

Leveraging Public APIs for Human Centered Strategic Decision Making in Digital Organizations

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Article Info

Article history:

Submission May 15, 2026
Revised August 17, 2026
Accepted August 21, 2026
Published August 26, 2026

Keywords:

Public APIs
Human Centered Decision
Making
Digital Organizations
Digital Well Being
Responsible Digital Innovation



ABSTRACT

Public Application Programming Interfaces (APIs) have become essential components of digital ecosystems, enabling organizations to access external data and transform it into meaningful information for strategic decision making. While previous studies have primarily emphasized the technical and operational roles of Public APIs, limited attention has been given to their contribution to human centered strategic decision making within digital organizations. **This study aims** to explore how Public APIs support strategic decision making by enhancing managerial interpretation, organizational responsiveness, and responsible digital innovation while promoting human centered organizational practices. **A qualitative** multiple case study approach was employed involving organizations operating in data intensive digital environments. Data were collected through semi structured interviews with managers and analysts, complemented by document analysis and limited non participant observation. The collected data were analyzed using thematic analysis to identify recurring patterns related to strategic decision support, organizational adaptability, and human centered technology adoption. **The findings** demonstrate that Public APIs function not only as technical connectors but also as strategic information resources that strengthen managerial judgment, improve organizational agility, and support evidence based decision making. The study further reveals that integrating external data through Public APIs encourages more transparent, inclusive, and responsible decision making, thereby contributing to organizational resilience and stakeholder value. However, challenges related to data quality, governance, external dependency, and trust remain important considerations for sustainable implementation. **This study contributes** to the growing body of knowledge on human centered digital transformation by demonstrating how Public APIs can support responsible strategic decision making beyond purely technical applications. The findings offer practical insights for organizations seeking to align data driven innovation with organizational objectives while fostering transparency, inclusiveness, and broader humanistic impact within digital ecosystems.

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1. INTRODUCTION

The rapid advancement of digital technologies has transformed how organizations operate, innovate, and make strategic decisions in increasingly interconnected environments. Beyond operational efficiency and competitiveness, digital transformation now emphasizes sustainable value for people, organizations, and society

[1]. Contemporary digital organizations are therefore expected to ensure that technological innovation promotes transparency, inclusiveness, accountability, and human well-being. Strategic decision making is consequently no longer viewed solely as a data-driven organizational capability but as a human-centered process in which technological resources complement managerial judgment, ethical considerations, and stakeholder interests [2]. Within this context, access to high-quality and timely information has become essential for organizational resilience and adaptability, particularly as valuable information is increasingly distributed across external digital ecosystems rather than confined to internal systems.

Public Application Programming Interfaces (Public APIs) have emerged as important digital infrastructures that provide standardized, secure, and scalable access to diverse external data sources, including government open-data portals, financial platforms, social media services, geospatial systems, and cloud-based applications [3]. By enabling data exchange across heterogeneous systems, Public APIs allow organizations to monitor environmental changes, identify emerging opportunities, and generate evidence-based insights for strategic planning. Their growing availability has consequently expanded the role of information technologies beyond operational automation toward organizational learning, collaborative decision making, and responsible digital transformation [4–6]. Rather than replacing managerial expertise, API-enabled data enriches human judgment by providing reliable, diverse, and continuously updated information for interpreting market dynamics, customer preferences, regulatory developments, and environmental changes [7]. Shared access to external information can also strengthen collaboration among managers, analysts, and stakeholders, improving collective understanding and supporting more transparent and inclusive strategic discussions [8, 9]. Thus, Public APIs can be understood not merely as technical interfaces but as strategic information resources that support organizational objectives alongside broader human-centered values [10].

Despite the growing adoption of Public APIs, existing research has predominantly examined their technical architecture, software interoperability, platform ecosystems, operational efficiency, digital transformation, business intelligence, and organizational performance. Comparatively less attention has been given to how Public APIs support human-centered strategic decision making through managerial interpretation, collaborative sense-making, and responsible digital innovation [11]. Existing studies also rarely explain how organizations transform externally sourced API data into strategic knowledge that simultaneously improves decision quality, organizational transparency, stakeholder trust, and broader humanistic outcomes [12]. Consequently, the strategic value of Public APIs cannot be fully understood through technical or performance-oriented perspectives alone. Greater attention is needed to examine the organizational processes, contextual factors, and human-centered practices through which API-enabled information contributes to responsible strategic decision making in digital organizations [13].

To address this gap, the present study adopts a qualitative multiple case study approach to investigate how Public APIs support human-centered strategic decision making within digital organizations. The study focuses on organizational practices, managerial interpretations [14], and contextual mechanisms through which externally sourced data are transformed into meaningful strategic knowledge. By examining data-intensive digital environments, the research explores how Public APIs facilitate evidence-based decision making, enhance organizational adaptability, and promote responsible digital innovation through the integration of human expertise and data-driven insights [15]. The qualitative approach enables a deeper understanding of organizational experiences and the interactions among digital technologies, managerial judgment, and strategic decision-making processes that may be overlooked by predominantly quantitative or technology-oriented research [16].

