

American University Kyiv

A Capstone Project

DEVELOPMENT OF A MODEL FOR MARKET ENTRY DECISIONS AND REALLOCATION STRATEGY: A CONSULTING
PROJECT FOR IT SERVICE FIRMS

РОЗРОБКА МОДЕЛІ ДЛЯ ПРИЙНЯТТЯ РІШЕНЬ ЩОДО ВИХОДУ НА РИНОК ТА СТРАТЕГІЇ ПЕРЕРОЗПОДІЛУ:
КОНСАЛТИНГОВИЙ ПРОЄКТ ДЛЯ СЕРВІСНИХ ІТ КОМПАНІЙ

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Presented in Partial Fulfillment of the Requirements
for the Master's Degree

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2026

ABSTRACT

International delivery-center decisions are becoming more complex for IT service firms serving clients in the European Union and North America. Beyond labor cost and talent availability, firms must assess whether they are internally ready to expand, which locations best fit their delivery model, and how digital governance conditions affect operational efficiency and regulatory risk. This study addresses this challenge by developing a practical three-gate framework for international delivery-center expansion and reallocation.

The framework combines firm-level readiness assessment, comparative country evaluation, and a digital governance filter calibrated to the firm's regulatory exposure. The framework is developed and illustratively assessed using publicly disclosed annual report data from four multinational IT service firms (EPAM Systems, Infosys, Capgemini, and Globant) selected as delivery-model archetypes for 2020–2025, together with a seven-country dataset covering Denmark, Estonia, Poland, Ukraine, Brazil, India, and Uzbekistan for 2020–2024. These firms and countries are used as illustrative analytical cases rather than statistically generalizable samples.

The study finds that delivery-center decisions can be structured as a sequential signal-based protocol using public data and clear stopping rules. It shows that digital governance operates as a dual-channel signal: it both reduces administrative friction for foreign firms and increases compliance complexity for those with high EU client exposure. Signal convergence across firms helps distinguish market-wide shocks from firm-specific operational issues. When applied prospectively to the sample firms, the framework produces outputs broadly consistent with observed decisions while identifying clear scope boundaries. The project contributes a structured, managerially applicable decision tool and extends the international business discussion of digital governance by showing that it should be assessed not as a generic country advantage, but as a firm-conditioned factor shaped by client geography, regulatory exposure, and delivery model.

Keywords: digital governance, IT service offshoring, delivery-center location, e-government, GDPR compliance, decision framework.

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LIST OF ABBREVIATIONS

AMF - Autorité des marchés financiers (French Financial Markets Authority)	ITU - International Telecommunication Union
APAC – Asia Pacific	LATAM - Latin America
BCP - Business Continuity Plan	LGPD - Lei Geral de Proteção de Dados (Brazil)
CEE - Central and Eastern Europe	MCA21 - Ministry of Corporate Affairs Portal (India)
DEG - Digital Era Governance	MD&A - Management Discussion and Analysis
DPDP - Digital Personal Data Protection Act (India, 2023)	NEI - New Institutional Economics
DPIA - Data Protection Impact Assessment	NRI - Network Readiness Index
DTRI - Digital Trade Restrictiveness Index	OECD - Organization for Economic Co-operation and Development
EBIT - Earnings Before Interest and Taxes	OSI - Online Services Index (UN DESA)
EGDI - E-Government Development Index (UN DESA)	SCC - Standard Contractual Clauses (GDPR mechanism)
EMEA - Europe, the Middle East, and Africa	SEC - Securities and Exchange Commission (U.S.)
EU - European Union	SG&A - Selling, General, and Administrative
FDI - Foreign Direct Investment	STEM - Science, Technology, Engineering, and Mathematics
FY - Fiscal Year	WDI - World Development Indicators (World Bank)
GDPR - General Data Protection Regulation	WGI - Worldwide Governance Indicators (World Bank)
GII - Global Innovation Index (WIPO)	WIPO - World Intellectual Property Organization
GSLI - Global Services Location Index (Kearney)	WNS - WNS (Holdings) Limited
GTMI - GovTech Maturity Index (World Bank)	UNCTAD - United Nations Conference on Trade and Development
GMM - Generalized Method of Moments	UN DESA - United Nations Department of Economic and Social Affairs
ICT - Information and Communications Technology	UNESCO - United Nations Educational, Scientific and Cultural Organization
IDC - International Data Corporation	

CHAPTER 1. INTRODUCTION

The globalization of knowledge-intensive services has reshaped how multinational enterprises organize their operations. Over the past two decades, firms in the Information Technology (IT) services sector have increasingly adopted global delivery models, distributing activities such as software development, technical support, and digital services across multiple international locations. This organizational model enables firms to access specialized talent, optimize operational costs, and provide services continuously across time zones.

The expansion of global service-delivery networks is closely linked to the rapid growth of the digital economy. Gartner's 2024 worldwide IT-spending forecast values the global IT services market at approximately USD 1.6 trillion within a broader technology market valued at over USD 5.2 trillion (Gartner, 2024). The OECD reports that the ICT sector continues to grow at roughly three times the rate of the wider economy (OECD, 2024), and IDC projects that investments specifically targeted at digital transformation — the principal driver of new delivery-center demand — will approach USD 4 trillion by 2027 (IDC, 2024). As multinational IT service firms scale geographically to meet demand for advanced capabilities such as artificial intelligence, cybersecurity, and cloud engineering, competition among countries to attract international service operations has intensified, raising the strategic importance of delivery-center location decisions.

The sector's largest players, whose public disclosures provide the empirical evidence base for this study, have adopted this model most visibly. As of fiscal year 2024, EPAM Systems — headquartered in the United States with engineering origins in Eastern Europe — operated in approximately fifty countries with a workforce of 53,150 professionals. Infosys, founded in India and now serving clients across six continents, operated from fifty-nine countries with 323,578 professionals. Capgemini, a French-headquartered consulting and technology group, operated in fifty countries with year-end headcount reaching 423,405 following the WNS acquisition completed in late 2025. Globant, a Latin American digital services firm, expanded from eighteen countries in 2020 to thirty-one by 2025 and employed approximately 28,800 professionals. These firms are used as longitudinal case evidence because their annual filings disclose the data required to develop and simulate the framework.

Location decisions of this kind have long been studied in the international business literature under the heading of location advantages (Dunning, 1998), with the established finding that multinational firms select delivery locations based on combinations of talent availability, cost efficiency, and institutional quality (Bunyaratavej et al., 2007; Lewin et al., 2009). The institutional landscape that IT service firms now navigate, however, has changed materially since the foundational location studies were conducted. Two developments are central.

The rise of digital governance as a distinct institutional dimension is the first. Governments worldwide have invested in the digitization of public administration, deploying digital identity platforms, online tax and licensing systems, and interoperable data infrastructures that reshape how firms interact with the state. The United Nations E-Government Development Index (EGDI) global average rose from 0.552 in 2016 to 0.638 in 2024, reflecting a sustained cross-country trend toward digital administrative modernization. At the frontier, Estonia operates a digital state in which virtually all government-to-business interactions occur through integrated online platforms; Ukraine's EGDI rose from 0.712 to 0.882 between 2020 and 2024 despite the ongoing war; and Uzbekistan's GovTech Maturity Index score increased from 0.617 to 0.958 over the same period through deliberate reform investment. These changes represent material improvements in the institutional operating environment a foreign firm encounters when establishing and running a delivery center.

The second development is the rise of data regulation as a binding operational constraint. The European Union's General Data Protection Regulation (GDPR), effective since 2018, directly influences where IT firms serving EU clients can locate data-intensive operations. For firms in the 30–40 percent EU revenue transition zone identified in this study (Section 3.2.1), processing personal data in non-GDPR-adequate countries such as India, Ukraine, or Brazil requires Standard Contractual Clauses, Transfer Impact Assessments, and continuously staffed compliance functions, creating legal cost, limiting otherwise viable delivery locations, and making national data regulation a key factor in location decisions. India's Digital Personal Data Protection Act (2023) reinforces this constraint by introducing cross-border transfer restrictions that affect EU-client work routed through Indian delivery centers.

This study develops a sequential, evidence-based framework for delivery-center location decisions tailored to mid-sized IT service firms serving clients predominantly in EU and North American markets. The framework integrates internal firm readiness, country-level institutional and talent factors, and digital governance and regulatory considerations into a decision instrument designed for practical managerial use while grounded in established theory. Conceptually, the framework operationalizes a sequenced set of strategic signals — threshold-triggered financial signals at Gate 1, directional operational signals at Gate 2, and firm-conditioned regulatory signals at Gate 3 — converting publicly disclosed firm and country data into decision-triggering reads using data that is either publicly available or normally accessible to the firm's executive team. This framing situates the framework within the signal-based tradition in strategic management (Ansoff, 1975; Teece, 2007; Ocasio, 1997) and is developed in detail in Sections 2.7 and 3.2.3.

Mid-sized firms face a distinct expansion challenge. They have outgrown a single-country delivery model, yet they typically lack the financial slack, regulatory specialization, and geographic diversification capacity of large multinational providers. For such firms, the decision to open a new delivery center is consequential, recurring, and highly sensitive to both internal constraints and host-country institutional conditions. The practical decision instrument developed across this study and synthesized in Chapter 7 is designed to be self-applicable

by such firms, with quarterly review cycles, executive dashboards, and implementation plan that does not require external consultancy engagement.

The study is guided by a main research question and three sub-questions corresponding to the sequential layers of the framework.

Main RQ: How can multinational IT service firms integrate internal readiness, host-country conditions, and digital governance considerations into a decision framework for international delivery center expansion?

SQ1: What internal financial and operational thresholds indicate that a multinational IT service firm has sufficient capacity to establish a new delivery center?

SQ2: Which country-level institutional, talent, and digital ecosystem indicators best differentiate candidate host countries for IT service delivery center establishment?

SQ3: How does host-country digital governance maturity moderate the relationship between institutional location attractiveness and multinational IT service firms' actual delivery center location choices?

The three sub-questions are intentionally structured as a sequence rather than as parallel lines of inquiry. The first proposes whether a firm has sufficient internal capacity to pursue expansion at all. The second identifies how candidate countries can be compared once expansion is considered feasible. The third refines that comparison by examining how digital governance and data-regulatory exposure alter the attractiveness of otherwise viable locations. In this way, the framework reflects the logic of a managerial decision process: readiness precedes comparison, and comparison must be adjusted for firm-specific regulatory exposure.

This study adopts a comparative framework-building design based on two interconnected layers of analysis. The first layer examines firm-level readiness using publicly disclosed financial and operational information from four large IT service firms. The second layer applies a weighted country scoring model to seven countries using cross-country institutional, governance, talent, and digital ecosystem indicators. The analysis is comparative rather than econometric in nature. It does not test hypotheses through large-sample statistical inference; instead, it develops and applies a structured decision framework and evaluates how well its outputs align with observed expansion patterns in documented firm cases.

This study's primary purpose is practical: to develop a structured, evidence-based framework that mid-sized IT service firms can use to evaluate international delivery center locations in a rigorous and replicable way. This study treats delivery-center expansion as a signal-based strategic process rather than a one-time country-ranking exercise. Firms first detect and interpret internal and external signals, then operationalize selected signals into signposts and trigger points that structure expansion decisions across the three gates.

CHAPTER 2. LITERATURE REVIEW

This chapter reviews the scholarly and practitioner literature that provides the theoretical and empirical foundation for the integrated expansion decision framework developed in this study. The central argument built across these sections is as follows. Institutional quality has long been established as a location determinant for multinational investment. Digital governance, the digitization of public administration, online service delivery, and data regulatory frameworks, is a specific, measurable, and increasingly important dimension of that institutional quality. Yet no existing open sources framework translates this insight into a sequential, firm-specific decision instrument that integrates readiness assessment, country scoring, and governance moderation for IT service delivery center decisions.

2.1 Institutional Foundations: New Institutional Economics and Transaction Cost Economics

The starting point for understanding why host-country governance conditions shape multinational location decisions is the theoretical tradition of New Institutional Economics. North (1990) defines institutions as the formal and informal rules that structure human interaction and reduce uncertainty in economic exchange. Formal rules include constitutions, statutes, property rights regimes, and regulatory frameworks; informal constraints include social norms, customs, and self-enforced codes of conduct. Together, these rules determine the level of transaction costs within an economy. Efficient institutions reduce uncertainty and facilitate coordination, while weak or unpredictable institutions raise transaction costs and create barriers to investment and expansion.

North's framework has a direct implication for multinational location decisions: the quality of formal institutional arrangements in a host country — including the efficiency of regulatory procedures, the predictability of legal enforcement, and the transparency of administrative systems — determines how much friction a firm will encounter when establishing and operating a foreign subsidiary. This is not an abstract point. For an IT service firm establishing a delivery center in a new country, the cost of company registration, tax compliance, labor law adherence, and ongoing government interaction is partly determined by the quality of the institutions governing those processes. Countries with higher institutional quality impose lower administrative burdens, which translates directly into lower operating costs and lower risk.

Williamson (1985) extends this logic through Transaction Cost Economics (TCE). Williamson argues that firms organize their transactions — including decisions about where to locate activities — to minimize the costs of coordination, monitoring, and enforcement. These transaction costs arise from three sources: bounded rationality (actors cannot anticipate all contingencies), opportunism (counterparties may act in self-interest), and asset specificity (investments made for a particular relationship cannot be redeployed). The governance structure a firm chooses — whether to internalize an activity, contract it, or establish a foreign subsidiary — reflects a

calculation about which arrangement minimizes these costs given the institutional environment it faces. This logic connects institutional quality directly to the delivery center location decision: a country where regulatory compliance requires repeated, unpredictable interactions with government agencies imposes higher transaction costs than one where equivalent interactions are automated, standardized, and predictable.

The connection between TCE and digital governance is particularly direct. Digital governance — the deployment of online tax filing, digital business registration, e-licensing, and interoperable public data systems — is precisely a mechanism for reducing the transaction costs that Williamson identifies. Each digitized government-to-business interaction eliminates a discrete friction point: an in-person visit replaced by an online form, a multi-week approval process replaced by an automated decision, an opaque regulatory procedure replaced by a standardized digital workflow. For a multinational firm evaluating whether to establish a delivery center in Estonia versus Ukraine versus India, the difference in digital governance maturity is therefore not just a governance quality signal — it is a direct predictor of the administrative transaction costs the firm will bear in operation.

Together, North and Williamson establish the theoretical premise that institutional arrangements in a host country are material inputs to the location decision, and that digital governance represents a specific, measurable dimension of that institutional quality. The subsequent sections trace how this premise is developed in the international business and digital governance literatures.

2.2 Location Theory and the International Offshoring of IT Services

The question of where multinational firms locate their activities has been central to international business scholarship since the development of the Eclectic Paradigm. Dunning (1998) revisits the Ownership-Location-Internalization (OLI) framework to argue that location advantages — the L-component of OLI — have been undertheorized relative to ownership and internalization advantages. Writing in a period of accelerating globalization, Dunning argues that location advantages are increasingly determined by created assets — institutional infrastructure, knowledge ecosystems, regulatory environments, and network connectivity — rather than natural resource endowments. Efficiency-seeking foreign direct investment, the form most relevant to IT service delivery center decisions, is attracted to locations that minimize the total cost of operating a knowledge-intensive activity, including the institutional and administrative transaction costs embedded in the host country's regulatory environment. In this study, digital governance maturity is treated as precisely the kind of created institutional asset that Dunning argues should enter the location calculus for efficiency-seeking investment.

Meyer et al. (2009) operationalize the institutional dimension of location theory in an emerging market context. Integrating institutional theory with the resource-based view and analyzing 441 foreign subsidiaries across Egypt, India, South Africa, and Vietnam, they demonstrate empirically that institutional voids — weaknesses in legal enforcement, contract law, and administrative efficiency — increase transaction costs and force multinational firms to adapt their entry modes. Their study validates the use of World Bank Governance

Indicators as operational measures of the institutional environment that firms encounter, the same indicators used in Pillar 1 of the country scoring model developed in this study.

The offshoring literature provides additional specificity about what drives IT service delivery location decisions in particular. Lewin et al. (2009), drawing on the Global Offshoring Research Network survey of multinational firms, document a structural shift toward talent-seeking offshoring: firms are increasingly relocating not cost-sensitive routine functions but high-value knowledge activities including IT services and software development, driven by the availability of specialized technically trained human capital in locations where domestic supply exceeds local demand. This finding directly motivates the elevated weight assigned to the talent and human capital pillar in the scoring model. Bunyaratavej et al. (2007) confirm through regression analysis of cross-country offshoring data that labor cost differentials, human capital availability, and infrastructure quality jointly determine service offshoring destination choice, with no single factor dominating — countries must achieve adequate performance across all three dimensions to be competitive as delivery locations.

Contractor et al. (2010) extend the theoretical logic by arguing that advances in communication technologies have reconceptualized the firm, enabling the geographic fragmentation of high-value activities that classical transaction cost theory would have predicted to remain internally integrated. Where asset specificity and the risk of opportunism would once have kept knowledge-intensive functions within headquarters, digital connectivity has lowered coordination costs to the point where IT services can be effectively relocated internationally. The implication is that the set of viable delivery locations is no longer constrained by proximity, making institutional quality and governance maturity the differentiating factors among otherwise technically adequate candidate countries.

Lahiri (2022) provides synthesis-level confirmation through a meta-analysis of 121 empirical outsourcing studies: outsourcing to international locations improves firm performance primarily for non-core activities and when host locations provide appropriate institutional and cost advantages. Lahiri's finding that location characteristics moderate outsourcing performance outcomes directly motivates the country-level scoring component of this study. Andy et al. (2024) reinforces this conclusion through a systematic review of 221 FDI location studies, finding that institutional quality and digital infrastructure are consistently among the strongest predictors of investment location attractiveness across the contemporary literature, and identifying the integration of digital governance into location decision frameworks as an explicit research gap.

2.3 Digital Governance as Institutional Infrastructure

The theoretical literature reviewed above proposes that institutional quality shapes multinational location decisions, and that talent availability is the primary discriminator among candidate IT service delivery locations. This section examines digital governance, the deployment of digital technologies to redesign public administration and state-firm interactions, as a specific, measurable dimension of institutional quality that has undergone rapid and uneven development across countries since the early 2000s.

Dunleavy et al. (2008) provides the foundational theoretical framework for understanding digital governance as institutional redesign rather than technological modernization. Their concept of Digital Era Governance (DEG) argues that information technology is not a peripheral administrative tool but a structural institutional force that fundamentally reshapes the relationship between the state and economic actors. DEG identifies three core transformations: the reintegration of fragmented administrative functions into coherent digital platforms; needs-based holism that centers service delivery on the end-user's workflow rather than departmental boundaries; and digitization that converts previously paper-based, discretionary processes into structured, auditable, and predictable digital interactions. For multinational firms, the DEG transformation has a concrete implication: establishing a foreign subsidiary in a high-DEG environment replaces a series of unpredictable, person-dependent government interactions with standardized online processes with predictable timelines and transparent outcomes.

From the institutional perspective established in Section 2.1, digital governance can be understood as a mechanism for improving the formal institutional conditions that North (1990) identifies as determinants of transaction costs. Digital governance reforms increase transparency by making regulatory decisions traceable and auditable; reduce bureaucratic discretion by standardizing procedures; and lower administrative uncertainty by providing predictable digital workflows. Each of these improvements directly reduces the institutional transaction costs that Williamson (1985) identifies as central to governance structure choices. The theoretical connection is therefore not indirect: digital governance maturity is a predictor of the administrative transaction cost level a foreign firm will encounter in that country.

The IMD World Competitiveness framework reflects this understanding at the practitioner level. The IMD (2025) evaluates national competitiveness across four dimensions — economic performance, government efficiency, business efficiency, and infrastructure — many of which capture aspects of digital governance capacity including regulatory efficiency, digital infrastructure development, and administrative transparency. The convergence of IMD rankings with EGDI-based scoring in the upper tier of this study's country panel — Denmark, Estonia, and Poland consistently rank highly on both — provides cross-validation of the measurement approach. That Estonia, the world's most advanced digital state in which virtually all government-to-business interactions occur through integrated online platforms, scores highest on the governance pillar in this study's model is not a coincidence of index construction: it reflects a genuine institutional advantage that translates into lower operating costs and higher predictability for any foreign firm establishing operations there.

2.4 Digital Governance and Investment Attractiveness: Empirical Evidence

A growing body of empirical research provides cross-country evidence that digital governance maturity is a significant determinant of investment attractiveness. These studies translate the theoretical arguments of Section 2.3 into testable hypotheses and find consistent support across different samples, time periods, and estimation methods.

Nguyen et al. (2021) provide the most comprehensive cross-country analysis. Using an unbalanced panel dataset of 178 host countries from 2003 to 2018, they test the effect of e-government development — measured by the United Nations E-Government Development Index (EGDI), which combines indicators of online services, telecommunications infrastructure, and human capital — on foreign direct investment inflows. Employing both fixed-effects and System GMM estimation to address endogeneity and country-specific heterogeneity, the study finds that higher EGDI scores significantly increase FDI inflows. The mechanism identified is consistent with the TCE logic of Section 2.1: digital public services reduce administrative barriers, lower the time and cost of investor interactions with government, and enhance regulatory transparency, all of which improve the investment climate. For this study, the Nguyen et al. findings validate the inclusion of EGDI as a core indicator in Pillar 4 and support its interpretation as a predictor of location attractiveness rather than merely a governance quality indicator.

Vu (2023) provides regional external validity, analyzing 12 East and Southeast Asian economies between 2003 and 2020 using static panel regression with robustness controls for heteroskedasticity and autocorrelation. The results confirm that e-government development has a positive and statistically significant effect on FDI inflows in this region, consistent with the global findings of Nguyen et al. The consistency across two studies with different geographic scope, sample composition, and estimation approaches strengthens confidence in using EGDI as a location attractiveness predictor.

Zou et al. (2023) extend the analysis by examining whether e-government maturity improves the broader governance quality that FDI studies treat as a determinant. Analyzing cross-country panel data from 145 countries over 2003 to 2018 using fixed-effects regression and dynamic GMM, Zou et al. demonstrate that improvements in digital government systems significantly enhance government effectiveness and regulatory quality across all six World Governance Indicator dimensions. Importantly, they identify a threshold effect: the governance quality benefits of e-government are significantly larger for countries that have already achieved a minimum level of institutional and economic development. For this study, the threshold effect explains an otherwise puzzling pattern in the country scoring results: Uzbekistan's dramatic GTMI improvement from 0.617 to 0.958 over 2020 to 2025 does not produce a proportional composite score improvement, because the complementary institutional conditions that would amplify digital governance gains are not yet in place. Conversely, Estonia's already-strong institutional baseline means that its frontier EGDI scores compound with, rather than substitute for, its institutional quality.

Andy et al. (2024) synthesizes this literature through a systematic review of 221 empirical FDI location studies, confirming that institutional quality and digital infrastructure are consistently among the strongest predictors of investment location attractiveness across the full body of evidence. Critically, Andy's review identifies the integration of digital governance into location decision frameworks as an explicit research gap — providing direct academic justification for the present study's contribution.

2.5 Data Regulation, Firm Performance, and the Governance Constraint for IT Service Firms

The studies reviewed in Section 2.4 treat digital governance primarily as a positive pull factor: higher e-government maturity attracts investment and improves governance quality. This section examines a complementary and partially countervailing channel that is specific to IT service firms: data regulation. While positive digital governance reduces administrative transaction costs, restrictive data governance — data localization requirements, cross-border transfer restrictions, and regulatory ambiguity — operates as a production constraint that can offset the positive institutional effects of e-government maturity in the same country.

