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## Ambidexterity and Organisational Health in Public Sector Digital Transformation: A Scoping Review

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**Abstract:** Public organisations must run existing services reliably while reinventing how they are delivered, a tension that digital transformation has intensified rather than resolved. Ambidexterity names the capacity to hold both demands, and its normative appeal rests on the premise that balancing exploration and exploitation sustains the organisation. Whether that premise has been tested is unclear: the two literatures have developed separately. Following established guidance for scoping reviews and its reporting extension, we searched one citation database, screened 461 records against criteria set in advance by three reviewers, and assessed 33 full texts, of which 22 were eligible. The evidence is recent, geographically concentrated, and cross-sectional. Seventeen mutually exclusive labels for ambidexterity appear; only two report a replicable instrument source, and none is used twice. Eleven studies name an organisational-health construct but only four measure one separately from ambidexterity. Where imbalance is documented, the included studies attribute it to governance rather than to managerial preference. The novelty of this review lies in an eligibility rule that breaks the circularity arising when ambidexterity is itself defined through adaptability; applying it reduces the apparent evidence from eleven studies to four and shows the founding premise of the field to be untested.

**Keywords:** Organisational Ambidexterity, Organisational Health, Public Sector Digitalisation, Ambidextrous Leadership, Innovation Governance, Scoping Review

## INTRODUCTION

Public organisations are expected to do two incompatible things at once: to run existing services reliably, accountably and at lower cost, while reinventing how those services are delivered. Digital transformation has sharpened this expectation rather than resolved it. Mergel et al. (2019) define digital transformation in government as a holistic reconfiguration of processes, structures and relationships rather than the adoption of a technology, and the systematic review by Haug et al. (2024) of 164 studies shows that such reconfiguration is now pervasive in public administration. The arrival of artificial intelligence has intensified the pressure again, requiring administrations to absorb a general-purpose technology into rule-bound structures designed for stability (Tangi et al., 2025). The question is therefore no longer

whether public organisations must change while continuing to deliver, but what sustains them while they do so. Organisation theory names that capacity. Following March (1991), ambidexterity denotes the simultaneous pursuit of exploitation, the refinement of what an organisation already does well, and exploration, the search for what it does not yet do. O'Reilly and Tushman (2013) reframe this as a dynamic capability underpinning long-run adaptation, Rosing et al. (2011) specify its leadership counterpart as an alternation between opening and closing leader behaviours, and Gibson and Birkinshaw (2004) locate a contextual variant in the behavioural setting within which employees divide their attention. Against this we set organisational health: the capacity of an organisation to adapt, to retain and support its workforce, and to keep performing over time (Alzuman et al., 2025). The two constructs are deliberately kept apart, one naming a capability and the other a condition, so that the relationship between them remains an empirical rather than a definitional question.

The construct has travelled far. Junni et al. (2013) meta-analysed its performance consequences, and reviews by Kassotaki (2022), Gianzina and Paroutis (2025) and Jain et al. (2025) document a large and expanding literature. Its migration into public administration is more recent and more contested. Palm and Lilja (2017) examined enabling factors in public organisations, Cannaerts et al. (2020) showed that public organisations achieve ambidexterity through several distinct configurations, and Cannaerts et al. (2025) found that red tape depresses managerial ambidexterity while public service motivation raises it, locating the problem partly in structure rather than disposition. Practice has moved ahead of theory: public organisations already improvise structural answers, from dedicated digital innovation units (Selten, 2026) to agile practices grafted onto bureaucratic routines (Mergel, 2026). Whether such arrangements sustain the organisations that adopt them is an open question. It is an open question in a precise sense. Research on ambidexterity in public organisations has concentrated on the antecedents and configurations of the capability rather than on its consequences for the organisations that develop it. Palm and Lilja (2017) identify enabling factors, Cannaerts et al. (2020) establish that several distinct configurations can produce ambidexterity, and Cannaerts et al. (2025) model red tape and public service motivation as its determinants. In each of these studies, ambidexterity is the phenomenon to be explained rather than the explanation of some further organisational outcome, and none models organisational health, or any of its constituent conditions such as workforce retention and adaptive capacity, as a dependent variable. Approaching the field bibliometrically, Hamblin et al. (2024) arrive at the same absence from the opposite direction, observing that how public administration context shapes ambidexterity remains largely unexplored. Whether studies linking the two constructs exist elsewhere in this literature is precisely what no prior review has established, and establishing it is the first task this review sets itself.

The evidence that would settle that question is difficult to read as a body. Birkinshaw and Gupta (2013) warned that the versatility of ambidexterity risked a loss of clarity in meaning and measurement, a warning reviews have repeated without resolving. Because contextual ambidexterity is itself defined through adaptability (Gibson & Birkinshaw, 2004), any inference from ambidexterity to organisational health is circular unless the two are measured separately. On the other side, Li et al. (2026) demonstrate that resilience, the construct most often used as a proxy for organisational health in public administration, has itself fragmented into competing narratives, and Schädeli and Ritz (2024) add that macro-level paradox concepts are typically invoked to characterise context rather than theorised in their own right. Two under-consolidated literatures cannot be joined by assumption.

What remains unexamined is the premise on which the normative case rests: that balancing exploration and exploitation sustains the organisation over time. In the public sector this premise is not decorative. Hur and Abner (2024), meta-analysing 249 effect sizes from 59 studies, show that turnover intention among public employees is driven substantially by work environment and job characteristics rather than by individual demographics, placing

organisational conditions at the centre of workforce sustainability. Existing reviews nevertheless approach the problem from one side only: those on ambidexterity are either sector-agnostic (Kassotaki, 2022; Gianzina & Paroutis, 2025; Jain et al., 2025) or, where public sector focused, bibliometric rather than analytic (Hamblin et al., 2024), while those on public sector digitalisation map drivers and processes but treat outcomes thinly (Haug et al., 2024). None asks how ambidexterity and organisational health have been jointly conceptualised, measured and linked in digitally transforming public organisations.

A scoping review is the appropriate design, and the choice of design requires explicit justification because two adjacent designs might appear equally available. A systematic review directed at effect estimation would presuppose the construct stability and measurement convergence that are themselves at issue in this domain, and its eligibility criteria would exclude the qualitative and conceptual work in which much of this field is currently written (Munn et al., 2018). A meta-analysis would require effect sizes that can be pooled across studies, a condition that cannot be assumed where the focal construct is named and operationalised differently in almost every report. Scoping methodology instead permits definitions, instruments, levels of analysis and study designs to be charted as findings in their own right rather than treated as nuisance variation to be controlled (Peters et al., 2015). The evidence base is emergent, methodologically heterogeneous and conceptually unsettled, the condition under which mapping the extent, nature and conceptualisation of evidence takes precedence over estimating effects (Munn et al., 2018). We follow the framework of Arksey and O'Malley (2005) as refined by Levac et al. (2010) and current JBI guidance (Peters et al., 2020), and report against PRISMA-ScR (Tricco et al., 2018).

The distinctiveness of this review lies on three levels. Methodologically, it introduces an a priori eligibility rule that breaks the circularity arising when contextual ambidexterity is itself defined through adaptability, as set out in the preceding section; the rule transfers to any evidence synthesis that links a capability construct to an outcome construct sharing its definition. Empirically, it measures fragmentation rather than asserting it, and shows what that fragmentation does to the prospects for cumulative evidence. Substantively, it separates the studies that measure organisational health from those that merely invoke it, and shows that where imbalance between exploration and exploitation is documented in public organisations, it is consistently located in governance arrangements rather than in managerial preference, with direct implications for where reform should begin. Together these three levels supply the conceptual and methodological groundwork that cumulative work on this relationship has so far lacked.

The aim is accordingly to map, rather than to estimate, the evidence connecting ambidexterity to organisational health in public sector organisations undergoing digital transformation: to describe the extent and characteristics of that evidence, to document how both constructs are defined and measured, to identify the mechanisms said to link them, and to specify what the resulting pattern implies for future research design. Four questions guide the review:

1. **RQ1.** To what extent, and with what characteristics, has the relationship between ambidexterity and organisational health been studied in public sector organisations undergoing digital transformation?
2. **RQ2.** How are ambidexterity and organisational health defined, operationalised and measured in these studies?
3. **RQ3.** What mediators, moderators and mechanisms are reported to connect them?
4. **RQ4.** What research gaps and methodological patterns characterise the current evidence, and what should be studied next

## METHOD

### Protocol and reporting

We conducted this scoping review using the five-stage framework of Arksey and O'Malley (2005), refined by Levac et al. (2010) and by the JBI guidance for scoping reviews (Peters et al., 2020), because we aimed to map the extent, nature and conceptualisation of an emergent and heterogeneous evidence base rather than to estimate effect sizes (Munn et al., 2018). Reporting follows the PRISMA-ScR checklist (Tricco et al., 2018). The protocol was developed a priori and was not registered because PROSPERO does not accept scoping review protocols; one amendment made during piloting is reported in Section 2.5.

