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STRATEGIC INTELLIGENCE AND ORGANIZATIONAL PERFORMANCE: THE MEDIATING ROLE OF DECISION-MAKING QUALITY IN EMPLOYEES' PERCEPTIONS AT THE IRAQI MINISTRY OF TRADE

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Abstract

The interpretation of information and decisions making in the face of variability is becoming an increasingly important skill for government agencies. The aim of the current study is to investigate the interaction between strategic intelligence and perceived organizational performance among the employees of the Ministry of trade in Iraq with a special focus on the possible role of decision-making quality as a mediator. It investigates the proposed relationship using a cross-sectional employee questionnaire, correlation, regression, and indirect-effect analysis based on bootstrapping, along with measures of measurement quality. The results suggest positive relationships between strategic intelligence, decision making quality and employees' perceptions of organizational performance. Another potential statistical relationship between strategic intelligence and perceived performance is the quality of decision making. Concurrently, the measurement assessments have a number of concerns regarding the reliability of the constructs and the distinctiveness of the constructs, particularly strategic intelligence. The limited causal interpretation and the restrictiveness of the results to the participating employees are due to these concerns as well as to the self-reported and cross-sectional nature of the evidence. The research provides context specific evidence for the debates on strategic management in the public sector and highlights the need for well-

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validated measures and independently assessed service outcomes. It recommends that future studies investigate the relationship between the level of information processing and decision-making and the impact of these on actual public sector performance.

Keywords: Strategic intelligence; decision-making quality; organizational performance; statistical mediation; public administration; Iraq.

1. Introduction

Today's organizations are always turbulent, complex, and information dense. In such environments, survival and success are more a matter of interpreting signals, predicting change, and translating insight into action (Eisenhardt, 1989) than of simply having access to information. This ability is now increasingly being defined as the leadership and organizational ability to have foresight, systems thinking, vision, motivation, and partnering – all known as strategic intelligence (Maccoby, 2001). This idea is also inspired by the broader literature on knowledge management (Kahaner, 1996), early warning and competitive intelligence.

They're not limited to public-sector organizations. These are increasingly challenged by demands for accountability, resource limitations and citizens' expectations (Sønderskov & Rønning, 2021; Steen & Schott, 2018). Boyne (2003) summarizes research into public service performance, which falls into the areas of resources, regulation, markets, organization and management, and identifies extra resources and improved management as the most promising areas for improvement. The study of strategic intelligence in the business field is still limited and relatively young (Paiuc et al., 2024). This research extends this discussion to employee perceptions in an Iraqi public organization, a model of three constructs which is not clearly established in the literature as cited.

The Iraqi Ministry of Trade is a relevant public sector setting since it is charged with overseeing large-scale activities that are related to Iraq's Public Distribution System (PDS). The PDS has been studied and its impact on household welfare becomes significant when interventions are made in subsidised food provision (Krishnan et al., 2019). Consequently, the information processing and

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administration that occurs within the Ministry offer a context to analyze employees' perceptions of organizational performance. These perceptions are assessed as survey results and do not equal actual performance of PDS services measured separately.

The first study-construct is strategic intelligence. It is viewed as a capacity to look around, read what is happening, predict future events, and make decisions about strategy with a systematic understanding (Maccoby, 2001). In terms of resources, this ability could be a valuable intangible resource (Barney, 1991). A similar approach to sense-making, capturing opportunities, and adjusting resources is adopted in dynamic-capabilities theory (Teece et al., 1997).

The mediating variable is quality of decision-making. Systematic information use, procedural rationality, and the evaluation of alternatives have been found to be elements that are relevant to the effective nature of decisions (Dean & Sharfman, 1996; Elbanna & Child, 2007). Strategic intelligence can be associated with the quality of decisions by providing more information to the organizational decision maker. The present study does not directly observe administrative decisions, rather it measures employees' ratings of the accuracy and dependability of the decisions made.

The outcome construct is organizational performance. Performance is multi-dimensional and cannot be boiled down to a single goal or measure (Venkatraman & Ramanujam, 1986; Kaplan & Norton, 1992). The performance of the public sector has been studied with regard to effectiveness (Brewer & Selden, 2000; Andersen et al., 2016), the quality of the service provided, and efficient use of resources (Brewer & Selden, 2000; Andersen et al., 2016). In this instance, organizational performance is operationalized through a seven item employee perception scale which does not provide evidence of independently measured improvements in the Ministry's services, but rather more and more positive perceptions of the organization.

Combined, these strands indicate a mediated relationship. Strategic intelligence can have direct impact on organizational performance. It can also be done indirectly through enhancing the quality of employees' decision making ratings. This type of mediation model is common in the methodological literature (Baron

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& Kenny, 1986; Hayes, 2013). Few empirical studies exist on this mechanism, particularly as based on employees' perceptions in the public sector in Iraq.

This study explores the relationship between strategic intelligence and employees' perceptions of organizational performance and evaluates the statistical indirect relationship based on employees' decision-making quality. It provides a test of an existing theory of the public sector in Iraq and identifies measurement and design considerations for future research. As the data are observational and cross-sectional, results should not be interpreted as a finding of causal mechanisms or evidence of performance improvement due to an intervention.

The rest of the paper is organized as follows: In Section 2 the literature is reviewed and the hypotheses are formulated. The methodology is presented in Section 3. The results are provided in Section 4. The findings and their implications are discussed in Section 5. Section 6 ends with restrictions and suggestions for further investigations.

2. Literature Review

2.1 Strategic Intelligence

The literature on organizational intelligence focuses on how to learn, interpret and apply information in making organizational decisions. Ansoff (1975) emphasized that the key to strategy is being able to see weak signals in the environment which may turn into threats or opportunities. Subsequent authors have also commented on the systematic gathering and processing of external information for the purpose of strategic evaluation (Kahaner, 1996; Shujahat et al., 2017). These principles are the basis for the investigation of the organizational capability of strategic intelligence.

Information gathering is only the first step in strategic intelligence, and is followed by foresight and direction setting, as well as interpretation. Maccoby (2001) refers to it as foresight, vision, systems thinking, motivation, and collaboration. Schoemaker et al. (2013) write that anticipating and interpreting are among the strategic leadership skills. Anderson and Nichols (2007) explore how information gathering can impact perceptions of threat and opportunity.

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These perspectives inspire the research in this study to emphasize strategic intelligence as a composite employee-rated capability.