Xu&Jin (2024) provide the strongest causal evidence linking government digitalization to firm-level efficiency. Using China's staggered 2014 e-government pilot program as a natural experiment and applying a multi-period difference-in-differences design to panel data from Chinese A-share listed firms from 2012 to 2020, they find that government digitalization significantly reduces corporate investment inefficiency — the gap between actual and optimal capital allocation. The effect operates through two mechanisms: reduced administrative transaction costs and improved government administrative efficiency. Crucially, the effect is stronger for non-state-owned enterprises and in regions with robust digital infrastructure, suggesting that the firm-level benefit of government digitization is conditional on the broader ecosystem rather than a uniform government-action effect. For mid-sized IT service firms, which lack the regulatory affairs teams of large multinationals, this conditionality is particularly relevant: the administrative efficiency gains from digital governance are largest in the environments where those firms face the steepest compliance burden.

Liu and Feng (2025) complement this finding by identifying information asymmetry reduction as a distinct mechanism. Analyzing Chinese listed companies, they demonstrate that higher digital governance maturity reduces stock price synchronicity and analyst forecast errors — proxies for information asymmetry between firms and external stakeholders — and that this reduction translates into more efficient capital allocation. For multinational IT service firms evaluating delivery center locations, information asymmetry in the institutional sense — uncertainty about how regulatory decisions will be made, what compliance will cost, and how disputes will be resolved — is a material operating risk. Digital governance reduces that asymmetry by making regulatory processes transparent, documented, and traceable.

The data regulation dimension introduces a qualitatively different governance channel. Ferracane et al. (2020) analyze the impact of restrictive data policies on international trade in services using a gravity model applied to a panel of 64 countries across multiple service sectors from 2006 to 2015. Their Digital Trade Restrictiveness Index (DTRI) captures regulatory barriers to cross-border data flows, including data localization requirements and restrictions on international data transfers. The results show that restrictive data policies significantly reduce both imports and exports of data-intensive services, with the most pronounced negative effects in knowledge-intensive sectors including IT services. The mechanism is a direct TCE argument: data

localization requirements force foreign firms to establish and maintain local data infrastructure rather than leveraging centralized global systems, imposing fixed costs that reduce the scale economies of international service delivery.

Ferracane et al. (2021) extend this analysis to firm and industry productivity, demonstrating that stricter data policies significantly reduce value-added per worker in industries that rely on cross-border data flows. They frame data as a production factor in the digital economy, analogous to capital or labor: restrictions on data flows are therefore not merely regulatory compliance issues but constraints on the fundamental inputs required for IT service production. This framing provides the theoretical justification for treating data regulation as a component of the governance filter in Gate 3 of the framework developed in this study. For a firm generating more than 35 percent of revenues from EU clients (refer to section 3.2.1), routing personal data through a delivery center in a non-GDPR-adequate country requires Standard Contractual Clauses and associated legal overhead — precisely the kind of production constraint that Ferracane et al. document as reducing trade and productivity in IT-intensive sectors.

Together, the two governance channels — the positive administrative efficiency effect documented by Xu and Jin and Nguyen et al., and the restrictive data regulation effect documented by Ferracane et al. — produce a dual logic specific to IT service firms. A country can score highly on e-government maturity while simultaneously imposing data regulatory constraints that add compliance cost for EU-client-serving delivery operations. India exemplifies this combination: its EGDI score improved from 0.596 in 2020 to 0.666 in 2024, reflecting genuine digital governance investment, while the Digital Personal Data Protection Act of 2023 introduced new cross-border data transfer constraints with consequences specifically for EU-client work handled from Indian delivery centers. This dual logic, not captured in any single governance index, motivates the separate treatment of Pillar 4 governance scores and the Gate 3 data regulation filter in the analytical framework.

2.6 Practitioner Frameworks and the Bridge to Operational Decision-Making

The academic literature reviewed above identifies the theoretical mechanisms and empirical relationships that underpin delivery center location decisions. However, the framework developed in this study is also designed to be practically operable by mid-sized IT service firms, which means it must connect to the decision vocabulary and indicator sets that practitioners actually use. This section reviews the practitioner frameworks that validate the indicator choices made in the country scoring model and demonstrates their alignment with the academic evidence.

The Global Services Location Index (GSLI) developed by Kearney is the most widely used industry framework for evaluating country attractiveness for IT service delivery. The GSLI ranks countries across four dimensions: financial attractiveness, capturing labor costs and operating expenses; people skills and availability, measuring the size and quality of the technical workforce; business environment, reflecting regulatory stability and administrative efficiency; and digital resonance, capturing digital infrastructure and technology ecosystem

capacity (Kearney, 2023). The GSLI's four-dimensional structure maps directly onto the four-pillar architecture of the country scoring model in this study, providing practitioner validation for the indicator selection. Notably, the increasing weight Kearney assigns to digital resonance in successive index editions reflects precisely the trend toward digital governance as a competitive differentiator that the academic literature documents.

The OECD's analysis of digital services trade provides institutional validation for the data regulation dimension. The OECD (2023) notes that restrictions affecting cross-border digital services and data flows can significantly affect the ability of firms to operate internationally — a finding consistent with Ferracane et al. (2020, 2021) and directly relevant to the Gate 3 governance filter. Similarly, UNCTAD (2024) documents that investment in digital infrastructure and digital services has become a central component of global FDI flows, confirming that the academic relationship between digital governance and investment attractiveness identified in Section 2.4 has materialized in observable investment patterns.

These practitioner frameworks reinforce three specific indicator choices in the country scoring model. First, the inclusion of GSLI sub-scores in the talent and digital ecosystem pillars ensures that the academic construct of human capital availability is operationalized consistently with how practitioners measure it. Second, the EGDI, OSI, and GTMI indicators in the governance pillar capture the digital state capacity that both the Dunleavy DEG framework and the OECD practitioner guidance identify as material. Third, the World Bank WGI indicators in the institutional pillar reflect the same governance quality dimensions that Meyer et al. (2009) and Andy et al. (2024) identify as the most consistent empirical predictors of investment location attractiveness.

It should be noted that major management consulting firms (McKinsey, BCG, Deloitte) maintain proprietary location advisory practices that may incorporate sequential decision logic similar to the framework developed here. However, these proprietary tools are not publicly available, have not been subjected to peer review, and do not disclose their methodological assumptions or validation evidence.

2.7 Signals, Sensing, and Strategic Decision-Making under Uncertainty

The framework developed in this study can be situated within a signal-based view of strategic decision-making under uncertainty, a perspective that has not been explicitly integrated into the IT service location literature. Ansoff (1975, 1984) introduced the concept of weak signals as early, incomplete, and ambiguous indications of emerging change and argued that firms operating in turbulent environments should develop response capabilities before environmental shifts become fully visible. More recent research has refined this concept by showing that the weakness of a signal does not necessarily imply low importance; rather, it reflects the signal's distance from the observer's existing frame of reference, which makes it more difficult to identify, interpret, and act upon in time (van Veen & Ortt, 2021). Contemporary reviews further demonstrate that organizations do not benefit from signals automatically. Instead, value is created when signals are systematically detected, interpreted, and translated into organizational responses (Marinković et al., 2022; Zhao et al., 2024).

This perspective aligns closely with the dynamic capabilities tradition. Teece (2007) conceptualized strategic adaptation as a process of sensing, seizing, and transforming, through which firms detect emerging developments, commit to a course of action, and reconfigure resources in response. Similarly, the attention-based view suggests that not all signals receive equal managerial consideration; rather, organizational structures and routines shape which developments attract attention and which remain peripheral (Ocasio, 1997). Sensemaking scholarship adds a further interpretive layer by emphasizing that signals do not possess fixed strategic meaning in themselves. Instead, their significance is constructed through organizational interpretation processes that depend on context, prior experience, and internal structures (Daft & Weick, 1984; Weick, 1995; Weick et al., 2005). Recent evidence also suggests that strategic foresight affects organizational outcomes not only through scanning activity, but through the mediating roles of sensemaking and learning (Moqaddamerad & Ali, 2024).

Viewed through this lens, the three-gate framework developed in this study functions as a signal operationalization protocol: a structured managerial routine that converts dispersed firm-level and country-level information into sequenced decision signals for delivery center expansion and reallocation.

These research gaps emerge from this synthesis that the present study is designed to address. The first and primary gap is the absence of integration. The institutional economics literature, the location theory literature, the IT offshoring literature, and the digital governance empirical literature have developed largely in parallel without being synthesized into a unified decision framework. No existing instrument moves sequentially from firm financial readiness, through country-level institutional and talent scoring, to a governance filter calibrated against the firm's specific client revenue geography. One more gap is the treatment of digital governance as a direct predictor rather than a moderating variable. Existing studies show that digital governance affects investment inflows or firm efficiency, but do not model how the governance constraint differs across firms based on their exposure to EU regulatory requirements. The other gap is the neglect of firm-level readiness as a precondition. Location attractiveness models treat all firms as equally capable of acting on favorable country conditions, but the evidence from EPAM's 2022 geopolitical shock and Globant's 2025 borderline Gate 1 status illustrates that readiness is not a constant.

To address these gaps, this study develops a sequential three-gate framework that integrates firm-level financial and operational readiness, a four-pillar country scoring model grounded in the empirical location literature, and a digital governance moderation layer calibrated to firm-specific EU client revenue exposure. The framework is designed for the specific decision context of mid-sized IT service firms serving EU and North American clients, firms for whom the delivery center location decision is consequential and recurring but for whom no structured analytical instrument currently exists.

CHAPTER 3. METHODOLOGY

3.1 Research Design

This study uses a comparative framework-building design to develop and apply a practical decision instrument for international delivery center selection in the IT services sector. The design reflects the structure of the central research problem, which involves three linked questions: whether a firm is ready to expand, how candidate countries can be compared, and how digital governance conditions alter that comparison for firms with different regulatory exposure.

The first analytical component addresses firm readiness through a structured review of publicly disclosed financial and operational information from four multinational IT service firms over the period 2020–2025. The second component applies a country-level comparative scoring model to seven countries over the period 2020–2024 using institutional, talent, digital ecosystem, and governance indicators. The third component examines how digital governance modifies country attractiveness by interacting with firm-specific EU client exposure and associated compliance requirements.

This design is appropriate for a capstone project with a practical managerial objective. Rather than testing a single causal hypothesis through large-sample econometric analysis, the study develops a structured decision framework, applies it to observable firm and country evidence, and evaluates its usefulness as a managerial tool.

At a conceptual level, the framework developed in this study is best understood as a **signal operationalization protocol** - a structured, replicable procedure for converting publicly disclosed firm and country data into a sequenced set of decision-triggering signals for international delivery center expansion. The term is introduced here to name what the three-gate architecture actually does. Existing location decision frameworks in the IT services literature treat country-level indicators as static inputs in a weighted-scoring model. The approach developed in this study treats them as signals requiring structured interpretation: each gate specifies which data to treat as signal-bearing, what interpretation rule to apply, and in what logical order the signals must be processed before a decision is reached. The country scoring model described in subsequent sections is one output of this protocol, not the protocol itself. This framing grounds the framework in the signal-based tradition in strategic management (Ansoff, 1975; Teece, 2007) while specifying the procedural detail that tradition leaves open for domain-specific operationalization.

The methodology is organized around three sub-questions, each corresponding to one part of the framework.

Sub-question 1 (When?): What internal financial and operational thresholds signal that a multinational IT service firm has sufficient capacity to open a new delivery center? This component operationalizes a three-gate readiness model using publicly disclosed annual report data from four IT service firms across six years (2020–

2025). The framework treats the internal layer as a necessary precondition that must be satisfied before country evaluation begins.

Sub-question 2 (Where?): Which country-level indicators best discriminate among candidate locations for IT service delivery centers? This component applies a weighted four-pillar scoring model to a panel dataset of seven countries, producing composite scores and annual rankings.

Sub-question 3 (How?): How does a host country's digital governance maturity function as a location-specific institutional advantage or constraint? This component analyses the EGDI, OSI, and GTMI trends across the sample and evaluates their interaction with firm-level EU revenue exposure to determine when and how the governance filter activates as a binding constraint versus an administrative cost signal.

3.2 Dual-Layer Analytical Framework

The signal operationalization protocol introduced in Section 3.1 is realized through a dual-layer analytical architecture: an internal organizational readiness assessment based on publicly disclosed firm financial and operational data, and an external country evaluation model based on cross-country institutional and governance indicators. These layers are connected through the Gate 2 and Gate 3 mechanisms, in which internal operational signals shape the weighting of external pillar scores, and client revenue geography determines which governance constraints become operationally binding.

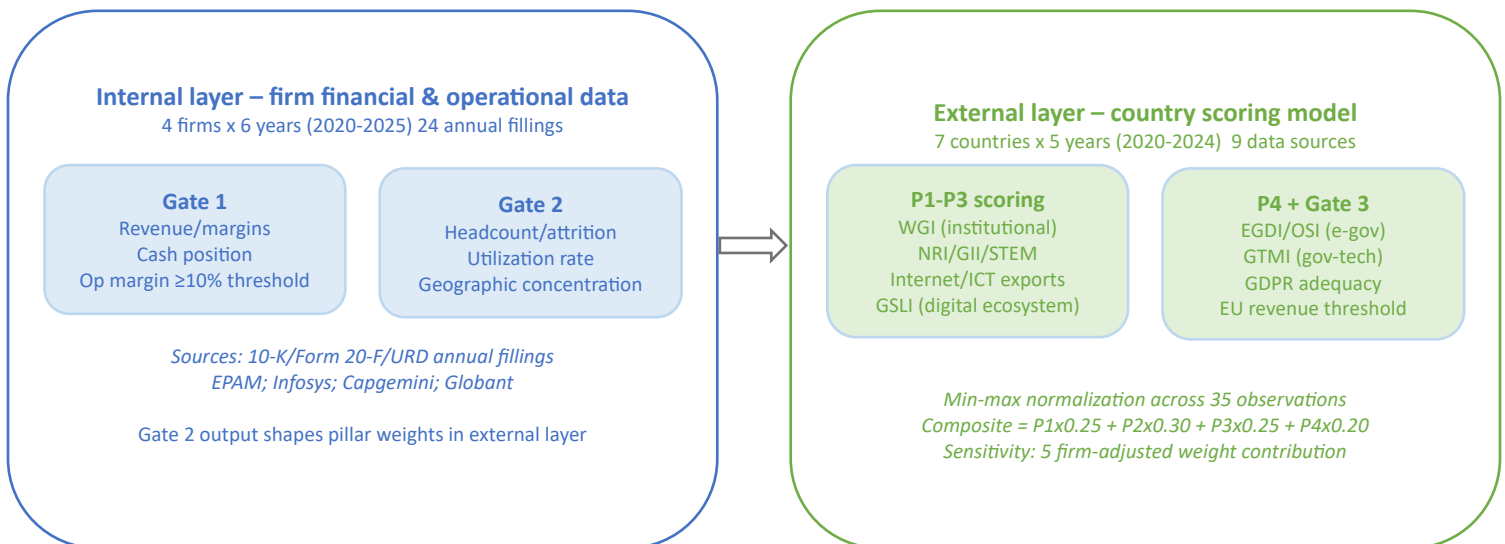


Figure 1. Dual-layer analytical design. The internal layer extracts financial and operational indicators from publicly disclosed annual filings. The external layer constructs a four-pillar composite country score from nine institutional data sources. Gate 2 operational signals from the internal layer shape the pillar weights applied in the external layer, connecting the two through a firm-specific governance moderation logic. Source: Author's design.

3.2.1 Internal layer — three-gate readiness model

The internal layer operationalizes the first sub-question through a sequential three-gate assessment applied to four firms' annual reports for the period 2020–2025.

Gate 1 evaluates financial readiness using seven indicators extracted from income statements and balance sheets: total revenues, cost of revenues, gross profit, SG&A expenses, EBIT (income from operations), net income, and cash and cash equivalents. Six derived ratios are computed from these: operating margin, net income margin, SG&A ratio, cost of revenue ratio, revenue per employee, and year-on-year revenue growth rate. The operational threshold for Gate 1 is a sustained operating margin above ten percent and cash reserves sufficient to cover an estimated eighteen to twenty-four months of new center establishment costs. This threshold is specified ex ante on the basis of two considerations independent of the study's sample data. First, industry operating margin benchmarks across IT service delivery model archetypes: large-scale offshore firms (Infosys, TCS) typically sustain 20–25 percent operating margins; European consulting-delivery hybrids (Capgemini, Atos) operate at 10–15 percent; and nearshore engineering firms (EPAM, Globant, Endava) at 9–14 percent (sources: firm filings outside the study sample; Gartner IT Services Operating Performance Benchmark, 2024). A ten percent threshold sits at the lower boundary of the viable range across these archetypes — the level below which sustained operations of a delivery-model firm are typically a sign that the model itself is under stress, regardless of which firm is in question. Second, the fixed-cost absorption logic of delivery center establishment: a new center requires 18–24 months of ramp-up investment before generating positive returns, requiring the firm to sustain operating profitability through the investment period without compromising existing delivery commitments (Contractor et al., 2010). A firm operating at margins below the long-run sectoral floor cannot reliably absorb that ramp-up cost without external financing or curtailment of existing commitments. The threshold value is therefore derived from sources external to the study sample and from first-principles fixed-cost logic; its coherence with the study's in-sample data is examined separately in Chapter 5 as a sample-consistency check, not as independent validation. A firm failing this gate is assessed as financially unready for expansion regardless of country attractiveness scores.

The ten percent operating margin represents what this study terms a **signal activation threshold**: the specific quantitative boundary at which a continuous underlying indicator becomes a binding decision signal. Below the activation threshold, operating margin carries information (it is observable and informs ongoing monitoring) but does not trigger a gate response. At or below the threshold, it activates a Gate 1 response that terminates the evaluation sequence. The framework uses three activation thresholds, introduced across Gates 1 and 3 and summarized together in Section 3.2.3: the ten percent operating margin (Gate 1 financial), the eighteen-to-twenty-four-month cash runway (Gate 1 liquidity), and the thirty-five percent EU revenue share (Gate 3 governance filter).

Gate 2 assesses operational pressure signals that indicate both whether expansion has become strategically necessary and what constraints it must satisfy. Indicators include total headcount, delivery professional utilization rate, voluntary attrition rate, and the number of countries with active operations. Gate 2 outputs are not binary — they are directional. A firm with high workforce geographic concentration is not merely

ready to expand but is under strategic pressure to diversify, which actively shapes the profile of candidate countries evaluated in the external layer. The 2022 simultaneous attrition peaks across all four sample firms (EPAM 13.8 percent, Infosys 27.7 percent, Capgemini 25.5 percent, Globant 16.7 percent) exemplify a macro-level Gate 2 trigger.

Gate 3 examines client demand and geographic revenue signals that translate into directional preferences for specific delivery geographies and activate the digital governance filter. Key indicators are revenue breakdown by major geography (Americas, EMEA, APAC), year-on-year growth rate by segment, and qualitative expansion event information drawn from the Management Discussion and Analysis section of each annual filing.

The governance filter activation threshold is operationalized as a transition zone with a midpoint at approximately 35 percent EU client revenue. This formulation is grounded in three considerations.

First, the structure of GDPR compliance practice. Below approximately 25 percent EU revenue, Standard Contractual Clause documentation requirements affect a limited number of client engagements and can typically be managed through general counsel review and template-based contracting (Bird & Bird, 2024). Between approximately 25 and 30 percent, the compliance burden increases proportionally but remains absorbable within standard legal operations. Between approximately 30 and 40 percent, the transition zone, the cumulative volume of SCC-requiring data transfers, transfer impact assessments under the Schrems II framework, and Article 30 records-of-processing obligations begins to require dedicated process infrastructure. Above approximately 40 percent EU revenue, the practitioner literature (DLA Piper, 2024; IAPP, 2024) and observed firm practice both indicate that GDPR compliance has moved from a periodic legal-team function to a continuously staffed compliance program with a Data Protection Officer (Article 37 GDPR), formalized transfer impact assessment workflows, and DPO-level review of every non-EU delivery commitment, at which point the governance constraint becomes a material factor in delivery center location decisions rather than a background administrative cost.

Second, the four-firm dataset is consistent with this transition-zone structure. EPAM (37.9 percent EU revenue in 2024) and Capgemini (63.3 percent) operate dedicated DPO functions and conduct DPIA reviews of all non-EU delivery commitments. Infosys (27.6 percent) operates GDPR compliance through its general legal function with periodic external audit support. Globant (17.3 percent in 2024, rising) currently operates SCC compliance as a routine contractual matter without a dedicated DPO function. The qualitative pattern is consistent with the 30–40 percent transition zone identified from external practitioner sources, but the four-firm sample is too small to confirm the transition midpoint statistically.

Third, the threshold is offered as a working hypothesis for empirical refinement rather than a confirmed empirical constant. The framework treats EU revenue exposure as a continuous variable that conditions Gate 3 signal interpretation; the 30–40 percent transition zone formalizes the practical regime change in a way that is open to revision as larger-sample evidence accumulates. Section 8.3.2 identifies the specific empirical test, a

panel-regression interaction term between EGDI and EU revenue share across twenty to thirty candidate delivery countries, that would either confirm the transition midpoint at approximately 35 percent or identify a different value with inferential support. For practical application within the framework as currently specified, firms with EU revenue in the 30–40 percent transition zone should conduct a firm-specific compliance cost assessment combining their actual SCC documentation burden, transfer impact assessment requirements, and DPO staffing structure, rather than relying on a single threshold value alone.

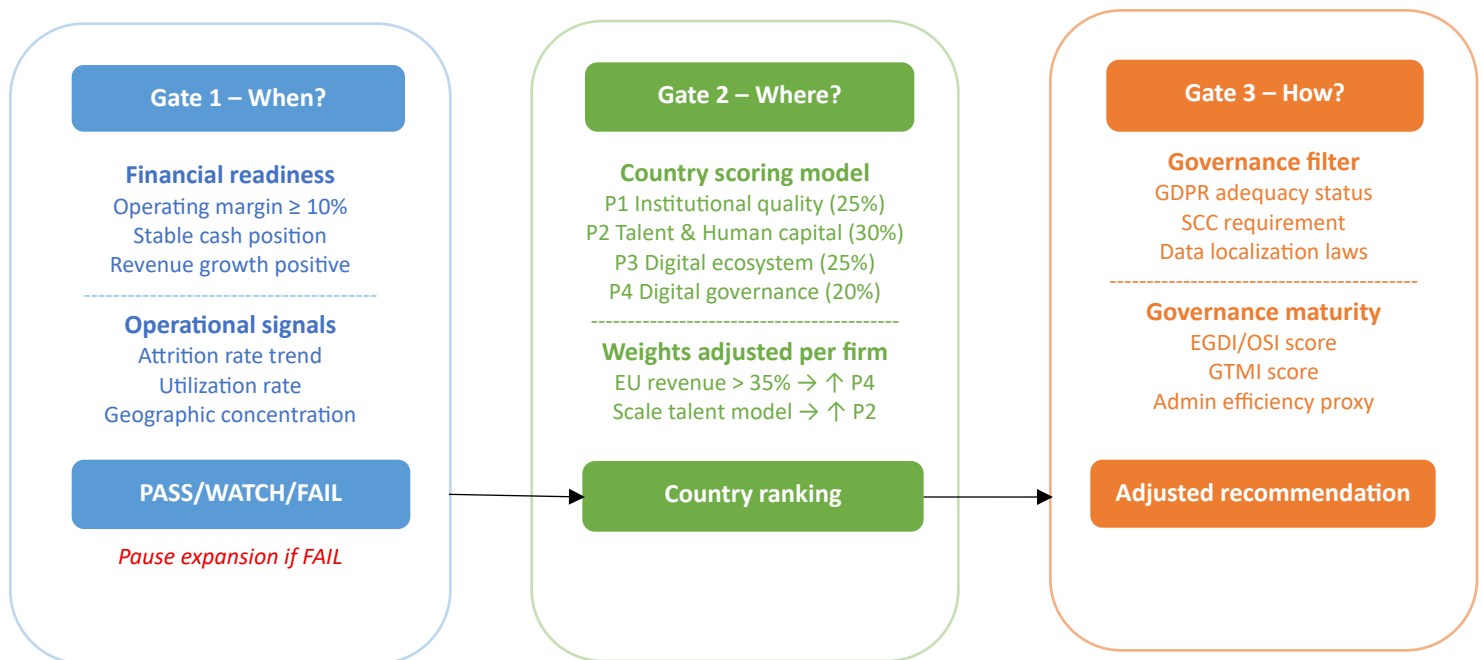


Figure 2. The three-gate sequential expansion decision framework. Gate 1 assesses firm-level financial and operational readiness. Gate 2 applies the four-pillar country scoring model with firm-adjusted weights. Gate 3 activates the digital governance and data regulation filter conditioned on the firm’s EU client revenue exposure. Source: Author’s framework.

