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An integrative model of career adaptability, innovative work behaviour, and work skills on civil servant performance: The mediating role of career development in local government

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Abstract

Purpose: As digital disruption and bureaucratic reform continue to reshape the public sector, strategic transformation is required to enhance service effectiveness. This study investigates how institutional career development systems channel part of individuals' capabilities into sustained performance, while another part remains unconverted. The study further develops and tests a human resource development model linking career adaptability, innovative work behaviour, and work skills with employee performance, with career development serving as a mediating mechanism.

Design/methodology/approach: Survey data from 372 civil servants across 34 Regional Government Organisations (Organisasi Perangkat Daerah, OPD) in Lahat Regency, South Sumatra, Indonesia, were analysed with variance-based structural equation modelling in SmartPLS 4.0, using 5,000 bootstrap subsamples.

Findings: The results indicate that career adaptability ($\beta = 0.131$; $p = 0.036$), innovative work behaviour ($\beta = 0.175$; $p = 0.047$), and work skills ($\beta = 0.131$; $p = 0.023$) each exert a significant positive effect on employee performance. Career development mediates the relationships between career adaptability and work skills with performance, whereas the mediating pathway for innovative work behaviour did not reach conventional significance ($\beta = 0.146$; $p = 0.056$), even though innovative work behaviour produced the strongest path towards career development ($\beta = 0.503$; $p < 0.001$).

Research limitations/implications: Theoretically, the contribution of this study lies not in the combination of constructs, but in advancing the concept of capability codification the extent to which an individual capability is formally categorised within promotion criteria as a boundary condition that may explain the observed inconsistency in mediation.

Practical implications: Practically, this study offers evidence-based input for public administration to strengthen merit-based promotion systems and align competency-based career pathways with the digital reform agenda.

Originality/value: This study contributes to the strategic HRD literature by proposing capability codification the degree to which a capability is formally embedded within promotion criteria as a boundary condition on career development's mediating role, challenging the assumption that this mechanism operates uniformly across capability types. It further distinguishes perceived from enacted career development, identifying a perceptual–structural gap that connects strategic HRD to institutional theory's account of decoupling between formal commitment and operative practice. By integrating Career Construction Theory, Human Capital Theory, and competency-based HRD around capabilities

that differ systematically in institutional legibility, the study offers a diagnostic test of conditional, rather than universal, mediation grounded in an ex-ante reading of Indonesia's civil service regulatory architecture.

Keywords: Career adaptability, Innovative work behaviour, Work skills, Career development, Employee performance, Capability categorisation, Institutional decoupling, Public sector

Jel Codes: H83; J24; J45; M12; M53; O31

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1. Introduction

In an era of globalisation, digital disruption, and increasing complexity in modern governance, the public sector is required to undergo strategic and adaptive transformation. Contemporary society demands public services that are fast, accurate, transparent, and solution-oriented in responding to continually shifting local dynamics (Prihatmanto et al., 2024). This demand aligns with the bureaucratic reform agenda, which emphasises the effectiveness, accountability, and quality of government performance (Lapuente & Van de Walle, 2020). Within this context, Regional Government Organisations (Organisasi Perangkat Daerah, OPD), as the principal implementers of public policy at the local level, occupy a central role in realising the national development vision. To perform this function optimally, OPDs require robust institutional capacity together with human resources who are competent, ethical, and adaptive (Borrás et al., 2024). Civil servants (Aparatur Sipil Negara, ASN) are the primary actors in public service delivery, and their performance reflects the overall quality of the bureaucracy (Borrás et al., 2024; Febriyanti et al., 2023). Ideally, civil servants should not merely meet quantitative performance targets but also contribute qualitatively through punctuality, initiative, collaboration, and output quality (Carpenter & Krause, 2012).

The 2024 Monitoring and Evaluation Report for Lahat Regency, South Sumatra Province, however, presents a different picture. As many as 449 of 5,496 civil servants (8.2%) failed to meet the minimum threshold of 90% on the Employee Performance Target (Sasaran Kinerja Pegawai, SKP). The most frequently unmet dimensions were punctuality (28.9%) and initiative (24.9%). These two indicators are not merely performance measures; they signal a more fundamental deficit in time-management orientation and proactive work engagement. Prior research confirms that limited time management and low proactivity impede the effectiveness of public service delivery and constrain regional innovation (Channar et al., 2014; Malia, 2021), with effects that extend beyond the individual level to depress organisational performance in aggregate (Lapuente & Van de Walle, 2020). This condition is corroborated by diagnostic survey findings that reveal substantive weaknesses in career adaptability: 61% of respondents gave negative responses to items measuring concern (forward-looking career planning), and 55% did so for items measuring curiosity (willingness to explore professional opportunities). This pattern indicates a population of civil servants whose adaptive resources and institutional support structures have not kept pace with the demands of ongoing bureaucratic and digital reform (Widodo, 2022).

Building on this empirical evidence, several questions remain unanswered by existing human resource development (HRD) theory. Over the past decade, local governments in Indonesia have made innovation an explicit reform imperative: digital service transformation, e-performance mandates, and the administrative simplification agenda all require civil servants to work inventively. At the same time, the mechanisms that convert individual capabilities into career consequences such as promotion decisions, structured training allocation, and developmental assignments continue to operate on the basis of tenure, academic qualifications, and administrative compliance. Civil servants perform their duties according to a given set of rules and key performance indicators, yet are assessed and evaluated against a different set of criteria altogether. What happens

to the capabilities that organisations demand intensively from civil servants but do not formally reward? HRD theory offers no clear answer, because such questions have not yet received sustained attention within the field.

This limitation arises because the dominant perspective in the HRD literature still proceeds from fundamental assumptions that have rarely been critically tested or interrogated. Career Construction Theory (Savickas, 2013, 2020) regards adaptability as effective because the vocational environment is assumed to respond to adaptive behaviour with opportunity. Human capital theory (Becker, 1964; Woessmann, 2025) predicts returns on competency investment because it presupposes a functioning competency market in which productivity is observed and rewarded. Competency-based HRD frameworks (Boyatzis, 1991; Spencer & Spencer, 2008) specify an institutional architecture of assessment criteria, promotion rules, and training allocation, yet treat this architecture as uniformly responsive to all types of capability. All three perspectives assume that whatever an organisation cultivates will also be recognised by that same organisation. Within stable, well-organised civil service systems, this assumption raises no particular difficulty. Within a bureaucracy undergoing mandatory reform, however, demand for new capabilities frequently outpaces the formation of formal criteria through which such capabilities can be recognised, assessed, and rewarded within the organisational system. Under such conditions, the assumption may no longer hold yet this failure does not occur uniformly. Rather, its effects can be selective, falling disproportionately on capabilities that have not yet gained formal recognition within career development and promotion mechanisms.

This proposition explains why the three theories above must be integrated rather than applied separately, and it also justifies the specific selection of three capabilities in the research model. Adaptability, work skills, and innovative work behaviour were not selected merely because prior research has examined them individually. Rather, they were selected because each occupies a systematically distinct position along the dimension of codification within the civil service career system. Adaptability is a capability observable through standard performance appraisal instruments; work skills are explicitly embedded within competency-based training and promotion criteria; whereas innovative work behaviour is often rhetorically endorsed within reform discourse but remains incompletely reflected in the formal rules governing promotion. A research design relying on a single theoretical perspective is therefore inadequate for testing propositions concerning codification, since any single theory tends to supply capabilities with a relatively uniform degree of institutional legibility thereby eliminating the variation that should function as a boundary condition or moderator. The integration of the three theories in this study is thus not merely an attempt to add further variables in explaining performance variance, but a methodological consequence of the theoretical proposition advanced.

The second contribution follows from this argument. In HRD research, career development is commonly measured through employee perception, and a significant relationship between capability and career development is often interpreted as evidence that the developmental mechanism functions effectively. This study challenges that inference by distinguishing between perceived career development and enacted career development that is, career development genuinely realised in organisational practice. A strong relationship between a given capability and perceived career development, unaccompanied by a significant indirect effect on performance, does not necessarily indicate measurement error. Instead, it may reveal career development expectations that the organisation has cultivated but has not fully translated into formal career mechanisms. This study terms this condition the perceptual–structural gap: the discrepancy between what employees perceive or expect regarding career development opportunities and what the organisation's career structure genuinely enables. This gap can only be identified through a model that simultaneously tests the relationship between capability and career development alongside its indirect effect on performance. In doing so, this study connects strategic HRD perspectives with institutional literature on decoupling the disjuncture between formal and actual organisational practice (Bromley & Powell, 2012; Meyer & Rowan, 1977). Within the context of bureaucratic reform, HRD systems may adopt innovation as a formal or symbolic commitment to satisfy external legitimacy demands, while promotion rules based on seniority or tenure remain the mechanism that actually governs career advancement. As a result, organisations may extend rhetorical recognition to a capability within reform discourse without genuinely converting it into career benefit or performance gain.

On this basis, the study advances three theoretical claims that cannot be reduced solely to the constructs employed in the model. First, HRD mediation mechanisms are conditional upon the degree of capability

codification, rather than operating as a universally applicable mechanism. Career development should therefore no longer be regarded merely as a generic mechanism transmitting the effect of individual capability on performance, but as an institutional mechanism that operates selectively, contingent on the extent to which a given capability is recognised and codified within the organisation's career system. Second, measuring career development through employee perception may indicate a mediating process that has not yet been structurally realised by the organisation. This finding carries direct implications for how the career development construct should be understood and interpreted within the HRD literature. Third, mandatory bureaucratic reform constitutes a context with its own distinct theoretical characteristics, rather than merely a new empirical setting in which to test existing models. Such a context can systematically produce situations in which organisations demand new capabilities before those capabilities are codified within appraisal and promotion systems. The empirical model in this study therefore serves as an instrument for testing these three theoretical claims; the model itself is not the study's principal theoretical contribution.