In terms of research type this is a review of secondary sources, so its object is published research reports rather than organisations or individuals. The population comprises indexed journal articles meeting the Population-Concept-Context criteria in Section 2.2, and the final sample is the 22 reports that passed full-text screening; the unit of analysis is the study report, not the respondents within it. The search was conducted on 1 July 2026 and the study is desk-based, so it is not tied to a field location. The instruments were an 18-item charting form derived from the protocol and a critical appraisal tool for empirical studies; the analytical tools were thematic synthesis and descriptive statistics.

### Eligibility criteria

Eligibility was operationalised through the Population-Concept-Context (PCC) mnemonic (Peters et al., 2020) and applied hierarchically, so every excluded record carries exactly one reason. Two conceptual anchors framed the Concept element: exploration and exploitation as competing organisational demands (March, 1991), and ambidextrous leadership as alternation between opening and closing leader behaviours (Rosing et al., 2011). Criteria are reported in Table 1. The truncated stem ambidext\* in that table denotes the family of terms reviewers accepted at screening, not a term used in the query, which is reported verbatim in Table 2.

**Table 1. Eligibility criteria applied at title–abstract and full-text screening.**

| PCC element | Inclusion                                                                                                                                                                                           | Exclusion (code)                                                                                                                |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| Population  | Public-sector organisations: central and local government, public agencies, state-owned enterprises, public schools, universities, hospitals and research organisations                             | Exclusively private-sector samples, or mixed public–private samples reported without disaggregation (E2, FE2)                   |
| Concept     | Ambidexterity as a focal analytic construct: ambidext*, the exploration–exploitation dyad framed as an organisational tension, or opening–closing leader behaviours                                 | Construct absent from title, abstract and keywords (E1); mentioned only in background or discussion without analytic role (FE1) |
| Concept     | Organisational health reported as a construct distinct from ambidexterity (resilience, adaptability, well-being, commitment, trust, turnover) <b>or</b> digital transformation as the study context | Neither present (E3, FE3)                                                                                                       |
| Context     | Digital transformation, digitalisation, digital innovation, e-government or technology adoption at organisational level                                                                             | Ambidexterity confined to other domains (supply chain, product portfolio) (E3)                                                  |
| Sources     | Peer-reviewed journal articles; English or Indonesian; no lower date limit                                                                                                                          | Conference papers, book chapters, editorial material (E5); other languages (E6); duplicates (E7); full text unobtainable (FE4)  |

### Information sources and search strategy

Scopus was searched on 1 July 2026. The query combined three concept blocks with AND and synonyms within blocks with OR, using quotation marks for phrases and wildcards for morphological variants; it is reported verbatim with its limits in Table 2.

**Table 2. Verbatim Scopus query and applied limits (July 2026).**

| Element           | Content                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Query             | (( "ambidextrous leader*" OR "leadership ambidexterity" OR "organi?ational ambidexterity" OR "ambidextrous organi?ation*" ) AND ( "organi?ational health" OR "organi?ational wellbeing" OR "organi?ational well-being" OR "digital transformation" OR "digital innovation" OR "digitali?ation" OR "digital government" OR "e-government" ) AND ( "public sector" OR "public administration" OR "government agenc*" OR "public organi?ation*" OR "civil service" OR "local government" OR "public manage*" )) |
| Limits            | Subject areas: Business, Management and Accounting; Social Sciences; Economics · Document type: Article · Language: English · Open Access: all                                                                                                                                                                                                                                                                                                                                                               |
| Records retrieved | 461                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

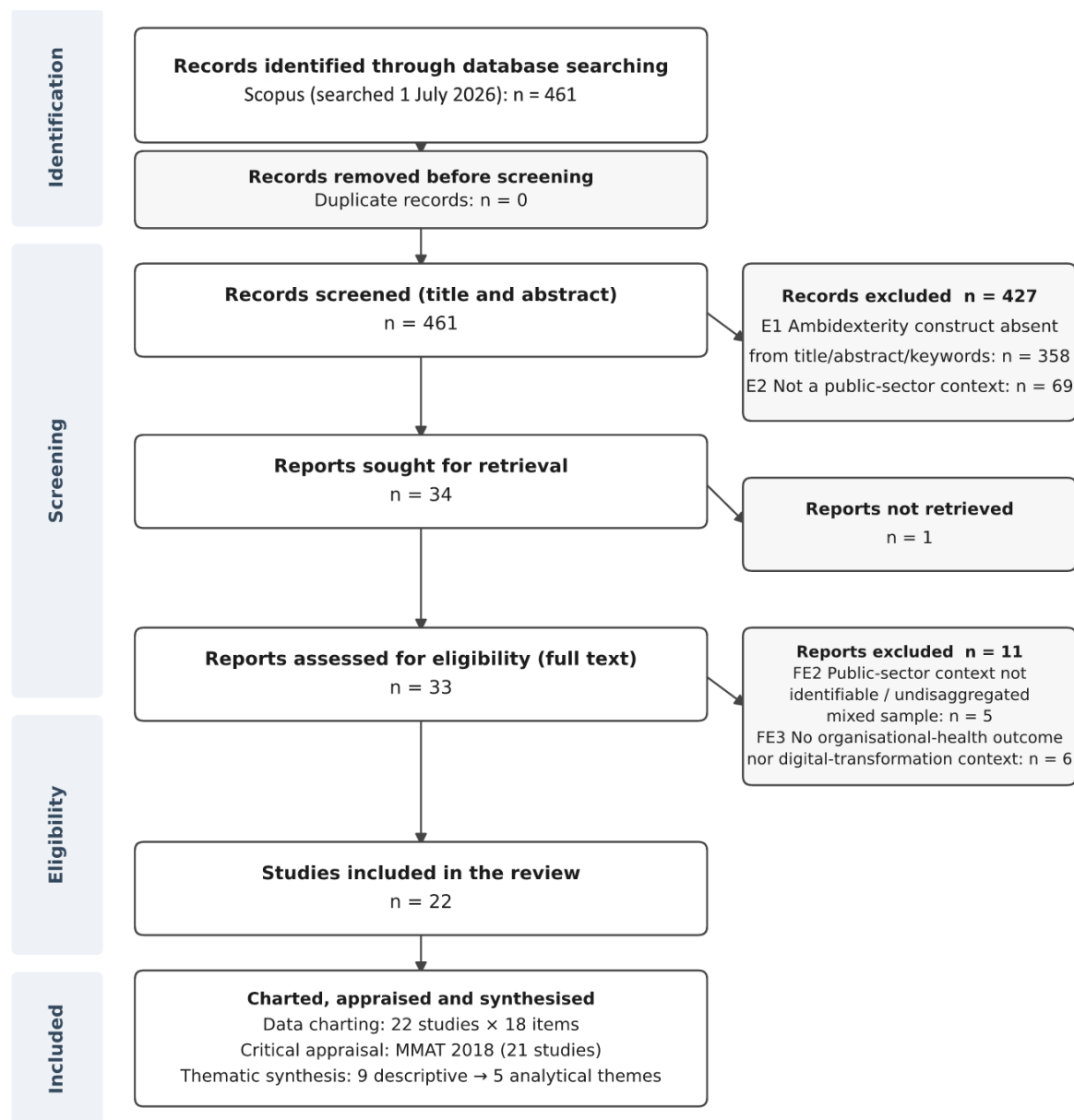
Two features of the executed search require explicit statement. First, the query was run without a field-code wrapper and therefore searched all indexed fields rather than title-abstract-keywords alone. This yields a superset of the corresponding field-restricted search, so sensitivity was not reduced; the consequence is a high proportion of records excluded under criterion E1 (Fig. 1). Second, the open-access limit functioned as an eligibility criterion and is acknowledged as a source of accessibility bias (see Limitations). Neither database triangulation nor citation tracking was performed.

One technical consequence requires open statement. The first concept block consists of four phrase variants, and only four of the 22 included studies use a label those phrases can match. The remaining eighteen, among them the studies labelling their construct digital ambidexterity, collective ambidexterity, ambidextrous IT governance and agile ambidexterity, were retrieved because the query searched all indexed fields. Sensitivity therefore rests on how the search was executed rather than on how its phrases were composed; replication requires the same field-unwrapped execution, and this reinforces the observation in Section 3.3 about keyword-anchored reviews in a domain whose terminology has not consolidated.

