

Identifying and Explaining the Dimensions and Components of “Capacity” in Small and Medium-Sized Audit Firms and Analyzing Its Role in Audit Service Quality

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Abstract: This study aimed to identify and explain the dimensions and components of capacity in small and medium-sized audit firms and to clarify how these capacities influence the quality of audit services. This qualitative exploratory–developmental study combined a systematic qualitative review of scientific and professional literature with in-depth semi-structured interviews. Documentary sources related to audit quality, risk-based auditing, professional governance, digital transformation, organizational capability, and small and medium-sized audit firms were selected through purposive criterion-based sampling and analyzed using systematic qualitative content analysis. The field participants comprised 18 experts, including audit-firm partners, senior auditors and audit managers, university academics, information-technology and data-analysis specialists, professional regulators, and financial managers of small and medium-sized enterprises. Participants were selected purposively and through snowball sampling, and interviews continued until theoretical saturation. Data were analyzed through open coding, axial coding, constant comparison, theme development, and integration of documentary and interview evidence. The analysis indicated that capacity in small and medium-sized audit firms is a multidimensional and systemic construct rather than a simple function of firm size or resource volume. Five interdependent dimensions were inferred: professional governance and oversight capacity, intelligent risk-management capacity, digital audit capacity, audit-quality and service-delivery capacity, and human and organizational capacity. Audit quality improved when these dimensions operated coherently through effective leadership, proportionate quality management, risk-oriented resource allocation, technological readiness, competent personnel, organizational learning, reliable data, and structured supervision. Weakness in any dimension reduced the effectiveness of the others and constrained the firm’s ability to convert available resources into reliable, timely, independent, and standards-compliant audit services. Capacity should be understood as the coordinated ability of an audit firm to mobilize professional, technological, organizational, and governance resources in response to engagement risks. Strengthening capacity therefore requires integrated development rather than isolated investment in personnel, technology, or formal controls.

Keywords: Audit-firm capacity; small and medium-sized audit firms; audit quality; professional governance; intelligent risk management; digital auditing; organizational capability.

1. Introduction

Audit quality is one of the central foundations of credible financial reporting, effective corporate governance, and public confidence in capital and credit markets. External auditing reduces information asymmetry by

providing an independent evaluation of whether financial statements are prepared in accordance with applicable reporting requirements and are free from material misstatement. Nevertheless, the ability of an audit firm to deliver consistently high-quality services does not depend solely on compliance with auditing standards or the technical knowledge of individual auditors. It is also shaped by the firm's broader organizational capacity, including the adequacy of its human resources, technological infrastructure, professional leadership, internal governance, quality-management processes, financial resilience, knowledge systems, and ability to adapt to changes in clients' operations and the regulatory environment [1, 2]. The concept of capacity is therefore especially relevant to small and medium-sized audit firms, which frequently operate under more pronounced resource constraints than large audit networks while remaining responsible for meeting substantially similar professional and ethical expectations.

Within organizational and accounting research, capacity generally refers to the stock of resources, competencies, structures, and processes that enables an institution to perform its functions effectively and sustain performance over time. Capacity is not synonymous with the mere availability of resources. It also concerns the degree to which available resources can be coordinated, deployed, renewed, and converted into desirable outcomes. Early research on capacity utilization demonstrated that the extent to which organizational resources are used influences cost behavior, operational flexibility, and managerial responses to changing activity levels [3]. This perspective is highly relevant to audit firms because their principal resources, particularly professional labor, partner time, specialized expertise, and technological tools, are costly, relatively inflexible in the short term, and difficult to expand during periods of peak demand. An audit firm may therefore possess formally adequate resources while still lacking the capacity to deploy them efficiently across engagements, manage workload fluctuations, or preserve audit quality under time and fee pressures.

The multidimensional nature of capacity has also been recognized in public-sector auditing and financial accountability. Research examining the capacity of supreme audit institutions has shown that institutional effectiveness depends on the interaction of legal authority, organizational independence, professional competence, financial resources, access to information, and the ability to communicate findings to relevant users [4]. Although public audit institutions differ from private audit firms, the underlying principle is transferable: auditing capacity emerges from a system of mutually reinforcing resources and institutional conditions. A deficiency in one area, such as limited professional autonomy, inadequate expertise, weak information access, or insufficient technological support, can reduce the effectiveness of the entire audit function. Therefore, capacity in small and medium-sized audit firms should be examined as an integrated organizational construct rather than as a single indicator such as staff size, revenue, market share, or number of clients.

The distinction between potential resources and usable capacity is particularly important in professional service organizations. In auditing, a firm's capacity includes not only the number of auditors it employs but also their experience, sector-specific knowledge, professional skepticism, judgment quality, technological competence, and ability to work collaboratively. It also includes the availability and involvement of partners, the efficiency of engagement planning, the quality of supervision and review, access to consultation, and the robustness of internal quality-management systems. Evidence concerning auditors' work attitudes suggests that motivation, engagement, professional identity, perceived support, workload, and organizational conditions influence judgment and decision-making and should therefore inform audit firms' human-resource and management strategies [5]. Accordingly, the human dimension of capacity cannot be reduced to headcount. It concerns whether the firm can recruit, develop, motivate, retain, and assign auditors in ways that support reliable professional performance.

Human-resource challenges are especially significant in audit firms because audit work is knowledge-intensive, deadline-driven, and dependent on the continuity of experienced personnel. Iranian research has identified a broad range of human-resource challenges in audit firms, including recruitment difficulties, insufficient professional development, turnover, workload pressures, weak career planning, limitations in performance evaluation, and problems in retaining qualified auditors [1]. These challenges may be more severe in small and medium-sized firms because such firms often have fewer financial resources, more limited advancement opportunities, less formalized training systems, and greater dependence on a small number of senior professionals. When experienced staff leave, the loss is not limited to labor capacity; it also includes tacit knowledge, client familiarity, sector expertise, supervisory capability, and organizational memory. Human-resource capacity is therefore closely connected to the sustainability and quality of audit services.

Succession planning constitutes another central dimension of organizational capacity. Audit firms may become dependent on founding partners or a limited number of experienced managers who hold essential client relationships, technical knowledge, and decision-making authority. Research on succession in Iranian audit firms indicates that the continuity of leadership requires systematic attention to the identification and development of future partners, transfer of professional knowledge, leadership preparation, organizational culture, and institutional mechanisms that reduce excessive dependence on particular individuals [2]. The absence of succession capacity may expose smaller firms to instability when senior partners retire, withdraw, or become unable to supervise engagements. It can also affect the continuity of quality-control practices, client retention, staff development, and strategic decision-making. Thus, organizational capacity must include the ability to preserve and transfer professional expertise across generations of auditors.

The behavioral and psychological conditions under which auditors work also influence the effective use of organizational capacity. Commercialization, client pressure, demanding workloads, and intense competition can affect auditors' subjective well-being and, indirectly, their professional functioning [6]. High levels of stress, burnout, dissatisfaction, or perceived insecurity may reduce concentration, critical thinking, persistence, and willingness to challenge client explanations. These problems can be particularly consequential in smaller firms, where employees may simultaneously perform several roles and work under concentrated time and fee pressures. Therefore, audit-firm capacity includes not only the ability to provide personnel but also the capacity to create working conditions that preserve well-being, ethical commitment, and sustained professional performance.

The quality of professional judgment is also affected by the behavioral tendencies of firm leaders. Partners exercise substantial influence over engagement planning, risk assessment, staffing, review intensity, client acceptance, and the final audit opinion. Evidence indicates that behavioral biases among audit-firm partners can affect professional skepticism and the quality of audit opinions [7]. This finding implies that leadership capacity is not determined only by technical experience or hierarchical position. It also depends on decision discipline, openness to contradictory evidence, awareness of cognitive biases, ethical orientation, and the ability to create an environment in which junior auditors can raise concerns. Strong partner involvement can enhance quality in small and medium-sized firms, but excessive centralization and unchallenged judgment may create vulnerabilities. Capacity should therefore encompass mechanisms that support balanced decision-making, consultation, review, and critical dialogue.

Organizational culture represents another important mechanism through which resources are translated into professional outcomes. Audit firms operate through shared norms regarding independence, consultation, documentation, professional skepticism, transparency, learning, and responsiveness to quality deficiencies.

Evidence from an emerging-market setting shows that organizational culture can significantly influence governance transparency within audit firms [8]. A culture emphasizing openness, accountability, ethical conduct, and quality can strengthen the use of formal controls, whereas a culture dominated by commercial pressure, secrecy, or unquestioned authority can weaken them. Cultural capacity is particularly important in smaller firms because their formal systems may be less extensive and behavior may be shaped more directly by partners' values and informal practices.

Cultural compatibility between audit firms and their clients may also affect financial-reporting outcomes. Greater similarity can improve communication, mutual understanding, and coordination, but excessive cultural closeness may create familiarity threats, reduce professional distance, or weaken auditors' willingness to challenge management. Research on cultural similarity between audit firms and clients demonstrates that such alignment may have meaningful implications for financial-reporting quality [9]. At the same time, evidence regarding Confucian cultural values suggests that professional cultures emphasizing integrity, responsibility, and long-term orientation may reduce the occurrence of corporate financial restatements [10]. Collectively, these findings show that capacity includes a cultural dimension that affects both internal governance and the management of auditor–client relationships.

The status, reputation, and ranking of an audit firm may also influence its capacity and audit quality. Higher-ranked firms may possess greater access to qualified personnel, stronger internal methodologies, more advanced quality-control procedures, and greater reputational incentives to protect service quality. They may also benefit from a stronger social identity among employees, which can increase commitment to organizational standards. Research in Iran has shown that audit-firm ranking is associated with audit quality and that social identity plays an important role in this relationship [11]. However, ranking should not be treated as a complete proxy for capacity. Some smaller firms may possess strong sector specialization, experienced partners, cohesive teams, and disciplined quality systems despite lower market visibility. A more detailed understanding requires identification of the actual components through which organizational standing is converted into quality.

