

Ambidextrous Bureaucracies in Turbulent Policy Environments: How Dynamic Capabilities Drive Public Service Performance

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Abstract

This work explores how dynamic capabilities enable public sector organizations to develop ambidextrous capabilities and enhance their performance despite turbulent policy environments. Applying dynamic capability theory and prevailing work on organizational ambidexterity, we explore relationships between dynamic capabilities, organizational ambidexterity, public service performance, and policy turbulence as a moderating variable. Our research adopts data from 286 respondents employed by three separate public service units from SAMSAT settings in Kepulauan Riau Province, Indonesia, and partial least squares structural equation modeling (PLS-SEM) to assess relationships. We find strong empirical support for all relationships proposed. Somewhat surprisingly, dynamic capabilities strongly enhance organizational ambidexterity and public service performance such that organizational ambidexterity itself serves as a partial mediator between dynamic capability and performance (accounting for 34.7% of all effects). Also, policy turbulence emerges as both a direct antecedent to performance and a strong moderator that strengthens the dynamic capabilities-performance relationship under uncertain environments. The model demonstrates high explanatory ability, explaining 64.4% of the variance in organizational performance. Our findings supplement dynamic capability theory in public sector contexts, situate organizational ambidexterity as a mediating mechanism rather than a separate capability, and provide support for the contingent value proposition enjoyed by dynamic capabilities. Our work offers actionable implications for public managers in highly interactive policy environments and augments public administration scholarship, synthesizing theory on bureaucratic settings, incorporating ambidexterity theory.

Keywords: Dynamic Capabilities; Organizational Ambidexterity; Public Service Performance; Policy Turbulence; Public Administration; Bureau-Centric Innovation.

1. Introduction

Public institutions globally are now having to contend with never-before levels of difficulty in operating their operations smoothly despite increasingly turbulent and complex policy regimes (Coen et al., 2022). The typical bureaucratic paradigm involving structured hierarchies and standardized procedures is less effective in responding to the dynamic needs of contemporary governance (Zelli & van Asselt, 2013). There has accordingly been greater consideration over recent years in the conceptualization of organizational ambidexterity as one such approach to public institutions to concurrently leverage existing capabilities for everyday operations and experiment with new approaches to innovation and adaptation (De Silva et al., 2022; Ochie et al., 2022). The conceptualization of ambidextrous bureaucracies entails one such paradigmatic shift from mainstream public administration frameworks to greater flexibility and agility in institutional arrangements (Xia et al., 2024). Such institutions are effective in responding to mutually contradictory imperatives: preserving steadiness and efficiency in fundamental service delivery and fostering flexibility and innovation to leverage new opportunities and changing citizen aspirations (Cannaerts et al., 2020).

The implementation of regional autonomy with ongoing administrative reforms in Indonesia has created an eminently dynamic policy environment, particularly in border regions like Kepulauan Riau Province. Organizations like SAMSAT (Joint Motor Vehicle Administration System) face constant imperatives to develop their services with effective operations across diverse functions such as revenue collection, vehicle registration, and delivery of employment services (Connell et al., 2022). While theoretical attention continues to grow regarding the instrumental importance of organizational flexibility for public sector arrangements, empirical research demonstrates sizeable inconsistencies inhibiting our understanding of interactions between dynamic capabilities, organizational ambidexterity, and environmental impacts on public service outputs. Current empirical scholarship contains contradictory evidence about the uncomplicated relationship between dynamic capabilities and public service outputs; namely, Purnawan et al, (2025) & Wiryawan & Otchia, (2022) point out that sensing and transformation capabilities greatly enhance performance whereby seizing opportunities has no separate effects and thus directly

refutes Mohaghegh et al, (2024) & Mu'min et al, (2025) systematic review finding suggesting a universally positive relationship across all dynamic capability dimensions.

Studies on public sector organizational ambidexterity find essential contradictions between its efficacy and operating dynamics. Maclean et al (2021) concluded that both exploitation and exploration support public sector performance, yet found stronger impacts from optimization activities over explorative ones, opposite to the fundamental theoretical assumption of ambidexterity, calling for equal endeavors on both activities. Empirical work on public organization digital ambidexterity identified systematic bias in efficiency-driven practices despite identified imperatives for innovation, while Wong Villanueva et al (2022) identified partial support for positive associations between public service arrangements and ambidexterity. Furthermore, empirical evidence finds contradictory findings between environmental turbulence dynamics and organizational capabilities, with Keller et al (2025) identifying inverted U-shaped relationships between environmental dynamism and dynamic capabilities, contrasting findings from recent pandemic COVID-19 studies that public organizations with robust dynamic capabilities exhibited better outcomes under conditions of intense turbulence. Climate policy uncertainty studies also identify contradictory impacts, with some confirming through cautious behaviors that greater policy uncertainty mitigates environmental degradation, while others confirm that it erodes organizational investment and capability development (Hidayat, 2017).

The differences between findings highlight three key lacunae in the prior research literature. Firstly, although dynamic capabilities theory has been extensively deployed in private sector contexts, how it applies to public sector institutions, particularly in emerging economies, has not been systematically analyzed, and thus, evidence is contradictory about the role of various capability dimensions in influencing performance outcomes (Afshan et al., 2022; Jantunen et al., 2018). Secondly, how public sector institutions develop and utilize ambidextrous capabilities remains poorly understood, and evidence is inconsistent regarding whether ambidexterity is a prior or intervening, or resultant variable in public sector performance models (Han et al., 2023; Keller et al., 2025). Thirdly, how environmental factors such as policy turbulence influence the moderating effect of organizational capabilities requires greater attention, as prior research finds inconsistent impacts from environmental uncertainty on relationships between capabilities and public sector performance (Ilmudeen, 2022). Therefore, this research aims to address such lacunae by examining how dynamic capabilities influence organizational ambidexterity and public service delivery in public sector institutions by studying how organizational ambidexterity mediates between dynamic capabilities and public sector performance and by assessing how policy turbulence moderates such interactions in public sector contexts by using SAMSAT institutions in Kepulauan Riau Province as an empirical context that has natural contrasts between levels of policy turbulence and multi-dimensional public service delivery complexities that translate into theoretical construct Alignments of research interest.