### Selection of sources of evidence

Records were screened independently by two reviewers (R1, R2) applying identical criteria at deliberately different thresholds specified in advance: R1 resolved ambiguity towards inclusion, R2 required explicit textual evidence. A third reviewer (R3) adjudicated every disagreement against the PCC definitions. Agreement was quantified with Cohen's (1960) kappa and interpreted following Landis and Koch (1977):  $\kappa = 0.630$  at title-abstract screening (27 conflicts adjudicated) and  $\kappa = 0.390$  at full text (9 conflicts adjudicated). Because the two reviewers deliberately applied different thresholds, both values are descriptive indicators of the volume of adjudication required rather than estimates of inter-rater reliability.

Of the 461 records screened, 427 were excluded at title and abstract: 358 under E1 because the ambidexterity construct was absent from the title, abstract and keywords, and 69 under E2 because the setting was not a public-sector organisation. Full texts were sought for 34 reports; one could not be obtained and is reported as not retrieved rather than as an eligibility exclusion. Of the 33 reports assessed at full text, 11 were excluded, 5 under FE2 and 6 under FE3; no report was excluded under FE1 or FE4. This left 22 studies for charting and synthesis. Fig. 1 summarises this process.



Screening reliability: Cohen's  $\kappa = 0.630$  (title-abstract, n = 461);  $\kappa = 0.390$  (full text, n = 33).  
E- and FE-codes refer to the a priori eligibility criteria reported in Table 1.

**Fig. 1. PRISMA-ScR flow diagram.**

## Data charting

A charting form covering 18 items was derived from the protocol and piloted on the first five studies, producing three revisions: separation of construct definition from measurement instrument, addition of a construct-level field, and separation of mediators from moderators. Piloting also exposed a circularity in the eligibility criteria. Because contextual ambidexterity is itself defined through adaptability (Gibson & Birkinshaw, 2004), any ambidexterity study would automatically satisfy the organisational-health criterion. The protocol was therefore amended: organisational health counts only when measured separately from ambidexterity, and digital transformation only when it constitutes the study context.

Charting was performed on the full texts, with NR recorded where no textual basis existed. The charting form and the extraction procedure followed the recommendations of Pollock et al. (2023) for the extraction, analysis and presentation of results in scoping reviews. A second reviewer independently re-charted five studies (23%); of 85 compared cells, 95.3% agreed fully. Consistent with JBI guidance, appraisal was descriptive and not used to exclude

studies. We applied the Mixed Methods Appraisal Tool (Hong et al., 2018) to the 21 empirical studies; one literature review fell outside its scope, and no overall scores were computed.

## Critical appraisal and synthesis

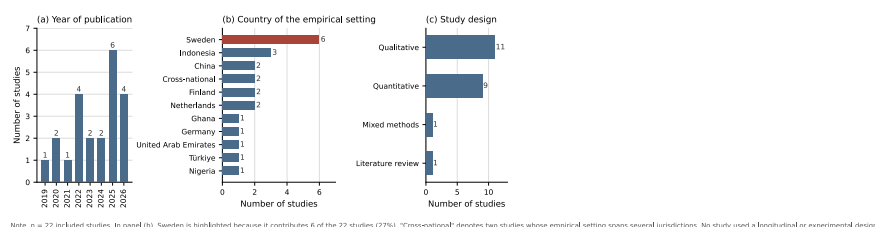
Meta-analysis was inappropriate given the heterogeneity of constructs, instruments and levels of analysis. We therefore used thematic synthesis (Thomas & Harden, 2008), conducted inductively in three stages: line-by-line coding of findings; development of descriptive themes remaining close to the primary data; and generation of analytical themes addressing the research questions. Descriptive themes were retained where at least two studies contributed, and studies were assigned to every theme for which they provided evidence, so the themes are analytically distinct but not mutually exclusive. Descriptive statistics summarised study characteristics. The analytical stages and the presentation of synthesised results follow Pollock et al. (2023), and the level of methodological detail reported here follows the consistency standards recommended by Pham et al. (2014).

## RESULTS AND DISCUSSION

### The evidence base is recent, geographically concentrated and cross-sectional

The 22 included studies are described in Table 3. They span 2019 to 2026, but the field is young and expanding rapidly: 10 of the 22 (45%) appeared in 2025 and 2026, and none predates 2019. Publication is spread across public administration and information systems outlets, led by *Transforming Government: People, Process and Policy* with four studies and *Government Information Quarterly* with three. The empirical settings cover ten countries but are unevenly distributed. Sweden alone accounts for 6 of the 22 studies (27%) and Northern Europe for 8 (36%); Indonesia contributes three, and China, Finland and the Netherlands two each. Public-sector settings are diverse and include municipalities, national agencies, an anti-corruption commission, water utilities, public schools, a regional healthcare organisation and a national research agency.

Eleven studies are qualitative, nine quantitative, one mixed methods and one a literature review. Notably, no study used a longitudinal or experimental design: eight of the nine quantitative studies are cross-sectional and the ninth used a time-lagged survey (Zahoor et al., 2025). Causal inference is therefore unavailable anywhere in this evidence base. Levels of analysis are equally fragmented: across 22 studies we identified 20 distinct formulations, from individual school leaders and scientists through project teams and organisational units to inter-organisational fields and national ecosystems. Three studies model levels explicitly and simultaneously (Hietala et al., 2023; Hietala & Päiväranta, 2025; Pietsch et al., 2025). Data intensity varies widely. Quantitative samples range from 158 respondents (Liang et al., 2019) to 3,075 teachers nested in 261 schools (Pietsch et al., 2025); qualitative evidence ranges from 12 interviews in a single organisation (Gajic, 2026) to 60 interviews spanning a national ecosystem (Senyo et al., 2024). Fig. 2 summarises the distribution by year, country and design.



**Fig. 2. Distribution of the 22 included studies by year of publication, country of the empirical setting and study design**

**Table 3. Characteristics of the 22 included studies.**

| Study                                 | Country              | Public-sector setting                              | Design and data                                                                |
|---------------------------------------|----------------------|----------------------------------------------------|--------------------------------------------------------------------------------|
| Liang et al. (2019)                   | China                | Local government agencies                          | Survey, PLS-SEM; N = 158 (81.4% valid response)                                |
| Magnusson, Khisro, et al. (2020)      | Sweden               | Large municipality                                 | Interpretative case study; interviews + 19 steering documents                  |
| Magnusson, Koutsikouri, et al. (2020) | Sweden               | Two large government agencies                      | Case study 2016-2018; 13 informants, survey of 55 project managers, cost audit |
| Magnusson et al. (2021)               | Sweden               | Large public agency                                | Interpretative case study; 13 interviews                                       |
| Hariguna et al. (2022)                | Indonesia            | National and regional e-government providers       | Survey, SEM-PLS; N = 425                                                       |
| Khisro et al. (2022)                  | Sweden               | Large municipality                                 | Clinical inquiry; 21 interviews                                                |
| Lindskog (2022)                       | Sweden               | Government agency (agile project)                  | Case study; interviews (50-60 min) + project documents                         |
| Tukiran et al. (2022)                 | Indonesia            | National anti-corruption commission (KPK)          | CFA and path analysis; N = 200                                                 |
| Hietala et al. (2023)                 | Finland              | Six public water utilities                         | Embedded case study; 2-4 interviews per utility plus vendors                   |
| Kristensen & Andersen (2023)          | Cross-national       | Government C-suite (31 articles reviewed)          | Structured literature review; 520 screened, 31 included                        |
| Selten & Klievink (2024)              | Netherlands          | Three public organisations                         | Multiple case study; semi-structured interviews + documents                    |
| Senyo et al. (2024)                   | Ghana                | Government-led national payment platform           | Exploratory case study; 60 interviews + 17 secondary sources                   |
| Hietala & Päivärinta (2025)           | Finland              | Digital public service ecosystem                   | Multilevel single-case study; 24 organisations, focus groups and workshops     |
| Pietsch & Mah (2025)                  | Germany              | Public schools                                     | Online survey, SEM; N = 179 school leaders                                     |
| Pietsch et al. (2025)                 | Türkiye              | Public schools across 12 NUTS regions              | Multilevel SEM; 3,075 teachers in 261 schools                                  |
| Ririh et al. (2025)                   | Indonesia            | National research agency (BRIN)                    | Survey, SEM; N = 314 (419 returned)                                            |
| Zahoor et al. (2025)                  | United Arab Emirates | Public sector departments                          | Time-lagged survey, SEM; N = 228 managers                                      |
| Zhou et al. (2025)                    | China                | Government departments, provincial to sub-district | Survey, TOE framework; N = 488                                                 |
| Abdullahi et al. (2026)               | Nigeria              | Public sector organisations, federal to local      | Survey, PLS-SEM; N = 306 (400 distributed)                                     |
| Gajic (2026)                          | Sweden               | Regional public healthcare organisation            | Interpretive case study; 12 interviews + governance documents                  |
| Mergel (2026)                         | Cross-national       | Public bureaucracies, digital service teams        | Inductive interpretative study; 168 participants                               |
| Selten (2026)                         | Netherlands          | Digital innovation units in local government       | Exploratory case study; 22 interviews across 20 units                          |

### Reporting is strong in qualitative studies but sampling is rarely defensible in quantitative studies

Table 4 reports the MMAT appraisal. No study received a negative rating on any item; all 21 non-affirmative ratings were “cannot tell”, meaning that reporting was insufficient to judge rather than that the method was weak. Overall, 84 of 105 items (80%) were rated affirmatively. Consistent with the tool's guidance no overall score was computed, and the aggregate figures reported here are descriptive only.