This study makes several contributions to the existing literature. First, it extends research on Public APIs by positioning them as strategic information resources that support human-centered organizational decision making rather than merely technical infrastructures. Second, it integrates digital transformation, human-centered computing [17], and responsible digital innovation to explain how external digital data can create value beyond organizational efficiency. Third, it provides practical implications for organizations seeking to strengthen strategic decision making through transparent, inclusive, and evidence-based data utilization while maintaining responsible governance practices [18, 19]. Finally, the study contributes to the emerging discourse on humanistic technology by demonstrating how effective Public API utilization can promote organizational resilience, stakeholder trust, and sustainable digital development [20]. These contributions support the broader objective of human-centered digital transformation in which technological innovation generates value for individuals, organizations, and society.

2. RELATED WORK AND THEORETICAL BACKGROUND

Understanding the role of Public Application Programming Interfaces (Public APIs) in strategic decision making requires an integrated perspective that extends beyond technological interoperability. Digital organizations increasingly operate within interconnected ecosystems where external information, human expertise, and responsible digital practices jointly influence organizational and societal outcomes. Accordingly, this study synthesizes literature on Public APIs, human-centered strategic decision making, and responsible digital innovation to establish a coherent theoretical foundation [21]. This integrated perspective positions Public APIs as strategic resources that support organizational decision processes while promoting transparency, accountability, and positive humanistic impact, providing the basis for the research gap and conceptual framework developed in this study [22, 23].

2.1. Public APIs in Digital Organizations

The rapid expansion of digital transformation has changed how organizations acquire, integrate, and utilize information for strategic activities. Advances in cloud computing, artificial intelligence, platform ecosystems, and open-data initiatives have accelerated the adoption of Public APIs as essential infrastructures that enable interoperability across heterogeneous systems [24]. Through standardized communication protocols, Public APIs provide efficient access to external information from governments, financial institutions, healthcare providers, mapping services, and other digital platforms, allowing organizations to enrich internal knowledge with reliable external data [25]. Recent literature also recognizes Public APIs as strategic organizational resources that facilitate cross-organizational collaboration, innovation, operational agility, and evidence-based management. Their timely and contextual information supports environmental scanning, market monitoring [26], opportunity identification, and organizational responses to technological and regulatory changes.

Despite these developments, existing research has primarily examined Public APIs from technological perspectives, including interoperability, software engineering, platform architecture, and system integration. Comparatively limited attention has been given to how API-derived external information supports managerial judgment and organizational decision making from a human-centered perspective [27]. Therefore, the strategic value of Public APIs should be understood not only through their technological capabilities but also through their contribution to informed, responsible, and stakeholder-oriented decisions. This perspective provides the foundation for examining Public APIs within human-centered strategic decision-making processes [28, 29].

2.2. Human-Centered Strategic Decision Making

The increasing availability of digital information has shifted strategic decision making from intuition-driven toward more evidence-based and collaborative approaches. Although artificial intelligence, big data analytics, and decision support systems enhance organizational analytical capabilities, strategic decisions still depend on human judgment, contextual understanding, ethical reasoning, and organizational experience [30]. Human-Centered Strategic Decision Making therefore positions technology as a mechanism that augments managerial intelligence while preserving human responsibility. Previous research on Human-Centered Artificial Intelligence, Human-in-the-Loop systems, and intelligent Decision Support Systems further indicates that combining digital intelligence with human expertise can improve decision quality, organizational adaptability, and stakeholder engagement. Rather than relying solely on algorithmic recommendations, decision makers interpret digital information within organizational contexts, consider stakeholder interests, and evaluate long-term objectives before taking strategic actions.

Nevertheless, existing literature has paid limited attention to Public APIs as strategic information resources within human-centered decision-making processes. Most studies emphasize decision-support technologies or artificial intelligence without explicitly explaining how externally sourced digital information obtained through Public APIs contributes to managerial reasoning and organizational strategy. Integrating Public APIs into the human-centered decision-making perspective therefore extends current understanding of how organizations transform external information into meaningful strategic knowledge while maintaining human oversight and accountability.