Productivity provides another perspective on capacity. Audit firms must balance the use of labor, technology, partner time, and financial resources while maintaining compliance with professional standards. Productivity analysis of audit firms in Türkiye has demonstrated variation in efficiency and changes in productivity over time, indicating that audit firms differ in their ability to transform inputs into professional outputs [12]. These differences may reflect technological progress, managerial efficiency, staff utilization, client composition, and organizational learning. For small and medium-sized firms, productivity is not simply a matter of completing more engagements with fewer resources. Excessive emphasis on short-term efficiency can produce compressed time budgets, inadequate procedures, superficial documentation, and insufficient review. Effective capacity therefore requires a balance between resource efficiency and the preservation of professional quality.

The relationship between audit quality and broader organizational outcomes further demonstrates the strategic importance of capacity. High-quality auditing can strengthen organizational capital and improve financing capacity by increasing the credibility of reported information and reducing uncertainty for investors and creditors [13]. Audit quality is therefore not merely an internal professional concern; it has consequences for clients' access to financial resources, legitimacy, governance, and stakeholder trust. Small and medium-sized enterprises often face significant financing constraints and information asymmetry, making the quality of external audit services particularly important. If smaller audit firms lack sufficient capacity to deliver reliable services, the consequences may extend beyond audit failure to reduced client credibility and weaker financial access.

Firm capacity also affects the management of auditor–client relationships. Audit-partner tenure, continuity, and the provision of non-audit services may influence knowledge accumulation, independence, economic bonding, and audit quality [14]. Longer relationships may improve the auditor’s understanding of the client’s systems, risks, and industry, but they may also increase familiarity threats. Similarly, non-audit fees may provide access to additional knowledge while creating economic dependence. Small and medium-sized firms may be especially sensitive to these tensions because individual clients can represent a larger proportion of total revenue. Their capacity must therefore include effective client-acceptance procedures, independence monitoring, partner rotation arrangements where required, and safeguards against excessive commercial dependence.

Research concerning audit-firm tenure also underscores the complexity of interpreting quality-related organizational characteristics. Evidence of selection bias in audit-tenure research indicates that observed associations may partly reflect underlying differences in clients, firms, engagement risks, and matching processes rather than a straightforward effect of tenure itself [15]. This insight is relevant to the study of capacity because visible characteristics, including firm size, tenure, ranking, and technology adoption, may be endogenous to broader organizational conditions. Capacity should consequently be identified through its substantive dimensions and processes rather than inferred solely from external indicators.

Technological transformation has become one of the most significant challenges to audit-firm capacity. Artificial intelligence, automated analytics, process mining, continuous auditing, and advanced information systems can improve risk assessment, expand transaction coverage, increase efficiency, and support the detection of anomalies. Evidence from China indicates that the adoption of artificial intelligence by audit firms and their clients can affect both audit quality and audit efficiency [16]. However, technological benefits are not automatic. Firms require reliable data, secure infrastructure, competent personnel, implementation resources, appropriate governance, and procedures for evaluating automated outputs. For small and medium-sized audit firms, the cost of acquisition, training, maintenance, cybersecurity, and system integration may create significant barriers.

Institutional readiness is therefore essential to the successful adoption of artificial intelligence. Research on public audit institutions in a developing-country context has shown that AI adoption depends on organizational readiness, technical infrastructure, data availability, human capability, leadership support, governance arrangements, and the broader institutional environment [17]. These conditions are equally relevant to private audit firms. A firm may express interest in intelligent auditing while lacking the data architecture, digital maturity, staff competence, financial resources, or regulatory guidance required for meaningful adoption. Technological capacity must accordingly be conceptualized as an integrated institutional capability rather than access to individual applications.

The ability to adopt technology also depends on the broader measurement and interpretation of capacity. Research on regional tax capacity in Iran demonstrates that capacity is commonly understood as the potential ability of an institution or jurisdiction to generate an outcome under existing economic, structural, and administrative conditions [18]. Applied to auditing, this distinction suggests that actual performance and underlying capacity are related but not identical. An audit firm may currently produce acceptable reports because of intense partner involvement or temporary staff effort, yet remain structurally vulnerable because it lacks succession planning, robust technology, stable human resources, or institutionalized quality controls. Conversely, a firm may possess resources that are not fully utilized because of weak leadership, limited coordination, or resistance to change.

The growing complexity of audit work also requires attention to the interaction of organizational, technological, and professional capacities. Audit firms must manage changing standards, cybersecurity threats, increasingly complex client systems, data-intensive transactions, heightened stakeholder expectations, and demands for greater transparency. These challenges are amplified in small and medium-sized firms, where limited economies of scale can restrict access to specialists, advanced software, training programs, and formal knowledge-management systems. Yet smaller firms may also possess advantages such as flexibility, closer partner involvement, faster communication, stronger client familiarity, and the ability to specialize in particular industries. Capacity is therefore not determined mechanically by size; it depends on how the firm configures and deploys its resources.

The existing literature has examined numerous factors associated with audit quality, including human-resource management, succession, organizational culture, partner behavior, commercialization, ranking, productivity, client relationships, technological adoption, and institutional readiness. However, these elements have often been studied separately. As a result, there remains limited integrated understanding of what “capacity” specifically means in small and medium-sized audit firms, which dimensions and components constitute it, how these components interact, and through what mechanisms they influence the quality of audit services. This gap is particularly important in the Iranian professional environment, where small and medium-sized firms constitute a significant part of the audit market but face distinctive technological, financial, human-resource, regulatory, and institutional constraints.

Accordingly, the aim of this study was to identify and explain the dimensions and components of capacity in small and medium-sized audit firms and to analyze their role in the quality of audit services.

2. Methodology

This study employed a qualitative, exploratory–developmental research design to identify, interpret, and organize the dimensions and components of capacity in small and medium-sized audit firms and to explain how these capacities influence the quality of audit services. The exploratory orientation was appropriate because capacity in audit firms is a multidimensional and context-dependent concept whose institutional, professional, human, technological, organizational, and operational features have not been sufficiently articulated within the specific environment of small and medium-sized audit firms in Iran. The developmental aspect of the study concerned the systematic integration of the concepts emerging from professional literature and expert experiences into a coherent conceptual framework. Rather than testing predetermined hypotheses or examining statistical relationships among variables, the study sought to develop an in-depth understanding of the meanings, experiences, conditions, and mechanisms through which different forms of capacity are created, constrained, mobilized, and translated into audit service quality. The study was applied in purpose because its findings were intended to provide practical knowledge for audit firm managers, professional bodies, quality-control committees, regulators, and policymakers concerned with strengthening the institutional and operational capabilities of small and medium-sized audit firms.

The research was conducted within an interpretive qualitative orientation. From this perspective, capacity was not treated merely as a measurable volume of resources, such as the number of employees, financial resources, or technological facilities. Instead, it was understood as a complex organizational phenomenon shaped by the interaction of professional competence, leadership, governance arrangements, human resources, audit methodologies, technological infrastructure, client portfolios, knowledge-management practices, quality-control systems, organizational culture, and the institutional environment. Accordingly, the study focused on participants’

interpretations of how these elements operate in practice and how their presence, absence, adequacy, or interaction affects the reliability, timeliness, consistency, independence, and professional quality of audit services. The qualitative design made it possible to explore both explicit organizational resources and less visible capacities, including professional judgment, collective expertise, adaptive capability, learning orientation, ethical climate, supervisory competence, and the ability to respond to complex or high-risk audit engagements.

The study population consisted of professionals with direct knowledge of audit-firm capacity and audit service quality in Iran. Participants were drawn from three principal stakeholder groups. The first group comprised members of the Iranian Association of Certified Public Accountants who possessed substantial experience in audit practice and familiarity with professional standards and quality-control requirements. The second group consisted of managers and partners of small and medium-sized audit firms who had direct experience with resource limitations, staff recruitment and retention, engagement management, technological constraints, client-risk assessment, professional supervision, and the implementation of audit-quality procedures. The third group included professional supervisors and individuals who had served on quality-control or status-control committees and who were familiar with the evaluation, monitoring, and professional oversight of audit firms. Including these groups enabled the study to examine capacity from operational, managerial, professional, and regulatory perspectives and reduced the likelihood that the resulting framework would reflect only one institutional viewpoint.

Participants were selected through purposive and judgmental sampling. The principal selection criterion was the ability of each participant to provide rich, experience-based, and analytically relevant information concerning the capacities of small and medium-sized audit firms and their effects on audit quality. Eligibility criteria included meaningful professional experience in auditing, direct involvement in the management or supervision of audit engagements, familiarity with the operations of small and medium-sized audit firms, knowledge of professional quality-control requirements, and willingness to discuss organizational strengths, limitations, and quality-related challenges. Where necessary, snowball sampling was used to identify additional information-rich participants with specialized knowledge of subjects such as professional oversight, audit-firm governance, human-resource development, information technology, engagement-quality review, and risk management. Sampling continued concurrently with data collection and analysis until theoretical saturation was reached. Saturation was considered to have occurred when additional interviews no longer generated substantively new codes, categories, dimensions, or explanations concerning the nature of capacity and its relationship with audit service quality.

Alongside the expert interviews, relevant scientific and professional documents were examined as a supplementary qualitative source. These materials included peer-reviewed studies, professional standards, audit-quality frameworks, regulatory reports, institutional guidelines, and authoritative documents addressing audit-firm resources, organizational capability, quality management, professional supervision, audit technology, and the specific characteristics of small and medium-sized audit practices. Documents were selected purposively on the basis of direct relevance to the research topic, scientific or professional credibility, conceptual richness, accessibility of the full text, and their capacity to clarify the definitions, dimensions, or practical manifestations of organizational capacity in auditing. The use of both documentary and interview data facilitated methodological triangulation and allowed concepts derived from the literature to be compared with the practical experiences and contextual interpretations of audit professionals.

