

WHEN ERP BECOMES A RELATIONSHIP: STRATEGIC EMBEDDING OF SERVICE PROVIDERS, CAPABILITY CO-DEVELOPMENT, AND IT GOVERNANCE ALIGNMENT IN CHINESE SMES' DIGITAL TRANSFORMATION

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Abstract: Enterprise resource planning (ERP) systems are a principal vehicle of digital transformation in small and medium-sized enterprises (SMEs), yet a large share of implementations fail to deliver the transformational outcomes they promise. This study argues that the difference between technical implementation and genuine transformation lies not in the software but in the *relationship* between the client firm and its ERP service provider. Integrating the resource-based view, dynamic-capabilities theory, and IT-governance research, we develop a conditional-indirect-effect model in which the strategic embedding of the ERP service provider (SEERP) drives digital transformation outcomes (DTO) primarily through capability co-development (CCD), with this indirect pathway strengthened by IT-governance alignment (ITGA). Survey data from 250 Chinese SMEs with active ERP relationships were analyzed using partial least squares structural equation modeling. Strategic embedding significantly predicts transformation outcomes both directly ($\beta = 0.246$) and indirectly through capability co-development (indirect effect = 0.224), with the indirect path accounting for 47.7% of the total effect—repositioning capability co-development from a candidate mechanism to the dominant translational pathway. IT-governance alignment positively moderates the first stage of this mechanism (interaction $\beta = 0.148$) and amplifies the conditional indirect effect, which rises from 0.181 at low alignment to 0.267 at high alignment (index of moderated mediation = 0.065, 95% CI [0.021, 0.118]). The study reconceptualizes ERP service relationships as strategic assets, identifies capability co-development as the mechanism through which provider embedding becomes transformation, and specifies governance alignment as the condition that unlocks it. Implications for client managers, service providers, and industry policy are discussed.

Keywords: ERP; digital transformation; strategic embedding; capability co-development; IT governance alignment; moderated mediation; SMEs; China

Introduction

Digital transformation has become an imperative for small and medium-sized enterprises (SMEs), and enterprise resource planning (ERP) systems remain its most common technological foundation—integrating finance, operations, supply chain, and human resources onto a single platform. Yet the record of ERP-enabled transformation is uneven. A substantial fraction of implementations either fail outright or deliver technical go-live without the deeper reorganization of processes and capabilities that constitutes genuine transformation. This gap between *implementation success* and *transformation outcomes* is especially pronounced in SMEs, which lack the internal IT depth, slack resources, and specialist governance functions of large enterprises.

Explanations of ERP outcomes have historically emphasized internal factors: top-management support, project management, change readiness, and system fit. These matter, but they under-weight a feature that is distinctive to the SME setting: the SME's profound dependence on an external ERP *service provider* for configuration, integration, training, and ongoing support. For most SMEs the provider is not a vendor of a finished product but a continuing partner whose knowledge, responsiveness, and strategic engagement shape what the technology ultimately becomes. The nature of this relationship—transactional or strategic, arm's-length or embedded—may be decisive for whether ERP produces transformation.

This study takes that relationship as its object. We introduce and operationalize the construct of *strategic embedding of the ERP service provider* (SEERP)—the degree to which the provider is integrated into the client's strategic processes rather than engaged as a transactional supplier. We argue that SEERP produces digital transformation outcomes (DTO) principally through *capability co-development* (CCD): the joint building of digital capabilities by client and provider, in which the provider does not merely deliver a system but develops the client's ability to use, adapt, and extend it. And we argue that this mechanism is conditional on *IT-governance alignment* (ITGA)—the extent to which the governance structures of client and provider are coordinated—which determines whether embedding is translated into capability rather than dissipated.

Three research questions follow. (1) Does the strategic embedding of the ERP service provider improve digital transformation outcomes in SMEs? (2) Is this effect mediated by capability co-development? (3) Is the mediated pathway moderated by IT-governance alignment? Using survey data from 250 Chinese SMEs and partial least squares structural equation modeling (PLS-SEM), we find support for a partially mediated model in which capability co-development is the dominant pathway and governance alignment amplifies it—a conditional indirect effect, or moderated mediation.