The aggregate figure conceals a sharp asymmetry. Qualitative studies satisfied 53 of 55 items (96%), the two “cannot tell” ratings both falling on interpretation substantiated by the data. Quantitative studies satisfied only 28 of 45 items (62%), and the weakness is concentrated in sampling rather than diffuse: measurement and statistical analysis were rated affirmatively

in all nine studies, but four did not name a sampling strategy, five reported no response rate, and only one had a sample whose representativeness could be judged (Pietsch et al., 2025). The single mixed-methods study satisfied three of five items. The generalisability of the quantitative evidence is therefore constrained independently of the measurement problems reported in Section 3.3, and this constraint qualifies every claim in this review that rests on quantitative evidence. Reporting of research ethics was also uneven: seven of the 22 reports referred to ethical approval, informed consent or anonymity procedures.

The distribution of this asymmetry across the review's substantive questions warrants explicit statement, because it does not fall where the aggregate figures alone might suggest. The four studies that measure an organisational-health construct separately from ambidexterity, and which therefore constitute the only evidence bearing directly on the relationship this review examines, are all quantitative (Tukiran et al., 2022; Pietsch et al., 2025; Ririh et al., 2025; Abdullahi et al., 2026). Of these four, only Pietsch et al. (2025) was rated affirmatively on sample representativeness; for the other three the reporting was insufficient to judge. The seven studies that invoke organisational health narratively rather than measuring it are, conversely, six qualitative studies and one literature review, that is, precisely the stratum whose reporting the appraisal found strong.

It follows that the relationship between ambidexterity and organisational health is not, as the appraisal profile alone might imply, more strongly supported by qualitative than by quantitative evidence. The qualitative stratum is indeed the better reported and it carries the mechanism findings, but it does not address that relationship at all; the relationship is evidenced only by the studies whose sampling is least well reported. Two consequences follow. First, the evidential weight of this review is distributed unevenly by question rather than weakened uniformly: the finding that imbalance is attributed to governance arrangements (Section 3.6) rests on a stratum of case-based and qualitative work whose reporting satisfied 96 per cent of appraisal items, whereas the findings concerning the ambidexterity and organisational-health relationship (Section 3.4) and the specification of leadership (Section 3.5) rest entirely on the quantitative stratum, in which sampling is least defensible. Second, the reporting strength of the qualitative studies cannot compensate for that weakness, because those studies do not measure the outcome and therefore cannot test the relationship, however rigorously they are reported. The scarcity documented in Section 3.4 is thus compounded rather than offset: the outcome is not only rarely measured, but where it is measured, the representativeness of the samples on which the measurement rests can seldom be judged. Claims about the relationship should accordingly be read as resting on four cross-sectional studies of uncertain representativeness, not on the corpus as a whole.

**Table 4. MMAT 2018 appraisal of the 21 empirical studies.**

| Study                                 | MMAT category                      | Item 1 | Item 2 | Item 3 | Item 4 | Item 5 |
|---------------------------------------|------------------------------------|--------|--------|--------|--------|--------|
| Liang et al. (2019)                   | Quantitative descriptive (4.1-4.5) | C      | C      | Y      | Y      | Y      |
| Magnusson, Khisro, et al. (2020)      | Qualitative (1.1-1.5)              | Y      | Y      | Y      | Y      | Y      |
| Magnusson, Koutsikouri, et al. (2020) | Mixed methods (5.1-5.5)            | Y      | Y      | Y      | C      | C      |
| Magnusson et al. (2021)               | Qualitative (1.1-1.5)              | Y      | Y      | Y      | Y      | Y      |
| Hariguna et al. (2022)                | Quantitative descriptive (4.1-4.5) | C      | C      | Y      | C      | Y      |
| Khisro et al. (2022)                  | Qualitative (1.1-1.5)              | Y      | Y      | Y      | C      | Y      |
| Lindskog (2022)                       | Qualitative (1.1-1.5)              | Y      | Y      | Y      | C      | Y      |
| Tukiran et al. (2022)                 | Quantitative descriptive (4.1-4.5) | Y      | C      | Y      | C      | Y      |
| Hietala et al. (2023)                 | Qualitative (1.1-1.5)              | Y      | Y      | Y      | Y      | Y      |
| Kristensen & Andersen (2023)          | Not applicable (literature review) | -      | -      | -      | -      | -      |
| Selten & Klievink (2024)              | Qualitative (1.1-1.5)              | Y      | Y      | Y      | Y      | Y      |
| Senyo et al. (2024)                   | Qualitative (1.1-1.5)              | Y      | Y      | Y      | Y      | Y      |
| Hietala & Päivärinta (2025)           | Qualitative (1.1-1.5)              | Y      | Y      | Y      | Y      | Y      |

|                         |                                    |   |   |   |   |   |
|-------------------------|------------------------------------|---|---|---|---|---|
| Pietsch & Mah (2025)    | Quantitative descriptive (4.1-4.5) | C | C | Y | C | Y |
| Pietsch et al. (2025)   | Quantitative descriptive (4.1-4.5) | Y | Y | Y | C | Y |
| Ririh et al. (2025)     | Quantitative descriptive (4.1-4.5) | Y | C | Y | Y | Y |
| Zahoor et al. (2025)    | Quantitative descriptive (4.1-4.5) | C | C | Y | C | Y |
| Zhou et al. (2025)      | Quantitative descriptive (4.1-4.5) | Y | C | Y | Y | Y |
| Abdullahi et al. (2026) | Quantitative descriptive (4.1-4.5) | Y | C | Y | Y | Y |
| Gajic (2026)            | Qualitative (1.1-1.5)              | Y | Y | Y | Y | Y |
| Mergel (2026)           | Qualitative (1.1-1.5)              | Y | Y | Y | Y | Y |
| Selten (2026)           | Qualitative (1.1-1.5)              | Y | Y | Y | Y | Y |

Y = yes; C = cannot tell; no study received a “no” on any item. Qualitative items: 1.1 approach appropriate to the research question; 1.2 data collection adequate; 1.3 findings derived from the data; 1.4 interpretation substantiated by the data; 1.5 coherence across sources, collection, analysis and interpretation. Quantitative descriptive items: 4.1 sampling strategy relevant; 4.2 sample representative; 4.3 measurements appropriate; 4.4 risk of nonresponse bias low; 4.5 statistical analysis appropriate. Mixed-methods items: 5.1 rationale for the design; 5.2 integration of components; 5.3 interpretation of integrated outputs; 5.4 treatment of divergences; 5.5 adherence to the quality criteria of each tradition.

### Ambidexterity is named in seventeen ways and measured with no shared instrument

Table 5 records how each study named, defined and measured its focal construct. The most striking pattern is terminological. We identified 17 mutually exclusive labels across 22 studies, none used by more than two, treating labels as identical where they differed only by a parenthetical qualifier or an appended contrast term. Two studies each used organisational ambidexterity, digital ambidexterity, collective ambidexterity, ambidextrous leadership and structural separation; the remaining twelve labels appear once, among them ambidextrous IT governance, e-government ambidexterity, ambidextrous innovation, green learning ambidexterity, agile ambidexterity and innovation entry as a governance filter. Fig. 3(a) displays this distribution. The dispersion is not merely lexical. Ririh et al. (2025) study the same phenomenon, the simultaneous pursuit of exploratory and exploitative activity in a public research organisation, without using the word ambidexterity at all; the term appears twice in the article, both times inside citations. Any search strategy anchored solely on ambidext\* would miss that study, which has direct implications for how future reviews in this domain should be constructed.