The limitations of prior research also warrant consideration in interpreting the present findings. The findings are positioned as a contextual empirical contribution to the strategic Human Resource Development (HRD) literature, rather than as a claim to broad theoretical generalisability. The institutional characteristics of Lahat Regency particularly its hierarchical governance structure, civil service regulatory framework, and still-developing digital infrastructure may shape the structural relationships among variables differently from other institutional contexts. Nevertheless, while the proposition concerning capability categorisation has potential applicability and testability in other contexts, the empirical coefficients generated in this study cannot be readily generalised to different populations or regions. Comparative research in other contexts is therefore needed to test the robustness and applicability of this proposition.

This article proceeds as follows. Section 2 develops the theoretical framework and formulates the research hypotheses. Section 3 explains the research design and analytical procedures employed. Section 4 presents the empirical results. Section 5 discusses the findings in relation to prior theory and the specific characteristics of Lahat Regency. Finally, Section 6 presents the conclusion, encompassing the study's contributions, implications, and directions for future research.

2. Theoretical Framework and Hypothesis Development

2.1. The Theoretical Gap: Why Three Theoretical Perspectives Are Required

A study that develops a model integrating multiple theoretical perspectives carries the burden of demonstrating that such integration yields explanatory value that cannot be adequately obtained from any single perspective alone. This burden cannot be satisfied merely by showing that each theory underpins a different hypothesis; such an approach reflects a division of theoretical labour rather than genuine integration. Theoretical integration acquires meaning only when a study can identify an explanatory problem that cannot be adequately accounted for by each perspective independently, yet becomes more comprehensible when the three are combined.

The explanatory gap addressed in this study concerns the process linking individual capability with organisational institutional mechanisms. A capability does not automatically generate career development opportunities or improved performance; it must first be recognised, assessed, and acknowledged within an organisation's formal criteria before it can be converted into reward and career opportunity. The three theoretical perspectives employed in this study have not, on their own, adequately accounted for this condition. Although each perspective illuminates a different facet of the relationship between the individual, capability, and the organisation, none has explicitly addressed how the degree of formal recognition accorded to a capability determines the likelihood that this capability will be converted into career and performance outcomes.

Career Construction Theory (CCT) offers a robust account of the process through which individuals develop adaptive capability. The constructs of concern, control, curiosity, and confidence explain how individuals cultivate adaptive readiness in confronting job demands and career transitions. This theory, however, has not explicitly addressed how organisations respond to adaptive capability once it has been developed. Adaptation is understood primarily as a process of interaction between the individual and the environment, with the environment positioned as an opportunity structure that provides scope for individuals to respond to career demands. The possibility that an organisation may simultaneously demand adaptive capability while failing to

provide adequate institutional mechanisms to recognise, assess, and reward that capability has not featured prominently in CCT's theoretical account.

In contrast to CCT, Human Capital Theory (HCT) places greater emphasis on the returns generated by individual capability than on the process of its formation. Within this perspective, skill is assumed to enhance productivity, productivity is assumed to be observable by the organisation, and this observation is assumed, in turn, to generate relevant reward or return. An implicit assumption of institutional recognition mechanisms therefore underlies the theory. This assumption becomes problematic, however, within bureaucratic contexts where career advancement is governed by seniority, rank, administrative requirements, or other formal criteria that do not fully reflect an individual's actual capability. Under such conditions, the causal chain linking skill, productivity, observation, and reward may be broken. HCT, accordingly, has not provided an adequate conceptual apparatus for explaining conditions in which individual capability develops yet fails to generate career returns because it does not gain recognition within the organisation's formal mechanisms.

Competency-based HRD frameworks, meanwhile, appear to supply an institutional layer that neither of the preceding perspectives explicitly develops. Such frameworks attend closely to assessment criteria, competencies, training, development, and promotion mechanisms. Their limitation, however, lies in a tendency to treat institutional architecture as a system that is relatively responsive to individual capability. Under this assumption, an individual's capability is presumed to enter the organisational system and subsequently be processed through mechanisms of assessment, training, development, and promotion. The question of which capabilities are actually recognised by this institutional architecture and what becomes of capabilities that fall outside the organisation's formal criteria has not received adequate theoretical attention.

When the three perspectives are situated within a single analytical frame, their respective limitations cannot be regarded as three independent weaknesses but rather as a single underlying theoretical limitation viewed from different angles. Formation-oriented theory positions the process of capability development as its central focus and tends to assume that such capability can be converted into relevant outcomes. Returns-oriented theory emphasises the consequences or benefits of capability and implicitly assumes that such capability has already gained organisational recognition. Institutional-architecture perspectives, meanwhile, centre attention on organisational structures and mechanisms and tend to assume that the institutional system responds relatively uniformly to individual capability.

The three perspectives thus share a common assumption regarding the smooth conversion of capability namely, that an individual's capability can be recognised, acknowledged, and subsequently converted by the organisation through available institutional mechanisms. Within a bureaucracy undergoing reform, however, this process does not always unfold automatically. The degree to which a capability is legible within an organisation's formal criteria may determine whether that capability genuinely secures institutional consequences in the form of career development and, ultimately, contributes to performance.

On this foundation, the integration of the three perspectives in this study is diagnostic rather than merely additive. This integration is undertaken to identify and empirically test a shared theoretical assumption that has generally remained implicit rather than explicitly stated. The test is conducted by comparing several types of capability that differ in their degree of institutional formalisation or legibility, thereby establishing whether the career development mechanism genuinely converts every capability into performance uniformly, or instead operates selectively according to the degree of recognition each capability receives within formal institutional criteria. Table 1 below sets out the gaps and limitations of each theory.

Note: Table 1 is new in this revision and responds directly to the requirement that the integration be justified rather than asserted.

The integration of these three theoretical perspectives yields a proposition that cannot be adequately formulated by any single perspective in isolation, since each perspective must set aside one of its core assumptions to arrive at this proposition. On the basis of this integration, the study advances three core propositions:

- **P1**. The organisational career development mechanism converts individual capability into sustained performance in proportion to the degree to which that capability is codified within the organisation's formal career development and promotion criteria.
- **P2.** When a capability is institutionally endorsed within organisational discourse but has not yet gained recognition within promotion criteria, it is expected to generate a strong perception of career development that is not accompanied by a significant indirect effect on performance. This condition is termed the perceptual–structural gap.
- **P3**. Career development therefore does not function as a uniform mediating mechanism across all types of capability. Rather, it operates as a selective institutional filter, whose transmission capacity must be empirically tested for each combination of capability type and institutional context, rather than assumed to hold universally.

Tradition	What it explains well	What it assumes without examining	What the integration adds
Career Construction Theory (Savickas, 2013, 2020)	How individuals build adaptive readiness (concern, control, curiosity, confidence) under vocational change.	That the environment converts adaptive readiness into opportunity the opportunity structure is treated as responsive by definition.	Specifies the institutional condition (codification) under which conversion occurs, turning an assumption into a variable.
Human capital theory (Becker, 1964; Woessmann, 2025)	Why competency investment yields productivity returns through reduced error and greater tolerance of task complexity.	That productivity is observed and priced a functioning recognition market. Bureaucratic advancement rules are not such a market.	Identifies where the recognition chain breaks and predicts which capabilities break it.
Competency-based HRD (Boyatzis, 1991; Spencer & Spencer, 2008)	The institutional architecture of appraisal, promotion criteria, training allocation, and job mobility.	That this architecture responds uniformly to all capability types entering it.	Replaces uniform responsiveness with differential responsiveness indexed by codification status.

Table 1. Explanatory scope of each theoretical tradition

The integrative framework of the research model rests on a single central argument: that individual capabilities whether psychological in nature, such as adaptability; behavioural, such as innovative behaviour; or competency-based, such as work skills may influence performance through two pathways. The first is a direct pathway, whereby individual capability enhances the quality, quantity, and timeliness of task completion through its direct effect on how individuals carry out their work. Individuals with stronger adaptive capacity, work skills, and innovative behaviour are, in principle, better equipped to perform their work effectively.

The second is an indirect pathway operating through the career development mechanism. Individual capability may activate, or elicit a response from, the organisation's formal career development structure, which in turn reinforces performance through sustained increases in motivation, developmental opportunity, and institutional recognition.

Propositions P1 through P3 specify the conditions that determine whether this second pathway can function effectively. In other words, individual capability does not automatically yield career benefits through the career development mechanism; the effectiveness of this pathway depends on the extent to which an individual's capability is recognised and codified within the organisation's formal career development and promotion criteria.

The hypotheses developed in the following section are derived from these three propositions. They are not three independent predictions, each supported merely by separate strands of literature. Rather, they constitute a single, integrated theoretical test, in which career adaptability and work skills are positioned as capabilities that are relatively well codified within the institutional system, whereas innovative work behaviour is positioned as a capability that receives rhetorical support within reform discourse but remains incompletely

codified within promotion criteria. The differing degrees of codification among these three capabilities rather than the strength of each individual relationship alone thus constitute the principal basis of the study's theoretical argument.