Ethical considerations were observed throughout the qualitative research process. Participation was voluntary, and the purpose of the study, the nature of the interview, the intended use of the data, and the participants' right

to withdraw were explained before each interview. Informed consent was obtained prior to data collection. Participants were assured that their names, organizational affiliations, and other identifying information would not be disclosed. Interview transcripts and analytical files were stored securely and were accessible only to the research team. Because discussions could involve sensitive evaluations of professional oversight, organizational weaknesses, resource constraints, or quality-control practices, quotations and reported findings were anonymized to prevent the identification of individual participants or audit firms.

Data were collected through a systematic qualitative document-extraction form and an in-depth semi-structured interview guide. The document-extraction form was designed to organize and record relevant information from scientific and professional sources in a consistent manner. It included fields for bibliographic characteristics, definitions of organizational or professional capacity, proposed dimensions and indicators, characteristics of small and medium-sized audit firms, determinants of audit quality, mechanisms linking capacity to service quality, organizational constraints, regulatory considerations, and recommendations for capability development. The form was not used merely as an administrative instrument for summarizing sources. It functioned as an analytical device through which concepts appearing across different theoretical, professional, and institutional documents could be compared, classified, and integrated. This process generated a preliminary conceptual map that informed the development of the interview guide while remaining open to revision in response to the empirical data.

The semi-structured interview guide served as the principal fieldwork instrument. It was developed from the preliminary review of the literature and refined to ensure alignment with the central purpose of identifying and explaining capacity in small and medium-sized audit firms. The interview questions were open-ended and designed to encourage participants to describe their experiences, interpretations, examples, and professional judgments in detail. The interviews explored how participants defined the capacity of an audit firm, which capacities were essential for the delivery of high-quality audit services, how capacity differed between small, medium-sized, and large audit firms, and which organizational limitations most frequently weakened service quality. Further areas of inquiry included the adequacy and competence of professional staff, recruitment and retention of auditors, partner involvement, supervisory structures, engagement planning, workload management, professional training, access to technical consultation, technological infrastructure, audit software, knowledge sharing, quality-control procedures, independence safeguards, client acceptance and continuance, financial stability, organizational learning, and the ability to respond to complex or high-risk engagements.

The interview guide also examined the mechanisms through which each capacity dimension influenced audit quality. Participants were invited to explain how inadequate staffing, excessive workloads, limited specialist access, weak supervision, insufficient technological support, unstable financial resources, ineffective knowledge management, or deficiencies in internal governance could affect audit planning, evidence collection, professional skepticism, documentation, review procedures, reporting accuracy, compliance with standards, and the timely completion of engagements. Conversely, they were asked to describe the organizational conditions that enabled small and medium-sized firms to compensate for their limited scale and achieve consistently high-quality outcomes. Probing questions were used to clarify meanings, request concrete examples, explore apparent contradictions, and distinguish between the mere possession of resources and the effective deployment of those resources in audit practice.

Before the main interviews, the interview guide was reviewed for conceptual clarity, professional relevance, comprehensiveness, and neutrality. Revisions were made to remove repetitive, ambiguous, or leading questions and to ensure that the sequence of questions moved from general descriptions toward more specific organizational

processes and quality-related mechanisms. The semi-structured format ensured consistency across interviews while allowing the interviewer to pursue unanticipated issues raised by participants. This flexibility was essential because the meaning of capacity could vary according to the participant's professional role, the size and maturity of the audit firm, the complexity of its client portfolio, and the institutional conditions under which it operated.

Interviews were conducted individually in a setting selected to support privacy and candid discussion. With participants' permission, the interviews were audio-recorded to preserve the accuracy and completeness of the data. When recording was not possible, detailed notes were taken during and immediately after the interview. Each interview was transcribed verbatim as soon as practicable. The transcripts were reviewed against the recordings to correct omissions and transcription errors. Field notes were also prepared to document contextual observations, emphases, pauses, interpretive insights, and emerging analytical questions. Data collection and analysis proceeded concurrently, enabling the research team to refine subsequent interviews, explore underdeveloped concepts, and seek participants who could clarify newly emerging dimensions.

Several procedures were used to strengthen the trustworthiness of the data-collection process. Credibility was supported through prolonged engagement with the data, the inclusion of participants from different professional positions, and the use of probing and clarification during interviews. Triangulation was achieved by comparing insights from audit-firm partners and managers, certified public accountants, professional supervisors, and documentary sources. Member reflection was used where appropriate by presenting summaries of key interpretations to selected participants and asking whether the interpretations accurately represented their intended meanings. An audit trail was maintained to document decisions concerning participant selection, interview-guide revisions, coding changes, theme development, and the integration of documentary and interview evidence. Reflexive notes were also recorded to identify and manage possible researcher assumptions regarding audit-firm size, resource adequacy, regulatory effectiveness, and audit quality.

The qualitative data were analyzed using systematic qualitative content analysis for the documentary materials and thematic analysis for the semi-structured interviews. The analytical process was iterative, interpretive, and predominantly inductive, although concepts identified in the professional literature were used sensitively to support comparison and theoretical integration. No predetermined classification was imposed rigidly on the interview data. Instead, the analysis moved continuously between the raw data, initial codes, developing categories, professional concepts, and the emerging conceptual structure. This approach enabled the study to preserve context-specific meanings while also establishing connections with broader discussions of organizational capability and audit quality.

The analysis of documentary sources began with repeated reading of the selected texts to identify meaning units directly related to the capacity of audit firms and the quality of audit services. Relevant passages were extracted and assigned preliminary conceptual codes. These codes captured such issues as human-capital adequacy, partner competence, technological readiness, financial resilience, internal governance, professional consultation, quality-management systems, organizational learning, independence mechanisms, client-risk management, and engagement-delivery capability. Similar codes were compared and grouped into broader conceptual categories. Categories were then examined for their internal coherence, conceptual boundaries, and relevance to small and medium-sized audit firms. The resulting preliminary structure provided sensitizing concepts for the fieldwork but remained provisional and subject to modification, rejection, expansion, or reinterpretation based on the interview evidence.

The interview analysis began with immersion in the data. Each transcript was read several times to develop a holistic understanding of the participant's account and to identify preliminary patterns, tensions, and significant statements. During this phase, analytical memos were written to record initial interpretations, possible relationships among concepts, questions requiring further investigation, and differences among stakeholder perspectives. The transcripts were then examined line by line, and segments conveying meaningful information about audit-firm capacity, organizational constraints, professional practices, or service-quality outcomes were assigned initial codes. The coding process remained sufficiently open to capture unexpected concepts and avoided reducing participants' descriptions to the categories identified in the literature review.

Initial codes were formulated as concise representations of the underlying meaning of each data segment. They reflected not only organizational resources but also the processes through which resources were coordinated and converted into professional performance. For example, participants' statements could be coded in relation to the availability of qualified personnel, continuity of audit teams, access to specialists, partner accessibility, review depth, time-budget pressure, technology utilization, documentation practices, internal consultation, professional training, ethical leadership, client dependence, or adaptability to regulatory change. Data extracts could receive more than one code when they addressed multiple dimensions or described a mechanism connecting organizational capacity to audit quality.

Following initial coding, codes with conceptual similarities were compared and clustered into preliminary categories and themes. Constant comparison was used to examine similarities and differences across interviews, professional groups, and organizational contexts. Particular attention was given to negative cases and divergent views, such as circumstances in which a small firm's limited size created quality constraints and situations in which the same small scale facilitated partner involvement, communication, flexibility, or closer supervision. This comparative process helped prevent simplistic assumptions that greater organizational size necessarily represented greater capacity or superior audit quality. It also enabled the analysis to distinguish between the quantity of organizational resources, the quality of those resources, and the firm's ability to coordinate and deploy them effectively.

The preliminary themes were subsequently reviewed at two levels. At the first level, all coded data extracts associated with each theme were examined to assess whether they formed a coherent and meaningful pattern. Themes with substantial overlap were combined, while overly broad themes were divided into more analytically precise components. Themes that lacked sufficient evidentiary support were revised or removed. At the second level, the complete thematic structure was compared with the full dataset to determine whether it adequately represented the breadth and complexity of participants' accounts. This process involved returning repeatedly to the transcripts and documentary materials to ensure that the developing interpretation was grounded in the data rather than shaped primarily by prior theoretical expectations.

Once the thematic structure had been stabilized, each theme was defined and named according to its central organizing concept. The themes were arranged hierarchically to distinguish specific indicators, intermediate components, and overarching dimensions of capacity. The analysis also sought to explain the mechanisms linking each capacity dimension to audit service quality. Thus, the final interpretation did not merely identify what capacities audit firms possessed or lacked. It clarified how those capacities affected engagement acceptance, audit planning, risk assessment, evidence collection, professional skepticism, supervision, consultation, documentation, engagement-quality review, reporting, compliance with professional standards, and the consistency and credibility of audit outcomes.

The documentary and interview findings were then integrated through a process of qualitative synthesis. Concepts supported by both sources were strengthened, while concepts appearing primarily in the interviews were examined as potentially context-specific or underrepresented dimensions of capacity. Similarly, concepts emphasized in professional documents but receiving limited support from participants were reconsidered in relation to their practical relevance within small and medium-sized Iranian audit firms. The integrated analysis resulted in a conceptually coherent framework showing the principal dimensions, components, and indicators of capacity and the pathways through which they contributed to or constrained audit service quality.

The trustworthiness of the analysis was evaluated according to the criteria of credibility, dependability, confirmability, and transferability. Credibility was enhanced through data-source triangulation, the inclusion of multiple professional perspectives, iterative comparison between interpretations and raw data, and consultation with selected participants or knowledgeable peers regarding the plausibility of the findings. Dependability was supported by documenting the analytical procedures, coding decisions, theme revisions, and methodological choices in an audit trail. Confirmability was strengthened through reflexive memoing and the preservation of links between interpretations, codes, and original data extracts. Transferability was addressed by providing a sufficiently detailed description of the professional context, participant characteristics, audit-firm environment, and analytical categories so that readers could assess the relevance of the findings to other small and medium-sized audit settings. The analysis continued until a stable thematic structure had been developed and no additional data materially altered the dimensions or explanatory relationships within the emerging framework.