2. Literature Review and Hypothesis Development

2.1. Dynamic capabilities in the public sector context

The theoretical relationship between organizational ambidexterity and performance is grounded in Kassotaki, (2022) exploitation-exploration framework, which demonstrates that organizational survival requires balancing optimization of existing competences with development of new capabilities, evolved through Choi et al.'s (2022) work showing these activities can be pursued simultaneously rather than as competing forces. Yu & Zhu (2022) established that ambidextrous organizations achieve superior performance through contextual capabilities enabling both activities within the same unit, while Gieske et al (2020) demonstrated that ambidexterity functions as a dynamic capability enabling organizations to sense environmental demands, seize opportunities in efficiency and innovation domains, and reconfigure resources to support dual performance pathways. In public sector contexts, ambidexterity enables the simultaneous pursuit of exploitation activities (process optimization, service standardization) and exploration activities (service innovation, new delivery mechanisms) that collectively enhance performance across service quality, operational efficiency, and innovative capacity dimensions. Empirical validation demonstrates positive associations, with Myeong et al (2021) quantitative analysis of Dutch water authorities providing comprehensive evidence that both exploitation and exploration contribute to public sector performance, while subsequent research confirms ambidextrous public organizations achieve better performance through reduced over-optimization risks and enhanced innovation-efficiency balance, though optimal configurations for different public sector contexts require further investigation.

H1: Dynamic capabilities positively influence public service performance.

2.2. Dynamic capabilities and organizational ambidexterity in the public sector

The theoretical relationship between organizational ambidexterity and performance is grounded in Kassotaki, (2022) exploitation-exploration framework, which demonstrates that organizational survival requires balancing optimization of existing competences with development of new capabilities, evolved through Cancela et al.'s (2023) work showing these activities can be pursued simultaneously rather than as competing forces. Belik & Knudsen (2023) established that ambidextrous organizations achieve superior performance through contextual capabilities enabling both activities within the same unit, while Stoiber et al (2023) demonstrated that ambidexterity functions as a dynamic capability enabling organizations to sense environmental demands, seize opportunities in efficiency and innovation domains, and reconfigure resources to support dual performance pathways. In public sector contexts, ambidexterity enables the simultaneous pursuit of exploitation activities (process optimization, service standardization) and exploration activities (service innovation, new delivery mechanisms) that collectively enhance performance across service quality, operational efficiency, and innovative capacity dimensions. Empirical validation demonstrates positive associations, Katou et al (2023) quantitative analysis of Dutch water authorities providing comprehensive evidence that both exploitation and exploration contribute to public sector performance, while subsequent research confirms ambidextrous public organizations achieve better performance through reduced over-optimization risks and enhanced innovation-efficiency balance, though optimal configurations for different public sector contexts require further investigation

H2: Dynamic capabilities positively influence organizational ambidexterity.

H3: Organizational ambidexterity positively influences public service performance.

2.3. The mediating role of organizational ambidexterity

The theoretical foundation for organizational ambidexterity as a mediating mechanism between dynamic capabilities and performance emerges from evolving conceptualizations within strategy literature, with Kassotaki, (2022) initially positioning ambidexterity as a dynamic capability itself, while Trieu et al, (2023) propose that ambidexterity mediates the relationship between dynamic capabilities and competitive advantage, representing "integrated processes of a dynamic capabilities model." Tworek et al (2023) support this mediation

logic by arguing that ambidexterity transpires through adaptation models requiring specific dynamic capabilities as mediators in innovation processes, suggesting that sensing and seizing capabilities serve as antecedents to ambidextrous behavior that subsequently influences performance through balanced exploration and exploitation activities. This theoretical framework implies that dynamic capabilities enable organizations to develop meta-capacity for balancing competing demands, which drives performance through optimized resource allocation and enhanced adaptive capacity (Ashill et al., 2022; Valdez-Juárez & Castillo-Vergara, 2021; Wijayanto et al., 2024). However, empirical validation remains limited and concentrated in private sector contexts, with emerging but incomplete evidence showing that organizational ambidexterity mediates relationships between various capabilities and performance outcomes, including technological capabilities and innovation performance. In public sector contexts, while the theoretical logic is compelling given acute tensions between operational efficiency and innovation imperatives, comprehensive empirical validation of the dynamic capabilities-ambidexterity-performance mediation pathway remains underdeveloped, with unique institutional characteristics requiring further investigation to validate this proposed relationship in government settings.

H4: Organizational ambidexterity mediates the relationship between dynamic capabilities and public service performance.

2.4. The moderating role of policy turbulence

The theoretical basis for policy turbulence as a moderating variable in the dynamic capabilities-performance relationship lies in contingency theory, suggesting organizational effectiveness arises from internal capability-external environment fit (Dwikat et al., 2023), with environmental turbulence establishing situations where dynamic capabilities take on greater importance for adaptation and performance (Teece, 2012). In public sector situations, policy turbulence defines environmental dynamism involving unforeseeable policy change and regulatory volatility that strains public sector organizations' service delivery, requiring heightened sensing, seizing, and reconfiguring activities to successfully navigate profound changes. Yet empirical evidence indicates nuanced relationships such that Keller et al (2025) longitudinal evidence illustrates dynamic capabilities' value exhibits an inverted U-shaped relationship with environmental dynamism, such that it is highest under moderate levels but declines in highly stable or highly turbulent environments. While research indicates environmental turbulence strengthens dynamic capabilities' salience such that sensing and reconfiguring capabilities exhibit greater positive impacts on performance in highly turbulent environments, albeit some findings provide negative associations in stably turbulent environments where adaptive capabilities costs exceed benefits (Cindrakasih et al., 2024; Jemmy et al., 2024). Public sector evidence from COVID-19 responses indicates public agencies possessing greater dynamic capabilities realized superior outcomes, balancing service continuation with emergency adaptation such that empirical support remains deficient in public sector applications with most research addressing private sector context over policy-specific turbulence in public sector context, indicating one major research gap to explore how policy uncertainties in particular impact dynamic capabilities effectiveness enhancing public sector service performance.

H5: Policy turbulence moderates the relationship between dynamic capabilities and public service performance, such that the positive relationship is stronger under high policy turbulence.