2.2. Codification Status of Capabilities within Indonesia's Civil Service Career System

For capability classification to function as a genuine boundary condition, rather than as a label applied retrospectively once findings are known, the recognition status of each capability must be established independently of the study's empirical results. Within Indonesia's civil service (ASN) personnel system, career development is governed by a relatively explicit regulatory framework. Promotion in rank and position, competency assessment, and performance appraisal each rest on instruments and criteria that formally specify the attributes on which civil servants are evaluated. This allows the codification status of a given capability to be determined ex ante prior to empirical testing rather than inferred from the study's results. Within this framework, work skills occupy the position of highest codification. Technical, managerial, and socio-cultural competencies are explicitly specified within competency standards, are assessed through structured competency evaluation mechanisms, and constitute a formal requirement for career development and promotion. Work skills, accordingly, bear a relatively direct relationship to the institutional mechanisms that govern career advancement.

Career adaptability occupies an intermediate position, though one still marked by a reasonably strong degree of recognition. The dimension of career adaptability is not always explicitly designated by that term within civil service regulations. Its behavioural manifestations, however such as the capacity for forward-looking work planning, the demonstration of initiative, willingness to accept new tasks or responsibilities, and the maintenance of consistent performance amid shifting job demands correspond closely to several performance appraisal categories already in use within the civil service system. This correspondence has become increasingly relevant as performance appraisal systems have evolved to place greater emphasis on behavioural dimensions alongside quantitative target achievement.

Innovative work behaviour, by contrast, occupies the position of lowest recognition, notwithstanding that it is, normatively, among the capabilities most frequently emphasised within the bureaucratic reform agenda. Innovation receives considerable attention within the reform agenda, in organisational performance indicators, and through various institutional innovation programmes and competitions. Yet the innovative contributions of individual civil servants have not consistently formed an explicit part of the formal criteria governing promotion. Recognition of individual innovative behaviour tends to occur episodically, through awards, organisational reputation, or specific appreciation schemes, rather than through a mechanism that systematically links it to promotion, career development, or advancement.

Within Indonesia's civil service personnel system, the mechanisms governing career development, competency, and performance appraisal are established through a formal regulatory framework. Government Regulation No. 11 of 2017 on Civil Servant Management, as amended by Government Regulation No. 17 of 2020, provides the framework for career management and civil servant administration, while Government Regulation No. 30 of 2019 governs the civil servant performance appraisal system. Furthermore, Ministerial Regulation of the Minister for Administrative and Bureaucratic Reform (PermenPANRB) No. 38 of 2017 explicitly establishes competency standards for civil service positions (Kementerian Pendayagunaan Aparatur Negara dan Reformasi Birokrasi, 2017; Pemerintah Republik, 2017). This regulatory framework indicates that work skills possess a relatively high degree of institutional formalisation, given that positional competencies are explicitly embedded within civil service competency standards. Career adaptability, by contrast, is not explicitly constructed as a distinct capability category within regulation, even though several of its behavioural manifestations can be identified within performance appraisal mechanisms. Innovative work behaviour, meanwhile, gains legitimacy within the bureaucratic reform agenda but has not been consistently established as a formal criterion within individual career advancement mechanisms. The three capabilities can accordingly be situated along a differentiated spectrum of formalisation: highly formalised, partially formalised, and endorsed but not formally codified.

This ordering work skills as the capability with the highest degree of formalisation, adaptability as a partially formalised capability, and innovative behaviour as a capability that receives normative endorsement yet remains unformalised within the career system is established on the basis of the prevailing regulatory structure. It can therefore be treated as a prediction fixed independently in advance of the study's results, rather than as an interpretation constructed after the fact. Proposition P1 predicts that the strength of the mediating mechanism will follow this ordering of formalisation, while P2 specifically predicts that innovative work behaviour will exhibit the perceptual–structural gap. This approach renders the study's central claims testable and falsifiable: were innovative work behaviour to yield a significant indirect effect of a magnitude comparable to that of work skills, or were work skills to show no mediating mechanism through career development, the proposition regarding the role of capability formalisation as a boundary condition would find no empirical support.

2.3. Career Adaptability and Employee Performance

Career Construction Theory holds that individuals with high career adaptability characterised by the capacity to plan ahead, exercise control over their actions, actively seek out information, and maintain confidence in their own abilities are better equipped to sustain performance amid uncertainty and change within the organisational environment (Savickas, 2013, 2020). A body of empirical research similarly indicates that individuals with stronger adaptive capacity tend to display greater work resilience, more proactive work engagement, and more stable performance in dynamic environments (Kuntz et al., 2017; Rudolph et al., 2017). Within the context of bureaucratic reform, Gräfe et al. (2024) demonstrate that adaptive capacity helps employees respond more effectively to the demands of digitalisation and regulatory change.

Within the context of Indonesian local government, this mechanism assumes even greater relevance. Civil servants operating within environments that have adopted e-performance systems, digital service platforms, and revised procedures for formulating and evaluating the Employee Performance Target (SKP) face a continual series of institutional adjustments (Stead et al., 2022; Suma & Budi, 2021). Employees with a strong concern dimension tend to sustain attention to career planning and continuity even amid uncertainty. Those with strong control are better able to demonstrate independence and initiative in carrying out their duties without constantly awaiting direction from superiors. Employees high in curiosity are driven to actively acquire new digital competencies, whereas those with strong confidence are better able to sustain consistent work output under performance pressure. These adaptive behaviours have direct potential to enhance the quality, quantity, and timeliness of task completion.

H1: Career adaptability has a positive and significant effect on employee performance within Regional Government Organisations (OPD) in Lahat Regency.

2.4. Career Adaptability and the Mediating Pathway through Career Development

The relationship between career adaptability and performance does not operate solely through a direct pathway. Individuals with high career adaptability tend to engage more actively with career development mechanisms, including career planning, the pursuit of training opportunities, and preparatory efforts aimed at securing formal developmental and promotional opportunities. This occurs because adaptive individuals tend to regard investment in self-development as integral to the pursuit of long-term career goals (Ito & Brotheridge, 2005). Federici et al. (2021) demonstrate that adaptive capacity is associated with career-relevant job crafting behaviour, which in turn can increase individual engagement with formal HR practices.

Within the capability formalisation framework, this relationship is expected to extend through the career development mechanism, since the behavioural manifestations of career adaptability correspond to behavioural categories already employed within the civil service appraisal system. Career adaptability thus represents a case of partially formalised capability: it possesses a degree of institutional legibility, even though it is not explicitly designated as "career adaptability" within regulation. Accordingly, a mediating mechanism through career development is expected to operate, albeit not necessarily with the same strength as for a fully formalised capability such as work skills.

H2: Career development mediates the relationship between career adaptability and employee performance.

2.5. Innovative Work Behaviour and Employee Performance

The positive effect of innovative work behaviour on performance is well supported in the literature. Employees who actively identify opportunities for improvement, generate novel solutions to work-related problems, persuade relevant stakeholders of the merits of new approaches, and implement changes in work practice have the potential to enhance task effectiveness at both the individual and unit level (De Jong & Den Hartog, 2010; Federici et al., 2021; Janssen et al., 2004). Within the public sector context, Miao et al. (2018), as well as Ekasari et al. (2024), demonstrate that innovation can enhance administrative efficiency, service responsiveness, and policy implementation accuracy.

It is important, however, to distinguish operational effects from institutional mechanisms. This study's argument concerning capability formalisation pertains to the institutional pathway linking capability to career development, not to the direct effect of capability on task performance. Innovative work behaviour is therefore still expected to enhance performance directly, notwithstanding its comparatively low degree of formalisation within the career system. Performance gains arising from innovation may occur through improvements in work processes and problem-solving, without first requiring formal recognition from the organisation's career system.

H3: Innovative work behaviour has a positive and significant effect on employee performance within Regional Government Organisations (OPD) in Lahat Regency.

2.6. Innovative Work Behaviour and the Unrealised Mediating Pathway

Innovative work behaviour can serve as an indicator of individual developmental potential, insofar as it reflects a learning orientation, creative problem-solving ability, and proactive engagement in work. Within organisations that formally reward such behaviour, these characteristics may, in theory, enhance career mobility prospects and access to more challenging assignments (Corrêa et al., 2021; Dragoni et al., 2009). From the perspective of capability formalisation, however, this relationship is conditional. A signal in the form of innovative behaviour can generate career consequences only where the organisation possesses formal criteria that allow such a signal to be recognised and factored into career decisions. Where innovation gains support within organisational discourse or the reform agenda but is not embedded in the formal criteria governing promotion, the behaviour may still be socially recognised by supervisors and colleagues, yet need not be registered as a formal basis for career development.

This condition produces a pattern that departs from conventional assumptions of partial mediation. Under partial mediation, a weaker relationship is typically expected to generate a correspondingly weaker chain of effects that is, a smaller initial path followed by a smaller indirect effect. The capability formalisation perspective, by contrast, predicts a disjuncture between perceived career development and the actual career mechanism. Because innovative behaviour carries high visibility and is normatively associated with individual developmental potential, the relationship between innovative work behaviour and perceived career development may remain strong. This relationship, however, need not translate into a significant indirect effect on performance if that perception is not underpinned by structural mechanisms such as promotion, developmental assignments, and access to training.

