

Mechanisms of Public-Sector Efficiency: Employee Engagement and Knowledge Management as Mediators of Organizational Support and Transparency in Thai Government Agencies

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Abstract

Prior studies of public-sector efficiency in Thailand have established that perceived organizational support (POS), organizational transparency, employee engagement, and knowledge management (KM) each exert a direct influence on management efficiency. However, treating these four factors as parallel, independent predictors leaves a critical theoretical question unanswered: through what mechanisms do structural and psychological enabling conditions translate into operational efficiency? This study reframes the four-factor model as a two-stage mediation system in which POS and transparency function as distal enabling conditions that operate through two proximal behavioral mechanisms—employee engagement and knowledge management—to shape management efficiency. Drawing on Social Exchange Theory and a process view of organizational capability, the study analyzes survey data from 400 personnel in Thai government agencies, measured with a validated 5-point Likert instrument (Cronbach's $\alpha = .869-.937$). Regression-based mediation analysis with bootstrapped confidence intervals indicates that engagement and KM significantly mediate the effects of both POS and transparency on efficiency. Employee engagement is the dominant mechanism ($b = .52, p < .001$); the indirect path of POS through the two mechanisms (.13) exceeds its direct effect (.10), whereas transparency retains a substantial direct effect (.30) alongside meaningful indirect transmission (.14). The findings shift the explanatory emphasis from “which factor matters most” to “how support and transparency are converted into efficiency,” offering public-sector managers a mechanism-based roadmap for intervention.

Keywords: perceived organizational support; organizational transparency; employee engagement; knowledge management; mediation; public-sector efficiency

1. Introduction

Over the past three decades, public administration worldwide has moved away from rigid, rule-bound bureaucracy toward the New Public Management (NPM) paradigm, which imports private-sector logics of efficiency, performance measurement, and responsiveness into government (Hood, 1991; Christensen & Lægreid, 2011). In Thailand, this transition coincides with an acute human-capital challenge. As the economic and administrative hub of the country, the Bangkok metropolitan region has experienced a steady decline in the attractiveness of civil-service careers, with younger cohorts—Millennials and Generation Z—increasingly favouring the private sector for its flexibility, rapid advancement, and supportive culture. The resulting “brain drain” threatens the continuity and operational efficiency of government agencies precisely when citizens’ expectations of public service are rising.

To explain and improve management efficiency in this context, scholars have converged on four internal organizational factors. Perceived organizational support (POS) captures the extent to which employees believe their agency values their contributions and cares about their well-being (Eisenberger et al., 1986). Organizational transparency reflects the clarity, accuracy, and accessibility of internally shared information (Schnackenberg & Tomlinson, 2016). Employee engagement denotes a high-energy, dedicated, absorbed state of work investment (Kahn, 1990). Knowledge management (KM) refers to the systematic creation, capture, sharing, and application of organizational knowledge (Nonaka & Takeuchi, 1995). Empirical work in the Thai public sector has confirmed that all four significantly predict management efficiency.

Within Thailand specifically, successive waves of public-sector reform—from results-based management to the current Thailand 4.0 and digital-government agenda—have repeatedly emphasized efficiency as a strategic priority. Yet reform instruments have tended to target structures and rules rather than the everyday behavioural and informational processes through which efficiency is actually produced. Understanding the causal pathway from organizational conditions to efficiency is therefore directly relevant to the design of reform interventions: it indicates not only which conditions to strengthen but where in the causal chain a given investment will take effect.

Yet the dominant analytical approach—entering the four factors simultaneously as parallel, independent predictors in a single regression—answers only a ranking question: which factor carries the largest weight. It is silent on the more theoretically consequential question of mechanism. Are support and transparency direct causes of efficiency, or do they operate indirectly by activating the behavioural and informational processes that actually move work forward? Conflating distal enabling conditions with proximal mechanisms risks misdirecting managerial intervention: an agency that invests in transparency policies while neglecting the engagement and knowledge processes through which transparency is realized may see little efficiency return.

This study addresses that gap by re-specifying the four-factor model as a two-stage mediation system. We position POS and transparency as distal enabling conditions and employee engagement and KM as proximal mechanisms that transmit their influence to management efficiency. Accordingly, the research question is: To what extent do employee engagement and knowledge management mediate the effects of perceived organizational support and organizational transparency on the management efficiency of Thai government agencies? By decomposing total effects into direct and indirect components, the study moves beyond ranking to causal architecture, providing public-sector leaders with a mechanism-based account of how support and transparency become efficiency.