3.2.2 External layer — country scoring model

The external layer addresses the second and third sub-questions through a weighted four-pillar composite scoring model applied to a panel of seven countries across five years (2020–2024). The model produces a composite score for each country-year observation, normalized between zero and one, where higher values indicate greater attractiveness as an IT service delivery location. Pillar weights are adjusted in the integrated analysis to reflect firm-specific Gate 2 and Gate 3 signals, enabling a sensitivity analysis of ranking robustness across different firm contexts.

3.2.3 Signal taxonomy and Gating logic

The three gates described in Sections 3.2.1 and 3.2.2 are not simply three successive filters applied to the same type of input. Each gate processes a structurally different type of signal and applies a correspondingly different interpretation rule. This signal taxonomy by gate is summarized as follows.

Gate 1 processes **threshold-triggered signals**. Financial indicators (operating margin, cash reserves) are evaluated against author-calibrated quantitative boundaries. The output is binary (pass or watch) even though the underlying data is continuous. A threshold-triggered signal activates only when the indicator crosses a defined boundary and is inactive at all other times.

Gate 2 processes **directional signals**. Operational indicators (attrition, utilization, geographic concentration) are interpreted against market benchmarks and internal trajectories. The output is not binary but directional: it indicates both whether expansion is strategically necessary and what kind of country profile the firm's operational pressure requires. A directional signal carries both an activation component and a vector component.

Gate 3 processes **conditional signals**. Regulatory and client-geography indicators (EU revenue share, governance compliance exposure) have strategic meaning that depends on firm-specific characteristics. A conditional signal is therefore not a property of the country being evaluated alone, nor of the firm alone, but of their interaction. The same country governance profile produces different Gate 3 signals for different firms, which is the technical realization of signal conditioning described in the digital governance literature (Ferracane et al., 2020, 2021; Xu and Jin, 2024).

The sequential architecture reflects the logical ordering of signal types. Threshold-triggered readiness signals must be processed before directional operational signals become interpretable; directional signals must be processed before firm-specific conditional signals become binding.

The three signal types in the taxonomy are not processed in parallel but in a defined sequence. This **sequential signal gating** is the framework's core architectural logic: threshold-triggered signals at Gate 1 are evaluated first; directional signals at Gate 2 are evaluated only if Gate 1 produces a pass; conditional signals at Gate 3 are evaluated only when both previous gates have been processed. Sequential gating distinguishes the framework from parallel multi-criteria scoring models in which all indicators are evaluated simultaneously and aggregated into a single score. The sequential architecture reflects the logical structure of the decision itself: country selection is not meaningful until readiness is established, and firm-specific conditioning of country signals is not meaningful until operational pressure has been interpreted. Attempting to evaluate Gate 3 signals in parallel with Gate 1 signals produces a category error — a country recommendation for a firm that is not in a position to act on it.

3.3 Firm Sample and Data Sources

3.3.1 Firm selection

Four multinational IT service firms were selected through purposive theoretical sampling (Patton, 2002) to represent distinct delivery model archetypes. The selection criterion was maximum institutional variation: the four firms differ in origin country, revenue scale, delivery model logic, and primary client geography, ensuring that

any pattern identified across all four is robust to firm-level idiosyncrasies rather than an artefact of a single business model.

Firm	Origin	Delivery model	Revenue range (2020–2025)	Reporting currency / FY	Primary filing type
EPAM Systems	Ukraine/Belarus (CEE)	Engineering nearshore	\$2.7B → \$5.5B	USD / Calendar year	10-K (SEC EDGAR)
Infosys	India	Large-scale offshore	\$12.8B → \$19.3B	USD / Apr 1–Mar 31	Form 20-F (SEC EDGAR)
Capgemini	France (EU)	Consulting + offshore	€15.8B → €22.5B	EUR / Calendar year	Universal Registration Document (AMF)
Globant	Argentina (LATAM)	Nearshore digital	\$0.8B → \$2.5B	USD / Calendar year	Form 20-F (SEC EDGAR)

Table 3.1. Firm sample characteristics

This typology provides four distinct empirical anchors for the framework. EPAM represents the CEE engineering-led model that experienced the most severe Gate 2 disruption in the dataset (the 2022 Russian invasion of Ukraine). Infosys represents the large-scale India-origin offshore model, offering the deepest longitudinal view of talent market dynamics. Capgemini, as a French-headquartered EU-native firm, provides a contrasting governance profile in which GDPR is a baseline operational norm rather than an external constraint. Globant, as the smallest and highest-growth firm in the sample, tests whether the Gate 1 threshold has genuine discriminatory power at firm boundaries — which it does, as evidenced by its borderline pass in 2025.

3.3.2 Firm data extraction procedure

Financial and operational data were extracted systematically from twenty-four annual filings covering all four firms across the period 2020–2025 (with Infosys fiscal years FY2020–FY2025 ending 31 March of each respective year). EPAM and Infosys filings were obtained as PDF documents from SEC EDGAR; Capgemini Universal Registration Documents were obtained from the AMF (Autorité des marchés financiers) filing system; Globant 20-F filings were obtained from SEC EDGAR.

Text extraction was performed programmatically using pdftotext and pandoc to convert all filings to structured plain text, enabling systematic keyword-based location of the income statement, balance sheet, human capital section, and geographic segment reporting table within each filing. Where data appeared in tabular format with complex column layouts (common in 10-K filings), the specific financial figures were cross-validated against the narrative Management Discussion and Analysis section of the same filing to ensure extraction accuracy.

The following indicators were extracted per firm per year: total revenues; cost of revenues; gross profit; selling, general and administrative expenses; depreciation and amortization expense; income from operations (EBIT); net income; cash and cash equivalents; total headcount; delivery professional utilization rate (where

disclosed); voluntary attrition rate; number of countries with active operations; and revenue segmented by major geography. All extracted values were verified against prior-year comparatives disclosed in each filing.

Two currency and fiscal year conventions require methodological acknowledgment. First, Capgemini reports in euros, while the three other firms report in US dollars. For the internal layer analysis (Gate 1 financial thresholds), no currency conversion is applied; percentage-based ratios (operating margin, SG&A ratio) are currency-neutral and directly comparable across firms. For the cross-firm revenue comparison, absolute figures are presented in their original currencies with an explicit note that they are not directly comparable. Second, Infosys's fiscal year ends 31 March, meaning its FY2022 results (April 2021 to March 2022) partially overlap calendar year 2021 and calendar year 2022. The analysis attributes Infosys FY results to the calendar year in which the fiscal year ends — FY2022 is therefore mapped to 2022 in all cross-firm comparisons.

3.4 Country Sample and Selection Rationale

The seven countries analyzed in this study are an illustrative test sample for framework construction and demonstration, not a generalizable shortlist of recommended delivery locations. Their purpose is to show that the four-pillar scoring model can be built and run on real institutional and governance data spanning the full observable maturity range, from a frontier digital state (Denmark) to an early-stage reformer (Uzbekistan), and that the model produces interpretable, firm-specific outputs when combined with the Gate 3 governance filter. The findings reported in Chapters 4 and 5 are therefore properties of the framework as exercised on this sample (constructability, rank stability, dual-channel signal differentiation), not population-level recommendations about which countries firms should select for delivery operations. Application of the framework to a firm's actual decision context requires extending the country panel to candidates relevant to that firm's delivery geography, as discussed in Section 8.3 and in the practical guidance in Section 7.5.

Seven countries were selected through purposive theoretical sampling to represent the full range of institutional development, digital governance maturity, and IT service market participation relevant to the study's research context. The selection follows a stratified comparative logic, with countries distributed across three tiers of digital governance maturity and two geographic clusters (EU-member/EU-adjacent and non-EU emerging markets).

Country	Digital governance tier	IT services role	Regulatory context	Analytical purpose in study
Denmark	Frontier (EGDI #1 globally)	Governance benchmark	EU member / GDPR-native	Upper reference benchmark; not a cost-viable delivery candidate
Estonia	Frontier (EGDI #2–8)	EU digital state model	EU member / GDPR-native / digital state	Primary delivery candidate; tests whether digital governance is a positive differentiator
Poland	Advanced (EGDI #24–37)	Major EU IT outsourcing hub	EU member / GDPR-compliant	Primary delivery candidate; large talent pool; EU governance compliance
Ukraine	Reforming (EGDI #55–42)	Established IT outsourcing; war resilience case	Non-EU; no GDPR adequacy decision	Tests governance-stability trade-off; unique geopolitical shock case

Country	Digital governance tier	IT services role	Regulatory context	Analytical purpose in study
Brazil	Developing (EGDI #46–50)	Regional IT market / Globant home base	LGPD (2020); no EU GDPR adequacy	Large emerging market; tests LGPD as GDPR-analogous framework
India	Developing (EGDI #83–96)	Global outsourcing leader; Infosys / Capgemini primary	DPDP Act 2023; no EU adequacy	Scale-talent trade-off; tests governance constraint versus talent advantage
Uzbekistan	Emerging (EGDI #69–87)	New digital governance reformer	No data adequacy; limited IT law framework	Lower-bound reference; tests reform trajectory hypothesis

Table 3.2. Country sample characteristics and analytical purpose

This selection spans the full observable range of digital governance maturity within the study's country panel, from Denmark, the global leader in e-government with an EGDI of 0.985 in 2024, to Uzbekistan, which began the period at 0.617 and rose to 0.751 through active reform. The four countries relevant as actual or potential delivery locations for the four sample firms, Estonia, Poland, Ukraine, and India, are all included, enabling direct framework validation against observed firm behavior.

3.5 Country-Level Indicator Framework

The country-level dataset was constructed from nine internationally recognized data sources, producing a panel of 35 observations (7 countries × 5 years: 2020–2024) with 20 raw indicator columns. Table 3.3 provides a complete inventory of sources, indicators, measurement frequency, and the imputation strategy applied to gaps arising from non-annual publication cycles.

Source	Indicators	Frequency	Years measured	Gap imputation strategy
World Bank — Worldwide Governance Indicators (WGI)	Government Effectiveness, Regulatory Quality, Rule of Law, Political Stability (0–100 scores)	Annual	2020–2024	No gaps; fully observed
World Bank — World Development Indicators (WDI)	ICT service exports (% of service exports, BoP); Internet users (% of population); ICT specialists (% of total employment); Tertiary education enrolment	Annual	2020–2024	Minor gaps in Tertiary enrolment and ICT employment filled by within-country linear interpolation (max 2 consecutive missing years)
UNESCO Institute for Statistics	STEM graduates (% of tertiary graduates, both sexes)	Annual	2020–2024	Minor gaps filled by within-country linear interpolation
Portulans Institute — Network Readiness Index (NRI)	NRI rank (global); NRI score (0–100)	Annual	2020–2025	No gaps; fully observed
WIPO — Global Innovation Index (GII)	GII rank (global)	Annual	2020–2025	No gaps; fully observed
World Bank / ITU — GovTech Maturity Index (GTMI)	GTMI economy score (0–1)	Biennial	2020, 2022, 2025	2021: carry forward from 2020; 2023–2024: carry forward from 2022. Per UN DESA methodology guidance: digital governance capacity changes slowly between measurement cycles, making forward-fill the standard practice

Source	Indicators	Frequency	Years measured	Gap imputation strategy
UN DESA — E-Government Development Index (EGDI)	EGDI national score (0–1); Online Services Index (OSI, 0–1)	Biennial	2020, 2022, 2024	2021: carry forward from 2020; 2023: carry forward from 2022. EGDI captures structural e-government capacity; inter-survey changes are gradual and forward-fill introduces minimal bias
Kearney — Global Services Location Index (GSLI)	Financial attractiveness, People and skills, Digital resonance, Business environment sub-scores; total GSLI score	Biennial	2021, 2023	2020: backfill from 2021; 2022: linear interpolation between 2021 and 2023; 2024: carry forward from 2023. Uzbekistan (absent from 2021 index): all years use 2023 value. GSLI captures slow-moving structural conditions suitable for interpolation (Little&Rubin, 2002)

Table 3.3. Country-level data sources, indicators, and imputation strategy

The imputation decisions described in Table 3.3 follow three methodological principles. First, imputation is applied only where the underlying concept is structurally stable between measurement cycles — that is, where the unmeasured value is unlikely to have changed substantially from the last observation. E-government maturity and governance technology capacity satisfy this condition; exchange rates or equity prices would not. Second, the imputation method is matched to the data structure: carryforward is used for survey-based indices measured every two years; linear interpolation is used for continuous metrics where two bracketing observations exist. Third, all imputed values are clearly flagged in the dataset with source labels (measured, carried-forward, interpolated) so that sensitivity analyses can be performed excluding imputed observations if required.

3.6 Composite Country Scoring Model

3.6.1 Pillar structure and indicator assignment

The country-level indicators are organized into four analytical pillars, each corresponding to a distinct dimension of location attractiveness for multinational IT service delivery. The pillar structure follows the theoretical logic established in the literature review: institutional economics theory grounds Pillar 1; human capital and talent availability theory grounds Pillar 2; digital infrastructure research grounds Pillar 3; and digital governance theory grounds Pillar 4.

The standard pillar weights were set based on three considerations. First, the higher weight assigned to Pillar 2 (30 percent) reflects the centrality of talent availability in multinational IT services location decisions, consistently identified as the primary determinant in both academic studies (Bunyaratavej et al., 2007; Lewin et al., 2009) and practitioner frameworks (Kearney, 2023). Second, Pillars 1 and 3 receive equal weight (25 percent each) reflecting the joint importance of institutional stability and digital infrastructure for service delivery operations. Third, Pillar 4 receives the lowest standard weight (20 percent) but the highest sensitivity to firm context — its weight is adjusted upward for firms with high EU revenue exposure in the integrated analysis, reflecting the operational binding force of GDPR compliance requirements.

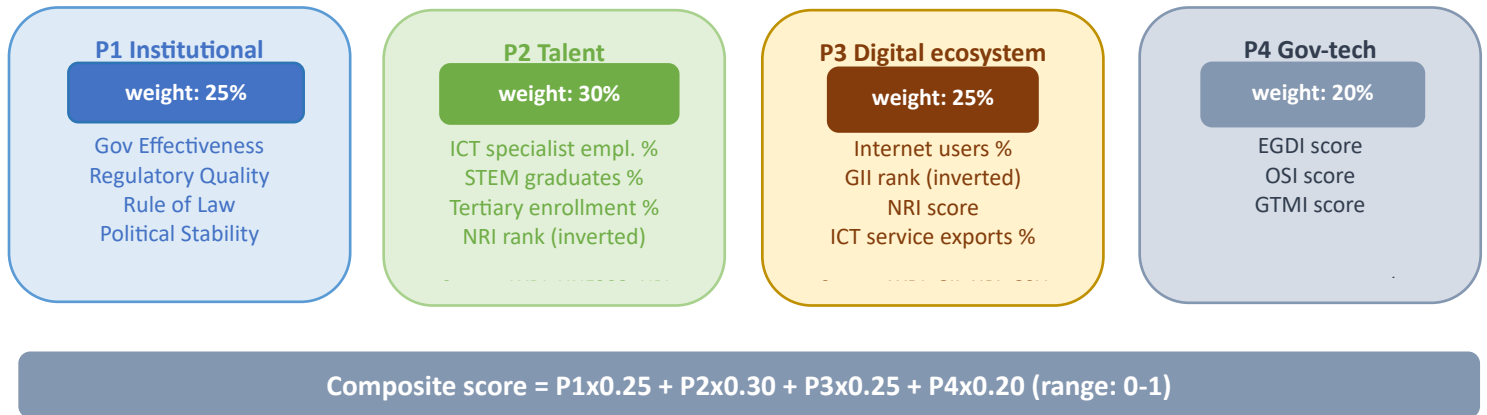


Figure 3. Four-pillar scoring model. All indicators are min-max normalized across all 35 panel observations. Rank-based indicators (NRI, GII) are inverted so that higher scores indicate better performance. The composite score is a weighted sum of the four pillar scores. Pillar weights are adjusted in the integrated analysis to reflect firm-specific Gate2 and Gate3 signals. Source: Author's design.

3.6.2 Normalization procedure

All raw indicators are normalized to a common 0–1 scale using min-max normalization applied across all 35 observations (7 countries \times 5 years) simultaneously. This panel-wide normalization ensures that scores are comparable both cross-sectionally (across countries within a year) and longitudinally (within a country across years). For a raw indicator value x , the normalized score is:

$$n(x) = (x - MIN) / (MAX - MIN)$$

where MIN and MAX are computed across all 35 panel observations for that indicator. For rank-based indicators (NRI rank and GII rank), where a lower rank number indicates a better position, the formula is inverted to ensure consistent direction (higher normalized score = better performance):

$$n(rank) = 1 - (rank - 1) / (N - 1)$$

where N is the total number of countries in the respective index (140 for NRI; 135 for GII). Under this formula, a country ranked first receives a normalized score of 1.0, and a country ranked last receives a normalized score of 0.0.

Panel-wide normalization is a defensible methodological choice for the comparability requirements of this study, but it carries an analytical cost that should be acknowledged. Under panel-wide normalization, the country with the highest raw value of any indicator across the 35 panel observations defines the upper boundary ($n = 1.0$) and the country with the lowest raw value defines the lower boundary ($n = 0.0$) for that indicator; all other observations are positioned relative to these two anchor cases. In this study's panel, Denmark frequently anchors the upper boundary on institutional and digital governance indicators, and Uzbekistan frequently anchors the lower boundary on talent and digital ecosystem indicators — a structural property reflected in the explicit framing of these two countries as the upper reference benchmark and lower-bound reference case respectively (Sections 4.1.1 and 4.1.4). Adding or removing an anchor country would shift the normalization range

for all other observations on the affected indicators; analogously, replacing an anchor country with one that scored further from the panel's center would compress the relative scores of the remaining countries. The robustness check reported in Section 4.3 examines whether the country rankings derived from the panel-wide procedure are sensitive to alternative normalization schemes that do not depend on panel-wide anchors.

3.6.3 Pillar score calculation

Each pillar score is the equal-weighted average of its constituent normalized indicators. Indicators within a pillar receive equal weight by design: each pillar is constructed so that its indicators function as substitutable measures of the same underlying construct, with the explicit purpose that any one indicator could in principle be replaced by another suitable indicator without changing the pillar's analytical meaning. Under this construction, equal weighting is the appropriate aggregation rule, consistent with the standard treatment of composite indicators built from substitutable measures (OECD/JRC, 2008). Pillar weights at the composite level (Section 3.6.4) are set differently because the four pillars measure four substantively distinct dimensions of location attractiveness rather than substitutable measures of one construct.

$$P1 = (n(\text{GovEff}) + n(\text{RegQual}) + n(\text{RuleLaw}) + n(\text{PolStab})) / 4$$

$$P2 = (n(\text{ICTEmp}) + n(\text{STEM}) + n(\text{Tertiary}) + n(\text{NRI_rank})) / 4$$

$$P3 = (n(\text{Internet}) + n(\text{GII_rank}) + n(\text{NRI_score}) + n(\text{ICTexp})) / 4$$

$$P4 = (n(\text{EGDI}) + n(\text{OSI}) + n(\text{GTMI})) / 3$$

3.6.4 Composite score and ranking

The composite country score is a weighted sum of the four pillar scores using the standard weights:

$$\text{Composite} = P1 \times 0.25 + P2 \times 0.30 + P3 \times 0.25 + P4 \times 0.20$$

Countries are then ranked from 1 (highest composite score) to 7 (lowest) within each year. In the integrated analysis, the pillar weights are adjusted based on firm-specific Gate 2 and Gate 3 signals to produce firm-adjusted rankings, which are compared against observed firm expansion behavior to validate the framework's predictive accuracy.

3.6.5 Sensitivity analysis — firm-adjusted weights

The standard weighting scheme is subjected to a sensitivity analysis by recomputing the composite score under four firm-specific weight configurations, each derived from the Gate 2 and Gate 3 signals of the respective firm. A firm with high EU revenue exposure (Capgemini, 63 percent; EPAM, 38 percent) receives an upward adjustment to the P4 weight (governance maturity) to reflect the binding operational impact of GDPR compliance on non-EU delivery locations. A firm with a large-scale talent-intensive model (Infosys) receives an upward adjustment to the P2 weight. A firm with a technology-intensive nearshore model and rapidly growing EU exposure (Globant) receives an upward adjustment to P3 (digital ecosystem).

Weight configuration	P1	P2	P3	P4	Rationale
Standard	25%	30%	25%	20%	Baseline neutral configuration
EPAM-adjusted	20%	30%	25%	25%	EU revenue 38% activates GDPR governance filter

Weight configuration	P1	P2	P3	P4	Rationale
Infosys-adjusted	25%	35%	20%	20%	Scale model requires large deep talent pools; India primary delivery reduces P3 priority
Capgemini-adjusted	20%	25%	25%	30%	EU-native, 63% EU revenue; EU AI Act compliance critical
Globant-adjusted	25%	30%	30%	15%	Tech-forward clients require strong digital infrastructure; EU revenue not yet dominant

Table 3.4. Standard and firm-adjusted pillar weight configurations

3.7 Analytical Strategy

The empirical analysis proceeds through four sequential stages, each corresponding to a distinct analytical purpose.

Stage 1 — Internal readiness assessment (SQ1). Gate 1 financial indicators and Gate 2 operational signals are extracted and computed for all four firms across 2020–2025. The Gate 1 threshold is applied annually to determine readiness status. Gate 2 signals are classified as low pressure, growth momentum, or crisis based on the combination of attrition trajectory, utilization rate, and geographic concentration. The output of this stage is a readiness timeline identifying when each firm entered a state of active expansion capacity.

Stage 2 — Country scoring and ranking (SQ2). The composite scoring model is applied to the full 35-observation panel under the standard weight configuration. Countries are ranked annually and trend changes are documented. The 2024 snapshot is taken as the primary reference year for the country selection model output, as it represents the most recent fully observed year across all data sources.