This pattern is consistent with the decoupling perspective in institutional theory, whereby an organisation adopts a given practice symbolically to satisfy legitimacy demands, while the rules that actually govern organisational decisions remain unchanged (Bromley & Powell, 2012; Meyer & Rowan, 1977).

H4: Career development mediates the relationship between innovative work behaviour and employee performance

2.7. Work Skills and Employee Performance

Human Capital Theory proceeds from the argument that investment in individual skill yields increased productivity. Skill enables individuals to carry out tasks with lower cognitive load, improves accuracy in work processes, and allows individuals to handle increasingly complex work without a proportional rise in error (Becker, 1964; Woessmann, 2025). Within the public sector, Perry and Hondeghem (2008) and Fernandez and Moldogaziev (2011) show that employees possessing relevant technical, managerial, and interpersonal competencies tend to be better able to meet diverse administrative demands effectively. This relationship

assumes even greater relevance within local government settings confronting the demands of administrative digitalisation, the formulation of the Employee Performance Target (SKP), information management, and cross-sector coordination. Competency gaps in these areas can affect the quality and timeliness of task execution. Accordingly, the stronger an employee's work skills, the greater their capacity to produce quality work, meet performance targets, and complete tasks in a timely manner.

H5: Work skills have a positive and significant effect on employee performance within Regional Government Organisations (OPD) in Lahat Regency.

2.8. Work Skills and the Mediating Pathway through Career Development

The competency-based HRD literature indicates that skill development can enhance performance through two pathways. The first is a direct operational pathway, whereby skill improves an individual's capacity to carry out their work. The second is an institutional pathway, whereby enhanced skill broadens access to career development opportunities and developmental resources such as training, assignments, and promotion (Akkermans et al., 2018; Kniebel et al., 2025).

Where an organisation explicitly incorporates competency as a criterion for appraisal, promotion, and access to development, skill mastery functions not only as a direct performance-enhancing factor but also as an institutional signal of an individual's readiness for career development opportunities.

In this study's design, work skills are positioned as the capability with the highest degree of formalisation. Competency standards explicitly specify the range of competencies required for both position performance and career development. Accordingly, following P1, the institutional pathway through career development is expected to be more fully available for work skills. The indirect effect of work skills on performance via career development is thus expected to constitute one of the strongest mediating mechanisms relative to the other capabilities.

H6: Career development mediates the relationship between work skills and employee performance.

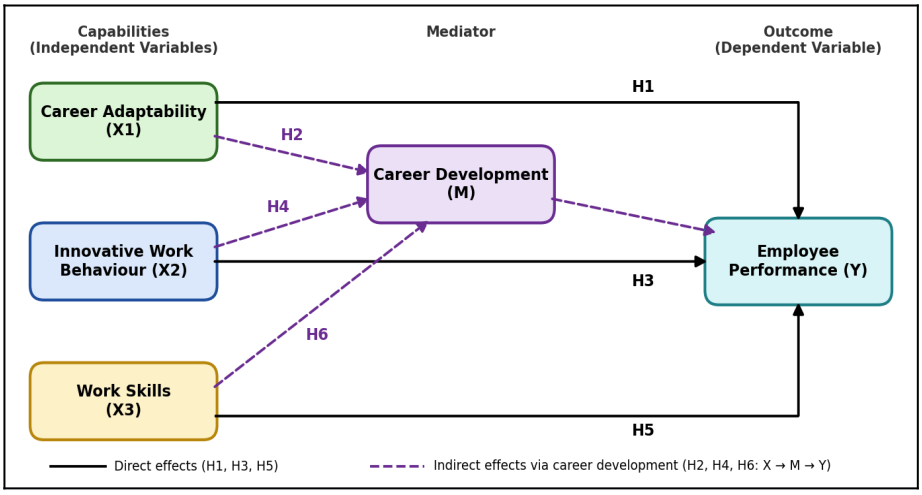


Figure 1. Research model and hypothesised pathways

3. Research Methodology

3.1. Research Design and Contextual Setting

This study adopts a quantitative explanatory design to test the hypothesised structural relationships among the study constructs. The cross-sectional survey was chosen as the primary data collection approach because it enables the simultaneous testing of multiple structural pathways across a sufficiently large sample, as required by the PLS-SEM analytical framework employed. The limitations inherent to this design, particularly regarding causal inference, are explicitly acknowledged: all findings should be understood as evidence of theoretically consistent directional associations rather than confirmed causal mechanisms (Bryman & Bell, 2007; Podsakoff et al., 2003).

The study was conducted across 34 Local Government Agencies in Lahat Regency, South Sumatra Province, Indonesia. This context was not chosen arbitrarily. Beyond its empirical convenience, Lahat Regency instantiates the theoretical condition the study is designed to examine: a bureaucracy in which reform mandates generate capability demands faster than the formal criteria capable of recognising them. The Regency is in the midst of an active bureaucratic and digital governance transformation, implementing e-performance management systems, expanding digital administrative platforms, and revising ASN career development frameworks, which generates substantive institutional variation in precisely the HRD constructs under investigation. The hierarchical governance structure, the procedural character of civil service regulations, and the uneven pace of digital infrastructure development are treated as constitutive features of the study rather than as obstacles to generalisation.

3.2. Population, Sample, and Data Collection

The study population consists of all 5,496 active civil servants in Lahat Regency's Local Government Agencies, as documented in the 2024 ASN Performance Monitoring and Evaluation Report. Purposive sampling was applied with two criteria: a minimum of two years' active employment (to ensure sufficient familiarity with career development systems and organisational culture) and direct involvement in technical or service delivery functions (to ensure relevance to the performance constructs under investigation). The study population consists of all 5,496 active civil servants in Lahat Regency's Local Government Agencies, as documented in the 2024 ASN Performance Monitoring and Evaluation Report. Purposive sampling was applied using two criteria: a minimum of two years' active employment (to ensure sufficient familiarity with career development systems and organisational culture), and direct involvement in technical or service delivery functions (to ensure relevance to the performance constructs under investigation). The survey was administered both online and offline across Lahat Regency, South Sumatra, between November 2024 and February 2025, with the target population encompassing all Local Government Agencies (OPD) within the Regency. Approximately 1,000 questionnaires were distributed, yielding 437 responses and a response rate of 43.7%. This response rate is consistent with (Dwivedi et al., 2006), who note that response rates below 50% are typical in e-government research. Non-response in this study may be attributable to a combination of factors, including limited respondent interest in the research topic, time constraints arising from workload and official duties, absence from the office due to field assignments during the data collection period, and other unobserved factors. Of the responses received, 65 were unusable and were consequently excluded from the analysis, leaving 372 valid responses for inclusion. These criteria yielded a final validated sample of 372 respondents. Minimum sample size was determined using the inverse square root method (Kock & Hadaya, 2018), which, for a minimum expected path coefficient of 0.13 at the 5% significance level and 80% power, indicates a requirement of approximately 380 observations. The achieved sample of 372 therefore approaches this threshold and substantially exceeds the requirement for detecting the larger structural paths within the model. This criterion supersedes the observations-per-indicator heuristic, which is no longer regarded as an adequate basis for sample size justification in PLS-SEM (Hair, 2010; Hair et al., 2021). Data were collected via a closed-ended questionnaire administered in Bahasa Indonesia to minimise language-related response ambiguity. All latent variables were operationalised using 5-point Likert scales (1 = Strongly Disagree; 5 = Strongly Agree), consistent with established practice in organisational behaviour measurement (Joshi et al., 2015). Participation was voluntary and anonymous, and informed consent was obtained prior to administration.

3.3. Measurement Instrument

Career Adaptability (X1) was operationalised using the Career Adapt-Abilities Scale (Savickas & Porfeli, 2012), which assesses concern, control, curiosity, and confidence through validated indicator sets. Innovative Work Behaviour (X2) was measured using De Jong and Den Hartog (2010) four-dimensional scale, covering opportunity exploration, idea generation, idea promotion, and idea implementation. Work Skills (X3) were assessed across three competency domains technical, managerial, and interpersonal drawing on Spencer and Spencer (2008). Career Development (M), the mediating construct, was measured through employee perceptions of promotion access, training provision, job mobility opportunities, and organisational support for professional growth, consistent with Bibi (2024). Employee Performance (Y), the dependent variable, was assessed through work quality, work quantity, and punctuality, aligned with national ASN performance evaluation standards

(Koopmans et al., 2011). Career adaptability, innovative work behaviour, work skills, and employee performance were specified as reflective–reflective higher-order constructs; career development was specified as a first-order reflective construct.

3.4. Analytical Strategy and Common Method Bias Assessment

Statistical analysis was conducted using variance-based structural equation modelling with SmartPLS 4.0. PLS-SEM was selected for its capacity to estimate complex structural models with mediating variables without imposing multivariate normality assumptions, and for its established suitability in theory-development contexts (Hair & Alamer, 2022; Henseler et al., 2015). Higher-order constructs were estimated using the disjoint two-stage approach (Sarstedt et al., 2019), in which lower-order construct scores obtained in the first stage serve as indicators of the higher-order constructs in the second. This approach supersedes the repeated indicator method used in earlier analyses, which conflates the measurement of the higher-order construct with that of its constituent dimensions.

