patterns is designed to be replicable across home and host market pairs and across sectors, and serves as an analytical bridge between operations strategy theory and the internationalisation literature by combining the Slack and Lewis matrix with PESTEL-based market analysis in a structured way.

Keywords: Emerging markets, Electric Heavy-duty road freight, Internationalisation, Operating model reconfiguration, Operations strategy, Operations strategy matrix, Operating model transferability.

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Artificial intelligence tools were used in a limited supporting role during the writing process, primarily for language improvement and grammar refinement, with the aim of improving readability and allowing us to place greater focus on the genuinely value-creating parts of the research process. The cover image on the front page is also AI-generated. The models used were primarily Opus 4.7 and ChatGPT 5.4.

Adam Ernberg, Gothenburg, June 2026
Marcus Wehbi, Gothenburg, June 2026

List of Acronyms

Below is the list of acronyms that have been used throughout this thesis listed in alphabetical order:

AED	United Arab Emirates Dirham
AFIR	Alternative Fuels Infrastructure Regulation
CAGE	Cultural, Administrative, Geographic, and Economic (Distance Framework)
CI	Continuous Improvement
COP28	28th Conference of the Parties (United Nations Climate Change Conference)
EMEA	Europe, the Middle East, and Africa
EU	European Union
EV	Electric Vehicle
FX	Foreign Exchange
GCC	Gulf Cooperation Council
GDPR	General Data Protection Regulation
KPI	Key Performance Indicator
OEM	Original Equipment Manufacturer
PESTEL	Political, Economic, Social, Technological, Environmental, and Legal
RQ	Research Question
SOP	Standard Operating Procedure
TMS	Transport Management System
UAE	United Arab Emirates
USD	United States Dollar
WIPO	World Intellectual Property Organization

Contents

List of Figures

List of Tables

1

Introduction

Internationalisation is often driven by the limits of the domestic market, particularly when the home market is not large enough to support continued growth. Internationalisation is therefore pursued as a pathway to growth through market diversification (Cavusgil et al., 2020). Firms may also expand to target markets with lower competitive intensity or underserved demand, which is typical of high-growth emerging markets, and thereby avoid the margin pressure often seen in mature markets. As firms explore new international markets, particularly those with fundamentally different structures, their value proposition is tested. Exposure to new contexts can also generate new ideas about the offering and stimulate learning that benefits the broader organisation. In this sense, internationalisation can be understood as an evolutionary process of learning and commitment over time, where initial low commitment increases as uncertainty is reduced, a logic central to the Uppsala model (Johanson and Vahlne, 1977; Hult et al., 2020).

However, the gradual learning logic of the Uppsala model has been challenged by born global firms, which expand into multiple international markets from or near founding. Alongside early internationalisers, these firms show that when international expansion occurs rapidly rather than incrementally, success depends on having the organisational capabilities required to sustain execution across markets (Coviello, 2015; Li et al., 2015).

When expansion is rapid and directed towards a market with a fundamentally different structure, the firm's home operation cannot simply be replicated. Successful foreign operations draw on both general knowledge, built through prior experience and often carried over from the domestic operation, and market-specific knowledge, which must be developed through direct experience in the new context (Johanson and Vahlne, 1977). International operations therefore rarely represent either pure standardisation or full local adaptation. Instead, they tend to occupy a grey zone in which both logics are combined, shaped by local conditions as well as by head-

quarters involvement and commitment (Le Hieu and Truong, 2010).

In practice, this means that the home operating model, understood as the configuration of resources through which the operation delivers its service, must be reconfigured for the host market. Internationalisation frameworks establish that such differences exist, but they specify them primarily at the level of the firm and the country rather than at the level of the operation. This leaves open the question of which parts of the operating model a given market difference affects, and where in the model those effects appear.

Against this backdrop, this thesis develops a structured approach through which the operating-model reconfigurations that expansion into a foreign emerging market requires can be identified systematically, rather than only observed retrospectively. It applies this approach to the case company's UAE deployment, in order to understand how an operating model is reconfigured when a freight technology firm expands from an established home market into such a market.

1.1 Background

The global freight sector is undergoing a major transition, driven by climate targets and the need to decarbonise transport systems. Road freight is widely identified as a hard-to-abate sector, characterised by high energy intensity, dependence on fossil fuels, and tight operational margins that complicate alignment with Paris Agreement and net-zero pathways (Tavasszy et al., 2026). Achieving this transition is expected to require rapid deployment of low- and zero-emission heavy-duty vehicles, together with coordinated governance, market design, and transition planning (Churchman et al., 2025). In parallel, electrification, automation, and digital tools are reshaping logistics operations. Electrification increases the importance of routing and scheduling because of charging constraints and creates a stronger need for coordination across actors, while data-intensive digital technologies can improve efficiency but also add operational complexity (Gillström et al., 2024; Chung, 2021).

Scaling advanced transportation fleets is therefore rarely a simple product rollout. It involves high-cost system solutions that depend on systems integration, evolving requirements, and coordination across multiple actors. This makes repeatable delivery routines central to achieving more efficient rollouts over time (Hobday et al., 2000; Davies and Brady, 2000; Davies et al., 2011). At the same time, systems-level modelling shows that intangible and operational costs, together with infrastructure limitations, can materially affect the feasibility and pace of adoption for zero-emission

trucks (Aryanpur and Rogan, 2024). For firms attempting cross-border deployment, such infrastructure gaps can amplify internationalisation challenges, because market entry depends not only on firm capabilities, but also on host-country conditions and enabling institutions (Bu et al., 2024).

The UAE provides a relevant context for examining these challenges, as it combines ambitious decarbonisation targets with a state-linked logistics system. Its Net Zero 2050 strategy frames decarbonisation as a national priority and identifies transport as a key sector for action (The United Arab Emirates' Government, 2025). Dubai's role as a regional trade and re-export platform has been supported by major investments in port and free-zone infrastructure tied to official development planning. This attracts international firms, but also links logistics activity to state-linked owners and integrated regulatory systems (Ziadah, 2018). COP28, held in Dubai in 2023, further intensified attention on the fossil-fuel transition and coincided with the establishment of a partnership with the case company, a freight mobility company providing digital, electric, and autonomous technology, with the ambition of supporting a transition towards sustainable shipping through electrified operations (COP28 UAE — United Nations Climate Change Conference, nd).

The UAE is often described as a gateway to the Middle East region, and for the case company this partnership represented its first major customer outside Europe and the United States. It was particularly significant because of the customer's scale and long-term plans. In a highly globalised and resource-intensive market with strong international attention, expectations regarding delivery speed and performance are high, and newly established actors are often required to demonstrate results quickly. This made it important for the case company to show clear commitment and credibility and, through a large-scale deployment, demonstrate its capability to support the transition from an existing fossil-fuel-based fleet. As this was the case company's first expansion in the region, early efforts were largely grounded in operations experience from the European home market and prior experience from the United States, rather than in an established base of local market knowledge, regional organisational capabilities, or a fully developed operating model adapted to the UAE context.

1.2 Problem Statement

The case company's UAE deployment makes a broader problem concrete. The entry into a major port-logistics environment was rapid and high-commitment, becoming the company's largest partnership and contrasting with the gradual, low-commitment sequence associated with the Uppsala model of foreign expansion (Jo-

hanson and Vahlne, 1977). In a region where demonstrating pace can signal seriousness and credibility, such compressed entry is increasingly common among early internationalisers (Coviello, 2015). At the same time, the operation was built from the ground up rather than extended from an existing site. Routines, local relationships, and operational know-how therefore had to be created in-country rather than carried over, while the cultural, administrative, geographical, and economic distance from the home markets limited how far home-market templates could inform that build-out (Ghemawat, 2001). The entry was consequently guided by prior international experience and project-level adjustment, rather than by an explicit account of how the home operating model should be reconfigured for the UAE.

This points to a problem that existing research addresses from two largely disconnected directions. Internationalisation research works primarily at the strategic level. It explains why firms enter markets, how they choose entry mode and timing, and how cultural, administrative, geographic, and economic distance complicates cross-border activity, but it specifies these differences mainly at the level of the firm and the country rather than at the level of the operation (Coviello, 2015; Ghemawat, 2001; Johanson and Vahlne, 1977). Operations strategy research, by contrast, works closer to the operational level, but its empirical attention is typically directed either towards established home operations or comparisons between mature sites, rather than towards the act of standing up and reconfiguring an operation in an unfamiliar market (Lowson, 2002; Slack and Lewis, 2020). Between these two streams lies the layer with which this thesis is concerned: the point at which high-level market differences must be translated into concrete decisions on capacity, supply network, process technology, and organisation. Because the two literatures tend to treat strategy formulation and operational translation as separate concerns, there remains no structured way to identify which parts of an operating model a given market difference will affect, or where in the model that effect will appear.

This gap is not only academic. Planned configurations and realised outcomes often diverge most sharply during cross-border implementation, precisely where institutional conditions shape coordination, infrastructure, and partner roles (Saldanha et al., 2015). In a state-linked logistics ecosystem such as the UAE, this operational layer carries added weight, since scaling depends on consistent day-to-day performance under multi-actor dependencies and institutional constraints (Ziadah, 2018). For a firm in the case company's position, the practical need is therefore not a further assessment of whether to enter the market or how fast to do so, but a way to anticipate, before the host market reveals misfit through performance problems, which elements of the home operating model will transfer intact and which will not.

Addressing this requires connecting the two literatures at the operational level rather than treating them in isolation. This thesis does so by combining a market-factor lens, PESTEL, with an operations-resource lens, the operations strategy matrix developed by Slack and Lewis (2020). This combination allows macro-environmental differences to be located in the specific cells of the operating model that they affect. In doing so, the thesis makes it possible to specify which factors reconfigure which parts of the operating model, and to do so prospectively rather than only in hindsight. The case company's UAE deployment provides the empirical setting in which the analytical approach is developed and used to examine how the operating model is reconfigured, leading to the purpose and research questions set out next.

1.3 Purpose and Research Questions

This thesis aims to develop a structured analytical procedure through which the operating-model reconfigurations required when a firm expands from an established home market into a foreign emerging market can be identified, and to understand how an operating model is reconfigured in such a move. The study uses the case company's UAE deployment as the empirical setting through which both the procedure and the substantive question are developed.

The purpose of the study is therefore twofold. The methodological purpose is to develop a four-step cell-by-cell procedure that combines home market evidence, host market validation, and macro environmental analysis in order to make operating-model reconfigurations identifiable in a systematic way rather than only observable retrospectively. The substantive purpose is to explain how an operating model is reconfigured when an established home market configuration is translated into the conditions of an emerging market, and to identify the types of reconfiguration that result.

Based on the problem statement and the twofold purpose of the study, two research questions were developed:

- **RQ1:** How can a firm systematically identify the operating-model reconfigurations required when expanding into a foreign emerging market?
- **RQ2:** How is an operating model reconfigured when a firm expands into a foreign emerging market?

RQ1 is addressed through the four step procedure introduced in Section 3.3 and reflected on in Section 4.6, which formalises how home market evidence, host market

validation, and macro environmental analysis can be combined to surface reconfigurations cell by cell. RQ2 is addressed through the cell by cell assessment of the European baseline against the UAE configuration developed in Chapter 4, which produces a set of reconfiguration types. The two research questions are interdependent: the set of reconfiguration types answering RQ2 is only made visible through the procedure that answers RQ1, while the procedure is only meaningful if it surfaces operationally meaningful reconfigurations of the kind captured by the set of reconfiguration types.

1.4 Limitations

This thesis is intentionally bounded in scope. Its empirical core is anchored in the case company's UAE deployment and the current near-term expansion window, which means that the analysis reflects the institutional arrangements, ecosystem dependencies, and infrastructure constraints of this specific operating context. The study concentrates on the four operations strategy decision areas: capacity, supply network, process technology, and organisation and development. These are the areas through which the operating model is examined at the regional interface, rather than vehicle hardware, product development, or engineering performance. The findings should therefore be read as context-dependent design insights rather than as a comprehensive account of scaling dynamics across emerging markets or freight technologies. This boundary is reinforced by the operations strategy matrix developed by Slack and Lewis (2020), which structures both data collection and coding. As a result, aspects of the operating model that fall outside its four decision areas may be under-represented, even where they are operationally significant.

A related boundary concerns the scope of the operations function itself. The study examines operational reality from the point at which vehicles and agreements are in place. Decisions preceding this point, such as commercial and sales agreements, flow selection, fleet sizing, hardware specification, and procurement, are treated as contextual conditions that shape the operating model rather than as direct objects of study. Although these upstream functions were observed to influence the operating configuration, and are therefore discussed among the cross-cutting findings in Section 4.7, they are not investigated in their own right. Customer-level variation is treated similarly: it is recognised as a configurational pressure on the operating model, but the regional market, rather than the individual customer, remains the unit of analysis.

The research design is a single case study. This enables depth and access to or-

ganisational routines, but it also constrains external validity and makes statistical generalisation inappropriate. Transferability therefore relies on analytical generalisation, with the contribution lying in plausible mechanisms and boundary conditions that may apply in similar cases rather than in any claim to universal best practice. The original research design also aimed to test regional generalisability beyond the UAE, but this step was descoped due to time constraints and is instead discussed as a direction for further research in Section 5.5.

The empirical asymmetry between the European baseline and the UAE picture is also important to acknowledge. The European baseline rests on nine semi-structured interviews and a pre-interview priority survey, whereas the UAE foundation rests on a single workshop with the local Operations Lead, supplemented by PESTEL-based secondary research. This asymmetry is structural to the procedure rather than a flaw in execution, as discussed in Section 4.6. However, the host-market findings would be strengthened by additional UAE-side interviews, follow-up workshops as the operation matures, or input from adjacent functions.

The evidence base also reflects the constraints of the setting. The pool of individuals with direct operational experience is small, organisational confidentiality limits what can be reported transparently, and the study captures a time-bounded snapshot of a fast-moving environment. Some conclusions may therefore lose salience as policies, partnerships, and operational conditions evolve.

A final limitation applies specifically to the methodological contribution developed in response to RQ1. The four-step procedure has been demonstrated within a single home-and-host market pair and within a single sector. The argument for its replicability across other market pairs and sectors therefore rests on the logical structure of the procedure rather than on repeated empirical application. The boundary conditions of the procedure are discussed further in Section 4.6.

2

Theoretical Framework

This chapter provides the theoretical foundation for the thesis. Its primary focus is the substantive question of how an operating model is reconfigured (RQ2), while the procedure for identifying those reconfigurations (RQ1) is grounded methodologically in Chapter 3. Section 2.1 reviews internationalisation in emerging markets to identify the external conditions that shape operating-model requirements beyond the home market. Section 2.2 then introduces the operations strategy constructs that form the analytical model of the thesis. Together, these sections explain why operating-model reconfiguration may be necessary across markets and how that reconfiguration is examined in the empirical chapters that follow.

2.1 Internationalisation in Emerging Markets

This section reviews four conditions that distinguish emerging market expansion from operations in a developed home market and shape the demands placed on a firm's operating model.

2.1.1 Liability of Foreignness and Capability Development

Foreign entrants face a liability of foreignness, comprising the additional costs of unfamiliarity with the host environment, weaker legitimacy, and disadvantages in local relationships (Zaheer, 1995). Cuervo-Cazurra et al. (2007) refine this view from a resource-based perspective and distinguish three sources of difficulty: loss of advantage when firm resources do not transfer, creation of disadvantage when transferred practices misfit local conditions, and absence of complementary resources required to operate abroad. For technology-intensive logistics offerings, the third source is particularly relevant, since performance depends on regulatory approvals, supporting infrastructure, and coordinated local actors that the firm does not control.

Lu and Beamish (2001) further show that early Internationalisation can reduce profitability as firms absorb learning and coordination costs, especially when entry occurs through foreign direct investment. Weak initial performance can therefore reflect a temporary capability gap that improves with experience rather than a flawed strategy. Alliances can accelerate this learning by providing access to partner resources and host-country knowledge, although they introduce coordination and governance costs of their own (Lu and Beamish, 2001).

2.1.2 Institutional Environments in the Gulf Region

The institutional environment in the Gulf Cooperation Council (GCC) is shaped by state capitalism, where the state acts both as regulator and as economic actor through state-owned enterprises and sovereign investment vehicles (Wright et al., 2021). As a result, market participation is often mediated by state-linked stakeholders and aligned with national development priorities, making institutional embedding an important condition for legitimacy and access (Hertog, 2010; Musacchio et al., 2015). Empirical studies of the Middle East show that ties to established business groups or political actors can protect firms from opportunism and improve access to scarce resources, while limited embeddedness is associated with higher failure risk (Mellahi et al., 2011). In Gulf contexts such as Saudi Arabia and the UAE, sponsorship-style arrangements with influential local actors are sometimes used to navigate these conditions (Haj Youssef and Teng, 2021). For foreign entrants, this means that non-market coordination becomes a central part of operations and must be governed in a structured way. An operating model intended to transfer across emerging markets therefore needs repeatable routines for managing state interfaces, governing partnerships, and controlling risk, rather than depending on individual relationships (Mellahi et al., 2011; Musacchio et al., 2015).

2.1.3 Institutional Voids, Infrastructure Gaps, and Signalling

Emerging markets are characterised by institutional voids, gaps in market-supporting institutions such as regulatory frameworks and reliable information flows (Doh et al., 2017). For firms introducing electric heavy-duty vehicles, these “soft” voids are compounded by “hard” infrastructure gaps, including high-power energy grids and specialised maintenance networks (Aryanpur and Rogan, 2024; Bu et al., 2024). Infrastructure deficits constrain the feasibility of zero-emission technologies, with effective capital costs rising by up to 40% due to intangible factors such as recharging time and capacity limits (Aryanpur and Rogan, 2024).

Three operational responses recur in the literature. First, firms may pursue infrastructure-building strategies in which the focal firm internalises missing public goods, such as proprietary charging hubs that buffer operations from grid unreliability (Doh et al., 2017; Marquis and Raynard, 2015). Second, scaling under such conditions depends on what Davies and Brady (2000) describe as economies of repetition, that is, standardised integration routines that convert unique pilot projects into repeatable rollouts. Third, in the absence of reliable institutional signals, a verifiable track record functions as a quality signal (Spence, 1973). Reference projects mitigate the liability of outsidership and provide stakeholders with the transactional confidence required to support continued expansion (Görg and Greenaway, 2004; Marquis and Raynard, 2015; Tolstoy et al., 2022).

2.1.4 Complex Products and Systems in International Expansion

The international expansion of autonomous and electric freight solutions involves an offering that resembles a Complex Products and Systems (CoPS) solution, that is, a high-value, technologically complex offering delivered through projects in which systems integration is a core capability (Davies et al., 2011). For autonomous and electric freight, the relevant system spans vehicle hardware, digital control and safety assurance, charging and grid interfaces, and regulatory oversight, and understanding each component in isolation is insufficient to anticipate system-level effects. International business adds a further layer of complexity through cross-country multiplicity, network connectivity, institutional diversity, and the speed and unpredictability of change, which together render static planning assumptions unreliable (Casson and Li, 2022). For a freight technology firm expanding into the Gulf, the practical implication is that pilot deployments and feedback-rich operating routines are required to capture system-level learning and convert it into repeatable practice across markets.

2.1.5 Synthesis: Implications for Operations Strategy

Taken together, the literature reviewed above characterises the environment within which an operating model must function, but it does not specify how that model should be designed. In particular, it does not provide a framework for translating these conditions into concrete operating-model decisions, such as governance structures, capacity choices, and the balance between standardisation and local adaptation. This is the role of operations strategy, to which the chapter now turns.

2.2 Operations Strategy

The strategic view of operations management treats operations as a source of competitive advantage rather than merely a tactical function. Skinner (1969) introduced this perspective in *Manufacturing: The Missing Link in Corporate Strategy*, arguing that even seemingly routine decisions can shape resources, capabilities, and control systems in ways that constrain a firm's strategic choices for years. Subsequent research has reinforced this view by identifying strategic positioning as the mechanism linking corporate strategy and operations, with alignment between operational capabilities and overall firm strategy improving both competitive advantage and business performance (Anderson et al., 1989).

Although early work focused on manufacturing, contemporary literature defines operations more broadly as the part of an organisation that creates and delivers its products and services (Slack and Lewis, 2020). This is commonly captured through the input-transformation-output model, in which inputs are transformed through activities into outputs that satisfy customer needs, with value added throughout the process (Bergman, 2022).

Operations strategy differs from operations management in its time horizon, level of analysis, and degree of abstraction. Whereas operations management concerns the day-to-day coordination of operational activities, operations strategy concerns the longer-term pattern of decisions through which market requirements are reconciled with the firm's operational resource base (Slack and Lewis, 2020). In this thesis, the operating model is understood as the configuration produced by that decision pattern: the arrangement of resources, capabilities, processes, technologies, partners, and routines through which the operation delivers its service in practice. The thesis therefore takes the operating model, rather than the strategic decision logic itself, as its unit of analysis, since it is this configuration that becomes observable in practice and that may be transferred, adapted, or reconfigured across markets.

The formation of operations strategy has been described from several perspectives. The dominant historical view is top-down, where operations strategy follows from corporate strategy and is set centrally. An alternative is bottom-up, in which operations strategy emerges from day-to-day operational work, particularly when decision-making is decentralised to lower organisational levels (Swamidass et al., 2001). More recent work argues for a bidirectional relationship in which top-down and bottom-up processes interact and reinforce one another, treating both as constitutive of operations strategy formation (Kim et al., 2014). Slack and Lewis (2020) extend this

further through four perspectives that add outside-in and inside-out logics to the top-down and bottom-up axes, as shown in Figure 2.1.

Once the firm has chosen which markets to serve and the position it seeks to hold within them, operations strategy should reflect that positioning. The starting point is therefore an articulation of what the operation must achieve to meet market needs, which leads directly to the performance objectives developed in Section 2.2.1.

Figure 2.1: The Four Perspectives on Operations Strategy Formation: Top-Down, Bottom-Up, Inside-Out, and Outside-In.

2.2.1 Performance Objectives

Performance objectives, also referred to as competitive priorities, are key decision variables for operations managers because they signal a strategic emphasis on developing particular operational capabilities that can strengthen a firm's position in the marketplace (Boyer and Lewis, 2002). At this stage, the operation defines the aspects of operational performance that satisfy market requirements and that it is expected to pursue. Slack and Lewis (2020) summarise these market requirements through five generic performance objectives: quality, speed, dependability, flexibility, and cost. These are articulated in a way that is useful for operations decision making and that supports the firm's intended market position. Simplified definitions of each performance objective are provided in Table 2.1.

Table 2.1: Five performance objectives in operations strategy.

Performance objective	
Quality	Ability to consistently deliver products and services that are fit for purpose and conform to specification, including both technical features and service interaction.
Speed	How quickly the operation responds, meaning the elapsed time from customer request to delivery or completion, including processing, waiting, and delivery time.
Flexibility	Ability to change what the operation does and how it does it, for example adjusting product or service variety, mix, volume, or delivery timing, with minimal time and disruption.
Dependability	Ability to do what was promised, meaning delivering on time and as agreed, with predictable and consistent performance.
Cost	Ability to deliver at low cost, covering operating costs, investment-related costs, and working capital tied up in running and scaling the operation.

Slack and Lewis (2020) treat trade-offs as central to operations strategy because they force explicit choices about which performance objectives an operation prioritises. Boyer and Lewis (2002) showed that trade-offs persist when priorities are measured as relative strategic choices, particularly between cost and flexibility and between dependability and quality. Trade-offs are not, however, fixed. Through capability development, operations can reposition along the efficient frontier by shifting strategic emphasis between objectives, while also pushing the frontier outward by improving capability across several objectives simultaneously.

2.2.2 Operations Strategy Decision Areas

After defining what operations should achieve through performance objectives, the next step is to clarify how those objectives are translated into action through long-term decisions on operational resources. Slack and Lewis (2020) identify four decision areas through which an operation configures its resource base: capacity, purchasing and supply, process technology, and organisation and development. Respectively, these concern the scale and distribution of resources, the governance of external relationships, the technologies through which work is executed and coordinated, and the organisational structures and routines through which operations are managed and developed. Each of these decision areas is examined empirically in Chapter 4.

2.2.2.1 Capacity Strategy

Capacity decisions determine the long-term size, structure, and timing of the operation's resource base. Following Slack and Lewis (2020), this includes choices about how capacity should be scaled overall, how it should be distributed across sites in terms of number, size, and specialisation, which activities should be allocated to each site, where capacity should be located, and when and how capacity levels should be adjusted. In essence, capacity strategy translates expected demand and service requirements into structural decisions that balance responsiveness, utilisation, cost, and risk under demand uncertainty.

2.2.2.2 Supply Network Strategy

Supply network decisions determine how the firm positions itself within its supply network and how it coordinates with external actors that jointly create value for the end customer. Drawing on Slack and Lewis (2020), this includes defining firm boundaries, deciding what to make in-house and what to outsource, selecting governance mechanisms, and managing the risks that arise because supply networks consist of interdependent but autonomous actors. This decision area therefore covers vertical integration choices, the structure of supplier relationships in terms of coordination, learning, flexibility, and transaction costs, and how variability and disruptions are mitigated through differentiated supply approaches and resilience-building practices such as robustness and rapid recovery.