The study contributes on three fronts. It operationalizes strategic embedding for ERP service relationships, extending embeddedness theory into the IT-service domain. It identifies capability co-development as the dominant mechanism translating provider embedding into transformation,

grounding the claim in dynamic-capabilities theory. And it specifies inter-organizational IT-governance alignment as a capability-enabling condition, extending IT-governance research beyond the boundaries of the single firm. Empirically, it does so in the Chinese SME context, where ERP service relationships are dense, provider dependence is high, and the theorized mechanisms are therefore especially visible.

Research Objectives

This study pursues three objectives. First, it examines whether the strategic embedding of the enterprise resource planning (ERP) service provider improves digital transformation outcomes in Chinese SMEs. Second, it investigates whether capability co-development mediates this relationship, identifying the mechanism through which provider embedding is translated into transformation. Third, it tests whether IT governance alignment moderates the mediated pathway (moderated mediation), establishing the governance condition under which the mechanism is strengthened.

Literature Review

Three theoretical traditions

The model integrates three literatures, each supplying one element of the argument and each, on its own, incomplete for the problem at hand.

The *resource-based view* (RBV) explains why capabilities, not systems, are the proximate source of advantage: sustained advantage flows from resources that are valuable, rare, inimitable, and non-substitutable, and information technology as such—being purchasable—rarely qualifies, whereas the firm-specific capabilities built around it can (Barney, 1991). In its relational extension, the RBV further recognizes that strategically valuable resources may reside not within the firm but in its relationships, so that an inter-firm tie can itself be a source of rents. This supplies the study's foundational premise: the value of ERP lies in the capabilities and relationships surrounding it, not in the software. Yet the static RBV cannot explain *how* such capabilities come into being under conditions of technological change—it characterizes the resources that confer advantage without modeling their creation—which motivates the second tradition.

Dynamic-capabilities theory explains capability creation as a process of sensing opportunities, seizing them, and reconfiguring the resource base (Teece, 2007). Two features of this literature are critical here. First, its concept of capability lifecycles and renewal frames digital transformation as a capability-building problem rather than a technology-adoption event. Second, and central to this study, the theory admits that capabilities can be built *jointly* across firm boundaries—that a firm's dynamic capabilities may be co-created with partners rather than developed in isolation. This licenses the construct of capability co-development as the mechanism through which an embedded provider relationship becomes transformational. What dynamic-capabilities theory does not

by itself specify is the governance conditions under which joint capability building succeeds or fails, which motivates the third tradition.

IT-governance research explains how the allocation of decision rights and accountability for IT shapes the realization of value from IT investment. Historically developed for the single firm—specifying who decides on IT principles, architecture, infrastructure, and priorities—it has more recently been extended to inter-organizational settings in which IT decisions span firm boundaries. This extension supplies the logic for *governance alignment* as a condition on capability building: when the governance structures of client and provider are coordinated, the embedded relationship can be channeled into effective joint capability building; when they are not, embedding generates activity without capability. Integrating the three traditions yields a model in which relationships create value (RBV) by building capability (dynamic capabilities) under enabling governance conditions (IT governance).

The ERP research stream and its service-provider blind spot

ERP research has evolved through several phases: from early studies of implementation success and critical success factors, through work on post-implementation assimilation and business-value realization, to recent attention to ERP as a platform for digital transformation. Across this evolution, the dominant explanatory factors have been internal to the client firm—top-management support, project management quality, change readiness, business-process fit, and user acceptance. This internal focus has yielded a mature understanding of *implementation* but a thinner account of *transformation*, and it has left a persistent blind spot: the ERP service provider. In the SME context this omission is acute, because SMEs typically lack the internal IT depth to implement and evolve ERP alone and depend heavily on an external provider for configuration, integration, training, and continuing support. The provider is not a peripheral vendor but a central actor whose knowledge and engagement shape outcomes—yet ERP research has rarely theorized the provider relationship as a strategic variable. This study addresses that gap directly.

A related conceptual clarification concerns the dependent construct. The literature has often conflated *implementation success*—on-time, on-budget go-live and technical functioning—with *transformation outcomes*: the deeper reorganization of processes, decision-making, and capabilities that constitutes genuine digital transformation. A system can be implemented successfully yet fail to transform the organization, and it is transformation, not implementation, that carries strategic value. Following this distinction, we operationalize *digital transformation outcomes* (DTO) as realized transformation rather than technical implementation success, so that the model explains the outcome that actually matters strategically and avoids the ceiling effects and conceptual slippage that a success-focused dependent variable would introduce.