Measurement is correspondingly unconsolidated. Ten of the 22 studies (45%) reported an instrument or operationalisation, the remainder being qualitative or review designs for which no scale applies. Of those ten, only two identified a replicable source for their ambidexterity items: Tukiran et al. (2022), using a nine-item test adopted from Palm and Lilja (2017), and Pietsch et al. (2025), using six four-point Likert items developed by Dederling and Pietsch (2025) on the basis of March (1991). The remaining eight reported only a scale type and reliability statistics. No instrument was used by more than one study. Cumulative quantitative evidence is thus structurally impeded: the studies are not merely few, they are mutually incommensurable. Theoretical anchoring is more consistent than measurement. March's (1991) exploration-exploitation distinction is referenced almost universally, and the Dynamic Capabilities View frames four studies (Liang et al., 2019; Selten & Klievink, 2024; Abdullahi et al., 2026; Zahoor et al., 2025). One observation is negative but important: the ambidextrous leadership theory of Rosing et al. (2011), built on opening and closing leader behaviours, did not serve as the primary framework in any of the 22 studies, despite being the dominant leadership-level formulation in the wider literature.

The digital-transformation contexts are, by contrast, varied and concrete. They span cloud assimilation and service delivery in e-government (Liang et al., 2019; Hariguna et al., 2022), IT governance and digital infrastructure in agencies and municipalities (Magnusson, Koutsikouri, et al., 2020; Magnusson et al., 2021; Khisro et al., 2022), agile work practices in bureaucracies (Lindskog, 2022; Mergel, 2026), artificial-intelligence adoption (Selten & Klievink, 2024; Pietsch & Mah, 2025; Zhou et al., 2025; Zahoor et al., 2025), dedicated digital innovation units (Selten, 2026), interoperable service ecosystems (Hietala et al., 2023; Hietala & Päivärinta, 2025), exploratory innovation in healthcare (Gajic, 2026) and a government-led national payment platform (Senyo et al., 2024). Two studies retained on organisational-health grounds carry no dominant digital context (Pietsch et al., 2025; Ririh et al., 2025). Contextual coverage is therefore considerably more developed than the conceptual and measurement coverage of ambidexterity itself.

| Study                                 | Ambidexterity construct as named by the authors              | Instrument or operationalisation                                                 | Organisational-health construct                      |
|---------------------------------------|--------------------------------------------------------------|----------------------------------------------------------------------------------|------------------------------------------------------|
| Liang et al. (2019)                   | Organisational ambidexterity (balanced vs complementary fit) | Constructs operationalised per literature; complementary fit as X*Y              | NR                                                   |
| Magnusson, Khisro, et al. (2020)      | Digital ambidexterity                                        | NR (qualitative)                                                                 | NR                                                   |
| Magnusson, Koutsikouri, et al. (2020) | Ambidextrous IT governance                                   | Refers to published operationalisations                                          | NR                                                   |
| Magnusson et al. (2021)               | Digital ambidexterity (balancing practices)                  | NR (qualitative)                                                                 | NR                                                   |
| Hariguna et al. (2022)                | E-government ambidexterity                                   | 7-point Likert; loadings, AVE, CR, alpha reported                                | NR                                                   |
| Khisro et al. (2022)                  | Ambidexterity as efficiency versus innovation                | NR (qualitative)                                                                 | Staff and system turnover (narrative only)           |
| Lindskog (2022)                       | Ambidextrous responses to paradoxical tensions               | NR (qualitative)                                                                 | Commitment, trust, turnover (narrative only)         |
| Tukiran et al. (2022)                 | Organisational ambidexterity                                 | 9 items adopted from Palm and Lilja (2017)                                       | Organisational adaptation (measured, IV)             |
| Hietala et al. (2023)                 | Collective ambidexterity                                     | NR (qualitative)                                                                 | NR                                                   |
| Kristensen & Andersen (2023)          | Exploitation and exploration as leadership components        | NR (concept matrix)                                                              | Trust, accountability, transparency (narrative only) |
| Selten & Klievink (2024)              | Structural separation versus contextual integration          | NR (qualitative)                                                                 | Responsiveness, adaptability (narrative only)        |
| Senyo et al. (2024)                   | Digital branching strategy                                   | NR (qualitative)                                                                 | Adaptation to environmental change (narrative only)  |
| Hietala & Päivärinta (2025)           | Collective ambidexterity                                     | NR (qualitative)                                                                 | NR                                                   |
| Pietsch & Mah (2025)                  | Ambidextrous leadership                                      | 7-point scale; McDonald's omega                                                  | NR                                                   |
| Pietsch et al. (2025)                 | School and teacher ambidexterity                             | 6 items from Dederling and Pietsch (2025), based on March (1991); 4-point Likert | Leader trust, teacher commitment (measured)          |

|                         |                                       |                                                                 |                                                               |
|-------------------------|---------------------------------------|-----------------------------------------------------------------|---------------------------------------------------------------|
| Ririh et al. (2025)     | Explorative-exploitative skills       | 4-point Likert; loadings, AVE, SRMR                             | Turnover, learning capability (measured)<br>NR                |
| Zahoor et al. (2025)    | Green learning ambidexterity          | 5-point Likert                                                  | NR                                                            |
| Zhou et al. (2025)      | Ambidextrous innovation               | 5-point Likert; PCA for common method bias                      | NR                                                            |
| Abdullahi et al. (2026) | Ambidextrous leadership               | Questionnaire; content validity by five experts; alpha, AVE, CR | Organisational resilience (measured, DV)<br>NR                |
| Gajic (2026)            | Innovation entry as governance filter | NR (qualitative)                                                |                                                               |
| Mergel (2026)           | Agile ambidexterity                   | NR (qualitative)                                                | Job satisfaction, alignment and adaptability (narrative only) |
| Selten (2026)           | Structural separation                 | NR (qualitative)                                                | Organisation-wide commitment (narrative only)                 |

### Organisational health is the assumed outcome but is measured separately in only four studies

Eleven of the 22 studies (50%) referred to a construct falling within our definition of organisational health. Only four (18%) measured such a construct separately from ambidexterity: organisational resilience as the dependent variable (Abdullahi et al., 2026); leader trust and teacher organisational commitment as antecedent and mediator (Pietsch et al., 2025); organisational adaptation as an independent variable (Tukiran et al., 2022); and turnover together with learning capability as reported outcomes (Ririh et al., 2025). The other seven invoked adaptability, trust, commitment, turnover, job satisfaction or responsiveness narratively, without measurement (Khisro et al., 2022; Senyo et al., 2024; Lindskog, 2022; Kristensen & Andersen, 2023; Selten & Klievink, 2024; Selten, 2026; Mergel, 2026). Fig. S2(b) situates this figure against the other charted items.

### In every study that modelled it, leadership was specified as a mediator or moderator rather than as a direct predictor

Fourteen studies (64%) reported a mediator or an explanatory mechanism and five (23%) reported a moderator, the former including mechanisms derived qualitatively as well as mediators estimated statistically; Table 6 records these. Four quantitative studies modelled leadership explicitly, and in none was it positioned as a direct predictor of the outcome without an intervening variable. Abdullahi et al. (2026) found ambidextrous leadership to partially mediate the path from four organisational capabilities to organisational resilience. Pietsch et al. (2025) found full mediation: leader trust exerted no direct effect on school ambidexterity, operating entirely through teacher commitment and individual teacher ambidexterity. Pietsch and Mah (2025) found school leaders' digital mindset to affect artificial-intelligence implementation only indirectly. Zahoor et al. (2025) positioned leader boundary-spanning behaviour as a moderator rather than a predictor. Kristensen and Andersen (2023) reach a compatible conclusion conceptually, treating exploitation and exploration as two of four components of a digital government leadership repertoire.

Across the four studies that modelled leadership, all specified it upstream of intervening individual-level mechanisms. On this mapping, designs that estimate a direct effect of leadership on organisational outcomes without such mechanisms would be inconsistent with how the construct has so far been specified in this domain. Because all four designs are cross-sectional, this is a pattern in model specification rather than evidence about causal structure.