3. Findings and Results

The findings were generated through two interconnected qualitative sources: a systematic qualitative analysis of the scientific and professional literature and an in-depth thematic analysis of expert interviews. The documentary analysis provided the initial conceptual foundation for identifying the meaning and manifestations of capacity in small and medium-sized audit firms, whereas the interview analysis contextualized, refined, and localized those concepts within the Iranian auditing environment. The findings demonstrated that capacity was not limited to the size of an audit firm or the volume of its tangible resources. Rather, it represented a multidimensional organizational capability emerging from the interaction of professional governance, intelligent risk management, digital infrastructure, audit-quality systems, and human and organizational competencies.

To achieve comprehensive, systematic, and purposeful coverage of the literature, the search strategy was developed through a systematic literature-review approach and multidimensional conceptual analysis. This approach was adopted to reduce selection bias, improve the transparency of secondary-data collection, and ensure that the literature reflected both established auditing concepts and recent technological and regulatory developments. Keywords were identified through analysis of the research problem, review of foundational literature, and recognition of the principal conceptual domains associated with auditing, organizational capacity, risk management, professional oversight, audit quality, and emerging technologies.

Synonymous, semantically related, compound, and interdisciplinary terms were combined to capture the theoretical and practical breadth of the subject. The final search vocabulary was organized into five conceptual clusters: risk-based auditing, enterprise risk management, digital transformation and technology, audit quality and professional oversight, and small and medium-sized enterprises and audit firms. These clusters and their corresponding English and Persian search terms are presented in Table 1.

Table 1. Conceptual Clusters and Search Keywords

Conceptual cluster	Keywords
Risk-based auditing	Risk-Based Auditing; Audit Risk Assessment; Risk-Oriented Audit; Internal Control Audit; Continuous Auditing; Audit Analytics; Intelligent Auditing; Audit Automation
Enterprise risk management	Enterprise Risk Management; SME Risk Management; Financial Risk Control; Operational Risk; Strategic Risk; Risk Governance; Risk Monitoring Systems
Digital transformation and technology	Digital Transformation; Digital Audit Ecosystem; AI in Auditing; Machine Learning in Accounting; Process Mining; Big Data Analytics; FinTech Governance; Audit Technology Adoption; Smart Audit Platforms
Audit quality and professional oversight	Audit Quality; Audit Effectiveness; Professional Oversight; International Standard on Quality Management; Internal Control Quality; Auditor Competency; Regulatory Frameworks
Small and medium-sized entities and audit firms	SME Auditing; SME Governance; SME Financial Transparency; SME Accountability; SME Sustainability

Structural analysis of the keywords revealed four major developments around which the recent literature had converged. The first was the transition from conventional auditing to intelligent, data-driven auditing. Recent studies, including those attributed to Guo et al. (2024), Fuhr et al. (2025), and Ullrich and Wood (2023), indicated that auditing was moving away from procedures dominated by traditional sampling and toward comprehensive data analysis, artificial intelligence, process mining, continuous auditing, and automated evidence evaluation. Audit analytics and process mining were particularly important because they reflected a fundamental change in the collection of evidence, assessment of risk, identification of anomalies, and formation of professional judgments. This transition increased the importance of technological capacity as an integral component of audit-firm capability.

The second development concerned the strengthening of risk-oriented auditing and oversight. The literature on organizational risk management, including the studies attributed to Lima et al. (2020) and Hudáková et al. (2023), suggested that risk management had progressed from an operational control activity to a strategic and governance-level capability. Concepts such as risk governance, continuous risk assessment, predictive risk models, and intelligent risk-monitoring systems were increasingly treated as fundamental elements of modern auditing. This finding implied that audit-firm capacity was not merely the ability to complete assigned procedures but also the ability to anticipate, interpret, prioritize, and respond to changing risk conditions.

The third development was the emergence of proportionate regulation and greater attention to the distinctive conditions of small and medium-sized firms. Studies such as Grewal and Rix (2024), together with professional guidance issued by IFAC in 2023, emphasized that regulatory and quality-management requirements should be applied in a manner proportionate to an audit firm's nature, size, engagement complexity, and resource base. The concepts of SME governance, accountability, institutional proportionality, and scalable quality-management systems therefore became important to understanding the capacity of smaller audit firms. The literature suggested that imposing structures designed for large international firms without considering the organizational realities of smaller practices could create formal compliance without necessarily improving substantive audit quality.

The fourth development was the digitalization of the audit environment. Studies attributed to Ai (2023) and Görçün et al. (2026) indicated that the future of auditing was increasingly dependent on artificial intelligence, machine learning, big-data analytics, digital platforms, and integrated information systems. This transformation contributed to the emergence of the digital audit ecosystem, in which auditors, clients, regulators, software systems, data repositories, and analytical technologies operate within an interconnected environment. Digitalization was therefore not identified merely as a technical modernization process. It was interpreted as a structural

transformation affecting audit planning, evidence collection, supervision, documentation, professional judgment, quality control, and regulatory oversight.

Taken together, these developments indicated that the literature relevant to capacity in small and medium-sized audit firms was organized around four overarching orientations: risk-oriented auditing and supervision, digitalization and intelligent audit processes, proportionate regulation based on organizational capacity, and improvement of audit quality and professional effectiveness. These orientations formed the initial conceptual foundation of the qualitative analysis.

The systematic search was limited to publications issued between 2020 and 2026 to capture contemporary developments in audit technology, risk-based auditing, quality management, and proportionate regulation. Eligible documents included peer-reviewed research articles, professional reports, auditing standards, regulatory documents, theses, dissertations, and methodologically credible conference papers. Persian- and English-language sources were considered to integrate domestic and international perspectives.

The search covered accounting, auditing, management, risk management, information technology, and related interdisciplinary fields. Priority was given to indexed journals, recognized professional institutions, and documents for which the full text was available. Domestic databases included SID, Magiran, NoorMags, Civilica, and IranDoc. International databases included Scopus, Web of Science, ScienceDirect, Emerald Insight, SpringerLink, Wiley Online Library, SSRN, and Google Scholar as a supplementary discovery source. Professional and regulatory materials were retrieved from institutions such as the IAASB, IFAC, the Financial Reporting Council, and the European Central Bank.

The inclusion criteria required direct relevance to auditing, risk, digital transformation, audit-firm capacity, small and medium-sized firms, professional oversight, or audit quality. Sources also had to possess an identifiable theoretical foundation, transparent methodology, scientific or professional credibility, and sufficient conceptual content to permit the extraction of indicators. Studies were excluded when they were unrelated to auditing or risk, lacked a coherent theoretical basis, duplicated other publications, contained insufficient methodological explanation, provided no extractable conceptual or practical contribution, or originated from noncredible and nonreviewed sources.

Screening followed the logic of the PRISMA framework and was conducted at the title, abstract, and full-text levels. Title screening removed sources with no apparent relationship to auditing, risk, technology, capacity, or professional regulation. Abstract screening evaluated the conceptual relevance, research setting, principal variables or concepts, and practical applicability of each source. Full-text evaluation examined theoretical consistency, methodological rigor, conceptual transferability, relevance to the research framework, and the novelty and utility of the findings.

The integrated search, selection, and appraisal procedures are summarized in Table 2.

Table 2. Search Scope, Information Sources, Eligibility Criteria, and Screening Procedures

Analytical element	Scope or criterion	Qualitative purpose
Time period	2020–2026	Concentration on contemporary developments in intelligent auditing, data analytics, quality management, and risk-based supervision
Document types	Peer-reviewed articles, professional reports, auditing standards, dissertations, theses, and credible conference studies	Inclusion of both scientific knowledge and professional-policy evidence
Languages	Persian and English	Integration of domestic and international knowledge

Subject areas	Accounting, auditing, management, risk management, and information technology	Reflection of the interdisciplinary nature of audit-firm capacity
Credibility level	Indexed journals and recognized professional or regulatory bodies	Protection of the scientific and professional quality of the evidence base
Accessibility	Full text available	Facilitation of detailed qualitative content analysis
Domestic databases	SID, Magiran, NoorMags, Civilica, and IranDoc	Identification of Iranian academic and professional evidence
International databases	Scopus, Web of Science, ScienceDirect, Emerald Insight, SpringerLink, Wiley Online Library, SSRN, and supplementary searching through Google Scholar	Identification of international theoretical and empirical literature
Professional institutions	IAASB, IFAC, FRC, and ECB	Identification of auditing standards, quality-management guidance, regulatory frameworks, and SME-related professional reports
Inclusion criteria	Direct relevance; attention to SMEs, small and medium-sized audit firms, or professional oversight; credible theoretical and methodological foundations; publication within the specified period; full-text access; extractable indicators	Retention of sources capable of contributing to the identification of capacity dimensions
Exclusion criteria	Topic irrelevance; weak theoretical basis; duplication; methodological opacity; lack of practical or conceptual applicability; noncredible or nonreviewed origin	Removal of sources that could not support reliable conceptual analysis
Title screening	Examination of relevance to auditing, risk, technology, governance, capacity, or audit quality	Initial removal of clearly unrelated documents
Abstract screening	Examination of research concepts, setting, applicability, and correspondence with the research problem	Identification of potentially relevant sources
Full-text assessment	Examination of journal credibility, citation influence, theoretical consistency, methodological rigor, conceptual transferability, model relevance, and innovation	Final selection of conceptually and methodologically suitable sources

The multidimensional filters increased the internal credibility of the systematic review by directing attention toward recent, relevant, and methodologically transparent evidence. Limiting the review to 2020–2026 was particularly important because several central concepts, including generative artificial intelligence, large language models, real-time auditing, advanced process mining, and digital audit ecosystems, had developed rapidly during this period. At the same time, combining accounting, management, auditing, and information-technology sources reflected the interdisciplinary character of organizational capacity.