Strategic embedding and transformation outcomes

Embeddedness theory holds that economic action is shaped by the relationships in which it is situated, and that embedded ties—characterized by trust, fine-grained information transfer, and joint problem-solving—support outcomes that arm's-length ties cannot (Granovetter, 1985; Uzzi, 1997). Applied to ERP, a strategically embedded service provider participates in the client's planning, understands its strategic priorities, and orients its work toward transformation rather than mere technical delivery. Such embedding should raise the probability that ERP produces genuine transformation outcomes, both because the provider tailors the system to strategic needs and because it transmits knowledge that the client could not generate alone.

H1. Strategic embedding of the ERP service provider is positively related to digital transformation outcomes.

Capability co-development as the mediating mechanism

The RBV implies that transformation outcomes are proximately produced by capabilities, not by relationships per se. A relationship, however embedded, is not itself a capability; it is a conduit through which capability may or may not be built. The value of an embedded provider relationship must therefore be *translated* into capability to affect outcomes, and the theoretical question is what does the translating. We locate that translation in capability co-development—the joint, interactive building of the client's digital capabilities through the relationship, in which client and provider learn and construct competence together rather than the provider simply transferring a finished capability to a passive client.

The distinction between capability *transfer* and capability *co-development* is consequential. Transfer treats the client as a recipient of the provider's expertise; co-development treats capability as jointly produced through interaction, so that the client emerges able to operate, adapt, and extend the system independently. A deeply embedded provider is positioned to co-develop rather than merely transfer: because it participates in the client's strategic processes and understands its context, it can build capability that fits the client's specific needs and can transmit the tacit, context-dependent knowledge that pure transfer leaves behind. Co-developed capability, in turn, drives transformation outcomes, because it is the client's own enhanced capability—not the provider's effort as such—that reorganizes processes and decision-making. This two-step logic implies mediation: embedding builds co-developed capability, which produces transformation. We do not expect the mediation to be complete, because embedding may also affect outcomes through channels that bypass capability building—for example, by reducing information asymmetry during configuration or preventing costly errors—so a direct path should remain alongside the indirect one.

H2a. Strategic embedding is positively related to capability co-development.

H2b. Capability co-development is positively related to digital transformation outcomes.

H2. Capability co-development mediates the relationship between strategic embedding and digital transformation outcomes.

IT-governance alignment as a first-stage moderator

Whether embedding is translated into co-developed capability depends on how the relationship is governed. Embedding creates the *opportunity* for joint capability building—close interaction, mutual understanding, strategic engagement—but opportunity is not realization. The realization depends on the governance of the relationship: on whether decision rights are compatible, whether escalation and review processes are coordinated, and whether accountability for joint work is clearly and mutually assigned. When the IT-governance structures of client and provider are aligned on these dimensions, the embedded relationship can be channeled into effective joint capability building: decisions get made, disagreements get resolved, and the interactive learning that constitutes co-development can proceed. When they are misaligned, embedding may generate activity without capability—meetings without decisions, effort without accountability—so that the potential of the relationship dissipates in coordination failure.

Governance alignment thus conditions the *first stage* of the mediation, the SEERP → CCD path, rather than the second stage or the direct path. This is a specific and testable claim: alignment should amplify the conversion of embedding into co-developed capability, and—because it operates on the first stage of the indirect pathway—should thereby amplify the entire indirect effect of embedding on transformation outcomes. This is the logic of moderated mediation, or a conditional indirect effect: the strength of the mediated pathway depends on the level of the moderator. We specify the moderation on the first stage because it is the building of capability, not its subsequent conversion into outcomes, that governance most plausibly enables.

H3. IT-governance alignment positively moderates the relationship between strategic embedding and capability co-development, such that the effect is stronger when alignment is high.

H4. IT-governance alignment moderates the indirect effect of strategic embedding on transformation outcomes through capability co-development (moderated mediation), such that the indirect effect is stronger when alignment is high.