**Table 6. Mediators, mechanisms and moderators reported by the included studies.**

| Study                                 | Mediator or mechanism reported                                                                           | Moderator reported                                                        |
|---------------------------------------|----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|
| Liang et al. (2019)                   | Operational public value mediates assimilation depth and breadth to strategic public value               | Fit strategy: complementary fit significant, balanced fit not significant |
| Magnusson, Koutsikouri, et al. (2020) | Efficiency creep and shadow innovation as two interacting generative mechanisms                          | NR                                                                        |
| Magnusson et al. (2021)               | Balancing practices built on structures, processes and relational mechanisms                             | NR                                                                        |
| Khisro et al. (2022)                  | Four generative mechanisms by which stability and change constrain ambidexterity                         | NR                                                                        |
| Hietala et al. (2023)                 | Four inter-organisational collaboration modes enable different facets of collective ambidexterity        | NR                                                                        |
| Senyo et al. (2024)                   | Process model of government-led transformation via a digital branching strategy                          | NR                                                                        |
| Hietala & Päivärinta (2025)           | Modes of collaboration as governing mechanisms across three levels                                       | NR                                                                        |
| Pietsch & Mah (2025)                  | Transformational and digital instructional leadership mediate digital mindset to AI implementation       | Digital instructional leadership                                          |
| Pietsch et al. (2025)                 | Teacher commitment and individual ambidexterity fully mediate leader trust to school ambidexterity       | School size                                                               |
| Ririh et al. (2025)                   | Distinctive competency links explorative-exploitative skills to the innovation process                   | Knowledge vacuum                                                          |
| Zahoor et al. (2025)                  | AI capability and green learning ambidexterity act as serial mediators                                   | Leader boundary-spanning behaviour                                        |
| Zhou et al. (2025)                    | Meso-institutional and micro-implementation pathways from Gen-AI adoption to innovation behaviour        | NR                                                                        |
| Abdullahi et al. (2026)               | Ambidextrous leadership partially mediates four organisational capabilities to organisational resilience | NR                                                                        |
| Gajic (2026)                          | Innovation governance as a path-creating mechanism; entry requirements as a cumulative filter            | NR                                                                        |

Eight studies reported neither a mediator, a mechanism nor a moderator and are omitted: Magnusson, Khisro, et al. (2020), Tukiran et al. (2022), Lindskog (2022), Hariguna et al. (2022), Kristensen and Andersen (2023), Selten and Klievink (2024), Selten (2026) and Mergel (2026). NR = not reported.

### **Where imbalance is reported, the included studies attribute it to governance arrangements rather than to managerial preference**

Six studies converge on a finding of systematic imbalance using different methods in different settings. Magnusson, Khisro, et al. (2020) report a “clear bias towards efficiency rather than innovation” in a municipality's formal ambidexterity; Magnusson et al. (2021) find that every balancing practice bar one drives an over-emphasis on efficiency; Magnusson, Koutsikouri, et al. (2020) identify “efficiency creep” operating alongside “shadow innovation”; Hietala et al. (2023) find Finnish water utilities focused “mainly on the pursuit of efficiency”; and Gajic (2026) shows innovation governance operating as a path-creating mechanism whose entry requirements privilege industrial logics. This convergence must be qualified. All six studies are Nordic: five Swedish and one Finnish, and three share overlapping author teams. The finding is therefore best read as a robust characterisation of Nordic public administration rather than of public organisations generally, and awaits replication elsewhere.

Two further mechanism families appear. Structural separation is the dominant organisational response, and four studies examine its costs as well as its benefits: separation improves technical expertise while integration improves alignment with primary processes (Selten & Klievink, 2024), and digital innovation units must both explore and integrate, sometimes failing to drive meaningful change (Selten, 2026). Where a single organisation cannot balance alone, the balancing act is displaced to the inter-organisational field (Hietala et al., 2023; Hietala & Päivärinta, 2025) or across a government-led ecosystem (Senyo et al., 2024).

### **The gaps identified by the primary authors converge on measurement and context**

Seventeen of the 22 studies (77%) stated limitations explicitly, clustering on generalisation from single cases (Magnusson, Khisro, et al., 2020; Khisro et al., 2022; Magnusson et al., 2021; Hietala et al., 2023; Hietala & Päivärinta, 2025; Gajic, 2026), single-country or single-sector settings (Hietala et al., 2023; Abdullahi et al., 2026) and small or non-normal samples (Liang et al., 2019; Pietsch & Mah, 2025). The forward-looking agendas the authors set out converge on two points this review independently corroborates. First, measurement: Mergel (2026) calls for measures capable of resolving ambidextrous tensions, and Pietsch and Mah (2025) observe that empirical research on measuring the digital mindset remains scarce, which aligns with our finding that no ambidexterity instrument is shared across studies. Second, context and level: Selten (2026) notes that little is known about how structural separation is applied in the public sector; Abdullahi et al. (2026) describe the mediating role of ambidextrous leadership as underexplored; Selten and Klievink (2024) recommend extending ambidexterity and dynamic capabilities theory to other technological innovations; and Pietsch et al. (2025) identify the methodological gap that most public-sector studies operate at a single level of analysis.

The synthesis produced nine descriptive themes, mapped across the 22 studies in Fig. 4. Every study contributes to at least one theme, and studies frequently contribute to several. DT1, drift towards exploitation in formal balancing, draws on six studies (Magnusson, Khisro, et al., 2020; Magnusson, Koutsikouri, et al., 2020; Magnusson et al., 2021; Khisro et al., 2022; Hietala et al., 2023; Gajic, 2026). DT2, governance instruments as the site of balancing, covers five (Magnusson, Koutsikouri, et al., 2020; Magnusson et al., 2021; Khisro et al., 2022; Hietala & Päivärinta, 2025; Gajic, 2026). DT3, structural separation and its integration costs, covers four (Magnusson, Khisro, et al., 2020; Lindskog, 2022; Selten & Klievink, 2024; Selten, 2026). DT4, multilevel and cross-level conceptualisation, is the most populated theme with seven studies (Hietala et al., 2023; Kristensen & Andersen, 2023; Senyo et al., 2024; Hietala & Päivärinta, 2025; Pietsch et al., 2025; Zhou et al., 2025; Abdullahi et al., 2026). DT5, leadership as an intervening mechanism, covers five (Kristensen & Andersen, 2023; Pietsch & Mah, 2025; Pietsch et al., 2025; Zahoor et al., 2025; Abdullahi et al., 2026). DT6, inter-organisational and ecosystem-level collaboration, is the thinnest with three (Hietala et al., 2023; Senyo et al., 2024; Hietala & Päivärinta, 2025). DT7, organisational health measured as a distinct outcome, covers four (Tukiran et al., 2022; Pietsch et al., 2025; Ririh et al., 2025; Abdullahi et al., 2026). DT8, ambidexterity in the adoption of digital and artificial-intelligence technologies, covers six (Liang et al., 2019; Hariguna et al., 2022; Selten & Klievink, 2024; Pietsch & Mah, 2025; Zahoor et al., 2025; Zhou et al., 2025). DT9, paradoxical tensions and agile working within bureaucratic routines, covers two (Lindskog, 2022; Mergel, 2026). The distribution shows where this literature has concentrated, on multilevel conceptualisation and on exploitation drift, and where it remains thin, on collaboration beyond the single organisation.

From these descriptive themes we generated five analytical themes, which organise the discussion that follows and correspond to the review questions. AT1, conceptual diffusion without consolidation, draws on DT4, DT8 and DT9 and addresses how the construct has spread across levels of analysis, technologies and working practices while acquiring a different name

in almost every study. AT2, organisational health as the field's missing dependent variable, draws on DT7. AT3, imbalance as a governed rather than a chosen outcome, draws on DT1 and DT2. AT4, leadership as an intermediary rather than a driver, draws on DT5. AT5, displacement rather than resolution of the exploration-exploitation tension, draws on DT3 and DT6 and captures the observation that separating units internally and collaborating externally both relocate the tension instead of resolving it. Every descriptive theme contributes to at least one analytical theme. Sections 3.8 to 3.11 develop the first four in turn, and AT5 is developed within Section 3.10.

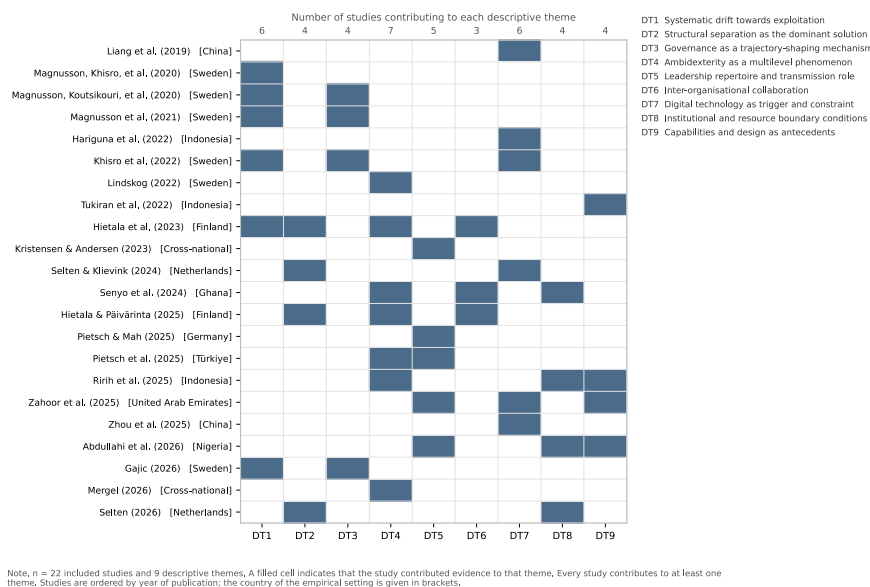


Fig. 4. Matrix of descriptive themes across the 22 included studies.