2.2.2.3 Process Technology Strategy

Process technology decisions determine how work is executed and enabled through technology, and therefore shape efficiency, flexibility, and resilience. Slack and Lewis (2020) distinguish between direct technologies that transform inputs into goods and services and indirect infrastructure technologies that support and coordinate these core processes. Technology choices are aligned with the operation's volume-variety requirements and broader strategic goals, and are evaluated in terms of feasibility, acceptability, and vulnerability, so that investments support long-term competitive priorities while managing uncertainty.

2.2.2.4 Organisation and Development Strategy

Organisation and development decisions determine how the operation builds performance and capabilities over time. Slack and Lewis (2020) describe improvement as both a content choice, concerning what type of improvement approach to adopt,

ranging from incremental and exploitation-based to radical and exploration-based, and a process choice, concerning how improvement is organised and governed across top-down strategic direction and bottom-up operational programmes. The core challenge is to balance exploration and exploitation under the constraints created by the operation's existing performance commitments, while also deploying capabilities into the market by adopting and adapting ideas from external actors such as competitors, suppliers, and customers.

2.2.3 Operations Strategy Matrix

The operations strategy matrix is a conceptual tool for linking what an operation is expected to achieve with how it is expected to achieve it. It combines the market requirements perspective, expressed through performance objectives, with the operations resource perspective, expressed through decision areas. As shown in Figure 2.2, the matrix presented by Slack and Lewis (2020) places the five performance objectives on one dimension and the four decision areas on the other. Each cell therefore represents a specific relationship between an objective and a decision area, articulating how choices within a given decision area are intended to support a particular performance outcome.

The matrix thus provides a structured way of translating operations strategy from intent into action by requiring an explicit account of how operational resources and capabilities are configured to meet prioritised market requirements. Not all intersections are equally important. The critical cells depend on the intended market position, the relative priority assigned to different performance objectives, and the resources and capabilities that constrain or enable operational choices.

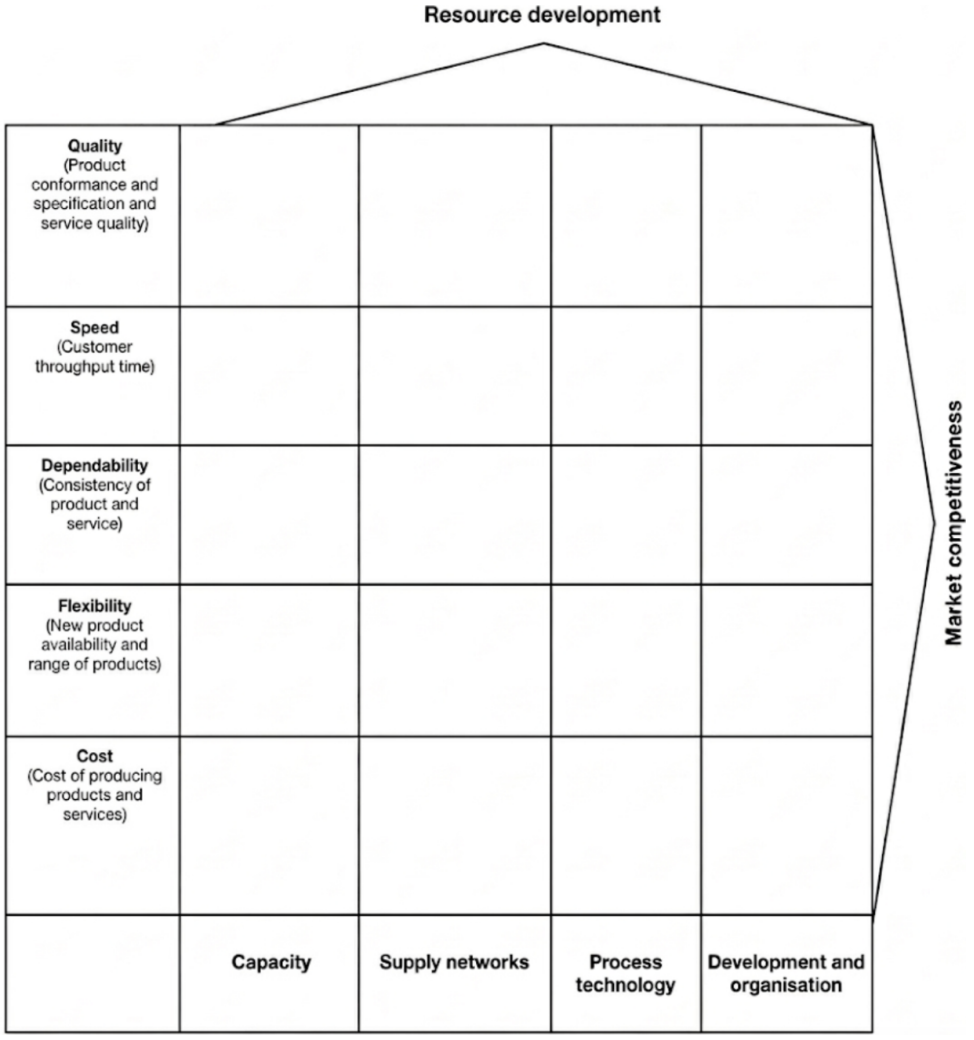

Figure 2.2: Operations strategy matrix showing the alignment of performance objectives and decision areas, adapted from Slack and Lewis (2020).

2.2.4 PESTEL Analysis of the External Environment

To complement the operations strategy matrix, this thesis uses PESTEL to analyse the external environment surrounding operations. PESTEL provides a structured macro environmental perspective that clarifies the wider conditions within which strategic decisions are made (Grant, 2021), separating the sectoral and macro levels of a firm's external environment so that operational implications can be traced back to specific environmental drivers (Yüksel, 2012).

The selection of PESTEL follows a comparative evaluation of alternative frameworks, most notably the CAGE Distance Framework (Ghemawat, 2001) and Porter's Diamond (Porter, 1990). The CAGE model is effective for identifying sources of border mismatches and frictions, whereas Porter's Diamond is particularly useful

for diagnosing a location's systemic support for scaling. PESTEL was selected for this study, however, because its six distinct categories provide a more granular and inclusive scope than the alternatives. This breadth ensures that all relevant macro-environmental dimensions covered by CAGE and Porter's Diamond are addressed, while also incorporating technological and environmental drivers that alternative frameworks treat as secondary.

The model structures the macro environment into six dimensions: political, economic, social, technological, environmental, and legal (Yüksel, 2012). Each dimension covers a defined set of factors, summarised in Figure 2.3. Yüksel (2012) further argues that these dimensions should not be treated as independent of one another, since political conditions often shape economic, legal, and socio-cultural factors in turn. This supports the use of PESTEL as a structured account of the broader environment within which operations are designed and developed.

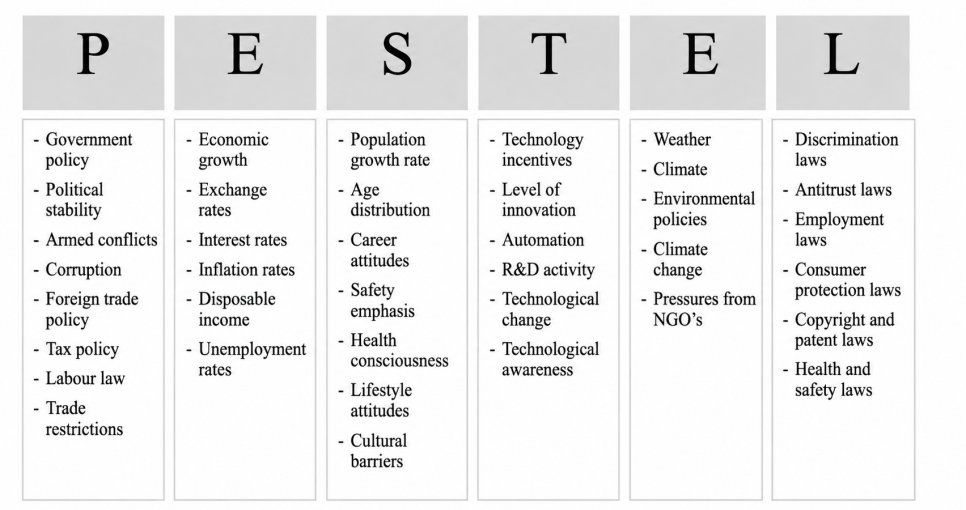

Figure 2.3: PESTEL framework and examples of external factors included in the analysis.

3

Methodology

A qualitative research design was chosen for this thesis because both research questions are exploratory and open-ended in character. RQ1 concerns the development of a procedure through which operating-model reconfigurations can be identified systematically, while RQ2 concerns how an operating model is reconfigured when a firm expands into an emerging market. These are questions whose answers are not easily translated into numerical variables and therefore call for a qualitative design (Tenny et al., 2025). Such a design is also well suited to topics that remain in an exploratory phase, as is the case for how operations strategy is affected during internationalisation into emerging markets (Bell et al., 2022).

To prevent the qualitative scope from broadening as additional factors emerge, the thesis adopts a case study strategy, which bounds the study in terms of place, time, and context (Baxter and Jack, 2015). The study focuses on the case company's expansion into the UAE, examined through the lens of operations strategy. Anchoring the study to a single case enables extended engagement within one context and supports rich description of the setting, participants, and procedures. This, in turn, helps readers assess the credibility and dependability of the findings and judge their transferability to similar settings (Ahmed, 2024).

The thesis follows an abductive logic, in which analysis moves continuously between theoretical concepts and empirical material rather than progressing sequentially from one to the other. Slack and Lewis' operations strategy matrix provides the framework that structures the data collection, while empirical patterns from the case are allowed to refine how the framework is applied and to surface aspects that it would not anticipate on its own. This iterative orientation strengthens the robustness of the findings by supporting continuous comparison between empirical insights and theoretical concepts, while also increasing transparency in how interpretations are developed (Bell et al., 2022).

3.1 Case Company and Selection

The case company is a venture-stage freight technology firm operating across several European markets, with earlier activity in the United States. It develops and operates electric and autonomous heavy road freight as a managed transport service, combining a digital planning and optimisation platform with physical vehicle operations. Transport services are typically delivered on defined lanes in partnership with carrier and haulage providers, rather than through full ownership of all transport assets. The UAE deployment examined in this thesis is a dedicated, fixed-route operation within a major port-logistics ecosystem, serving a single large anchor customer, and represents the company's first operation outside its established home regions.

At the case company's request, its identity and certain commercially sensitive details, including specific customers, partners, route volumes, and financial figures, are withheld. The description provided here is limited to what is necessary to interpret the operating-model findings.

The case company was selected through theoretical sampling, meaning that the case is chosen for its expected contribution to theory development rather than for statistical representativeness (Eisenhardt, 1989). The case company's UAE deployment provides an information-rich setting for examining the focal phenomenon, namely how a freight technology firm reconfigures its operating model when expanding into an emerging market, where institutional constraints, ecosystem dependencies, and infrastructure-related coordination challenges differ from those encountered in the home market (Ridder, 2017). The case can also be motivated as revelatory because it captures this reconfiguration as it unfolds, creating an opportunity to observe how decisions across capacity, supply network, process technology, and organisation and development are adjusted in response to a new operating context (Yin, 2009).

3.1.1 Data Collection

Data collection for this case study draws on four complementary streams within a triangulated design in order to enhance validity and reliability and to capture both explicit and implicit knowledge (Bell et al., 2022). These streams are:

- Continuous observations within the case organisation provided contextual familiarity that complemented the perspectives shared by other organisational actors.

- Semi-structured interviews with respondents holding direct operational responsibility.
- Documentary analysis of publicly available secondary sources, structured through a PESTEL framework.
- A structured workshop with the UAE Operations Lead.

Observations provided a holistic view of context, processes, and interactions as they unfolded in practice (Mulhall, 2003). In this thesis, observations focused on conversations between key actors involved in the UAE deployment in order to identify recurring topics, how different participants related to them, and which work processes appeared to generate the greatest operational challenges. Observations also made it possible to assess whether what people said they did aligned with what they actually did. Because observational data is more interpretation-intensive than interview data, observations were used only as a complement to interviews. Their purpose was to build contextual understanding against which interview themes could be triangulated, rather than to serve as a primary source of empirical material.

Interviews constituted the largest part of the data collection because they allow comparable information to be gathered efficiently across respondents while also enabling rich descriptions of lived experience and meaning. This makes it possible to understand in depth how individuals interpret their world (Qu and Dumay, 2011). Interviews also support the study of sensemaking in context, since the researcher can analyse how accounts are produced through interaction, language, roles, and the interview setting, and can surface insights that documents or surveys often miss, particularly in organisational research (Qu and Dumay, 2011).

The interview work was carried out in two phases. The first phase consisted of exploratory conversations with individuals working directly on the case company's UAE operations, conducted in parallel with the literature review. These conversations were used to gain initial insight into the operations and to scope the problem by identifying gaps between the literature and the empirical setting. Exploratory interviews are particularly suitable when the researcher seeks to understand a phenomenon in depth and does not yet know in advance which information will be most relevant, which is often the case in the early stages of a project before the scope or problem understanding has been fully established (Alsaawi, 2014).

The second phase consisted of nine semi-structured interviews with respondents holding direct operational responsibility in the European business, structured around the operations strategy matrix developed by Slack and Lewis (2020). Each respon-

dent first completed a pre-interview survey in which the five performance objectives were ranked through forced trade-off questions. The survey results were then used during the interview to bridge from each respondent's priority profile into the corresponding decision areas, thereby systematically populating the matrix cells. The semi-structured guide was broadly consistent across interviews but was adjusted where necessary to maintain a natural conversational flow, while still enabling probing and follow-up questions to elicit further detail (Bell et al., 2022).

Documentary analysis formed the third stream and was used for triangulation. In this study, it primarily took the form of secondary market research on the UAE and European operating environment, structured through a PESTEL framework. All dimensions were analysed in full, but only those with a direct bearing on the operations strategy decision areas under study are presented here. The resulting analysis is presented in Appendix D. It drew on a broad range of publicly available sources, including government publications, industry reports, and academic articles, allowing each dimension to be characterised through multiple independent sources.

According to Bell et al. (2022), document analysis can strengthen validity because documents are often not produced for research purposes, but instead originate in other organisational or public contexts, which can make them more independent in relation to the research problem. Secondary data analysis, as this approach is also termed, is considered an efficient way to access detailed qualitative material (Johnston, 2014). At the same time, a systematic quality assessment of the material was applied, since the documents were not produced primarily for this study and care was therefore needed to avoid over-interpreting what they could support.

The workshop with the UAE Operations Lead constituted the fourth stream of data collection. Because the UAE operation is at an earlier stage of maturity than the European business and has a smaller respondent pool, a single structured workshop with the individual holding overall operational responsibility for the region was used instead of a broader interview programme. Before the workshop, secondary documentary sources and the PESTEL profile of the UAE operating environment were synthesised into a set of contextual hypotheses about how local operating conditions might shape day-to-day operations. These hypotheses were then tested in the workshop, where the respondent was asked to confirm, qualify, or reject each one against the operational reality of the UAE deployment, and to identify configuration choices not anticipated in advance. The way in which the workshop output was subsequently used in the analytical procedure is described in Section 3.3.

3.1.2 Sampling Strategy

Selecting interview participants, which constitute the core data collection method in this project, is a crucial methodological decision. A well-designed sampling strategy strengthens the ability to draw credible conclusions, reduces bias, and avoids including individuals who cannot contribute meaningfully to the research question (Bell et al., 2022).

This qualitative study applied non-probability purposive sampling in order to deliberately select employees with a clear connection to the topic. While random selection can be useful for creating representative samples, it also risks including individuals who lack relevant knowledge, particularly in a study focused on a highly specific regional context. In such a setting, random selection could have generated irrelevant data. At the same time, purposive sampling carries the risk of excluding participants who are incorrectly assumed to fall outside the selection criteria, which may introduce sampling bias and limit validity and reliability.

To address this, the sampling strategy combined several purposive techniques. Initial access to respondents was facilitated through senior operations managers with cross-regional oversight of both the UAE and European business. The researchers submitted requests describing the roles and perspectives sought in order to ensure breadth across the sample. This functioned as a form of criterion sampling, ensuring that participants met defined inclusion criteria and had a clear connection to both the organisation and the research topic, while also enabling coverage across roles and organisational levels to reduce the risk of interviewing only individuals with similar backgrounds or from the same team (Bell et al., 2022). Snowball sampling was then applied throughout the interview process, with respondents asked to identify additional individuals they considered relevant but who might not have been immediately visible to the researchers as external observers. The sample also deliberately included individuals working adjacent to operations rather than only those directly within it, in order to capture how the operating model is perceived from neighbouring functions and to surface perspectives that those embedded in day-to-day operations might take for granted.

The sampling process resulted in nine semi-structured interviews with respondents working in the case company's European operations, complemented by a workshop with one respondent from the UAE operations team. In addition, six exploratory conversations were conducted earlier in the project in order to scope the problem and inform the framing of the study. Material from these conversations was used to shape the research design but was not coded into the findings chapter. In the

analysis chapter, respondents are referred to using anonymised identifiers, with role information presented at the level of functional area rather than precise job title. A full overview of respondents is provided in Appendix B, and the rationale for this approach is described in Section 3.4.

The sample size is appropriate given the design and scope of the study. Nine European interviews fall within the range typically associated with saturation in qualitative case studies focused on a bounded phenomenon and a relatively homogeneous respondent pool, generally observed between 9 and 17 interviews (Hennink and Kaiser, 2022). The sample is also large relative to the case company itself. The organisation is comparatively small and its operational teams are lean, meaning that nine respondents represent a substantial proportion of those with direct operational responsibility in the European business and provide coverage across the main functional areas relevant to the operating model.

Information saturation was assessed during coding by tracking the rate at which new sub-themes emerged. By the eighth and ninth interviews, new material was overwhelmingly absorbed into existing sub-themes rather than generating new ones, supporting the conclusion that the sample was sufficient to populate the four decision areas with stable analytical coverage. The European interview material was further complemented by the UAE workshop and the six exploratory conversations, which together provided contextual breadth across both the home and host market.

3.2 Analytical Strategy

The analytical strategy used in this thesis is theory-driven framework analysis (Ritchie and Spencer, 1994), in which a pre-existing analytical structure guides the coding of qualitative material while remaining open to refinement as patterns emerge from the data. The framework used was the operations strategy matrix developed by Slack and Lewis (2020), with the four decision areas, capacity, supply network, process technology, and organisation and development, serving as the primary coding categories. The five performance objectives, quality, speed, dependability, flexibility, and cost, were used as a tagging dimension across decision-area entries to indicate which performance trade-offs each operational choice was understood to support.

Within each decision area, sub-themes were developed inductively following the steps described by Braun and Clarke (2006). The process began with familiarisation through transcription review and repeated reading of the interview material, followed by the generation of initial codes capturing recurring topics, observations,

and tensions in respondents' accounts. These codes were then grouped into broader sub-themes that captured shared meanings across respondents, with each sub-theme defined and named in relation to the decision area in which it was located and the research question to which it related. Codes were developed based on repetitions and recurring topics across the dataset, which supported the identification of similarities and differences and enabled the construction of sub-themes (Ryan and Bernard, 2003). Coding was carried out in a structured workbench that allowed line-level codes from each transcript to be aggregated into sub-themes within their respective decision area while preserving traceability to the underlying interview segments. This process was applied across the nine European semi-structured interviews and produced an initial set of 22 sub-themes distributed across the four decision areas. The full coding structure is presented in Appendix C.

This combination of a deductive framework with inductive sub-theme development is consistent with the abductive logic introduced earlier, in which the operations strategy matrix structured what was looked for, while the empirical material shaped how each cell was understood and which sub-themes were developed within it. The approach was particularly suitable given the variety within the interview data, since respondents held different roles, operated in different markets, and had different scopes of responsibility. The framework provided comparability across respondents by ensuring that all material was related to the same set of decision areas, while the inductive development of sub-themes preserved the richness needed to capture role-specific perspectives and contextual differences.

3.3 Four-step analytical procedure

The four-step cell-by-cell procedure described in this section is the artefact developed in response to RQ1, and it is reflected on as a contribution in Section 4.6 after the results it produced have been presented. The procedure addresses two practical questions that any firm transferring an operating model from one market to another must answer: which factors cause a configuration that works in the home market to come under pressure in the host market, and where in the operating model those factors take effect. The operations strategy matrix developed by Slack and Lewis (2020) addresses the second question by locating the operating model within a cell-based structure, allowing each source of pressure to be traced to a specific intersection of performance objective and decision area rather than discussed at the level of the operation as a whole.

Each step produces a concrete analytical artefact that feeds into the next, as illus-

trated in Figure 3.1. First, the European baseline is mapped. Second, the home-to-host contextual difference is profiled through PESTEL. Third, the baseline and contextual profiles are cross-referenced cell by cell to generate hypotheses, which are then validated with the local Operations Lead. Fourth, the validated material is used to reverse-engineer the UAE configuration.

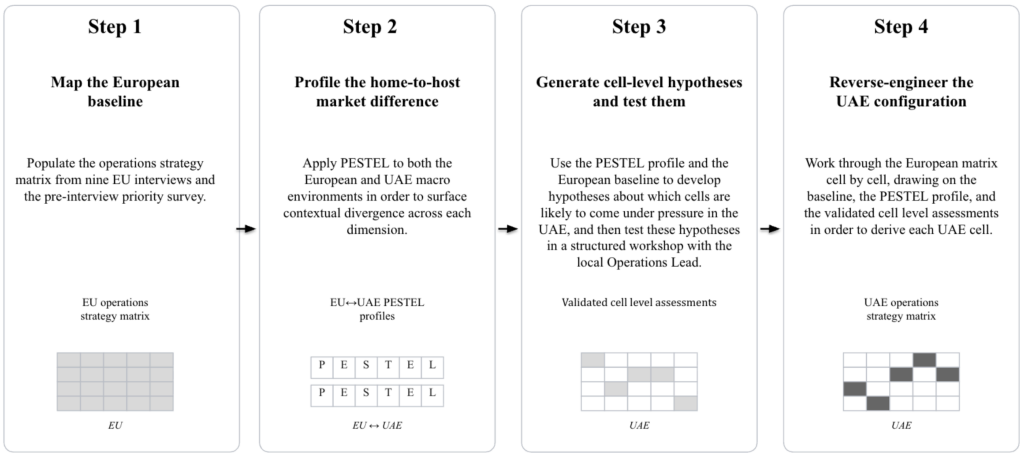

Figure 3.1: Four-step cell-by-cell procedure for identifying operating-model reconfiguration.

Step 1 — Map the European baseline.

The first step established what the European operation does in practice by populating the operations strategy matrix using the nine European semi-structured interviews and the pre-interview priority survey. The survey functioned as a bridge between each respondent's performance-objective profile and the decision-area choices discussed during the interview. The resulting matrix constitutes the documented European operating model and serves as the reference template against which the UAE configuration is later assessed.

Step 2 — Profile why the baseline works, through PESTEL.

The second step asked why this particular configuration works in Europe. PESTEL was applied to both sides of the comparison, producing one profile of the European macro environment and one of the UAE environment. This allowed the European configuration to be read against the contextual conditions that sustain it. Profiling both markets, rather than only the host market, is what later makes it possible to link each European matrix cell to the environmental factors that enable it. The output is a comparative profile of how the UAE environment diverges from the European one across political, economic, social, technological, environmental, and legal dimensions.

Step 3 — Cross-reference each cell and generate hypotheses.

The third step is where the analytical comparison begins, and it proceeds one cell at a time. For each cell of the European matrix, the configuration is first explained by identifying, in the European PESTEL profile, the environmental factors that help explain why it works in Europe. The same factors are then examined in the UAE profile. Where they are present, the cell is expected to transfer largely unchanged. Where they are absent or materially different, a cell-level hypothesis is formed that this part of the European operating model is likely to come under pressure in the UAE.

Repeating this process across all cells produces a set of hypotheses about which parts of the European configuration are likely to hold and which are likely to require reconfiguration. These hypotheses were then taken into a structured workshop with the local Operations Lead, who was asked to confirm, qualify, or reject each one against the day-to-day reality of the UAE operation, and to identify configuration choices that the PESTEL profiles alone had not predicted. The workshop therefore served two roles: it tested the contextual hypotheses against host-market reality, and it filled gaps that secondary market analysis could not address, given the early-stage nature of the deployment. The output is a validated set of cell-level assessments, each carrying both a PESTEL-based rationale and an empirical confirmation or revision from the workshop.

Step 4 — Reverse-engineer the UAE configuration.