Stage 3 — Digital governance moderation analysis (SQ3). EGDI, OSI, and GTMI trends are analyzed in relation to firm EU revenue exposure. The governance filter activation threshold is operationalized at 35 percent EU revenue, above which GDPR Standard Contractual Clause obligations become a material operational cost for non-EU-member delivery countries. Each firm-country combination is classified as GDPR-compatible (EU member), SCC-required (non-member with LGPD or DPDP-analogous framework), or high governance risk (no data adequacy framework).

Stage 4 — Illustrative framework validation. The framework is assessed against twelve documented expansion events drawn from the MD&A sections of the four firms' annual filings. For each event, the analysis examines whether the framework's main directional signal corresponds to the observed decision. The purpose of this stage is not statistical validation in a predictive sense, but an illustrative assessment of whether the framework is broadly consistent with documented firm behavior.

3.8 Methodological Limitations

Four limitations must be acknowledged in interpreting the results of this study.

First, the internal layer relies exclusively on publicly disclosed financial and operational data. Internal metrics that are not publicly reported, including billable-to-non-billable ratios, seniority mix, pipeline data, and site-specific utilization, are absent from the dataset. The Gate 1 and Gate 2 indicators therefore capture the observable financial and operational surface of firm readiness rather than the full internal decision-making

environment. Expert interviews would have allowed deeper access to these proprietary signals; the absence of this data source represents a trade-off between methodological accessibility and internal validity.

Second, the country panel covers seven countries across five years, yielding 35 observations. This sample size precludes large-sample econometric techniques such as panel regression or formal mediation analysis. The study is explicitly positioned as a comparative framework-building study, and the analytical strategy is calibrated accordingly. Claims of statistical significance are not made; the validation analysis (Stage 4) provides descriptive rather than inferential evidence of framework accuracy.

Third, biennial indicators (GTMI, EGDI, GSLI) are imputed for non-measurement years using carry-forward and interpolation techniques. While these techniques are standard practice in international business literature and explicitly recommended by the relevant data providers, they introduce a degree of smoothing that may obscure within-cycle changes. In the case of Ukraine (2022–2023), the EGDI improvement was driven by documented digital reform investment and is well-supported by observable policy actions; carry-forward imputation for 2023 is therefore conservative rather than optimistic.

Fourth, Capgemini reports in euros while the three other firms report in US dollars. For the cross-firm comparative analysis, absolute revenue figures are not converted between currencies, meaning they are not directly comparable in scale. All percentage-based indicators (operating margin, SG&A ratio, geographic revenue share) are currency-neutral and fully comparable. The WNS acquisition completed by Capgemini at the end of 2025 introduces a structural break in headcount data (341,118 to 423,405 employees), which is noted in all cross-firm comparisons involving that year.

CHAPTER 4. COUNTRY SCORING RESULTS

This chapter presents the results of the country scoring model applied to the panel of seven countries across the period 2020–2024. The analysis proceeds in four stages.

All scores reported in this chapter are derived from the composite scoring model described in Chapter 3. Unless stated otherwise, standard weights are applied: Pillar 1 (Institutional quality) 25 percent, Pillar 2 (Talent and human capital) 30 percent, Pillar 3 (Digital ecosystem) 25 percent, and Pillar 4 (Digital governance maturity) 20 percent. All indicators are min-max normalized across all 35 panel observations (7 countries × 5 years), so that scores are comparable both cross-sectionally within a year and longitudinally across years.

4.1 2024 Benchmark: Composite Scores and Pillar Profiles

Table 4.1 presents the composite scores and pillar profiles for all seven countries in 2024, the final fully observed year in the panel. Within the sample, countries are ranked from highest to lowest composite score.

Rank	Country	P1Instit.(25%)	P2Talent(30%)	P3Digital(25%)	P4Gov-tech(20%)	Composite score	Gate 3 signal	Change vs. 2020
1	Denmark	0.948	0.780	0.685	0.910	0.824	EU / GDPR native	-0.017
2	Estonia	0.798	0.786	0.715	0.939	0.802	EU / GDPR native	+0.009
3	Poland	0.581	0.602	0.553	0.560	0.576	EU / GDPR native	+0.028
4	Ukraine	0.159	0.615	0.582	0.649	0.500	Non-EUSCC req.	+0.159
5	India	0.278	0.391	0.608	0.516	0.442	Non-EUDPD+SCC	+0.080
6	Brazil	0.205	0.366	0.447	0.824	0.437	Non-EULGPD+SCC	+0.048
7	Uzbekistan	0.238	0.334	0.341	0.435	0.332	No framework / high risk	+0.097

Table 4.1. Composite scores and pillar profiles, 2024 (standard weights). P1: WGI indicators. P2: ICT employment, STEM graduates, tertiary enrollment, NRI rank. P3: Internet users, GII rank, NRI score, ICT exports. P4: EGDI, OSI, GTMI. Composite = $P1 \times 0.25 + P2 \times 0.30 + P3 \times 0.25 + P4 \times 0.20$. Change vs. 2020 = absolute change in composite score. Gate 3 signal indicates GDPR adequacy status. Source: Author's calculations.

4.1.1 Denmark and Estonia within the sample: high-governance reference cases

Denmark and Estonia anchor the upper end of the seven-country sample's digital governance range, scoring 0.824 and 0.802 respectively and maintaining positions one and two in every year of the observation period. Both are European Union member states with GDPR-native regulatory environments, which removes the data compliance overhead that non-EU delivery locations impose on EU-client-serving firms.

Within the sample, Denmark achieves the highest institutional quality score (P1: 0.948); the underlying WGI indicators (Government Effectiveness 88.5, Regulatory Quality 85.3, Rule of Law 91.5 on the World Bank's 0–100 scale) are also among the highest in the global WGI dataset (Kaufmann et al., 2011), confirming the upper-end role Denmark plays in the test sample's structure. Its governance score (P4: 0.910) combines an EGDI of 0.985, the highest in the panel, with a consistent record of first or second global ranking in UN e-government surveys. Denmark is included as the upper reference benchmark: it proposes the ceiling of what institutional and digital governance excellence looks like in this study's frame. However, Denmark is not a cost-viable delivery location for mid-sized IT service firms and is not recommended as an expansion target in the framework. Its labor costs and market size make it an origin market or partner location rather than a delivery center destination.

Estonia presents a more instructive case. Its composite score of 0.802 is marginally below Denmark, but it achieves the highest Pillar 4 score in the entire panel (P4: 0.939), surpassing even Denmark, which reflects Estonia's unique position as the world's most advanced digital state. Its EGDI of 0.940, OSI of 0.986, and GTMI of 0.956 in 2024 are not explained by wealth alone: they reflect a deliberate, two-decade-long policy program of digitizing all government-to-business interactions through integrated platforms. For an IT service firm establishing a delivery center in Estonia, virtually all company registration, tax compliance, employment administration, and regulatory interaction occurs online through a single digital identity layer. This eliminates the in-person administrative friction that firms encounter in less digitized environments and directly reduces the institutional transaction costs identified by Williamson (1985) as central to governance structure choices. Estonia's ICT specialist employment rate of 7.2 percent of total employment in 2024, the highest in the sample, confirms that its talent position matches its governance advantage. Within the sample, Estonia ranks first among delivery-viable countries (i.e., excluding Denmark) across all five pillar weight configurations tested in Section 4.3 — a rank-stability property of the framework rather than a verdict on Estonia's position relative to countries outside the sample.

4.1.2 Poland within the sample: large-scale EU-member case

Poland ranks third with a composite score of 0.576, a significant distance below the frontier tier but a substantial gap above the fourth-ranked country. It maintains this position in every year of the observation period, and its composite score improved by 0.028 between 2020 and 2024 — a modest but consistent upward trend.

Poland's profile reflects a genuinely multi-dimensional competitive position. Its institutional quality (P1: 0.581) is below the frontier tier but above all non-EU countries in the sample, reflecting its EU membership, rule of law score of 66.9, and regulatory quality of 65.7. Its talent pillar (P2: 0.602) benefits from the largest tertiary enrollment in the sample at 76.9 percent and strong STEM graduate share of 19.2 percent. ICT service exports as a share of service exports grew from 14.2 percent in 2020 to 16.7 percent in 2024, reflecting the expanding

scale and global integration of Poland's IT services sector. Poland is an EU member and GDPR-native, eliminating the SCC compliance overhead that all non-EU delivery locations impose.

Poland's governance score (P4: 0.560) is the weakest of the three EU-member countries in the panel, reflecting a GTMI of 0.680 and an EGD of 0.871 — both below Estonia and Denmark. This relative governance gap is not a disqualifying weakness; it indicates that the digital governance advantage of a Polish delivery center is real but smaller than an Estonian one. Within the sample, Poland scores second among the EU-member candidates on the digital governance pillar, but its larger talent base and lower average cost give it a different profile from Estonia — illustrating the multi-dimensional logic the framework is designed to capture.

4.1.3 Ukraine, India, and Brazil within the sample: weight-sensitive cases

Within the sample, the countries ranked four through six (Ukraine, India, Brazil) share a structural property: each has a strength in one or two pillars offset by a significant weakness in at least one other, and each carries a specific governance constraint that activates differently depending on EU revenue exposure. This structure is what makes the sample useful as a test for the firm-conditioning logic at Gate 3.

Ukraine ranks fourth with a composite score of 0.500, having risen from sixth in 2020. Its trajectory is the most dramatic in the panel: a composite score increase of 0.159 over the observation period, equivalent to a 46.6 percent improvement — more than any other country. The driver of this rise is examined in detail in Section 4.4. Ukraine's talent profile (P2: 0.615) is the second highest in the mid-tier, reflecting ICT service exports of 38.2 percent of service exports — the third highest in the panel — and a tertiary enrollment of 85.3 percent, the highest in the sample. Its P1 institutional quality score (0.159) is the lowest in the panel, primarily because Political Stability fell from 49.5 in 2020 to 47.9 in 2022 following the full-scale Russian military invasion and has recovered only partially to 58.5 by 2024. From a Gate 3 perspective, Ukraine requires Standard Contractual Clauses for any EU-client data processed in Ukrainian delivery centers, as Ukraine holds no GDPR adequacy decision. This compliance overhead is operationally manageable but must be budgeted for. The specific risk profile of Ukraine as a delivery location — war-elevated but not operationally eliminated, as documented by EPAM Systems' continued maintenance of 8,764 delivery professionals there through 2024 — is discussed in Section 4.4.1.

India ranks fifth with a composite score of 0.442 in 2024, improved from sixth in 2022–2023 following NRI rank improvement from 61 to 49 between 2022 and 2024. India presents the starkest internal tension in the sample: it is simultaneously the world's largest IT services exporter by volume — with ICT exports representing 47.4 percent of service exports in 2024 — and one of the weakest scorers on institutional quality (P1: 0.278) and talent depth per capita (P2: 0.391). The talent paradox is explained by the composition of India's talent base: while its absolute workforce in IT is the largest in the world, the pool of tertiary-educated technical specialists as a *percentage* of total employment (1.1 percent in 2024) is the lowest in the panel, because India's total employment base is enormous and its tertiary enrollment rate of 34.4 percent is below the panel average. India's

governance score (P4: 0.516) improved in 2024 following a jump in its EGDI score from 0.590 to 0.667, reflecting genuine digital governance investment. However, the Digital Personal Data Protection Act of 2023 adds a cross-border data transfer constraint specifically for EU-client-serving operations, which is accounted for in Gate 3 of the integrated analysis. India's rank varies most across firm-specific weight configurations (Section 4.3), making it the most governance-sensitive country in the panel.

Brazil ranks sixth with a composite score of 0.437, nearly tied with India. Brazil's pillar profile is inverse to India's: it scores weakest on institutional quality (P1: 0.205) and talent (P2: 0.366), but achieves the highest digital governance Pillar 4 score outside the EU-member tier (P4: 0.824). This counterintuitive pattern reflects Brazil's GTMI score of 0.975, which is the second highest in the entire panel after Estonia, driven by its substantial investment in digital government infrastructure including Receita Federal's fully digitized tax system and Balcão Virtual business registration platform. Brazil's Lei Geral de Proteção de Dados (LGPD), enacted in 2020, provides a data governance framework analogous to GDPR, though Brazil holds no EU adequacy decision, meaning Standard Contractual Clauses remain required for EU-client data processed in Brazilian centers.

4.1.4 Uzbekistan: the lower-bound reformer

Uzbekistan ranks seventh in every year of the observation period with a composite score of 0.332 in 2024. It is included in the panel as the lower-bound reference case — a rapidly reforming early-stage digital economy whose trajectory illustrates the governance improvement dynamics documented in Zou et al. (2023).

Uzbekistan's composite score improved by 0.097 between 2020 and 2024 (a 41.3 percent increase), driven primarily by GTMI improvement from 0.617 to 0.813 and EGDI improvement from 0.667 to 0.751. These are genuine and documented reforms, principally through the IT Park special economic zone program established in 2019, which provides tax incentives and infrastructure for IT companies. However, consistent with Zou et al.'s threshold effect, the governance improvements have not yet been translated into proportional composite score gains because the complementary conditions — institutional quality, talent depth, and digital ecosystem breadth — remain significantly below the competitive middle tier. Within the sample, Uzbekistan does not score as a primary delivery candidate for EU-serving firms at the current stage of its development. Its inclusion in the sample serves to anchor the lower end of the digital-governance-maturity range and to test how the framework processes a country undergoing rapid reform from a low base.

4.2 Longitudinal Trends 2020–2024

Table 4.2 presents composite scores and annual rankings for all seven countries across the full observation period. Country ranks are computed within each year.

Country	2020score	2020rank	2021score	2021rank	2022score	2022rank	2023score	2023rank	2024score	2024rank	Δ score2020→ 2024
Denmark	0.841	1	0.850	1	0.834	1	0.830	1	0.824	1	-0.017
Estonia	0.793	2	0.810	2	0.795	2	0.782	2	0.802	2	+0.009

Country	2020score	2020rank	2021score	2021rank	2022score	2022rank	2023score	2023rank	2024score	2024rank	Δ score2020→2024
Poland	0.548	3	0.555	3	0.547	3	0.556	3	0.576	3	+0.028
Ukraine	0.341	6	0.367	6	0.450	4	0.469	4	0.500	4	+0.159
India	0.362	5	0.386	5	0.398	6	0.402	6	0.442	5	+0.080
Brazil	0.389	4	0.406	4	0.427	5	0.423	5	0.437	6	+0.048
Uzbekistan	0.235	7	0.258	7	0.314	7	0.348	7	0.332	7	+0.097

Table 4.2. Composite scores and annual rankings, 2020–2024. Ranks computed within each year across all seven countries. Standard pillar weights. Source: Author's calculations.

Several longitudinal patterns are analytically significant. Denmark ranks first in all five years with a composite score ranging from 0.824 to 0.850, a narrow band that indicates stable institutional and governance leadership throughout. Estonia ranks second in all five years. Poland holds third place without interruption, with its score improving modestly and consistently from 0.548 to 0.576.

The most dynamic movement in the panel occurs in the middle tier. Ukraine advanced from sixth place in 2020 and 2021 to fourth in 2022, where it remained through 2024. This rank change is the only material change in the panel's ordinal structure over the observation period and reflects a genuine improvement in digital governance and ICT export intensity rather than noise. Brazil slipped from fourth in 2020 to sixth in 2024, a relative decline driven not by deteriorating scores — Brazil's composite improved by 0.048 — but by Ukraine's faster improvement displacing it in the ranking. India oscillated between fifth and sixth place, its rank sensitive to annual NRI and GII fluctuations. Uzbekistan ranked seventh in all five years.

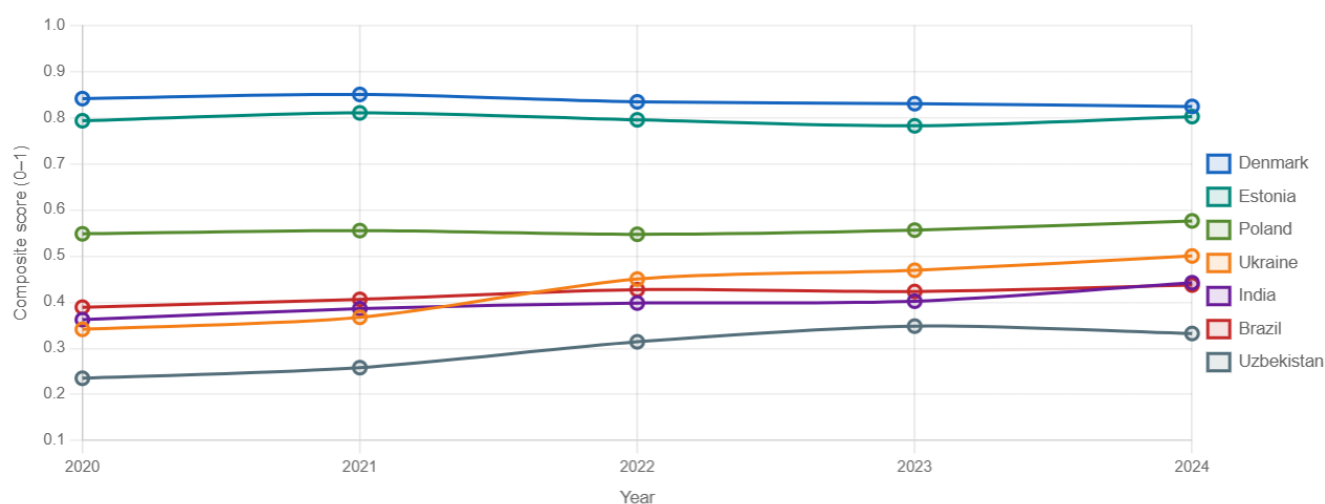


Figure 4. Composite country scores under standard pillar weights ($P1=25\%$, $P2=30\%$, $P3=25\%$), 2020-2024. Denmark and Estonia maintain frontier positions throughout. Ukraine shows the most dynamic trajectory, rising from 0.341 (rank 6) to 0.500 (rank 4) driven by EGDI improvement and ICT export growth. Uzbekistan remains last in all years. Source: Author's calculations from WB WGI/WDI, UN DESA EGDI, Portulans NRI, WIPO GII, ITU GTMI, Kearney GSLI.

These patterns support a structural interpretation: the top three positions (Denmark, Estonia, Poland) are stable because they reflect deep, slow-changing institutional and talent advantages. The middle tier (Ukraine, India, Brazil) is more volatile because it reflects faster-changing indicators including e-government scores, NRI rankings, and ICT export trends. The structural stability of the top three, and the instability of the middle three, is itself an analytically relevant finding for the integrated analysis in Chapter 5: firms selecting from the competitive delivery tier face more temporal uncertainty than firms selecting from the stable EU-member tier.

4.3 Robustness Analysis: Sensitivity to Pillar Weight Configurations

A central methodological concern in composite scoring models is sensitivity to weight selection. If rankings change substantially when weights are varied, the model's practical utility is limited because its conclusions depend on the analyst's weight choice rather than the underlying data. This section addresses that concern by recomputing country scores under five pillar weight configurations: the standard configuration and four firm-specific configurations derived from the Gate 2 and Gate 3 signals of the four sample firms (see Table 3.4 for weight specifications).

Country	Standard 0.824	Rank	EPAM adj.	Rank	Infosys adj.	Rank	Capgemini adj.	Rank	Globant adj.	Rank	Rank range
Denmark	0.824	1	0.822	1	0.829	1	0.829	1	0.813	1	Stable
Estonia	0.802	2	0.809	2	0.806	2	0.817	2	0.791	2	Stable
Poland	0.576	3	0.575	3	0.579	3	0.573	3	0.576	3	Stable
Ukraine	0.500	4	0.524	4	0.501	4	0.526	4	0.496	4	Stable
India	0.442	5	0.454	6	0.431	6	0.460	6	0.447	5	±1
Brazil	0.437	6	0.468	5	0.433	5	0.491	5	0.418	6	±1
Uzbekistan	0.332	7	0.342	7	0.332	7	0.347	7	0.327	7	Stable

Table 4.3. Country rankings under five pillar weight configurations, 2024. EPAM-adjusted: P1=20%, P2=30%, P3=25%, P4=25%. Infosys-adjusted: P1=25%, P2=35%, P3=20%, P4=20%. Capgemini-adjusted: P1=20%, P2=25%, P3=25%, P4=30%. Globant-adjusted: P1=25%, P2=30%, P3=30%, P4=15%. Rank range = maximum rank minus minimum rank across all five configurations. Source: Author's calculations.

The robustness analysis yields a finding of substantial analytical significance: five of seven countries — Denmark, Estonia, Poland, Ukraine, and Uzbekistan — maintain identical ranks across all five weight configurations. Their rank range is zero. This means that regardless of how the relative importance of institutional quality, talent, digital infrastructure, and governance maturity is weighted within the tested bounds, these five countries always rank in the same positions relative to each other.

Within the sample, Estonia and Poland retain their respective ranks (second and third overall, first and second among delivery-viable candidates) across all five tested weight configurations. This rank stability is a property of the framework: the multi-pillar structure dampens the effect of weight choice, so a firm conducting sensitivity analysis on the model would not see its in-sample rankings shift materially across reasonable weight

assumptions. The finding is about model robustness on this sample, not about Estonia and Poland's position relative to countries outside the sample.

The only movement in the entire panel occurs between India and Brazil, which swap between fifth and sixth place depending on weight configuration. Brazil rises above India under EPAM, Infosys, and Capgemini configurations, which assign higher weight to governance (P4) where Brazil scores 0.824 versus India's 0.516. India rises above Brazil under the standard and Globant configurations, which place more emphasis on digital ecosystem (P3) where India's ICT export concentration (47.4 percent) outperforms Brazil's (12.9 percent). This India-Brazil position is itself analytically meaningful: it demonstrates that the choice between these two countries as a mid-tier delivery location is genuinely sensitive to a firm's specific EU revenue exposure and service model, which is precisely the moderating logic formalized in Gate 3 of the framework.

4.4 Analytically Anomalous Cases

Two countries in the panel exhibit patterns that the composite score alone cannot fully explain: Ukraine, which rose dramatically in rank despite deteriorating institutional stability; and India, which consistently scores below its global reputation as the world's leading IT services location. Both anomalies are analytically productive — they illuminate the mechanisms and limitations of the scoring model in ways that strengthen rather than undermine its interpretation.

4.4.1 Ukraine: a within-sample case of digital-governance continuity under crisis

Ukraine's composite score trajectory is the most striking in the panel. From a score of 0.341 (rank 6) in 2020, it rose to 0.500 (rank 4) in 2024 — a 46.6 percent improvement driven by the largest absolute and percentage gain of any country in the observation period. What makes this trajectory analytically interesting within the sample is that it occurred while Ukraine's institutional stability was deteriorating — a within-sample anomaly that the four-pillar structure is able to surface and that motivates the exploratory observation discussed in Section 8.2. Government Effectiveness fell from 43.9 in 2020 to 38.95 in 2022 following the full-scale Russian military invasion. Political Stability, the most geopolitically sensitive WGI indicator, fell from 49.5 in 2020 to 47.9 in 2022.