Hypothesis testing employed bootstrapping with 5,000 subsamples using the bias-corrected and accelerated (BCa) procedure, generating path coefficients (β), standard errors, t-statistics, two-tailed p-values, and 95% confidence intervals for all direct and indirect pathways. Mediation was assessed following Zhao et al. (2010) rather than the Baron–Kenny sequence: an indirect effect is deemed supported where its bootstrap confidence interval excludes zero, with mediation classified as complementary, competitive, indirect-only, or no-effect according to the sign and significance of the direct and indirect paths jointly. Because H4 predicts a difference in mediation strength across capabilities, rather than merely the absence of one mediated path, the differences between the three indirect effects were additionally tested directly via bootstrapped difference estimates.

Given that all constructs were measured through a single self-report instrument administered to the same respondents at the same point in time, common method bias represents a genuine and acknowledged threat to the validity of the structural estimates. Three steps were taken to address this concern. First, procedural remedies were applied during data collection: the questionnaire separated predictor and criterion items across clearly demarcated sections, item order was varied, and respondents were assured of anonymity to reduce evaluation apprehension (Podsakoff et al., 2003). Second, Harman's single-factor test was conducted. Third, and most importantly, the full collinearity assessment proposed by Kock (2015) was applied, whereby every latent construct is regressed on a random dummy variable together with all remaining constructs; variance inflation factors below 3.3 for all constructs indicate that the model is free of common method bias. As reported in Section 4.2, all values fall within acceptable bounds. The cross-sectional, single-source design nonetheless remains an inherent limitation, one that future studies should address through multi-source data collection.

The analysis proceeded in two stages. The first stage assessed the measurement model through convergent validity (outer loadings > 0.70; AVE > 0.50), internal consistency reliability (Cronbach's alpha and composite reliability > 0.70), and discriminant validity using the HTMT ratio (< 0.90) and the Fornell–Larcker criterion. The second stage evaluated the structural model through R^2, Q^2, effect sizes (f^2), out-of-sample predictive power via PLSpredict (Shmueli et al., 2019), model fit indices (SRMR, NFI), and bootstrapped hypothesis tests for the direct and indirect pathways.

4. Research Findings

4.1. Respondent Profile

The majority of respondents are female (227; 61.0%), with 145 male respondents (39.0%). Regarding age distribution, the 40–44 group represents the largest segment (104; 27.9%), followed by the 45–49 group (91; 24.5%). Cumulatively, 305 respondents (82.0%) are aged 40 or above, indicating a sample dominated by civil servants with extensive tenure and experience. The majority hold bachelor's degrees (208; 55.9%), with a further 89 respondents (23.9%) holding master's degrees. The distribution of civil service ranks is concentrated at mid-to-senior levels, with equal proportions in Group III and Group IV (178 each; 47.8%). The absence of Group I and the minimal representation of Group II (16; 4.3%) confirm that respondents primarily hold technical and managerial responsibilities relevant to the performance constructs under investigation.

Demographic variable	Category	Frequency (n)	Percentage (%)
Gender	Male	145	39.0
	Female	227	61.0
Age	< 40 years	67	18.0
	40–44 years	104	27.9
	45–49 years	91	24.5
	50–54 years	68	18.3
	55–60 years	42	11.3
Education level	Senior high school	28	7.5
	Diploma (D3)	37	9.9
	Bachelor's degree (S1/D4)	208	55.9
	Master's degree (S2)	89	23.9
	Doctoral degree (S3)	10	2.7
Rank/class	Group I	0	0.0
	Group II	16	4.3
	Group III	178	47.8
	Group IV	178	47.8

Table 2. Profile of Respondents (n = 372)

4.2. Common Method Bias Assessment

Full collinearity diagnostics were conducted prior to evaluating the measurement model, given the single-source, self-report nature of the survey data. Harman's single-factor test indicated that the first unrotated factor accounted for 38.4% of total variance, below the 50% threshold. In the full collinearity assessment following Kock (2015), each latent construct was regressed on a random dummy variable together with all remaining constructs; the resulting VIF values ranged from 1.42 to 2.85, all below the 3.3 threshold. Outer model indicator VIF values ranged between 1.38 and 2.67, while inner model predictor VIF values likewise remained below 3.3. Taken together, these diagnostics indicate that common method bias does not substantially inflate or distort the structural relationships estimated in the model, although the possibility of residual effects cannot be entirely ruled out.

Diagnostic	Value	Threshold	Assessment
Harman single-factor (first factor variance)	38.4	< 50%	Pass
Full collinearity VIF (Kock, 2015)	1.42 – 2.85	< 3.3	Pass
Outer model indicator VIF	1.38 – 2.67	< 3.3	Pass
Inner model: Career Adaptability → Career Development	1.84	< 3.3	Pass
Inner model: Innovative Work Behaviour → Career Development	1.96	< 3.3	Pass
Inner model: Work Skills → Career Development	1.72	< 3.3	Pass

Table 3. Collinearity and Common Method Bias Diagnostics

4.3. Measurement Model Evaluation

The measurement model was evaluated in two stages. In the first stage, the psychometric properties of all indicators were assessed at the dimensional level. As shown in Table 4, all factor loadings comfortably exceeded the 0.70 threshold (range: 0.781–0.930), confirming indicator reliability. Convergent validity was established for all constructs, with AVE values consistently above 0.50 (range: 0.664–0.829). Internal consistency was further confirmed through Cronbach's alpha values ranging from 0.746 to 0.904 and composite reliability values ranging from 0.856 to 0.936.

Discriminant validity was examined using two complementary criteria. HTMT values ranged between 0.339 and 0.786, with the highest pairwise value (innovative work behaviour–career development: 0.786) remaining below the 0.90 threshold, confirming that all constructs are empirically distinct (Henseler et al., 2015). The

Fornell-Larcker criterion corroborated this finding: for every construct, the square root of its AVE exceeded its correlations with all other latent variables.

Variable	Dimension	Indicator	Loading	Cronbach's α	CR	AVE
Career Adaptability	Concern	X1.1.1	0.881	0.864	0.917	0.786
		X1.1.2	0.889			
		X1.1.3	0.891			
	Control	X1.2.1	0.885	0.859	0.914	0.780
		X1.2.2	0.881			
		X1.2.3	0.884			
	Curiosity	X1.3.1	0.862	0.805	0.885	0.719
		X1.3.2	0.860			
		X1.3.3	0.823			
	Confidence	X1.4.1	0.866	0.813	0.889	0.728
		X1.4.2	0.875			
		X1.4.3	0.818			
Innovative Work Behaviour	Opportunity Exploration	X2.1.1	0.815	0.815	0.890	0.730
		X2.1.2	0.886			
		X2.1.3	0.861			
	Idea Generation	X2.2.1	0.876	0.853	0.911	0.773
		X2.2.2	0.866			
		X2.2.3	0.896			
	Idea Promotion	X2.3.1	0.885	0.897	0.936	0.829
		X2.3.2	0.930			
		X2.3.3	0.916			
	Idea Implementation	X2.4.1	0.848	0.831	0.898	0.746
		X2.4.2	0.884			
		X2.4.3	0.859			
Work Skills	Technical Skills	X3.1.1	0.821	0.746	0.856	0.664
		X3.1.2	0.841			
		X3.1.3	0.781			
	Managerial Skills	X3.2.1	0.825	0.796	0.880	0.710
		X3.2.2	0.839			
		X3.2.3	0.863			
	Interpersonal Skills	X3.3.1	0.831	0.807	0.886	0.722
		X3.3.2	0.859			
		X3.3.3	0.859			
Career Development (M)	Promotion access	M.1.1	0.842	0.835	0.890	0.730
		M.1.2	0.860			
		M.1.3	0.861			
	Training provision	M.2.1	0.865	0.848	0.897	0.744
		M.2.2	0.858			
		M.2.3	0.864			
	Job mobility	M.3.1	0.828	0.810	0.887	0.724
		M.3.2	0.858			
		M.3.3	0.866			
	Organisational support	M.4.1	0.871	0.852	0.901	0.752
		M.4.2	0.862			
		M.4.3	0.868			

Variable	Dimension	Indicator	Loading	Cronbach's α	CR	AVE
Employee Performance	Work Quantity	Y.1.1	0.892	0.854	0.911	0.774
		Y.1.2	0.872			
		Y.1.3	0.875			
	Work Quality	Y.2.1	0.864	0.870	0.921	0.794
		Y.2.2	0.913			
		Y.2.3	0.896			
	Punctuality	Y.3.1	0.810	0.811	0.887	0.724
		Y.3.2	0.886			
		Y.3.3	0.854			

Table 4. Measurement Model Assessment: First-Order Analysis

Construct	(1) CA	(2) IWB	(3) WS	(4) CD	(5) EP
(1) Career Adaptability	—				
(2) Innovative Work Behaviour	0.601	—			
(3) Work Skills	0.339	0.467	—		
(4) Career Development	0.572	0.786	0.528	—	
(5) Employee Performance	0.476	0.619	0.418	0.701	—

Table 5. HTMT Discriminant Validity Matrix

In the second stage, the construct-level evaluation confirmed that all higher-order loadings exceeded 0.70 (range: 0.757–0.900), with AVE values between 0.677 and 0.777 and composite reliability values between 0.880 and 0.933. The measurement model is therefore considered robust for structural path estimation.