There are several theoretical approaches that support the construct. In the resource-based view, valuable, rare, and difficult-to-imitate resources are potential sources of sustained advantage (Barney, 1991). Strategic intelligence is an intangible resource that is hard to replicate, fitting this logic. There's also the theory of dynamic capabilities that applies, as sensing and seizing opportunities are the bases of organizational adaptation (Teece, 2007). Furthermore, that they can recognize, absorb, and apply information from a different source resonates with the logic of absorptive capacity (Cohen & Levinthal, 1990).

There are a number of component skills identified in the literature, but these skills work together, and reinforce each other. This study, therefore, conceptualizes strategic intelligence as one-dimensional and monolithic. It reflects the level of environmental scanning, interpretation of signals, preparation for change and the ability to leverage these signals in the organization's strategic direction.

2.2 Organizational Performance

The construct of organizational performance is one of the most studied constructs in management studies, and it is hard to define. It is basically a measure of an organization's performance in fulfilling its goals and in managing its resources (Richard et al., 2009). However, Cameron (1986) warned that there is no universal consensus that follows one idea of effectiveness; that is, people have different criteria. Thus, it was pointed out in early strategy studies that the measurement of performance must be carefully designed and undertaken from several perspectives (Venkatraman & Ramanujam, 1986). In a similar vein, Kaplan and Norton (1992) have advocated that managers must have a more comprehensive perspective on performance than just financial measures.

When it comes to public institutions, profit is not a measure. However, scholars focus on goal achievement, resource efficiency, service quality and being responsive to citizens (Brewer & Selden, 2000; Boyne, 2003). In addition to environmental constraints, research also indicates that managerial decisions and

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strategy influence the nature of public performance (Boyne & Walker, 2010). The finding is significant for the current study because it is related to strategic capabilities of the organisation and performance.

There is another problem with measurement. It is very rare to find objective data in public institutions, if these are available, they can be politically sensitive. Scientists thus depend on "perceptual judgments" made by knowledgeable informants. Dess and Robinson (1984) suggested that subjective assessments may be collected if objective assessments are not possible; but equivalence with objective performance should not be assumed. Singh et al. (2015) suggested that good planning of subjective measures can be effectively used to evaluate organizational performance. Wall et al. (2004) determined that managers' subjective ratings are reasonably related to objective measures.

In line with this literature, the present study adopts the perspective that organizational performance is measured on a single dimension. It is the average of employees' overall ratings of the organization's effectiveness and efficiency in achieving the mission and meeting stakeholders' needs. This strategy maintains that the study's core question – that is, whether strategic intelligence relates to better overall performance, directly or through decision-making quality – is the focus.

2.3 Decision-Making Quality

Making decisions is the core of organisational life. Bounded rationality is founded on the work of Simon (1955), who showed that decision makers work under information and cognitive constraints. Thus, organisations need procedures and information systems to organise decisions in situations of uncertainty. The organization processes that influence decision behavior are also highlighted by March and Simon (1958).

The quality of the decision making is the degree to which decisions are well informed, thoroughly analyzed and effective in the realization of their goal. Its evaluation has been done primarily based on the quality of the decision process and its results. Dean and Sharfman (1996) concluded that procedural rationality (the gathering of relevant information and analysis of choosing a course of action) is positively related to the effectiveness of the decision. Exposing that

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decision processes are influenced not only by managerial traits but also by the context of decision-making, Papadakis et al. (1998) demonstrated this. Elbanna and Child (2007) created an integrative model in which the effectiveness of a strategic decision depends upon the rationality of the decision-making process and the quality of the process. A recent study by Nutt (2002) found that decision failures are frequently a product of bad or dubious tactics.

Information is an integral component of quality. Vigilant information search and careful evaluation of alternatives is said to enhance decisions (Janis & Mann, 1977). Strategic decision research evidence suggests that full analysis is a good way to make decisions where uncertainty is high (Miller, 2008). This connection points to a likely responsibility for strategic intelligence. Strategic intelligence can enhance the information base upon which decisions are made by augmenting the ability to scan the environment and interpret weak signals.

The quality of decisions as well is predicted to affect performance. Better decisions allow for the allocation of resources more efficiently and save from costly mistakes. This logic would place the quality of decision making as a way to transform organizational capabilities into results.

In keeping with this literature, the present study considers decision-making quality as a one-dimensional construct. In the current instrument, however, the operational measure is more limited; four items examine the employees' perception of the accuracy, correctness, precision and reliability of decisions. The theoretical time and procedure issues are not directly measured.

In addition, Research on Iraqi public organizations provides a valuable context, even if it does not apply strategic intelligence, decision-making quality and organizational performance as the same three-variable model. Hasan and Baskaran (2022) suggested a public value creation framework by incorporating institutional isomorphism and the mediating mechanism of social media. The main contribution of their work is conceptual, as they outline the ways in which forces of the institutional environment and public communication may influence the public-value considerations. It does not give an empirical estimation of the SI–DMQ–OP relationships in the present study. However, it highlights the institutional context where public managers interpret information and make priorities.

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More empirical comparative study is by Hasan et al (2025) which aims to study organizational readiness, employee behavior and creation of public value in the Ministry of Electricity in Iraq. They reported that readiness was positively correlated with public value and organizational behavior was a partial statistical mediator. The overall implication is that the organizational capabilities of the public sector might be linked to the perceived outcomes of the organization via an intermediate organization process. The concept of readiness, however, is not synonymous with strategic intelligence; organizational behavior is not the current study's measure of decision outcome; and public value is not limited to the composite of employees' perceptions of organizational behavior.

Hasan et al. (2026) examined institutional isomorphism pressures, social media and public-value creation in Parliamentary committees in one public sector context in Iraq. They reported finding significant coercive pressures and mimetic pressures, but not significant normative pressures and also investigated mediation via social media. The findings suggest that organizational relationships are not necessarily consistent across the various institutional pressures and the type of mediator is important. These institutional-pressure and public-value measures are still different from the scale of intelligence, decision making quality and performance of the Ministry of Trade survey.

Together, the studies provide a compelling reason for studying organizational capabilities and intervening processes in the public sector of Iraq, as well as a conceptual divide: the public value, institutional legitimacy and service performance measured independently of the employee's perspective should not be confused with employee judgments of organizational performance. This current paper focuses on a more limited link between strategic intelligence, decision outcome quality and perceived performance. Its findings are compared with these neighbouring studies as contextual evidence and/or methodical evidence but not as replications of their findings.