2.5. Research framework

This framework proposes a structural model that investigates the complex mechanisms through which dynamic capabilities influence organizational performance via dual pathways: direct effects and indirect effects mediated by organizational ambidexterity. Theoretically, this model integrates dynamic capability theory with the ambidexterity literature, wherein organizational ambidexterity is conceptualized as a mediating mechanism that transforms organizational adaptive capabilities into superior performance outcomes (Afshan et al., 2022; Bindl et al., 2022). Policy turbulence is positioned as a boundary condition that moderates the causal relationship between dynamic capabilities and organizational performance, indicating that the effectiveness of dynamic capabilities is contextual and contingent upon the level of external environmental uncertainty. The incorporation of structural control variables (unit size, service complexity, and cross-functional work intensity) demonstrates methodological efforts to isolate endogenous effects and control for alternative explanations, thereby enhancing the internal validity of the model. This framework epistemologically adopts a positivist approach with the assumption that causal relationships among constructs can be identified and measured empirically, while simultaneously acknowledging the complexity of the nomological network in organizational studies.

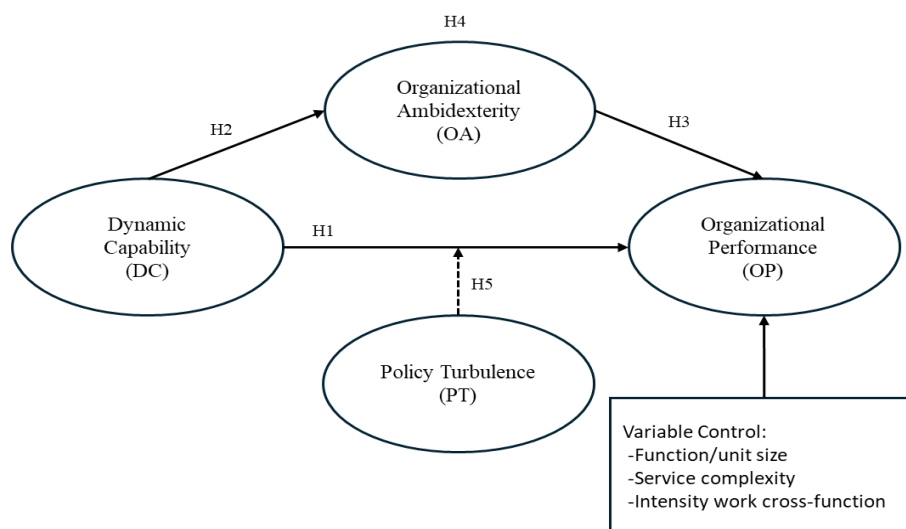


Fig. 1: Research Framework.

3. Methodology

3.1. Research context and sample

This study was conducted in the SAMSAT (Sistem Administrasi Manunggal Satu Atap) system in the Kepulauan Riau Province of Indonesia, providing an ideal empirical context for studying organizational ambidexterity and dynamic capabilities in public sector contexts. SAMSAT has been described as a government-imposed system of integrated service delivery that combines three distinct institutional activities: collection of regional revenue (Regional Revenue Agency), car registration and licensing (National Police), and employment documentation (Department of Manpower). This merging of three institutions creates a sophisticated organizational environment that requires coordination between numerous bureaucratic layers and regulatory regimes, thus illustrating organizational ambidexterity in requiring simultaneous optimization of conventional service processes alongside constant adaptation to shifting regulatory imperatives and citizen expectations.

Kepulauan Riau Province was chosen strategically due to theory-relevant traits boosting construct and external validity. Being a border region near Singapore and Malaysia, the province faces increased policy turbulence from frequent regulatory changes associated with international trade and cross-border policy frameworks, naturally creating variation in the policy turbulence moderator. The archipelagic topography involving 2,408 islands poses huge service delivery issues necessitating innovative coordination mechanisms, naturally enhancing dynamic capabilities for system effectiveness. The strategic economic significance of the province as a gateway to Southeast Asian economies creates high stakeholder diversity and service complexity conditions, where exploitation and exploration activities both become essential to achieving success. Three functionally differentiated service units (enabling system-wide comparison) controlling institutional dimensions comprised the study. Unit 1 (Revenue Collection) balances the standardized tax process with revenue enhancement activities. Unit 2 (Vehicle Registration) ensures regulatory adherence with flexibility to accommodate technological innovations such as digital documentation and biometric systems. Unit 3 (Employment Documentation) deals with regular processing while responding to frequently updating labor regulations. All three units feature contrasting ambidextrous requirements with system effectiveness assessed through efficiency measures (process time, accuracy) and flexibility measures (upgradation of system and implementation of policies), building a comprehensive empirical basis for examining theoretical relationships across differing system contexts.

3.2. Data collection

Data collection employed stratified random sampling across service units, organizational levels, and geographical locations (Batam, Tanjungpinang, Karimun) from permanent employees (N=520) with a minimum 12-month tenure. Following Hair et al (2016) guidelines, 350 questionnaires were distributed, achieving a 89.1% initial response rate. The survey instrument underwent rigorous translation/back-translation and extensive pre-testing procedures. After systematic screening for incomplete responses, outliers, and response bias, the final analytical sample comprised 286 usable responses (81.7% effective response rate). Non-response analysis revealed no significant differences ($p > .05$), while missing data analysis indicated MCAR pattern ($\chi^2 = 127.35$, $p = .812$). Final sample provided adequate representation across stratification criteria and sufficient statistical power (power = .95) for structural equation modeling analyses.

All constructs were operationalized using established scales from previous literature, adapted for public sector contexts through systematic validation procedures. Scale adaptation followed Churchill & Gilbert A. Churchill, (1979) paradigm, involving literature review, expert judgment, pre-testing, and psychometric validation. Expert panels comprising three public administration scholars and four senior practitioners reviewed all measures for content validity, cultural appropriateness, and contextual relevance within Indonesian public service environments. All items employed 7-point Likert scales (1=strongly disagree to 7=strongly agree) to ensure adequate response variance and sensitivity for structural equation modeling analyses. Dynamic Capabilities were measured using Teece (2020). Organizational Ambidexterity was assessed using (Alamsjah & Yunus, 2022; Kim et al., 2025; Kiss et al., 2020). Public Service Performance employed (Jiang et al., 2022; Nafari & Rezaci, 2022; Wijetunge, 2016). Policy Turbulence utilized (Ansell & Trondal, 2018; Gray et al., 1999; Hoekstra & Leeftang, 2023).