The rise in Ukraine's composite score despite deteriorating institutional stability reflects two offsetting movements. First, Ukraine's EGD score improved from 0.712 in 2020 to 0.882 in 2024, driven by continued investment in the Diia digital governance platform and e-government services even through the conflict period. This 24.0 percent EGD improvement represents the second-largest absolute gain in the panel over the period, and it pushed Ukraine's Pillar 4 digital governance score from 0.103 to 0.649, more than a sixfold increase. Second, Ukraine's ICT service exports as a share of service exports rose from 33.3 percent in 2020 to a peak of 45.3 percent in 2022 before partially retreating to 38.2 percent in 2024, sustaining a high-intensity digital export profile that supports Pillar 3 scores.

This trajectory has a specific theoretical interpretation in the context of Digital Era Governance (Dunleavy et al., 2008). Ukraine's digital governance investment maintained a degree of institutional *functional continuity*, the ability of firms to interact with government digitally, register companies, file taxes, and conduct compliance procedures online even as physical institutional stability declined. The Diia platform, which by 2024 hosted more than 20 million registered users and provided over 120 digital public services including company registration, tax filing, and employment documentation, ensured that the administrative interaction layer remained accessible to foreign firms operating delivery centers despite the wartime disruption to physical government infrastructure.

For a mid-sized IT service firm maintaining a delivery center in Ukraine, this means that the practical operating environment, measured by e-government service availability and digital administrative efficiency, remained substantially functional even as the geopolitical risk signal worsened.

This within-sample observation does not minimize Ukraine's war risk, it remains a high-risk location requiring robust business continuity plans, but it complicates a simple equation of geopolitical instability with operational unavailability. The integrated analysis in Chapter 5 documents that EPAM Systems maintained 8,764 delivery professionals in Ukraine through 2024, providing firm-level confirmation that the operating environment remained viable for at least one major IT service firm. The observation is grounded in a single country across a single episode and is therefore presented as an illustrative case rather than a generalizable finding; its broader implications and the comparative research it motivates are discussed in Section 8.3.

A methodological note is required on the WGI Political Stability recovery. The WGI Political Stability and Absence of Violence/Terrorism indicator is a composite of multiple perception-based and event-based data sources (Kaufmann et al., 2011). It aggregates perceptions of government overthrow probability, political violence unrelated to interstate conflict, terrorism risk, and institutional continuity into a single score. The observed recovery from 47.9 in 2022 to 58.5 in 2024 does not indicate that Ukraine's geopolitical risk diminished — active armed conflict continued throughout — but rather that several constituent dimensions of the composite improved: the consolidation of wartime governmental authority reduced the perceived probability of unconstitutional government change; Ukraine's demonstrated institutional resilience under sustained military pressure improved perception-based assessments of governance continuity; and sources that weight terrorism risk separately from interstate conflict may have assessed internal security conditions as stable relative to 2022. The composite score's recovery is therefore an artifact of multi-source aggregation methodology rather than a reflection of reduced conflict intensity. For this study's purposes, the P1 institutional quality pillar captures Ukraine's genuine institutional weakness through the Government Effectiveness and Rule of Law indicators, which did not exhibit the same counterintuitive recovery. The Political Stability score is included for completeness but should be interpreted with this methodological caveat.

4.4.2 India: the scale-versus-depth paradox

India's scoring model position, fifth in 2024 with a composite of 0.442, appears counterintuitive to practitioners familiar with global IT services. India is by global consensus the world's largest IT services exporter, hosting the largest concentration of IT professionals anywhere and generating revenues from IT services that exceed the combined output of most other countries in the sample. Yet the scoring model consistently places it below Poland (composite 0.576) and in competition with Brazil for fifth place.

India's governance score (P4: 0.516) improved notably in 2024, driven by an EGDI jump from 0.590 to 0.667. This reflects genuine digital governance investment, India's Unified Payments Interface, MCA21 company registration system, and GSTN tax administration platform are substantive digital governance achievements. However, the Digital Personal Data Protection Act of 2023 introduces a new variable: cross-border data transfer restrictions that are still being implemented through secondary regulations at the time of writing. For a mid-sized EU-serving IT service firm, this regulatory uncertainty adds compliance risk beyond the cost of Standard Contractual Clauses, because the permitted transfer mechanisms for personal data from Indian delivery centers to EU clients are not yet fully codified. This governance constraint is the primary reason India ranks lower than its raw talent scale would suggest for *EU-client-heavy firms*, and it is precisely what the governance moderation logic in Gate 3 of the integrated framework is designed to capture.

The India case confirms a central argument of this study: the same country represents a fundamentally different value proposition for different firms. For a firm with predominantly North American clients and no binding GDPR compliance obligations, India's governance constraints are manageable, and its talent scale is decisive — India is a strong delivery candidate. For a firm with 60 percent EU revenue, India's governance profile activates SCC requirements, DPDP compliance overhead, and regulatory uncertainty, materially increasing the operating cost of EU-client work delivered from Indian centers. The composite score captures India's overall attractiveness; Gate 3 of the integrated framework adjusts that assessment for the firm-specific governance filter.

CHAPTER 5. FRAMEWORK CALIBRATION

This chapter applies the integrated three-gate framework to the four sample firms across the period 2020–2025. Chapters 3 and 4 established the two analytical layers separately: firm-level readiness assessment and country-level comparative scoring. This chapter brings those layers together to address the study’s main question: how a structured expansion framework can connect internal readiness, host-country conditions, and digital governance considerations in a practical sequence for international delivery center decisions.

5.1 Gate 1 Signal: Financial Readiness as Threshold-Triggered Signal

Gate 1 evaluates whether a firm has sufficient financial capacity to absorb the cost and risk of establishing a new delivery center. The operational threshold, as described in Chapter 3, is a sustained operating margin above ten percent and an adequate cash position. Table 5.1 presents Gate 1 verdicts for all four firms across the full observation period.

Firm / Indicator	2020	G1	2021	G1	2022	G1	2023	G1	2024	G1	2025	G1
EPAM	10.8%	PASS	13.3%	PASS	11.9%	PASS	10.7%	PASS	11.5%	PASS	9.5%	PASS
Infosys	21.3%	PASS	24.5%	PASS	23.0%	PASS	21.0%	PASS	20.7%	PASS	21.1%	PASS
Capgemini	11.9%	PASS	12.9%	PASS	13.0%	PASS	13.3%	PASS	13.3%	PASS	13.3%	PASS
Globant	10.7%	PASS	11.8%	PASS	12.0%	PASS	10.5%	PASS	9.5%	PASS	9.4%	WATCH

Table 5.1. Gate 1 operating margin (%) and verdict, 2020–2025. Threshold: operating margin \geq 10%. WATCH denotes margin within 1 percentage point of the threshold with additional cash or net income concerns. Sources: EPAM 10-K; Infosys Form 20-F; Capgemini URD; Globant Form 20-F, 2020–2025.

5.1.1 Universal Gate 1 compliance, 2020–2024

All four firms pass Gate 1 in every year from 2020 through 2024. This finding has two interpretations. The first is that the Gate 1 threshold lacks discriminatory power, if every firm passes every year, it adds no analytical information. The second, and correct, interpretation is that the threshold is calibrated to the appropriate level of established mid-to-large IT service firms with diversified client bases. The firms in this sample have achieved sufficient scale and revenue diversification that their financial readiness is structurally stable, not a year-by-year uncertainty. The Gate 1 threshold is designed to identify the moments when that stability breaks down, and in 2025, for Globant, it does.

Within the universal pass, the margin range across firms is analytically informative. Infosys operates at a structural premium: its operating margin ranged from 20.7 to 24.5 percent across the six years, reflecting the cost advantages of India-centric delivery and a mature offshore model. Capgemini demonstrated the most stable trajectory, with margins moving in a narrow band from 11.9 to 13.3 percent and showing consistent year-on-year improvement through 2023. EPAM and Globant both operated closest to the threshold — EPAM ranging from 10.7 to 13.3 percent and Globant from 9.5 to 12.0 percent across the period — reflecting the higher cost structure of CEE and LATAM delivery respectively relative to India-origin models.

5.1.2 The 2025 Globant conditional pass: Threshold Behavior at the Boundary

The most informative Gate 1 observation in the dataset is Globant’s 2025 result. With an operating margin of approximately 9.4 percent, below the ten percent threshold, and cash reserves depleted to USD 250.3 million following a period of acquisition-driven investment, Globant becomes the first firm in the dataset to receive a Gate 1 WATCH verdict. This is not a theoretical case: it is broadly consistent with to Globant’s announcement of a Business Optimization Plan in April 2025, which included workforce reductions and office consolidations that compressed net income to USD 104 million — a 38.5 percent decline from USD 169 million in 2024 despite a slight revenue increase. Net income margin fell from 7.0 percent to 4.2 percent.

This outcome is consistent with the framework’s intended discriminatory function. A mid-sized firm in a similar position, operating margin approaching the threshold, cash under pressure, significant restructuring underway, should not be evaluating new country delivery center commitments that require multi-year capital allocation. The framework correctly surfaces this constraint before the country selection analysis begins, preventing misallocation of management attention and capital during a period of operational stress.

EPAM’s 2025 margin of 9.5 percent, marginally above the threshold, represents a borderline case that the framework classifies as a pass but flags for monitoring. EPAM’s cash position of USD 1.296 billion provides a meaningful buffer that Globant lacks, which is why it receives a full pass rather than a WATCH designation despite the margin compression. Within the sample, the EPAM 2025 case illustrates how the framework treats margin compression that is offset by a strong cash position: the conjoint specification (margin AND cash runway) avoids classifying a structurally well-resourced firm as Gate 1 fail purely on margin compression. Whether this conjoint behavior generalizes to firms outside the calibration sample is again a question for out-of-sample testing

5.2 Gate 2 Signals: Directional Operational Pressure as Multi-Indicator Strategic Input

Gate 2 examines the operational signals that indicate whether a firm is under pressure to expand, and in what direction. Unlike Gate 1, which is binary, Gate 2 outputs are directional — they shape both the urgency and the character of the country evaluation that follows. Three signals are examined: attrition rate trajectory, workforce utilization, and geographic concentration risk.

5.2.1 The Great Resignation convergence: a macro-level Gate 2 trigger

The empirical pattern documented in this subsection instantiates what this study terms **signal convergence**: a pattern whereby multiple independent firms exhibit the same operational signal simultaneously within a short time window, despite differences in their origin, delivery model, client base, and geographic footprint. Signal convergence is analytically important because it changes the interpretation rule applied at Gate 2. An elevated attrition signal observed in isolation at a single firm would be classified as firm-specific, a management failure of retention, or a compensation gap. The same elevated attrition signal observed simultaneously at multiple firms with structurally different operating profiles cannot be attributed to firm-specific factors and must instead be classified as an environmental signal indicating a macro-level shock.

The 2021–2022 attrition peak across all four sample firms is the clearest case of signal convergence in the dataset. EPAM's voluntary attrition rate reached 13.8 percent in 2022, its highest in the observation period. Infosys experienced a crisis-level peak of 27.7 percent in FY2022, more than double its 2021 rate of 10.0 percent. Capgemini peaked at 25.5 percent in 2022. Globant reached 18.7 percent in 2021, earlier than the other three firms, before moderating.

The convergence of attrition peaks across four firms with different origins, delivery models, client bases, and geographic footprints cannot be explained by firm-specific factors. A 27.7 percent attrition rate at Infosys is a structurally different problem from a 13.8 percent rate at EPAM, the India IT labor market and the CEE IT labor market have distinct dynamics. What they share is timing: all four firms experienced their worst talent retention outcomes within the same eighteen-month window. This convergence is the empirical signature of the Great Resignation as an external macro-economic shock rather than any firm-level failure of talent management.

This finding has a specific methodological implication for the framework. Attrition rate is included in Gate 2 as a signal of operational pressure, not as a performance metric. When all firms in a market simultaneously experience elevated attrition, it is a market-level trigger that the framework correctly classifies as an environmental signal requiring a response — in this case, acceleration of geographic diversification to access talent pools less affected by the specific labor market dynamics of any single country. For mid-sized firms applying the framework, the Great Resignation case demonstrates that the Gate 2 attrition signal should be interpreted relative to market benchmarks, not absolute thresholds.

Firm	2020	2021	2022	2023	2024	2025	Gate 2 interpretation
EPAM	10.8%	13.3%	13.8%	8.6%	8.9%	8.5%	2022 peak driven by war displacement. Post-2022 recovery to 8–9% reflects diversification success.
Infosys	15.0%	10.0%	27.7%	20.9%	12.9%	13.1%	FY2022 crisis peak (27.7%) triggered mass hiring (+54K). Stabilized by FY2025. Labor market competition signal.
Capgemini	13.0%	18.5%	25.5%	16.7%	15.7%	15.0%	2022 peak coincides with Altran integration friction. Structural 15%+ reflects consulting model seniority churn.
Globant	13.0%	18.7%	16.7%	8.1%	9.5%	13.6%	2021 early peak reflects rapid growth overhiring. 2025 rise reflects voluntary exits during restructuring.

Table 5.2. Voluntary attrition rate (%) and Gate 2 interpretation, 2020–2025. Red shading indicates attrition above 20% (crisis level); amber indicates 15–20% (elevated). Sources: Annual filings as above.

This is an empirical instance of signal convergence — independent firms exhibiting the same signal simultaneously, indicating a macro-level shock rather than firm-specific performance.

5.2.2 Geographic concentration as a directional Gate 2 signal

Beyond attrition, Gate 2 assesses geographic concentration risk, the degree to which a firm's delivery operations are concentrated in a single country or region, creating vulnerability to localized disruption. In the dataset, EPAM provides the most extreme example. With 14 countries of operation in 2021 and heavy reliance on Ukraine and Belarus for delivery capacity, EPAM's geographic concentration risk was already elevated before February 2022. The Russian military invasion triggered an acute Gate 2 crisis: the firm was forced to relocate

thousands of professionals, accelerate diversification into India, Poland, Hungary, and Latin America, and expand its country count from 14 to 50 in a single year. By the framework's logic, this was not a strategic expansion choice, it was a forced response to a concentration risk that Gate 2 should have flagged before the crisis, and which the firm's own 2021 10-K acknowledged as a material business risk.

For mid-sized IT service firms, the EPAM case offers the clearest available evidence for the value of proactive Gate 2 monitoring. A firm that had applied the framework in 2021 and identified EPAM's combination of high geographic concentration (two countries accounting for a majority of delivery headcount) and rising geopolitical risk would have been positioned to begin diversification before the crisis forced it. The framework does not require geopolitical prescience, it requires only that geographic concentration be monitored as an operational pressure signal alongside attrition and utilization.

5.3 Gate 3: Digital Governance Filter and Firm-Adjusted Country Rankings

Gate 3 integrates the country scoring results from Chapter 4 with each firm's EU revenue exposure to produce firm-specific adjusted rankings and governance filter assessments. The pillar weights are adjusted based on Gate 2 operational signals, and the governance filter is activated based on whether the firm's EU revenue share exceeds the 30–40 percent transition zone with midpoint ≈35%, above which GDPR Standard Contractual Clause requirements become operationally binding (explained in section 3.2.1).

5.3.1 Pillar weight adjustments

Table 5.3 presents the pillar weight adjustments applied to each firm's ranking, with the rationale derived from Gate 2 and Gate 3 signals.

Configuration	P1	P2	P3	P4	EU rev. 2024 / filter	Rationale
Standard	25%	30%	25%	20%	—	Baseline neutral configuration
EPAM	20%	30%	25%	25%	37.9% — ACTIVE	↑P4: EU revenue 37.9% activates GDPR governance filter; governance maturity increasingly material for EU-client delivery compliance.
Infosys	25%	35%	20%	20%	27.6% — monitoring	↑P2: Scale model requires deep talent pools across geographies; India primary delivery reduces P3 infrastructure priority.
Capgemini	20%	25%	25%	30%	63.3% — ACTIVE	↑P4 highest: EU-native with 63% EU revenue; every non-EU delivery location carries GDPR and EU AI Act compliance cost. Governance is not optional.
Globant	25%	30%	30%	15%	17.3% — monitoring	↑P3: Tech-forward digital clients require strong digital infrastructure; EU revenue not yet dominant so governance filter less binding.

Table 5.3. Firm-adjusted pillar weight configurations and rationale. Weight adjustments shown in bold. EU revenue threshold: >35% activates GDPR governance filter (ACTIVE); <35% requires monitoring but SCC obligations are manageable. Source: Author's analysis.

5.3.2 Firm-adjusted country rankings

Applying the firm-adjusted weight configurations to the 2024 country scores produces the rankings shown in Table 5.4. Rankings for Denmark are included for completeness, but Denmark is excluded from delivery candidate recommendations due to cost structure.

Country	Standard rank	EPAM rank	Infosys rank	Capgemini rank	Globant rank	Interpretation
Denmark	1	1	1	1	1	Reference benchmark. Not a viable delivery candidate due to cost structure.
Estonia	2	2	2	2	2	Top delivery candidate across all configurations. GDPR-native digital state.
Poland	3	3	3	3	3	Stable #2 delivery candidate. Large talent pool, EU member, growing digital capacity.
Ukraine	4	4	4	4	4	Consistent #3 delivery candidate with BCP caveat. War risk requires active monitoring.
India	5	6	6	6	5	Governance-sensitive: ranks #5 under standard/Globant, #6 under EU-heavy firms. DPDP compliance required.
Brazil	6	5	5	5	6	Ranks #5 under EU-heavy weight configs due to high GTMI/EGDI. LGPD + SCC manageable.
Uzbekistan	7	7	7	7	7	Early-stage reformer. Not recommended as primary candidate for EU-serving firms.

Table 5.4. Firm-adjusted country rankings, 2024 (excluding Denmark from delivery recommendations). All five configurations produce identical ranks for Estonia, Poland, and Uzbekistan. India-Brazil position varies based on governance vs. digital ecosystem weighting. Source: Author's calculations.

Three findings from Table 5.4 are analytically significant.

First, within the sample, Estonia and Poland rank first and second among delivery-viable countries (i.e., excluding Denmark) across every weight configuration tested. This rank stability is a property of the framework on this sample: the multi-pillar structure makes the in-sample rankings insensitive to weight choice, so a firm using the framework on this candidate set would not face arbitrary trade-offs between weight assumptions. The finding does not generalize to countries outside the sample, which the framework would need to be re-run to evaluate. For a mid-sized IT service firm conducting a delivery center location assessment, this finding provides a defensible, evidence-based starting point that is robust to uncertainty about the appropriate weight assumptions.

Second, Ukraine, within the sample, consistently ranks third as a delivery candidate. It holds this position in all five configurations. Its talent and governance scores are genuinely competitive with Poland in several dimensions, notably, Ukraine's talent pillar score (0.615) exceeds Poland's (0.602), and its governance pillar (0.649) is above Uzbekistan and India. The consistent third-place positioning reflects a pattern in the data that suggests Ukraine's combination of talent depth, cost advantage, and improving digital governance makes it attractive despite elevated geopolitical risk, a consensus confirmed by EPAM's sustained 8,764-professional presence there through 2024.

Third, within the sample, India's rank shifts between fifth and sixth depending on the firm's EU revenue exposure. This is the framework's firm-conditioning logic visible in the rankings: the same country produces different recommendations for firms with different governance exposures, illustrating the dual-channel signal mechanism developed in Section 5.4. Under the standard and Globant configurations, India ranks fifth, above

Brazil. Under the EPAM, Infosys, and Capgemini configurations, which assign higher weight to governance maturity or talent depth, India ranks sixth behind Brazil. This sensitivity is not a model artefact: it reflects a genuine operational reality. Brazil's GTMI score of 0.975 gives it a substantial governance maturity advantage over India in the P4 pillar, which becomes decisive when firms assign higher weight to governance. For EU-revenue-heavy firms, Brazil's LGPD framework, though not GDPR-adequate, provides a more developed data governance foundation than India's DPDP Act, which was enacted in 2023 and whose secondary regulations governing cross-border transfers remained incomplete at the time of writing.

5.4 Digital Governance as a Moderating Variable: Addressing SQ3

The third research sub-question asks how host-country digital governance maturity moderates the relationship between institutional location attractiveness and multinational IT service firms' actual delivery center location choices. The mechanism through which this moderation operates is, in the vocabulary established in Chapter 3, **signal conditioning**: the phenomenon whereby the same observable signal has different strategic meaning depending on specific firm characteristics, most importantly the geographic distribution of client revenues. A signal is conditioned when its activation status, its direction, or its weight changes as a function of firm attributes rather than country attributes alone. The evidence across the four firm cases reveals that digital governance is not a uniform country-level quality signal but a conditioned signal that operates through two distinct channels, each with a different mechanism and a different sensitivity to firm characteristics.

Digital governance specifically operates as a **dual-channel signal**: a signal that carries two simultaneous interpretations operating in opposite directions. The positive channel (§5.4.1) conveys operational benefit - digitized administrative processes reduce transaction costs for foreign firms establishing delivery operations. The constraining channel (§5.4.2) conveys compliance cost — data regulation imposes production constraints on EU-client data processed in non-adequate countries. The net strategic meaning of the governance signal depends on the relative weight of the two channels, which is itself determined by firm-specific EU revenue exposure. For a firm with low EU revenue, the positive channel dominates and the signal is net favorable. For a firm with high EU revenue, the constraining channel dominates and the signal is net unfavorable. The same country governance profile therefore produces opposite strategic conclusions for the two firm types, the technical realization of signal conditioning introduced at the start of this section.

5.4.1 The positive channel: e-government maturity as an administrative efficiency signal

The first channel operates through administrative efficiency. Countries with higher EGD and GTMI scores offer foreign firms faster business registration, digitized tax compliance, online employment administration, and interoperable government data services that reduce the institutional transaction costs of operating a delivery center. This channel is positive — higher e-government maturity improves the operating environment for all firms regardless of their client geography.

Estonia's EGD I of 0.940 and P4 score of 0.939 are the clearest illustration of this channel in the panel. A firm establishing a delivery center in Estonia can register a company in under 15 minutes through the e-Business Register, file all tax obligations digitally through the e-Tax Board, and manage employment administration through the integrated e-Labor platform — all using a single digital identity. The administrative interaction that in a lower-EGDI country would require weeks of in-person visits to multiple agencies is compressed into hours of online processing. For a mid-sized IT service firm without a local administrative team, this efficiency difference is not marginal — it determines whether the location is operationally self-sustaining from day one or requires sustained local administrative support that adds overhead cost.

Ukraine's EGD I improvement from 0.712 to 0.882 between 2020 and 2024, as analyzed in Chapter 4, demonstrates this channel under stress conditions. Despite the wartime disruption to physical government infrastructure, Ukraine's Diia platform maintained digital continuity for business registration, tax filing, and employment documentation. This administrative continuity partially explains why EPAM maintained its Ukraine delivery center rather than evacuating entirely: the platform layer of the institutional environment remained functional even as the physical layer deteriorated. This observation supports Dunleavy et al.'s (2008) argument that digital governance represents institutional reintegration, the consolidation of formerly fragmented administrative functions into robust digital platforms that can sustain service continuity independently of physical institutional conditions. As a single-country illustration, the case is suggestive of how the positive channel can operate under crisis conditions; whether the pattern generalizes to other crisis episodes is a question for the comparative research outlined in Section 8.3.

5.4.2 The constraining channel: data regulation as a firm-specific production constraint

The second channel is negative and firm-specific. It operates through data regulation: the GDPR compliance architecture imposes binding obligations on EU-serving firms that route personal data through non-GDPR-adequate delivery locations. This channel does not affect all firms equally; its severity is directly proportional to the firm's EU revenue share.