2.5 Hypotheses Development

2.5.1 Strategic Intelligence and Organizational Performance

There are several reasons why one might expect that strategic intelligence will enhance organizational performance. Some of the reasons for this are suggested

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by theory. The resource-based view suggests that superior results come from valuable and hard-to-imitate intangible capabilities (Barney, 1991). Dynamic capabilities theory further suggests that organisations that can "sense" the change in the environment and reconfigure their resources, adapt better (Teece et al., 1997; Teece, 2007). Both arguments are covered by strategic intelligence. It enables organizations to recognize and understand changes before they are apparent (Day & Schoemaker, 2005).

This follows previous studies of scanning and interpretation. Daft and Weick (1984) have defined organizations as interpretation systems, where scanning and sense-making inform organizational action. Hambrick (1982) demonstrated that environmental scanning is closely related to strategies used by organizations. Maccoby (2001) suggested that strategic intelligently oriented leaders are better suited to direct their organizations through change.

This can be applied to the public sector as well. Andrews et al. (2006) concluded that the content of organizational strategy correlates with the performance in public organizations. Similarly, Boyne and Walker (2010) examined research indicating that strategic management has a positive association with public service performance in numerous studies, but found the evidence base is limited. These studies show that understanding the environment, interpreted in terms of direction, can enhance the performance of public organizations in relation to their mandates.

There is so far limited empirical evidence to support a direct link between strategic intelligence (as a single construct) and performance in public institutions. Such a disparity is particularly evident in the Iraqi context. The arguments presented above, however, are both theoretical and empirical, and there is a strong thrust towards the same end. Therefore, it is hypothesized that:

H1: Strategic intelligence is positively associated with organizational performance in the Iraqi Ministry of Trade.

2.5.2 Strategic Intelligence and Decision-Making Quality

The relationship between strategic intelligence and the quality of decision making is relatively straightforward: Good decisions are made with good information and good interpretation. Simon (1955) demonstrated bounded

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rationality and limited information and cognitive capacity in humans. Organizations need to therefore develop capacities that expand the field of view and understanding of decision makers. One of these capabilities is strategic intelligence. It enhances environmental scanning, weak signal interpretation, and foresight of change (Maccoby, 2001; Schoemaker & Day, 2009).

This is in line with preliminary studies. Daft and Weick (1984) contend that the scanning and interpretation of information precede organizational action and influence the decisions that organizations make. Hambrick (1982) demonstrated that the amount of scanning activity is closely related to the company's strategies. Research on strategic decision processes also indicates a relation between effective decision processes and the use of relevant information and careful analysis (Dean & Sharfman, 1996; Elbanna & Child, 2007). However, the value of comprehensiveness is not universal; Fredrickson and Mitchell (1984) determined it to be positively correlated to the performance in a stable industry, but negatively in an unstable industry, while Eisenhardt (1989) stressed the importance of real-time information in high velocity industries. Janis and Mann (1977) also pointed out that careful scrutiny of alternatives and information search lead to better decisions.

Absorptive capacity provides a lens on the other side. Organizations that are able to identify, integrate and utilize external information are more likely to be able to apply it to their decision-making process (Roberts et al., 2012). The intelligence of an organization, defined as the group's ability to scan, interpret, and anticipate, should, therefore, improve the information base, decrease uncertainty, and expand the range of alternatives considered. These benefits are particularly important in a public institution like the Ministry of Trade, which has decisions that impact on food supply and the welfare of the household.

There is limited direct evidence of this relationship in the public sector. The theoretical and empirical arguments above nevertheless point in a consistent direction. Based on that, this hypothesis is suggested:

H2: Strategic intelligence is positively associated with decision-making quality in the Iraqi Ministry of Trade.

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2.5.3 Decision-Making Quality and Organizational Performance

Organizations turn strategy and resources into results through decisions. Then better decisions should lead to better outcomes in achieving an organizations goals. Eisenhardt (2007) discovered that firms who adopted quick strategic decision-making employed more real-time information and took more alternatives, and those firms were more likely to perform well. For rational decision-making, Goll and Rasheed (1997) mentioned that it has an impact on the firm's performance, which is dependent on environmental factors. Rajagopalan et al. (1993) conducted a review of previous research on the strategic decision process and found that the characteristics of the process describe differences between organizations in terms of performance.

The reverse situation holds true as well. Failure to make decisions in an organisation can be attributed to decision makers who dictate solutions and restrict the range of other options (Nutt, 1999).

Boyne and Walker (2010) contended that managerial and strategic decisions are a significant factor in service performance in the public sector. Andrews et al. (2006) revealed a relationship between content of strategy and the performance of public organizations. A ministry like the Ministry of Trade should make sound decisions on procurement, distribution and resource allocation in order to enhance efficiency and service quality. The results of these are critical to the evaluation of performance in this study.

Evidence is not consistent. It is variable and most studies focus on private companies. The big picture, however, suggests overall trends in a particular direction. Based on this, the following hypothesis is stated:

The relationship between the decision making quality and organizational performance in the Iraqi Ministry of trade is positive.

H3: Decision-making quality is positively associated with organizational performance in the Iraqi Ministry of Trade.

2.5.4 Mediating Role of Decision-Making Quality

The previous sections indicate a flow of events. Strategic intelligence enhances information and interpretation for decision makers. As a result, the better decisions made will lead to better organizational outcomes. The sequence

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suggests that strategic intelligence might exert its influence on performance at the level of decision making effectiveness.

Dynamic-capabilities theory states that value is created by sensing the environment, responding, and adapting resources (Teece, 2007). Thomas et al. (1993) studied the relationships between environmental scanning, interpretation, strategic action and organizational outcomes. The study of bounded rationality also highlights the significance of information available to an organization for organizational decision making (Simon, 1955). These arguments justify the testing of a potential indirect statistical relationship without making a causal inference about a cross sectional sequence.

Empirical studies of the decision process follow this sequence. Dean and Sharfman (1996) discovered that the quality of the decision process is related to the effectiveness of the decision. Goll and Rasheed (1997) connected decision characteristics with the performance of firms, with the degree of the connection varying according to environment. When added together these findings position decision-making quality in the middle of organizational capabilities and results. A mediation hypothesis is one that focuses on the indirect association that is mediated by a predetermined intermediate variable. Current approaches are based on the analyses of the corresponding regression paths, typically done with bootstrap CIs, and do not mandate a statistically significant total effect as a precondition (Preacher & Hayes, 2008; Zhao et al., 2010). Thus, it is proposed that the following statistical mediation hypothesis will hold true:

The statistical mediation between strategic intelligence and organizational performance was tested in the context of the Iraqi Ministry of Trade in the form of decision-making quality.