Table 4. MMAT 2018 appraisal of the 21 empirical studies

This review set out to map how ambidexterity and organisational health have been studied together in public sector digital transformation. The answer is uncomfortable but useful: the two literatures have grown alongside each other without meeting. What follows interprets that finding rather than restating it.

### Ambidexterity travels widely in the public sector but travels alone

More than a decade ago, Birkinshaw and Gupta (2013) warned that the versatility of ambidexterity carried “the risk of a lack of clarity in meaning and measurement”. Our results show that warning materialising in a specific field: seventeen mutually exclusive labels across 22 studies, no term used more than twice, only two replicable instrument sources and no instrument reused together describe a construct that has diffused faster than it has consolidated.

The consequences are already visible upstream. Junni et al. (2013) attributed the mixed ambidexterity-performance results in their meta-analysis partly to heterogeneity in operationalisation; a decade later, Kassotaki (2022) and Giansina and Paroutis (2025) both close their reviews by calling for conceptual convergence. The public sector, entering later, has inherited the problem without the correctives. Hamblin et al. (2024), whose bibliometric review is the closest antecedent to ours, reach a compatible conclusion from a different method. Our contribution is to show where the unexplored territory lies: not in the volume of studies but in their mutual incommensurability.

The most instructive case is Ririh et al. (2025), who study the simultaneous pursuit of exploratory and exploitative activity in a merged national research agency without once using the word ambidexterity as their own construct. A field whose central concept can be studied without being named has a boundary problem, and any review anchored on a single keyword will inherit it. Schädeler and Ritz (2024) report a structurally similar pattern for macro-level

paradox concepts in public administration. Read together, these findings suggest the difficulty reflects how organisation-theoretic constructs are imported into public administration: adopted for descriptive convenience, then left unmeasured. A related boundary issue concerns the context term. Mergel et al. (2019) define digital transformation as a holistic reconfiguration of processes, structures and relationships rather than the adoption of a technology, yet as Section 3.3 records, the digital contexts in our corpus range from single-technology adoption to whole-ecosystem reconfiguration and two studies carry no dominant digital context at all. Contextual and conceptual precision are failing together.

Three consequences follow for the conduct of future research. Pooling is foreclosed: with no instrument used by more than one study, effect sizes cannot be combined, and the meta-analytic route Junni et al. (2013) took in the wider literature is unavailable here until measurement converges. Search design must change: because the phenomenon can be studied without the term, as Ririh et al. (2025) demonstrate, reviews anchored on lexical matching will continue to under-retrieve, and screening must be organised around the exploration-exploitation dyad as a concept rather than around a truncated stem as a string. And replication becomes the binding constraint rather than volume: twenty further primary studies using twenty further labels would leave the field no more cumulative than it is now.

### **Organisational health is the field's missing dependent variable.**

The normative case for ambidexterity in public organisations is that balancing exploration and exploitation helps sustain the organisation. O'Reilly and Tushman (2013), for example, conceptualise ambidexterity as a dynamic capability supporting long-term adaptation. Yet only four of the 22 included studies measured an organisational-health construct separately from ambidexterity; in the remaining 18, the outcome underlying this rationale was either invoked narratively or absent. Two counterarguments require consideration. The first is that ambidexterity may itself indicate organisational health, making a separate outcome measure appear redundant. We reject this interpretation because it produces a circular inference: when contextual ambidexterity is defined partly through adaptability (Gibson & Birkinshaw, 2004), adaptability cannot simultaneously serve as independent evidence of organisational health. The eligibility rule adopted in this review was designed to break this circularity, reducing the number of studies providing direct evidence from eleven to four. The second counterargument is that relevant outcomes may be captured under alternative labels, such as resilience. This does not resolve the measurement problem. Li et al. (2026) show that resilience in public administration is itself divided among maintenance, recovery and adaptability narratives; treating it as an unqualified proxy would therefore transfer rather than resolve the underlying conceptual ambiguity.

The rarity of separate measurement can be understood from three features of the corpus. First, the definitional overlap discussed above may obscure the need for an independent outcome measure. Second, the composition of the evidence base affects how the outcome is represented: eleven of the 22 included studies were qualitative, and six of the seven studies that invoked organisational health narratively were qualitative. These studies provide evidence about mechanisms and organisational experience, but they neither measure organisational health independently nor test its relationship with ambidexterity. Third, no included study follows organisations over time. Because organisational health concerns the capacity to adapt, support the workforce and sustain performance over time, designs that observe a single point cannot establish its development or persistence. These features do not justify the absence of measurement, but they indicate that it arises from definitional overlap and limitations in the available research designs rather than from a lack of substantive relevance.

Future research should therefore operationalise ambidexterity and organisational health as distinct constructs and examine their relationship using validated measures and longitudinal designs. Tukiran et al. (2022), Pietsch et al. (2025), Ririh et al. (2025) and Abdullahi et al.

(2026) demonstrate that separate measurement is feasible, although the sampling limitations identified in Section 3.2 constrain the generalisability of the available findings. The same gap is visible in the adjacent literature: in their synthesis of 164 studies of digitally induced change, Haug et al. (2024) identified outcomes as the least developed component. The immediate priority is therefore not to assume that ambidexterity sustains organisational health, but to test whether, under what conditions and over what period that relationship occurs.

### **Where the included studies locate imbalance**

The most consistent substantive finding is a systematic drift towards exploitation, reported by six studies using different methods. Its significance lies in where it is located. Magnusson, Koutsikouri, et al. (2020) trace it to investment allocation; Magnusson et al. (2021) to embedded balancing practices; Gajic (2026) to innovation entry requirements and stage gates; Khisro et al. (2022) to the stability of digital infrastructure. None attributes the drift to managerial preference. Structural separation illustrates the same logic: Selten and Klievink (2024) show that separation buys technical capability at the cost of alignment with primary processes, while Selten (2026) finds that separated units may still fail to change anything. Where a single organisation cannot hold both poles, the balancing act migrates outward (Hietala & Päiväranta, 2025). Each response relocates the tension rather than resolving it, which is consistent with reading the constraint as structural.

This displaces the explanatory burden from individuals to structures and converges with independently generated evidence. Cannaerts et al. (2025), surveying 278 public managers, found red tape to depress ambidexterity while public service motivation raised it, so a structural and a dispositional feature operate simultaneously in opposite directions. If the structural pressure is negative and persistent, leadership development alone cannot restore balance; reform of evaluation criteria and budget mechanisms must precede it. Khisro et al. (2022) push the argument furthest by showing that infrastructural stability constrains innovation and efficiency at the same time, inverting the trade-off premise in which the two poles compete for scarce resources (March, 1991). That claim rests on a single clinical inquiry and should be treated as a hypothesis rather than a result. A caveat applies to this whole theme. All six studies are Nordic, five of them Swedish, and three share overlapping author teams. What we can defensibly report is a robust characterisation of Nordic public administration, not of public organisations in general. If Nordic states are comparatively well resourced and digitally mature, the drift may in fact be understated elsewhere, but that is a question for replication rather than an inference from these data.

Why the Nordic concentration arises cannot be determined from the included studies, but three candidate explanations can be distinguished. The first is substantive. If Nordic public administrations provide institutional and technological conditions in which exploration-exploitation tensions are especially visible, they may offer a particularly researchable setting; this explanation, however, requires independent comparative evidence and cannot be inferred from the present corpus. The second is sociological. The overlapping author teams noted above indicate that part of the concentration reflects a sustained regional research programme rather than six independent selections of the Nordic context. The third is artefactual. Because the search was restricted to open-access publications, geographical differences in open-access availability may have affected retrieval, although the direction and magnitude of this potential bias cannot be established from the included studies. Distinguishing substantive concentration from research-network and retrieval effects requires replication outside the Nordic region and searches across multiple databases without an open-access restriction. Until such evidence is available, the Nordic concentration should be reported as a limitation of the evidence base rather than interpreted as a characteristic of the phenomenon itself.