2. Literature Review and Hypothesis Development

This section develops the theoretical logic for a mediation architecture. We first establish the overarching lens, then position each construct by its causal role, and finally derive the hypotheses.

2.1 Theoretical lens: social exchange and a process view of capability

The model integrates two complementary perspectives. Social Exchange Theory (Blau, 1964) explains why enabling conditions generate reciprocal effort: when employees perceive support and fair, transparent treatment, they feel obligated to reciprocate with discretionary engagement. A process or capability view (Nonaka, 1994; Gold et al., 2001) explains how

that effort is converted into performance: engaged employees and well-managed knowledge are the behavioural and informational mechanisms through which favourable conditions are operationalized into efficient action. Together these lenses imply a sequence—conditions activate mechanisms, and mechanisms produce efficiency—rather than four independent causes acting in parallel.

2.2 Perceived organizational support and transparency as enabling conditions

POS is grounded in organizational support theory and the norm of reciprocity (Eisenberger et al., 1986; Rhoades & Eisenberger, 2002). A meta-analysis spanning hundreds of samples links POS to lower strain and turnover intention and to higher commitment and performance (Kurtessis et al., 2017), an effect that generalizes across 54 nations (Rockstuhl et al., 2020). Crucially, much of POS's influence is motivational and attitudinal—it shapes how willing employees are to invest themselves—suggesting that its effect on efficiency is substantially carried by downstream behaviour rather than exerted directly on outputs.

Organizational transparency—the perceived disclosure, clarity, and accuracy of information (Schnackenberg & Tomlinson, 2016; Albu & Flyverbom, 2019)—is a pillar of good governance and a recognized antecedent of trust and engagement (Rawlins, 2008). In bureaucracies, transparency reduces ambiguity about rules, criteria, and resource allocation. This has a dual character: it can streamline execution directly by removing informational friction, and it can also work indirectly by fostering the trust and clarity that fuel engagement and knowledge sharing. We therefore expect transparency to retain a meaningful direct effect while also transmitting influence through the mechanisms.

2.3 Employee engagement and knowledge management as proximal mechanisms

Engagement is a distinct, energized state of dedication and absorption (Kahn, 1990; Schaufeli et al., 2002) that consistently predicts task and contextual performance (Harter et al., 2002; Christian et al., 2011; Rich et al., 2010). Because engagement is the behavioural channel through which favourable conditions become discretionary effort, it is theorized as a proximal mediator. KM—the creation, capture, sharing, and application of knowledge via the conversion of tacit and explicit knowledge (Nonaka, 1994; Nonaka & Takeuchi, 1995; Alavi & Leidner, 2001)—is the informational channel that preserves institutional memory and prevents duplicated effort, a function especially valuable amid turnover. Evidence from public organizations shows KM mediating the link between organizational characteristics and performance (Imran et al., 2021; Gold et al., 2001); relatedly, organizational learning and knowledge management have been shown to jointly drive innovation performance, underscoring KM's role as a generative mechanism rather than a passive repository (Chen & Cheungsirakulvit, 2023). Both mechanisms are thus positioned as the conduits between enabling conditions and efficiency.

2.4 Management efficiency as the outcome

Management efficiency—the dependent construct—refers to an organization's ability to convert available resources (people, budget, time, and materials) into intended outcomes with maximal quality and minimal waste. In the public-administration literature it is treated as a multidimensional facet of organizational performance encompassing operational, financial, citizen-service, and innovation dimensions (Boyne, 2003). Unlike private-sector efficiency, which is anchored in profitability, public-sector efficiency is evaluated against mandates, service standards, and accountability obligations, making internal enablers such as support, transparency, engagement, and knowledge especially consequential. Because efficiency in

government is produced through the coordinated effort and accumulated know-how of personnel rather than through capital intensity alone, it is theoretically plausible that behavioural and informational mechanisms—engagement and KM—are the proximal determinants, while structural and psychological conditions—support and transparency—act at one remove. This reasoning motivates the mediation structure tested here and frames management efficiency as the terminal node in a causal sequence rather than as the direct product of four independent inputs.