H4: Decision-making quality is a statistical mediator of the association between strategic intelligence and organizational performance in the Iraqi Ministry of Trade.

3. Methodology

3.1 Research Design

The design of this research is **quantitative, explanatory, cross-sectional and positivist** as the paradigm used. The choice of each element is derived from the problem in the study and the title of the study.

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Quantitative design. Numerical survey measurements, regression coefficients and a bootstrap confidence interval for the indirect association (MacKinnon et al., 2011) are used to test the hypotheses. This inferential objective is best addressed with the quantitative approach, and qualitative research can be used to explore the organizational process that informs employee ratings.

Explanatory. The goal is to communicate the connection between strategic intelligence and organizational achievement in terms of the quality of decision making. The study is not a mere description of the variables or the exploration of an unknown phenomenon. It is useful to use explanatory designs when relationships are formulated from theory and then tested by empirical studies (Casula et al., 2020).

Survey-based. The title specifies employees' perceptions. Perceptions are internal judgements and a structured questionnaire is the clearest way to obtain structured, standardised perceptions from a large number of respondents. In public institutions, objective performance indicators are either not available or sensitive (Caruana et al., 1999). When objective evidence is not available, there may be perceptual measures from informed respondents which would yield context-dependent indicators (Wall et al., 2004).

Cross-sectional. Data gathered at one time. This design is efficient, applicable to a study of relationship between two variables and practical in the context of access limitations in conducting a public ministry study (Setia, 2016).

Cross sectional observations cannot provide temporal precedence and causality alone. Although the model is theory based, there is a potential shared-source reporting and common-method variance explanation (Podsakoff et al., 2003). Not all the statistical diagnostics reported are viewed as evidence that such risks are removed. The unit of analysis is the individual responding employee.

3.2 Study Population

This is an employee population of the Iraqi Ministry of Trade. This is a singleschool purposive choice, chosen for the reasons outlined below, both theoretical and practical.

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Institutional relevance. The Ministry has administrative duties related to procurement and public food distribution. The Public Distribution System (PDS) is an important social-protection measure in Iraq, and the design of the PDS can impact household welfare (Krishnan et al., 2019). The functions make it possible to carry out empirical investigations of staff processing information, decision quality and performance; the questionnaire does not measure the quality of the PDS delivery.

Observable performance. The staff of the Ministry know what the outputs of the Ministry mean, including service coverage, efficiency and responsiveness. This allows for perceptual measurement of organizational performance to be meaningful and credible:

Organizational structure. The Ministry has several administrative levels and many departments. Employees at different organizational levels may encounter different decision environments; however, the available responses do not identify respondents' organizational levels, so that variation cannot be tested here.

Contextual relevance. The Ministry offers a defined organizational context for employees to report their perceptions of management information, administrative decisions and performance. These processes cannot be compared from department to department on the basis of the present survey alone as departmental identifiers were not provided.

Research gap. The available evidence on strategic intelligence and strategic decision-making is largely derived from organisations not in the current public sector context. The study, therefore, focuses on the extent of adherence to the proposed connections in the group of employees of the Iraqi Ministry of Trade.

Study setting. The choice of one ministry enables an institutionally oriented study; it does not indicate a better, or more representative, setting than other ministries for conducting such study, however. Conclusions are limited to answers from respondents and to conservative theoretical interpretation.

Single-institution sampling minimizes inter-organization differences, but does not eliminate confounding or provide internal validity. Further sampling evidence and independent replication is needed for generalization to other ministries.

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3.3 Sampling Technique

Since the study is based on the perceptions of the employees, they were selected as the target group. They participate in the processes of the Ministry and are aware of the use of information, decision making and working practices from first-hand experience.

Sampling feasibility. A probability sampling frame is required to demonstrate probability-based representativeness. The analyses are interpreted based on the assumption that the respondents are representative of the target population and the purposeful sampling process is still to be documented (Etikan, 2016).

Study aim. The investigation assesses specified relationships between variables rated by staffers, not prevalence within the population. However, the estimated relationships may be affected by selection bias and a lack of a known sampling frame should not be overlooked.

Coverage. The data includes information on gender, age bands and length of service. There is no evidence provided to determine compliance with departmental or managerial quotas, as it doesn't specify administrative grade or department.

Lack of generalizability due to non-probability sampling and single ministry setting. The attained sample and limitation reported explicitly below.

3.4 Sample Size and Data Screening

There are 120 records of employee questionnaires in the provided workbook (this is the achieved analytical sample). The researcher has verified all 120 records are collected in the field. There are 16 items in the study that are measured on a Likert scale and 3 demographic variables; no item values were found that were missing, or out of range. Thus the primary analyses are based on all 120 observations. The original planning target of 220 responses is not reported as a sample size that was achieved.

The data set is one with two uniform-response records on the 16 items and one pair of records with the same pattern of responses. No cases were excluded from the main data set as they did not represent invalid responses given in uniform or coincidentally identical responses in Likert items. The indirect effect is calculated again in a sensitivity analysis that is considered separately.

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When n = 120, uncertainty and measurement quality are important features to consider, and there is no certain minimum sample size required to provide sufficient mediation power. The analysis follows the prespecified three-variable mediation model with bootstrap confidence intervals, and the one-time cross-sectional design does not allow for definitive causal inferences (Preacher & Hayes, 2008; Podsakoff et al., 2003).

3.5 Measurement

An original study was conducted and used a structured questionnaire designed for employees of the Iraqi Ministry of Trade. The items for the study are answered on a 5 point Likert scale from 1 (strongly disagree) to 5 (strongly agree). There are three demographic items (gender, age group, and years of service) and 16 substantive items (five for strategic intelligence, four for decision making quality, and seven for organizational performance). There is no coverage in the analytical data for managerial level and department, so related coverage claims are not assessed. No reverse coding was reported in the provided item dictionary and the three constructs were analyzed as arithmetic means of their prespecified items.

3.5.1 Strategic Intelligence

Strategic intelligence was measured using five items from Mohammad et al. (2024) which cited Agha et al. (2021) as an earlier source. The indicators include: environmental monitoring, anticipation, balance of work speed and value, translation of an organizational vision into action, and strategic direction. These happenings were reported in an extra ministry setting. While the numerical coding of their items is available in the data, it is not possible to determine the equivalence between the terms as they appear in the published field questionnaire and the translated field questionnaire without the final field instrument and translation documentation.

3.5.2 Decision-Making Quality

The quality of decision-making has been assessed using four indicators that are related to Hung et al. (2023) who cited the source from Al-Okaily et al. (2023).