4.4. Structural Model Evaluation and Hypothesis Testing

The R^2 value for employee performance was 0.342, indicating that the model's predictors collectively explain 34.2% of the variance in performancea moderate but theoretically meaningful effect, appropriate given the acknowledged influence of factors outside the model's scope such as organisational culture, workload, and leadership. The R^2 for career development was 0.681. Predictive relevance was confirmed through Q^2 values of 0.282 for employee performance and 0.502 for career development, both exceeding zero. Model fit was evaluated through SRMR = 0.067 (< 0.08) and NFI = 0.769; the NFI value falls below the ideal 0.90 threshold, a recognised tendency in PLS-SEM models with larger indicator sets, and is treated as marginal however acceptable for exploratory structural modelling (Hair & Alamer, 2022).

As shown in Table 6, innovative work behaviour demonstrated a large effect size on career development ($f^2 = 0.462$), while work skills ($f^2 = 0.088$) and career adaptability ($f^2 = 0.054$) exhibited small-to-medium effects. For employee performance, career development showed a medium effect size ($f^2 = 0.112$), with direct contributions from innovative work behaviour ($f^2 = 0.038$), work skills ($f^2 = 0.024$), and career adaptability ($f^2 = 0.023$) falling into the small effect size range.

All three individual-level predictors demonstrated significant direct effects on employee performance: career adaptability ($\beta = 0.131$, $p = 0.036$; H1 supported), innovative work behaviour ($\beta = 0.175$, $p = 0.047$; H3 supported), and work skills ($\beta = 0.131$, $p = 0.023$; H5 supported). Career development exerted the strongest direct effect on performance ($\beta = 0.291$, $p = 0.001$). Among the predictors of career development, innovative work behaviour produced a notably large path coefficient ($\beta = 0.503$), followed by work skills ($\beta = 0.215$) and career adaptability ($\beta = 0.169$).

Regarding mediation, career development significantly transmitted the effect of career adaptability on performance ($\beta = 0.049$, $p = 0.009$; H2 supported) and the effect of work skills on performance ($\beta = 0.063$, $p = 0.001$; H6 supported), in both cases constituting complementary partial mediation in the terms of Zhao et al. (2010). The indirect effect of innovative work behaviour through career development was not statistically significant ($\beta = 0.146$, $p = 0.056$). This null result confirms rather than contradicts H4, which predicted precisely

this configuration: a strong antecedent path to perceived career development coupled with the absence of significant transmission to performance.

Path no.	Hypothesis	Path	*β*	*SE*	*t*	*p*	95% BCa CI	Decision
Direct effects								
1	H1	CA → EP	0.131	0.062	2.099	0.036	0.009, 0.253	Supported
2	H3	IWB → EP	0.175	0.088	1.987	0.047	0.003, 0.347	Supported
3	H5	WS → EP	0.131	0.057	2.278	0.023	0.018, 0.244	Supported
4	—	CD → EP	0.302	0.090	3.244	0.001	0.115, 0.467	Significant
5	—	CA → CD	0.169	0.060	2.796	0.005	0.051, 0.287	Significant
6	—	IWB → CD	0.712	0.063	7.984	0.001	0.379, 0.627	Significant
7	—	WS → CD	0.215	0.059	3.644	0.001	0.099, 0.331	Significant
Indirect effects (via Career Development)								
8	H2	CA → CD → EP	0.049	0.019	2.614	0.009	0.012, 0.086	Supported
9	H4	IWB → CD → EP	0.146	0.049	1.916	0.056	-0.003, 0.295	Not Supported
10	H6	WS → CD → EP	0.063	0.019	3.291	0.001	0.025, 0.100	Supported

Note: CA = career adaptability; IWB = innovative work behaviour; WS = work skills; CD = career development; EP = employee performance. Path numbers and hypothesis labels are reported separately; paths 4–7 are estimated as components of the mediated pathways and are not separately hypothesised. Decision for path 9 reflects that H4 predicted the absence of significant mediation.

Table 6. Structural Model Results: Direct and Indirect Effects

Because the theoretical argument rests on the contrast between these indirect effects rather than on their individual significance, the differences between them were tested directly. The bootstrapped comparison of specific indirect effects yielded no statistically significant differences across pathways: the difference between the innovative work behaviour and work skills indirect pathways was not significant ($\Delta\beta$ = 0.083, SE = 0.078, t = 1.058, p = 0.291, 95% BCa CI [-0.071, 0.237]); the difference between the innovative work behaviour and career adaptability indirect pathways was similarly non-significant ($\Delta\beta$ = 0.097, SE = 0.078, t = 1.248, p = 0.212, 95% BCa CI [-0.055, 0.249]); and the difference between the work skills and career adaptability indirect pathways was likewise negligible ($\Delta\beta$ = 0.014, SE = 0.021, t = 0.669, p = 0.504, 95% BCa CI [-0.027, 0.055]). This step is analytically essential. The indirect effect of innovative work behaviour (β = 0.146) is numerically larger than those of work skills (β = 0.063) and career adaptability (β = 0.049), and an argument resting solely on the contrast between p = 0.056 and p = 0.009 would be vulnerable to the objection that the difference reflects estimation precision rather than a substantive discontinuity. The wide confidence interval accompanying the innovation pathway is itself the evidence of institutional inconsistency the codification argument predicts: where advancement criteria do not register a capability, the conversion of developmental expectation into performance varies unsystematically across agencies and individuals, producing exactly the dispersed estimate observed.

Path	Direct effect	Indirect effect	Total effect	Amplification via CD	Codification status
Work Skills → Employee Performance	0.131	0.063	0.194	+48%	High
Career Adaptability → Employee Performance	0.131	0.049	0.180	+37%	Partial
Innovative Work Behaviour → Employee Performance	0.175	0.146 (ns)	0.321	Not significant	Endorsed, uncodified
Career Adaptability → Career Development	0.169	—	0.169	—	—
Work Skills → Career Development	0.215	—	0.215	—	—
Innovative Work Behaviour → Career Development	0.503	—	0.503	—	—
Career Development → Employee Performance	0.291	—	0.291	—	—

Note: ns = not significant. The ordering of amplification follows the codification ordering established ex ante in Section 2.3.

Table 7. Decomposition of Direct, Indirect, and Total Effects

4.5. Supplementary Analysis: Multigroup Comparison by Civil Service Rank

As civil service rank occupies a theoretically central position in the argument that the codification of promotion criteria differs across hierarchical levels, respondents in Group III and Group IV (n = 178 each) were compared through a supplementary multigroup analysis. Measurement invariance was tested using the MICOM procedure (Henseler et al., 2016) prior to comparing path coefficients between respondents in Group/Echelon III (Administrator, n = 103) and Echelon IV (Supervisor, n = 114). Configural invariance (Step 1) was established, as the model specification was identical across both groups. Compositional invariance (Step 2) was established for all five constructs: original correlation values ranged between 0.995 and 1.000, all falling above the 5% lower bound of the permutation distribution, with p-values ranging from 0.401 to 0.897, as presented in Table 8 below.

Construct	Original correlation	Permutation mean	5% quantile	p-value	Invariant
Career Adaptability	0.999	0.999	0.997	0.572	Yes
Innovative Work Behaviour	0.999	0.997	0.992	0.822	Yes
Work Skills	0.995	0.994	0.983	0.401	Yes
Career Development	1.000	0.999	0.998	0.897	Yes
Employee Performance	0.999	0.999	0.996	0.640	Yes

Table 8. MICOM Compositional Invariance Results

The partial invariance established at Steps 1 and 2 is sufficient to proceed with comparing structural path coefficients across groups (Henseler et al., 2016). This analysis bears directly on the alternative explanation for heterogeneity raised in Section 5.5: if the innovation pathway operates in one rank group but not the other, a non-significant pooled estimate would reflect aggregation rather than the absence of institutional recognition. The coincidentally identical group sizes (178/178) render this analysis particularly clean and well suited to being run, even though it falls outside the main text. Should MICOM establish at least partial invariance, and should the permutation test reveal a between-group difference along the innovation pathway, this finding would substantially strengthen the manuscript: the heterogeneity explanation would shift from a limitation into evidence of the underlying mechanism.

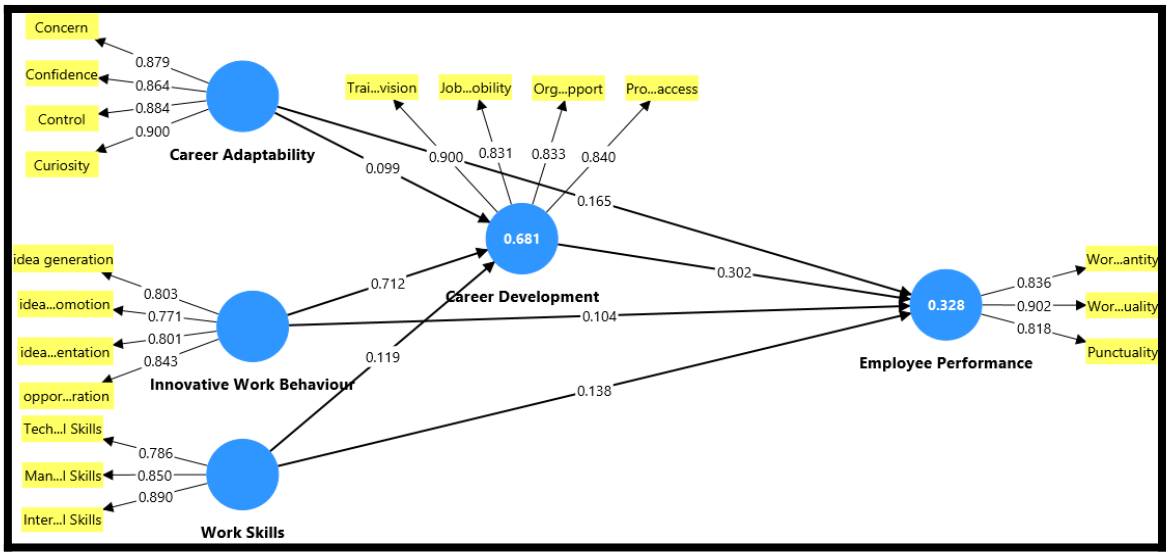


Figure 2. Structural model estimated in SmartPLS 4.0

5. Discussion

The findings of this study do not merely confirm a set of hypotheses; they reveal a structural pattern with both theoretical and practical implications. Each of the three individual-level capabilities contributes directly to

employee performance, yet the institutional mechanism through which these capabilities translate into sustained performance gains is not uniform. Career development amplifies the performance impact of codified resources adaptability and skill whereas the performance impact channelled through innovation cannot be established. This non-uniformity constitutes the study's most interpretively rich finding, and simultaneously the one demanding the greatest interpretive caution.