The fourth step built the UAE operating model from the European baseline rather than from scratch. Working cell by cell, each European decision-area choice was carried over, adjusted, or redesigned according to the validated assessments from Step 3. The UAE matrix therefore represents the European configuration readjusted to the conditions identified in the market profiles and confirmed in the workshop. The output is the UAE operations strategy matrix, which serves both as the host-market operating model and as the consolidated result of the procedure.

The same matrix framework is applied across all four steps, which gives the procedure its comparability. The European baseline, the contextual profiles, the workshop-validated assessments, and the reverse-engineered UAE configuration are all expressed through the same cell structure. This reflects the abductive logic introduced earlier: the matrix fixes what the analysis looks for, while the empirical and contextual material shape how each cell is understood. The procedure therefore has a deliberate epistemic order, in which Step 2 generates contextual predictions, Step 3 tests them against host-market reality, and Step 4 consolidates the validated

material into the UAE matrix.

3.4 Ethical Considerations

The ethical principles guiding this research follow the four recurring issues in research ethics identified by Diener and Crandall (1978): avoiding harm to participants, ensuring informed consent, protecting privacy, and avoiding deception. Because the empirical focus lies in the UAE while the research is conducted from Sweden, the application of these principles also requires sensitivity to context-dependent norms concerning openness, power dynamics, and what may be perceived as sensitive or company-confidential information (Bell et al., 2022).

To ensure informed consent, all participants are contacted in advance with information about the purpose of the study, why their perspective is relevant, and how their data will be used. Participation is voluntary, and participants may withdraw at any point or decline to answer any question without needing to provide a reason. Because in-depth interviews may move into unanticipated areas, fully prospective consent is difficult to guarantee in practice (Allmark et al., 2009). To address this, the general topic areas are shared in advance without disclosing the exact interview questions, and consent, including permission to audio record, is reconfirmed at the start of each interview.

To protect anonymity, transcripts are pseudonymised, with direct identifiers such as names removed and highly specific role markers generalised. Quotations are attributed at the individual level, but presented in a way that reduces the risk of identification, using broad functional categories rather than precise job titles where necessary.

Personal data is processed in accordance with the General Data Protection Regulation, GDPR. Recordings and transcripts are stored in access-restricted locations available only to the researchers, and identifiable material is deleted or anonymised once it is no longer required for the research process. To minimise the risk of harm, the study avoids unnecessary collection of sensitive information and allows participants to steer away from topics they consider inappropriate. No deception is used. The purpose of the study and the intended use of the material are communicated clearly, within the limits necessary to avoid influencing participants' responses.

4

Analysis

This chapter serves a dual purpose. It presents the empirical material gathered through the survey in Appendix A, the semi-structured interviews in Appendix B, the workshop with the UAE Operations Lead, and the secondary-source market research presented in Appendix D, while also analysing that material. Findings and analysis are presented jointly because judgements concerning transfer, adaptation, and redesign cannot meaningfully be made independently of the underlying evidence, and because the abductive logic of the study makes a strict separation between them artificial.

The chapter follows the four-step analytical procedure outlined in Section 3.3. Section 4.1 establishes the European baseline through the interviews and pre-interview survey, which is then consolidated into the European operations strategy matrix in Section 4.2. Section 4.3 profiles the UAE macro environment through PESTEL, and Section 4.4 presents the empirical UAE picture based on the workshop. Section 4.5 then works through the European matrix cell by cell in order to derive the UAE operations strategy matrix, while Section 4.6 reflects on the analytical procedure as a contribution in its own right. The chapter concludes by identifying cross-cutting patterns that recur across the decision areas and that feed into the discussion chapter that follows.

4.1 The European Operation in Practice

This section presents the European operation as it is currently configured, drawing on the pre-interview survey and nine semi-structured interviews with respondents holding direct operational responsibility. The material is organised around the operations strategy matrix of Slack and Lewis (2020), beginning with the performance objectives that operations is configured to deliver and then turning to the four decision areas through which that delivery is shaped: capacity, supply network, process technology, and organisation and development. Together, these sub-sections estab-

lish the empirical baseline that is later consolidated into the European operations strategy matrix in Section 4.2.

4.1.1 Performance Objectives

The pre-interview priority survey, in which respondents ranked the five performance objectives through forced trade-off questions, produced a clear ordering across the seven respondents who completed it. As shown in Figure 4.1, dependability emerged as the highest priority with a mean rank of 2.29, followed by quality at 2.71, flexibility at 2.86, speed at 3.29, and cost at 3.86.

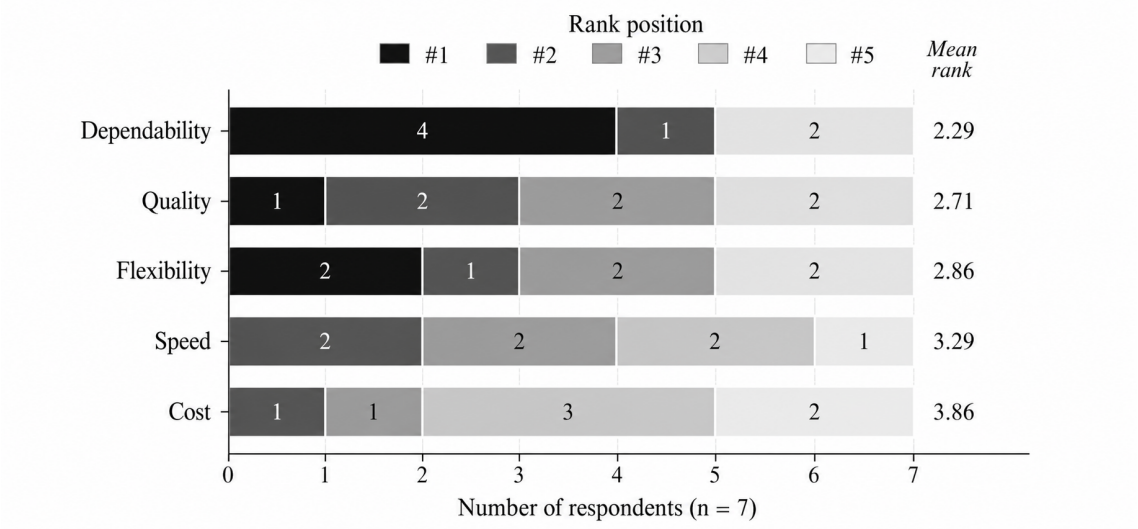

Figure 4.1: Distribution of rank positions across the five performance objectives in the pre-interview priority survey ($n = 7$). Mean rank is shown on the right; lower values indicate higher priority.

Dependability is framed by respondents as the foundation for entering a conservative industry with new technology. Consistent delivery is described as the basis upon which long-term customer partnerships can be built, particularly given that hardware-related issues must still be expected at the current stage of technological maturity.

> *"We must prove ourselves that this works in practice."*
> R8

Respondent 2 offers a somewhat different view of dependability. While emphasising that dependability is crucial, the respondent also highlights that it can only be achieved through a high degree of flexibility in operations. This enables the operation to adapt when volumes peak or conditions change, while still ensuring

consistent delivery. This argument is reinforced by Respondent 5, who argues that the most important capabilities to demonstrate to the customer are flexibility and quality, particularly as a means of extending scope.

Respondent 2 strongly advocates flexibility and links it to the expectation that customers demand high quality at low cost, something the respondent argues is only achievable through a high degree of flexibility. At the same time, Respondent 2 highlights that needs vary both within and between customers, creating a need for flexibility where quality levels cannot be fully standardised. Flexibility is also seen as the mechanism through which emerging customer needs can be addressed. In this regard, the respondent argues that many companies focus too narrowly on cost, whereas cost becomes irrelevant if the customer is not satisfied and ultimately leaves.

> *"If our model is not flexible to adapt to those various needs, we're out of business."*
> R2

Respondent 6 also points to flexibility as important, but stresses that the case company has not yet reached that stage. This view is reinforced by Respondent 9, who argues that more flexible structures are needed within the case company and that the current fleet asset structure does not enable full flexibility. Respondent 8 similarly agrees on the importance of flexibility, but identifies the immaturity of the technology as a key barrier.

Respondent 3 offers an alternative interpretation of flexibility and argues that the concept is at times used incorrectly. According to this view, the flexibility perceived in the case company is not necessarily an intentionally designed capability. Rather, the absence of standardisation in how different customers are handled has created the impression of flexibility, when in reality it is more a natural consequence of being a startup seeking to prove its business case and therefore not yet having established all operational boundaries. As the case company matures, it also becomes better able to determine what it should and should not do.

Speed has become increasingly important over time. Respondents noted that much of it lies outside the case company's direct control, as highlighted by Respondent 5, and that stronger system support, particularly through internally developed software, constitutes the most direct lever through which operations can influence it, as argued by Respondent 8.

Cost was ranked lowest in the survey, but is described as a growing priority. While

market entry initially justified absorbing higher costs in order to establish customer relationships, respondents describe a clear shift towards profitability as the operation matures. This is reinforced by the fact that electric trucks remain more expensive than diesel alternatives and must be utilised intensively in order to remain economically viable.

> *"In the beginning, we were more willing to take costs to enter the market and win new customers. At the same time, over the last two years at least, we have been very cost-focused. So we have shifted our focus somewhat from simply taking market share whatever the cost, to... well, now we have made a name for ourselves in our most mature market, and now we need to find profitability in our business."*
> R8

4.1.2 Capacity

Demand-driven capacity sizing

Capacity design is primarily based on previous diesel operations for the customer. Diesel data therefore becomes the basis for determining what can be electrified and to what extent. However, Respondent 5 highlights that electrification is constrained both by which flows are technically feasible and by which flows make sense from a business case perspective. Since the technology is still relatively new and the vehicle range remains limited, not all flows that appear suitable in diesel data can in practice be electrified. Respondent 2 further emphasises the importance of understanding customer expectations, since the required service level ultimately shapes how much capacity must be maintained. The same respondent also notes that the company's position in the supply chain matters, as some transport assignments require full service-level fulfilment more than others.

Several respondents also stress that capacity is not only about matching demand fluctuations. Replacement trucks are needed both for unplanned breakdowns and planned maintenance, and this also creates a need for drivers who can move vehicles to and from workshops. Respondent 1 extends the logic beyond hardware and labour, arguing that buffers must also be built into planning activities, particularly transport planning. Respondent 5 similarly notes that buffers are important when calculating process times at customer sites, since actual times can differ significantly from planned ones.

Respondent 2 agrees that buffers are important for maintaining service levels, but

also points out that higher service levels increase cost, since they require a more robust capacity setup. At the same time, transport customers are often unwilling to pay more while still expecting the highest possible performance, reflecting the increasingly commoditised nature of transport services.

> *"The movement of goods, transportation of goods, has become, over time, a kind of commodity. And what does it mean when a service or a good becomes a commodity? Then the expectations are always the best possible service against the lowest possible price."*
> R2

Respondent 1 warns against setting an early precedent in which the focus is only on making customers happy in order to demonstrate dependability. Respondent 9 reinforces this argument by emphasising the long-term importance of customer relationships, while also arguing that additional costs may sometimes need to be absorbed in order to make the model work over time. In practice, the company may need to act before cost allocation is fully clarified.

> *"We need to move quickly; we cannot sit idle. Things happen in the business on a daily basis. We cannot sit and analyse whether we should bring in an extra truck because we are not entirely sure who is going to take the cost for it. We need to bring in an extra truck now, and then solve it afterwards."*
> R9

At the same time, flexibility remains central. Respondent 2 argues that transport providers often occupy a low-priority position in the customer's supply chain, while still being expected to deliver reliably at low cost. This requires the ability to redirect and reconfigure the operational setup quickly. Respondents 8 and 9 connect this to a possible change in fleet model, moving away from customer-dedicated assets toward a shared fleet that can move between customers and create a more unified capacity base. Respondent 5 adds that this has already been piloted in order to support temporary customer needs.

> *"So the idea is to gradually move away from allocating specific assets to a customer contract and instead have a fleet in a central Nordic hub that we can use."*
> R9

4.1.3 Supply network

Critical relationships: Original Equipment Manufacturer partners

Suppliers of hardware are described as fundamental to operational survival and as actors around which the entire operating model is built. Respondents emphasise that the case company's performance is directly dependent on hardware performance, and that this dependency is especially strong given the immaturity of electric truck technology.

> *"If our hardware doesn't perform, it's already impossible for us to perform. So, you have the biggest dependency with the hardware."*
> R5

Beyond OEMs themselves, workshops are also identified as critical. Their geographic proximity and opening hours are important, particularly for continuous operations. Respondent 9 adds that workshops must also possess competence related to the new technology, and notes that the region currently lacks enough trained electric mechanics.

Critical relationships: Carrier partners

Carrier partners form the second major set of critical supply relationships. While OEMs and workshops provide and maintain the hardware, carriers ensure its day-to-day operation. Respondent 1 notes that this relationship is more complex in electric transport than in diesel transport, since the case company positions itself between shipper and carrier on the basis that electric transport requires more advanced planning and optimisation. Carrier partners therefore become crucial not only because they operate the hardware, but also because the case company contributes a distinct optimisation capability.

Respondent 8 breaks the carrier relationship into three dimensions. First, carriers are an important source of execution capacity. Second, because they are closest to the customer in daily operations, the company depends on them to handle events, report back, and escalate when support is needed. Third, all of this takes place in a low-margin industry, which creates added risk. Respondent 9 adds that the company also depends on carriers for practical transport knowledge, making them not only providers of execution but also sources of operational expertise.

Carrier partner model redesign

Although respondents agree on the importance of carrier partners, they differ in their views on how the relationship should be structured. Respondent 3 describes

an ambition to build long-term partnerships with a smaller number of strong carriers through transparent contracts, in order to support both scale-up and access to surrounding resources. Respondents 4 and 5 similarly emphasise the value of close partnerships, both for quality control and for stronger knowledge exchange.

> *"We want to work together and to develop together. That was always our promise towards the carrier."*
> R4

Respondent 9 pushes the argument further by considering a highly concentrated carrier setup, while also acknowledging that other models may work if responsibility and fleet control are clearly defined. Respondent 8 describes the current setup as involving multiple carriers, but stresses that this should not be treated as fixed. Respondents 5 and 9 both argue that the most appropriate carrier model is likely to be country specific, since commercial conditions differ substantially across markets.

> *"There are advantages and disadvantages with different models, and that whole carrier setup, I think, is something that is quite country specific."*
> R9

At the same time, several respondents argue that flexibility in the partnership model is not sufficient on its own. There must still be a common core in which the case company's own role remains clear. Respondent 1 argues that the company must continually question the setup in order to define its role and ensure that it is the one creating the core value for the customer. Respondent 2 similarly stresses that if too much responsibility is distributed across partners, the company becomes dependent on processes and systems that are less advanced than its own. Even in strong partnerships, responsibility and control must therefore remain with the case company.

> *"If we think we're gonna transform the way of working in the total chain, we should take a lot more matters in our own hands."*
> R2

4.1.4 Process Technology

Process technology concerns how operational activities are structured, digitally supported, and connected to the physical assets that perform the work. This emerged as one of the more contested decision areas in the study. Respondents broadly agreed that standardisation is desirable and partly underway, but diverged on how far it has progressed, where it is most needed, and what should remain locally adapted.

Four sub-themes emerged: process standardisation, information streams, system capability and gaps, and hardware reliability and operational constraints.

Process standardisation

A recurring theme was the ambition to standardise processes across the organisation, while recognising that much of daily execution remains tailored to customer-specific cases. Respondent 2 articulates this ambition clearly, presenting the company as an active orchestrator rather than a passive provider.

> *"We plan, we are customer facing, we execute, we allocate trucks, we optimize the whole planning and execution process. We even tell those external partners where to charge and when to charge."*
> R2

Respondents identify contracts with carriers and customers, organisational structure across regions, and data-gathering routines as the most clearly standardised layers. By contrast, standardisation is less developed in customer-facing value-added activities. Several respondents note that operational processes still vary significantly between customer cases and that this is partly because customer contexts differ substantially. At the same time, accumulated experience is beginning to create recurring patterns that resemble an emerging practical standard. Respondent 1 adds that processes are somewhat more standardised within specific shipper verticals, where business patterns are more homogeneous.

Respondents also stress that not all process elements can or should be fully standardised. Regional commercial conditions affect, for example, whether it is more suitable to work through an agency model or directly with carriers, and while vehicle purchasing has become more centralised, local markets still require different hardware specifications. Standardisation is therefore framed not as an absolute goal, but as something that must be calibrated to local context.

Information streams

Closely connected to standardisation is the issue of how information flows within the company and between the company and its external partners. Respondent 4 describes the digital tool used in operations as indispensable.

> *"Without that tool, I'd be lost. That's how I plan the trucks, and that's how the drivers know how to drive."*
> R4

At the same time, respondents describe a fragmented communication environment.

Respondent 7 outlines a typical chain in which information moves from driver to carrier, from carrier to Operations, from Operations to Hardware, and then back again. The problem is the lack of a single point of contact, which creates long relay chains, weakens accountability, and slows response times. Respondent 8 describes a future ambition in which the planning system would actively propose solutions for the planner to approve, while Respondent 5 brings the discussion back to the operational purpose of these information streams, namely maintaining control and KPI visibility. Respondent 4 similarly highlights the importance of system support for verifying carrier-reported work and controlling costs.

System capability and gaps

At the centre of this discussion stands the company's own transport management system and the extent to which its current capability matches the ambition placed on it. Respondent 3 describes the ambition that all transport planning should run through internal platforms, making the internal TMS the most critical operational system. Respondent 2, however, argues that the current system does not yet cover the full functional scope required. According to this respondent, a mature system would need to handle order entry, automated planning, truck-board communication, and charging optimisation.

Where the system already provides value, respondents highlight its role in handling deviations. Respondents 3 and 6 note that once a deviation occurs, the planner can use the TMS to see vehicle location and battery level and respond quickly. At the same time, several respondents point to significant limitations. Respondent 4 describes daily operations as involving a large number of disconnected tools rather than one integrated system.

> *"In my head I would only have to use one or two tools, which now are over ten tools that I'm using for different things."*
> R4

Respondent 5 adds that these challenges are not only internal, but reflect a broader supply chain environment in which each actor seeks technological control, thereby increasing complexity. Looking ahead, respondents consistently point to a more capable software layer as a major lever for improvement. Respondent 8 presents the clearest vision, namely software that could be used by customers, carriers, or internal teams for administrative planning while still being enabled by the case company's tools.

> *"We should have software that we can put in the hands of the customer,*

> *the carrier or ourselves, so that they can do the administrative planning, but we give them the tools for it."*
> R8

Hardware reliability and operational constraints

Hardware performance emerges as a direct constraint on what the rest of the operation can achieve. Respondent 4 points to early hardware reliability problems, while Respondent 7 explains that the newness of the vehicles means that manufacturers have not yet built up sufficient spare-part inventories. This can force the company to source parts directly from the factory, extending downtime and making committed service delivery harder to maintain.

> *"Their difficulty is like the hardware, because the trucks were not reliable."*
> R4

Respondents also highlight the vehicle performance envelope as a key constraint on which customer cases can be served. Respondent 8 identifies range as the clearest threshold, since longer range opens up a significantly larger share of the market. The same respondent also notes that customer cases using well-performing trucks are much easier to make profitable. Hardware reliability and capability therefore emerge not as secondary technical concerns, but as direct determinants of market scope and case profitability.

4.1.5 Organisation and Development

This chapter presents the findings for the Organisation and Development decision area. Six sub-themes emerged from the interviews: strategic identity, decision rights and governance, organisational standardisation, improvement capability, data infrastructure for improvement, and proactive versus reactive improvement. Across them, respondents describe an organisation whose appetite for improvement and speed of governance have in some respects moved ahead of its definitional clarity and supporting infrastructure.

Strategic identity

Respondent 2 frames this sub-theme most clearly through a rhetorical question:

> *"Are we a tech company, performing transportations, or are we a transportation company with a strong tech background?"*
> R2

This tension also appeared earlier in the study in relation to flexibility, but reappears here at a deeper strategic level. Respondent 3 shows its operational consequence by arguing that customer cases have historically been handled differently not always because they were substantively different, but because the organisation has been relatively immature and individual cases have been shaped by which regional team or project manager received them. In this sense, the company has not yet fully defined what it is when it enters a case.

A second strand concerns commercial posture. Respondent 4 links ambiguity to scale, describing how rapid growth created challenges in cost oversight and financial control. Respondent 5 reinforces this from an operations perspective by recalling situations in which commercial teams closed deals below target margin with the expectation that operations would later recover the gap. Respondent 8 then describes a broader shift from a market-entry phase focused on expansion at significant cost toward a more mature phase in which profitability becomes a priority. This gives the identity question a temporal dimension. Greater ambiguity may have been tolerable in the entry phase, but has clearer consequences in the scale-up phase.

At the same time, Respondent 8 argues that the absence of fully settled routines should not only be seen as a deficiency. Some degree of looseness is described as deliberate, in order to preserve responsiveness and avoid organisational rigidity.

> *"We are far from having routines and processes standardised for everything. We don't want that either, because then it becomes sluggish, but we have to find the balance."*
> R8

Decision rights and governance

Respondents describe the governance structure as relatively flat, with few formal layers, high trust, and short decision paths. Respondent 7 captures this overall structure, while Respondent 1 highlights that it is also reflected in a high degree of local autonomy. The Nordics team, treated as a local unit within EMEA, is described as an example of a team that can make decisions without routinely escalating matters upwards.

This autonomy is especially visible in day-to-day operations. Respondent 5 explains that operations specialists usually make operational decisions and coordinate directly with carrier partners, largely because speed is required. Respondent 6 similarly describes how most issues are resolved at the level of the Operations Account Manager, with only a smaller share handled together with the immediate manager

and a limited remainder escalated further up the organisation.

At the same time, escalation routes remain clear for issues that exceed the local level. Respondent 3 notes that the route depends on the type of issue. Customer contract matters tend to involve sales early, whereas day-to-day operational issues usually remain with the person responsible for the customer. The same respondent adds that the most important operational decisions ultimately rest with the Director of Operations.

> *"It is a fairly flat organisation and the right person is in the right place... and still trust is high and decision paths are relatively short."*
> R7

Improvement capability

Improvement work is described as both structured and embedded in daily operations. Respondent 2 explains it through the logic of the Plan Do Check Act cycle, while Respondent 6 connects this to a daily rhythm in which problems are continuously identified through planning and execution. Respondents also describe a culture in which surfacing problems is encouraged rather than penalised.

> *"If something comes up, it comes up. No one is afraid to say that something isn't working or worried about being told off for it, quite the opposite."*
> R7

At the same time, respondents stress that operations will never be perfect and that some current constraints remain unknown until encountered. This suggests that the company has a strong capability for identifying and circulating problems, but that it operates in an environment where the problem space itself is still evolving. Responsiveness therefore becomes more important than completeness.

Data infrastructure for improvement

Respondent 9 emphasises that fleet improvements depend fundamentally on data quality. Respondent 2 extends this by arguing that the absence of a sufficiently mature TMS should not only be seen as a missing tool, but as a limitation on the company's basic ability to improve.

> *"If we don't have a transport management system, we cannot collect the facts, and we need to know the facts."*
> R2

Proactive versus reactive improvement

Respondent 1 describes current cross-team improvement work as largely reactive rather than proactive. Improvements are often triggered ad hoc when one team reports that something is not working, rather than through systematic anticipation. Although there is a clear ambition to work more proactively, daily operational problems tend to absorb attention first.

> *"We want to improve and work proactively with things. But in reality you most often have to make sure to solve all the problems that arise during a day. And that's the first thing you have to do to make it function."*
> R1

Respondent 5 adds that the centralised operating model contributes to this pattern, since long communication paths between regions and central functions slow proactive work even when the intent exists. The gap between reactive and proactive improvement therefore appears not mainly as a question of culture or motivation, but as a problem of capacity and organisational architecture.

4.2 The European Operations Strategy Matrix

Consolidating the empirical material from Section 4.1 through the operations strategy matrix of Slack and Lewis (2020) produces a single artefact representing the current European operations strategy, presented in Figure 4.2. The matrix synthesises the material across the nine respondents, capturing the dominant empirical patterns while also surfacing internal tensions in the matrix analysis below. Some cells reflect operational reality as it currently functions, whereas others reflect intended configurations that are only partially realised in practice, a distinction that becomes analytically relevant when comparing the UAE configuration with the European baseline in Section 4.5. The matrix should be read with the rows representing performance objectives, columns representing operational decision areas, and each cell summarising how a given decision area is configured to support a specific objective.