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The indicators are related to employees' perceptions of the correctness, correctness, accuracy, and reliability of organizational decisions. The current scale measures perceived decision-outcome quality because the originating research is about information-supported decisions in a different organizational context; thus, the scale does not measure the entire decision making process. Linguistic and contextual adaptations should be reported prior to claiming that they are equivalent to the original instrument.

3.5.3 Organizational Performance

To measure perceived organizational performance, seven items were chosen that are based on previous studies of the performance measurement in public organizations as conducted by Speklé and Verbeeten (2014). The items refer to the amount of work, ideas, reputation for excellence, goal attainment, efficiency and employee morale. The scores are based on the employees' perceptions of organizational functioning and not administrative documentation of services provided. The exact translation of the questionnaire was not provided for comparison.

3.6 Summary of Measures

Table 1. Research constructs, items, and measurement sources

The measurement sources and number of items for each research construct are summarized in Table 1.

Construct	Role	Items	Source
Strategic Intelligence	Independent	5	Mohammad et al. (2024), citing Agha et al. (2021)
Decision-Making Quality	Mediator	4	Hung et al. (2023), citing Al-Okaily et al. (2023; online 2022)
Organizational Performance	Dependent	7	Hoai et al. (2022), consistent with Speklé & Verbeeten (2014)

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3.7 Statistical Analysis and Reporting

Unweighted item means computed by prespecified indicators for all analysis variables. Demographic frequencies and composite descriptive statistics were followed by Cronbach's alpha, corrected item–total correlations, Pearson product–moment correlations, and three ordinary least squares regressions. An indirect coefficient was obtained by multiplying the SI-to-DMQ and the DMQ-to-OP conditional regression slopes, and its uncertainty was estimated by case-resampling percentile-bootstrap replicates (5,000 reps). The paths are presented with conventional regression confidence intervals and HC3 p values for the parameters of interest. All calculations were performed in Python, and no SPSS or PROCESS native output is claimed.

The quality of the measurements was examined using a descriptive principal-components diagnostic test, followed by KMO and Bartlett's test as well as a supplementary three-factor covariance-based confirmatory model estimated with normal-theory maximum likelihood. These provisional diagnostics include CFA results, average variance extracted and composite reliability which are based on limited samples and ordinal items. Descriptive association tests and scale level validation tests answer different questions: A statistically significant path does not make up for poor measurement validity. There was no post hoc item deletion or data editing to enhance statistical significance.

4. Results

Analytical file: 120 questionnaire responses were recorded by the researcher as field responses from the employees of the Iraqi Ministry of Trade. For the main analysis, the value of n = 120 was used because all the records had complete data for the study items within the allowed range of 1 to 5. Two cases were identified by screening and had the same ratings on each of the 16 items and had repeated item responses (O009 and O020). Response patterns cannot prove invalidity and are not retained because of that. The recorded gender, age-group, and service-tenure distributions are shown in the Table 2.

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Table 2. Sample characteristics (n = 120)

Variable	Category	n	%
Gender	Male	62	51.7%
Gender	Female	58	48.3%
Age group	Under 30 years	14	11.7%
Age group	30–39 years	39	32.5%
Age group	40–49 years	48	40.0%
Age group	50 years or older	19	15.8%
Years of service	Under 5 years	36	30.0%
Years of service	5–10 years	26	21.7%
Years of service	Over 10 years	58	48.3%

Of the respondents, 62 were men (51.7%) while 58 were women (48.3%). Those aged 40 to 49 years had the highest frequency distribution (40.0%) while 58 subjects (48.3%) had served the ministry for over 10 years. These frequencies describe the sampled population but do not determine the demographics of all Ministry employees.

Table 3 contains the mean score, standard deviation, observed range, and 95% confidence intervals of the construct scores. The means were derived from the original responses on all SI constructs (five items), DMQ construct (four items) and OP construct (seven items). There was no substitution of a proxy for OP.

Table 3. Descriptive statistics for the research constructs (n = 120)

Construct	Mean	SD	Minimum	Maximum	95% CI for mean
Strategic intelligence	2.985	0.646	1.000	4.200	[2.868, 3.102]
Decision-making quality	2.629	0.764	1.000	4.250	[2.491, 2.767]
Organizational performance	2.789	0.756	1.429	4.286	[2.653, 2.926]

Strategic intelligence was 2.98 (SD = 0.65); decision-making quality was 2.63 (SD = 0.76); and organizational performance was 2.79 (SD = 0.76). This data reflects participants' perception and does not determine objective level of organizational performance.

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The internal consistency estimates and item-total correlations are shown in Table 4 for three composites. The highest reliability is characteristic of organizational performance (α = .840) followed by decision-making quality (α = .771). The lowest reliability was found in strategic intelligence (α = .602), where SI1 showed a corrected item-total correlation of .151. All five SI items have been used; no item was eliminated just to improve reliability coefficient.

Table 4. Reliability and item-total diagnostics

Construct	Items	Cronbach's α	Corrected item–total r range
Strategic intelligence	5	0.602	0.151–0.535
Decision-making quality	4	0.771	0.472–0.700
Organizational performance	7	0.840	0.484–0.659

KMO = .866 and Bartlett's $\chi^2(120) = 820.15$, $p < .001$ resulted from exploratory diagnostics for the 16 items. In principal-components test diagnostics, the first component accounted for 39.3% of total variation across the items. Neither diagnostic validates the three-construct measure model or discounts the presence of common-method variance. A computational three-factor, maximum-likelihood covariance CFA was conducted with Python on the same 120 observations (Section 4.8). The results did not show a good fit and convergent validity; further validation through SEM software on an appropriately sized sample is recommended.

Pearson correlations for the three composites are shown in Table 5. All pairwise associations are positive and descriptive only.

Table 5. Pearson correlations among construct scores (n = 120)

Construct	SI	DMQ	OP
SI	1.000		
DMQ	0.631	1.000	
OP	0.595	0.685	1.000

Note. All non-diagonal Pearson correlations are significant at $p < .001$ (two-tailed).

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4.5 Regression and direct hypotheses

For testing the specified paths, three OLS regressions were conducted: SI on DMQ (path a), SI on OP (overall path c), and SI and DMQ on OP (paths c' and b). Table 6 provides unstandardized and standardized coefficients, 95% confidence intervals, R^2 of each model, and HC3 p values for sensitivity analysis.