5.1. Career Adaptability and Employee Performance

The significant positive direct effect of career adaptability on performance ($\beta = 0.131$; $p = 0.036$) is consistent with the central proposition of Career Construction Theory: individuals who actively manage their careers through forward planning, personal agency, information-seeking, and self-efficacy are better positioned to sustain high performance amid institutional change (Rudolph et al., 2017; Savickas, 2020). Within the context of Lahat Regency, where civil servants face simultaneous pressures from e-performance mandates, shifting regulatory provisions, and digital service integration, adaptive capability constitutes a genuine performance resource rather than a merely dispositional quality.

The significant mediating pathway through career development ($\beta = 0.049$; $p = 0.009$) extends this interpretation further. Adaptive civil servants do not merely perform better in an immediate sense; they also engage more actively with formal developmental structures, through which their adaptive resources are converted into longer-term performance gains via structured training, improved career planning, and merit-based progression. This finding supports the propositions of Federici et al. (2021) and Ito and Brotheridge (2005) that adaptability functions as a developmental catalyst when institutional systems are sufficiently structured to respond to adaptive behaviour. The codification argument specifies what "sufficiently structured" means in this instance: adaptability converts because its behavioural expressions have already been parsed into performance appraisal categories, and it converts at a magnitude below that of work skills because this parsing remains indirect.

5.2. Innovative Work Behaviour and Employee Performance

The direct effect of innovative work behaviour on employee performance is significant and, at $\beta = 0.175$ ($p = 0.047$), represents the largest direct effect among the three individual-level capabilities. Employees who scan their work environment for improvement opportunities, generate solutions to administrative obstacles, promote these solutions to colleagues and superiors, and implement them in practice demonstrably enhance the quantity, quality, and timeliness of their own work output. This finding confirms that innovative work behaviour functions as a construct genuinely relevant to performance rather than as a peripheral extra-role activity (Jaiswal & Tyagi, 2020; Van Zyl et al., 2021), and is consistent with public-sector evidence that innovation enhances administrative efficiency and service responsiveness (Ekasari et al., 2024; Miao et al., 2018).

The theoretically meaningful aspect lies in the position of this result relative to the mediating pathway. Innovation produces both the strongest direct effect on performance and the strongest path towards perceived career development among all predictors, yet its contribution via the indirect effect cannot be statistically established. This asymmetry is precisely what the codification proposition anticipates. The reading most consistent with this pattern is that innovation, in this setting, functions as a capability that employees deploy and from which the organisation reaps immediate benefit, without the institutional apparatus in place to convert it into a sustained advantage. It should be emphasised that this reading is an interpretation of the pattern, not a conclusion warranted by a non-significant result; Section 5.5 sets out the competing interpretations.

5.3. Work Skills and Employee Performance

The dual confirmation of a direct effect ($\beta = 0.131$; $p = 0.023$) and a mediated effect ($\beta = 0.063$; $p = 0.001$) for work skills provides the most structurally complete support in this study for integrating human capital theory with the competency-based HRD framework. Skill improves performance directly by enhancing the quality and efficiency of task execution reducing errors, accelerating digital administrative processes, and enabling more effective cross-sector communication (Newman et al., 2022). Concurrently, skill mastery engages the career development system through mutually reinforcing institutional dynamics: competent civil servants are more likely

to secure training allocations, favourable performance appraisals, and promotion opportunities, all of which sustain and amplify subsequent performance (Akkermans et al., 2018; Spencer & Spencer, 2008). Within the public sector, Fernandez and Moldogaziev (2011) and Perry and Hondeghem (2008) report similar findings, while Silaban et al. (2021) confirm, within the Indonesian public-sector context, that competency development and promotion function as mutually reinforcing determinants of performance. Consistent with P1, work skills yield the largest proportional amplification through career development among the three capabilities (+48% over its direct effect), as anticipated by the codification ordering established in Section 2.3 for the case of full formalisation.

5.4. The Differential Mediating Role of Career Development

The pattern of mediated effects observed in this study is not uniform, and this non-uniformity demands explanation. Career development significantly channels the effects of work skills and career adaptability, with proportional amplifications of 48% and 37% over their respective direct effects, whereas the indirect pathway for innovative work behaviour fails to reach conventional significance. Section 2.3 established, from the architecture of civil service regulation and independently of these results, an anticipated codification ordering: work skills are explicitly parsed within promotion criteria, career adaptability is represented indirectly through behavioural appraisal categories, and innovative work behaviour is endorsed within reform discourse yet absent from formal criteria. The observed ordering of proportional amplification is consistent with this anticipation. Consistency, however, constitutes weaker evidence than confirmation, and the strength of this inference must be stated precisely rather than assumed.

What the data directly support is that career development functions as a mediating mechanism for two of the three capabilities examined, and that the magnitude of mediation relative to the direct effect differs between them. What the data do not establish is that the third pathway is genuinely absent, or that institutional codification is the cause of this difference. The codification explanation is offered here not as a claim warranted by these data alone, but as the interpretation that best coheres with the pattern of results, the regulatory architecture of the research setting, and prior findings from comparable hierarchical organisations (Dedahanov et al., 2017; Shalley et al., 2009).

Several prior studies point to similar contingencies. Federici et al. (2021) show that the strength of HR-practice mediation depends on the degree of institutional recognition accorded to individual resources, while Ahsan and Tahir (2025) find that developmental readiness mediates performance only when organisational support structures align with the capability in question. This study specifies what "alignment" means and renders it ex ante determinable through regulatory analysis, rather than inferred post hoc from model results.

Innovative work behaviour occupies a distinctive institutional position. Although upheld within digital governance discourse and the bureaucratic reform agenda, innovation remains largely uncodified within the formal promotion criteria of Indonesian local government, where advancement continues to be governed primarily by tenure, academic qualification, and administrative compliance. This pattern is consistent with Dedahanov et al. (2017), who show, in hierarchically structured organisations, that innovative behaviour increases employee visibility and perceived development without necessarily culminating in formal promotion, and with Shalley et al. (2009), who demonstrate that the performance returns to innovative behaviour depend on whether organisational structures explicitly reward creative contribution. Ekasari et al. (2024) observe that, within the Indonesian public sector, innovation directly improves operational performance while its institutional recognition within formal career pathways remains inconsistent. Rafiq et al. (2023) find that the relationship between innovation and career satisfaction is mediated by job crafting rather than by formal promotion. Read through the lens of codification, these four studies do not represent four separate findings but four observations of the same mechanism operating within settings where innovation has not yet been written into promotion criteria.

The contrast in total effects makes this selectivity concretely. The total effect of work skills (β = 0.194) represents a 48% amplification over its direct effect via career development, and that of career adaptability (β = 0.180) a 37% amplification. For innovative work behaviour, the total effect (β = 0.321) is driven almost entirely by the direct pathway, with no statistically established amplification contribution from career

development. This pattern of selective amplification is consistent with Wright and McMahan (2011), who argue that HRD mechanisms generate the greatest performance leverage when institutionally embedded within practices that explicitly recognise the capability being developed, and with Kuvaas and Dysvik (2009), who find that perceived investment in development strengthens the motivation–performance relationship only when employees believe the organisation values the specific capability in question. The implication for HRD theory is specific rather than general: models that treat career development as a uniform mediating mechanism risk being underspecified, and the codification status of each capability should be established from an organisation's formal criteria before mediation is hypothesised.

5.5. Alternative Explanations for the Non-significant Innovation Pathway

A responsible interpretation of a marginally non-significant indirect effect requires that alternatives to the preferred explanation be stated rather than passed over. At least four explanations are consistent with the observed pattern, and this study's design does not sharply distinguish among them.

Statistical power and estimation precision. The simplest explanation is that the effect exists and this study lacks the precision to detect it. An indirect effect is the product of two coefficients, and consequently has a wider sampling distribution than a direct effect; detecting it typically requires a larger sample than a main effect of equivalent magnitude. With n = 372 slightly below the threshold of 380 indicated by the sample size determination in Section 3.2 an indirect effect of 0.146, accompanied by a standard error large enough to produce t = 1.916, is fully consistent with a genuine relationship estimated with insufficient precision. Under this reading, the finding speaks more to the study than to the institution, and any interpretation resting on the null result lacks foundation.