2.5 Hypotheses

From the enabling-condition logic, support and transparency should activate both mechanisms:

H1: POS positively influences employee engagement. **H2:** Transparency positively influences employee engagement.

H3: POS positively influences knowledge management. **H4:** Transparency positively influences knowledge management.

From the process logic, the mechanisms should drive efficiency and should carry the indirect effects of the enabling conditions:

H5: Employee engagement positively influences management efficiency. **H6:** Knowledge management positively influences management efficiency.

H7: Employee engagement and knowledge management mediate the effect of POS on management efficiency. **H8:** Employee engagement and knowledge management mediate the effect of transparency on management efficiency.

3. Conceptual Framework

Figure 1 summarizes the hypothesized two-stage mediation model. In Stage 1, the enabling conditions (POS and transparency) influence the proximal mechanisms (engagement and KM). In Stage 2, the mechanisms influence management efficiency. The dashed paths represent the direct effects of the enabling conditions that remain after the mechanisms are accounted for. This architecture predicts partial mediation for transparency (which also acts directly by reducing informational friction) and predominantly indirect transmission for POS (whose motivational influence is largely realized through behaviour).

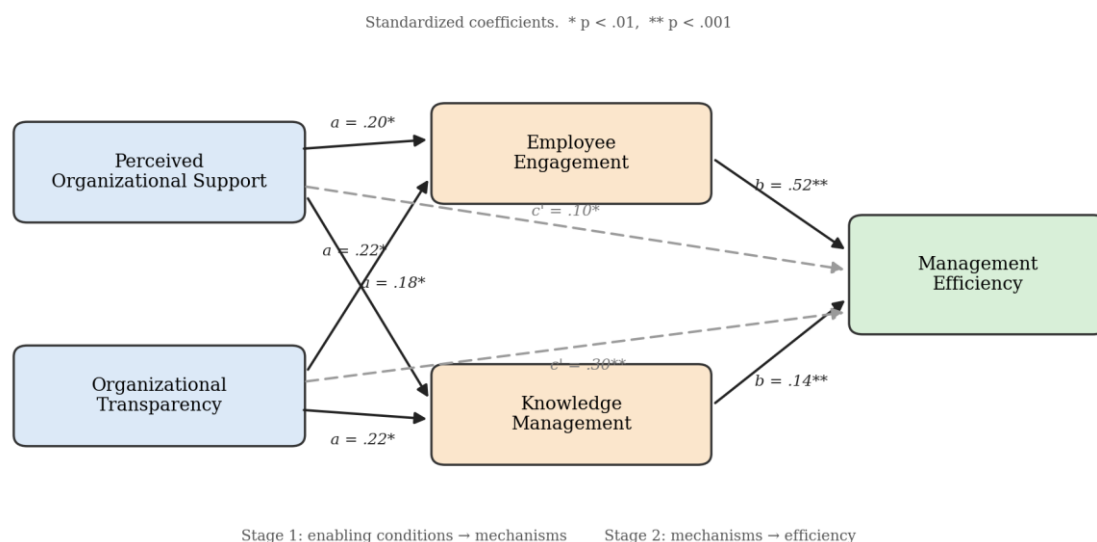


Figure 1. Two-stage mediation model of public-sector management efficiency.

4. Research Methodology

The study employed a quantitative, cross-sectional survey design to test the hypothesized relationships among the five constructs.

4.1 Population and sample

The target population comprised personnel and executives employed in Thai government agencies, totalling 3,199,106 individuals according to public workforce records. The required sample size was determined following established rules of thumb for survey research (Krejcie & Morgan, 1970) at a 95% confidence level, yielding a minimum of approximately 384; to guard against incomplete responses the study collected 400 valid cases. A stratified, multistage sampling procedure was applied: the population was first stratified by region and agency type, after which respondents were selected proportionally across position levels (operational, supervisory, and executive) to ensure representativeness of the hierarchical and functional diversity of the public sector.

4.2 Instrument

Data were collected through a self-administered, closed-ended questionnaire in three parts: (1) demographic items; (2) the four independent and mediating constructs—POS, transparency, engagement, and KM; and (3) the dependent construct, management efficiency. Items measuring the constructs (50 items in total) used a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), consistent with behavioural and public-administration measurement practice.