Table 6. Ordinary least squares regression results (n = 120)

Model	Term	B	β	95% CI for B	p	HC3 p	R^2
DMQ ~ SI	SI	0.746	0.631	[0.579, 0.913]	< .001	< .001	0.398
OP ~ SI	SI	0.696	0.595	[0.524, 0.867]	< .001	< .001	0.354
OP ~ SI + DMQ	SI	0.315	0.269	[0.122, 0.508]	= 0.002	= .007	0.514
OP ~ SI + DMQ	DMQ	0.510	0.516	[0.347, 0.673]	< .001	< .001	0.514

Strategic intelligence had a positive effect on the quality of decision-making (B = 0.746, $p < .001$, $R^2 = .398$) and on organizational performance in the total-effect model (B = 0.696, $p < .001$, $R^2 = .354$). The joint outcome model accounted for 51.4% of the variance in employee performance ratings ($R^2 = .514$). In that model, both decision-making quality (B = 0.510, $p < .001$) and strategic intelligence (B = 0.315, p = .002) kept their positive signs. The respective HC3-robust p-values were < .001 and .007. The VIF values of about 1.66 for both predictors did not indicate high linear collinearity.

The pre-specified single mediator model was estimated by means of OLS with 5,000 case-resampling percentile bootstrap replicates (random seed 20261021). The formulas presented are those of the regression path decomposition of a simple mediation model, including PROCESS Model 4; however, the calculations were done in Python as opposed to SPSS or PROCESS. The regression paths, the traditional confidence intervals for these paths, and the percentile bootstrap confidence interval for the indirect effect are shown in Table 7.

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Table 7. Total, direct, and indirect effects (n = 120)

Effect	B	95% CI	Estimation
a: SI → DMQ	0.746	[0.579, 0.913]	OLS
b: DMQ → OP | SI	0.510	[0.347, 0.673]	OLS
c: total SI → OP	0.696	[0.524, 0.867]	OLS
c′: SI → OP | DMQ	0.315	[0.122, 0.508]	OLS
a × b: indirect	0.381	[0.236, 0.566]	Percentile bootstrap (5,000)

The indirect effect was found to be positive (a x b = 0.381). Its 95% percentile bootstrap confidence interval of [0.236, 0.566] does not include zero. It can be considered as evidence of statistical mediation among the participants, but it is not a demonstration of an intermediate causal process. When removing two cases where all the responses for the 16 items were identical, the indirect effect still remained positive (n = 118; a x b = 0.363, bootstrap CI [0.222, 0.544]). This is not an indication of the test's psychometric validity. The main analysis of 120 cases stands as the most important.

Figure 1 shows the three-variable statistical mediation model. All the path coefficients are unstandardized.

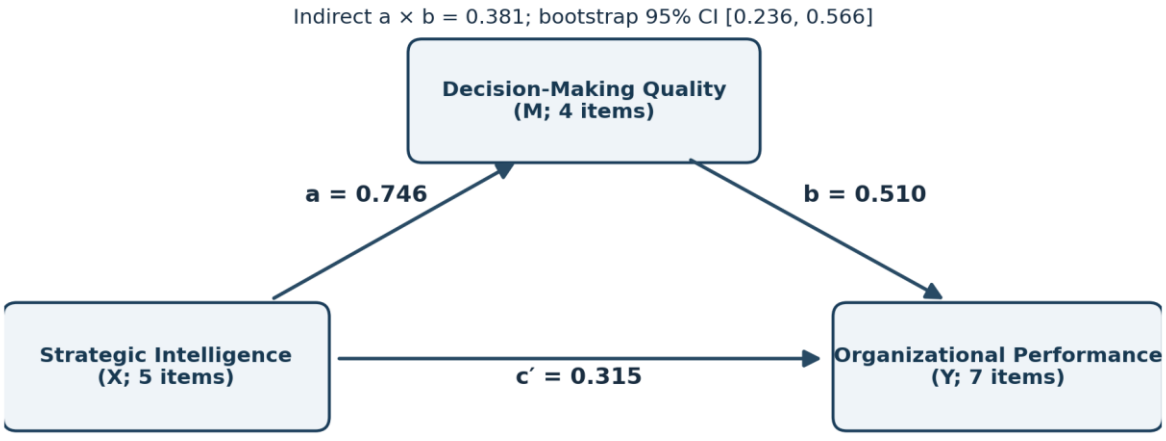


Figure 1. Estimated simple mediation model for the full dataset

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Table 8 highlights the four hypotheses set out beforehand. There is consistency with H1-H4 in terms of the results from the regression and the bootstrapped indirect effect; however, the construct validity issues discussed in Section 4.8 limit the interpretations of the construct level findings. Therefore, the hypotheses tests are tentative and do not represent validated evidence for the proposed mechanism.

Table 8. Statistical summary of the four hypotheses

Hypothesis	Key estimate	Assessment
H1: SI → OP (total)	B = 0.696; p < .001	Supported statistically
H2: SI → DMQ	a = 0.746; p < .001	Supported statistically
H3: DMQ → OP | SI	b = 0.510; p < .001	Supported statistically
H4: indirect SI → DMQ → OP	ab = 0.381; CI [0.236, 0.566]	Supported statistically

In order to test if there are three different factors underpinning the composite scales, a confirmatory factor analysis model was estimated on the basis of the Pearson covariance matrix for all 16 Likert responses in accordance with a fixed-items three-factor CFA model employing maximum likelihood estimation based on the normal theory and freely correlated latent factors (n=120). Model estimation was accomplished using a reproducible optimizer in Python programming language and not SPSS AMOS. However, the model showed poor fit: $\chi^2(101) = 235.99$, $p < .001$; CFI = .819; TLI = .785; RMSEA = .106; SRMR = .082. The model fit indices must be considered as sensitivity tests due to ordinal distribution of items, relatively small sample size and estimator of continuous indicators.

The results concerning internal consistency of scales are given in Table 9. Thus, the poor results raise doubts on convergent validity of SI construct, and consequently, positive composite score regressions should not be taken as evidence of distinctness of theoretical constructs.

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Table 9. Supplementary three-factor measurement diagnostics (n = 120)

Scale	α	95% bootstrap CI for α	CR	AVE	Std. loading range
SI	0.602	[0.454, 0.707]	0.585	0.257	0.222–0.799
DMQ	0.771	[0.688, 0.832]	0.784	0.481	0.549–0.828
OP	0.840	[0.797, 0.873]	0.837	0.429	0.477–0.773

Note. CR = composite reliability; AVE = average variance extracted. The confidence intervals around Cronbach's α are percentile-based and derived from 3,000 nonparametric resamples with replacement (3k case-resamples; seed 20261020). Standardized factor loadings are those of the numerical three-factor solution; hence, they are not independent cross-validated estimates.