The selected literature was ultimately grouped into five substantive bodies: risk management in small and medium-sized enterprises, audit quality and effectiveness, digital transformation, governance and professional regulation, and artificial intelligence and data analytics. This clustering showed that recent auditing literature had entered an integrated paradigm characterized by risk orientation, technological orientation, and governance orientation. Risk orientation provided the decision logic, technological orientation supplied analytical and operational capabilities, and governance orientation established the standards, accountability mechanisms, and institutional boundaries within which those capabilities were used.

After the final sources had been selected, a standardized qualitative extraction form was used to record bibliographic information, research objectives, theoretical foundations, principal concepts, methodological approaches, findings, practical implications, extractable indicators, and relevance to the research problem. The form supported consistency across sources and enabled the researchers to trace each conceptual code to its original documentary context.

The extracted material was then analyzed line by line through open coding. Concepts were retained when they represented a distinct form of organizational capacity, a constraint on capacity, a mechanism through which capacity affected audit quality, or a condition that influenced the use of available resources. The documentary analysis produced a multidimensional conceptual bank comprising five principal literature clusters, nine categories of extracted information, and more than 60 initial conceptual codes.

The open codes were initially arranged into five broad domains: risk management, digital transformation, audit quality, governance and oversight, and human and organizational capabilities. Table 3 presents the principal codes derived from the documentary analysis.

Table 3. Initial Conceptual Codes Extracted from the Literature

Domain	Initial qualitative codes
Risk management	Continuous risk assessment; emerging risks; fraud risk; cyber risk; information-technology risk; compliance risk; internal-control risk; reputational risk; financial-reporting risk; intelligent risk monitoring; risk-prediction models; data-complexity risk; technology-dependency risk
Digital transformation	Digital maturity; audit automation; real-time auditing; big-data analytics; artificial intelligence in auditing; large language models; process mining; data governance; information security; digital audit architecture; technology adoption; digital transparency
Audit quality	Auditor independence; quality of professional judgment; procedural effectiveness; reliability of audit evidence; error reduction; audit-report quality; professional documentation; professionalism; internal-control quality; auditor–client relationship
Governance and oversight	Risk-based supervision; regulatory frameworks; compliance with the International Standard on Quality Management; regulatory transparency; institutional accountability; professional governance; firm-level quality control; intelligent oversight; SME-oriented regulation
Human and organizational capabilities	Technological competency; data literacy; organizational learning; resistance to change; digital readiness; intelligent-audit training; human–AI interaction; digital leadership; trust in technology

The risk-management codes reflected an expansion from conventional financial and operational risks toward emerging and technology-dependent risks. Traditional concerns such as fraud, reputation, noncompliance, internal-control failure, and unreliable financial reporting remained significant, but they were increasingly accompanied by cyber risk, information-technology risk, data-complexity risk, and dependence on external technologies. The emergence of intelligent risk monitoring and predictive models suggested a transition from reactive risk management toward anticipatory, continuous, and data-driven approaches.

The digital-transformation codes showed that new technologies had penetrated the core of auditing rather than merely supporting administrative activities. Artificial intelligence, large language models, process mining, real-time auditing, and big-data analytics were linked to the redesign of evidence collection, anomaly detection, risk assessment, documentation, and review. However, the findings also showed that digital transformation required data governance, information security, digital architecture, technological transparency, and organizational readiness. Technology was therefore interpreted as an institutional and organizational capability rather than only a collection of software tools.

The audit-quality codes demonstrated that service quality depended simultaneously on professional competence, evidence reliability, procedural effectiveness, independence, documentation, and quality control. Technology could reinforce these elements by reducing avoidable error, increasing the coverage of transactions, improving documentation, and identifying unusual patterns. Nevertheless, technological tools did not replace professional judgment. The literature instead emphasized complementarity between human interpretation and technological analysis.

Governance and oversight codes highlighted the increasing importance of risk-based supervision, transparent regulation, institutional accountability, and scalable quality-management requirements. Compliance with the International Standard on Quality Management and the development of firm-level quality-control systems were repeatedly associated with the ability of audit firms to convert available resources into consistent professional performance. SME-oriented regulation was especially significant because the effectiveness of governance mechanisms depended on their proportionality to the scale, structure, engagement portfolio, and resource constraints of smaller firms.

Human and organizational codes confirmed that technological transformation depended substantially on the competence and adaptability of people. Data literacy, technological competence, intelligent-audit training, organizational learning, digital leadership, and trust in technology were identified as enabling capacities. Resistance to change, inadequate skills, and weak learning structures were identified as constraints. The emergence of human–AI interaction as a distinct code also showed that the future role of auditors would involve the interpretation, validation, and ethical governance of machine-generated outputs rather than the complete replacement of human expertise.

Axial coding was used to compare, merge, and organize the initial documentary codes into coherent conceptual dimensions. Codes were examined according to their meaning, organizational function, relationship with audit-service quality, and relevance to the conditions of small and medium-sized audit firms. This process generated five interdependent dimensions: professional governance and oversight, intelligent risk-management capacity, digital audit capacity, audit-quality and service-delivery capacity, and human and organizational capacity.

These dimensions represented a systemic structure. Professional governance supplied the institutional and ethical boundaries of practice. Intelligent risk management provided the analytical logic for directing audit attention. Digital capacity supplied the technological infrastructure for processing evidence and monitoring engagements. Audit-quality capacity represented the operational ability to convert professional resources into reliable services. Human and organizational capacity enabled the other dimensions to function through competence, leadership, learning, and adaptive readiness.

Table 4. Final Dimensions and Components of Capacity Identified Through Documentary Analysis

Capacity dimension	Principal components	Meaning for audit-service quality
Professional governance and oversight capacity	Risk-based supervision; professional accountability; ethical leadership; proportionate regulatory frameworks; compliance with quality-management standards; regulatory transparency; firm-level quality control	Establishes professional discipline, protects independence, improves accountability, and ensures that quality requirements are embedded in organizational processes
Intelligent risk-management capacity	Continuous risk identification; predictive analysis; fraud-risk assessment; cyber-risk assessment; real-time monitoring; internal-control evaluation; risk modeling; engagement-risk prioritization	Directs audit resources toward areas of higher risk, improves the relevance of procedures, and supports timely and evidence-based professional decisions
Digital audit capacity	Technological infrastructure; audit automation; artificial intelligence; data analytics; process mining; digital maturity; data governance; cybersecurity; continuous auditing	Expands evidence coverage, increases analytical precision, improves documentation, reduces routine error, and supports the timely delivery of audit services
Audit-quality and service-delivery capacity	Professional judgment; evidence reliability; engagement planning; supervision and review; documentation quality; error detection; report quality; internal quality control; client communication	Converts organizational resources into consistent, credible, timely, and standards-compliant audit outcomes
Human and organizational capacity	Auditor competence; technological competence; data literacy; organizational learning; digital leadership; change readiness; professional training; knowledge sharing; trust in technology	Enables the firm to adopt, interpret, and use professional and technological resources effectively while preserving skepticism and ethical judgment

Professional governance and oversight capacity emerged as the regulatory and control layer of the framework. It included compliance with professional standards, risk-based oversight, institutional accountability, and mechanisms for internal quality management. This dimension did not simply concern external inspection. It also included the internal governance arrangements through which an audit firm assigned responsibilities, protected independence, evaluated engagement performance, responded to quality deficiencies, and maintained accountability.

Intelligent risk-management capacity represented the analytical core of the framework. It involved identifying risks continuously, distinguishing significant risks from routine issues, evaluating emerging technological and regulatory threats, and allocating limited professional resources accordingly. This dimension was particularly important for smaller firms because they could not apply the same level of attention to every engagement area. Their capacity depended on their ability to concentrate available resources where the probability and consequences of material misstatement or audit failure were greatest.

Digital audit capacity represented the technological infrastructure of contemporary auditing. Automation, artificial intelligence, data analytics, process mining, secure information systems, and digital documentation were interpreted as mechanisms that could expand the scope and precision of audit work. Nevertheless, the findings showed that the existence of technology did not itself constitute effective capacity. Technology became organizational capacity only when the firm possessed appropriate data, competent users, governance arrangements, cybersecurity safeguards, and procedures for reviewing technological outputs.

Audit-quality and service-delivery capacity represented the operational manifestation of the other dimensions. It included the ability to plan engagements, assign competent personnel, perform and document procedures, supervise junior auditors, consult on complex issues, evaluate evidence, maintain independence, and issue timely and reliable reports. This dimension was therefore regarded as the point at which latent organizational resources were transformed into observable service quality.

Human and organizational capacity emerged as the enabling foundation of the entire framework. Even where an audit firm possessed software, formal policies, or professional standards, inadequate competence, resistance to change, weak leadership, and insufficient organizational learning could prevent those resources from improving audit quality. Conversely, knowledgeable partners, cohesive teams, strong learning cultures, and adaptive leadership could partly compensate for the limited scale of a smaller firm.

The qualitative synthesis also identified a set of conceptual relationships. Digital transformation was consistently associated with stronger risk-identification and monitoring capabilities. Artificial-intelligence tools were viewed as potential supports for professional judgment when their outputs were critically evaluated by competent auditors. Organizational digital maturity influenced the extent to which technological resources could be converted into effective audit practices. Regulatory frameworks shaped the conditions under which firms adopted and governed technology. Internal-control quality functioned as a practical pathway through which technological and analytical capabilities improved audit evidence and service reliability. Auditor technological competence strengthened the meaningful use of intelligent tools.

These relationships were not treated as statistically testable causal paths. Instead, they were interpreted as qualitative patterns indicating how capacity dimensions interacted in professional practice. The resulting initial framework therefore portrayed audit-service quality as the product of a multilayered configuration rather than a simple consequence of firm size or resource volume.