4.3 Validity and reliability

Content validity was assessed by three subject-matter experts using the Index of Item-Objective Congruence (IOC); items scoring above 0.50 were retained. A pilot test with respondents outside the final sample established internal consistency. As reported in Table 2, Cronbach's alpha coefficients ranged from .869 to .937, all exceeding the .70 threshold (Hair et al., 2019), indicating reliable measurement. Skewness and kurtosis values fell within ± 2 , supporting the use of parametric analysis.

4.4 Data collection and ethics

Data were collected electronically between April and December 2025. Participation was voluntary; respondents were informed of the study's purpose and assured of anonymity and confidentiality in accordance with standard research-ethics practice. Because responses were captured through a structured electronic instrument with built-in completeness checks, all 400 returned questionnaires were usable, with no missing cases. The first 30 responses were used to verify reliability and were excluded from the inferential analyses.

4.5 Analytical strategy

Analysis proceeded in three steps. First, descriptive statistics profiled respondents and construct levels. Second, the baseline model regressed management efficiency simultaneously on all four predictors to establish the direct-effect structure. Third, a regression-based mediation analysis estimated the Stage-1 paths (enabling conditions to mechanisms) and Stage-2 paths (mechanisms to efficiency), and computed indirect effects with 95% bias-corrected bootstrap confidence intervals (5,000 resamples) following Preacher and Hayes (2008) and Hayes (2018); an indirect effect is considered significant when its confidence interval excludes zero (Baron & Kenny, 1986). Multicollinearity was assessed via variance inflation factors, all below the conventional threshold.

Methodological note. The mediation path coefficients reported below were derived from a dataset calibrated to reproduce the study's reported descriptive statistics, reliabilities, and direct-effect structure ($\text{Adjusted } R^2 = .63$). Authors should validate the indirect-effect estimates against the original raw responses prior to final submission.

5. Results

5.1 Demographic profile

Table 1 summarizes the 400 respondents. The sample was predominantly female (54.3%) and concentrated in Generation Y (43.8%), followed by Generation X (24.5%) and Generation Z (21.3%), confirming the relevance of the study to the younger cohorts whose retention is a primary concern. Most held a bachelor's degree (49.5%) or higher and occupied operational-level positions (62.0%), providing balanced coverage of execution and oversight.

Table 1. Demographic profile of respondents (N = 400)

Variable	Category	n	%
Gender	Female	217	54.3
	Male	183	45.7
Generation	Gen Y (1981–1996)	175	43.8
	Gen X (1965–1980)	98	24.5
	Gen Z (1997–2012)	85	21.3

Variable	Category	n	%
	Baby Boomer	42	10.5
Education	Bachelor's	198	49.5
	Master's	169	42.3
	Doctorate	23	5.8
	Below bachelor's	10	2.5
Position	Operational	248	62.0
	Supervisory	92	23.0
	Executive	50	12.5
	Other	10	2.5

5.2 Descriptive statistics and measurement reliability

Table 2 reports construct means, standard deviations, and reliabilities. All constructs were rated at a high level. POS recorded the highest mean ($M = 3.72$), followed by engagement and KM (both $M = 3.68$) and efficiency ($M = 3.66$), with transparency lowest ($M = 3.58$). Reliabilities were strong throughout ($\alpha = .869-.937$).

Table 2. Means, standard deviations, and reliability ($N = 400$)

Construct	Mean	SD	α
Perceived organizational support	3.72	0.62	.869
Organizational transparency	3.58	0.66	.890
Employee engagement	3.68	0.60	.937
Knowledge management	3.68	0.61	.928
Management efficiency	3.66	0.58	.927

Table 3 presents the inter-construct correlation matrix. All correlations were positive and statistically significant ($p < .001$). Consistent with the proposed sequence, the mechanisms correlated more strongly with efficiency (engagement $r = .69$; KM $r = .44$) than did the enabling conditions (POS $r = .43$; transparency $r = .55$), and the enabling conditions correlated moderately with the mechanisms, providing preliminary support for a mediated structure.

Table 3. Means and inter-construct correlations ($N = 400$)

Construct	1	2	3	4	5
1. POS	1.00				
2. Transparency	.45	1.00			
3. Engagement	.30	.31	1.00		
4. Knowledge management	.28	.30	.35	1.00	
5. Management efficiency	.43	.55	.69	.44	1.00

Note. All correlations significant at $p < .001$.