The three AVEs are all less than the common .50 benchmark. The estimates of the latent correlations between the factors were .876 (SI-DMQ), .909 (SI-OP), and .863 (DMQ-OP); Pearson HTMT diagnostic values were .864, .773, and .850 for the same pairs, respectively. The combination of low AVEs and high inter-correlations among the factors suggests that discriminant validity has not been achieved yet. The item SI1 had the lowest standardized loading (.222) and corrected item-total correlation (.151). However, deleting SI1 would raise Cronbach's α from .602 to .645; yet, no item is deleted from the prespecified composites: this is a theoretical issue that requires a new sample.

5. Discussion

5.1 Strategic intelligence and perceived performance (H1)

The positive total association between strategic intelligence and the reporting of employee organizational performance is congruent with the premise that information interpretation and future-oriented thinking are related to organizational functioning. According to Barney (1991), the knowledge and organizational competencies are valued resources and, according to dynamic-capabilities theory (Teece, 2007), sensing and adaptation are the core of the organizational response to change. Similarly, employees in the Ministry of Trade who feel more environmentally aware and more clearly directed in their strategic goals may also feel more efficient, more likely to attain goals and more satisfied

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with their work quality. These are interpretations of concurrent ratings, not evidence of outcomes or measurable changes as a result of investments in intelligence capacities.

The result is similar to previous public-management studies that have related the nature of strategy and managerial decisions with performance (Andrews et al., 2006; Boyne & Walker, 2010). It is not completely in line with Mohammad et al. (2024), who found no evidence of an independent contribution to performance for strategic intelligence in their study of Saudi industrial companies with their specific multivariable specification. But the difference cannot be explained by the Iraqi context exclusively: different predictors and operational definitions of the participants were included in the studies, and they differed in sector. Furthermore, the present total-effect estimate and their adjusted coefficient are not the same tests.

A comparison from the surrounding Iraqi evidence is also available. Hasan and Baskaran (2022) highlighted institutional conditions and the aim of public value, and Hasan et al. (2025) found that there was a positive relationship between the organizational readiness and public value in an Iraqi ministry. These studies lend credibility to the current importance in public institutions that managers have an internal competency to provide strategic intelligence and develop it into performance, but do not measure the path in effect. The existing employee-perception performance scale is not comprehensive enough to measure public value and legitimacy, which are also citizen oriented. The result in the present case, therefore, does not represent an increase in public value or actual service quality, but represents only a perceptual association.

A significant qualification relates to measurement; the strategic intelligence exhibited poor internal consistency and the additional measure model did not clearly differentiate the latent constructs of the study. The apparent relationship might thus be enhanced by common response tendencies. Within this sample, higher ratings on the H1 were correlated with higher ratings on the performance measures, which is the most defensible interpretation of the relationship; better construct validation and separate performance measures are needed to establish a substantive organizational sense for the relationship between the H1 ratings and the performance ratings.

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5.2 Quality of strategic intelligence and decision-making (H2)

Perceived decision making quality was positively correlated with strategic intelligence. This can be seen as consistent with the idea that people within an organisation will make more informed decisions when they can see links between what they are doing and what is going on around them, and understand when it is changing. Bounded rationality draws attention to the limits of information (Simon, 1955), and information-processing theories explain that information is received and interpreted as a part of the organizational reality with which they are dealing (Daft & Weick, 1984). In this sense, strategic intelligence can be useful in the information context for decision making. The data does not allow for conclusions to be drawn about whether respondents' thinking was related to their assessments of intelligence in the decisions they made or whether the decisions were related to their perceptions of intelligence.

This outcome aligns with studies that found procedural rationality/correct decision making (Dean & Sharfman, 1996; Elbanna & Child, 2007). However, the previous studies focus on decision processes and effectiveness of models other than in the model used here. The four-item measure of decision-making quality is used as it is and measures perceived correctness, accuracy, precision and dependability, rather than the actual search for alternatives, quality of deliberation, speed of decision making, or accuracy based on external results. None of the mechanisms mentioned by previous authors can be directly confirmed by the coefficient.

The institutional analyses also indicate an institutional boundary condition in Iraq. Hasan and Baskaran (2022) theorized the differences in institutional pressures and communication processes, and their effect on public value creation; while Hasan et al. (2026) found that there were differences in how institutional pressures were linked to public value in parliamentary committees. Neither paper specifically evaluates the quality of the decision-making process as used herein, but the results of both papers suggest that the use of information and the capability of the organization is not independent of formal rules, administrative expectations and communication channels. These circumstances can influence what information decision makers have and how they make decisions.

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It would be helpful if future H2 tests included evidence of actual decisions (how much evidence was looked at, the reasons for choosing alternatives, and the assessment of the results). The ability to gather those data in different periods and/or by different sources would allow us to separate perceptions of an information rich culture from actual enhancements in the quality of decision making.

5.3 Decision making quality and perceived performance (H3)

One of the two organizational performance dimensions (employee-rated) remained positively correlated with decision making quality even after accounting for the strategic intelligence. This indicates that there was not a complete lack of redundancy between the two perceptions measured in the regression model: those who felt that their decisions were accurate and reliable were more likely to have a positive view of how the organization functions. In terms of management, this can make sense as the decisions involve spending of resources, prioritisation and co-ordination of activity. It does not evidence that specific choices enhanced procurement, public food distribution or beneficiary of services experiences.

The interpretation is similar to that of strategic-decision research that found a connection between decision processes and organizational outcomes (Goll & Rasheed, 1997; Rajagopalan et al., 1993). The concept of procedural rationality, as posited by Dean and Sharfman (1996), is also relevant given the association between decision effectiveness and procedural rationality. However, these empirical connections differ from a regression of one of the employee-rated constructs on another. The current measure is based on staff decisions about results of the decision-making process, while previous research has reported using a variety of measures of formal processes, managerial decisions, or firm performance. This means that their evidence is more theoretical in alignment rather than direct replication.

This is the perspective that comes from public-sector evidence. In the context of the public sector, the study by Hoai et al. (2022) on internal control, innovation, and organizational performance highlights the importance of administrative practices in the assessment of organizations' performances. Speklé and

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Verbeeten (2014) also place performance management in the specific incentives and practices of public organizations. Hasan et al. (2025) established an indirect relationship between organizational readiness and public value mediated by organizational behavior in Iraq. The findings from these studies are all consistent in that intermediate organizational practices and conduct matter, but they are different mediators and outcomes. In this study, quality of decision making should thus be held as a separate, but narrowly defined, variable.