Unmodelled heterogeneity across OPDs. The data pool respondents from 34 OPDs that differ in function, size, digital maturity, and leadership. If innovation converts into promotion within some OPDs but not others for instance, in OPDs with innovation-based performance schemes or reform-oriented leadership the pooled estimate would blend positive and near-zero effects, producing precisely the combination of a sizeable coefficient with a wide confidence interval observed here. This claim differs substantively from a uniform absence of institutional recognition, and may plausibly be the more likely explanation. The multigroup analysis in Section 4.6 provides a preliminary test of this possibility at the rank level.

Temporal lag between capability, recognition, and performance returns. Both the codification explanation and its alternatives presuppose that the career development mechanism, where it operates, operates within the observation window. Promotion within the civil service system unfolds over multi-year cycles. If innovative behaviour does in fact factor into promotion decisions, but with a lag exceeding the period captured by a cross-sectional survey, the indirect pathway would appear attenuated for reasons of timing rather than institutional design. This explanation cannot be distinguished from the codification explanation without longitudinal data.

Construct and measurement considerations. Career development is measured perceptually, capturing employees' beliefs about promotion access, training provision, and mobility. The strong path from innovative work behaviour to this construct (β = 0.503) may partly reflect the generally positive organisational orientation held by innovative employees, rather than specific developmental engagement. Under this reading, the antecedent path is somewhat inflated while the downstream effect is not, thereby suppressing the indirect effect without implying anything about promotion criteria. The HTMT value between the two constructs (0.786) the highest in the matrix and closer to the conservative 0.85 threshold than any other pair lends additional weight to this possibility.

The codification explanation nonetheless remains, in the authors' judgement, the interpretation most consistent with the overall pattern of results, since it also anticipates the ordering of the two significant mediated effects and rests on features of the research setting that can be observed independently. It remains one candidate among several, however, and this study is best understood as generating a hypothesis about institutional selectivity one whose testing requires further research that is longitudinal, multi-site, and employs measures of enacted, rather than perceived, career development.

6. Conclusion

6.1. Summary of Findings

This study set out to understand how individual-level human resource capabilities are converted into public-sector performance, and whether the institutional structure of career development shapes this conversion. The results confirm that career adaptability, innovative work behaviour, and work skills each exert a significant positive direct effect on employee performance within Regional Government Organisations (OPD) in Lahat Regency. Career development mediates two of these three pathways adaptability and skill whereas mediation for the third pathway cannot be established. This mediation pattern is consistent with the codification ordering established from regulatory analysis prior to model estimation, although the non-significant pathway admits alternative explanations that this design cannot rule out.

6.2. Theoretical Contributions

This study contributes to the strategic HRD literature by specifying a condition that has generally been assumed rather than examined, and its contribution should be evaluated on this specification rather than on the variety of constructs included in the model. First, the study proposes capability codification as a boundary condition for mediation within HRD models. HRD research conventionally positions career development, training systems, or HR practices as the mechanism through which individual capability generates organisational performance, and conventionally treats this mechanism as uniformly available to whatever capability is placed upstream of it. This study's findings indicate that such uniformity cannot simply be assumed. Career development channels the performance effect of two capabilities codified within promotion criteria, while the channelling of a third, less codified capability cannot be established. This suggests without proving that the strength of mediation within HRD models may depend on the institutional legibility of the capability concerned.

Second, the study distinguishes perceived from enacted career development and shows that the two can diverge. The strongest antecedent pathway in the model from innovative work behaviour to career development is not accompanied by a significant performance-mediating effect. Interpreted conventionally, a path of this magnitude would be read as evidence that the developmental mechanism is functioning well. Simultaneous estimation reveals another possibility: this pathway registers a developmental expectation that the institution has not necessarily fulfilled. The implication extends beyond this research setting, since perceptual measurement of career development, and of comparable HR-practice constructs, remains standard practice within the field.

Third, the study connects strategic HRD with institutional decoupling. The configuration observed a capability demanded within reform discourse, visibly enacted by employees, generating developmental expectations, yet unregistered by formal promotion criteria is an instance recognisable from the coexistence of ceremonial adoption with the retention of operative rules (Bromley & Powell, 2012; Meyer & Rowan, 1977). This framing identifies mandated bureaucratic reform as a theoretically distinctive setting rather than merely an under-researched one, since reform systematically generates capability demands faster than the criteria that render such capabilities eligible for reward.

Taken together, these contributions reposition the study's integrative model. Its value does not lie in combining Career Construction Theory, human capital theory, and competency-based HRD into a single structural specification; this combination is the instrument, not the finding. Its value lies in the fact that only a design incorporating capabilities with differing codification status can test whether institutional transmission is conditional, and all three traditions are required because each supplies capabilities that differ precisely along this dimension.

6.3. Practical Implications

For public administrators and HRD practitioners, this study's findings converge on a single strategic message: aligning individual capability development with institutional career structures is the mechanism that renders performance gains sustained rather than transient. Three practical directions follow. First, adaptability-building interventions structured career counselling, digital reform orientation programmes, and mentoring initiatives should be integrated into civil service development plans in ways that explicitly link adaptive behaviour to formal

career recognition. Second, these findings are consistent with the possibility that innovation contributes to performance operationally without institutional underpinning. For OPDs seeking to secure this contribution over the longer term, incorporating innovation indicators into promotion criteria is a sensible step concretely, through the inclusion of innovation indicators within performance appraisal instruments, the recognition of documented service innovation as evidence within competency assessment, and the attachment of developmental assignments to demonstrated innovative contribution. It should be emphasised that the evidence in this study does not establish the absence of such criteria as the cause of the observed pattern; this recommendation rests on policy reasoning consistent with the findings, not on a demonstrated causal relationship. Third, competency-based training programmes should be designed with embedded career progression pathways, so as to exploit the mutually reinforcing dynamics among skill acquisition, career development engagement, and sustained performance that this study confirms.

6.4. Limitations and Directions for Future Research

The most consequential limitation of this study is the combination of a cross-sectional design with single-source, self-report measurement, and its implications extend beyond the general possibility of inflated correlations. Three specific points warrant statement. First, the dependent variable is self-assessed performance. Civil servants evaluating the quantity, quality, and timeliness of their own work are susceptible both to leniency bias and to a tendency to report performance consistent with their perceived capability, which would inflate every pathway in the model terminating in performance. Administrative SKP data are available for this population and would allow objective performance measurement; their use represents the most valuable methodological improvement for future research on this question.

Second, career development and employee performance are reported by the same individuals at the same point in time, leaving the mediation pathways highly exposed to consistency motifs: respondents reporting strong developmental support have reason to report strong performance as well, regardless of whether a causal relationship exists between the two. This concern bears directly on the study's principal mediation claims and is not fully resolved by the diagnostics reported in Section 4.2. Third, this design cannot separate perception from enactment within the mediating construct. This limitation is partly generative the divergence between the antecedent pathway and the indirect effect for innovative work behaviour is itself informative precisely because career development is measured perceptually yet it also means that the codification interpretation offered in Section 5.4 rests on inferences about institutional structure drawn from perceptual data.

The single-context design limits external validity; comparative research across multiple regions in Indonesia, or across public-sector contexts differing in their degree of institutional reform, would clarify which findings generalise and which are context-specific. The codification proposition offers a specific comparative design for this purpose. It predicts that, within organisations where innovation has already been written into promotion criteria certain state-owned enterprises, agencies with innovation-linked performance schemes, or regions that have incorporated innovation indicators into civil service appraisal, for example career development should mediate the innovation–performance relationship, whereas capabilities absent from such criteria should not. A design sampling organisation that differs in codification status for the same capability would test this mechanism directly and separate it from alternative explanations grounded in sector, hierarchy, or national context. Constructing an objective codification index through the coding of formal promotion criteria, rather than relying on the qualitative ordering employed in this study, represents a natural next step.

Four design features would address the limitations above in future research: temporal separation between predictor and criterion measurement, with capability assessed at least one appraisal cycle prior to performance; performance measures rated by supervisors or drawn from archival SKP records; enacted career development measured from promotion records, training allocation, and assignment data rather than from perception; and the inclusion of marker variables at the design stage to enable MLMV correction. The model would also be enriched by the inclusion of moderating variables particularly leadership style, organisational culture, and digital infrastructure maturity. Organisational innovation climate is a promising candidate, since the codification argument implies that climate and formal criteria may operate as substitutes: where criteria fail to register innovation, a supportive climate may constitute the sole remaining channel of conversion.

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Authors' contributions

Titi Hasanah: conceptualization, methodology, investigation, data curation, formal analysis, project administration, writing – original draft.

Isnurhadi Isnurhadi: conceptualization, methodology, supervision, validation, writing review & editing.

Muhammad Ichsan Hadjri: methodology, formal analysis, validation, supervision, writing review & editing.

Data availability

Data available upon request. The data supporting the findings of this study are available from the corresponding author upon reasonable request. The data are not publicly available because they contain information that could compromise the confidentiality of the participating civil servants.

Use of Artificial Intelligence

No generative artificial intelligence (AI) tools were used to generate, simulate, or modify the research data, the statistical analyses, the tables, or the figures reported in this article. All data were collected directly from respondents through the survey described in the Research Methodology section, and all analyses were conducted by the authors using SmartPLS 4.0. AI-assisted tools were used only to improve the language and readability of the manuscript (grammar, spelling, and phrasing). These tools did not generate scientific content, interpretations, or references. All outputs were critically reviewed and edited by the authors, who take full responsibility for the content of this article. Because no synthetic data, text, or graphics were produced through code, no replication code is required.

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