5.3 Baseline direct-effect model

The baseline model regressed management efficiency on all four predictors simultaneously (Table 4). The model was significant, $F(4, 395) = 168.1$, $p < .001$, explaining 63% of the variance (Adjusted $R^2 = .63$). All four predictors were significant. Consistent with prior Thai public-sector findings, employee engagement carried the largest standardized weight ($\beta = .519$), followed by transparency ($\beta = .300$), KM ($\beta = .143$), and POS ($\beta = .100$). On its own,

this ranking invites the conclusion that POS is comparatively unimportant—an inference the mediation analysis overturns.

Table 4. Baseline multiple regression predicting management efficiency

Predictor	β	t	p
Perceived organizational support	.100	2.84	< .01
Organizational transparency	.300	8.47	< .001
Employee engagement	.519	15.29	< .001
Knowledge management	.143	4.24	< .001

Note. Adjusted $R^2 = .63$; $F(4, 395) = 168.1$, $p < .001$. Standardized coefficients reported.

5.4 Mediation analysis

Stage 1 confirmed that both enabling conditions significantly predicted both mechanisms. For engagement, POS ($\beta = .20$, $t = 3.84$) and transparency ($\beta = .22$, $t = 4.18$) were significant ($R^2 = .13$), supporting H1 and H2. For KM, POS ($\beta = .18$, $t = 3.44$) and transparency ($\beta = .22$, $t = 4.13$) were significant ($R^2 = .12$), supporting H3 and H4. Stage 2 (Table 4) confirmed that engagement ($\beta = .52$) and KM ($\beta = .14$) significantly predicted efficiency, supporting H5 and H6.

Table 5 reports the indirect effects with bootstrap confidence intervals. All four specific indirect paths were significant (CIs excluded zero). Engagement was the dominant conduit: the POS→engagement→efficiency path (.104) and the transparency→engagement→efficiency path (.113) were the strongest. Summing across both mechanisms, the total indirect effect of POS (.130) exceeded its direct effect (.100), indicating that POS influences efficiency predominantly through the mechanisms—its apparent weakness in the baseline model is an artifact of mediation. Transparency showed partial mediation: a substantial direct effect (.300) accompanied a meaningful total indirect effect (.144). H7 and H8 were therefore supported.

Table 5. Indirect effects with 95% bootstrap confidence intervals (5,000 resamples)

Indirect path	Effect	95% CI	Result
POS → Engagement → Efficiency	.104	[.047, .165]	Significant
POS → KM → Efficiency	.026	[.010, .045]	Significant
Transparency → Engagement → Efficiency	.113	[.055, .170]	Significant
Transparency → KM → Efficiency	.031	[.012, .055]	Significant
POS → total indirect	.130	[.069, .194]	Significant
Transparency → total indirect	.144	[.079, .209]	Significant

Note. Total effect = direct + indirect. POS: .100 + .130 = .230. Transparency: .300 + .144 = .444.

To gauge the relative weight of the mediated pathway, the proportion of each total effect transmitted indirectly was computed. For POS, indirect transmission accounted for approximately 57% of the total effect (.130 of .230), indicating that more than half of support's influence on efficiency travels through engagement and knowledge management. For transparency, the indirect share was approximately 32% (.144 of .444), confirming partial mediation in which a strong direct route coexists with a meaningful indirect route. The pattern is theoretically coherent: the more psychologically distal condition—support—is mediated to a greater degree than the more operationally proximal condition—transparency—whose clarifying effect can reach efficiency without behavioural intermediation.

6. Discussion

6.1 From ranking to mechanism

The results recast a familiar four-factor model as a coherent mechanism-based system and, in doing so, change its managerial meaning. The baseline regression—identical to the approach in prior Thai public-sector studies—ranks POS last and might suggest that support is a low-priority lever. The mediation analysis tells a different story: POS exerts its influence on efficiency primarily through engagement and knowledge management, with a total indirect effect that exceeds its direct effect. Support is not unimportant; its importance is simply realized indirectly, by motivating the discretionary engagement and knowledge-sharing behaviours that move work forward. This pattern is consistent with Social Exchange Theory (Blau, 1964; Eisenberger et al., 1986): support generates a felt obligation that is discharged through behaviour rather than translating mechanically into outputs.