3.4. Data analysis

Data analysis employed partial least squares structural equation modeling (PLS-SEM) using SmartPLS 4.0, chosen for its appropriateness in exploratory theory development and complex model estimation with multiple mediating and moderating relationships (J. F. Hair & Sarstedt, 2019). PLS-SEM was preferred over CB-SEM due to its robustness in handling non-normal data distributions, smaller sample size requirements, and superior performance in predictive modeling contexts, aligning with this study's objectives of understanding predictive relevance and effect sizes. Analysis followed Hair et al (2013) systematic PLS-SEM evaluation approach. First, measurement model assessment examined construct reliability (Cronbach's $\alpha \geq .70$, composite reliability $\geq .70$, $\rho_A \geq .70$), convergent validity (outer loadings $\geq .708$, AVE $\geq .50$), and discriminant validity using Fornell-Larcker criterion, cross-loadings analysis, and heterotrait-monotrait ratio (HTMT $< .85$ for conceptually similar constructs, $< .90$ for conceptually distinct constructs). Second, structural model evaluation assessed path coefficients' significance through bootstrapping procedures (5,000 subsamples), coefficient of determination (R^2), effect sizes (f^2), and predictive relevance (Q^2 via blindfolding with omission distance of 7). Common method variance was addressed through procedural remedies (anonymity, item order randomization, temporal separation) and statistical assessment via full collinearity VIF values < 3.3 (Kock, 2015). Mediation effects were tested using bias-corrected bootstrap confidence intervals with specific indirect effects analysis, while moderation was examined through the product indicator approach with simple slope analysis at ± 1 standard deviation. The final sample ($n=286$) exceeded the minimum requirement based on the "10 times rule" and G*Power analysis ($\alpha=.05$, power=.80, effect size=.15), ensuring adequate statistical power for reliable parameter estimation and hypothesis testing in the complex structural model.

4. Results

4.1. Sample characteristics

The sample characteristics demonstrate robust representativeness across multiple organizational dimensions within the SAMSAT system. The distribution across organizational units shows a reasonable balance, with the Collection unit comprising the largest proportion (38.5%), followed by Revenue (32.2%) and Employment units (29.3%), reflecting the operational emphasis on tax collection activities.

Hierarchically, middle management represents the largest segment (35.7%), which is consistent with typical public sector organizational structures where middle management serves as the primary operational layer. Geographic distribution across the three cities shows Batam's dominance (45.1%), likely corresponding to its role as the regional administrative center, while Tanjungpinang (31.1%) and Karimun (23.8%) provide adequate representation from smaller operational sites.

Table 1: Descriptive Statistics of SAMSAT

Variable	Category	n	%	M	SD
Organizational Unit	Revenue (Unit 1)	92	32.2	-	-
	Collection (Unit 2)	110	38.5	-	-
	Employment (Unit 3)	84	29.3	-	-
Management Level	Top Management	64	22.4	-	-
	Middle Management	102	35.7	-	-
	Supervisory Level	77	26.9	-	-
	Operational Level	43	15.0	-	-
Geographic Location	Batam	129	45.1	-	-
	Tanjungpinang	89	31.1	-	-
	Karimun	68	23.8	-	-
Organizational Tenure	Current Position	-	-	8.7 years	5.2
	Total Organization	-	-	12.3 years	7.8
Service Complexity Score	Revenue (Unit 1)	-	-	3.45	0.58
	Collection (Unit 2)	-	-	4.21	0.67
	Employment (Unit 3)	-	-	3.89	0.72

The substantial tenure indicators reveal a highly experienced respondent pool, with organizational tenure averaging 12.3 years (SD = 7.8) and current position tenure of 8.7 years (SD = 5.2), suggesting deep institutional knowledge and operational familiarity that enhances response validity. The most significant finding emerges from service complexity analysis, where units exhibit statistically significant differences ($F = 28.74$, $p < .001$), with Collection services demonstrating the highest complexity scores ($M = 4.21$, $SD = 0.67$). This pattern likely reflects the multifaceted nature of tax collection operations, including complex regulatory compliance, diverse stakeholder interactions, multiple payment mechanisms, and intricate administrative procedures that distinguish Collection unit functions from the relatively more straightforward Revenue documentation and Employment administrative processes.

4.2. Measurement model assessment

Based on the measurement model assessment presented in Table 2, the construct reliability and validity indicators demonstrate strong psychometric properties across all latent variables. The Cronbach's Alpha (CA) values range from 0.892 to 0.927, all exceeding the recommended threshold of 0.70, indicating high internal consistency reliability (R. B. Kline, 1999). Similarly, Composite Reliability (CR) coefficients between 0.925 and 0.945 appear greater than the minimum requirement of 0.70, thus lending extra support to measurement instrument reliability (J. F. Hair & Sarstedt, 2019). The outer loadings for all indicators appear in the range from 0.858 to 0.909, well above the standard requirement of 0.70, reflecting high indicator reliability and adequate convergent validity (Fornell & Larcker, 1981).

Table 2: Measurement Model Assessment

	Mean	SD	Outer loadings	CA	CR	AVE
Dynamic Capability		1.620		0.927	0.945	0.775
DC1	5.392	1.550	0.883			
DC2	5.350	1.539	0.865			
DC3	5.220	1.734	0.878			
DC4	5.007	1.622	0.889			
DC5	5.206	1.620	0.886			
Organization				0.899	0.930	0.768
OA1	5.112	1.605	0.890			
OA2	5.297	1.460	0.874			
OA3	5.304	1.439	0.883			
OA4	5.360	1.530	0.859			
Organizational Performance				0.923	0.942	0.764
OP1	5.266	1.486	0.909			
OP2	5.220	1.536	0.876			
OP3	5.129	1.591	0.865			
OP4	5.343	1.517	0.858			
OP5	5.192	1.565	0.863			
Policy Turbulence				0.892	0.925	0.754
PT1	5.269	1.602	0.869			
PT2	5.217	1.574	0.872			
PT3	5.084	1.666	0.862			
PT4	5.168	1.533	0.871			

Values for Average Variance Extracted (AVE) also support evidence for convergent validity in that all constructs have AVE scores between 0.754 and 0.775, well above the minimum requirement threshold of 0.50 (Fornell & Larcker, 1994). This implies that all latent constructs explain more than half of all observed variance in their respective indicators, thus demonstrating adequate convergent validity. Descriptive statistical examination reveals that respondents tend to allocate positive ratings across all constructs, with mean scores between 5.007 and 5.392 on what seems to be a seven-point scale, and standard deviations between 1.439 and 1.734, with resultant indications of a fairly good degree of variability in the answers (J. Hair & Alamer, 2022). Individually and collectively, these results from measurement models create a strong foundation for subsequent analyses examining the structural model, for all these constructs meet or exceed the pertaining standards for reliability measures and convergent validity suitable for partial least squares structural equation modeling (PLS-SEM) applications.