Performance objective ↓ **Operational decision area →**	**Capacity** *Scale, timing, and location of capacity; buffers and utilisation choices.*	**Supply network** *Boundary of the firm; partner selection; coordination and governance.*	**Process technology** *Systems, tools and routines that enable and coordinate the operation.*	**Dev & organisation** *Decision rights, improvement routines, capability building, strategic identity.*
Quality *Consistently delivering products/services that conform to specification and customer expectations.*	• Selective flow uptake, range and vehicle reliability act as the feasibility filter • Greater case-company oversight of fleet and carrier operations to safeguard quality at the customer interface	• Long-term partnership model with carriers rather than transactional sourcing • Concentrated, selected carrier base per region • Transparent pricing in carrier negotiations • Joint customer approach with carriers	• Advanced in-house TMS as central orchestration platform • The case company "at the steering wheel" of operations • Continued software implementation to protect competitive position • Standardised carrier and customer contract templates • Standardised transport-data collection across regions • Standardised organisational structure across regions	• Reliable data collection to enable improvement work • Weekly continuous-improvement / lessons-learned standing items • Cross-functional task forces for complex case reviews • Monthly business reviews with customers, KPI-driven • Open problem-surfacing culture
Speed *How quickly the operation responds, from customer request to delivery.*	• Real-time deployment of additional capacity, with cost attribution reconciled afterwards • Standing framework agreements with carriers compress project lead time	• Direct OEM access via early-mover relationship investment • Shortened information and communication streams to reduce the number of stakeholders involved	• Advanced TMS software for faster planning and replanning • Fast-track escalation channel for hardware issues • OEM "flying doctor" service for fast technical support	• Flat governance and short decision paths for fast operational response • Structured problem-solving routines to prevent operational delays • High local autonomy at operations specialist level
Dependability *Doing what was promised, on time, as agreed, with predictable performance.*	• Layered buffer architecture: vehicles, chargers, drivers, planning slack • Third-party rental and agency partners as backup-vehicle source • Process-time slack built into customer-site planning • Buffer level calibrated to customer's position in supply chain	• Workshop network density requirements • OEM service guarantees • Backup-vehicle agreements with rental firms and carriers • End-to-end network visibility through orchestrator role	• Focus on the newest, most reliable hardware with strong customer support • Central vehicle purchasing • Customer case experience shaping standardised execution • TMS deviation visibility for post-event recovery • Customer data for feedback loops	• Structured improvement routines to build long-term operational predictability • Fallback-plan as a cultural norm
Flexibility *Ability to change what the operation does and how: variety, mix, volume, timing.*	• Transition from dedicated-asset to pooled-fleet model • Cross-border vehicle redeployment • Rental and agency partners for capacity flexibility	• Country-specific carrier model • Driver in-housing under consideration in selected regions • Multiple carriers per region to absorb fluctuations	• Customer-driven case adaptation • Local adaptation of hardware specifications • Standardised hardware to enable cross-region deployment • Customer-configurable optimisation	• Local autonomy for regional and customer adaptation • Operations Key Manager role per customer • Differentiated decision rights: fixed versus complex customer cases
Cost *Ability to deliver efficiently at low cost.*	• Utilisation-driven sizing • High threshold to amortise EV truck cost • Cost recovery prioritised over flexibility in scale-up phase	• Carrier model as primary cost lever • Lean-network principle: remove non-value-adding intermediaries	• Standardise software to control development costs • Ensure system oversight of vehicle usage for accurate billing • Hardware performance directly affects case-level profitability • Vertical-specific standardisation	• Strategic identity shift moving towards profitability • Cost-transparency improvement • Sales-to-operations margin alignment as live workstream

Figure 4.2: The European operations strategy matrix, populated from the nine semi-structured interviews and the pre-interview priority survey across the four decision areas and five performance objectives.

4.2.1 Interpretation of the European Operations Strategy Matrix

The matrix indicates a high degree of coherence between the performance objectives identified as most important in the survey and the configurations established to achieve them. Dependability is reflected across all four decision areas, which together aim to keep operations at the forefront of new technology while maintaining fallback solutions at each stage of the system.

Quality is similarly coherent across the four decision areas, with configurations shaped by an overall ambition to maintain the highest possible degree of control over what is delivered, through whom it is delivered, and how it is monitored and improved.

Although flexibility was assessed as an important performance objective, it was described less as a strategically selected priority and more as a consequence of varying customer-case characteristics. The matrix reflects this, as flexibility is achieved through its distribution across the four decision areas, for example through local supplier adaptation, customer-configurable software, and local autonomy at the customer interface, rather than through the deliberate configuration of a single coherent capability.

Speed appears to be achieved more indirectly. The matrix contains no clear configuration aimed specifically at responding quickly to customer requests, since speed in transport was described as difficult to influence directly in this sector. Instead, speed emerges more as a by-product of the dependability configuration, including rapid hardware issue resolution, flat governance, and short decision paths, than as a primary design objective.

Cost emerges as the most tension-laden objective. Much of the work discussed in relation to cost lies outside direct operational control, being tied instead to hardware, asset utilisation, and software as a monitoring lever. At the same time, greater cost transparency within operations appears as a recurring proposal across decision areas.

This interpretation is reinforced by the temporal pattern in the data. Several respondents described cost as having only recently become a more important objective, explicitly linking this shift to the company's movement from a market-entry phase into a scale-up phase. Operational responses to cost may therefore still be lagging behind, and a more concrete configuration of the relevant cells may emerge as the operation matures further into this next phase.

Finally, a notable feature of the matrix is the degree of consensus around certain operational configurations that are not yet fully realised in practice, but which a majority of respondents identified as the future direction of operations. This includes, for example, the ambition to create greater flexibility through an adjusted fleet model and to improve quality through stronger software support. The matrix therefore contains a mix of cells that reflect present operational reality and cells that reflect future ambitions still dependent on organisational maturity and the phase of the local market. This distinction becomes analytically relevant when the European baseline is later assessed against the UAE configuration in Section 4.5.

4.3 The Operating Context from a PESTEL Perspective

This section summarises the PESTEL findings most relevant to operations strategy, drawing on the full analysis and the condensed PESTEL table in Appendix D. Rather than reviewing each dimension in full, it focuses on where the existing operating model can be transferred, where local adaptation is likely to be required, and where the UAE context calls for a more substantial redesign of the underlying logic. In doing so, it establishes the bridge to the Operations Strategy Matrix in the next section.

The political and legal environments differ in ways that are highly relevant to operations. The EU and Sweden combine emissions standards, charging infrastructure mandates, and electric truck subsidies, including Sweden's Climate Premium, into a coherent incentive structure for electrification. The UAE has moved decisively on autonomous vehicle regulation, notably through Dubai Law No. 9 of 2023 and Abu Dhabi's 2025 framework for autonomous heavy vehicles, but lacks a comparable freight-specific green incentive structure. As a result, the business case for electric trucks in the UAE rests more heavily on operational efficiency than on policy-driven cost reduction. Legal divergence reinforces this. Swedish collective bargaining constrains workforce flexibility, whereas UAE labour law allows greater flexibility but remains structurally dependent on migrant labour.

Regulatory exposure also differs across scales. UAE imports must pass through licensed importers and freight flows depend on uninterrupted access through the Strait of Hormuz, all of which constrain external supply lines. Within the UAE, however, inter-emirate vehicle reallocation remains customs-free under the GCC Common Customs Law, even though Dubai and Abu Dhabi operate distinct permit

regimes. This suggests that the European supply network and capacity architecture will not transfer in full, while pooled fleet logic remains broadly transferable across the emirates.

Economic conditions further shape the operating context. The UAE's projected growth of around five percent annually supports stronger freight demand and greater asset utilisation. The AED's peg to the US dollar reduces foreign exchange risk in procurement and preserves the logic of central vehicle purchasing. Wage levels are also notably lower than in Sweden, which may support more labour-intensive operating configurations at comparable cost. At the same time, lower driver costs mean that cost optimisation may need to rely more on other levers, such as free-zone structuring or sourcing arrangements.

Social and cultural conditions are particularly important for the human system layer of operations. Swedish business culture is relatively flat and consensus-oriented, with short decision paths, whereas the UAE reflects a much higher acceptance of hierarchy and structural authority. This combines with a workforce heavily dependent on migrant labour and a more relationship-driven business environment. Practices built around flat governance, open problem surfacing, and short information channels may therefore not transfer directly. At the same time, the relationship-based business culture increases the strategic importance of long-term and concentrated carrier partnerships. Conversely, the higher power distance environment may support disciplined adherence to codified standard operating procedures, meaning that quality management routines may still transfer even if the way they are enacted requires adaptation.

The technological dimension supports a relatively high degree of transferability for digital and software-based elements of the operating model. Sweden is classified as an Innovation Leader in the European Innovation Scoreboard, while the UAE performs strongly on infrastructure and connectivity and is better understood as a deployment-oriented environment than an originator. Operational readiness is illustrated by autonomous vehicles already operating in Abu Dhabi and by sufficient 5G coverage to support the same TMS-driven asset control approach used in Europe. This indicates that platform-based components, such as the in-house transport management system and standardised data architecture, can be transferred with limited adjustment. By contrast, the surrounding ecosystem of partners, OEM service relationships, and local technical support is more likely to require reconstruction around the actors available in the region.

The environmental dimension stands out as the most operationally constraining con-

trast. Whereas Sweden's main environmental challenge is seasonal cold, the UAE faces structural year-round conditions that materially affect electric and autonomous heavy-duty operations. Ambient temperatures above 43°C accelerate battery degradation, sandstorms sharply reduce LiDAR detection range, and DC fast chargers may thermally throttle under high heat. This indicates that hardware specification cannot simply be replicated from European deployments and that dependability mechanisms, including buffers and fallback procedures, must be calibrated to a different and more volatile risk profile.

Taken together, the PESTEL findings suggest that the UAE environment does not call for a single type of response. Some conditions, including strong connectivity, dollar-pegged procurement, and deployment-ready autonomous regulation, support direct transfer of the European logic for software and platform-based components. Others, including hierarchical and relationship-driven business culture, licensed importer requirements, and concentrated carrier dependencies, indicate that governance, partner architecture, and decision rights require local adaptation. The remaining conditions, including extreme heat, sandstorms, and external exposure linked to the Strait of Hormuz and non-harmonised GCC cabotage rules, point to areas where the underlying operating mechanism itself must be redesigned rather than adjusted at the margin. This distinction between transfer, adaptation, and redesign provides the analytical foundation for Section 4.5, where each cell of the European operations strategy matrix is assessed against the UAE evidence in order to produce the UAE matrix.

4.4 The UAE Operation in Practice

This section presents the UAE operation in its current configuration, drawing on the workshop with the UAE Operations Lead. The material is organised around the same four decision areas as the European baseline in Section 4.1: capacity, supply network, process technology, and organisation and development, with each considered in relation to its European counterpart. Together, these sub-sections establish the empirical UAE picture that, alongside the PESTEL analysis in Section 4.3, feeds into the cell-by-cell adjudication in Section 4.5.

4.4.1 Capacity

Internal buffer capability under an absent external rental market

The underlying logic of capacity buffering is conceptually similar between Europe and the UAE. In both contexts, buffering against hardware downtime is built around replacing the hardware. The execution differs, however. Whereas European operations relied heavily on third-party rental firms to maintain buffer capacity, this type of external access is described as effectively non-existent in the UAE.

This absence is presented as a structural condition rather than a temporary gap. Availability of electric heavy-duty trucks is limited, external drivers are constrained by customer-specific onboarding requirements, and rental systems operate on long commitment periods rather than the short-term basis that workshop downtime requires. As a result, the operation has moved away from externalisation and towards internal buffer capabilities, since the supplier ecosystem cannot be relied upon in the same way as in other markets.

> *"Nobody is having, nobody is willing to give, even if they are willing to give, subject to availability, so nobody has trucks idle waiting for you to take them."*
> Workshop participant

In contrast, the OEM ecosystem is described as functioning particularly well, in some respects even better than in the company's other regions. Spare parts are available with short lead times, largely because OEMs proactively hold local inventories. This means that repair lead times are shaped more by manual labour than by delays in accessing components.

At the same time, this support is limited in scope. OEMs mainly cover repair and maintenance linked to manufacturing issues, while a major gap remains in the day-to-day maintenance needs of a continuous 24/7 operation. The European pattern of relying on carrier relationships to absorb this maintenance work does not transfer, since UAE carriers in a carrier-as-maintainer model cannot prioritise maintaining someone else's hardware alongside their own fleet. This has driven the decision to build in-house capabilities in the areas that external partners cannot cover.

> *"So in view of all of this, we have decided to build an in-house capability. Then as we expand this base setup, the support functions will scale according to the operations."*
> Workshop participant

A second theme concerns maturity-dependent capability. The transition identified in Europe from dedicated assets to a pooled fleet is described as relevant in the UAE as well, but the participant stresses that this difference is shaped not only by market context but also by how long the operation has existed. Europe had several years to accumulate assets and gradually build a pool, while the UAE remains earlier in that trajectory. The implication is that pooled fleet logic remains relevant, but will only become fully effective as customer base and market presence expand.

> *"It will take the same amount of time for UAE... Over a period of time we will end up having... a pool of assets."*
> Workshop participant

4.4.2 Supply Network

The participant describes the carrier model as country specific and points to multiple carrier configurations having already been tested within the organisation. In the UAE, one condition that increases flexibility in carrier design is the significantly lower labour cost of drivers compared with Europe. This shifts the cost logic. In the UAE, the carrier model is not the primary cost lever. Instead, the main cost levers are the asset itself and electricity. As a result, carrier relationships can be given greater room for experimentation, since they do not constrain the business case in the same way as in other markets.

> *"In the UAE, the carrier model is not the primary lever, in UAE the asset is the primary lever, and electricity costs."*
> Workshop participant

The discussion of OEM relationships reinforces the same broader pattern. One of the region's strongest advantages is the speed and availability offered by local OEMs, which contrasts sharply with European lead times. The participant describes next-day truck procurement as possible and argues that local OEMs are rarely the main bottleneck to rapid scale-up.

> *"Actually we are able to deploy faster than Europe... their months of lead time. Our OEMs have stock in hand. I can call today, pay, take the truck tomorrow."*
> Workshop participant

4.4.3 Process Technology

Asked how a more centralised authority structure and relationship-based coordination might affect information streams, the participant explained that the current small team size keeps information channels relatively simple. Information flows either directly from carriers, who encounter day-to-day operational problems, or from the customer success agent to the operational manager.

> *"The escalation stops at me. I take the call, I take the decision."*
> Workshop participant

At the same time, continuous coordination with central support functions, especially purchasing and procurement, remains essential. Local conditions, particularly climate-related ones, make hardware specifications differ significantly across markets. The UAE team therefore becomes responsible not only for operations, but also for providing local insight, local specifications, and local negotiation input. As the region scales, central functions will need to become better aligned with these local requirements.

A second process theme concerns customer-driven flexibility under early-stage commercial constraint. When asked about the prioritisation of tailored customer solutions, the participant described flexibility and customer orientation as crucial at the current stage of the UAE operation. Meeting customer requirements is framed less as a deliberately chosen strategic posture than as something driven by the need to prove that the solution is adaptable and commercially viable.

> *"We are in a position where we bend to customer demands to make the business case happen."*
> Workshop participant

4.4.4 Organisation and Development

Customer engagement in the UAE is structured around regular business reviews focused on KPIs and shared lessons learned. The participant describes this as a joint learning process between the company and the customer, reflecting the early stage of the operation.

> *"No they like it especially since we are in such an early phase, they are learning, we are learning and we share learning."*
> Workshop participant

In the discussion of decision rights and governance, the participant explains that at

the current team size, information and decisions move mainly upward or downward rather than laterally, and that a linear escalation chain has become the norm. Verbal delegation of authority enables simpler decisions to be handled quickly, while larger issues still move upward. As the team grows, however, more formal structure is expected to be needed, including documented delegation of authority, clearer role boundaries, and an escalation matrix specifying what can be resolved at each level. The core trade-off is between speed and decision quality. A flatter structure enables faster response, while a more formal hierarchy may support more consistent decision-making. Regardless of structure, the participant stresses that closed-loop communication must not fail, since communication to customers must remain internally aligned.

A final theme concerns standardisation logic and the role of SOPs. The participant identifies isolated knowledge as a primary organisational risk and presents a knowledge repository as the main mechanism for moving from person-dependent to documented knowledge. This is described as the core rationale for continued development of SOPs, which specify how to act, what to communicate, and where to communicate it.

> *"The first risk of any organization is isolated knowledge... So we tend to move away from individual knowledge to documented knowledge. So whether person X is here today or not, whatever person X is doing is documented as a book."*
> Workshop participant

At the same time, the participant argues that standardisation remains case dependent. Much of the operation at customer level can be standardised and mirrored across future cases, but some elements always require adaptation to the specific customer and regional context. New customers may differ enough that even core SOPs need to be revised. What is transferable therefore cannot always be determined in advance, and both region-specific and customer-specific variation limit the extent to which experience can be directly reused.

4.5 Transferring the European Operations Strategy to the UAE Context

This section examines, cell by cell, which elements of the European operations strategy configuration transfer to the UAE context unchanged, which require adaptation, and which call for structural redesign. The European operations strategy matrix in Section 4.2 serves as the point of departure, with the PESTEL implications in Section 4.3 and the UAE operation as observed in Section 4.4 providing the evidence against which each cell is evaluated. The material is organised around the same four decision areas used in the European section in order to preserve cell-level comparability and to allow the UAE operations strategy matrix to be constructed in Section 4.5.5. The reconfiguration patterns that emerge across the cells are then synthesised into the typology presented in Section 4.5.6. Cross-cutting observations that do not fit within a single decision area are presented separately in Section 4.7.

4.5.1 Capacity

Buffer architecture under structural void: from external rental to internal capacity

The European configuration uses multilayer buffering to maintain allocated capacity despite failures at different points in the chain. Third-party actors play a central role in this configuration in Europe by providing both short-term hardware access and flexible operators. In the UAE, however, this configuration cannot be sustained. Electric heavy-duty truck deployment in the Gulf remains in an early phase, and the workshop confirms that the rental market is highly limited, especially where specific vehicle specifications, rapid availability, or short-term rental are required.

A parallel gap appears at the maintenance layer. While OEM support works well for manufacturing-related repair, it does not cover the day-to-day maintenance needs of a continuous 24-hour operation. In other markets this work would be reached through the carrier-as-maintainer relationship, but UAE carriers prioritise their own fleets and cannot maintain someone else's hardware. The case company has therefore had to build capabilities in house, not only by increasing the amount of hardware under its own control for buffering, but also by building in-house workshop and on-site technical capability to cover maintenance needs the external ecosystem cannot support.

This is the first instance of structural redesign in the chapter. The host environment

lacks the institutional and infrastructural conditions on which the European configuration depends, and the difference cannot be resolved through local adjustment or repetition alone. Instead, the mechanism must be rebuilt internally. In the language of Doh et al. (2017), the firm is navigating institutional voids. Following Bu et al. (2024), the constraint is best understood as a hard infrastructure void rather than a soft institutional one. In Cuervo-Cazurra et al. (2007), this becomes a lack of complementary resources in the host environment, since the firm cannot draw on an external base of vehicles, operators, or technical support.

Unlike the pooled fleet configuration discussed below, this redesign is not maturity dependent. The absence of an external rental market and third-party maintenance ecosystem reflects a structural feature of the host environment rather than an early-stage condition. The response, namely to build these capabilities internally, aligns closely with Marquis and Raynard (2015), who argue that successful expansion in such settings may require infrastructure-building strategies. It also reflects a liability of foreignness in Zaheer (1995) sense, since the firm must absorb both the initial and recurring costs of internally supplying what the host environment does not provide.

Asset control logic and pooled fleet as a maturity-dependent capability

The European interviews showed strong consensus around moving from customer-dedicated assets to a pooled fleet model. This was seen as beneficial both for flexibility, because capacity can be shifted across customer clusters, and for quality, because tighter fleet and operator control lets the case company retain oversight of service delivery.

In the UAE, there appear to be no strong structural barriers to this logic. Inter-emirate vehicle reallocation is enabled by the GCC Common Customs Law, and the workshop indicates that hardware is adapted to the region in the same way that European hardware is adapted to colder conditions. The primary barrier is therefore not market structure but maturity. A pooled fleet first requires a sufficiently dense customer hub within a limited geography. Europe has had time to build this over several years, whereas the UAE remains earlier in that trajectory.

The verdict at cell-level is therefore direct transfer over time. The flexibility and quality logic of pooled fleet control carries forward from Europe, but its full realisation depends on how the customer base develops rather than on a structural feature of the host environment. This is best understood through Davies and Brady's idea of economies of repetition. Pooled fleet capability emerges progressively through repeated customer deployments, rather than existing fully formed from the outset. The UAE therefore reflects a different position along a shared trajectory, not a

fundamentally different strategic logic.

Lu and Beamish (2001) reinforce this interpretation through the idea of initial learning costs. Weak early performance configurations should be read as temporary burdens of learning rather than permanent structural differences. One important qualification remains. The flexibility benefit of a pooled fleet depends on further densification of charging infrastructure beyond the current corridor-based architecture. This does not invalidate the convergence logic, but indicates that the speed of convergence is partly contingent on continued infrastructure investment. This is the first instance of temporal convergence in the chapter.

Closing note

The two capacity clusters point to different reconfiguration logics. The absence of a rental and third-party maintenance market requires structural redesign, whereas pooled fleet capability reflects temporal convergence. Cost and speed remain connected to the supply network discussion below.

4.5.2 Supply Network

Carrier partnership model as adaptive transfer rather than direct replication

The carrier relationship deserves particular attention because the European material presents it both as a critical operational relationship and as one in need of renewal. In Europe, carriers were framed as guarantors of on-site quality, leading to ambitions for stronger partnerships, joint planning, and greater transparency.

At the same time, the European interviews also suggested that the carrier model is context specific, especially because labour cost and commercial conditions differ across regions. The market analysis reinforces this. In Europe, the carrier model is a major cost lever because labour costs are higher and supply more constrained. In the UAE, driver labour costs are significantly lower and there is no comparable evidence of shortage. This changes the cost logic. The trade-off does not disappear, but the dominant input changes. Asset and electricity costs become more important than labour cost, which means that the carrier model no longer functions as the primary cost lever.

Two readings are possible. One suggests that lower cost exposure makes it easier to experiment with alternative carrier models. The other points in the opposite direction, since the relationship-driven and centralised business culture of the UAE gives long-term partnerships even greater strategic relevance. The workshop adds

further nuance by noting that workforce turnover in a labour market dependent on migrant labour can create discontinuity and customer confusion if the case company and carrier are presented too jointly.

This produces a layered verdict. The quality and flexibility cells of the supply network row transfer in their underlying logic, namely long-term and concentrated partnerships, but require adaptation in governance form, moving from European-style consensus-based coordination to a more centralised and relationship-driven mode. The cost cell, by contrast, does not transfer and must be redesigned around a different primary input cost structure.

Theoretically, Mellahi et al. (2011) support the relational governance argument. Boyer and Lewis (2002) help explain why the cost logic changes even though the underlying trade-off remains. In efficient frontier terms, the same objective can be delivered through a different configuration when input prices restructure the trade-off space. In Cuervo-Cazurra et al. (2007), the European carrier-based cost logic encounters a loss of advantage because the cost variable it manages is no longer the binding one. At the same time, lower labour cost creates experimentation space that the European model does not have.

OEM ecosystem as transfer amplification

The OEM ecosystem directly affects the speed and dependability cells of the supply network row. The European material described this dependency clearly, but also highlighted frictions around workshop coverage and the availability of EV-trained mechanics. In the UAE, by contrast, both market analysis and workshop evidence point to an OEM ecosystem characterised by rapid deployment, proactive inventory, and short procurement lead times.

This can be understood as the inverse of the usual complementary-resource problem in Cuervo-Cazurra et al. (2007). Here, the host environment amplifies rather than constrains an existing capability. Hertog (2010) and Musacchio et al. (2015) help explain why an emerging market may in this respect provide a more supportive environment, since deployment readiness can be front-loaded through state-led infrastructure investment and demonstration activity. The same proof-of-achievement logic discussed by Doh et al. (2017) still applies, but in a setting where the surrounding ecosystem enables rather than slows deployment.

The verdict is therefore transfer amplification. The European configuration transfers cleanly, and local context conditions enable the underlying objectives of speed and dependability to be delivered more strongly than in the current European baseline.

This verdict is conditional, however. It depends on early mover advantages persisting and only applies to the part of the OEM relationship covering production-related repair and parts access. It does not extend to day-to-day operational maintenance, which remains the gap addressed by the in-house capability build-up described in Section 4.5.1.

Closing note

At this stage the chapter has surfaced four reconfiguration types. Structural redesign applies where the host environment lacks the supporting institutions of the home configuration. Mixed adaptation applies where the same mechanism is available, but through different governance norms or input cost structures. Temporal convergence applies where the difference reflects a different position along a shared maturity trajectory. transfer amplification applies where the host environment strengthens rather than constrains the home configuration.

4.5.3 Process Technology

The European process technology configuration is built around one principle: operations should be routed through a platform under the case company's direct control. The TMS sits at the centre of this configuration, backed by standardised contracts, transport-data collection, and central planning. The question for transferability is therefore not whether the platform itself can function in the UAE, but whether the surrounding operational layers are configured to support it.

TMS as transfer amplification

The PESTEL evidence supports the platform layer. The UAE's digital infrastructure and 5G coverage are sufficient for the same TMS-driven asset-control approach used in Europe. Software protection and dollar-pegged procurement also support the licensing and purchasing logic without modification. In Slack and Lewis's terms, the platform is feasible, acceptable, and not unusually vulnerable in the UAE setting.