In the dataset, Capgemini (EU revenue 63.3 percent in 2024) and EPAM (37.9 percent) face the most binding governance constraints from this channel. For Capgemini, every delivery center outside an EU member state or GDPR-adequate country requires Standard Contractual Clauses for any EU-client personal data processed at that location. The compliance overhead includes legal documentation, data protection impact assessments, transfer risk assessments under the Schrems II framework, and ongoing monitoring of data handling practices. For a firm of Capgemini's scale with an established legal function, this is a manageable but material cost. For a mid-sized firm without dedicated data protection legal counsel, the same obligations represent a disproportionately higher compliance burden.

Globant presents the most instructive case for the framework's moderating logic. In 2020, Globant's EU revenue was 7.6 percent — the governance filter was effectively inactive. By 2025, EU revenue had grown to

19.1 percent. At this threshold, SCC obligations are real but the compliance overhead is manageable and the talent and cost advantages of LATAM delivery largely offset the governance friction. However, the trajectory is directional: if Globant continues its EU market push toward 30 or 35 percent EU revenue, the governance filter will activate more binding operational constraints. The framework provides a quantified signal of exactly when this threshold will be crossed and what its operational implications are.

India's DPDP Act of 2023 introduces a third dimension of the constraining channel specific to India-delivery firms serving EU clients. The Act's cross-border data transfer provisions, once secondary regulations are finalized, may restrict the ability of Indian delivery centers to transfer personal data from EU-client engagements without specific legal mechanisms. For Infosys and Capgemini, which both use India as a primary or major secondary delivery location for EU-client work, this creates a new compliance layer on top of GDPR SCCs, compounding the data governance complexity.

5.4.3 The moderating interaction: why the same country means different things to different firms

The dual-channel analysis reveals the specific mechanism through which digital governance moderates the relationship between country attractiveness and location choice. The same country score represents a different operational reality for different firms depending on which governance channel is dominant.

For Capgemini evaluating India as a delivery location: the positive e-government channel is real (India's EGD I improved from 0.596 to 0.667 between 2020 and 2024, reflecting genuine digital governance progress), but the constraining data regulation channel is also active (DPDP Act cross-border transfer provisions add compliance overhead to GDPR SCCs already required). The net governance effect for Capgemini is more negative than India's P4 score alone suggests. The framework captures this by reducing India's effective rank under the Capgemini weight configuration, which applies the highest P4 weight (30 percent) among the five configurations, precisely the firm with the highest EU exposure for whom data regulation compliance costs are most material.

For Globant evaluating India as a delivery location: the constraining data regulation channel is less active (17.3 percent EU revenue means GDPR SCC obligations are present but not dominant), while the positive e-government channel contributes normally to the P4 score. India therefore ranks higher (fifth) under the Globant configuration than under the Capgemini configuration (sixth). This rank difference, produced by the same underlying data through firm-specific weight adjustment, is the scoring model's representation of the moderation effect: governance does not affect all firms equally, but in a manner proportional to their EU revenue exposure.

5.5 Synthesis: Three-Gate Framework Findings by Research Sub-Question

5.5.1 SQ1 — When? Financial and operational readiness thresholds

The Gate 1 analysis proposes that for established mid-to-large IT service firms, financial readiness is not a binding constraint on expansion decisions in normal operating conditions. All four sample firms pass Gate 1 in every year from 2020 to 2024. The threshold becomes discriminatory only at the boundary conditions of a firm's

financial cycle, as illustrated by Globant's 2025 borderline status. For mid-sized firms applying the framework, Gate 1 provides two operational functions: it prevents expansion decisions during periods of genuine financial stress (as Globant's 2025 situation illustrates), and it proposes a baseline condition whose monitoring costs are low relative to the cost of an ill-timed expansion.

The Gate 2 attrition convergence finding answers a secondary aspect of SQ1: when does operational pressure make expansion not just possible but strategically necessary? The 2021–2022 attrition peak across all four firms demonstrates that macro-level talent market shocks activate Gate 2 simultaneously across firms with different delivery models and geographies, transforming expansion from an option into an operational requirement. For a mid-sized firm, this implies that Gate 2 monitoring should be calibrated against market benchmarks — a 15 percent attrition rate in a market where all peers face 20 percent is not a signal of failure; a 15 percent rate in a market where peers face 8 percent is.

5.5.2 SQ2 — Where? Country-level indicators differentiating candidate locations

SQ2 asks how candidate countries can be compared. The framework operationalizes this through a four-pillar weighted scoring model with firm-adjusted weights. Applied to the seven-country test sample, the model produces stable rankings across the five weight configurations tested, demonstrating that the methodology is robust to reasonable weight uncertainty rather than producing a country verdict that generalizes outside the sample. Within the sample, Estonia and Poland retain their first and second positions among delivery-viable countries across all configurations. The robustness of this finding, identical rankings in all five tested weight configurations, means that a mid-sized firm applying the framework can be confident in these recommendations regardless of reasonable uncertainty about the appropriate weighting of institutional quality versus talent versus digital governance.

Ukraine's consistent third-place position across weight configurations, combined with the documented evidence of continued EPAM delivery operations through 2024, suggests that the war risk discount applied to Ukraine by generic country risk tools may overstate the operational unavailability of Ukrainian delivery capacity for firms with robust BCP infrastructure. The framework captures this nuance by separating institutional stability (P1, where Ukraine scores 0.159) from talent depth (P2: 0.615) and digital governance maturity (P4: 0.649) — allowing the decision-maker to see the specific risk-opportunity profile rather than a single composite judgment.

5.5.3 SQ3 — How? Digital governance as a moderating variable

The Gate 3 analysis develops the study's most distinctive theoretical contribution. Digital governance maturity moderates the location attractiveness relationship in a firm-specific, EU-revenue-conditioned way through two channels that operate simultaneously but in opposite directions. The positive channel, e-government maturity reducing administrative transaction costs, benefits all firms and is captured in the P4 pillar score. The constraining channel, data regulation adding compliance overhead for EU-client data processed in

non-adequate countries, activates in proportion to the firm's EU revenue share and is captured in the Gate 3 governance filter.

This dual-channel moderation produces observable rank differentiation. India ranks fifth under the standard and Globant configurations but sixth under the EPAM, Infosys, and Capgemini configurations — a rank difference generated by identical underlying data through firm-specific weight adjustment. This rank difference is the scoring model's representation of the governance moderation effect, and it corresponds directly to observed differences in how these firms treat India as a delivery location: Globant, with 17.3 percent EU revenue, uses India minimally; Infosys and Capgemini, with 27.6 and 63.3 percent EU revenue respectively, both invest in India at scale but both also invest in the GDPR-native EU delivery hubs (Poland, Estonia) that the model ranks as dominant. The moderation is not only a theoretical construct: it is consistent with the observed geographic allocation of delivery capacity across the four firms.

5.6 Chapter Summary

This chapter has applied the three-gate integrated framework to the full four-firm dataset and produced findings against each of the three research sub-questions. Gate 1 demonstrates universal financial readiness across 2020–2024 while surfacing Globant's 2025 borderline position as the first case in the dataset where the threshold has genuine discriminatory power. Gate 2 identifies the Great Resignation's 2021–2022 attrition peak as a macro-level operational trigger affecting all four firms simultaneously, a finding that validates the use of attrition as an external environmental signal rather than a firm performance metric. Gate 3 integrates the country scoring results with firm-specific EU revenue exposure to demonstrate the firm-conditioning logic in operation. Within the sample, the framework produces firm-specific rankings that differ across weight configurations in interpretable ways: India's rank shifts with EU exposure, Brazil rises under governance-weighted configurations, and Estonia and Poland retain stable positions across all five firm profiles. These are properties of the framework on the test sample, not generalizable verdicts on country attractiveness

CHAPTER 6. FRAMEWORK SIMULATION

6.1 Simulation Approach

This section applies the signal operationalization protocol prospectively to two firms in the study sample: Globant and EPAM Systems. For each decision point, the simulation uses only data that would have been available to the firm at that time, and asks two questions:

- What would the framework have recommended?
- Does the firm's subsequent financial and operational performance suggest the recommendation would have been helpful?

The framework is asked to produce the recommendation it would have given, and this recommendation is then evaluated against what the firm's financial and operational outcomes suggest about the quality of that recommendation.

Scope Acknowledgment

The country scoring model in this study is built on a test sample of seven countries: Denmark, Estonia, Poland, Ukraine, Brazil, India, and Uzbekistan. These seven were selected to span the observable range of digital governance maturity (Section 3.4) for purposes of framework construction and demonstration. They are not a recommended candidate set for any specific firm. In practical use, a firm applying the framework would extend the panel to candidates relevant to its own delivery geography. Where firms behavior involves countries outside this panel (Hungary, Romania, Mexico, Argentina, the Philippines, and others), the simulation notes that the framework cannot evaluate those choices directly but can be assessed on whether its in-panel recommendations would have been sound complements to the firm's actual broader geographic strategy. This is a genuine scope limitation of the study rather than a failure of the framework's logic, and it is addressed explicitly in Section 3.8 and in the future research directions.

6.2 Case A: Globant — Three Gates Across Three Decision Points

Scale class throughout observation period: USD 0.8B (2020) → USD 2.5B (2025). Within the framework's mid-sized target audience through at least 2023.

Client geography: Predominantly North America. EU revenue: 7.6% (2020), 15.4% (2023), 17.3% (2024), 19.1% (2025). EU revenue is a primary growth vector but has not yet activated the 35% governance filter threshold.

Decision point 1: Expansion readiness (2021)

<p>GATE 1 — FINANCIAL</p> <p>PASS</p> <p>Operating margin 11.8%. Revenue +59.3% YoY (USD 814M). Cash</p>	→	<p>GATE 2 — OPERATIONAL</p> <p>GROWTH PRESSURE</p> <p>Attrition 18.7% (early Great Resignation). Workforce expanding</p>	→	<p>GATE 3 — LOCATION</p> <p>POLAND #3</p> <p>EU revenue 7.6% and rising — governance filter in monitoring mode. Poland ranked</p>
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reserves give capacity for new delivery commitment.		rapidly to meet demand. Operational signal: diversification of delivery geography supports growth.		#3 under all weight configurations. Estonia #2 but talent-pool limited at Globant's scale trajectory.
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What the framework would have recommended

All three gates align toward a clear expansion recommendation. Gate 1 confirms financial capacity. Gate 2 signals that growth-driven operational pressure favors geographic diversification over consolidation. Gate 3 identifies Poland as the priority EU entry point, large enough to absorb meaningful delivery capacity, GDPR-native to eliminate SCC overhead as EU revenue grows, and ranked #3 across all pillar weight configurations (robust to weight uncertainty).

What happened next (based on open-sourced data)

From 2021 to 2023, Globant's revenue grew from USD 1.3B to USD 1.9B, operating margin remained above the 10% threshold, and the firm established EU delivery capacity including the Poland hub opened in 2023. The expansion was executed without compromising financial performance — operating margin 2021 to 2023 trajectory: 11.8% → 12.0% → 10.5%. This confirms that the framework's "proceed with expansion" signal in 2021 was consistent with the firm's subsequent ability to absorb the expansion commitment.

The framework's three-gate output in 2021 aligned with a period of successful geographic expansion. Financial data from 2021–2023 shows Globant sustained profitability while expanding delivery capacity, confirming that the expansion commitment was financially absorbable, which is precisely what Gate 1 was designed to verify prospectively.

Decision point 2: EU hub selection (2023)

GATE 1 — FINANCIAL PASS Operating margin 10.5% (approaching threshold but above). Revenue USD 1.9B. Cash adequate. Firm can absorb hub establishment cost.	→	GATE 2 — OPERATIONAL STABILIZED Attrition normalized to 8.1% (post-Great Resignation). EU revenue share 15.4% and rising. Operational signal: deliberate EU-directed capacity building.	→	GATE 3 — LOCATION POLAND #3 CONFIRMED Under Globant-adjusted weights (P3 elevated to 30% for tech-forward client profile), Poland remains #3. Governance filter monitoring: SCC infrastructure can be established in anticipation of future EU revenue growth.
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What the framework would have recommended

The framework's country recommendation at this decision point is specific: Poland. Under the Globant-adjusted weight configuration, Poland ranks #3 among delivery-viable countries. Estonia ranks #2 but is talent-pool constrained for a firm of Globant's growth trajectory (Estonia's total national ICT workforce is approximately 35,000; Poland's is approximately 430,000). The governance filter is on a monitoring trajectory, EU revenue at 15.4% is below the 35% activation threshold but rising, making a GDPR-native delivery location preferable to a non-adequate one even though SCC obligations remain manageable.

What happened next (based on open-sourced financial data)

Globant opened a Poland delivery hub in 2023. From 2023 through 2024, the firm’s EU revenue share grew from 15.4% to 17.3%, and the Poland hub absorbed new delivery demand without triggering governance compliance issues (no SCC overhead for personal data processed within the EU). Operating margin in 2023 of 10.5% was maintained despite the hub establishment cost, confirming Gate 1’s assessment of financial capacity.

Within the sample, the framework’s highest-ranked EU delivery candidate for a firm of Globant’s profile is Poland, the country where Globant opened its first major EU hub. The match between the in-sample model output and the firm’s actual choice is one demonstration of how the framework would have produced a useful directional signal for a decision-maker considering this candidate set.

Decision point 3: Expand or not (2025)

GATE 1 — FINANCIAL WATCH (FAIL)		GATE 2 — OPERATIONAL BLOCKED		GATE 3 — LOCATION NOT EVALUATED
Operating margin 9.4% — below 10% threshold. Cash reserves USD 250M (depleted from USD 800M in 2022). Net income –38.5% YoY. Firm does NOT have capacity for new delivery commitment.	→	Sequential logic: Gate 1 WATCH prevents progression. Operational signals are not assessed because the firm is not in a position to act on them.	→	Country selection is premature. Any new country commitment would compound financial stress. Framework output: STOP.

What the framework would have recommended

Gate 1 fails on both dimensions: operating margin below the 10% threshold, and cash reserves insufficient to cover an estimated eighteen to twenty-four months of new center ramp-up costs (USD 250M cash against typical new-center ramp-up cost of sufficient to cover an estimated eighteen to twenty-four months of new center establishment costs, makes new commitments cash-constrained). Under the framework’s sequential logic, Gate 1 failure terminates the evaluation: a firm operating under financial stress should not be evaluating new country commitments. The framework’s output is a clear STOP signal: pause expansion planning, preserve capital, and reassess after financial stabilization.

What happened next (based on open-sourced financial data)

In April 2025, Globant announced a Business Optimization Plan including workforce reductions of approximately 7 percent and office consolidations. Net income compressed to USD 104M (2025) from USD 169M (2024), a 38.5% decline. The firm entered a period of operational stabilization rather than geographic expansion. This is exactly the action the framework’s STOP signal recommended.

The critical timing observation: the Gate 1 WATCH signal was readable from Q4 2024 and Q1 2025 financial disclosures, before the Business Optimization Plan was publicly announced. A decision-maker applying the framework in January–March 2025 would have identified the WATCH status from quarterly margin and cash trajectory, and would have paused any expansion planning, saving the management attention, legal due diligence, market research costs, and organizational momentum that an aborted expansion process consumes.

The financial signal was readable before the restructuring was public. The framework’s sequential logic correctly terminated the evaluation at Gate 1. The firm’s actual behavior confirms that expansion would have been the wrong decision. For a mid-sized firm considering a new delivery center commitment in early 2025, applying the framework to Globant’s public financials would have correctly identified WATCH status and prevented ill-timed capital allocation.

Across these three decision points, the framework’s outputs align with what Globant’s financial performance suggests were the correct decisions at each point. The 2025 case is particularly strong because it demonstrates that the framework would have been useful prospectively — a decision-maker using it in early 2025 would have avoided a decision that the firm itself subsequently decided not to make. This illustrates the practical utility of a decision-support framework of this kind: it directs attention toward the same conclusion that careful financial analysis would reach, but does so through a structured, replicable, and publicly disclosable protocol.

6.3 Case B: EPAM Systems — Three Gates Under Stress

Scale class: USD 2.7B (2020) → USD 5.5B (2025). Above the mid-sized target audience, but its decision contexts during 2020–2022 involved concentration-risk management that is directly relevant to any firm with heavy single-geography dependency.

Client geography: EU revenue consistently around 36–38% across the observation period, placing the firm near the governance filter activation threshold throughout. GDPR compliance is a constant operational factor rather than an emerging concern.

Delivery geography (pre-2022): 14 countries of operation, with delivery headcount heavily concentrated in Ukraine and Belarus. This concentration was disclosed in EPAM’s own 2021 10-K as a material business risk.

Decision point 1: Pre-crisis concentration risk (2021)

<p>GATE 1 — FINANCIAL PASS</p> <p>Operating margin 13.3%. Revenue USD 3.8B (+41% YoY). Cash position strong. Firm has capacity for significant new commitment.</p>	→	<p>GATE 2 — OPERATIONAL ELEVATED WARNING</p> <p>Not attrition (13.3% — elevated but not crisis). The dominant signal is geographic concentration: two countries accounting for majority of delivery headcount.</p>	→	<p>GATE 3 — LOCATION POLAND #3; ESTONIA #2</p> <p>EU revenue 36% — governance filter ACTIVE. Framework strongly recommends EU-member, GDPR-native diversification targets. Poland and Estonia both ranked above Ukraine under EPAM-adjusted weights.</p>
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What the framework would have recommended

The framework’s 2021 output would have been unambiguous: diversify immediately into EU-member delivery locations. Gate 2 signals proactive concentration management — not waiting for a crisis to force action. Gate 3 identifies Poland (#3) and Estonia (#2) as the priority targets. The governance filter is ACTIVE at 36% EU revenue, making GDPR-native locations strongly preferred over non-adequate alternatives. The framework would have placed EPAM in an active diversification posture a full year before the February 2022 crisis.

What happened next (based on open-sourced financial data)

In Q4 2021, EPAM acquired PolSource, a Polish IT consultancy with approximately 1,400 professionals — the framework’s #3 ranked country. However, the diversification was incremental rather than strategic. Ukraine/Belarus concentration remained the dominant feature of EPAM’s delivery geography through early 2022. The PolSource acquisition is a partial match: the country choice aligns with the framework, but the scale of action was insufficient to mitigate the concentration risk.

If EPAM had applied the framework’s full Gate 2 signal in 2021, treating geographic concentration as a primary operational risk requiring aggressive diversification rather than an incremental one, the firm would have entered 2022 with substantially more diversified delivery capacity. The relocation of thousands of professionals in early 2022 was costly in both financial and human terms. Gate 2’s role in the framework is specifically to prevent this outcome.

The framework’s 2021 recommendation is directionally aligned with EPAM’s PolSource acquisition but would have prescribed more aggressive diversification. A mid-sized firm applying the framework in 2021 with similar concentration risk would have been guided toward a stronger response than EPAM’s actual incremental action. The 2022 crisis validates the framework’s Gate 2 design: geographic concentration is a real operational risk, and the framework’s early warning was available before the crisis.

Decision point 2: The crisis year (2022)

GATE 1 — FINANCIAL PASS		GATE 2 — OPERATIONAL ACUTE CRISIS		GATE 3 — COUNTRY POLAND / INDIA PRIORITY
Operating margin 11.9%. Revenue USD 4.8B. Cash reserves significantly drawn down by relocation costs, but firm remains solvent.	→	Pre-crisis concentration materialized as operational emergency. Thousands of professionals require relocation. Attrition 13.8% (war-displacement component).	→	Among the seven-country panel, Poland (#3) provides EU-member absorption capacity. India (#5/#6) provides talent scale at cost. Both are in the panel; framework can evaluate them.

What the framework would have recommended

Within the seven-country study panel, the framework’s 2022 output prioritizes Poland for EU-aligned delivery capacity expansion and identifies India as the scale-talent option that carries governance compliance cost but addresses the immediate need for delivery depth. The framework cannot evaluate Hungary, Romania, Mexico, or Argentina directly because these countries are outside the study panel — but the framework’s logic (EU-member GDPR-native preference at EPAM’s 38% EU revenue, plus non-EU scale alternatives) would have extended naturally to recommend Hungary and Romania as CEE-adjacent EU-member alternatives if they had been in the panel.

What happened next (based on open-sourced financial data)

EPAM expanded from 14 to 50 countries in one year, with major capacity buildouts in Poland, Hungary, Romania, India, and Latin America. The firm preserved its operating margin (11.9% in 2022, 10.7% in 2023),

maintained revenue growth, and executed one of the most successful large-scale crisis diversifications in recent IT services history. Looking at only the two in-panel delivery destinations the firm significantly expanded: Poland and India both align with the framework’s recommendations. Poland absorbed EU-aligned work (governance-compatible); India absorbed scale-sensitive work (with known governance compliance overhead).

This decision point is where the framework’s scope limitation (seven countries) is most visible. The framework evaluates Poland and India correctly, but EPAM’s actual diversification also included Hungary and Romania, out-of-panel countries that would likely have ranked alongside Poland had they been evaluated. The study cannot confirm this because the scoring model does not include them, but the framework’s logic suggests the same governance-weighted preference for EU-member countries would extend consistently.

For the two in-panel countries EPAM expanded into (Poland and India), the framework’s recommendations match both the country choices and the rationale (Poland for governance alignment, India for scale with acknowledged compliance overhead). The framework cannot evaluate Hungary or Romania directly, but its logic is consistent with their selection. This is the clearest case in the study where the seven-country panel limitation becomes analytically visible.

Decision point 3: Mature portfolio (2025)

<p>GATE 1 — FINANCIAL BORDERLINE</p> <p>Operating margin 9.5% — below 10% threshold. BUT cash reserves USD 1.296B provide strong buffer. Framework logic: threshold breach + strong cash = conditional pass for portfolio optimization, not greenfield.</p>	→	<p>GATE 2 — OPERATIONAL NORMALIZED</p> <p>Attrition 8.5% — back to pre-crisis levels. Geographic concentration resolved (50 countries). No operational pressure signaling need for additional diversification.</p>	→	<p>GATE 3 — COUNTRY PORTFOLIO OPTIMIZATION, NOT NEW ENTRY</p> <p>Firm already has Poland, Estonia, Ukraine hubs operational. Additional capacity expansion within existing hubs is portfolio optimization, not new country selection. Gate 3 evaluates new country decisions, not depth-within-existing-countries.</p>
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What the framework would have recommended

This is a subtle case that requires careful interpretation of what the framework is designed to evaluate. The framework evaluates new country entry decisions: should a firm establish a delivery center in a country where it does not currently operate? EPAM’s 2025 position does not present a new country decision. EPAM already operates in fifty countries, including Poland, Estonia, Ukraine, India, Uzbekistan and other major delivery locations. The question EPAM faces in 2025 is a portfolio optimization question: within its existing delivery footprint, which hubs to grow, which to hold steady, and which to reduce?

This is a decision type the framework is not primarily designed to evaluate. The framework’s country scoring produces relative attractiveness rankings among the seven-country panel, but it does not model switching costs, existing hub fixed costs, client relationship dependencies, or the sunk-cost considerations that dominate portfolio optimization decisions. Gate 3 evaluates new country choice; it does not evaluate “should we grow India team from 7K to 12K given we already have teams in Poland and Estonia.”