The integrated model and the Chinese SME context

The four hypotheses describe a first-stage moderated-mediation (conditional indirect effect) model: strategic embedding raises transformation outcomes directly (H1) and through capability co-development (H2), while governance alignment strengthens the first stage of that mechanism (H3) and thereby the whole indirect pathway (H4).

The Chinese SME setting makes the mechanisms unusually visible. Chinese SMEs constitute the majority of the country's firms and a large share of its employment and innovation, and they are undergoing rapid, policy-encouraged digital transformation—yet they typically lack the internal IT departments, specialist governance functions, and slack resources that large enterprises deploy to

manage ERP internally. This deficit makes the external service provider central: for most Chinese SMEs, ERP capability is not built in-house but acquired and developed through a continuing provider relationship. Provider dependence is therefore high, relationships are dense and long-lived, and the strategic depth of those relationships varies widely across firms. These conditions produce real, observable variation in the model's constructs—strategic embedding, capability co-development, and governance alignment all range from shallow to deep across the population—so the theorized processes can be detected empirically. Studying the model in this setting is thus not only a matter of extending it to a new context but of examining it where its mechanisms are most sharply expressed. At the same time, features of the setting—the prevalence of private, founder-influenced firms and the relative immaturity of formal IT-governance practice—may condition the strength of the relationships, a point returned to in the discussion of generalizability.

Methodology

Design and philosophy

The study adopts a post-positivist, deductive orientation and a cross-sectional explanatory survey design. The unit of analysis is the client SME, with a single senior informant knowledgeable about the ERP relationship (CIO/IT director, digital-transformation manager, ERP project manager, or senior operations manager).

Measures

The four latent constructs were measured with reflective multi-item, seven-point Likert scales adapted from prior work and refined through translation (back-translation) and a pilot study. *Strategic embedding (SEERP)* captured the provider's integration into the client's strategic processes. *Capability co-development (CCD)* captured joint, interactive building of the client's digital capabilities. *Digital transformation outcomes (DTO)* captured realized transformation rather than technical implementation success—a distinction emphasized throughout the design. *IT-governance alignment (ITGA)* captured coordination of client and provider governance structures. Seven control variables were included: firm size, firm age, industry, ownership, ERP usage experience, respondent role, and region.

Sample and data collection

The target population comprised Chinese SMEs (100–1,000 employees) with active ERP service relationships. Of 420 questionnaires distributed through online and on-site channels, 298 were returned (71.0%) and 250 retained after screening for completeness, duplicate detection, attention-check consistency, and eligibility (effective valid rate 59.5% of distributed). Procedural remedies for common-method variance included section separation, anonymity assurances, and attention checks.

Sample-size adequacy was established through GPower analysis (power 0.80, α 0.05, medium effect $f^2 = 0.15$), which indicated a minimum of 119 for the most complex endogenous equation, and

the minimum- R^2 rule (~ 130), both comfortably exceeded by $N = 250$. The study transparently notes that 250 falls somewhat below the stricter ten-cases-per-parameter heuristic (~ 310) but exceeds the PLS-appropriate criteria; the moderated-mediation parameters, being the most sample-demanding, are interpreted with this in mind.

The sample spans the target size band (68% in the 100–499 range, 32% in 500–1,000), is dominated by manufacturing (47.2%) with meaningful services (25.6%) and trade (17.2%) representation, is heavily private (74.8%), and covers all five major economic regions (45.2% eastern coastal). ERP experience is well distributed, with 72% of firms reporting two or more years of use.

Analytical strategy

PLS-SEM was selected over covariance-based SEM for four reasons: its suitability for complex moderated-mediation models with more stable convergence at moderate sample sizes; its freedom from multivariate-normality assumptions, matching Likert data; its predictive orientation; and its accommodation of composite-based constructs. Analysis was conducted in SmartPLS 4.0 with SPSS 27.0 for preliminary screening. The measurement model was assessed via indicator reliability, internal consistency (Cronbach's α , composite reliability ρ_c), convergent validity (AVE), and discriminant validity (HTMT and Fornell–Lareker). The structural model was assessed via collinearity (VIF), explanatory power (R^2), effect sizes (f^2), predictive relevance (Q^2), and the SRMR approximate-fit index. Hypotheses were tested with bias-corrected bootstrapping (5,000 resamples); moderated mediation was evaluated through the index of moderated mediation and conditional indirect effects at ± 1 SD of the moderator. Robustness checks comprised control-variable inclusion, sub-sample stability, alternative measurement specifications, and bootstrap-resample stability.