Following Bu et al. (2024), the TMS can also be understood as a shielding strategy. While the surrounding ecosystem still contains unevenness in charging infrastructure, rental availability, and EV-trained workshop support, the platform preserves orchestration consistency, central planning, and deviation visibility despite that unevenness. It therefore avoids the kind of loss of advantage that affects the carrier cost logic.

The platform transfers without major friction, and the UAE's deployment-oriented environment further strengthens its effectiveness. One important qualification re-

mains. The intended single-platform architecture has not yet been fully realised in Europe itself. What transfers to the UAE is therefore not a finished system, but an evolving configuration. If consolidation stalls in Europe, the UAE risks inheriting the same fragmentation rather than the more integrated platform the organisation is moving toward.

Surrounding architecture as mixed adaptation

The surrounding operational architecture does, however, require adaptation. Multilingual workplaces, more centralised authority structures, and relationship-based coordination shift flexibility closer to the customer interface. Environmental conditions also change the asset envelope, which means that both data inputs and optimisation logic require regional calibration.

The workshop respondent explains that current UAE information flows are relatively simple, largely because the team remains small. Issues flow either directly from carriers or via the customer success agent to operational management. As the team grows, more specialised technical handling is expected to emerge, bringing the structure closer to the European pattern. This is therefore partly a first-stage condition in Davies and Brady's sense.

A more substantive departure concerns procurement. The local team currently carries much of the procurement content because OEM processes work differently in the region and hardware specifications vary significantly due to climate. Two possible paths are identified: closer collaboration with central functions or the development of a separate regional procurement function. In both cases, central oversight remains, but content generation becomes more localised.

The same hybrid logic appears in the OEM flying-doctor service and the fast-track escalation channel. The mechanisms remain in place, but denser local OEM presence compresses response time and changes the form of delivery. Customer-driven flexibility follows a related logic. The respondent confirms that the UAE operation currently bends to customer demands, but frames this less as a strategic choice than as an early-stage necessity driven by the need to prove that the solution is adaptable. Over time, flexibility is expected to migrate from the customer interface back into the platform's configurable optimisation, closer to the European pattern.

Closing note

The TMS itself does not appear to misfit the UAE environment. The platform transfers cleanly, while the surrounding architecture diverges for stage-dependent, climate-driven, and commercial reasons rather than because the platform fails to fit

the host setting. The process technology column therefore combines transfer amplification at the platform level with mixed adaptation in the surrounding architecture.

4.5.4 Organisation and Development

The European configuration of organisation and development rests on two interlocking principles: improvement should be routine rather than episodic, and authority should match case complexity rather than concentrate at a single level. Continuous improvement is supported through standing routines, customer business reviews, and open problem-surfacing, while dependability is reinforced through structured routines and fallback planning. The European evidence already suggests that this configuration is uneven in practice, which makes the UAE adjudication especially relevant.

Structured improvement routines as universal mechanism with adapted form, and intensified fallback architecture

The PESTEL evidence highlights two important constraints on how these routines can be enacted in the UAE. The first is a substantial gap in power distance compared with Sweden. The second is the presence of a multilingual labour environment shaped by migrant workforces and more hierarchical everyday expectations. This does not invalidate structured routines, but it changes how they must be taught, reinforced, and enacted in practice.

The workshop suggests that some parts of the European improvement architecture translate easily. Customer business reviews are welcomed in the early-stage UAE setting and function as joint learning mechanisms. In that sense, the relationship-driven local environment may actually amplify the partnership dimension of these routines.

The decision-rights architecture departs more clearly from the European baseline, but the respondent attributes this mainly to scale. The local team is still small enough that decisions move linearly up or down the chain, authority is delegated verbally, and the escalation chain stops at the operational manager. As the operation grows, the expectation is that authority limits and escalation paths will become more formalised, bringing the structure closer to the differentiated European model. This is again consistent with Davies and Brady (2000), where repetition drives progressive formalisation.

The SOP layer follows a different logic. SOPs are treated as a universal defence against isolated knowledge, with closed-loop communication framed as non-negotiable.

At the same time, what can be standardised remains highly case dependent, and even core SOPs may need to change as new customer cases emerge.

Not all elements follow the same path. The structured improvement routines transfer in mechanism, but the fallback-plan norm carries greater weight in the UAE than in Europe. The regional environment generates a wider range of disruptions and a more volatile operational setting, which means that a mechanism functioning as sensible operational hygiene in Europe becomes a strategic necessity in the UAE. This is the first instance of market-driven intensification in the chapter.

Decision rights and cultural architecture as locally adapted defence

The locally adapted category covers the speed-side architecture, the open problem-surfacing culture, and the cost-side workstreams. Flat governance and implicit short decision paths do not fit easily with the higher-hierarchy expectations identified in the PESTEL. Speed in the UAE must therefore be delivered through clearer authority signalling and more explicit escalation logic. High local autonomy is not removed, but it must be communicated and structured differently.

Cuervo-Cazurra et al. (2007) help clarify this distinction. The flat-governance pattern is not lost in the UAE, but transferring it without modification would create disadvantage because the practice would misfit local expectations. The same argument applies to open problem-surfacing. In Bessant et al. (2001), the social conditions for continuous improvement have to be built through repeated practice, and a higher-power-distance environment raises the social cost of surfacing deviations. Whether this can eventually replicate the European pattern remains an open empirical question.

The cost-side workstreams also require local adaptation. The European strategic-identity shift toward profitability is not yet dominant in the UAE, where proving successful delivery still comes first. This fits the proof-of-achievement logic developed earlier in the chapter. By contrast, the flexibility-side architecture transfers more cleanly. Roles such as Operations Account Manager, local autonomy for regional adaptation, and differentiated decision rights rest on the broader principle that operations should remain close to the customer. This is not pushed back by the local environment and may even be strengthened by the relationship-oriented business setting. Here the verdict is transfer amplification.

Closing note

The organisation and development row brings together the most heterogeneous mix of reconfiguration types in the chapter. Transfer amplification applies to the

flexibility-side architecture and to customer business reviews. Mixed adaptation applies to structured improvement routines, speed-side governance, open problem-surfacing, and cost-side workstreams. Temporal convergence applies to the decision-rights architecture, which is currently flatter than the European baseline largely because of developmental stage. The row also surfaces the fifth type, market-driven intensification, most clearly expressed in the greater operational weight carried by fallback planning in the UAE environment.

4.5.5 The UAE Operations Strategy Matrix Against the Baseline Strategy

The cell-level assessment across Sections 4.5.1 to 4.5.4 produces the UAE operations strategy matrix presented in Figure 4.3. The matrix mirrors the structure of the European baseline introduced in Section 4.2 and brings the four decision-area analyses together into a single artefact representing the configured UAE operations strategy. It is built from the European baseline, the PESTEL analysis, and the workshop with the UAE Operations Lead, with each cell assessed against this combined evidence base and the theoretical framework developed in Chapter 2.

The matrix is read with rows representing performance objectives and columns representing operational decision areas. Each cell summarises how a given decision area is configured to support a specific objective in the UAE. Cells marked as redesigned, adapted, or similarly labelled indicate where the UAE configuration departs from the European baseline while preserving the analytical relationship between the two matrices. Some cells are populated partly through PESTEL-based inference where direct workshop evidence was limited. This applies most clearly to the process technology platform layer and to the cultural-adaptation cells in the organisation and development row, where workshop discussion was thinner. These cells should therefore be treated as provisional and open to revision as further UAE evidence becomes available.

The matrix should be understood as an analytical synthesis rather than a direct empirical mapping. The European baseline is itself a composite drawn from nine respondents, with tensions surfaced rather than averaged away, while the UAE evidence is based on a single workshop with the operations lead responsible for the Middle East region.

Performance objective ↓ **Operational decision area →**	**Capacity** *Scale, timing, and location of capacity; buffers and utilisation choices.*	**Supply network** *Boundary of the firm; partner selection; coordination and governance.*	**Process technology** *Systems, tools and routines that enable and coordinate the operation.*	**Dev & organisation** *Decision rights, improvement routines, capability building, strategic identity.*
Quality *Consistently delivering products/services that conform to specification and customer expectations.*	• Selective flow uptake, range and vehicle reliability act as the feasibility filter • Greater case-company oversight of fleet and carrier operations to safeguard quality at the customer interface	• Long-term partnership model with carriers, expressed through centralised authority and relationship-driven coordination *Redesigned from: Long-term partnership model with carriers rather than transactional sourcing* • Concentrated, selected carrier base per region • Transparency built gradually through relationships rather than presupposed at contracting *Redesigned from: Transparent pricing in carrier negotiations* • Joint customer-facing presentation handled cautiously given risk for high workforce turnover *Redesigned from: Joint customer approach with carriers*	• Advanced in-house TMS as central orchestration platform • The case company "at the steering wheel" of operations • Continued software improvement to protect competitive position • Standardised carrier and customer contract templates • Standardised transport-data collection across regions • Standardised organisational structure across regions	• Reliable data collection to enable improvement work • Weekly continuous-improvement / lessons-learned standing items • Adapt the cross-functional task force to align with team size *Redesigned from: Cross-functional task forces for complex case handling* • Monthly business reviews with customers, KPI-driven • Clear decision areas and areas of expertise for problem-solving *Redesigned from: Open problem-surfacing culture*
Speed *How quickly the operation responds, from customer request to delivery.*	• Real-time deployment of additional capacity, with cost attribution reconciled afterwards • Standing framework agreements with carriers compress project lead time	• Direct OEM access via early-mover relationship investment • Shorten information and communication streams to reduce the amount of stakeholders involved	• Advanced TMS software for faster planning and replanning • Fast-track escalation channel for hardware issues • OEM "flying doctor" service for fast technical support	• An escalation matrix for authority delegation and problem handling *Redesigned from: Flat governance and short decision paths for fast operational response* • Structured problem-solving routines to prevent operational delays • Local autonomy exercised through more explicit authority signalling than implicit short channels *Redesigned from: High local autonomy at operations specialist level*
Dependability *Doing what was promised, on time, as agreed, with predictable performance.*	• Layered buffer architecture: vehicles, chargers, drivers, planning slack built into customer-site planning • In-house buffer capability, including in-house workshops and in-house standby driver, substituting for absent external rental ecosystem *Redesigned from: Third-party rental and agency partners as backup-vehicle source* • Buffer level calibrated to customer's position in supply chain	• In-house workshop and EV-skilled mechanic capability covering day-to-day operational maintenance *Redesigned from: Workshop network density* • OEM service coverage strong on manufacturing-related issues but limited on day-to-day operational maintenance *Redesigned from: OEM service guarantees* • In-house substitution for absent rental and carrier-as-maintainer ecosystem *Redesigned from: Backup-vehicle agreements with rental firms and carriers* • The case company holds end-to-end network visibility, through the orchestrator role	• Focus on the newest, most reliable hardware with strong customer support • Central functions handle purchasing in close collaboration with local teams *Redesigned from: Central vehicle purchasing* • TMS deviation visibility for post-event recovery • Customer data for feedback loops	• Structured improvement routines to build long-term operational predictability • Increased priority for fallback-plan *Redesigned from: Fallback-plan cultural norm*
Flexibility *Ability to change what the operation does and how: variety, mix, volume, timing.*	• Currently configured as a dedicated-asset model; the pooled-fleet model is expected to converge with the European model as the operations mature *Redesigned from: Transition from dedicated-asset to pooled-fleet model* • Cross-border vehicle redeployment • Internal capacity flexibility absorbing variation in-house *Redesigned from: Rental and agency partners for capacity flexibility*	• Country-specific carrier model, agency, direct, or hybrid • Driver in-housing under consideration in selected regions • Multiple carriers per region to absorb fluctuations	• Customer-driven case adaptation • Local adaptation of hardware specifications • Standardised hardware to enable cross-region deployment • Customer-configurable optimisation, for example electric mileage versus punctuality	• Local autonomy for regional and customer adaptation • Operations Account Manager role per customer • Differentiated decision rights: fixed versus complex customer cases
Cost *Ability to deliver efficiently at low cost.*	• Intensifying the utilisation requirement to compensate for different sources of increased cost, with a higher threshold to amortise EV truck cost *Redesigned from: Utilisation-driven sizing, high threshold to amortise EV truck cost* • Cost recovery prioritised over flexibility in scale-up phase	• Asset and electricity costs as primary cost lever *Redesigned from: Carrier model as primary cost lever* • Lean-network principle: remove non-value-adding intermediaries	• Standardize software to control development costs • Ensure system oversight of vehicle usage for accurate billing • Hardware performance directly affects case-level profitability • Vertical-specific standardization, for example grocery retail versus warehouse	• Proving successful delivery comes first in early-phase deployment *Redesigned from: Strategic identity shift moving towards profitability* • Cost-transparency improvement • Sales-to-operations margin alignment as live workstream

Figure 4.3: The UAE operations strategy matrix. Cell-level reverse-engineering of the European baseline against UAE contextual conditions, drawing on the PESTEL profile in Section 4.3 and the workshop with the local Operations Lead in Section 4.4.

Several observations stand out when the matrix is read across rows and columns. The clearest divergence from the European baseline appears in the intersection between dependability and capacity, where the absence of an external rental and maintenance ecosystem has forced a redesign of the buffer source mechanism towards in-house capability. The same logic reappears in the supply network row, where in-house substitution replaces the carrier-as-maintainer arrangement that supports day-to-day maintenance in other markets. These redesigns share a structural character, in that they reflect host-environment conditions that are unlikely to disappear through repetition, and correspond to structural redesign in Table 4.1.

A second and contrasting pattern appears in the speed and dependability cells of the supply network row. The OEM ecosystem in the UAE is described as more developed for electric heavy-duty vehicle deployment than the European baseline, particularly in procurement speed and proactive spare-parts availability. Where the European matrix records the firm's OEM investment as an early-mover position, the UAE matrix shows that same investment as strengthened by host-context conditions. This contrast within the same partner architecture, where carriers and OEMs reconfigure in different ways, is one of the more analytically interesting features of the matrix and is examined further in the cross-cutting findings in Section 4.7.

A third pattern concerns cells where the current UAE configuration differs from the European baseline but is still expected to converge as the operation matures. The pooled fleet model is the clearest example, where the continued use of dedicated assets reflects a maturity-driven rather than a market-driven difference.

The cost row shows a fourth pattern. The carrier model, which functions as the primary cost lever in the European matrix, no longer plays that role in the UAE configuration. Instead, asset and electricity costs become the dominant cost drivers, while the carrier model retains greater room for experimentation under lower labour-cost pressure. The same shift in input structure also affects the capacity row, where utilisation becomes even more important because a larger share of total cost falls on assets and electricity. The cost objective therefore remains stable in its underlying logic, but is supported through a materially different configuration of operational levers.

A fifth pattern appears in the process technology column, which contains one substantively redesigned cell. Central vehicle purchasing is reconfigured from a predominantly centralised arrangement into one that depends on much closer collaboration between central functions and local teams. This reflects two host-context features: OEM processes operate differently in the region, and local physical presence is more

important for maintaining OEM relationships.

A sixth pattern runs through the organisation and development column, where cultural and market conditions drive a cluster of redesigns centred on clear authority and stronger structure. In the quality cells, the cross-functional task force is adapted to the smaller local team, while the open problem-surfacing culture is replaced by clearer decision areas and areas of expertise. In the speed cell, flat governance and short decision paths do not support rapid response in the same way as in Europe, leading instead to an escalation matrix and clearer authority boundaries. The cost cell reflects a more strategic difference. The European shift from proving successful delivery towards profitability does not yet apply in the UAE, where the operation must first demonstrate successful delivery before turning more fully towards profitability.

Finally, the matrix surfaces one finding that does not fit neatly into the patterns above and is examined in greater detail in Section 4.7. The fallback-plan capability in the organisation and development row, which functions in the European baseline as operational hygiene, becomes more central in the UAE configuration and takes on the character of an operational priority. This is not a redesign of the mechanism, nor an adaptation of its form, but an increase in its operational weight in response to a more demanding host-context risk environment, corresponding to market-driven intensification in Table 4.1.

4.5.6 The Five Reconfiguration Types Developed in this Chapter

The cell-by-cell assessment across Sections 4.5.1 to 4.5.4 produced five distinct types of reconfiguration, each defined by a different host market condition and each anchored in different parts of the operations strategy and internationalisation literature. The five types, summarised in Table 4.1, sit alongside an unmarked transfer baseline that applies to cells where the home market configuration carries over without substantive change. This baseline does not constitute a type of reconfiguration, but rather the condition under which no reconfiguration is required. These cells are direct transfers, and because the thesis investigates how an operating model is reconfigured rather than where it carries over unchanged, they are not investigated here and are treated separately from the set of reconfiguration types.

Table 4.1: The five reconfiguration types developed through the cell-by-cell assessment in Sections 4.5.1 to 4.5.4. Each type is characterised by the host market condition that produces it, an exemplar finding from the analysis, and the theoretical anchor most central to its interpretation.

Reconfiguration type	What it is	Host market condition that produces it	Primary empirical anchor	Primary theoretical anchor
Structural redesign	The home market mechanism cannot be sustained in the host market and must be rebuilt internally on different foundations.	The host market lacks the institutional or infrastructural conditions on which the home configuration depends, and these conditions will not emerge through repetition or learning.	The external rental and third-party maintenance ecosystem in Section 4.5.1 is absent in the UAE, forcing the firm to build in-house workshop and standby capacity.	Loss of advantage and absence of complementary resources (Cuervo-Cazurra et al., 2007); infrastructure-building strategies (Marquis and Raynard, 2015).
Mixed adaptation	The underlying mechanism transfers, but its operational form must be configured locally.	The host market provides the same function through different governance norms, input cost structures, or cultural conventions.	The carrier model in Section 4.5.2 transfers in purpose, but its governance form shifts towards centralised authority and relationship-driven coordination, while the cost lever logic shifts away from labour cost towards asset and electricity cost.	Creation of disadvantage and the cost of misfit (Cuervo-Cazurra et al., 2007); cultural distance (Ghemawat, 2001).
Temporal convergence	The host market configuration currently differs from the home configuration but is expected to converge with it as the operation matures.	The difference between markets reflects a different position along a shared maturity trajectory rather than a permanent feature of the host environment.	The pooled fleet model in Section 4.5.1 is currently configured as dedicated assets in the UAE and is expected to converge towards the European pooled model as the local customer base grows.	Economies of repetition and stage-dependent capability development (Davies and Brady, 2000).
Market-driven intensification	The home market mechanism transfers in form but takes on materially greater operational weight in the host market.	The host environment makes the underlying risk that the mechanism is designed to address more acute, more frequent, or harder to absorb than in the home market.	The fallback plan capability in Section 4.5.4 functions as operational hygiene in Europe but becomes a strategic priority in the UAE, given regional volatility and infrastructure unevenness.	Complex products and systems under high-volatility environments (Casson and Li, 2022; Davies et al., 2011).
Transfer Amplification	The home market configuration transfers cleanly, and host market conditions allow the underlying performance objective to be delivered more strongly than the home baseline currently achieves.	The host market provides the function through more developed channels, more receptive institutions, or more closely aligned cultural conventions than the home market.	The OEM ecosystem in Section 4.5.2 strengthens an existing early mover relationship investment through state-linked deployment readiness and proactive parts supply.	State capitalism and state-led deployment readiness (Hertog, 2010; Musacchio et al., 2015); proof-of-achievement signalling (Doh et al., 2017).

The five types differ in how much they change the home configuration. Structural redesign requires the most change, since the home mechanism cannot be sustained in the host market and must be rebuilt internally on different foundations. Transfer amplification requires the least, the configuration transfers essentially unchanged, much as in a direct transfer, and differs only in that host market conditions amplify its effect, which is what the name reflects.

The five reconfiguration types are not mutually exclusive at the row or column level. A single decision-area row may contain cells expressing different reconfiguration types, as Section 4.5.4 illustrates particularly clearly. Each type is defined by the host-market condition that produces it, rather than by the operational decision area or performance objective to which it applies. For that reason, a given cell can only be located within the set of reconfiguration types once the cell-by-cell assessment has been carried out. The reconfiguration types are therefore a property of the cells rather than of the rows or columns of the matrix. Cells where the home configuration carries over without substantive change, such as the TMS platform layer in Section 4.5.3 and the flexibility-side decision-rights architecture in Section 4.5.4, fall outside the typology and are instead treated as direct transfers from the European baseline.

Taken together, the matrix and the reconfiguration types in Table 4.1 show that the UAE operating strategy is neither a full replication of the European configuration nor a full redesign of it. Instead, the reconfiguration is layered, with different cells carrying different verdicts depending on host-context conditions and the operation's position along its developmental trajectory. The five reconfiguration types developed across this chapter capture the qualitative ways in which those verdicts vary. Together, the matrix and the reconfiguration types constitute the consolidated output of the four-step procedure introduced in Chapter 3. It is to that procedure, rather than to either artefact in isolation, that the discussion now turns.

4.6 A Structured Procedure for Operating-Model Transferability

The four-step procedure described in Section 3.3, comprising a home-market baseline matrix, a PESTEL analysis of both markets, a host-market workshop organised cell by cell against the baseline, and a cell-by-cell synthesis through the theoretical framework, produced both the matrix and the set of reconfiguration types now in place. The procedure can therefore be considered a contribution in its own right,

rather than only a description of how the empirical work was carried out.

The procedure is replicable across home- and host-market pairs and across sectors, provided that the home-market operation has reached sufficient maturity to yield a stable baseline configuration. It is designed to address the question of which elements of an established operating configuration can be transferred into a new market and which cannot. It is not designed for questions of whether a firm should enter a market at all, which are more typically addressed in the internationalisation literature, nor for questions of whether the firm has the right strategic positioning, which are more properly addressed in the corporate strategy literature.

The method is specifically designed for the direction from home market to emerging market. As applied in this thesis, it is built around the asymmetry between an evidence-rich home operation and an evidence-sparse host operation. However, the underlying logic of the procedure could, with modification, also be extended to other forms of operational reconfiguration, such as between an earlier and a later customer configuration, or between one product offering and another. The maturity of the home market is therefore used to construct a baseline against which the emerging-market workshop can be organised. In this sense, the method addresses operating-model questions that standard internationalisation frameworks leave underspecified. Uppsala, CAGE, and similar frameworks indicate in broad terms that operating models will need to adapt to host markets, but they do not specify which elements adapt, which do not, or how that adaptation takes place. The cell-by-cell assessment procedure provides that specification. It shifts the level of analysis from the firm-level effects of expansion, where existing literature tends to concentrate, to the operational-level reconfigurations into which those firm-level effects ultimately translate.

In working through the cell-by-cell assessment, the procedure surfaced the five reconfiguration types consolidated in Table 4.1: structural redesign, mixed adaptation, temporal convergence, market-driven intensification and transfer amplification. The procedure also produces a transfer verdict for cells in which the home configuration carries over without substantive change, but transfer marks the absence of reconfiguration rather than a sixth category and therefore sits outside the typology. None of the five reconfiguration types would have been visible at the level of granularity at which standard internationalisation frameworks normally operate. The distinction between rental-market substitution and pooled-fleet maturity, for example, would not have emerged without the cell-by-cell assessment, even though the two findings imply opposite operational responses. The contribution of the procedure is therefore

not merely procedural. By forcing assessment against three distinct evidence sources and a multi-framework theoretical apparatus, it surfaces distinctions in reconfiguration type that standard internationalisation frameworks operate at too high a level to specify, and translates them into a form that supports practical decision-making about which operating-model elements to transfer, adapt, or redesign.

Several boundary conditions apply. First, the home-market operation must be sufficiently mature to yield a stable baseline. Without enough operational history in the home market, the matrix becomes an aspirational artefact rather than a description of the current configuration, and the host-market workshop then lacks anything concrete to be structured against. This is a precondition that the EU operation in this study satisfies, given its multi-year operation across several countries and the input from nine interview respondents, but it will not always be satisfied in younger firms. Second, the procedure assumes a single host market rather than a portfolio of markets. The PESTEL analysis and the validation and redesign workshop are calibrated to one specific host context. A firm entering several markets simultaneously would therefore need either to run the procedure multiple times in parallel or extend it to handle portfolio-level questions, which the present procedure does not address. Third, the host-side evidence base in this study is anchored in a single workshop with the Operations Lead. The procedure as designed permits a richer host-side evidence base, including additional workshops with adjacent functions, customer interviews, or follow-up workshops as the operation matures. The single-workshop implementation in this study is therefore a function of access rather than a feature of the method.

In practical terms, the procedure provides firms with a structured approach to internationalisation decisions concerning operations, where the alternative is often either ad hoc adjustment in response to host-market problems as they arise or wholesale replication of the home configuration regardless of host-context fit. The cell-by-cell assessment allows firms to make explicit which elements of the home configuration genuinely transfer and which require deliberate redesign before the host market reveals the misfit through performance problems. The procedure also supports strategic conversations between home and host leadership by providing a common reference artefact in the matrix and a common language in the verdict typology. Firms entering emerging markets often face friction between central functions seeking replication and local operations requiring adjustment. The procedure does not resolve this friction, but it gives both sides a structured way to discuss it.