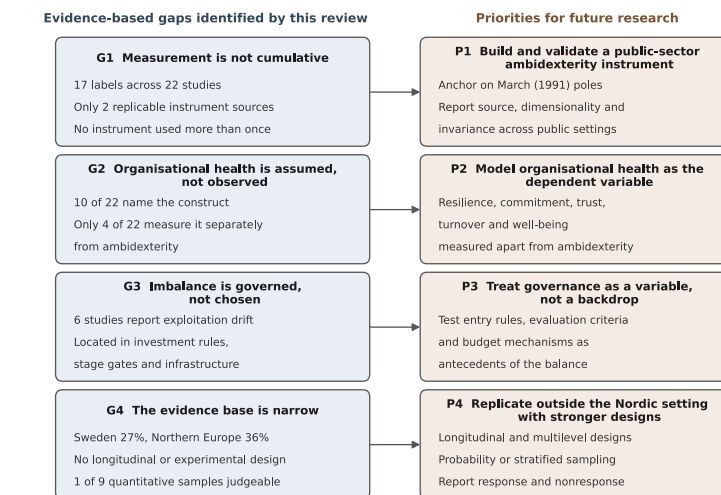
### **Leadership as an intermediary in model specification**

Every quantitative study that modelled leadership positioned it as a mediator or moderator, and Pietsch et al. (2025) found full mediation. This sits awkwardly with the dominant theoretical treatment: O'Reilly and Tushman (2013) place senior leadership at the centre of ambidexterity as a dynamic capability, and the reviews by Gianzina and Paroutis (2025) and Jain et al. (2025) both organise the field around leader behaviours as drivers. The public sector evidence suggests a more modest role: leadership works through commitment, trust and individual-level ambidexterity rather than around them. Notably, the theory built precisely to specify leader behaviours, the opening and closing repertoire of Rosing et al. (2011), was the primary framework in none of the 22 studies. The field is thus testing leadership effects without the leadership theory designed for the construct, which may explain why direct effects are rarely found. Designs that regress organisational outcomes on leadership without intervening mechanisms risk misspecification.

The absence of Rosing et al.'s (2011) framework can be explained by a mismatch between the theory and the designs represented in the corpus. First, the framework concerns opening and closing leader behaviours in direct leader-follower interactions and is intended primarily for individual- and team-level analysis. By contrast, the included literature is organised predominantly at organisational and inter-organisational levels: 20 distinct level formulations were identified across 22 studies, and only three studies modelled multiple levels simultaneously. Second, the framework requires designs capable of capturing both behavioural repertoires and the temporal switching between them, for which no instrument has been adopted in this literature (Section 3.3), whereas the included studies did not examine such within-person or situational variation. Third, Rosing et al. position leadership behaviour as an antecedent of exploration and exploitation, whereas every quantitative study in this review specified leadership as a mediator or moderator. The framework was therefore left untested by the available designs rather than contradicted by their findings. Future research should assess opening and closing leader behaviours at the individual and team levels, incorporate temporal variation, and connect these behaviours to organisational-level ambidexterity and health through an explicitly multilevel design.

### **Implications and a research agenda**

For research, the immediate task is a validated ambidexterity instrument for public settings, anchored on the exploration and exploitation poles (March, 1991) and reported with source, dimensionality and measurement invariance. Mergel (2026) calls for exactly such measures from within the corpus, and Pollock et al. (2023) note that scoping reviews are most useful when they specify what future evidence should look like. Organisational health should then be modelled as a dependent variable in its own right, and governance treated as a variable rather than a backdrop. For practice, and within the Nordic settings from which this evidence is drawn, the finding that drift is structural has a direct managerial reading: where exploration is persistently squeezed, the diagnosis should begin with entry criteria, appraisal rules and funding mechanisms, not with the disposition of managers. Fig. 5 sets out four priorities derived from the charted evidence, ordered by dependency: measurement must be resolved before mechanisms can be accumulated.



Note. Gaps in the left column are derived from the charted evidence for the 22 included studies and are reported in Sections 3.1 to 3.7. Priorities in the right column are formulated in Section 4.6 and are addressed to research on ambidexterity and organisational health in public sector digital transformation.

**Fig. 5. An agenda for research on ambidexterity and organisational health in public sector digital transformation.**

## Novelty

The novelty of this study can be stated on three levels. Methodologically, the a priori eligibility rule introduced in Section 2.5 breaks the circularity arising when contextual ambidexterity is itself defined through adaptability; applying that rule reduces the apparent evidence from eleven studies to four, and the rule transfers to any evidence synthesis linking a capability construct to an outcome construct that shares its definition. Empirically, this review measures fragmentation rather than asserting it, reporting seventeen mutually exclusive labels, two replicable instrument sources and no instrument used twice; as noted in Section 3.3, it also documents a study that examines the phenomenon without ever naming it, which means that reviews anchored on a single keyword in this domain will systematically miss evidence. Substantively, it reports a negative finding of a kind such reviews rarely surface: the outcome supplying the entire normative case for ambidexterity in public organisations is measured in fewer than one study in five, so the premise on which the field rests remains untested.

## CONCLUSION

### Conclusion

This scoping review mapped how ambidexterity and organisational health have been studied together in public sector digital transformation. Twenty-two studies met the eligibility criteria, published between 2019 and 2026, concentrated in Northern Europe, and none used a longitudinal or experimental design. Within that evidence base the two literatures have grown alongside each other without meeting: eleven studies name an organisational-health construct and only four measure one separately from ambidexterity. The proposition that balancing exploration and exploitation sustains public organisations therefore remains a theoretical assumption rather than a tested claim.

Two findings carry the most weight. The first concerns measurement: seventeen mutually exclusive labels appear across the 22 studies, only two report a replicable instrument source, and no instrument is used twice, so evidence in this domain is not cumulative. The second concerns where imbalance sits: where a systematic drift towards exploitation is documented, the included studies attribute it to governance arrangements rather than to managerial preference, and every study that modelled leadership specified it as a mediator or moderator rather than as a direct predictor. Both patterns rest on cross-sectional and case-based designs and the evidence on drift is drawn entirely from Nordic settings, so they describe how the phenomenon has been reported and modelled rather than how it is caused.

The second concerns where imbalance sits. Where a systematic drift towards exploitation is documented, the included studies attribute it to governance arrangements rather than to managerial preference, specifically to investment rules, stage gates and digital infrastructure; and every study that modelled leadership specified it as a mediator or moderator rather than as a direct predictor. Both patterns rest on cross-sectional and case-based designs, and the evidence on drift is drawn entirely from Nordic settings. They therefore describe how the phenomenon has been reported and modelled, not how it is caused, and they await replication beyond that region. The contribution of this review is diagnostic rather than confirmatory. It establishes empirically how far the ambidexterity construct has fragmented, separates the studies that measure organisational health from those that merely invoke it, and locates the reported imbalance in governance rather than in disposition. The most transferable contribution is methodological: an eligibility rule that separates a capability construct from an outcome construct sharing its definition can be applied to evidence synthesis in other fields facing comparable circularity.

### **Limitations**

Three limitations bound the claims made in this review. First, the comprehensiveness of the search. It covered one citation database under open-access, language and subject-area limits, without grey literature and without backward or forward citation chasing; Gusenbauer (2024) documents how materially citation coverage differs across databases. As reported in Section 2.3, the phrasing of the query was also insensitive to label variants, so sensitivity rested on how the search was executed. The corpus of 22 studies should therefore be read as indexed, English-language and open-access evidence rather than as the whole of the available literature. Second, the boundary of the context element. Two studies were retained on organisational-health grounds without a dominant digital-transformation context (Pietsch et al., 2025; Ririh et al., 2025), so the Context element of our own eligibility framework was applied less strictly than the others. Third, the boundary set by study design. No included study used a longitudinal or experimental design, so this review can map relationships as the primary authors reported them but cannot support inference about change over time or about the direction of influence.

### **Recommendations**

Future research should broaden the evidence base beyond a single citation database and beyond the Nordic settings that dominate the present corpus, and should extend the observation window through longitudinal and time-lagged designs, since no included study followed organisations over time. Levels of analysis and sampling frames should be specified in advance, because twenty distinct level formulations across twenty-two studies currently prevent comparison between studies. The immediate priority is to develop and validate an ambidexterity instrument for public settings, anchored on the exploration and exploitation poles and reported in full with its source, dimensionality and measurement invariance. Organisational health should then be modelled as a dependent variable in its own right, and governance treated as a measured variable rather than as background context. Methodologically, multilevel structural equation modelling, system dynamics, artificial-intelligence-based approaches and longitudinal designs would each address weaknesses identified here, while comparative studies outside the Nordic region are required before the governance finding can be generalised.

### **Author Contributions**

All authors made significant contributions to this study. These contributions included research conceptualization, development of the theoretical framework, data collection, data analysis, interpretation of results, manuscript preparation, scholarly revision, and final approval of the manuscript for publication. All authors confirm that they have read and approved the final version of the article.

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