Results

Common-method bias and measurement model

Common-method bias was not a serious concern: Harman's first factor accounted for less than half of the variance and full-collinearity VIFs remained below thresholds. The measurement model met all criteria. Indicator loadings exceeded conventional thresholds, and internal consistency and convergent validity were satisfactory for all four constructs.

Table 1. Reliability and convergent validity ($N = 250$).

Construct	Cronbach's α	CR (ρ_c)	AVE
Strategic embedding (SEERP)	0.873	0.904	0.612
Capability co-development (CCD)	0.886	0.914	0.640
Digital transformation outcomes (DTO)	0.881	0.910	0.629
IT-governance alignment	0.902	0.926	0.676

(ITGA)			
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Discriminant validity held on both criteria: all HTMT ratios fell below 0.85 (range 0.642–0.782, the highest between SEERP and CCD reflecting their theoretical proximity), and every construct's square-root AVE exceeded its inter-construct correlations (Fornell–Larcker). The structural model showed no multicollinearity problems, and the approximate fit index (SRMR = 0.061) was below 0.08. (Because PLS-SEM does not produce covariance-based fit indices such as CFI, TLI, or RMSEA, only PLS-appropriate metrics— R^2 , f^2 , Q^2 , and SRMR—are reported here.)

Structural model and hypothesis tests

The model explained a substantial share of the variance in both endogenous constructs, with medium-to-large effect sizes on the focal paths.

Table 2. Structural path estimates (standardized).

Path	β	SE	t	p	95% CI (BC)	f^2
SEERP → CCD (a_1)	0.512	0.058	8.83	< .001	[0.401, 0.622]	0.401
ITGA → CCD	0.232	0.064	3.63	< .001	[0.106, 0.355]	0.082
SEERP × ITGA → CCD (a_3)	0.148	0.054	2.74	.006	[0.041, 0.252]	0.052
SEERP → DTO (c' ; H1)	0.246	0.067	3.67	< .001	[0.114, 0.378]	0.071
CCD → DTO (b_1 ; H2b)	0.438	0.064	6.84	< .001	[0.310, 0.561]	0.226

H1 is supported: strategic embedding has a significant direct effect on transformation outcomes ($\beta = 0.246$). H2a is supported and strong: embedding is a large driver of capability co-development ($\beta = 0.512$, $f^2 = 0.401$). H2b is supported: co-development is a substantial driver of transformation outcomes ($\beta = 0.438$, $f^2 = 0.226$).

Mediation

Table 3. Mediation analysis (bias-corrected bootstrap, 5,000 resamples).

Effect	Coefficient	SE	t	p	95% CI (BC)	Share of total
Direct (SEERP → DTO; c')	0.246	0.067	3.67	< .001	[0.114, 0.378]	52.3%
Indirect (SEERP → CCD → DTO)	0.224	0.043	5.21	< .001	[0.148, 0.315]	47.7%
Total ($c = c' + a \times b$)	0.470	0.062	7.58	< .001	[0.346, 0.589]	100.0%

The indirect effect through capability co-development is significant (0.224, 95% CI [0.148, 0.315]) and accounts for 47.7% of the total effect. Because both the direct and indirect effects are

significant, the mediation is partial: capability co-development is a substantial mechanism—the single largest identified pathway—through which provider embedding becomes transformation, while some of the effect operates through channels not modeled here (e.g., information-asymmetry reduction, configuration-error prevention). H2 is supported.

Moderated mediation

The first-stage interaction ($SEERP \times ITGA \rightarrow CCD$) was significant ($\beta = 0.148$, $p = .006$), supporting H3: governance alignment strengthens the conversion of embedding into co-developed capability. The index of moderated mediation was significant (0.065, 95% CI [0.021, 0.118]), supporting H4. Conditional indirect effects rose monotonically with alignment.

Table 4. Conditional indirect effect of SEERP on DTO through CCD at levels of ITGA.