4.7 Cross-cutting Findings

Two patterns recurred across the validation workshop that did not fit neatly into any single decision area. Instead, they point to broader features of operations during early-phase emerging market deployment that the cell-by-cell assessment in Section 4.5 could not fully capture.

The first concerns the autonomy of the operations function. Operations did not emerge as a self-contained unit, but as one node within a broader organisational configuration. Capacity, procurement, and several speed- and supply-network constraints lay outside direct operational control. As a result, what operations could achieve at a given point in time was shaped not only by operational choices, but also by the maturity of adjacent functions.

The second concerns the temporal frame of the matrix itself. Several cells described not only current operational reality, but also an intended future state. Once this was clarified, both proved relevant. The matrix therefore captures not only what exists today, but also what must be built today in order to support future development.

These two patterns are connected. The embeddedness of operations and the gap between current and intended capability are two expressions of the same underlying condition: operations cannot absorb decisions that adjacent functions still hold. Taken together, they suggest a more general property of operations in early-phase emerging market deployment. Operations is best understood as a phase-determined node in a wider system whose maturity is developing on multiple fronts at the same time, rather than as a stable configuration that can simply be transferred or adapted. Davies and Brady (2000) provide the theoretical anchor for this interpretation. Early-stage projects tend to concentrate decision rights more centrally, contain a structural gap between current and intended configurations, and depend on the joint maturity of adjacent functions because the learning required to build repeatable capabilities has not yet accumulated.

This finding sits alongside the set of reconfiguration types developed in Section 4.5.6 rather than replacing it. Whereas the reconfiguration types specify how individual cells of the matrix change between markets, the cross-cutting patterns show that the operations function as a whole is itself in motion during early-phase deployment. The two readings are therefore complementary. Together, they suggest that the appropriate level of analysis for emerging market operations is the reconfiguration trajectory, rather than any single matrix snapshot.

A further cross-cutting observation emerged from both the European interviews and

the UAE workshop, and has methodological implications for how the reconfiguration types developed in Section 4.5.6 should be read. Across both evidence sources, regional- and customer-level variation appear to operate at different levels of the operating model rather than as competing explanations of the same phenomenon. Regional differences define the boundaries within which operational configuration is possible. Some mechanisms transfer, others adapt, others must be redesigned, and others are amplified or intensified, all on the basis of host-context conditions that customer choice cannot override.

Within that regionally determined scope, however, customer-level variation shapes much of the actual configurational detail. European respondents repeatedly described country-specific carrier models, customer-driven case adaptation, and customer-assigned ownership of operational responsibility. The UAE workshop similarly framed customer-driven flexibility as a dominant configurational pressure on the early-phase operation. Several solutions across both evidence sources were therefore customer-specific rather than market-specific.

This suggests that the operations strategy matrix should be read as a two-layer structure. The regional context determines what each cell can contain, that is, which configurations are possible in the host market at all. The customer then determines which configuration is actually chosen within those possibilities. The regional market is therefore the appropriate level of analysis for deciding which mechanisms transfer, adapt, or require redesign, whereas the customer is often the appropriate level of analysis for deciding how the chosen mechanism is configured in practice.

Taken together, the matrix, the reconfiguration types, the procedure that produced them, and the cross-cutting patterns documented in this chapter constitute the analytical output of the study.

5

Discussion

The previous chapter presented the empirical material, organised it through the operations strategy matrix, and developed a set of five reconfiguration types that emerged through the cell-by-cell translation of the European operating model into the UAE context. This chapter steps back from the empirical detail to consider what these findings mean for the literature on operations strategy in cross-regional expansion, what contribution the cell-by-cell procedure and the reconfiguration types make, and what the findings imply for managers responsible for operating-model decisions in cross-border expansion.

The chapter is structured as follows. Section 5.1 revisits the two research questions and recalls the central findings from the analysis. Section 5.2 examines where the existing internationalisation and scaling literature supports the findings, while Section 5.3 identifies where that literature is incomplete or contradicted. Section 5.4 discusses managerial implications, and the chapter closes with Section 5.5, which outlines directions for further research.

5.1 Revisiting the Research Questions

The core of this thesis, and what has guided the collection of data, the analysis, and the overall ambition of the study, is the following pair of research questions:

- **RQ1:** How can a firm systematically identify the operating-model reconfigurations required when expanding into a foreign emerging market?
- **RQ2:** How is an operating model reconfigured when a firm expands into a foreign emerging market?

The previous chapter generated insight into how the translation of an operations strategy from one market to another takes place, particularly when the baseline market is more mature than the host market. The findings show that this translation cannot be understood as a direct transfer in which the factors configuring

the operations strategy in the home market pass unchanged into the host market. Instead, the process operates more like a black box, in which some elements transfer, while others are altered, substituted, or intensified before reappearing in the host market operating model.

Through the analysis, five distinct types of reconfiguration were identified, showing that an operations strategy may need to undergo mixed adaptation, structural redesign, transfer amplification, temporal convergence, or market-driven intensification. This suggests that the initial framing of the thesis, namely whether the challenge is primarily one of adaptation or standardisation, is too narrow. Reconfiguration is more complex than a simple choice between replication and local adjustment. Different parts of the operating model move in different ways depending on the conditions of the host market, the maturity of the operation, and the dependencies surrounding each operational mechanism.

The analysis also showed that operations cannot be understood as an isolated function. The operation is deeply interconnected with other parts of the organisation and is therefore not always in a position to control the factors that shape its own configuration. In several cases, operations must work with decisions, structures, and constraints that have already been determined elsewhere, while at the same time managing the tension between what the strategy is intended to look like and what execution makes possible in practice. This means that reconfiguration is shaped not only by the market context, but also by the degree to which operations is embedded in a broader organisational system whose adjacent functions are themselves still developing. The findings also indicate that operations strategy is shaped not only by strategic intent flowing from above, but also by bottom-up realities, not least through the variation observed between customer cases.

RQ1 asked how a firm can systematically identify the operating-model reconfigurations required when expanding into a foreign emerging market. The answer developed in this thesis is the four step procedure introduced in Section 3.3 and reflected on in Section 4.6, which combines a home-market baseline matrix, a PESTEL profile of the home-to-host market difference, and a host-market validation workshop, structured cell by cell through the operations strategy matrix of Slack and Lewis (2020). The procedure forces the analysis to specify, for each intersection of decision area and performance objective, which elements of the home configuration transfer, which require adaptation, and which must be redesigned, at a level of granularity above which standard internationalisation frameworks typically operate. The five reconfiguration types identified in answer to RQ2 are the analytical output made

visible by this procedure, which is why the two questions are best read together.

These findings raise a substantive question for the literature on operations strategy in cross-regional expansion. The remainder of this chapter examines what the analysis confirms, where it challenges existing frameworks, and what kind of contribution the set of reconfiguration types and the cell-by-cell procedure make to the understanding of operating model transferability.

5.2 Areas of Alignment with Existing Literature

This study entered with the assumption, grounded in the internationalisation literature, that when firms expand internationally the rules of the game change, often in ways that extend beyond the factors most commonly emphasised in market entry decisions. A key point of departure was therefore that differences across markets would emerge when comparing how the case company operates in Europe with how it operates in the Middle Eastern market, specifically the UAE. This basic assumption is well captured by the CAGE framework (Ghemawat, 2001), which highlights how cross market differences in cultural, administrative, geographic, and economic conditions shape international expansion.

The study also began from the long established insight in the internationalisation literature that international expansion often follows a gradual learning logic, captured in the Uppsala model of Johanson and Vahlne (1977), in which firms increase commitment as market familiarity and experiential learning grow. Although the case company's expansion into the UAE cannot on many dimensions be described as gradual in the traditional sense, given the speed and ambition of the move, the findings still show that a gradual learning process has been necessary and remains ongoing. Even though the company entered the market with expertise and preparation, the analysis showed clearly that many aspects of the operating model still need to be learned, adjusted, and built over time, particularly when the UAE region is compared with the more mature European markets. In this respect, the study confirms a core insight of the Uppsala model: even when expansion is initiated rapidly, operating capability in the host market still develops through learning over time.

Davies and Brady (2000) extend this learning logic from the firm-level to the operational level through the concept of economies of repetition. The study showed that expansion is shaped not only by structural differences between markets, but also by the fact that the host market operation begins from a much earlier stage of maturity than the home market operation. In other words, some differences arise not

because the two markets are fundamentally different in structure, but because one operation is mature while the other is still in an early stage of development. This makes Davies and Brady's perspective especially useful for explaining the temporal convergence pattern identified in the findings, as it highlights how scaling depends on repetition, accumulation of experience, and the gradual transformation of pilot activity into repeatable operating routines.

These three foundational models in the internationalisation and scaling literature captured important parts of the analysis, especially at the structural level. Through the PESTEL based market analysis, it became clear that many of the frictions identified in the UAE setting are rooted in broader market structures, including infrastructure, regulations, institutional arrangements, and labour market conditions. These are the kinds of differences that help explain why some parts of the operating model required mixed adaptation, structural redesign, and market-driven intensification. In this sense, the literature provides strong support for explaining why host market conditions create friction for the transfer of an operating model.

Kim and Arnold's argument that operations strategy is formed through the interaction of top-down and bottom-up processes also finds support in the findings. While operations strategy is often assumed to flow from broader business strategy, the analysis showed that it is equally shaped by bottom-up realities, particularly through the variation observed between customer cases. In this study, operations strategy did not arise solely from strategic intent imposed from above, but emerged through the combined influence of strategic direction and day-to-day operational experience. The case therefore supports the bidirectional view developed by Kim et al. (2014), in which operations strategy is shaped by the interaction of top-down strategic direction and bottom-up operational realities, and suggests that this perspective is especially relevant in cross-regional expansion, where home-market strategic templates meet host-market operational realities that cannot be fully anticipated in advance. It also shows that the general knowledge acquired in the home market, in this case the European market, was not sufficient on its own to formulate the UAE operations strategy, thereby reinforcing Johanson and Vahlne's argument that local knowledge remains essential in international expansion.

5.3 Areas of Tension with Existing Literature

At the same time, the ambition of this study was also based on the view that these theories are not sufficient for understanding the day-to-day reconfiguration of operations strategy. The existing internationalisation literature is strong in showing that

structural differences matter, but much weaker in explaining how those differences affect operations at a more detailed and practical level necessary to describe the day-to-day operations.

The theory of loss of advantage presented by Cuervo-Cazurra et al. (2007) moves one step closer to this issue by showing how differences in infrastructure and supporting resources between markets can erode advantages that firms hold in the home market. The empirical findings show that structures seen as critical in the European market were absent in the UAE market, forcing operations in the host market to redesign parts of the operating model entirely. In this sense, the theory describes the most severe types of reconfiguration well, especially those cases where full redesign is required. However, the analysis also surfaced cases where reconfiguration was not severe but instead more granular, and the loss of advantage framing is less developed in those situations.

Doh et al. (2017) offer a similar contribution through their discussion of institutional voids and the resulting need for proof of achievement. The empirical findings clearly show that the case company in the UAE region had to build alternative capabilities in order to compensate for voids in the surrounding ecosystem. Their framework therefore captures an important part of the host market challenge. At the same time, the theory remains focused on voids and structural absence, which means that it is better at explaining why problems arise than at specifying how the operation is reconfigured in response at a more detailed level. The empirical findings in this thesis show that such analysis often needs to be conducted at a more fine-grained level in order to identify the micro-level operational consequences of those voids.

The same limitation can be seen more broadly across the internationalisation literature. These theories largely treat host market differences as constraining. That is clearly part of the picture, and the empirical material in this study also showed many such constraints. However, the study also identified cases of transfer amplification, which challenge the implicit assumption that the host environment primarily acts as a barrier. In several findings, host market conditions amplified rather than constrained the case company's capabilities. This is particularly important in the Gulf setting, where state-led projects and infrastructure investment can create favourable conditions for certain types of operations, sometimes more rapidly than in typical European or North American home markets. This means that the literature is somewhat one-sided in its emphasis on friction and constraint. While this emphasis is justified in many cases, the empirical findings suggest that host markets may also strengthen certain operational capabilities in ways that the existing literature does

not sufficiently capture. This is also supported by work such as Hertog (2010) and Musacchio et al. (2015), which shows how state-led investment can materially shape the conditions for deployment and growth.

A further point where the literature is partly confirmed but also shown to be incomplete concerns the distinction between market level and customer level variation. The findings indicate a risk in treating regional differences as if they alone explain the reconfiguration of operations, when in practice many of the detailed operational differences emerge at the customer level. This may partly reflect the high level of abstraction at which most internationalisation theory operates. The theories are generally designed to explain international expansion at the level of markets and firms, not at the level of customer cases and day-to-day operational execution. Yet the empirical findings in this study show that customer case variation has a very large effect on operations, and that even within the same region two customer cases may require very different operational configurations.

The operations strategy matrix proposed by Slack and Lewis (2020) was designed primarily as a tool for within firm strategic positioning, but the findings in this thesis demonstrate its analytical value in a different setting, namely as a structuring device for cross-regional operating model transferability. By using performance objectives and decision areas as the axes of comparison between home and host markets, the matrix surfaces the points at which reconfiguration is required at a level of granularity that firm-level internationalisation frameworks cannot reach. This extends the usefulness of the matrix beyond its originally intended scope and turns it into an analytical bridge between operations strategy theory and the internationalisation literature. It also demonstrates the value of combining internationalisation theory, which explains the structural factors that constrain expansion, with grounded operations theory, which provides the analytical artefact through which operational adaptation can be specified.

The four step method developed in this thesis responds directly to these gaps. By combining the structural perspective of internationalisation theory with the operations strategy matrix as a common platform, broad structural differences between home and host markets are translated into concrete objectives in relation to specific decision areas. The method therefore captures structural frictions at a high level, but also filters them down into an operational form that is both analytically precise and practically usable. In doing so, the method addresses the granularity problem identified in the engagement with Cuervo-Cazurra et al. (2007) and Doh et al. (2017), the abstraction problem identified in the discussion of customer versus

region, and the one-sidedness problem identified in the discussion of constraint and amplification. It also surfaces cases where host market conditions strengthen rather than constrain operational capabilities, which standard internationalisation analysis tends to overlook.

The methodological contribution responding to RQ1 sits in a complementary gap. Internationalisation frameworks such as Uppsala, CAGE, and PESTEL provide structured ways of assessing market differences at the level of countries or firms, but they do not specify how those differences should be translated into operational decisions cell by cell. Operations strategy methodology, by contrast, provides structured analysis of operational decision making within a firm, for example through procedures such as Platts and Gregory (1990) for manufacturing strategy formulation, but is largely silent on how the same structuring logic should be applied across markets. The four step procedure addresses this gap by combining the structural perspective of internationalisation theory, through PESTEL, with the operational perspective of operations strategy, through the Slack and Lewis matrix, and by anchoring both in cell-level evidence rather than firm-level abstraction. In this sense, the procedure does not replace existing methodological approaches, but bridges them at the point where their respective contributions stop.

Taken together, the findings suggest that the internationalisation literature remains highly relevant, particularly in explaining structural constraints and broad host market differences. It is especially strong in explaining those parts of an operations strategy that must be redesigned or adapted because of institutional, regulatory, or infrastructural differences. However, it is much less developed in explaining transfer amplification, convergence over time, and the detailed micro-level consequences of these differences for day-to-day operations. In this sense, the literature holds in important ways, but it does not fully capture the full range of reconfiguration types that become visible when operating model transfer is analysed at the level of specific operational mechanisms. This thesis contributes to that gap on two fronts: by developing a set of five reconfiguration types that articulate the variety of ways an operating model can change between home and host markets, and by demonstrating a cell-by-cell procedure that allows such patterns to be identified through the structured combination of home market evidence, host market validation, and macro environmental analysis.

5.4 Managerial Implications

The findings carry several implications for managers responsible for operating-model decisions in cross-border expansion. Although drawn from a single case, they are framed at a level of generality likely to be relevant in comparable expansion settings, particularly where a mature home-market configuration is translated into a less mature host environment.

The procedure's relevance is greatest for organisations that have attained a degree of operational maturity. It presupposes an established home-market operating model, since the cell-by-cell assessment reverse-engineers an existing configuration before testing each element against host-market conditions. Its usefulness is correspondingly limited for firms still in the early phase of entry, where the priority is to prove the business model and retain flexibility, and where the configuration remains too unsettled to serve as a reliable baseline. The procedure becomes valuable once an operation has stabilised into recurring routines and managerial attention has shifted from establishing the model to refining and optimising it. At that stage, the experience accumulated through repeated exposure to similar operational problems both informs the cell-by-cell judgements the procedure requires and increases the likelihood that the reconfigurations it identifies are acted upon.

The analysis showed that reconfiguration is not a binary choice between standardisation and local adaptation, but a layered process in which different parts of the operating model move in different ways at the same time. The implication is that the operating-model question should not be settled at the level of overall posture, since different mechanisms within the same configuration may simultaneously require transfer, adaptation, redesign, or amplification. The cell-by-cell assessment used in this thesis offers a way of surfacing these patterns before deployment rather than after performance problems emerge, allowing operating-model design to be treated as a deliberate exercise rather than a reactive one.

Within that assessment, two diagnostic distinctions are especially important. The first concerns the assumption that the host environment is uniformly disadvantageous. The analysis identified cases in which host-context conditions amplified rather than constrained operational capability. Managers should therefore look for amplification candidates as actively as they look for friction, treating conditions such as state-led investment in supporting infrastructure, ecosystem density beyond the home market, and early-mover position as factors to assess systematically rather than as fortunate exceptions.

The second distinction concerns the difference between maturity-driven gaps and structural redesign needs, and is perhaps the most actionable implication in this section. The two can present similar surface symptoms, namely a host configuration that falls short of the home baseline, but they imply opposite responses. Maturity-driven gaps resolve through customer accumulation and operational repetition over time. Structural redesign needs reflect absent features of the host environment that will not disappear regardless of how long the operation runs. For managers, this means that performance gaps should be diagnosed through this distinction before any response is designed. Confusing the two may lead either to premature redesign of mechanisms that would have converged on their own, or to indefinite waiting for the resolution of gaps that instead require deliberate intervention.

A further implication concerns the level of analysis at which differences are interpreted. The findings indicate that regional- and customer-level variation operate at different layers of the operating model rather than as competing scales of the same phenomenon. The regional context defines what each cell can contain, while the customer shapes the configuration chosen within those possibilities. Differences observed in the host market should therefore be located at the appropriate level before a response is designed, since a regional response to customer-level variation overcorrects, while a customer-level response to a regional constraint undercorrects.

The findings also indicate that operations cannot be managed as a self-contained function during early-phase deployment, since capacity, procurement, and several speed- and supply-network constraints sit outside direct operational control while adjacent functions are still developing. The implication is that the boundary between operations and adjacent functions should be clarified explicitly at deployment kick-off and revisited as adjacent-function maturity evolves, with performance expectations calibrated to what currently sits under operational authority rather than to the eventual mature-state configuration.

Finally, the operations strategy matrix produced through the procedure can serve as a shared reference point and common vocabulary in strategic conversations between headquarters and local operations, where central functions often press for replication while local teams require adjustment. Its value lies in giving both sides the same artefact to argue over and the same vocabulary for identifying where they disagree.

5.5 Future Research

The findings of this thesis open several directions for further research, ranging from immediate replication to broader theoretical extension, with each direction addressing a specific boundary of the present study.

The most immediate extension concerns regional generalisation. The procedure was developed and tested in the UAE, but it would be valuable to examine whether the findings remain valid across other markets within the same broader region, especially where state-led investment and rapid infrastructure development create similar operating conditions. Such replication would help determine whether the findings reflect broader regional patterns or remain specific to the market examined here.

A second direction narrows rather than broadens the scope. The cell-by-cell assessment treated each matrix cell as a single unit and produced one verdict per cell. Future studies could instead examine individual cells in greater depth, generating findings at a level of detail that a thesis covering the matrix as a whole cannot reach.

A third direction concerns the four-step procedure itself. Since the methodological contribution of this thesis rests on that procedure, its robustness warrants direct investigation. Relevant questions include whether different facilitators would produce comparable verdicts, whether the relative weighting of home-market evidence and PESTEL inputs alters the classification of individual cells, and whether the four steps could be reduced or extended without loss of analytical value.

A final direction concerns the market-driven intensification pattern. The present study observed this pattern in a setting where geopolitical risk forms an important background condition but is not the defining feature of operations. Extending the analysis to regions where such risk is structural rather than episodic, such as frontier conflict zones, heavily sanctioned regimes, or contested-sovereignty markets, would help test the boundaries of the pattern and refine its theoretical scope.

6

Conclusion

This thesis developed a structured procedure for systematically identifying the operating-model reconfigurations required when a firm expands from an established home market into a foreign emerging market, and examined how an operating model is reconfigured in such a move. These concerns were captured in two research questions:

> **RQ1:** How can a firm systematically identify the operating-model reconfigurations required when expanding into a foreign emerging market?
>
> **RQ2:** How is an operating model reconfigured when a firm expands into a foreign emerging market?

The central conclusion is that operating-model translation is not a binary choice between standardisation and adaptation, but a layered process in which different elements undergo different forms of reconfiguration depending on host-market conditions, operational maturity, and organisational embedding.

The contribution is twofold and maps directly onto the two research questions. In response to RQ1, the thesis develops a structured four-step procedure that combines home-market evidence, host-market validation, and macro-environmental analysis, organised cell by cell through the operations strategy matrix developed by Slack and Lewis (2020). The procedure requires an explicit assessment, for each intersection of decision area and performance objective, of which elements of the home configuration are associated with which reconfiguration type in the new market, and how each should be managed in response. In response to RQ2, the thesis identifies five distinct reconfiguration types: structural redesign, mixed adaptation, temporal convergence, market-driven intensification, and transfer amplification. Together, these capture the different ways in which an operating model may change when transferred between markets. The procedure is intended to be replicable across home- and host-market pairs and across sectors, so that the reconfiguration types it surfaces are reproducible rather than tied only to the case examined here.

The wider implication is that operating-model reconfiguration takes place at the level of specific operational mechanisms rather than at the level of the firm in general, and that operations strategy is shaped at least as much by bottom-up realities as by top-down strategic intent. It is precisely at this level that the existing internationalisation literature remains underspecified. At the same time, it is also at this level that the four-step procedure developed in this thesis, combining the operations strategy matrix with PESTEL-based market analysis, can serve as an analytical bridge between operations strategy theory and the internationalisation literature, not as a definitive representation of reality, but as a useful analytical model.

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A

Appendix 1

Pre-Interview Survey: Operational Priorities

Introduction

This survey captures how you prioritise different operational outcomes in your day-to-day work. Your answers will be used as a starting point for a follow-up interview; there are no right or wrong answers.

Initial Importance Rating

Below are five operational outcomes. Each one is defined with a short description and a guiding question to help you interpret it. Please rate how important each outcome is in your day-to-day operational decision-making.

Assume that basic legal and safety requirements must always be met. The question is: beyond those non-negotiables, which outcomes do you protect most when making everyday decisions?

Quality

The service meets the agreed specification and standard. What is delivered matches what was promised in terms of content and execution.

Think: Are we delivering the right thing, the right way?

1	2	3	4	5
Not very important				Extremely important

Speed

The time from request to delivery is short. The operation responds and completes tasks quickly.

Think: How fast do we move?

1	2	3	4	5
Not very important				Extremely important

Dependability

Delivery happens on time and as planned, every time. The operation is predictable and keeps its commitments.

Think: Can people count on us to do what we said, when we said?

1	2	3	4	5
Not very important				Extremely important

Flexibility

The operation can handle changes in volume, timing, scope, or how things are done, without breaking down.

Think: How well do we adapt when something shifts?

1	2	3	4	5
Not very important				Extremely important

Cost

The operation runs efficiently. Resources are used well and unnecessary spending is avoided.

Think: Are we doing this without wasting money or effort?

1	2	3	4	5
Not very important				Extremely important

Forced Trade-off Questions

In practice, it is rarely possible to maximise every outcome at once. The following questions ask you to choose between two competing priorities. Please choose the option you would normally protect first if a trade-off becomes necessary. There are no right answers; the purpose is to understand which outcomes tend to win when they come into tension with each other.

Question 1. Trade-off: Cost vs. Speed

Which should be prioritised more?

Option A	Option B
Keeping tighter control of cost and resource use, even if some decisions and actions take longer.	Prioritising faster movement and implementation, even if this increases short-term resource use.

Question 2. Trade-off: Flexibility vs. Quality

Which should be prioritised more?

Option A	Option B
Allowing more adaptation in routines, interfaces, and ways of working so the operating model fits local conditions better.	Maintaining a high and well-defined standard in how the service and operation are executed.

Question 3. Trade-off: Dependability vs. Cost

Which should be prioritised more?