The overlap between all three ratings is also a methodological concern. Because respondents assessed both decision quality and performance in the same questionnaire, positive correlations could partly reflect a general tendency to evaluate their ministry favorably. Independent indicators of service reliability, processing time, or administrative error would provide a stronger basis for assessing the practical significance of H3.

5.4 Statistical mediation (H4)

The indirect association (decision-making quality) was positive and its bootstrap confidence interval did not contain zero. The pattern is consistent with a model in which workers with higher scores on the composite, which are reflecting their strategic intelligence, are higher in quality of decision making and subsequently in organizational performance. The relationships between the SI–performance association did not seem to be mediated by a single path, as the direct association between SI and decision-making quality was still positive. This is a statistical breakdown of ratings at the same time, rather than a direct observation of a sequential organizational process.

The mediation structure may be likened to the recent research of public sector employees in Iraq, but there must be an explicit difference in constructs. In the study by Hasan et al. (2025), the researcher investigated the role of organizational behavior between the relationship between organizational readiness and public value in the Ministry of Electricity. Hasan et al. (2026) investigated social media as an intervening variable in relationships between institutional pressures and public value in parliamentary committees. Both of these studies, and the current analysis, were interested in mechanisms between organizational conditions and perceived public-sector outcomes. They fail to

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make the claim that the mechanisms of organizational behavior, social media and decision-making quality are the same or that public value and perceived organizational performance are synonymous.

Hasan and Baskaran (2022) offer a complementary, conceptual approach to their notion of public value, but not an empirical mediation comparison: They situate public value in institutional and communicative processes. These strands imply a potentially more expansive research program in which strategic information, organization rules, decision practices, communication with stakeholders and outcomes are modeled separately. A test of this sequence would need valid measures and designs that would be able to differentiate these processes, not extend the existing simple mediation model any further than what it can really support.

The cross-sectional design limits the inferences. Contrary to methodological work on indirect effects which has focused on quantifying the uncertainty of a product of regression paths, the indirect effect method itself can not establish tempus nor rule out that an omitted common cause exists (Preacher & Hayes, 2008; Zhao et al., 2010). Another reason for caution is the weak fit on the three factor measurement model: When constructs are not empirically distinct, the indirect path may be statistically significant as a result of measurement overlap. The proposed causal interpretation of H4 is therefore not verified.

5.5 Theoretical and managerial implications

The theoretical contribution is to analyze a fairly specific set of employee perceptions in one public institution in Iraq, instead of developing a new general theory of public-sector performance. Resource-based and dynamic-capabilities arguments explain why strategic information might be valuable (Barney, 1991; Teece, 2007), and decision research provides reasons to think about how well organizational decisions are made (Dean & Sharfman, 1996). Those are positive estimated relationships that are consistent with those expectations. The evidence, however, does not show that the study has isolated and identified three clearly distinct latent constructs, nor does the cross-sectional model provide evidence for the possible order of development of intelligence, decisions, and performance.

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The new literature in Iraq, which has been considered, also elucidates the result border. While Hasan and Baskaran (2022) and Hasan et al. (2026) explore public value, Hasan et al. (2025) explores readiness and behavior in relation to public value. Public value is broader than employees' understandings of organisational efficiency and task achievement and can encompass citizen experience, legitimacy, responsiveness and trust. Future frameworks should differentiate between public value and internally perceived organizational performance and apply relevant evidence to them instead of assuming these two are synonymous. Ministry of Trade practice suggests that these findings merit the consideration of carefully thought out pilot projects rather than a prescription for fixed remedies. Examples of possible initiatives are: Documentation of administrative decisions, consideration of alternative pathways to decisions, documentation of assumptions when making major decisions, systematic review of results following decisions. A pilot might also track staff's understanding of the strategic signal within units. If there were any benefit to be derived from such a practice, it would need to be proven with independent measures (e.g., processing timeliness, distribution reliability, error rates, service complaints) and with proper governance and privacy protection.

The operational value of the study's measurement results is itself. When considering the use of the questionnaire as an ongoing management tool, the Ministry researchers need to investigate if the strategic intelligence items are a sufficient representation of a coherent concept in the local organizational environment. It will be better to delete a low loading item rather than just for the sake of reliability statistics if they can be translated and assessed by experts, and if the confirmation can be done in a new sample. In this context improvement of the instrument is considered as a prerequisite for the responsible use of the model for managerial evaluation.

5.6 Measurement limitations and priorities for future research

Three limitations must guide comparison with the broader literature. First, strategic intelligence exhibited weaker internal consistency than the other scales, and the supplementary confirmatory measurement model showed inadequate overall fit and convergent validity. This compromises strong claims about

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construct-level mechanisms irrespective of the significance of the composite-based regression paths. Second, all central measures were collected from the same respondents at a single point in time, leaving shared-method effects, reverse association, and omitted organizational conditions as plausible explanations. Third, recruitment records, the final administered questionnaire, and its adaptation documentation are not available in the current analytical materials for independent assessment.

A stronger follow-up design would independently validate the translated instruments, establish sampling and ethical procedures, and separate the timing or sources of predictors, mediator, and outcomes. It could assess decisions through administrative records or expert review and link those decisions to independently collected performance indicators. Broader multi-institution sampling would help test whether the relationships generalize beyond the Ministry of Trade. Comparative models could then distinguish perceived organizational performance from public value and examine whether institutional context moderates the associations highlighted in earlier Iraqi public-management studies.

6. Conclusion and Limitations

With 120 researcher-validated field responses, strategic intelligence was significantly and positively related to the employees' perception of decision making quality (B = 0.746) and organizational performance (total B = 0.696). Both predictors were found to have positive conditional associations with the model including both predictors, with decision-making quality (B = 0.510) and strategic intelligence (B = 0.315). The association with B = 0.381, 95% percentile bootstrap CI [0.236, 0.566) is statistically consistent with the hypothesized mediation pattern. These findings are for H1–H4 at the level of observed scale composites. The internal consistency of strategic intelligence was low (α = .602), and supplementary confirmatory measurement diagnostics showed poor three-factor fit and low convergent validity for scales. The results should therefore not be interpreted as supporting three different latent constructs, as a causal mechanism or as improvements in the services of Ministry. The most defensible contribution of the study is a clear, qualified description of related

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employee's perceptions. Stronger organizational inferences are warranted only when replication is achieved with an independently validated translated instrument, documentation of recruitment and ethical procedures and stronger longitudinal or external outcome measures.

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