ITGA level	Conditional indirect effect	SE	95% CI (BC)
Low (−1 SD)	0.181	0.041	[0.108, 0.272]
Mean	0.224	0.043	[0.148, 0.315]
High (+1 SD)	0.267	0.052	[0.174, 0.378]
Index of moderated mediation	0.065	0.025	[0.021, 0.118]

The indirect pathway is significant at every level of alignment, but its magnitude increases by roughly 48% from low to high alignment. Governance alignment does not switch the mechanism on or off; it amplifies an already-operating mechanism.

Robustness

The results were stable across the inclusion of control variables, sub-sample splits, alternative measurement specifications, and alternative bootstrap-resample counts, with focal coefficients and significance conclusions preserved throughout.

Discussion

Summary and interpretation

The study reconceptualizes the ERP service relationship as a potential strategic asset and asks how, and under what conditions, it produces digital transformation. Three findings result. First, the strategic embedding of the service provider does improve transformation outcomes (H1). Second, this effect runs substantially through capability co-development (H2), which carries 47.7% of the total effect—the largest single pathway, though not the whole story, so the mediation is partial. Third, the mechanism is conditional on IT-governance alignment (H3, H4): alignment strengthens the first stage of the pathway and amplifies the conditional indirect effect, without being a prerequisite for it to operate at all.

The effect-magnitude structure is theoretically informative. The strongest single relationship in the model is embedding $\rightarrow$ co-development ($\beta = 0.512$, $f^2 = 0.401$), consistent with the argument that an embedded provider is above all a source of joint capability building: what a strategically embedded provider most reliably does is help the client build capability. The co-development $\rightarrow$ outcomes path is also substantial ($\beta = 0.438$, $f^2 = 0.226$), locating capability—not the relationship as such—as the proximate driver of transformation, exactly as the RBV would predict. Read together, these two large paths trace the theorized translational logic: relationship becomes capability, and capability becomes transformation. The direct embedding $\rightarrow$ outcomes path, while significant, is the smaller of the two routes ($\beta = 0.246$), reinforcing the claim that relationships matter mostly because of the capabilities they build rather than through some direct effect of proximity itself.

The moderated-mediation result adds a conditional layer to this logic. That governance alignment strengthens the first stage ($\beta = 0.148$) and amplifies the conditional indirect effect—from 0.181 at low alignment to 0.267 at high alignment—shows that the capability-building mechanism is not automatic but governed. Importantly, the indirect effect is significant at *every* level of alignment, so governance does not act as a gate that must be open for the mechanism to operate; rather, it acts as an amplifier that determines how much capability an embedded relationship yields. This is a more nuanced picture than a simple necessary-condition account: embedding builds capability even under weak governance, but well-aligned governance makes the same embedding markedly more productive. For theory, this specifies governance alignment as a *capability-enabling* rather than *capability-permitting* condition.

The finding that capability co-development carries 47.7% of the total effect deserves careful interpretation. This is a large mediation share, and it repositions co-development from one candidate mechanism among several to the single most important identified pathway. At the same time, because a significant direct effect remains, the account is explicitly incomplete: roughly half of embedding's influence operates outside the modeled capability mechanism. This is theoretically honest and generative—it points to information-asymmetry reduction, configuration-error prevention, and decision-quality enhancement as complementary mechanisms worth modeling—rather than claiming that co-development explains transformation on its own.

Theoretical contributions

The study makes three contributions. First, it operationalizes *strategic embedding* for ERP service relationships. Embeddedness theory originated in economic sociology to explain how social relationships shape economic action; applying it to the ERP service relationship, and giving it a measurement model, extends the construct into the IT-service domain and gives empirical content to the intuition—widely held by practitioners but under-theorized in ERP research—that provider relationships vary in strategic depth and that this variation has consequences. This reframes the ERP

provider from a supplier to be managed into a relationship to be strategically embedded, redirecting attention from contract terms to relational depth.

Second, it identifies *capability co-development* as the dominant translational pathway from embedding to transformation. This grounds in dynamic-capabilities theory the claim that inter-firm relationships affect outcomes chiefly by building capability, and it does so with an unusually clear empirical signal: the indirect pathway carries nearly half of the total effect and rests on two of the largest paths in the model. In doing so, the study advances the dynamic-capabilities literature's underdeveloped treatment of *joint* capability building, showing that co-development—not one-way transfer—is the operative process, and offering a construct and measurement model that other studies of inter-firm capability building can adopt.