Option A	Option B
Investing more in coordination, follow-up, and role clarity so daily execution becomes more predictable.	Keeping the operating model lighter and less resource intensive, even if some routines remain less robust.

Question 4. Trade-off: Quality vs. Speed

Which should be prioritised more?

Option A	Option B
Spending more time refining the setup before rollout so execution quality is stronger from the start.	Rolling out decisions, routines, and operating changes faster so progress becomes visible sooner.

Question 5. Trade-off: Dependability vs. Flexibility

Which should be prioritised more?

Option A	Option B
Using clearer routines and tighter coordination so delivery becomes more stable and predictable.	Giving the regional operation more room to adjust routines and interfaces as conditions change.

Question 6. Trade-off: Speed vs. Dependability

Which should be prioritised more?

Option A	Option B
Increasing rollout and response speed so the organisation can move quickly when conditions change.	Prioritising predictable execution and reliable follow-through so commitments are met consistently.

Question 7. Trade-off: Quality vs. Cost

Which should be prioritised more?

Option A	Option B
Investing more in process and execution quality, even if this raises short-term cost.	Reducing resource use and implementation cost, even if some performance improvements take longer to realise.

Question 8. Trade-off: Cost vs. Flexibility

Which should be prioritised more?

Option A	Option B
Standardising more strongly to keep the model simpler and less costly to run.	Preserving more room for local adaptation, even if this creates additional coordination and resource needs.

Question 9. Trade-off: Dependability vs. Quality

Which should be prioritised more?

Option A	Option B
Delivering with high day-to-day consistency and reliability, even if not every part of the solution is fully optimised yet.	Continuing to refine the service and operating setup toward a higher performance standard, even if more change creates short-term variation.

Question 10. Trade-off: Flexibility vs. Speed

Which should be prioritised more?

Option A	Option B
Leaving more room to adapt the model as new local information, constraints, or partner needs emerge.	Following a clearer rollout path that allows faster implementation across teams, sites, or markets.

B

Appendix 2

Interview Guide

Block 0: Introduction and Survey Debrief

Q1) What is your role at the company today?

- **Q1.1)** Please describe your position at the company. What do you typically spend most time on?

Q2) How long have you been in this role?

Q3) Looking at how you rated the five objectives, what feels accurate in this picture?

- **Q3.1)** Does this reflect how you actually make decisions day-to-day?

Q4) What feels oversimplified or missing from these priorities?

- **Q4.1)** Are there any priorities that depend strongly on the situation, the customer, or the time horizon?
- **Q4.2)** Is there a priority that has changed in importance over the past year?

Q5) Given that these objectives are the ones you want to protect, what in the operation is actually set up to support them?

Block A: Capacity

Q6) How do you decide how much capacity is needed in the operation? Walk me through how fleet size, shift structures, or resource levels are determined.

Q7) What kinds of buffers exist in the operation, if any?

Q8) When demand changes unexpectedly, or something goes wrong, where does the operation usually absorb that pressure?

Q9) Are there any capacity choices that are clearly made to protect a specific outcome, whether that is reliability, speed, flexibility, or cost control?

Block B: Supply Network

Q10) Which external actors are most important for the operation to work well?

Q11) For the most critical relationships, how are they structured? Is it more contract-based and transactional, or more like a close partnership?

Q12) Where are the biggest dependencies outside your own direct control?

Q13) Where do you see the biggest coordination challenges with external partners?

Block C: Process Technology

Q14) Which systems, tools, or routines are most central to making the operation work daily?

Q15) What information is most important for making good operational decisions?

Q16) What in the operation is strongly standardized, and what is left more open to judgment or local adaptation?

Q17) Where does technology help most in protecting the operational priorities you described earlier?

Q18) Where do current systems or technology create limitations for the operation?

Block D: Development and Organisation

Q19) Who owns the most important operational decisions?

Q20) How does escalation work when something goes wrong?

Q21) How much autonomy exists at the local operational level?

Q22) How are improvements identified and implemented? Can you describe the typical path from identifying a problem to making a change?

Q23) Are roles and responsibilities set up in a way that supports the priorities you described?

Block E: Closing Reflection

Q24) Which objective is easiest to say is important, but hardest to support in reality?

Q25) If you could redesign one part of the operating model to better support the priorities you described, what would it be?

Respondent Overview

Exploratory respondents

Respondent ID	Role Category	Region
E1	Commercial	Europe and Middle East
E2	Solution	EU and Middle East
E3	Deployment	Middle East
E4	Charging Infrastructure	Middle East
E5	Head of Operations	Middle East
E6	Fleet Strategy	Central

Semi-structured interviews and workshop

Respondent ID	Role Category	Region
R1	Product, Charging Infrastructure	Europe
R2	Operations Director	Europe
R3	Operations, Continuous Improvement	Europe
R4	Operations Specialist	Europe
R5	Operations Manager	Europe
R6	Operations, Account Management	Europe
R7	Operations, Hardware	Europe
R8	Operations Director	Europe
R9	Fleet Strategy	Europe
WSR10	Operations Lead	Middle East

C

Appendix 3

Thematic Coding Structure

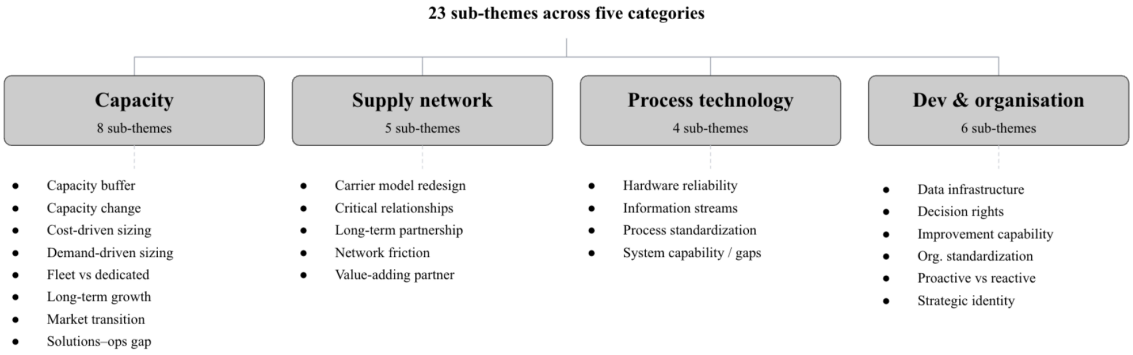

Figure C.1: Thematic coding structure showing 23 sub-themes across five categories.

D

Appendix 4

PESTEL Analysis

Political

Sub-category	EU / Sweden	UAE
Government Policy & Regulatory Framework	Binding EU CO_2 standards: –45% by 2030, –90% by 2040, covering approximately 92% of new HDV sales. AFIR mandates HDV charging along TEN-T. Sweden's Climate Premium covers 30–60% of eligible electric truck cost. **Sources** • Heavy-duty vehicles. (2024, May 13).https://www.consilium.europa.eu/en/press/press-releases/2024/05/13/heavy-duty-vehicles-council-signs-off-on-stricter-co2-emission-standards/ • Regulation (EU) 2023/1804. (2026). https://eur-lex.europa.eu/eli/reg/2023/1804/2026-01-08/eng • Klimatpremie för tunga lastbilar. (2026). Energimyndigheten. https://www.energimyndigheten.se/klimat/transporter/transporteffektivt-samhalle/klimatpremie-for-tunga-lastbilar/	National EV Policy (2023) focuses on ecosystem building, not direct fleet-acquisition support. Dubai Law No. 9 of 2023 creates a regulatory pathway for autonomous heavy vehicles. *Critical note:* No freight-specific green incentive confirmed. **Sources** • Ministry of Energy and Infrastructure. (2023). National EV Policy. https://uaelegislation.gov.ae/en/policy/details/lsy-slotny-llmrkb-t-lkhrb-y • Government of Dubai. (2023). Law No. (9) of 2023. https://dlp.dubai.gov.ae/Legislation%20Reference/2023/Law%20No.%20%289%29%20of%202023%20Regulating%20the%20Operation%20of%20Autonomous%20Vehicles.pdf • PwC Middle East, & TruKKer. (2025). Driving change. https://www.pwc.com/m1/en/publications/2025/docs/driving-change-the-future-of-sustainable-heavy-duty-trucks-in-the-middle-east.pdf
Armed Conflicts	*Source gap:* The EU/Sweden material does not explicitly address armed conflict. No direct armed-conflict exposure is identified for EU freight corridors. **Sources** • N/A	UAE freight depends on uninterrupted Strait of Hormuz access. Military activity may delay ships and raise costs. **Sources** • World Oil Transit Chokepoints. (2026). U.S. Energy Information Administration. https://www.eia.gov/international/analysis/special-topics/World_Oil_Transit_Chokepoints • Maritime Administration. (2026). Strait of Hormuz advisory. https://www.ukmto.org/-/media/ukmto/products/20260301-ukmto_advisory_003-26-update_002.pdf

Sub-category	EU / Sweden	UAE
Tax Policy	Sweden's carbon tax, approximately EUR 138/tonne, adds approximately SEK 3.50–4.00/L to diesel. ETS2, from 2028, will further penalise diesel while leaving electric fleets unaffected. **Sources** • Sweden's carbon tax. (n.d.). https://www.government.se/government-policy/taxes-and-tariffs/swedens-carbon-tax/ • Greening road transport: EU adopts new road charging rules. (2022, February 18). https://transport.ec.europa.eu/news-events/news/greening-road-transport-eu-adopts-new-road-charging-rules-2022-02-18_en	Corporate tax 0–9%. Free-zone structuring may benefit logistics. *Critical note:* No freight-specific green tax incentive confirmed. **Sources** • Ministry of Finance. (2022). UAE Cabinet Resolution No. 116 of 2022. https://uaelegislation.gov.ae/en/legislations/1614/download • Ministerial Decision No. 229 of 2025. Ministry of Finance. https://mof.gov.ae/wp-content/uploads/2025/09/EN-Ministerial-Decision-No.-229-of-2025-Regarding-Qualifying-Activities-and-Excluded-Activities.pdf • PwC Middle East, & TruKKer. (2025, September 18). Driving change. https://www.pwc.com/m1/en/publications/2025/docs/driving-change-the-future-of-sustainable-heavy-duty-trucks-in-the-middle-east.pdf
Labour Law	Transportavtalet CBA: approximately 55,300 employees, 6.4–6.8% wage increase. LAS: auto-conversion to permanent after 12 months. EU Regulation 561/2006: maximum 9 hours driving per day, mandatory 45-minute break after 4.5 hours. **Sources** • Regulation (EC) No 561/2006 of 15 March 2006 on the harmonisation of certain social legislation relating to road transport. (2020). https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02006R0561-20200820	Federal Decree-Law No. 33/2021: 8 hours per day, 48 hours per week. Wages paid through Wage Protection System. No statutory minimum wage. Workers lack the right to form trade unions. Ministerial Resolution No. 44/2022: summer midday-work ban affects outdoor depot and charging operations. No sector-specific employment regime for freight transport. **Sources** • United Arab Emirates. (2021). Federal Decree-Law No. 33 of 2021 Regulating Labour Relations. https://uaelegislation.gov.ae/en/legislations/1541/download • Ministerial Resolution No. 44 of 2022 Regarding Occupational Health and Safety and Labour Accommodation. Ministry of Human Resources & Emiratisation. https://u.ae/en/information-and-services/jobs/employment-in-the-private-sector/labour-accommodation • International Labour Organization. (2024a). Labour migration statistics in the Arab States. ILO Regional Office for Arab States. https://www.ilo.org/sites/default/files/2024-07/iloROAS-labour-migration%20report-March2024-web.pdf

Sub-category	EU / Sweden	UAE
Foreign Trade Policy	Free movement within the EU single market. EU type-approval: mutual recognition across all Member States. Sweden has the highest EU cabotage fines, SEK 60,000. **Sources** • Artur Lysionok. (2025, September 4). Cabotage in Europe: Rules and risks. https://trans.info/en/cabotage-in-europe-419391	Tariffs low, but the importer must be UAE-licensed. Autonomous trucks require local-agent sourcing, UAE technical specifications, and route-specific approval before they can operate. **Sources** • World Trade Organization. (2022). Trade policy review: United Arab Emirates. https://www.wto.org/english/tratop_e/tpr_e/s423_e.pdf • Roads and Transport Authority. (2025). Administrative Resolution No. (939) of 2025. https://dlp.dubai.gov.ae/Legislation%20Reference/2025/Administrative%20Resolution%20No.%20%28939%29%20of%202025%20Issuing%20the%20Operation%20of%20Autonomous%20Vehicles.pdf
Additional Comments	Mutually reinforcing architecture: carbon tax + CO_2 standards + AFIR + toll differentiation + subsidies. Nearly four out of five zero-emission truck registrations concentrate in just five markets. Public procurement, LOU, creates additional advantage for low-emission carriers. Requirements have evolved from biogas to electric vehicle specifications. **Sources** • Sweden's carbon tax. (n.d.). https://www.government.se/government-policy/taxes-and-tariffs/swedens-carbon-tax/ • Consolidated text: Regulation (EU) 2023/1804. (2026). https://eur-lex.europa.eu/eli/reg/2023/1804/2026-01-08/eng • Greening road transport. (2022). https://transport.ec.europa.eu/news-events/news/greening-road-transport-eu-adopts-new-road-charging-rules-2022-02-18_en • Klimatpremie för tunga lastbilar. (2026). https://www.energimyndigheten.se/klimat/transporter/transporteffektivt-samhalle/klimatpremie-for-tunga-lastbilar/	The UAE enables early autonomous-vehicle regulatory experimentation, but the gap between strategic ambition and freight-specific enforcement remains wide. Transition pace depends on government enforcement rather than market mechanisms or civil society. **Sources** • Government of Dubai. (2023). Law No. (9) of 2023. https://dlp.dubai.gov.ae/Legislation%20Reference/2023/Law%20No.%20%289%29%20of%202023%20Regulating%20the%20Operation%20of%20Autonomous%20Vehicles.pdf • Abu Dhabi Mobility. (n.d.-a). https://admobility.gov.ae/en/am-autonomous-vehicle-operations • Library of Congress. (2025, June 24). United Arab Emirates: Climate law takes effect. https://www.loc.gov/item/global-legal-monitor/2025-06-24/

Economic

Sub-category	EU / Sweden	UAE
Economic Growth	Sweden GDP: approximately +1.5% in 2025, and approximately +2.9% projected in 2026. Euro Area GDP 1.4–1.5% in 2025. Recovery from 2022–2023 headwinds. **Sources** • Economic forecast for Sweden—Economy and Finance - European Commission. (2025, November 17). https://economy-finance.ec.europa.eu/economic-surveillance-eu-member-states/country-pages/sweden/economic-forecast-sweden_en	UAE GDP: approximately +4.8% projected in 2025, and approximately +5.0% projected in 2026. Growth drivers support freight demand and asset utilisation. **Sources** • World Bank. (2025). Macro poverty outlook: United Arab Emirates. https://thedocs.worldbank.org/en/doc/65cf93926fdb3ea23b72f277fc249a72-0500042021/related/mpo-are.pdf • International Monetary Fund. (2025a, October 2). IMF staff completes 2025 Article IV mission to United Arab Emirates. https://www.imf.org/en/news/articles/2025/10/02/pr-25326-united-arab-emirates-imf-staff-completes-2025-article-iv-mission • Central Bank of the UAE. (2026b). Quarterly economic review: March 2026. https://www.centralbank.ae/media/lgnfakgc/qer-march_2026.pdf
Exchange Rates	Sweden operates with a floating krona, introducing currency risk for imported vehicles and components. Eurozone operations benefit from currency unity. **Sources** • Sweden Interest Rate. (n.d.). https://tradingeconomics.com/sweden/interest-rate	AED is fixed to the USD, making imported vehicle and equipment costs predictable. *Critical note:* The fixed rate means the UAE cannot independently lower interest rates to encourage fleet investment. **Sources** • International Monetary Fund. (2024). United Arab Emirates: 2024 Article IV consultation. Country Report No. 24/325. https://www.imf.org/-/media/files/publications/cr/2024/english/1areea2024001-print-pdf.pdf • Central Bank of the UAE. (n.d.). Domestic market operations. https://www.centralbank.ae/en/our-operations/monetary-policy-and-domesticmarkets/domestic-market-operations/

Sub-category	EU / Sweden	UAE
Disposable Income / Labour Cost	*Source gap:* No disposable income data. Swedish truck driver gross salary: SEK 33,600 per month in 2024. Fully loaded employer cost approximately EUR 4,400–4,800 per month. CBA wages, approximately EUR 2,900 per month, are roughly double Eastern European rates. **Sources** • Statistics Sweden. (2025). Average salary and salary dispersion by sector, occupation (SSYK 2012) and sex. `https://www.statistikdatabasen.scb.se/goto/en/ssd/LoneSpridSektYrk4AN`	Private-consumption growth 2.9% in 2025 supports freight volumes but does not directly drive fleet investment. Indicative UAE driver wages: AED 2,746–4,000 per month. *Critical note:* Not official statistics, but driver labour is materially cheaper than in Sweden. *Inference:* Low wages weaken the automation case. Asset cost is the more binding constraint. **Sources** • World Bank. (2025). Macro poverty outlook: United Arab Emirates. `https://thedocs.worldbank.org/en/doc/65cf93926fdb3ea23b72f277fc249a72-0500042021/related/mpo-are.pdf` • Indeed. (2026). Truck driver salary in UAE. `https://ae.indeed.com/career/truck-driver/salaries` • Naukri Gulf. (2026). Heavy truck driver salaries in UAE. `https://www.naukrigulf.com/salaries/heavy-truck-driver-salary-in-uae` • GulfTalent. (2026). Heavy truck driver salaries in UAE. `https://www.gulftalent.com/uae/salaries/heavy-truck-driver` • Statistics Sweden. (2025). `https://www.statistikdatabasen.scb.se/goto/en/ssd/LoneSpridSektYrk4AN`
Unemployment Rates	426,000 unfilled EU driver positions in 2024, projected to reach approximately 745,000 by 2028. Average EU driver age 47. 30% over 55, only 5% under 25. Half of operators cannot expand due to shortages. **Sources** • Half of European truck operators cannot expand due to driver shortages. (2024, April 25). `https://www.iru.org/news-resources/newsroom/half-european-truck-operators-cant-expand-due-driver-shortages`	Unemployment overall approximately 2.1% in 2025, consistent with continued economic activity. *Critical note:* Available macroeconomic evidence does not demonstrate a sector-specific labour shortage in UAE freight transport. **Sources** • World Bank. (2025). Macro poverty outlook: United Arab Emirates. `https://thedocs.worldbank.org/en/doc/65cf93926fdb3ea23b72f277fc249a72-0500042021/related/mpo-are.pdf`

Sub-category	EU / Sweden	UAE
Additional Comments	Owning and operating a heavy-duty electric truck is expected to cost the same as diesel by 2025–2026, and 15–23% less than diesel by 2030. Battery packs $108/kWh in 2025. Leasing dominates. Secondary EV market non-existent. Sweden's fossil-free grid: approximately EUR 0.0964/kWh. BEV maintenance approximately 30% lower than diesel. Grid connection lead times up to 10–15 years. **Sources** • Basma, H., & Rodríguez. (2023, November 13). A total cost of ownership comparison of truck decarbonization pathways in Europe. ICCT. https://theicct.org/publication/total-cost-ownership-trucks-europe-nov23/ • Lithium-Ion Battery Pack Prices See Largest Drop Since 2017. (2024, December 10). BloombergNEF. https://about.bnef.com/insights/commodities/lithiumion-battery-pack-prices-see-largest-drop-since-2017-falling-to-115-per-kilowatt-hour-bloombergnef/ • Electricity price statistics. (2025, October). Eurostat. https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Electricity_price_statistics	In the EU, operators compare the cost of a new electric truck with a new diesel truck. In the UAE, operators compare a new electric truck with a cheap used diesel import, priced at 40–50% of new. Commercial electricity: AED 0.20–0.38/kWh depending on emirate and tier. Diesel: AED 2.72/litre, regulated monthly by the UAE Fuel Price Committee. Leasing favoured. No mature second-hand EV market. The UAE profile suits corridor-based, high-utilisation applications. Economic conditions are best suited for electric trucks operating on fixed routes with high daily usage, rather than broad fleet-wide electrification. **Sources** • Swedish Energy Agency. (2025). Underlagsrapport: Uppföljning och analys av marknadsutvecklingen för miljölastbilar. https://www.energimyndigheten.se/4af228/globalassets/klimat/klimatpremien/underlagsrapport-uppfoljning-och-analys-av-marknadsutvecklingen-for-miljolastbilar-och-klimatpremiens-roll.pdf • PwC Middle East, & TruKKer. (2025, September 18). Driving change. https://www.pwc.com/m1/en/publications/2025/docs/driving-change-the-future-of-sustainable-heavy-duty-trucks-in-the-middle-east.pdf • European Clean Trucking Alliance. (2024). Study on financing mechanisms for zero-emission trucks. https://clean-trucking.eu/wp-content/uploads/2024/03/ECTA-Report-Financing-ZETs-FINAL-2.pdf • Utility Bill UAE. (2026, January 31). Business electricity tariffs UAE. https://utilitybilluae.com/business-electricity-tariffs-uae/ • Khaleej Times. (2026, March 31). UAE petrol, diesel prices for April 2026 announced. https://www.khaleejtimes.com/business/energy/uae-petrol-diesel-prices-april-2026

Social

Sub-category	EU / Sweden	UAE
Career Attitudes & Workforce	Severe driver shortage: 426,000 unfilled EU positions in 2024, projected to reach approximately 745,000 by 2028. Average driver 47 years old. Only 5% under 25, only 4% women. Electric trucks' improved conditions, 50% noise reduction and less vibration, may attract younger and more diverse recruits. The transition creates new training needs. Full high-voltage technician status takes approximately 3–4 years. Sweden's Power Distance Index of 31 reflects a cultural preference for flat organizational structures and minimal hierarchical distance between superiors and subordinates. **Sources** • Half of European truck operators cannot expand due to driver shortages. (2024, April 25). https://www.iru.org/news-resources/newsroom/half-european-truck-operators-cant-expand-due-driver-shortages • Parkinson, G. (2022, September 26). Sounds of silence: How quiet are heavy duty electric trucks? The Driven. https://thedriven.io/2022/09/26/sounds-of-silence-how-quiet-are-heavy-duty-electric-trucks/ • Chris. (2023, December 4). Electrical Vehicle Training. JBA Training Design. https://jba.eu.com/electrical-vehicle-training-demand-for-ev-technicians/ • Hofstede, G. (2001). *Culture's consequences: Comparing values, behaviors, institutions, and organizations across nations* (2nd ed.). Sage.	Private-sector operations rely heavily on migrant labour across drivers, technicians, dispatchers, and contractors. 8.7 million migrant workers, equivalent to over 80% of the country's resident population. Low pay and negative social perceptions make it difficult to retain Emiratis in private-sector freight roles. *Critical note:* No strong evidence that driver shortages are a defining constraint in the UAE. Unemployment overall approximately 2.1% in 2025, consistent with continued economic activity. A Power Distance Index of 74 provides evidence of a strong cultural appreciation for structural and hierarchical organizations. **Sources** • International Labour Organization. (n.d.). United Arab Emirates. https://www.ilo.org/regions-and-countries/arab-states/united-arab-emirates • Rutledge, E. J., & Al Kaabi, K. (2023). "Private sector" Emiratisation: Social stigma impact on continuance intentions. *Human Resource Development International*, 26(5), 603–626. https://doi.org/10.1080/13678868.2023.2182097 • Elsayed, M. (2024). The United Arab Emirates' labour market: An overview. LSE Middle East Centre Paper Series No. 89. https://researchonline.lse.ac.uk/id/eprint/124359/1/MEC-series-89.pdf • World Bank. (2025). Macro poverty outlook: United Arab Emirates. https://thedocs.worldbank.org/en/doc/65cf93926fdb3ea23b72f277fc249a72-0500042021/related/mpo-are.pdf • Almutairi, S., Heller, M., & Yen, D. (2021). Reclaiming the heterogeneity of the Arab states. *Cross Cultural & Strategic Management*, 28(1), 158–176. https://doi.org/10.1108/CCSM-09-2019-0170