Applied strictly, the framework in 2025 produces the following reading: Gate 1 is borderline (margin below threshold, cash buffer compensates); Gate 2 shows no pressure requiring new diversification; Gate 3 is not the relevant analytical tool for depth-within-existing-hub decisions. The correct framework output is not a country recommendation but an acknowledgment that portfolio optimization falls outside the framework's designed scope.

What happened next (based on open-sourced financial data)

EPAM expanded its India delivery headcount from approximately 7,000 (2023) to 12,200 (2025). This expansion occurred alongside continued operation of Poland, Estonia, and Ukraine hubs — it is portfolio optimization within an existing multi-country footprint, not a new country entry. The firm's financial performance in 2025 (revenue USD 5.5B, operating margin 9.5%, strong cash position) was preserved despite the margin compression, and there is no financial signal that the India expansion was a wrong decision for a firm of EPAM's scale.

What the framework can confirm: EPAM's continued maintenance of Poland and Estonia hubs is consistent with Gate 3's long-standing recommendations. What the framework cannot evaluate: whether the specific balance between India (12.2K), Poland, Estonia, and Ukraine headcount is optimal. That is a portfolio optimization question outside the framework's scope.

Framework scope boundary identified

This decision point reveals a scope boundary rather than a framework failure. The framework is designed for new country selection decisions, not depth-within-existing-hub portfolio optimization. For EPAM in 2025, the correct framework output is an acknowledgment that this is not a question the framework is designed to answer. The firm's continued operation of the framework-recommended Poland and Estonia hubs confirms the framework's prior outputs; the India depth decision is a separate analytical question.

6.4 Chapter Summary

This chapter applied the three-gate framework prospectively to two sample firms, Globant and EPAM Systems, across six decision points spanning the 2020–2025 observation period. The purpose was illustrative rather than predictive: to exercise the framework's full sequential logic on real firm cases, using only data that would have been available at each decision point, and to examine whether the framework's outputs are interpretable against publicly disclosed financial and operational outcomes.

The Globant simulation produced three case-based illustrations directly relevant to the study's target audience. Globant operated within the mid-sized scale class throughout the observation period, and the framework's outputs at each of the three decision points were broadly consistent with the firm's subsequent decisions and financial trajectory. The 2025 Gate 1 result is the chapter's most operationally informative case: a WATCH signal readable from Q1 2025 public disclosures preceded the firm's April 2025 Business Optimization Plan announcement. A decision-maker applying the framework to Globant's public financials in early 2025 would

have received the same directional signal that careful financial analysis would reach, but through a structured and replicable protocol.

The EPAM simulation exercised the framework under more demanding conditions: larger firm scale, acute geopolitical disruption in 2022, and a 2025 decision that lies outside the framework's primary scope. The 2021 case demonstrates Gate 2's intended early-warning function - concentration risk was readable a year before the crisis and directionally aligned with EPAM's Q4 2021 PolSource acquisition, though suggesting a more aggressive response than the firm chose. The 2022 and 2025 cases produced two observations that are honest reflections of the study's methodological choices rather than framework failures. The first is the seven-country panel limitation, which became analytically visible when EPAM's expansion into Hungary, Romania, and Latin American destinations fell outside the scoring model. The second is the boundary between new-country entry decisions, which the framework is designed to evaluate, and depth-within-existing-hub portfolio optimization, which it is not. Both observations directly inform the future-research directions in Chapter 8.3.

Three points carry forward from this chapter into the practical recommendations developed in Chapter 7. First, within its intended scope, new delivery-center entry decisions for mid-sized IT service firms, applied to the candidate countries the firm itself evaluates, the framework produces interpretable, firm-specific outputs whose alignment with observed firm decisions can be checked against publicly disclosed data. Second, the framework's outputs in the four-firm illustrative simulation aligned with the firms' subsequent decisions in the cases examined; this is a case-based result rather than predictive validation, and the threshold values used here remain working specifications open to recalibration on out-of-sample firms (Section 8.3.1). Third, extending the panel to a firm's actual candidate set is a routine operational step rather than a conceptual extension of the framework, as set out in Chapter 7.5 and 7.7.

CHAPTER 7. PRACTICAL RECOMMENDATIONS

7.1 Purpose of the Practical Framework

The purpose of this chapter is to translate the analytical findings of the study into a practical decision-making tool for mid-sized IT service firms considering international delivery center expansion or reallocation. The framework is designed for executive teams, including the CEO, CFO, COO, HR leadership, delivery leadership, legal counsel, and business development leaders.

The central recommendation of this study is that delivery center decisions should not begin with a country shortlist. They should begin with an internal readiness assessment. A country may be attractive in terms of talent, cost, institutional quality, or digital governance, but this does not mean that the firm is ready to enter it. For this reason, the proposed framework follows a three-gate logic:

1. Gate 1 — Is the firm ready to expand?
2. Gate 2 — What operational problem should expansion solve?
3. Gate 3 — Which country best fits the firm's needs, client geography, and regulatory exposure?

This sequence reflects the practical reality of executive decision-making. A firm should not invest management time and resources in country evaluation if its financial position is weak, if the business case for expansion is unclear, or if the selected location creates regulatory complexity that the firm is not prepared to manage.

Conceptually, the three-gate logic operationalizes the firm's ambient financial, operational, and client-geography data as a sequenced set of strategic signals, threshold-triggered financial signals at Gate 1, directional operational signals at Gate 2, and firm-conditioned regulatory signals at Gate 3, as developed in Sections 2.7 and 3.2.3. The recommendations in this chapter are the practical translation of that signal-operationalization protocol into managerial actions.

The recommendations below are intended to help a mid-sized IT service firm apply the framework as a repeatable management process rather than as a one-time academic exercise.

7.2 Gate 1 Recommendation: Establish Financial Readiness Before Evaluating Countries

The first recommendation is that firms should evaluate financial readiness before beginning any country comparison. This step prevents premature expansion and protects the firm from committing to a new delivery center during a period of margin pressure, cash constraint, restructuring, or unstable demand.

A new delivery center usually requires upfront investment before it becomes fully productive. Costs may include legal setup, local leadership hiring, office or coworking arrangements, recruitment costs, HR and payroll infrastructure, IT infrastructure, employer branding, travel, relocation support, tax and legal consulting, and management attention. For a mid-sized firm, these costs can be significant even when the delivery center is small.

Therefore, the executive team should apply a structured readiness checklist before moving to country evaluation.

Area	Key question	Recommended decision rule	Managerial action
Operating margin	Is the firm profitable enough to absorb expansion costs?	Proceed if operating margin is sustainably around or above 10%; use caution if it is close to or below this level.	Continue only if margin pressure is temporary and explained.
Cash position	Can the firm finance 18–24 months of setup and ramp-up costs?	Proceed if cash reserves can cover setup costs without threatening core operations.	Prepare a realistic cash runway scenario before approval.
Revenue trend	Is the firm growing or stabilizing?	Proceed if revenue is growing or stable; pause if revenue is declining without recovery signs.	Avoid expansion during demand contraction.
Client pipeline	Is there enough expected demand to justify new capacity?	Proceed if new delivery capacity is linked to confirmed or highly probable client demand.	Require sales/delivery validation before country selection.
Management capacity	Can leadership manage a new country setup?	Proceed only if accountable leaders are available.	Assign executive owner and local setup owner.
Risk tolerance	Can the firm absorb delay, underutilization, or slower hiring?	Proceed if downside scenario is financially manageable.	Prepare base, optimistic, and conservative scenarios.

Table 7.1 Gate 1 Financial Readiness Checklist. Source: Author's synthesis from previous chapters

The recommended Gate 1 output should be one of three decisions:

PROCEED

All Gate 1 indicators clear. Apply Gate 2 to determine the operational brief; apply Gate 3 to construct the country shortlist with governance filter activated by EU revenue exposure.

WATCH

At least one Gate 1 indicator is at or near the threshold. Country evaluation may begin in parallel with financial-recovery monitoring, but no commitment until all Gate 1 signals clear for two consecutive quarters. Globant 2025 illustrates: margin 9.4 percent, cash depleted, Business Optimization Plan announced. Gate 2 and Gate 3 are not yet evaluated in this state.

STOP

A STOP verdict applies when financial stress is clear and persistent, for example when operating margin remains materially below the 10% threshold, cash reserves are insufficient to cover ramp-up costs, or net income decline indicates structural pressure.

Limits of Gate 1

- Gate 1 detects financial stress; it does not detect strategic obsolescence or market-share decline that has not yet shown up in margins.

- Gate 1 thresholds are calibrated for IT service delivery firms operating with the typical cost structure documented in this study’s sample. Firms with substantially different cost structures (asset-heavy operations, very high R&D intensity) may need adjusted thresholds.
- A WATCH verdict does not necessarily mean expansion is wrong; it means expansion at this moment is wrong. The next quarter’s review may produce a different verdict.

For a consulting-style application, this gate should be reviewed quarterly. If the firm is already close to the margin threshold or facing declining net income, the executive team should avoid starting a country selection project. This is especially important because market entry projects often create internal momentum: once a shortlist is prepared, stakeholders may become emotionally or politically committed to expansion even when the financial case weakens.

The empirical analysis in Chapter 5 illustrates this pattern with the Globant 2025 case. In the first quarter of 2025, Globant’s public disclosures showed an operating margin of 9.4 percent (just below the threshold), cash and equivalents reduced to USD 250 million (down from approximately USD 800 million in 2022), and net income falling 38.5 percent year-over-year. Applied to the readiness checklist in Table 7.1, this combination produces a Watch verdict on margin and a corroborating Watch on the revenue and net-income trend. A mid-sized firm running this checklist in early 2025 would have received a WATCH recommendation and would have had a structured basis for suspending expansion commitments until financial conditions stabilized. The framework’s value here is preventive. The case is documented in detail in Section 5.1.2.

7.3 Gate 2 Recommendation: Define the Operational Problem Before Selecting a Location

The second recommendation is that firms should clearly define why they need a new delivery center before comparing countries. Expansion can solve different business problems, and each problem requires a different location profile.

A firm may need a new delivery center to access a larger talent pool, reduce delivery concentration risk, support EU clients, improve time-zone coverage, lower delivery costs, create business continuity capacity, or enter a new client market. These reasons should not be mixed into one general statement such as “we need to expand internationally.” The executive team should identify the primary expansion driver and then adjust the country evaluation accordingly.

Expansion driver	What it means	Country profile required	Example of decision implication
Talent shortage	Current location cannot provide enough qualified specialists.	Large technical labor pool, strong STEM pipeline, mature IT market.	Prioritize Poland or India-type markets over small frontier markets.
Geographic concentration risk	Too much delivery capacity is concentrated in one country or region.	Politically stable, operationally reliable alternative location.	Prioritize diversification even if cost is higher.

Expansion driver	What it means	Country profile required	Example of decision implication
EU client growth	More work involves EU clients or EU personal data.	GDPR-native or GDPR-compatible location.	Prioritize EU member states or locations with strong data governance.
Cost pressure	Current delivery cost base is increasing.	Competitive labor cost, scalable hiring, acceptable governance risk.	Consider non-EU locations, but only after compliance review.
Business continuity	Firm needs backup capacity outside current risk zone.	Stable infrastructure, remote-work readiness, low operational disruption risk.	Avoid adding another location with similar geopolitical or infrastructure risks.
Client proximity	Clients expect cultural, language, or time-zone alignment.	Nearshore location with strong communication overlap.	Prioritize CEE for EU clients or LATAM for North American clients.
Capability building	Firm needs access to specific expertise, such as AI, cloud, cybersecurity, or data engineering.	Strong digital ecosystem and advanced talent cluster.	Prioritize countries with strong innovation and digital ecosystem scores.

Table 7.2 Gate 2 Operational Driver Matrix. Source: Author's synthesis from previous chapters

The practical recommendation is that the firm should select no more than two primary expansion drivers. If too many drivers are selected, the country scoring becomes unfocused and the final recommendation becomes difficult to defend.

For example, a firm expanding because of EU client growth should not select a country only because labor costs are attractive. A low-cost non-EU location may create additional GDPR, SCC, and data-transfer complexity. Similarly, a firm expanding because of talent shortage should not prioritize a small country with excellent digital governance if the expected headcount requirement is several hundred or several thousand specialists.

Gate 2 should therefore produce a clear management statement and approved before the country scoring begins.

The empirical analysis in Chapter 5 illustrates how Gate 2 can identify a critical signal that the firm sees but underestimates. EPAM Systems entered late 2021 with delivery headcount heavily concentrated in Ukraine and Belarus — a geographic concentration risk that EPAM's own 10-K disclosure flagged at the time. Voluntary attrition at EPAM (13.3 percent) was within ± 3 percentage points of the CEE peer benchmark, identifying the elevated rate as a macro-shock signal rather than firm-specific. The Gate 2 brief that the framework would have produced in late 2021 — “urgent geographic diversification, prioritizing EU-member CEE locations” — is directionally consistent with EPAM's Q4 2021 PolSource acquisition in Poland. EPAM's actual response, however, was incremental relative to the scale of concentration risk, and the February 2022 Russian invasion forced an emergency expansion to fifty countries within twelve months. The lesson for mid-sized firms applying Gate 2 is

that the framework’s discipline is to translate concentration signals into specific candidate-country shortlists with named timelines (e.g. “Poland delivery center established by Q3 2022, 1,500 FTE”), not directional intentions (e.g. “we should diversify”). The case is documented in Section 6.3.

7.4 Gate 3 Recommendation: Apply Country Scoring and Governance Filter Together

The third recommendation is that firms should evaluate countries using two steps: first, a structured country scoring model; second, a governance and regulatory filter adjusted to the firm’s client geography.

A country may score well on general attractiveness but still be unsuitable for a specific firm. For IT service firms, this is especially important because client data, intellectual property, cybersecurity expectations, and cross-border data transfers are part of the delivery model. A country’s attractiveness is therefore not universal. It depends on the firm’s revenue geography, client industries, and regulatory obligations.

The country scoring model should include four pillars:

1. Institutional quality — government effectiveness, regulatory quality, rule of law, political stability.
2. Talent and human capital — ICT specialists, STEM graduates, tertiary education, technology workforce indicators.
3. Digital ecosystem — internet penetration, innovation capacity, ICT exports, digital market maturity.
4. Digital governance — e-government maturity, online services, GovTech maturity, data-regulation environment.

After scoring countries, the firm should apply the governance filter.

EU client revenue exposure	Classification	Governance interpretation	Recommended approach
Below 30%	Monitor	GDPR-related complexity exists but is not usually the dominant location factor.	Country selection may prioritize talent, cost, and delivery scalability.
30–40%	Transition	GDPR and data-transfer requirements should be actively monitored.	Include legal counsel review before final country selection. Non-adequate candidates require firm-specific compliance cost assessment.
Above 40%	Active	Governance and data protection are material decision factors. Continuously staffed compliance function typically required.	Prioritize EU-member or GDPR-adequate locations. Non-adequate candidates require explicit justification.
Above 50%	High-Intensity	Non-EU delivery locations create significant compliance overhead. DPIA and SCC processes are continuous.	Default to EU-member locations. Non-EU candidates require detailed SCC, DPIA, client-contract, and data-transfer assessment.

Table 7.3 Governance Filter by EU Revenue Exposure. Source: Author’s synthesis from previous chapters

The 30–40 percent transition zone, with an approximate midpoint of 35 percent, is treated as a practical working specification informed by GDPR compliance practice (Bird & Bird, 2024; DLA Piper, 2024; IAPP, 2024). The midpoint at approximately 35 percent is offered as a working hypothesis open to empirical refinement (Sections 3.2.1 and 8.3.2). The exact threshold for any specific firm should be adjusted based on the firm’s client contracts, industry focus, type of data processed, and internal legal capacity.

For firms with high EU exposure, countries should not be evaluated only by talent and cost. The firm should also ask:

- Will the location require Standard Contractual Clauses for EU client data?
- Will clients accept delivery from this country?
- Does the country have clear data-protection legislation?
- Are data-transfer rules stable or still evolving?
- Does the firm have internal legal capacity to manage compliance?
- Will delivery from this country require additional client approvals?
- Could regulatory complexity reduce the cost advantage of the location?

The empirical analysis in Chapter 5.4 documents this firm-conditioned logic across the four sample firms. Capgemini (63.3 percent EU revenue) operates a dedicated Data Protection Officer function and conducts Data Protection Impact Assessments on all non-EU delivery commitments — the operational signature of a firm fully inside the governance-active range. EPAM (37.9 percent) operates similar processes but with smaller compliance headcount, indicating a firm in the transition zone. Infosys (27.6 percent) operates GDPR compliance through its general legal function with periodic external audit support — the operational signature of a firm in the monitoring range. Globant (17.3 percent in 2024, rising) currently operates SCC compliance as a routine contractual matter without a dedicated DPO function. The four-firm pattern is the empirical illustration of the firm-conditioned governance signal: the same country governance profile (e.g., India’s) carries different strategic meaning for these four firms because their compliance regimes are calibrated to their EU revenue exposure. The case is documented in Section 5.4 with the dual-channel signal logic developed in detail.

The practical implication is: for EU-heavy firms, the cheapest or largest talent market is not always the best delivery location.

7.5 Illustrative Country Profiles from the Test Sample

The following profiles illustrate how the framework reads on the seven-country test sample, including five delivery-viable candidates and Uzbekistan as a within-sample reformer case. They should not be interpreted as a universal global ranking. A firm applying the framework should add other relevant countries, depending on its client base and delivery strategy.

Within the test sample, the country profiles can be interpreted as follows.

Estonia: Best fit for governance-sensitive EU-oriented expansion

Estonia is the strongest small-scale delivery candidate in the sample for firms that value digital governance, administrative simplicity, and EU regulatory alignment. It is especially attractive for firms serving EU clients because it combines EU membership, GDPR-native status, high e-government maturity, and a strong digital state infrastructure.

However, Estonia has a scale limitation. It is suitable for a specialized delivery center, innovation hub, EU-facing engineering team, or regional coordination location. It may not be suitable as the only major scaling destination for a firm that needs hundreds or thousands of additional delivery professionals.

Recommended use: first EU delivery hub, specialized engineering center, digital governance benchmark, client-facing EU location.

Poland: Best fit for scalable EU delivery

Poland is the strongest large-scale EU delivery candidate in the sample. It offers a better balance between talent depth, EU regulatory alignment, cost competitiveness, and operational maturity. Within the sample, Poland's labor market and outsourcing ecosystem are larger than Estonia's, making Poland the better fit when the firm requires scale beyond what Estonia's talent pool can absorb.

Poland is especially suitable when the firm needs meaningful delivery capacity and wants to avoid the compliance complexity of non-EU delivery locations.

Recommended use: scalable EU delivery center, second major European hub, business continuity alternative to Ukraine or other concentrated locations.

Ukraine: Strong talent case with elevated risk

Within the sample, Ukraine remains a strong talent-driven delivery location, especially for firms that already understand the market or have existing Ukrainian management capacity. Its advantages include deep engineering talent, high ICT service export intensity, and improving digital governance. However, the country requires careful risk management because of the ongoing war and related operational uncertainty.

Ukraine should not be assessed through a simple "high risk / avoid" lens. Instead, firms should distinguish between geopolitical risk and operational capability. The country may remain viable for firms with strong remote-work infrastructure, distributed teams, relocation options, and business continuity planning.

Recommended use: engineering delivery, remote-first delivery model, extension of existing Ukrainian capacity, but only with strong BCP.

India: Best fit for scale, but governance-sensitive for EU-heavy firms

Within the sample, India's scale is the largest, reflecting a position widely documented in the IT services literature for talent volume and mature outsourcing ecosystem. It is especially attractive for firms serving North American clients or firms whose delivery model requires large teams at competitive cost.

However, for firms with high EU client exposure, India requires additional legal and compliance review. GDPR-related SCC obligations and India’s developing data-protection regime may increase governance complexity for EU-client work.

Recommended use: large-scale delivery, cost-sensitive delivery, North America-oriented delivery, specialized technical scale. For EU-heavy firms, use after legal review.

Brazil: Useful regional option with stronger governance than expected

Within the sample, Brazil illustrates how an LGPD-mediated non-EU candidate looks for firms serving the Americas, especially those that need LATAM time-zone alignment. Its digital governance score is stronger than its institutional and talent scores, which makes it a more interesting option than a simple cost/talent analysis might suggest. Brazil’s LGPD framework also provides a more developed data-protection environment than some other non-EU emerging markets.

However, Brazil may not be the strongest choice for firms whose primary need is large-scale technical talent for EU delivery. It is more suitable as a regional Americas delivery option.

Recommended use: LATAM delivery, North American client support, Portuguese-speaking or regional market needs, governance-conscious non-EU option.

Uzbekistan: Reforming market, not yet a primary delivery candidate

Uzbekistan shows important digital governance improvement and may become more relevant in the future. However, within the current test sample, it remains an early-stage option. Its institutional, talent, and digital ecosystem indicators are not yet strong enough to recommend it as a primary delivery center for EU- or North America-serving mid-sized IT service firms.

Uzbekistan may be monitored as a future opportunity, especially for firms already operating in the region or looking for early-mover advantage.

Recommended use: monitoring list, small pilot projects, long-term option, not primary delivery center.

7.6 Executive Decision Matrix

The executive team can use the following matrix to translate the framework into a final decision.

Firm situation	Recommended decision	Preferred country profile
Strong margin, strong cash, growing EU clients	Proceed with country evaluation	EU/GDPR-native location, strong talent and governance
Strong margin, talent shortage, mostly North American clients	Proceed with broader global comparison	Large talent markets, cost-effective delivery, time-zone fit
Strong growth but rising attrition	Proceed, but define retention and hiring strategy first	Countries with deep talent pools and employer-branding potential
High geographic concentration	Prioritize diversification	Politically stable alternative location with BCP value

Firm situation	Recommended decision	Preferred country profile
High geographic concentration AND high EU exposure (above 30% EU revenue)	Prioritize EU-member or GDPR-adequate diversification	CEE EU members (Poland in this study's sample; analogous candidates in a firm's own panel may include Hungary, Romania, Czechia). Avoid non-EU alternatives even if cost differential is favorable.
Margin close to threshold	Watch; conduct only preliminary research	Avoid legal setup or hiring commitments
Margin below threshold and cash pressure	Pause expansion	Focus on stabilization before country selection
EU revenue in TRANSITION (30–40%) or above	Apply full governance filter	EU member states or strong data-governance locations; non-EU candidates require explicit justification
Non-EU candidate selected for EU work	Proceed only after legal review	SCC, DPIA, data-transfer, and client-contract review required

Table 7.4 Final Delivery Center Decision Matrix. Source: Author's synthesis based on findings in previous chapters

This matrix should be used during executive decision meetings. It makes the decision process transparent and prevents country selection from being driven only by personal preference, anecdotal knowledge, or short-term cost comparisons.

7.7 Implementation and Monitoring Roadmap

The implementation roadmap and role allocation in this section are not empirical findings derived directly from Chapters 4–6. They are a normative managerial extension of the three-gate framework. The preceding analytical chapters establish what the firm should evaluate, readiness, operational pressure, country attractiveness, and governance exposure, while this section proposes how a mid-sized IT service firm can organize that evaluation internally. Therefore, the 12-week phasing and role table should be understood as recommended implementation guidance for applying the framework, not as independently validated results.

The framework can be applied through a structured 90-day executive process.

Phase 1: Internal Readiness Review, Weeks 1–2

The CFO and COO should lead the Gate 1 review. The firm should calculate operating margin, cash runway, revenue growth, expected setup cost, and downside scenarios. The output should be a formal Proceed, Watch, or Pause decision.