4.3. Common method variance assessment

The discriminant validity assessment reveals satisfactory differentiation among the study's latent constructs through both established criteria. The Heterotrait-Monotrait ratio (HTMT) analysis demonstrates values ranging from 0.117 to 0.799 across the main constructs, with the majority falling comfortably below the stringent threshold of 0.85 recommended for conceptually related constructs (Henseler, 2017). Although several relationships approach this conservative benchmark—notably Policy Turbulence with Organizational Ambidexterity (0.799), Dynamic Capability with Policy Turbulence (0.792), and Dynamic Capability with Organizational Performance (0.785)—these values remain within acceptable limits, indicating adequate discriminant validity (B. Kline, 2011). The interaction term (PT x DC) exhibits substantially lower HTMT values ranging from 0.117 to 0.310, which is theoretically expected for product indicators and further supports the model's validity structure.

Table 3: Heterotrait-Monotrait Ratio (HTMT) - Matrix

	DC	OA	OP	PT	PT x DC
Dynamic Capability					
Organizational Ambidexterity	0.761				
Organizational Performance	0.785	0.782			
Policy Turbulence	0.792	0.799	0.777		
PT x DC	0.310	0.168	0.117	0.243	

Table 4: Fornell-Larcker Criterion

	DC	OA	OP	PT
Dynamic Capability	0.880			
Organizational Ambidexterity	0.695	0.877		
Organizational Performance	0.727	0.713	0.874	
Policy Turbulence	0.720	0.715	0.705	0.869

The Fornell-Larcker criterion provides additional confirmation of discriminant validity, as all diagonal elements representing the square root of Average Variance Extracted (AVE) values (0.869 to 0.880) consistently exceed their corresponding off-diagonal inter-construct correlations (Fornell & Larcker, 1981). The strongest inter-construct correlation of 0.727 between Dynamic Capability and Organizational Performance remains below the respective diagonal threshold of 0.880, satisfying the criterion's requirements. These moderate to strong correlations (0.695 to 0.727) among the primary constructs are theoretically justified and suggest meaningful nomological relationships while preserving construct distinctiveness (J. Hair & Alamer, 2022). The convergence of both discriminant validity assessments establishes that each construct captures unique variance beyond what is shared with other model constructs, providing a robust measurement foundation for subsequent structural model evaluation and hypothesis testing.

4.5. Hypothesis testing results

The hypothesis testing results demonstrate robust empirical support for all proposed relationships in the structural model, with all five hypotheses achieving statistical significance at conventional levels. The strongest relationship emerges between Dynamic Capability and Organizational Ambidexterity ($\beta = 0.695$, $t = 19.799$, $p < 0.001$), representing a large effect size and substantial predictive relevance with an f^2 value of 0.936, well above the threshold for large effects (J. Cohen, 1988). The direct effect of Dynamic Capability on Organizational Performance ($\beta = 0.376$, $t = 5.125$, $p < 0.001$) demonstrates a moderate effect size ($f^2 = 0.157$), while Organizational Ambidexterity significantly influences Organizational Performance ($\beta = 0.288$, $t = 4.402$, $p < 0.001$) with a small to medium effect ($f^2 = 0.097$). Policy Turbulence exhibits a significant direct effect on Organizational Performance ($\beta = 0.252$, $t = 3.090$, $p < 0.01$) with small effect size ($f^2 = 0.070$), and the moderating effect of the interaction term Policy Turbulence x Dynamic Capability proves significant ($\beta = 0.105$, $t = 2.568$, $p < 0.05$) with a small but meaningful effect ($f^2 = 0.027$) (J. F. Hair & Sarstedt, 2019).

Table 5: Hypothesis Testing Results

		Path	SD	T -Value	F ²	VIF	Supported
H1	Dynamic Capability -> Organizational Performance	0.376	0.073	5.125	0.157	2.527	Yes
H2	Dynamic Capability -> Organizational Ambidexterity	0.695	0.035	19.799	0.936	1.000	Yes
H3	Organizational Ambidexterity -> Organizational Performance	0.288	0.065	4.402	0.097	2.395	Yes
H4	Policy Turbulence -> Organizational Performance	0.252	0.081	3.090	0.070	2.560	Yes
H5	Policy Turbulence x Dynamic Capability -> Organizational Performance	0.105	0.041	2.568	0.027	1.107	Yes
Indirect effect						VAF	
Dynamic Capability -> Organizational Performance		0.200	0.047	4.262		34.7%	
Total effect							
Dynamic Capability -> Organizational Performance		0.695	0.035	19.799			
Dynamic Capability -> Organizational Ambidexterity		0.576	0.073	7.843			
Organizational Ambidexterity -> Organizational Performance		0.288	0.065	4.402			
Policy Turbulence -> Organizational Performance		0.252	0.081	3.090			
Policy Turbulence x Dynamic Capability -> Organizational Performance		0.105	0.041	2.568			

The mediation analysis reveals that Dynamic Capability exerts both direct and indirect effects on Organizational Performance through Organizational Ambidexterity, with an indirect effect of $\beta = 0.200$ ($t = 4.262$, $p < 0.001$). The Variance Accounted For (VAF) can be calculated as: $VAF = \text{indirect effect} / \text{total effect} = 0.200 / 0.576 = 0.347$ or 34.7%. This VAF value indicates partial mediation, as it falls within the 20%-80% range specified by Troiville et al. (2019), suggesting that Organizational Ambidexterity partially mediates the relationship between Dynamic Capability and Organizational Performance. All VIF values remain well below the threshold of 5.0, with the highest being 2.560, confirming the absence of multicollinearity concerns (J. Hair et al., 2014). The total effect of Dynamic Capability on Organizational Performance ($\beta = 0.576$, $t = 7.843$) demonstrates the combined strength of both direct and mediated pathways, reinforcing the theoretical proposition that dynamic capabilities enhance performance both directly and through improved organizational ambidexterity (O'Reilly & Tushman, 2013).