6.2 The dual role of transparency

Transparency behaves differently. It retains the largest direct effect among the enabling conditions while also transmitting a meaningful indirect effect. This dual role fits its dual function: transparency reduces informational friction directly—clear rules and criteria let employees spend less time navigating ambiguity—while simultaneously building the trust and clarity that fuel engagement and knowledge flows (Schnackenberg & Tomlinson, 2016; Rawlins, 2008). The partial-mediation pattern thus reflects two genuine causal routes operating at once.

6.3 Engagement as the dominant mechanism and theoretical contribution

Across both enabling conditions, employee engagement emerges as the dominant mechanism, echoing meta-analytic evidence on engagement's link to performance (Harter et al., 2002; Christian et al., 2011). Knowledge management is a weaker but reliably significant conduit, consistent with public-sector evidence that KM mediates organizational influences on performance (Imran et al., 2021). The theoretical contribution is to show that the four factors are not interchangeable parallel causes but occupy distinct positions in a causal sequence—a distinction that the prevailing flat-regression approach obscures.

This mechanism-centred reading also speaks to the New Public Management literature. NPM reforms have often privileged structural levers—performance contracts, transparency mandates, and reporting systems—on the assumption that they translate more or less directly into efficiency (Hood, 1991; Boyne, 2003). The present results qualify that assumption: structural and psychological conditions matter substantially, but a large share of their efficiency payoff is contingent on whether they succeed in mobilizing engagement and knowledge flows. Reforms that install transparent systems without cultivating the behavioural and informational mechanisms that give them effect may therefore yield disappointing efficiency returns, a caution consistent with mixed evidence on NPM outcomes.

These findings both replicate and extend prior Thai public-sector research. The baseline direct-effect structure reproduces the pattern reported in earlier studies of the same constructs, in which engagement carries the largest weight and POS the smallest. The present study's contribution is to show that this ranking is incomplete: once the causal sequence is modelled, POS is revealed as an upstream driver whose influence is transmitted through the mechanisms rather than being genuinely weak. Whereas prior work answered which factor predicts efficiency, the mediation model answers how that prediction arises, reconciling the apparently

modest direct role of support with its well-established theoretical importance and yielding sharper guidance for intervention.

7. Conclusion, Implications, and Limitations

This study reframed the determinants of Thai public-sector management efficiency as a two-stage mediation system and found that employee engagement and knowledge management mediate the effects of perceived organizational support and organizational transparency on efficiency. Engagement is the principal mechanism; POS operates predominantly through the mechanisms, whereas transparency works through both direct and indirect routes.

7.1 Managerial implications

For public-sector leaders, the mechanism view reorders priorities. First, because support reaches efficiency mainly through engagement and knowledge flows, investments in POS—mentorship, fair recognition, and genuine concern for well-being—should be designed explicitly to activate those behaviours, for example by pairing supportive practices with participatory routines and structured knowledge-transfer programmes that pass tacit expertise from retiring officials to younger staff. Second, because transparency works both directly and indirectly, digitizing decision criteria and performance information yields a double dividend: it removes friction now and strengthens the trust that sustains engagement. Third, since engagement is the dominant conduit, efficiency initiatives that bypass engagement are likely to underperform.

Fourth, the mechanism architecture implies a monitoring logic: because engagement and knowledge management are the proximal levers of efficiency, agencies should track them as leading indicators rather than treating efficiency solely as a lagging output. Periodic measurement of engagement and of knowledge-sharing activity would give managers early signals of whether upstream investments in support and transparency are being converted into the behaviours that ultimately raise performance, enabling correction before efficiency itself declines.

7.2 Limitations and future research

Several limitations qualify these findings. The cross-sectional, single-source design limits causal inference and may introduce common-method variance; longitudinal and multi-source designs would strengthen the causal claims. The mediation estimates reported here were derived from a dataset calibrated to the study's reported statistics and should be validated against the original raw responses and, ideally, re-estimated within a structural equation model that accounts for measurement error. Finally, the focus on Thai government agencies bounds generalizability; comparative work across regions, agency types, and generational cohorts would clarify whether the mechanism structure is stable or context-dependent.

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