Deliverable: Gate 1 readiness memo.

Phase 2: Expansion Need Definition, Weeks 3–4

The CEO, COO, HR, delivery leadership, and sales leadership should define the business reason for expansion. The firm should identify whether the main driver is talent shortage, cost pressure, client proximity, EU growth, concentration risk, or business continuity.

Deliverable: Expansion problem statement and country-profile priorities.

Phase 3: Country Longlist and Data Collection, Weeks 5–6

The strategy or operations team should prepare a longlist of possible countries. The seven-country sample used in this study can serve as a starting point, but the firm should add countries relevant to its actual strategy. For example, a CEE-focused firm may add Romania, Hungary, Bulgaria, Czechia, and Portugal. A North America-focused firm may add Mexico, Colombia, Costa Rica, and Argentina. An Asia-focused firm may add Vietnam, the Philippines, Malaysia, and Indonesia.

Deliverable: Country longlist and data table.

Phase 4: Country Scoring and Shortlist, Weeks 7–8

The team should score countries using the four-pillar model. Weights should be adjusted based on the firm's operational priorities. For example, a firm facing talent shortage should increase the talent pillar. A firm serving EU clients should increase the governance pillar. A firm building advanced digital capabilities should increase the digital ecosystem pillar.

Deliverable: Country ranking and shortlist of three to five countries.

Phase 5: Governance, Legal, and Client Review, Weeks 9–10

The legal, compliance, and sales teams should review shortlisted countries. This step should include GDPR exposure, SCC requirements, data-transfer rules, client-contract restrictions, cybersecurity expectations, employment law complexity, and tax structure.

Deliverable: Governance and regulatory risk assessment.

Phase 6: Executive Decision and Entry Plan, Weeks 11–12

The executive team should select one preferred country and one backup option. The final decision should include expected headcount, target capabilities, setup model, investment budget, governance requirements, and success metrics.

Deliverable: Final market entry recommendation and implementation plan.

Recommended Governance Structure for the Decision Process

A delivery center expansion decision should not be owned by one function only. It requires a cross-functional governance structure.

Role	Responsibility
CEO	Final decision owner; confirms strategic fit.
CFO	Validates financial readiness, investment case, and downside scenarios.
COO / Delivery Head	Defines delivery need, capacity model, utilization assumptions, and operational feasibility.
HR / People Lead	Evaluates talent market, hiring feasibility, retention risks, compensation, and employer-branding needs.
Legal / Compliance	Reviews GDPR, SCC, data-transfer, employment law, and corporate setup requirements.
Sales / Client Partner	Confirms client demand, client location preferences, and contractual restrictions.
IT / Security	Assesses infrastructure, cybersecurity, access management, and data-handling requirements.

Role	Responsibility
Local advisor / consultant	Validates country-specific legal, tax, payroll, and labor-market assumptions.

Table 7.5 Recommended Roles and Responsibilities. Source: Author's synthesis based on findings in previous chapters

This structure is especially important for mid-sized firms because they often lack specialized international expansion departments. A formal decision team reduces the risk that expansion will be driven by one dominant perspective, such as cost reduction, without sufficient attention to legal, talent, or operational risks.

Post-Entry Monitoring Metrics

The framework should not end once the country is selected. After a new delivery center is launched, the firm should monitor whether the location is meeting the original business case.

Metric	Purpose	Review frequency
Hiring plan completion	Measures whether the talent market is delivering expected capacity.	Monthly during first year
Time to hire	Shows recruitment efficiency and talent availability.	Monthly
Attrition rate	Tracks retention risk in the new location.	Quarterly
Utilization rate	Shows whether new capacity is billable and productive.	Monthly or quarterly
Revenue supported by new center	Links location to business impact.	Quarterly
Gross margin / delivery margin	Tests financial sustainability of the location.	Quarterly
Compliance incidents	Monitors legal and data-governance risk.	Quarterly
Client satisfaction	Evaluates whether delivery quality meets client expectations.	Quarterly
BCP readiness	Confirms resilience of the location.	Semi-annually
Management overhead	Captures hidden coordination cost.	Semi-annually

Table 7.6 Post-Entry Monitoring Dashboard. Source: Author's synthesis based on findings in previous chapters

If the new center does not meet its targets after 12–18 months, the firm should reassess whether the issue is caused by market selection, execution quality, client demand, or unrealistic assumptions in the original business case.

7.8 Final Practical Recommendation

The final practical recommendation of this study is that mid-sized IT service firms should institutionalize delivery center expansion as a structured executive decision process, using firm-specific thresholds and candidate-country panels adjusted to their own business model, rather than treating it as an opportunistic or purely cost-driven decision.

The proposed three-gate framework helps firms avoid three common mistakes.

First, it prevents firms from evaluating attractive countries before confirming that they are financially ready to expand. Second, it forces executives to define the operational purpose of expansion before selecting a

country. Third, it integrates digital governance and data-regulation exposure into the country selection process, which is especially important for firms serving EU clients.

For practical use, the framework should be applied annually as part of strategic planning and additionally whenever one of the following triggers occurs: sustained margin improvement, rapid revenue growth, rising attrition, geographic concentration risk, major client expansion in the EU or North America, new data-regulation requirements, or disruption in an existing delivery location.

The framework does not replace executive judgment. What it adds is structure: it converts publicly disclosed firm and country data into a sequenced set of decision-triggering signals, and it makes the early stages of the expansion decision (financial readiness, operational priority, country shortlist construction) defensible against the most common errors. The Globant 2025 case (Section 5.1.2) illustrates the framework's preventive value at Gate 1; the EPAM 2021 case (Section 6.3) illustrates how Gate 2 can read concentration risk a year before it becomes a crisis; the four-firm dual-channel signal pattern (Section 5.4) illustrates how Gate 3 calibrates country recommendations to firm-specific governance exposure. For a mid-sized IT service firm, the framework's main practical value is that it converts a complex international expansion decision into a sequence of manageable management questions that can be answered using available public data, cross-functional expertise, and clear decision rules, and the framework's outputs in the four-firm illustrative simulation aligned with the firms' subsequent decisions in the cases examined.

CHAPTER 8. SUMMARY, THEORETICAL CONTRIBUTIONS, AND FUTURE RESEARCH

8.1 Summary of Findings

This study developed and simulated a sequential three-gate expansion decision framework for mid-sized IT service firms evaluating international delivery center locations. The framework integrates firm-level financial readiness assessment, a four-pillar country scoring model grounded in institutional economics and location theory, and a digital governance moderation layer calibrated to each firm's EU client revenue exposure. Applied to four multinational IT service firms across 2020–2025 and seven candidate countries across 2020–2024, the framework produces findings that are both analytically specific and practically actionable.

SQ1 When? Financial and operational readiness thresholds

The Gate 1 and Gate 2 analysis in Chapter 5 answers the first sub-question in two parts. On the financial dimension, the ten percent operating margin threshold combined with the eighteen-month cash-runway specification was set ex ante from external benchmarks and fixed-cost absorption logic (Section 3.2.1) and is shown to be coherent with the four-firm in-sample financial-stress signal. The Globant 2025 result, operating margin 9.4 percent, cash reserves depleted, Business Optimization Plan announced shortly thereafter, sits at the threshold boundary in a way that is consistent with the threshold's intended discriminatory function. The case is presented as a sample-consistency check rather than as prospective validation: the threshold was specified before the firm-by-firm analysis was run, but the firms in the analysis were also the firms whose data informed the framework's calibration choices, and prospective predictive validity therefore requires testing on firms outside the calibration sample (Section 8.3.1). For the practical audience of mid-sized firms, the case illustrates how Gate 1 operates as an early-warning routine: low monitoring cost, structured pause at the threshold, and a clear interface to the operational decision the firm faces.

On the operational dimension, the most significant Gate 2 finding is one that no firm-specific explanation can account for: the simultaneous attrition peak across all four sample firms in 2021–2022. EPAM reached 13.8 percent, Infosys 27.7 percent, Capgemini 25.5 percent, and Globant 18.7 percent within the same eighteen-month window despite fundamentally different delivery models, workforce geographies, and client bases. The convergence identifies the Great Resignation as an external macro-economic shock that activates Gate 2 at the market level simultaneously across firms. For a mid-sized firm applying the framework, this suggests that Gate 2 attrition signals are best benchmarked against market peers rather than evaluated in isolation: an elevated rate that mirrors the market reads as a diversification signal, while an elevated rate that diverges from the market more plausibly indicates a firm-specific management issue.

SQ2 Where? Country-level indicators differentiating candidate locations

The country scoring model produces a hierarchically structured answer to the second sub-question. The panel divides into three analytically distinct tiers. The frontier tier, Denmark and Estonia, is characterized by institutional excellence across all four pillars, EU membership providing GDPR-native compliance, and digital governance maturity at the global frontier. Denmark is the upper reference benchmark and not a cost-viable delivery candidate; Estonia is the leading actionable candidate, anchored by the highest digital governance pillar score in the entire panel (0.939 in 2024) and the lowest administrative friction for foreign firms of any country in the sample.

The anchor tier, Poland at rank three with composite score 0.576, provides the large-scale EU-member delivery option that complements Estonia's governance excellence with greater talent depth. Poland held rank three in every year of the observation period without exception. The contested middle tier, Ukraine (rank four), India (rank five), and Brazil (rank six), is characterized by genuine competitive strengths offset by specific weaknesses that activate differently depending on the evaluating firm's characteristics. Ukraine's 46.6 percent composite score improvement between 2020 and 2024 is the largest in the panel; India's position is uniquely sensitive to EU revenue exposure; Brazil's high governance maturity (Pillar 4: 0.824) is offset by limited talent depth (Pillar 2: 0.366).

The robustness analysis in Section 4.3 shows that five of the seven sample countries maintain identical ranks across all five weight configurations tested. This is a property of the framework on this sample: the multi-pillar dampening produces in-sample rank stability that is independent of weight choice within the tested range. A firm using the framework on a different candidate set would need to re-test rank stability for its own panel, but the methodology supporting that test is established.

SQ3 How? Digital governance maturity as a moderating variable

The third sub-question produces the most theoretically original finding of the study. Digital governance does not function as a uniform location quality signal that improves the attractiveness of a country for all firms equally. It operates through two simultaneous channels with opposite directions and different firm sensitivities.

The positive channel, e-government maturity reducing administrative transaction costs through digitized company registration, tax filing, employment administration, and regulatory compliance, operates universally. Estonia's EGDI of 0.940 and GTMI of 0.956 in 2024 represent the frontier of this channel; Ukraine's EGDI improvement from 0.712 to 0.882 between 2020 and 2024 demonstrates that the channel can maintain operational functionality even under severe geopolitical stress. This governance continuity finding, that digital governance investment partially substituted for physical institutional stability in Ukraine during an active armed conflict, is not widely documented, in any comparable case in the IT services location literature.

The constraining channel, data regulation imposing compliance overhead on EU-client data processed in non-GDPR-adequate countries, is negative and firm-specific. The study proposes a 35 percent EU revenue threshold above which GDPR Standard Contractual Clause obligations become operationally binding constraints.

The same country therefore represents a structurally different governance burden for Capgemini (63.3 percent EU revenue) than for Globant (19.1 percent EU revenue). The framework captures this conditionality through firm-specific pillar weight adjustment, producing observable rank differentiation: India ranks fifth under the standard and Globant configurations but sixth under the EPAM, Infosys, and Capgemini configurations, the same underlying data producing different recommendations because the governance constraint is not universal. The same conditioning logic would apply to any country in a firm's actual candidate set.

8.2 Theoretical Contributions

This study makes three contributions to the scholarly literature on multinational IT service location decisions. The contributions are positioned at the intersection of institutional economics, international business location theory, and digital governance research — three bodies of scholarship that have developed largely in parallel and are integrated here in a unified decision framework.

The first contribution is the three-gate sequential decision architecture itself. The international business literature on multinational location decisions (Dunning, 1998; Meyer et al., 2009; Bunyaratavej et al., 2007) and the digital governance literature (Nguyen et al., 2021; Zou et al., 2023) have developed largely in parallel without being integrated into a unified sequential decision instrument. The framework developed in this study is practical combination of firm-level financial readiness assessment, multi-pillar country scoring, and firm-specific governance moderation into a structured sequence in which earlier gates are preconditions for later ones. The sequential logic, that country selection is not meaningful until readiness is confirmed, and that governance filter activation is determined by firm-specific client geography rather than universal thresholds, addresses a gap identified explicitly by Andy et al. (2024) in a systematic review of 221 FDI location studies.

The second contribution is the operationalization of digital governance as a moderating variable conditioned on client revenue geography. Prior empirical studies treat digital governance as a direct determinant of investment attractiveness (Nguyen et al., 2021; Vu, 2023) or firm efficiency (Xu and Jin, 2024; Liu and Feng, 2025). This study demonstrates that the governance effect is not uniform: it is moderated by the geographic distribution of the firm's client revenues through the GDPR compliance architecture. The same country's governance profile represents a binding production constraint for a firm with 60 percent EU revenue and a manageable administrative overhead for a firm with 15 percent EU revenue. This firm-specific moderation represents a substantive theoretical refinement of the direct-effect governance literature.

The third contribution is methodological: the framework demonstrates a replicable signal operationalization protocol for strategic decisions under uncertainty. Prior location decision frameworks treat country-level indicators as static variables in a weighted-scoring model. This study treats them as signals requiring structured interpretation through a sequential filter that conditions their meaning on firm characteristics. The contribution is not the specific indicators chosen or the specific weights applied, but the protocol itself: the logical sequence in which different signal types are processed, the interpretation rules applied at each stage, and the

explicit conditioning of signal meaning on firm characteristics. This approach extends the application of signal-based strategic management theory (Teece, 2007; Marinković et al., 2022; Zhao et al., 2024) to a specific class of international business decisions, and offers a template that can be adapted to other strategic decision domains where similar data availability and decision complexity characteristics obtain.

8.3 Limitations and Directions for Future Research

Four limitations constrain the scope and generalizability of this study's conclusions. Each is identified specifically and paired with a direction for future research that would address it, together constituting a research agenda for the next stage of inquiry in this domain.

8.3.1 Simulation data from large public firms, framework intended for mid-sized private firms

Two related limitations affect the framework's claim to prospective validity, and both are addressed by the same future-research direction. The first limitation is the gap between the study's simulation sample and its intended audience. The four sample firms, EPAM, Infosys, Capgemini, and Globant, were selected because they disclose the financial, operational, and geographic data required to construct and test the three-gate framework. Mid-sized private IT service firms, the primary practical audience, do not publish equivalent filings. The framework's sequence is offered to mid-sized firms on the premise that the three-gate logic transfers to smaller scale even if the specific threshold values may require recalibration for firms operating in different cost structures and risk environments. The second limitation is more methodologically specific: the four sample firms whose data informed the framework's threshold calibration, the 10 percent operating margin, the 18–24 month cash runway, and the 30–40 percent EU revenue transition zone, are also the firms whose decisions are examined in Chapter 6's prospective simulation. The thresholds were specified ex ante from external benchmarks and first-principles logic (Sections 3.2.1 and 3.2.3), and the in-sample analysis is presented as a coherence check rather than as independent prospective validation; nonetheless, genuinely prospective validation, testing whether the framework's thresholds correctly classify firms whose data did not inform the calibration, requires out-of-sample testing.

This gap is not a validity threat to the framework's architecture, but it is a calibration uncertainty. A firm at USD 300 million in revenue establishing its first overseas delivery center faces a different risk profile than EPAM or Infosys, and the Gate 1 thresholds derived from large-firm data may be too conservative or insufficiently conservative for smaller firms.

The selection of large public firms is a deliberate choice driven by data availability, not a claim that mid-sized firms behave identically. The three-gate logic, readiness must precede comparison; operational pressure must shape comparison; governance moderation must be firm-conditioned, is structural and applies independently of firm size, even though the specific threshold values may require recalibration. The thresholds reported here are working specifications anchored in external industry benchmarks (10% margin floor, 18–24

month ramp-up cost) rather than in the four-firm sample, which mitigates but does not eliminate the calibration-sample-equals-evaluation-sample issue.

Future research direction: Primary survey research with mid-sized IT service firms, collecting proprietary financial and operational data under confidentiality agreements, would allow direct threshold testing at the target firm scale. A structured interview program with twenty to thirty chief financial officers and chief operating officers of mid-sized firms could validate whether the Gate 1 margin threshold holds, whether Gate 2 attrition benchmarks transfer across different labor markets, and whether the 35 percent EU revenue threshold accurately identifies the point at which GDPR SCC obligations become operationally dominant. Such research would also capture the proprietary metrics — billable-to-non-billable ratios, seniority mix, pipeline conversion rates — that the public filing approach cannot access and which may refine the Gate 2 operational signal interpretation.

8.3.2 Sample size and absence of econometric hypothesis testing

The country panel covers seven countries over five years, producing 35 observations. This scale supports comparative descriptive analysis, robustness testing across weight configurations, and framework validation against documented expansion events. It does not support inferential statistical methods. The study's central governance moderation hypothesis, that the GDPR compliance constraint moderates the relationship between country attractiveness and delivery center location choice in proportion to EU revenue share, is supported by case evidence and validated through expansion event matching, but has not been subjected to significance testing.

This is a deliberate methodological choice consistent with the framework-building research design, not an oversight. A panel regression on seven countries would produce unstable coefficient estimates and unreliable standard errors regardless of the model specification. The appropriate inferential test of the moderation hypothesis requires a substantially larger cross-country sample than the present study assembles.

Future research direction: A cross-country panel study encompassing twenty to thirty candidate IT service delivery locations, adding Central European, Southeast Asian, and Sub-Saharan African candidates to the current seven, would provide sufficient observations for panel regression with interaction terms. The specific test to conduct is whether the interaction between EGDI score and EU revenue share has a statistically significant negative effect on non-EU delivery center establishment, conditional on talent and institutional quality controls. This test would either confirm the 30–40 percent EU revenue transition zone (midpoint approximately 35 percent) EU revenue threshold empirically or identify a different threshold value with inferential support. Gravity model approaches, following Ferracane et al. (2020), could additionally test whether restrictive data policies reduce IT service firm location choices in quantitative terms across a multi-country, multi-firm dataset.

8.3.3 Biennial data sources and temporal resolution

Three of the nine country-level data sources, the GovTech Maturity Index (GTMI), the E-Government Development Index (EGDI), and the Kearney Global Services Location Index (GSLI), are published biennially rather

than annually. Non-measurement years are handled through carry-forward imputation for the governance indices and linear interpolation for the GSLI, following standard methodology for slowly-changing institutional indicators. This imputation introduces smoothing that may understate within-cycle governance changes.

The Ukraine case illustrates the limitation most acutely. The GTMI improvement from 0.533 to 0.768 that appears in the 2022 measurement is the largest single-cycle governance improvement in the panel, but the reforms driving it, the Diia platform expansion, digital business registration, e-tax integration, were underway throughout 2021. The carry-forward of the 2020 GTMI value for 2021 therefore understates Ukraine's governance improvement trajectory during a period when it was accelerating rapidly. A model that correctly captured the 2021 midpoint would show an even steeper governance recovery curve for Ukraine than the current dataset records.

Future research direction: Higher-frequency governance proxies would improve temporal resolution in the scoring model. Candidate proxies include the World Bank's Business Ready indicators (annual, replacing the discontinued Doing Business series), government digitization investment as a share of public expenditure from OECD national accounts, firm-level administrative burden surveys from sources such as the Enterprise Survey and the Business Environment and Enterprise Performance Survey, and real-time e-government service availability metrics from national digital government agencies. A scoring model supplemented by these annual proxies — weighted as partial substitutes for biennial governance indices in non-measurement years — would reduce the smoothing artefact and improve the model's sensitivity to within-cycle governance changes, particularly for rapidly reforming countries such as Uzbekistan and Ukraine.

8.3.4 Regulatory evolution and the framework's temporal validity

The framework was constructed and validated at a specific point in time within a rapidly evolving regulatory environment. Two developments in particular may alter the framework's country recommendations within a short horizon.

India's Digital Personal Data Protection Act of 2023 had not been fully implemented through secondary regulations governing cross-border data transfers at the time of writing. The DPDP Act's transfer mechanism framework, once finalized, may restrict the routing of EU-client personal data through Indian delivery centers in ways that compound existing GDPR SCC requirements. If the secondary regulations impose data localization requirements or restrict Standard Contractual Clauses as a valid transfer mechanism, India's effective governance constraint for EU-serving firms would increase substantially — potentially depressing its composite rank below the current fifth or sixth position under EU-heavy firm configurations. Conversely, if the secondary regulations adopt a GDPR-compatible adequacy framework, India's governance score could improve and its rank could rise.

Ukraine's wartime institutional trajectory, documented in this study as rising EGDl despite declining WGI institutional quality indicators, will depend on conflict resolution dynamics that are not analytically predictable. A post-conflict reconstruction scenario that restores physical institutional stability while preserving the digital

governance infrastructure built during the conflict would dramatically strengthen Ukraine's composite score and could elevate it to rank two or three among delivery candidates on a cost-adjusted basis. A scenario of prolonged conflict would maintain the current profile of high digital governance maturity coupled with elevated operational risk.

Future research direction: The scoring model should be treated as a living instrument requiring annual recalibration rather than a fixed reference. Annual updates incorporating new EGDI, GTMI, WGI, NRI, and GII data, together with monitoring of DPDP and equivalent data regulation developments, would maintain the framework's practical relevance for the firms it is designed to serve. A longitudinal research program tracking the framework's country recommendations across annual recalibration cycles — testing whether the Estonia-Poland leadership is durable over a decade, whether Ukraine's trajectory converges toward or diverges from the stable EU candidates, and whether Uzbekistan's reform-driven improvements eventually cross the threshold for primary candidacy — would constitute a valuable applied contribution to the international business location literature. This program could also test the framework's transferability to adjacent contexts: technology outsourcing firms in Latin America evaluating Central American delivery locations, or Asian IT service firms evaluating South and Southeast Asian candidates, where the governance moderation logic applies but the specific regulatory architecture (EU GDPR, India DPDP) differs.

This study set out to develop a structured, evidence-based decision framework for mid-sized IT service firms evaluating international delivery center locations. The three-gate framework that has been built, tested, and documented across Chapters 3 through 5 answers the three research sub-questions with empirical specificity grounded in six years of public firm data and five years of cross-country governance indicators.

The central finding is that delivery center location decisions are not reducible to country attractiveness rankings. They require a sequential logic in which firm financial readiness is confirmed before countries are evaluated, in which operational pressure signals shape what the evaluation should prioritize, and in which the attractiveness of any candidate country is conditioned by the firm's specific client revenue geography. Within the test sample, Estonia and Poland illustrate how a candidate country looks when it satisfies the complete logic of the three-gate sequence simultaneously — GDPR-native, institutionally stable, talent-competitive, and digitally governed. They demonstrate the framework's capacity to identify multi-dimensional fit rather than single-indicator strength; analogous candidates in a firm's own panel would emerge through the same logic.

Digital governance maturity, the study's central theoretical variable, functions neither as a simple location quality signal nor as a uniform constraint. It operates through two channels — reducing administrative transaction costs for all firms while imposing data compliance obligations on EU-client-serving firms — whose relative weight depends on where the firm's clients are located. This is the insight most directly actionable for the mid-sized IT service firm that motivated the research: knowing not just that digital governance matters but knowing precisely when and for whom it becomes the decision-determining variable.

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