Sub-category	EU / Sweden	UAE
Lifestyle Attitudes	More than 93% of EU citizens consider climate change serious. Sweden's e-commerce, approximately 14% of retail, drives last-mile freight demand. **Sources** • 94% of Europeans support measures to adapt to climate change, according to EIB survey. (2024, November 11). European Investment Bank. https://www.eib.org/en/press/all/2024-406-94-of-europeans-support-measures-to-adapt-to-climate-change-according-to-eib-survey • E-Commerce Evolution in Europe: Market Trends and Consumer Behavior: 2023–2027. Evalueserve. https://www.evalueserve.com/industry-insight/e-commerce-evolution-in-europe-market-trends-and-consumer-behavior-2023-2027/	Only 55–62% of UAE adults view climate change as serious. 38% say it is not a threat, one of the most climate-sceptical countries globally. *Critical note:* Environmental messaging alone is unlikely to drive adoption. Cost savings and hands-on experience matter more. **Sources** • Lloyd's Register Foundation. (2024). *World Risk Poll 2024 report*. https://wrp.lrfoundation.org.uk/publications/what-the-world-worries-about-global-perceptions-and-experiences-of-risk-and-harm • Takshe, A. A., Hennawi, M., Jebril, S., Alawi, S., AlZaidan, S., & Okasha, A. (2023). Investigating determinants of pro-environmental behaviors amongst UAE university students through Q-methodology. *Discover Sustainability*, 4, 38. https://doi.org/10.1007/s43621-023-00156-4 • Evensen, D., Uratani, J. M., Sovacool, B. K., & Griffiths, S. (2025). A novel model for barriers to electric vehicle adoption in the Middle East. *Transportation Research Part D*, 142, 104714. https://doi.org/10.1016/j.trd.2025.104714

Sub-category	EU / Sweden	UAE
Cultural Barriers	Swedish consensus culture: decisions take longer but implementation is faster. YKB and license exams are held only in Swedish. Professional-level fluency is therefore necessary to succeed. **Sources** • Ou. (2025, December 17). Export guide: The Swedish business culture. Kommerskollegium. https://www.kommerskollegium.se/en/import--export/firms-in-developing-countries-wanting-to-export-to-sweden/export-guide/preparing-for-market-entry/the-swedish-business-culture/ • EF English Proficiency Index 2025 lanseras. (2025, November). https://www.ef.se/about-us/press/articles/2025/ef-english-proficiency-index-2025-launched/	UAE organisations combine international settings with centralised authority and relationship-based coordination. Multilingual workplaces create health and safety communication difficulties due to language, literacy, and cultural differences. UAE organisations operate in an international business environment, but decisions are still often made top-down rather than collaboratively. Multilingual training, repeated demonstration, and close on-site coordination are more important than written procedures alone. **Sources** • Loney, T., Cooling, R. F., & Aw, T.-C. (2012). Lost in translation? *Safety and Health at Work*, 3(4), 298–304. https://doi.org/10.5491/SHAW.2012.3.4.298 • de Waal, A., & Frijns, M. (2016). The influence of the UAE context on management practice. *International Journal of Islamic and Middle Eastern Finance and Management*, 9(2), 236–253. https://doi.org/10.1108/IMEFM-01-2015-0012

Sub-category	EU / Sweden	UAE
Additional Comments	Strongest social enablers: broad sustainability consciousness, high trust, severe driver shortage creating pull for electrification and automation, and mature e-commerce. Mandatory 45-minute breaks align with MCS charging, 200–400 km in 30–45 minutes. Rest periods become productive vehicle preparation time. *Inference:* This driving-hours and charging synergy has no UAE equivalent. **Sources** • Regulation (EC) No 561/2006. (2020). `https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02006R0561-20200820` • Megawatt charging – all you need to know about MCS. Scania Corporate Website. `https://www.scania.com/group/en/home/electrification/e-mobility-hub/megawatt-charging-all-you-need-to-know-about-mcs.html`	The UAE material is explicit that the social case for autonomous freight in open mixed-traffic settings is not yet established. Social evidence shows the population is more supportive of electric freight than of broad autonomous freight in open mixed-traffic settings. **Sources** • Hafiz, D., Hou, Q., & Zohdy, I. (2025). Advancing sustainable urban mobility: Public acceptance and perceived risks of autonomous vehicle deployment in Dubai. *Sustainability*, 17(24), 11021. `https://doi.org/10.3390/su172411021` • Hafeez, F., Mas'ud, A. A., Al-Shammari, S., Sheikh, U. U., Alanazi, M. A., Hamid, M., & Azhar, A. (2024). Autonomous vehicles perception, acceptance, and future prospects in the GCC. *World Electric Vehicle Journal*, 15(5), 186. `https://doi.org/10.3390/wevj15050186` • Evensen, D., Uratani, J. M., Sovacool, B. K., & Griffiths, S. (2025). A novel model for barriers to electric vehicle adoption in the Middle East. *Transportation Research Part D*, 142, 104714. `https://doi.org/10.1016/j.trd.2025.104714`

Technological

Sub-category	EU / Sweden	UAE
Technology Incentives	EU CO_2 targets pressure OEMs to prioritise zero-emission production. Sweden's Climate Premium: 30–60% of eligible cost. Up to 70% of public charging infrastructure costs. SEK 850 million toward heavy vehicle charging, 2022–2024. **Sources** • Klimatpremie för tunga lastbilar. (2026, March 11). Energimyndigheten. https://www.energimyndigheten.se/klimat/transporter/transporteffektivt-samhalle/klimatpremie-for-tunga-lastbilar/ • Decarbonising heavy-duty road transport: State of the enabling conditions. (2025, October 9). https://www.acea.auto/publication/decarbonising-heavy-duty-road-transport-state-of-the-enabling-conditions/	National EV Policy emphasises ecosystem building over fleet-acquisition support. The Dubai framework enables AV heavy-vehicle trials. *Critical note:* Demonstrates regulatory readiness more than commercial freight maturity. **Sources** • Ministry of Energy and Infrastructure. (2023, July 3). The National Electric Vehicles Policy. https://uaelegislation.gov.ae/en/policy/details/lsy-slotny-llmrkb-t-lkhrb-y • Government of Dubai Media Office. (2025, September 28). RTA approves a comprehensive regulatory framework. https://www.mediaoffice.ae/en/news/2025/september/28-09/rta
Level of Innovation	Sweden: Innovation Leader, European Innovation Scoreboard. High R&D intensity with dominant business-sector share. SEEL: SEK 1.3 billion. Global leader in Electric Road Systems. **Sources** • Landes, F. (2025). European Innovation Scoreboard 2025 Country profile Sweden. European Commission. https://ec.europa.eu/assets/rtd/eis/2025/ec_rtd_eis-country-profile-se.pdf • Randall, C. (2019, April 12). Sweden: Smartroad Gotland for wireless charging in motion. electrive.com. https://www.electrive.com/2019/04/12/sweden-inductive-road-to-be-built/	The UAE ranked 30th in WIPO's Global Innovation Index, strong on infrastructure and connectivity but weaker on producing new technology domestically. Better understood as an adopter and deployment platform than a domestic originator. **Sources** • World Intellectual Property Organization. (2025). United Arab Emirates's innovation system. https://www.wipo.int/gii-ranking/en/united-arab-emirates/section/innovation-trends • World Intellectual Property Organization. (2024). United Arab Emirates ranking in the Global Innovation Index 2024. https://www.wipo.int/edocs/gii-ranking/2024/ae.pdf

Sub-category	EU / Sweden	UAE
Automation	Ericsson and Telia 5G-enabled autonomous operations. 4G near-universal on freight highways. 5G at 39.1%. No comprehensive AV regulatory framework described. **Sources** • 5G i över hälften av alla mobilabonnemang. (2025, November 18). PTS. https://pts.se/nyheter-och-pressmeddelanden/5g-i-over-halften-av-alla-mobilabonnemang2/	Autonomous vehicle regulation is the UAE's clearest technological strength. Abu Dhabi already has 69 autonomous vehicles in operation, which have completed over 60,000 trips and driven more than 600,000 km. February 2026: autonomous truck pilot in KEZAD. *Critical note:* Still supervised and controlled-domain, not mixed-traffic at scale. **Sources** • Abu Dhabi Mobility. (n.d.-a). Autonomous mobility: Autonomous vehicle (AV) operations. https://admobility.gov.ae/en/am-autonomous-vehicle-operations • Abu Dhabi Mobility. (2026, February 27). The Integrated Transport Centre oversees first pilot operation of autonomous trucks. https://admobility.gov.ae/en/news/itc-oversees-first-trucks-in-region
Technological Change & Awareness	Zero-emission trucks accounted for 3.8% of all new EU truck registrations in the first half of 2025, growing but still a small share. **Sources** • ACEA review 2025: Electric trucks show isolated gains, electric buses perform across the board. (2026, January 29). electrive.com. https://www.electrive.com/2026/01/29/acea-review-2025-electric-trucks-show-isolated-gains-electric-buses-perform-across-the-board/ • Decarbonising heavy-duty road transport: State of the enabling conditions. (2025, October 9). https://www.acea.auto/publication/decarbonising-heavy-duty-road-transport-state-of-the-enabling-conditions/	Electric heavy-duty truck deployment in the Gulf region remains limited, with the transition from diesel to electric freight still in its initial phase. Dubai and Abu Dhabi moved rapidly on AV regulatory design and pilot implementation. **Sources** • PwC Middle East, & TruKKer. (2025, September 18). Driving change. https://www.pwc.com/m1/en/publications/2025/docs/driving-change-the-future-of-sustainable-heavy-duty-trucks-in-the-middle-east.pdf • Griffiths, S., Uratani, J. M., Evensen, D., & Sovacool, B. K. (2026). Electric momentum? *Journal of Cleaner Production*, 543, 147509. https://doi.org/10.1016/j.jclepro.2026.147509

Sub-category	EU / Sweden	UAE
Technological Awareness	High digital connectivity. 5G growing. eFTI Regulation, August 2025, advances freight digitisation. **Sources** • 5G i över hälften av alla mobilabonnemang. (2025, November 18). PTS. https://pts.se/nyheter-och-pressmeddelanden/5g-i-over-halften-av-alla-mobilabonnemang2/ • European Commission. (n.d.). eFTI Regulation: Digitalising freight transport across the European Union. https://transport.ec.europa.eu/transport-themes/logistics-and-multimodal-transport/efti-regulation_en	Awareness is improving but uneven. Financial and practical concerns remain barriers. *Critical note:* Most evidence concerns consumers, not freight operators. **Sources** • Bridi, R. M., Ben Jabra, M., Al Hosani, N., & Almurshidi, A. H. (2024). The propensity to adopt electric vehicles in the United Arab Emirates. *Sustainability*, 16(2), 770. https://doi.org/10.3390/su16020770 • Evensen, D., Uratani, J. M., Sovacool, B. K., & Griffiths, S. (2025). A novel model for barriers to electric vehicle adoption. *Transportation Research Part D*, 142, 104714. https://doi.org/10.1016/j.trd.2025.104714

Sub-category	EU / Sweden	UAE
Additional Comments	**Charging infrastructure:** Only approximately 1,100 public chargers ≥350 kW for heavy trucks across all of Europe. Target: approximately 50,000 by 2030. Sweden leads with 150+ public stations and 1,000+ electric long-haul trucks, the highest density in Europe. **Grid:** Connection lead times of 10–15 years, acute in SE3 (Stockholm) and SE4 (Malmö). Battery energy storage systems (BESS) emerging as mitigation. Fossil-free grid. **OEM & maintenance:** Home market for Volvo (47% EU HD electric share) and Scania. Electric truck maintenance approximately 30% lower than diesel. Battery Regulation: 5-year spare parts and digital passport from 2027. **Sources** • ACEA review 2025. (2026, January 29). electrive.com. https://www.electrive.com/2026/01/29/acea-review-2025-electric-trucks-show-isolated-gains-electric-buses-perform-across-the-board/ • Decarbonising heavy-duty road transport. (2025, October 9). https://www.acea.auto/publication/decarbonising-heavy-duty-road-transport-state-of-the-enabling-conditions/ • Charging infrastructure in Sweden. (2025, December 17). Energimyndigheten. https://www.energimyndigheten.se/en/climate/charginginfrastructure-in-sweden/	**Charging infrastructure (general EV, not heavy-truck-specific):** Abu Dhabi: 1,200+ charge points at 400 locations, 16,373 registered EVs in August 2025. Dubai: 1,270+ charging points in August 2025. ADNOC: 60-point high-speed hub on E11 highway between Abu Dhabi and Dubai, January 2026. *Critical note:* Most charge points serve passenger vehicles. Heavy-truck-specific charging is far less developed. Reliable depot, corridor, and grid upgrades are still needed. **Market fit:** The UAE's economic conditions are best suited for electric trucks on fixed routes with high daily usage, rather than broad fleet-wide electrification. **Sources** • Abu Dhabi Mobility. (n.d.-b). Autonomous mobility: Electric vehicle (EV) infrastructure. https://admobility.gov.ae/en/am-electric-vehicleinfrastructure • Dubai Electricity and Water Authority. (2025, August 3). Dubai's 1,270 EV charging points. https://www.dewa.gov.ae/en/about-us/media-publications/latest-news/2025/07/1270-ev-charging-points-in-dubai • ADNOC Distribution. (2026, January 12). ADNOC Distribution launches one of the world's largest superfast EV charging hubs. https://www.adnocdistribution.ae/en/media-folder/newslisting/2026/01/adnoc-distribution-partners-with-emerge-to-power-abu-dhabi-stations-with-solar-energy • Department of Energy. (2022, March 1). Regulatory policy for electric vehicle charging infrastructure in the Emirate of Abu Dhabi. https://www.doe.gov.ae/-/media/Project/DOE/Department-Of-Energy/MediaCenter-Publications/Regulations/English/Regulatory-Policy-for-EVCI.pdf • PwC Middle East, & TruKKer. (2025, September 18). Driving change. https://www.pwc.com/m1/en/publications/2025/docs/driving-change-the-future-of-sustainable-heavy-duty-trucks-in-the-middle-east.pdf

Environmental

Sub-category	EU / Sweden	UAE
Weather & Climate Conditions	Nordic cold is the most significant operational challenge. At 0°C, EVs retain approximately 78% of range. At –7°C, approximately 70%. Pre-conditioning while grid-connected mitigates cold-start range loss. Sub-zero conditions are common and can be severe, with impacts on road conditions. The challenge is seasonal and mitigable with established protocols.	Summer temperatures routinely exceed 43°C. Battery lifespan drops from approximately 24 years at 25°C to approximately 9 years at 40°C, a 2.7-fold degradation acceleration. Cool-climate batteries achieve up to 30% longer life. Extreme heat above 35°C causes 8–12% range degradation in HD electric trucks. Dust storms reduce LiDAR detection range by up to 75%. Camera perception is severely impaired by sand and glare. DC fast chargers thermally throttle at high ambient temperatures. Unlike Nordic cold, which is seasonal, UAE heat is a year-round structural constraint for approximately 6–8 months.

Sub-category	EU / Sweden	UAE
	Sources • Longewicz, K., & McKenzie, L. (2023). Fact sheet: Combatting range loss in extreme cold. https://atlaspolicy.com/wp-content/uploads/2023/12/Combatting-Winter-Range-Loss-in-E-Trucks.pdf • Snowstorms and extreme cold. (2025, October 30). https://www.krisinformation.se/en/hazards-and-risks/snowstorms-and-extreme-cold/	**Sources** • World Meteorological Organization. (2023). State of the Global Climate 2023. WMO. https://library.wmo.int/viewer/68835/ • Sui, X., Świerczyński, M., Teodorescu, R., & Stroe, D.-I. (2021). The degradation behavior of $LiFePO_4$/C batteries during long-term calendar aging. *Energies*, 14(6), Article 1732. https://doi.org/10.3390/en14061732 • Fioriti, D., Scarpelli, C., Pellegrino, L., Lutzemberger, G., Micolano, E., & Salamone, S. (2023). Battery lifetime of electric vehicles by novel rainflow-counting algorithm with temperature and C-rate dynamics. *Journal of Energy Storage*, 59, 106458. https://doi.org/10.1016/j.est.2022.106458 • MotorWatt. (2026, January 6). Best heavy duty electric trucks 2026 by range. https://motorwatt.com/ratings/best-heavy-duty-electric-trucks • Heinzler, R., Schindler, P., Seekircher, J., Ritter, W., & Stork, W. (2019). Weather influence and classification with automotive LiDAR sensors. In *2019 IEEE Intelligent Vehicles Symposium* (pp. 1527–1534). IEEE. https://doi.org/10.1109/IVS.2019.8814205 • Bijelic, M., Gruber, T., Mannan, F., Kraus, F., Ritter, W., Dietmayer, K., & Heide, N. (2022). Perception and sensing for autonomous vehicles under adverse weather conditions: A survey. *ISPRS Journal of Photogrammetry and Remote Sensing*, 196, 354–378. https://doi.org/10.1016/j.isprsjprs.2022.12.021 • Gletscher Energy. (2025). Building EV charging infrastructure for extreme climates: Lessons from GCC projects. https://www.gletscherenergy.com/blogs/smart-energyinfrastructure/building-ev-charginginfrastructure-for-extreme-climates-lessons-from-gcc-projects • Climate-Data.org. (n.d.). Climate: United Arab Emirates. https://en.climate-data.org/asia/united-arab-emirates-70/

Sub-category	EU / Sweden	UAE
Additional Comments	Sweden's environmental profile is the strongest single enabler. Fossil-free grid + binding policy + mitigable cold = 84% lifecycle GHG reduction. Electrification is environmentally valid. **Sources** • Battery electric trucks emit 63% less GHG emissions than diesel. (2023, February 6). ICCT. https://theicct.org/battery-electric-trucks-emit-63-less-ghg-emissions-than-diesel/ • Çabukoglu, E., Notter, D., Wokaun, A., & Bauer, C. (2021). Well-to-wheel greenhouse gas emissions of heavy-duty transports: Influence of electricity carbon intensity. *Transportation Research Part D: Transport and Environment*, 95, 102858. https://doi.org/10.1016/j.trd.2021.102858	The UAE faces the most demanding conditions globally for electric trucks: heat, dust, sensor impairment, charger throttling, and sea-level risk. UAE grid approximately 359 gCO_2/kWh, below the approximately 700–800 threshold where EVs lose their advantage. **Sources** • Naser, H., Dajani, R., & Agusti, S. (2021). A roadmap for policy-relevant sea-level rise research in the United Arab Emirates. *Frontiers in Marine Science*, 8, 670089. https://doi.org/10.3389/fmars.2021.670089 • Çabukoglu, E., Notter, D., Wokaun, A., & Bauer, C. (2021). Well-to-wheel greenhouse gas emissions of heavy-duty transports: Influence of electricity carbon intensity. *Transportation Research Part D: Transport and Environment*, 95, 102858. https://doi.org/10.1016/j.trd.2021.102858

Legal

Sub-category	EU / Sweden	UAE
Employment Laws	LAS (reformed 2022): fixed-term contracts convert to permanent after 12 months. Notice periods 1–6 months with full salary. Employers may exempt 3 critical employees from redundancy seniority rules. Makes it difficult to scale workforce to match freight demand volatility. MBL: union consultation required before new monitoring systems. Regulation 561/2006: mandatory 45-minute break after 4.5 hours aligns with fast-charging and MCS sessions (200–400 km in 30–45 minutes). The 11-hour daily rest period accommodates overnight depot charging. **Sources** • Bird & Bird. (2022, October 24). The changes in the Swedish Employment Protection Act you need to know about. Lexology. `https://www.lexology.com/library/detail.aspx?g=a9681e62-b05c-4e0a-9fe6-6caceae6619f` • Lindahl, L., & Nordlund, N. (2026). Sweden. In S. Martin & J. Broadbent (Eds.), *ICLG – Employment & Labour Laws and Regulations 2026* (16th ed.). Global Legal Group. `https://iclg.com/practice-areas/employment-and-labour-laws-and-regulations/sweden` • Rivermate. (n.d.). Termination in Sweden. `https://rivermate.com/guides/sweden/termination`	Flexible work models recognised: remote, temporary, part-time, and mission-based. Hours capped at 8 per day, 48 per week. *Critical note:* Flexible enough for staged deployment but not tailored to autonomous-fleet roles such as remote operators and safety supervisors. Normal hours capped at 8 per day, 48 per week. Overtime and safety obligations tied to employer compliance. **Sources** • International Labour Organization. (n.d.). United Arab Emirates. `https://www.ilo.org/regions-and-countries/arab-states/united-arab-emirates` • Cabinet Resolution No. 1 of 2022 Concerning the Executive Regulations of Federal Decree-Law No. 33 of 2021. `https://uaelegislation.gov.ae/en/legislations/1547/download` • Federal Decree-Law No. 33 of 2021 Regulating Labour Relations. `https://uaelegislation.gov.ae/en/legislations/1541/download`

Sub-category	EU / Sweden	UAE
Copyright and Patent Laws	EU Battery Regulation: 5-year spare-part guarantee and digital battery passport from 2027. **Sources** • Ramboll. (2025, October 27). The EU Battery Regulation: Where we stand in 2025. https://www.ramboll.com/en-us/insights/resource-management-and-circular-economy/the-eu-battery-regulation-where-we-stand-in-2025	Federal Decree-Law No. 38/2021: protects software, smart applications, databases, and electronic storage. Federal Law No. 11/2021: protects patents, utility models, and undisclosed information. *Critical note:* Protects commercialisation well but does not reduce operator lock-in to foreign systems. **Sources** • Federal Decree-Law No. 38 of 2021 on Copyright and Neighbouring Rights. (2021). UAE Legislation. • Federal Law No. 11 of 2021 on Industrial Property Rights. (2021). UAE Legislation. https://uaelegislation.gov.ae/en/legislations/1534/download
Health & Safety Laws	HV certification: A-authorisation requires 4 years of experience. GDPR: fleet telematics counts as personal data. Covert monitoring is illegal. Union consultation required. Euro 7 (Regulation 2024/1257), effective July 2027 for HDV type approvals: introduces minimum battery durability requirements, giving fleet buyers regulatory-backed assurance of battery longevity. **Sources** • Elsäkerhetsverket. (n.d.). Auktorisationstyper. https://www.elsakerhetsverket.se/yrkespersoner/ansok-om-auktorisation/auktorisationstyper/ • Integritetsskyddsmyndigheten. (2025, March 13). Tillsyns- och vägledningsprioriteringar 2025. https://www.imy.se/publikationer/tillsyns-och-vagledningsprioriteringar-2025/ • European Council. (2024, April 12). Euro 7: Council adopts new rules on emission limits for cars, vans and trucks. https://www.consilium.europa.eu/en/press/press-releases/2024/04/12/euro-7-council-adopts-new-rules-on-emission-limits-for-cars-vans-and-trucks/	Midday heat controls affect outdoor scheduling. Abu Dhabi regulates EV charging infrastructure. Dubai Law No. 9 requires AV licensing, inspection, and safety compliance. *Critical note:* Autonomous trucks can currently only operate in approved controlled areas such as industrial zones and port corridors, not freely on public roads. Scaling beyond these areas requires additional government approvals. **Sources** • Federal Decree-Law No. 33 of 2021 Regulating Labour Relations. https://uaelegislation.gov.ae/en/legislations/1541/download • Department of Energy. (2022, March 1). Regulatory policy for electric vehicle charging infrastructure in the Emirate of Abu Dhabi. https://www.doe.gov.ae/-/media/Project/DOE/Department-Of-Energy/MediaCenter-Publications/Regulations/English/Regulatory-Policy-for-EVCI.pdf • Government of Dubai. (2023). Law No. (9) of 2023 regulating the operation of autonomous vehicles in the Emirate of Dubai. https://dlp.dubai.gov.ae/Legislation%20Reference/2023/Law%20No.%20%289%29%20of%202023%20Regulating%20the%20Operation%20of%20Autonomous%20Vehicles.pdf

Sub-category	EU / Sweden	UAE
Additional Comments	Type-approval mutual recognition enables EU cross-border scaling. EU sustainability reporting law (CSRD Scope 3) creates contractual demand for low-emission carriers. Euro 7 (July 2027) includes battery durability requirements. Weights & Dimensions revision addressing battery weight penalty. **Sources** • Regulation (EC) No 561/2006 of 15 March 2006 on the harmonisation of certain social legislation relating to road transport. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02006R0561-20200820 • Directive (EU) 2022/2464 of 14 December 2022. https://eur-lex.europa.eu/eli/dir/2022/2464/oj/eng • European Council. (2024, April 12). Euro 7: Council adopts new rules on emission limits for cars, vans and trucks. https://www.consilium.europa.eu/en/press/press-releases/2024/04/12/euro-7-council-adopts-new-rules-on-emission-limits-for-cars-vans-and-trucks/ • European Council. (2025, December 4). Council sets position on maximum weights and dimensions for road vehicles. https://www.consilium.europa.eu/en/press/press-releases/2025/12/04/council-sets-position-on-maximum-weights-and-dimensions-for-road-vehicles/	In Dubai, if an autonomous vehicle causes damage or injury, the fleet operator bears full civil liability, not the government (RTA). This increases insurance costs and operational risk when scaling. Climate Law (penalties up to AED 4 million) is the most immediate legal pressure. **Sources** • Government of Dubai. (2023). Law No. (9) of 2023 regulating the operation of autonomous vehicles in the Emirate of Dubai. https://dlp.dubai.gov.ae/Legislation%20Reference/2023/Law%20No.%20%289%29%20of%202023%20Regulating%20the%20Operation%20of%20Autonomous%20Vehicles.pdf • Library of Congress. (2025, June 24). United Arab Emirates: Climate law takes effect. https://www.loc.gov/item/global-legal-monitor/2025-06-24/

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