The second qualitative phase deepened and localized the framework through semi-structured interviews with professional and academic experts. The interviews were designed to capture practical experiences, professional interpretations, institutional constraints, and context-specific conditions affecting the capacity of small and medium-sized audit firms in Iran.

Participants were selected through purposive and judgmental sampling, supplemented by snowball sampling. Eligibility required substantial professional experience, familiarity with small and medium-sized entities or audit firms, knowledge of risk-based auditing and quality-control practices, and direct involvement in professional management, audit execution, regulation, teaching, research, or audit-related technology. Preference was given to individuals with doctoral or recognized professional qualifications, teaching or research experience, and familiarity with artificial intelligence, data analytics, or intelligent auditing.

Eighteen experts participated. They included five partners of audit firms, four senior auditors or audit managers, three university academics, two information-technology and data-analysis specialists, two managers from professional or regulatory bodies, and two financial managers of small and medium-sized enterprises. The participants had an average of approximately 16 years of professional experience, indicating a high level of expertise. Their varied backgrounds permitted the phenomenon to be examined from professional, executive, academic, technological, regulatory, and client perspectives.

The interviews were individual, in-depth, and semi-structured. They were conducted in calm professional settings, and data were documented through detailed note-taking with the informed consent of participants. The interview guide covered the existing condition of risk-based auditing, risk management and internal controls, digital transformation, audit quality and professional oversight, organizational capacity constraints, and requirements for adapting the framework to the Iranian context. Questions moved from descriptive accounts of existing conditions to explanatory interpretations of causes and consequences and finally to developmental reflections on how the framework should be localized.

Table 5. Characteristics of Participants and Qualitative Interviews

Element	Finding
Principal eligibility criteria	At least 10 years of professional experience; direct experience in auditing, risk management, professional oversight, or SME-related activities; familiarity with risk-based auditing; managerial, executive, academic, technological, or policy-related responsibility; willingness to participate
Preferred qualifications	Doctoral or specialized professional qualification; teaching or research experience; knowledge of artificial intelligence, data mining, audit software, or intelligent auditing
Audit-firm partners	5 participants with experience in professional decision-making, firm management, engagement acceptance, resource allocation, and audit-quality oversight
Senior auditors and audit managers	4 participants with experience in audit execution, internal-control assessment, risk evaluation, supervision, and engagement management
University academics	3 participants with expertise in accounting, auditing, and risk-management theory
Information-technology and data specialists	2 participants with expertise in artificial intelligence, data analysis, systems integration, and digital audit tools
Regulatory or professional managers	2 participants with experience in professional policymaking, quality control, regulation, and oversight
Financial managers of SMEs	2 participants representing the users and purchasers of audit services
Total participants	18
Average professional experience	Approximately 16 years
Interview format	Individual, in-depth, semi-structured interviews
Data-recording procedure	Detailed note-taking and systematic organization of interview content

Interview environment	Quiet and professionally appropriate settings
Confidentiality	Full protection of participants' identities and organizational affiliations
Saturation	New codes were frequent in Interviews 1–10, increasingly overlapping in Interviews 11–15, and fully repetitive from Interview 16; Interviews 17 and 18 generated no substantively new concepts

The multistakeholder composition of the sample increased the breadth of the findings. Audit-firm partners contributed information about strategic decisions, financial constraints, client portfolios, staffing, and internal governance. Senior auditors and managers described the operational realities of risk assessment, evidence collection, time pressure, supervision, documentation, and quality review. Academics contributed theoretical and conceptual interpretations. Technology specialists clarified the infrastructural and competence requirements of data-driven auditing. Regulatory managers explained institutional expectations and oversight limitations. Financial managers of SMEs provided the client perspective regarding service accessibility, communication, cost, responsiveness, and perceived audit value.

The progression toward saturation also supported the adequacy of the sample. Interviews 1–10 produced a wide range of new and diverse codes. Interviews 11–15 primarily expanded or clarified previously identified concepts. From Interview 16 onward, the same conceptual patterns were repeated. Interviews 17 and 18 were retained as confirmation interviews and did not generate any new substantive category. Saturation was therefore considered to have occurred at the sixteenth interview.

Following the interviews, all notes and textual materials were organized, reviewed, and refined. The material was read repeatedly to ensure accuracy, semantic coherence, and correspondence with participants' intended meanings. Open coding was conducted line by line, with codes assigned according to semantic significance, recurrence, relevance to the research problem, and explanatory value.

More than 210 initial codes were extracted from the interviews. These codes reflected the multilevel and sociotechnical nature of capacity in small and medium-sized audit firms. The principal challenge-related codes included weak risk assessment, checklist-based auditing, limited analytical orientation, time constraints, shortages of specialists, inadequate documentation, economic pressure from clients, and financial dependence on major clients. Technology-related codes included resistance to digital change, inadequate infrastructure, absence of intelligent audit software, limited data analytics, minimal use of artificial intelligence, lack of information-system integration, weak cybersecurity, and absence of shared databases.

Risk-management codes included limited risk culture, traditional assessment practices, weak internal controls, absence of continuous monitoring, fraud risk, human error, noncompliance, and incomplete information. Audit-quality codes included weak professional judgment, ineffective quality control, reduced report reliability, uneven professional expertise, inadequate training, limited supervision, and diminished independence. Institutional-environment codes included regulatory ambiguity, weak institutional support, absence of technology-oriented standards, distance from international professional developments, lack of digital incentives, and fragmented policymaking.

Following open coding, conceptually similar codes were compared, merged, and organized into basic themes. The basic themes were then grouped into broader organizing themes. Four principal organizing themes emerged: structural constraints on capacity, requirements for digital transformation, professional and regulatory requirements, and human-capital empowerment.

Structural constraints included inadequate digital maturity, weak technological infrastructure, financial limitations, restricted access to specialist expertise, small professional teams, and limited human resources.

Requirements for digital transformation included data-analytics capability, integrated information systems, intelligent software, secure digital infrastructure, data governance, and organizational readiness. Professional and regulatory requirements included risk-based oversight, proportionate regulation, quality-management systems, professional accountability, clearer technology-related standards, and stronger quality-control practices. Human-capital empowerment included digital literacy, technological competence, risk-management knowledge, professional training, organizational learning, leadership, knowledge sharing, and the capacity to interpret artificial-intelligence outputs critically.

These organizing themes were subsequently integrated into four global themes: digital transformation, intelligent risk management, professional governance, and technology-oriented human capital. The final thematic architecture and its localized implications are presented in Table 6.

Table 6. Final Thematic Structure and Localized Capacity Framework

Global theme	Organizing and basic themes	Role in the capacity framework	Contextual implications for Iranian small and medium-sized audit firms
Digital transformation	Digital maturity; technological infrastructure; audit software; artificial intelligence; data analytics; process mining; system integration; data governance; cybersecurity; digital transparency	Principal driver of changes in audit processes and expansion of analytical capability	Limited infrastructure, fragmented systems, high acquisition costs, absence of shared databases, and unequal access to advanced software restrict adoption
Intelligent risk management	Continuous risk assessment; fraud-risk analysis; emerging-risk identification; real-time monitoring; predictive analysis; internal-control evaluation; engagement-risk prioritization; risk culture	Central decision logic through which limited audit resources are directed toward areas of greatest significance	Traditional and checklist-oriented practices, incomplete client information, weak internal controls, and limited analytical skills impede effective risk-based auditing
Professional governance	Risk-based professional oversight; quality-management standards; institutional accountability; ethical leadership; independence safeguards; proportionate regulation; firm-level quality control; technology-oriented professional standards	Regulates, controls, and legitimizes the use of professional and technological capacity	Regulatory ambiguity, uneven enforcement, limited institutional support, distance from some international practices, and insufficient incentives for digital investment constrain capacity development
Technology-oriented human and organizational capital	Auditor competence; data literacy; technological competence; organizational learning; specialist access; partner involvement; digital leadership; change readiness; knowledge sharing; trust in technology; human-AI interaction	Enables the firm to interpret, deploy, monitor, and improve all other capacities	Scarcity of specialists, limited training budgets, resistance to change, staff turnover, financial constraints, and dependence on a small number of experienced individuals create vulnerability
Audit-quality outcome	Professional judgment; evidence reliability; documentation; supervision; review; independence; error detection; report quality; timeliness; client communication	Represents the practical expression of the interaction among technological, risk, governance, and human capacities	Quality improves when capacity dimensions operate coherently; weakness in any major dimension can disrupt the entire service-delivery system

The thematic structure showed that the study had moved from a problem-oriented description to a structure-oriented interpretation. The four global themes represented four interconnected pillars of capacity. Technology acted as the principal driver of transformation. Risk provided the logic through which audit attention and limited resources were allocated. Governance regulated professional conduct and established control mechanisms. Human capital executed, interpreted, and critically evaluated the processes and outputs produced by the other dimensions.

Digital transformation emerged as more than the adoption of individual technological tools. Participants repeatedly emphasized that purchasing software did not necessarily improve audit quality. Digital capacity required reliable infrastructure, integrated and accessible data, appropriate cybersecurity, technical support,

competent users, and procedures for validating analytical outputs. Firms with limited digital maturity often used technology only for administrative or documentation purposes and continued to perform substantive audit work through conventional methods. In contrast, digitally mature firms were better able to analyze entire datasets, identify unusual transactions, monitor risk continuously, and improve the timeliness of audit procedures.

Intelligent risk management emerged as the central analytical theme. Participants described effective capacity as the ability to recognize which risks deserved priority, select appropriate responses, and revise the audit approach when new evidence emerged. Smaller firms were particularly vulnerable to checklist-based auditing because standardized forms could be completed without a sufficiently deep understanding of the client's business model, internal controls, information systems, and risk environment. Risk capacity therefore depended on analytical thinking, professional skepticism, sector knowledge, access to reliable information, and the availability of tools that supported continuous or predictive assessment.