The simple slope analysis reveals that Policy Turbulence significantly moderates the relationship between Dynamic Capability and Organizational Performance through a strengthening effect pattern. Under low policy turbulence conditions (-1 SD), the relationship between

Dynamic Capability and Organizational Performance exhibits a simple slope of 0.271, indicating that each one-unit increase in dynamic capability will enhance organizational performance by 0.271 units. Conversely, under high policy turbulence conditions (+1 SD), the simple slope increases to 0.481, demonstrating that the effectiveness of dynamic capability in driving organizational performance nearly doubles (Sarstedt et al., 2017). The slope difference of 0.210 between high and low turbulence conditions confirms the statistical significance of the moderation effect ($\beta = 0.105$, $t = 2.568$, $p < 0.05$), with a small yet meaningful effect size ($f^2 = 0.027$) according to A. D. Cohen, (2023) criteria.

Table 5: Simple Slope Analysis

Policy Turbulence Level	Standard Deviation	Simple Slope	Calculation	Interpretation
Low Policy Turbulence	-1 SD	0.271	$0.376 - 0.105 = 0.271$	Weaker positive relationship
Mean Policy Turbulence	0 (Mean)	0.376	0.376 (direct effect)	Baseline relationship
High Policy Turbulence	+1 SD	0.481	$0.376 + 0.105 = 0.481$	Stronger positive relationship

These findings provide empirical support for contingency theory, which emphasizes the importance of alignment between organizational capabilities and environmental characteristics in achieving optimal performance (Downs & Mohr, 1976). In high policy turbulence contexts, organizations with strong dynamic capabilities gain more substantial competitive advantages because their abilities to adapt, innovate, and reconfigure resources become more critical (D. J. Teece, 2020). The 77% increase in relationship strength under high turbulence conditions (0.481 vs. 0.271) demonstrates that environmental uncertainty not only poses challenges but can also serve as a catalyst for organizations possessing dynamic capabilities to create value and achieve superior performance. This result aligns with dynamic capability theory, which argues that the value of dynamic capabilities becomes more pronounced in rapidly changing and unpredictable environments (Eisenhardt, 1989).

The R-square analysis demonstrates substantial explanatory power of the structural model in predicting both endogenous constructs, providing evidence of the model's theoretical and empirical validity. Organizational Ambidexterity achieves an R-square value of 0.483, indicating that approximately 48.3% of the variance in organizational ambidexterity is explained by its antecedent constructs (Dynamic Capability and Policy Turbulence). According to Cohen's (1988) effect size conventions adapted for R-square (0.02 = small, 0.13 = medium, 0.26 = large), this represents a large effect size, which is considered substantial in organizational research where multiple unobserved factors typically influence complex behavioral constructs. The adjusted R-square of 0.482 shows minimal shrinkage (0.1%), indicating excellent model parsimony and confirming that the explained variance remains robust when penalized for the number of predictors (Tabachnick & Fidell, 2019).

Table 5: R-Square Adjusted

	R-square	R-square adjusted
Organizational Ambidexterity	0.483	0.482
Organizational Performance	0.644	0.639

Organizational Performance demonstrates even stronger predictive validity with an R-square of 0.644, meaning that 64.4% of the variance in organizational performance is accounted for by the structural model's predictor variables (Dynamic Capability, Organizational Ambidexterity, Policy Turbulence, and the Policy Turbulence \times Dynamic Capability interaction). This effect size substantially exceeds the large effect threshold and represents exceptional explanatory power for organizational research, where R-square values above 0.50 are considered highly satisfactory (J. Hair & Alamer, 2022). The adjusted R-square of 0.639 maintains strong explanatory power with only a 0.8% reduction, demonstrating model stability and appropriate complexity. The superior predictive performance for organizational performance ($R^2 = 0.644$) compared to organizational ambidexterity ($R^2 = 0.483$) suggests that the theoretical framework more comprehensively captures the determinants of performance outcomes, consistent with literature indicating that performance is influenced by multiple organizational capabilities and environmental factors operating simultaneously (Greckhamer et al., 2018).

The model fit assessment demonstrates acceptable overall fit quality for the estimated structural model across multiple evaluation criteria. The SRMR (Standardized Root Mean Square Residual) value of 0.067 for the estimated model falls below the stringent threshold of 0.08 recommended by Hu and Bentler (1999), indicating good model fit, although it represents an expected increase from the saturated model (0.040) due to the theoretical constraints imposed by the structural relationships. The NFI (Normed Fit Index) of 0.916 exceeds the conventional acceptance criterion of 0.90, demonstrating acceptable incremental fit despite a modest decline from the saturated model (0.923), which is typical when comparing a parsimonious theoretical model against a fully saturated baseline (Bentler & Bonett, 1980). The increases in d_{ULS} (from 0.278 to 0.767) and d_G (from 0.203 to 0.237) reflect the natural trade-off between model parsimony and perfect fit, while the Chi-square increment (from 335.358 to 363.594) represents the additional constraints imposed by the theoretical structure (Kline, 2016). Overall, the constellation of fit indices, particularly the SRMR and NFI values meeting their respective thresholds, provides adequate evidence that the estimated model achieves satisfactory fit to the observed data and supports proceeding with structural model evaluation and hypothesis testing in the PLS-SEM framework (J. F. Hair & Sarstedt, 2019).