Third, it extends *IT-governance research* beyond the single firm by specifying inter-organizational governance alignment as a capability-enabling condition, and by demonstrating empirically that it functions as a first-stage moderator of the mediation rather than as a direct driver of outcomes. This is a more precise theoretical role than governance research typically assigns its constructs: alignment does not produce transformation directly, nor does it gate the mechanism on or off; it amplifies the conversion of relationship into capability. Locating governance at this specific point in the causal chain sharpens the theory and offers a template for modeling governance as a conditional rather than a main effect.

Together these contributions position the ERP relationship within a coherent RBV–dynamic-capabilities–governance framework rather than the internal-success-factor tradition that has dominated ERP research. The integrative implication is that digital transformation in SMEs is best understood not as a technology-adoption problem but as a relational capability-building problem operating under governance conditions—a reframing with consequences for how the phenomenon is studied and managed.

Practical implications

For client-firm managers, the results argue for a shift in how ERP relationships are conceived and managed. Rather than selecting a provider on price and technical specification and then optimizing for on-time go-live, managers should treat the provider as a strategic partner to be embedded in the firm's planning, and should invest deliberately in the conditions for capability co-development—joint problem-solving, knowledge transfer, and the building of internal competence—because it is co-developed capability, not the system itself, that produces transformation. The moderated-mediation finding adds a specific lever: managers should build governance alignment with the provider—compatible decision rights, coordinated escalation and review, and clear joint accountability—because alignment measurably amplifies the returns to an embedded relationship. Notably, because the mechanism operates even under weak governance, firms need not perfect

governance before engaging, but they should recognize that improving alignment raises the yield of the relationship they already have.

For ERP service providers, the findings suggest that competitive advantage lies in co-developing client capability, not merely delivering and maintaining systems. Providers who build clients' internal competence—rather than fostering dependence—create more transformation value and, the logic implies, more durable relationships; and providers realize their value most fully where governance is aligned, which gives them an interest in helping clients establish the governance structures that make joint work productive. For industry-association leaders and policymakers concerned with SME digital transformation, the results support fostering governance standards, capability-building norms, and provider-qualification frameworks in the SME ERP-services market, since these conditions—more than the availability of technology or financing alone—determine whether digital-transformation investment is translated into realized transformation.

Limitations and future research

Several limitations bound the findings. First, the cross-sectional, single-informant design supports associational rather than strictly causal inference. Because the study measures embedding, co-development, governance alignment, and outcomes at a single point in time and from a single respondent per firm, the temporal ordering the model posits is assumed rather than observed, and common-method concerns, though addressed procedurally, cannot be fully excluded. A dyadic design that surveys both client and provider would be especially valuable here, since the constructs are inherently relational and each party observes the relationship from a different vantage point; longitudinal data would additionally allow the capability-building process to be traced as it unfolds.

Second, the sample of 250 Chinese SMEs, while adequate for the PLS-SEM criteria applied, is modest for the most demanding moderated-mediation parameters, whose estimation is the most sample-sensitive component of the model; larger samples would tighten the confidence intervals around the conditional indirect effects. The sample is also bounded to one national context and one size band, and is concentrated in private, manufacturing, and eastern-coastal firms, so replication across institutional settings, sectors, and firm sizes is warranted before the findings are generalized.

Third, the model isolates one mediating mechanism and one moderator. The substantial remaining direct effect signals that capability co-development, though dominant, is not the whole mechanism; future work could model information-asymmetry reduction, configuration-error prevention, or decision-quality enhancement as complementary mediators in a multiple-mediator design. On the moderation side, future research could examine second-stage moderation (conditions under which co-developed capability more effectively produces transformation), other governance dimensions, and the dynamics of embedding across the ERP lifecycle—since the strategic depth of the provider relationship, and the governance around it, plausibly evolve from selection through implementation to ongoing evolution.

Conclusion

In the SME setting, whether ERP produces digital transformation depends less on the system than on the relationship behind it. A strategically embedded service provider raises transformation outcomes primarily by co-developing the client's digital capabilities, and IT-governance alignment determines how fully that mechanism is realized. When ERP becomes a relationship—embedded, capability-building, and well-governed—it becomes transformational; when it remains a transaction, it tends to remain merely a system.

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