Professional governance was identified as the regulating and controlling element of the model. Participants emphasized that audit quality could not be sustained through individual competence alone. Firms required clear responsibilities, engagement-acceptance policies, consultation arrangements, supervision, review procedures, independence safeguards, and mechanisms for identifying and correcting deficiencies. External professional oversight was also necessary, but participants argued that oversight should be risk-based and proportionate to the size and complexity of the firm. Requirements that were excessively formal or designed for large firms could consume scarce resources without addressing the most significant quality risks.

Technology-oriented human capital emerged as the enabling foundation. Participants stated that small and medium-sized firms frequently depended on a limited number of highly experienced partners or senior auditors. This concentration of knowledge created both an advantage and a vulnerability. Direct partner involvement could strengthen supervision and communication, but excessive dependence on a small number of individuals could weaken continuity, succession, and resilience. Capacity therefore required mechanisms for transferring knowledge, developing junior auditors, retaining competent staff, and reducing dependence on isolated experts.

Digital literacy and data literacy were particularly important. Participants differentiated between basic software use and the deeper ability to understand data structures, question automated outputs, evaluate algorithmic limitations, and integrate analytical evidence with professional judgment. Artificial intelligence was viewed as a supportive rather than autonomous audit resource. Its contribution depended on the auditor's ability to formulate appropriate questions, verify the completeness and integrity of data, interpret outputs, identify bias or error, and maintain responsibility for the final professional conclusion.

The interview findings led to the systematic revision and localization of the initial framework. Four concepts required greater emphasis than they had received in the documentary analysis: the digital maturity of audit firms, data governance, auditors' digital literacy, and institutional readiness for technological change.

Digital maturity referred to the extent to which a firm had moved beyond isolated technology use toward integrated digital processes. It included infrastructure, systems integration, management support, staff competence, cybersecurity, and the incorporation of analytics into engagement methodology. Participants stressed that audit firms could not be classified as technologically capable merely because they used accounting software, electronic working papers, or spreadsheet applications.

Data governance reflected the transition from conventional document control to systematic management of data quality, access, security, ownership, retention, and use. Participants identified incomplete, inconsistent, inaccessible, or poorly structured client data as a major obstacle to intelligent auditing. Consequently, the capacity

to perform data-driven audit work depended partly on the firm's ability to establish data requirements and partly on the client's information environment.

Auditors' digital literacy represented the human ability to use, interpret, question, and govern digital tools. Participants emphasized that limited technological competence could lead either to rejection of useful tools or to uncritical reliance on automated outputs. Both conditions could weaken audit quality. Digital literacy therefore included technical understanding, critical judgment, ethical awareness, and the ability to integrate technological results with professional standards.

Institutional readiness referred to the willingness and ability of professional bodies, regulators, audit firms, and clients to support technological and organizational change. Participants argued that digital transformation could not be achieved solely through firm-level initiatives when regulations, training systems, professional standards, inspection practices, or data-access arrangements did not evolve correspondingly.

The interviews also strengthened the interpretation of several relationships among the dimensions. Internal-control quality was identified as an important mechanism through which technological and risk-management capacities influenced audit evidence. Where client controls and information systems were weak, even advanced audit technology could not fully compensate for incomplete, inconsistent, or unreliable data. Organizational culture affected whether employees accepted new technologies, shared knowledge, reported quality concerns, and engaged in continuous learning. Technological capacity improved the speed and precision of risk identification only when the firm possessed suitable data, competent personnel, and effective governance.

The localized framework was adapted to four prominent characteristics of the Iranian environment. The first was limited and uneven technological infrastructure among smaller audit firms. The second was the perceived distance between some domestic regulatory practices and rapidly changing international approaches to digital audit quality. The third was the scarcity of financial and specialized human resources in small and medium-sized firms. The fourth was the distinctive institutional structure of the Iranian auditing profession, including its professional oversight arrangements, market conditions, and patterns of client dependence.

The participants' accounts indicated that financial constraints affected nearly every capacity dimension. Limited financial resources restricted access to advanced software, specialist consultation, continuous training, cybersecurity investment, and the recruitment or retention of highly skilled auditors. Dependence on a limited number of clients could also threaten independence and increase pressure to reduce fees or compress audit time. Accordingly, financial resilience was interpreted as a cross-cutting condition that shaped the firm's ability to maintain professional quality.

Firm size was not interpreted as a direct or sufficient indicator of capacity. Some smaller firms demonstrated strong capacity because of experienced partners, cohesive teams, sector specialization, direct supervision, and disciplined quality-control practices. Conversely, larger resource bases did not always ensure effective capacity when governance was weak, workloads were excessive, or technologies were poorly integrated. Capacity was therefore understood as the effective configuration and deployment of resources rather than their mere possession.

The final qualitative framework demonstrated that audit-service quality in small and medium-sized audit firms resulted from the dynamic interaction of digital transformation, intelligent risk management, professional governance, and human and organizational capital. Technology provided expanded analytical possibilities, but risk-management capability determined where and how those possibilities were applied. Governance established the ethical, regulatory, and quality-control boundaries of practice. Human capital interpreted evidence, exercised professional skepticism, supervised work, and assumed responsibility for audit conclusions.

The findings consequently portrayed capacity as a systemic and relational concept. Weakness in any principal dimension could destabilize the entire audit-service process. Advanced software without competent users could produce misleading confidence. Skilled auditors without sufficient time, data, or quality-control structures could not consistently deliver reliable services. Strong regulation without proportionality could create administrative burden rather than substantive quality. Risk-based methodologies without reliable client data or internal controls could remain formal and ineffective.

Overall, the qualitative analysis transformed the initial literature-based model into a multidimensional, systemic, and contextually grounded framework. The final framework explained capacity through five closely connected dimensions: professional governance and oversight, intelligent risk management, digital audit capability, audit-quality and service-delivery capability, and human and organizational capability. Audit-service quality represented the practical outcome of alignment among these dimensions rather than an isolated organizational characteristic.

4. Discussion and Conclusion

The present study sought to identify and explain the dimensions and components of capacity in small and medium-sized audit firms and to clarify how these dimensions shape the quality of audit services. The findings showed that capacity is a multidimensional and systemic construct composed of five closely connected dimensions: professional governance and oversight capacity, intelligent risk-management capacity, digital audit capacity, audit-quality and service-delivery capacity, and human and organizational capacity. The findings further demonstrated that audit quality does not arise merely from the possession of financial resources, personnel, or technological tools. Rather, it depends on the firm's ability to coordinate, deploy, renew, and govern these resources in a manner that supports professional judgment, evidence reliability, independence, supervision, documentation, risk responsiveness, and timely reporting. In this sense, capacity represents an organizational capability through which resources are converted into consistent professional outcomes.

The identification of professional governance and oversight as a central dimension indicates that audit quality depends heavily on the institutional arrangements through which professional conduct is directed and controlled. Participants emphasized the importance of risk-based supervision, internal quality management, professional accountability, independence safeguards, clear assignment of responsibilities, and proportionate regulation. These findings suggest that the existence of professional standards alone is insufficient unless audit firms possess the internal structures required to translate such standards into routine practice. This interpretation is consistent with research showing that the capacity of auditing institutions depends on the interaction of legal authority, accountability mechanisms, professional competence, access to information, and organizational independence [4]. It is also aligned with evidence that organizational culture affects governance transparency in audit firms, particularly where openness, accountability, ethical leadership, and communication shape the effectiveness of formal controls [8].

The findings also revealed that governance capacity in small and medium-sized audit firms should be proportionate to the firms' scale, complexity, and resource structure. Participants did not reject professional regulation; rather, they emphasized that quality requirements should be operationally appropriate and focused on substantive risks. Excessively formal systems may place a disproportionate burden on smaller firms without necessarily improving actual audit performance. At the same time, weak or ambiguous regulation can create inconsistency in quality-management practices and limit investment in new capacities. This result reinforces the

argument that audit-firm ranking, professional standing, and organizational identity may affect audit quality by shaping access to resources and commitment to professional norms [11]. However, the present findings extend this argument by showing that ranking or reputation should not be treated as complete substitutes for capacity. Smaller firms may achieve strong quality where governance, leadership, partner involvement, and internal review are effective, whereas firms with greater market standing may still experience quality weaknesses if internal governance is poorly implemented.

The second principal dimension, intelligent risk-management capacity, was identified as the analytical core of high-quality auditing. The findings indicated that effective audit firms must be capable of continuously identifying risks, distinguishing high-priority issues from routine matters, responding to emerging risks, and allocating scarce professional resources accordingly. This is particularly important for small and medium-sized audit firms because their human and financial resources are limited and cannot be distributed equally across all engagement areas. Intelligent risk management therefore involves not only formal risk assessment but also sector knowledge, professional skepticism, predictive analysis, fraud-risk awareness, cyber-risk assessment, and the ability to revise audit procedures when new evidence emerges.

This result supports the view that capacity should be interpreted as the potential and practical ability to generate an expected outcome under existing institutional and structural conditions. Research on tax capacity in Iran has similarly distinguished between actual outcomes and the underlying ability to achieve those outcomes [18]. Applied to auditing, this means that a firm may complete engagements and issue reports but still lack sustainable risk-management capacity if its procedures are primarily checklist-based, reactive, or dependent on the personal experience of a small number of partners. The present findings showed that real capacity exists when risk analysis is institutionalized in the audit methodology and is supported by reliable data, competent staff, adequate supervision, and continuous monitoring.

The findings concerning intelligent risk management are also related to the complexity of auditor–client relationships. Participants emphasized that dependence on a limited number of clients, long partner tenure, client pressure, and commercial considerations could influence risk judgments and independence. Previous research has shown that audit-partner tenure and non-audit fees may have important implications for audit quality because they can simultaneously enhance client-specific knowledge and increase familiarity or economic-dependence threats [14]. The present study adds that these risks may be more pronounced in smaller audit firms, where a single client can account for a substantial proportion of revenue and where client replacement may be difficult. Therefore, client-risk assessment, acceptance and continuance decisions, revenue-concentration monitoring, and independence safeguards should be regarded as components of organizational capacity.