Table 6: Model Fit

	Saturated model	Estimated model
SRMR	0.040	0.067
d_{ULS}	0.278	0.767
d_G	0.203	0.237
Chi-square	335.358	363.594
NFI	0.923	0.916

Table 7: Construct Prediction Summary

	Q ² predict	RMSE	MAE
Organizational Ambidexterity	0.478	0.727	0.562
Organizational Performance	0.581	0.652	0.474

The predictive relevance assessment through Q²predict demonstrates that the structural model possesses strong out-of-sample predictive capability for both endogenous constructs, confirming the model's practical utility beyond mere explanatory power. Organizational Ambidexterity achieves a Q²predict value of 0.478, substantially exceeding the threshold of zero required for predictive relevance and approaching the benchmark for large predictive relevance ($Q^2 > 0.35$) established by (J. F. Hair & Sarstedt, 2019). The corresponding prediction

error metrics show reasonable accuracy, with RMSE of 0.727 and MAE of 0.562, indicating that the model can predict organizational ambidexterity with acceptable precision in holdout samples. Organizational Performance demonstrates even stronger predictive validity with Q^2_{predict} of 0.581, representing large predictive relevance and superior out-of-sample prediction accuracy compared to a naïve benchmark model (Sharma et al., 2021). The lower prediction errors for organizational performance (RMSE = 0.652, MAE = 0.474) relative to organizational ambidexterity further confirm the model's enhanced predictive capability for performance outcomes. These results collectively indicate that the theoretical framework not only explains variance in the observed sample but also generalizes effectively to new observations, providing strong evidence for the model's external validity and supporting its potential for practical application in organizational contexts (Sharma et al., 2021).

5. Discussion

5.1. Dynamic capabilities as a driver of organizational performance and ambidexterity

The empirical findings provide substantial support for Hypothesis 1 and Hypothesis 2, establishing dynamic capabilities as a critical organizational resource within the public sector context. The exceptionally strong relationship between dynamic capabilities and organizational ambidexterity indicates that organizations possessing superior sensing, seizing, and transforming capabilities are significantly more likely to develop ambidextrous competencies. This finding provides empirical validation for D. J. D. Teece, (2007) theoretical framework, which posits that dynamic capabilities enable organizations to simultaneously pursue exploratory and exploitative activities by facilitating resource reconfiguration and strategic flexibility.

The confirmation of Hypothesis 1 demonstrates that dynamic capabilities directly contribute to performance outcomes, supporting the core tenets of dynamic capability theory in public sector contexts. However, the presence of both direct and indirect effects through organizational ambidexterity suggests a more complex performance generation mechanism than previously theorized. The partial mediation structure indicates that approximately one-third of dynamic capabilities' total effect on performance operates through the development of ambidextrous capabilities, while two-thirds represents direct value creation. This finding extends (Pramono et al., 2025; Sam et al., 2025) conceptualization by demonstrating that in public sector organizations, dynamic capabilities create value through dual pathways: immediate resource optimization and longer-term capability development that enables simultaneous exploration and exploitation.

5.2. Organizational ambidexterity as performance mediator

The mediation analysis provides empirical support for Hypothesis 3, confirming that organizational ambidexterity significantly influences organizational performance. More critically, the significant indirect effect establishes ambidexterity as a key mediating mechanism in the dynamic capability-performance relationship. The partial mediation structure suggests that organizational ambidexterity explains approximately one-third of the total effect of dynamic capabilities on performance, indicating substantial but not complete mediation.

This finding contributes to the theoretical debate surrounding the relationship between dynamic capabilities and organizational ambidexterity. Rather than viewing ambidexterity as a distinct dynamic capability (Kassotaki, 2022), the results support conceptualizing ambidexterity as an outcome of dynamic capabilities that subsequently enhance performance. The mediating role suggests that dynamic capabilities enable organizations to develop the structural, contextual, and leadership mechanisms necessary for simultaneous exploration and exploitation (Birkinshaw, 2022). In the SAMSAT context, this translates to organizations using their sensing capabilities to identify both efficiency improvement opportunities and innovation needs, then deploying seizing and transforming capabilities to implement both simultaneously without creating internal conflicts or resource allocation dilemmas.

5.3. Policy turbulence: direct effects and contingent moderation

The empirical findings regarding policy turbulence's dual role demonstrate both convergence and significant divergence from Indonesian scholarship. The direct negative effect of policy turbulence on organizational performance (Hypothesis 4) aligns consistently with established Indonesian research, including Hoekstra & Leeftang, (2023) seminal work documenting environmental dynamics' detrimental impact on public sector managerial performance, Liu et al, (2024) evidence from educational technology ventures, and comprehensive manufacturing sector studies Alyoussef & Omer, (2023) revealing turbulence-induced revenue depletion and productivity decline—findings that collectively affirm resource dependence theory predictions regarding uncertainty-induced coordination costs and operational predictability reduction. However, the strengthening moderation pattern revealed through simple slope analysis (Hypothesis 5), wherein dynamic capabilities' effectiveness substantially increases under high policy turbulence conditions, starkly contradicts prevailing Indonesian research trajectories and influential international scholarship. Indonesian telecommunications sector research (2021) identified only indirect, mediated pathways through market and technological turbulence rather than direct amplification effects, while Central Java SME studies (2022) failed to discern explicit strengthening or weakening patterns despite confirming moderation's presence. More critically, this finding directly opposes influential longitudinal analysis demonstrating an inverse U-shaped relationship where dynamic capabilities exhibit maximum efficacy at moderate dynamism levels but weakened associations at both stability and high turbulence extremes, alongside Taghizadeh et al.'s (2023) proposition that turbulence "compounds" organizational change effects, potentially overwhelming capabilities rather than amplifying them.

This divergence illuminates theoretically productive insights regarding Indonesian public sector institutional peculiarities and necessitates paradigmatic reorientation in conceptualizing turbulence's role. Mu'min & Wyhardes ' (2024) systematic examination revealed that Indonesian local governance suffers from planning-budgeting disconnection, compliance-fixated attention, and inadequate performance indicators—institutional pathologies wherein policy turbulence paradoxically creates flexibility windows enabling capable organizations to circumvent bureaucratic ossification and pursue innovations otherwise foreclosed by procedural rigidity. Combined with Indonesia's high uncertainty avoidance, generating inflexible regulatory architectures and pronounced power distance concentrating hierarchical authority (2024), policy turbulence disrupts stable but constraining patterns, legitimizing transformations that align with emergent policy directions—mechanisms explaining why organizations with superior sensing, seizing, and transforming capabilities can leverage uncertainty as a competitive advantage rather than experiencing capability deterioration. This strengthening pattern provides inaugural empirical validation within Indonesian public sector contexts for theoretical propositions advanced by Mu'min, Bernardus, et al (2025); Mu'min, Kaihatu, et al. (2025) & Pramono et al (2025), Pramono et al (2025) & Purnawan et al. (2025) regarding capabilities' enhanced value in rapidly changing environments—propositions previously supported primarily by developed economy private sector evidence. Methodologically,

this research advances Indonesian scholarship by implementing dual-mechanism design simultaneously testing turbulence as both direct antecedent and contingent moderator within unified structural equation architecture, coupled with simple slope visualization rarely employed in Indonesian moderated-mediation studies, thereby establishing empirical and methodological benchmarks for subsequent public sector capability research while demonstrating that capabilities operate through multiple simultaneous pathways—direct, mediated through organizational ambidexterity, and moderated by policy turbulence—with effectiveness contingent upon both internal organizational configurations and external institutional conditions, challenging defensive theoretical framings that characterize environmental uncertainty primarily as constraint and instead positioning turbulence as potential enabler for capable organizations operating within institutionally fragmented public sector environments.

5.4. Model validity and practical implications

The comprehensive model assessment demonstrates exceptional psychometric quality and predictive validity. The high R-square values for both Organizational Ambidexterity (0.483) and Organizational Performance (0.644) indicate that the theoretical framework captures the majority of variance in these critical outcomes. The superior predictive performance for organizational performance suggests that the model more comprehensively explains performance determinants, which is consistent with literature indicating that performance is influenced by multiple organizational capabilities operating simultaneously (Tworek et al., 2023). The strong predictive relevance demonstrated through Q²predict values (OA: 0.478, OP: 0.581) provides evidence that the model generalizes effectively beyond the observed sample, supporting its practical utility for public sector management. The acceptable model fit indices (SRMR = 0.067, NFI = 0.916) further validate the theoretical structure and support the robustness of the findings.

For public sector managers, these findings suggest several practical implications. First, investments in developing dynamic capabilities—particularly sensing capabilities to detect environmental changes, seizing capabilities to capitalize on opportunities, and transforming capabilities to reconfigure resources—yield significant returns in terms of both ambidextrous capabilities and performance outcomes. Second, the moderating effect of policy turbulence indicates that during periods of environmental uncertainty, organizations should prioritize dynamic capability development as these capabilities become exponentially more valuable. Third, the mediating role of organizational ambidexterity suggests that managers should focus on developing systems and structures that enable simultaneous exploration and exploitation activities.

5.5. Contributions to theory and practice

This research makes several significant contributions to dynamic capability theory and public sector management literature. Theoretically, the study extends dynamic capability theory to the public sector context, demonstrating that these capabilities operate similarly to private sector organizations while accounting for unique institutional constraints. The identification of organizational ambidexterity as a mediating mechanism provides new insights into the process through which dynamic capabilities create value. The contingent effect of policy turbulence offers empirical support for the theoretical proposition that dynamic capabilities become more valuable in uncertain environments. Practically, the research provides actionable insights for public sector organizations operating in dynamic environments. The findings suggest that investments in dynamic capability development yield compounding returns, particularly during periods of environmental turbulence. The high explanatory power of the model ($R^2 = 64.4\%$ for organizational performance) indicates that focusing on these key variables can substantially improve organizational outcomes. For policymakers, the results suggest that administrative reforms should consider the capability-building implications of policy changes, as organizations with stronger dynamic capabilities can better adapt to and benefit from regulatory changes.

5.6. Limitations and future research directions

While this research provides valuable insights, several limitations should be acknowledged. The cross-sectional design limits causal inferences, and future longitudinal studies could better capture the dynamic nature of capability development and environmental changes. The focus on a single public sector context (SAMSAT) may limit generalizability, and future research should examine these relationships across diverse public sector organizations and different national contexts. Additionally, the measurement of policy turbulence could be enhanced through objective indicators rather than relying solely on perceptual measures. Future research opportunities include examining the specific mechanisms through which dynamic capabilities develop in public sector organizations, investigating the role of leadership and organizational culture in capability development, and exploring how different types of environmental turbulence (technological, political, and regulatory) differentially affect the dynamic capability-performance relationship. Cross-cultural studies could also provide insights into how institutional contexts shape the effectiveness of dynamic capabilities in public sector organizations.

6. Conclusion

This study provides comprehensive empirical validation for the critical role of dynamic capabilities in enhancing organizational performance within public sector organizations, successfully confirming all five proposed hypotheses through examination of the SAMSAT system in Indonesia. The findings establish dynamic capabilities as fundamental drivers of both organizational ambidexterity and performance outcomes, with organizational ambidexterity serving as a significant mediating mechanism that accounts for approximately one-third of dynamic capabilities' total effect on performance. Importantly, policy turbulence operates as both a direct performance antecedent and a critical contingent moderator, significantly strengthening the relationship between dynamic capabilities and organizational performance under conditions of environmental uncertainty. This finding provides compelling evidence for the contingent value proposition of dynamic capabilities, demonstrating that these capabilities become exponentially more valuable when organizations face policy instability and regulatory changes. The research makes significant theoretical contributions by extending dynamic capability theory to public sector contexts, identifying organizational ambidexterity as a mediating mechanism rather than a distinct capability, and providing empirical validation for the contingent value of dynamic capabilities in uncertain environments.

The practical implications suggest that public sector managers should prioritize investments in developing sensing, seizing, and transforming capabilities, particularly during periods of policy uncertainty when these capabilities yield disproportionate returns. The mediating role of organizational ambidexterity indicates that organizations must develop systems and structures enabling simultaneous exploration and exploitation activities without creating internal conflicts. For policymakers, the findings suggest that administrative reforms should

consider capability-building implications, as organizations with stronger dynamic capabilities can better adapt to regulatory changes. While the cross-sectional design and single-context focus present limitations that future longitudinal and cross-national studies could address, the exceptional explanatory power of the model and its strong predictive validity demonstrate that focusing on dynamic capabilities, organizational ambidexterity, and environmental contingencies can substantially improve public sector performance outcomes. As public sector organizations worldwide face increasing demands for efficiency and adaptability, developing dynamic capabilities represents a critical strategic priority that enables organizations to leverage environmental uncertainty as a source of competitive advantage rather than merely a challenge to be managed.

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