The interpretation of risk-related findings should also consider the methodological caution raised in previous audit-tenure research. Evidence regarding selection bias indicates that observed relationships between firm tenure and audit quality may partly reflect underlying differences in clients, audit firms, engagement risks, and matching patterns rather than a simple direct effect of tenure [15]. This is relevant because the present findings similarly suggest that visible characteristics such as firm size, age, ranking, tenure, or number of employees cannot independently reveal the actual level of capacity. The substantive quality of a firm's systems, knowledge, leadership, and deployment of resources is more important than its outward structural characteristics.

Digital audit capacity emerged as the third major dimension. The findings showed that artificial intelligence, data analytics, process mining, automation, integrated information systems, digital documentation, and continuous auditing can expand evidence coverage, increase the speed and precision of risk assessment, and reduce routine

human error. However, the findings strongly indicated that technology becomes an organizational capacity only when it is supported by digital maturity, data governance, information security, suitable infrastructure, competent users, and mechanisms for reviewing automated outputs. Merely acquiring software or using electronic working papers does not constitute meaningful digital transformation.

This finding is consistent with evidence that the adoption of artificial intelligence by audit firms and their clients can improve both audit quality and audit efficiency by supporting broader data analysis and more timely identification of anomalies [16]. Nevertheless, the present study explains why technological adoption does not always generate these benefits. Small and medium-sized audit firms may face limited investment budgets, fragmented client data, inadequate cybersecurity, lack of specialist personnel, and low confidence in automated systems. Consequently, the effect of technology on audit quality is conditional on broader institutional and human capacities.

The results also support research emphasizing that readiness for artificial-intelligence adoption includes technical infrastructure, data availability, governance mechanisms, leadership commitment, staff competence, and institutional support [17]. The interview findings showed that these factors operate as a connected system. A firm may have motivated managers but lack reliable data; it may possess software but lack trained auditors; or it may have skilled staff but insufficient regulatory guidance concerning the use and documentation of artificial intelligence. In each situation, the technological resource remains underutilized. Therefore, digital capacity is best understood as an integrated organizational readiness rather than possession of isolated technological assets.

The fourth identified dimension was audit-quality and service-delivery capacity. This dimension reflected the practical ability of the firm to transform its professional, technological, and organizational resources into reliable audit outcomes. Its principal components included engagement planning, appropriate staff assignment, partner involvement, supervision, consultation, review, documentation, evidence evaluation, reporting, and timely completion. The findings suggest that this dimension is the point at which latent organizational resources become observable service quality. A firm may possess expertise, technology, and formal policies, but these capacities have little value if they are not reflected in the execution and review of engagements.

The importance of resource deployment is consistent with the concept of capacity utilization. Earlier research has demonstrated that the utilization of organizational capacity affects cost behavior and managerial responses to fluctuations in activity [3]. In audit firms, this relationship is especially important because professional labor and partner time are difficult to expand in the short term. When engagement demand exceeds available capacity, firms may respond through overtime, accelerated procedures, reduced review, temporary staffing, or compressed time budgets. Such responses may preserve short-term output while weakening audit quality. The present findings therefore suggest that audit-service capacity includes not only efficiency but also the ability to maintain a sustainable relationship between workload, available expertise, and quality requirements.

The productivity findings reported in prior research also support this interpretation. Audit firms differ in their ability to transform labor and organizational inputs into professional outputs, and these productivity differences may reflect managerial efficiency, technological progress, and learning [12]. However, the findings of the present study indicate that productivity should not be defined only by the number of engagements completed or revenue generated. In professional auditing, productivity must be assessed together with documentation quality, risk coverage, professional skepticism, supervision, and compliance. Excessive commercialization or a narrow focus on billable output may result in apparent efficiency while creating hidden quality deficiencies.

The study also found that audit quality has consequences beyond the immediate accuracy of the audit report. Reliable audit services can strengthen clients' organizational credibility, financial transparency, and ability to obtain financing. This is aligned with evidence that audit quality contributes to organizational capital and financing capacity [13]. The role of audit-firm capacity may therefore be particularly important for small and medium-sized clients, which often face greater information asymmetry and weaker access to capital. Where audit firms possess adequate professional and organizational capacity, their services may increase lenders' and investors' confidence. Conversely, limited audit capacity may reduce the informational value of audited statements and weaken the economic benefits associated with assurance.

Human and organizational capacity was identified as the enabling foundation of all other dimensions. The findings emphasized professional competence, technological literacy, organizational learning, leadership, staff retention, succession planning, knowledge sharing, change readiness, and employee well-being. Participants repeatedly noted that small and medium-sized firms are often heavily dependent on a few experienced partners or managers. Although this may allow direct involvement and rapid communication, it also creates vulnerability when knowledge is concentrated and insufficiently transferred.

The importance of human-resource capacity is supported by research identifying recruitment, retention, training, career development, performance evaluation, and workload as central challenges in audit firms [1]. The present study extends these findings by showing that human-resource limitations affect every other capacity dimension. Staff shortages restrict risk analysis, reduce review depth, delay digital adoption, weaken continuity, and increase dependence on individual experts. Therefore, human-resource problems are not merely administrative concerns; they directly affect audit quality and institutional resilience.

Succession planning was similarly identified as a necessary component of sustainable capacity. Research in Iranian audit firms has emphasized the importance of developing future leaders, transferring professional knowledge, and reducing dependence on current partners [2]. The present findings confirm that succession is especially important for smaller firms, where partner departure may disrupt client relationships, quality-control practices, strategic decisions, and professional identity. Effective succession requires more than choosing a replacement. It involves gradual transfer of tacit knowledge, delegation of authority, mentoring, leadership development, and institutionalization of procedures that were previously dependent on individuals.

Auditors' work attitudes and psychological conditions also emerged as important. Participants associated heavy workloads, time pressure, commercial demands, weak recognition, and limited development opportunities with reduced concentration and weaker professional performance. This interpretation aligns with evidence that auditors' work attitudes influence judgment and decision-making and should inform audit firms' management strategies [5]. It is also consistent with findings showing that commercialization and auditor characteristics affect subjective well-being [6]. The present results suggest that employee well-being is not separate from quality capacity. Fatigue, burnout, and dissatisfaction can reduce professional skepticism, persistence in evidence collection, and willingness to challenge clients.

Leadership behavior was another important human and organizational component. The findings indicated that partners shape risk priorities, quality culture, technology adoption, workload allocation, and employees' willingness to raise concerns. Research has shown that partners' behavioral biases may affect professional skepticism and audit-opinion quality [7]. The present findings reinforce the need for consultation, second-partner review, structured challenge processes, and awareness of cognitive bias. Direct partner involvement can be a major

strength of smaller firms, but only when authority is accompanied by reflective judgment, openness to disagreement, and effective review mechanisms.

Organizational culture was also found to influence how capacity was used. A culture that prioritizes quality, learning, ethical behavior, and transparency can strengthen formal systems, whereas a culture dominated by commercial pressure may weaken them. This finding aligns with evidence concerning the effect of culture on governance transparency [8]. It is also compatible with research suggesting that cultural values emphasizing integrity and responsibility may reduce financial restatements [10]. In addition, cultural similarity between audit firms and clients may improve communication but could also reduce professional distance and create familiarity threats [9]. Accordingly, cultural capacity includes both the development of strong internal values and the ability to manage cultural closeness with clients without compromising independence.

Overall, the findings demonstrate that capacity in small and medium-sized audit firms is a configurational rather than isolated phenomenon. Audit quality is highest when governance, risk management, technology, service-delivery systems, and human capabilities reinforce one another. Weakness in one dimension can reduce the effectiveness of the others. Advanced technology cannot compensate for weak professional judgment; strong expertise cannot fully overcome excessive workload or unreliable data; and formal quality policies cannot function effectively in the absence of ethical leadership and organizational learning. The main contribution of the study is therefore the conceptualization of capacity as an integrated professional system through which limited resources are transformed into reliable and sustainable audit services.

The study was limited by its qualitative design and its focus on expert interpretations within the Iranian auditing environment. Although purposive sampling and the inclusion of multiple stakeholder groups increased the conceptual richness of the data, the findings are not statistically generalizable to all audit firms. The number of participants was determined by theoretical saturation rather than population representation, and some viewpoints may have been influenced by participants' professional positions or institutional experiences. The reliance on interview accounts and documentary evidence may also have introduced social-desirability or retrospective interpretation biases. In addition, rapid technological and regulatory developments may alter the relative importance of some identified components over time.

Future studies should operationalize the identified dimensions and develop a context-sensitive instrument for assessing capacity in small and medium-sized audit firms. Quantitative studies could examine the relationships among governance capacity, digital maturity, risk-management capability, human-resource capacity, and audit-quality outcomes across firms of different sizes and specializations. Comparative research could also investigate whether the framework functions similarly in other countries, regulatory environments, and professional systems. Longitudinal studies would be useful for examining how capacity develops over time and whether investments in training, technology, succession, and quality management produce sustainable improvements. Case studies of high-performing small firms could further identify mechanisms through which limited resources are configured effectively.

Small and medium-sized audit firms should assess capacity as an integrated system rather than focusing on isolated indicators such as staff numbers, revenue, or software ownership. Firms should establish proportionate quality-management structures, formalize risk-based engagement planning, monitor workload and client concentration, and strengthen consultation and review procedures. Investment priorities should include digital infrastructure, data governance, cybersecurity, technological literacy, and practical training in data analytics and artificial intelligence. Firms should also institutionalize succession planning, knowledge transfer, staff

development, and mechanisms that protect auditor well-being. Professional bodies and regulators should provide scalable guidance, shared technological resources, specialized training, and proportionate oversight arrangements that enable smaller firms to improve quality without imposing unnecessary administrative burdens.

Authors' Contributions

Authors equally contributed to this article.

Ethical Considerations

All procedures performed in this study were under the ethical standards.

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Conflict of Interest

The authors report no conflict of interest.

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