2.3. Responsible Digital Innovation and Humanistic Impact

As digital transformation becomes increasingly pervasive, organizations are expected to ensure that technological innovation creates value beyond operational efficiency and financial performance. Responsible Digital Innovation emphasizes transparency, accountability, fairness, and sustainability in the development and

implementation of digital technologies, recognizing that successful digital transformation requires both technological capabilities and governance mechanisms that safeguard ethical principles and stakeholder interests. This perspective is closely connected to Humanistic Impact, which evaluates technology based on its contribution to human well-being, organizational resilience, stakeholder trust, and broader societal value. Organizations adopting responsible digital practices can strengthen collaboration, improve transparency, reduce governance risks, and increase confidence in digital systems. Within this context, Public APIs serve as strategic infrastructures that enable reliable information exchange and evidence-based decisions while supporting more inclusive and transparent digital ecosystems.

Although responsible innovation and humanistic technology have received growing scholarly attention, their integration with Public APIs and strategic decision making remains limited. Existing research generally examines technological governance, ethical frameworks, or organizational performance separately, providing insufficient understanding of how Public APIs can support responsible and human-centered strategic decisions. Integrating these perspectives therefore provides a stronger theoretical foundation for explaining how digital organizations can leverage Public APIs to create sustainable organizational value while generating positive humanistic outcomes.

2.4. Research Gap and Conceptual Framework

Although previous studies have advanced understanding of Public APIs, Human-Centered Strategic Decision Making, Responsible Digital Innovation, and Humanistic Impact, these research streams have largely developed independently. Public APIs are predominantly examined from technological and interoperability perspectives, while human-centered decision-making research focuses mainly on artificial intelligence and decision-support systems. Similarly, responsible digital innovation emphasizes governance, ethics, and accountability without explicitly explaining how externally sourced information through Public APIs contributes to strategic organizational decision making. Consequently, the literature provides a fragmented understanding of how these concepts interact to support evidence-based, responsible, and human-centered decisions. Table 1 compares previous studies and their remaining limitations, while Table 2 summarizes the principal research gaps addressed by this study. Together, these analyses indicate that Public APIs have rarely been examined as strategic information infrastructures that simultaneously support managerial judgment, responsible innovation, and stakeholder-oriented value creation.

To address these gaps, this study proposes an integrated conceptual framework that positions Public APIs as strategic information infrastructures supporting Human-Centered Strategic Decision Making through Responsible Digital Innovation. As illustrated in Figure 1, external digital information obtained through Public APIs is interpreted by organizational decision makers and integrated with human expertise and contextual knowledge. The resulting decisions are implemented according to responsible governance principles to generate positive Humanistic Impact and sustainable organizational value. This framework provides the theoretical foundation for the subsequent analysis and clarifies the study's contribution at the intersection of digital technology, strategic management, and human-centered innovation.

Table 1. Comparative Analysis of Previous Studies

References	Research Focus		Main Contribution	Remaining Limitation
[?]	Digital Transformation		Proposed a comprehensive framework explaining organizational digital transformation and its implications for organizational change.	Limited discussion on Public APIs and Human-Centered Strategic Decision Making.
[19]	API	Economy and Platform Ecosystems	Demonstrated the strategic role of Public APIs in enabling interoperability, platform ecosystems, and digital value creation.	Focused primarily on platform innovation rather than organizational strategic decision making.
OECD	Open	Govern-ment Data	Highlighted Public APIs as mechanisms for improving transparency, accessibility, and reuse of public digital information.	Organizational and human-centered implications remain underexplored.

Human-Centered AI Studies	Human-Centered Strategic Decision Making	Emphasized collaboration between artificial intelligence and human expertise to improve strategic decision quality.	Limited consideration of Public APIs as external strategic information resources.
Responsible Digital Innovation Studies	Responsible Innovation and Digital Governance	Established the importance of transparency, accountability, fairness, and ethical governance in digital transformation.	Limited integration with Public APIs and organizational strategic decision making.
This Study	Public APIs for Human-Centered Strategic Decision Making	Integrates Public APIs, Human-Centered Strategic Decision Making, Responsible Digital Innovation, and Humanistic Impact into a unified theoretical framework for digital organizations	Addresses the theoretical fragmentation identified in previous studies.

Interpretation of Table 1 demonstrates that previous studies have generated significant knowledge within their respective research domains; however, they largely examine Public APIs, human-centered decision making, responsible digital innovation, and humanistic impact independently. Consequently, the literature provides only a partial explanation of how these concepts interact to support strategic decision making in digital organizations. This theoretical fragmentation highlights the necessity of developing a more integrated perspective.

Table 2. Research Gap Analysis

Research Domain	Existing Knowledge	Research Gap	Contribution of This Study
Public APIs	Public APIs are primarily investigated from technical, interoperability, and platform ecosystem perspectives.	Limited understanding of Public APIs as strategic information infrastructures for organizational decision making.	Positions Public APIs as strategic information resources that support evidence-based organizational decisions.
Human-Centered Strategic Decision Making	Existing studies emphasize AI-assisted decision support and Human-in-the-Loop approaches.	Limited integration of externally sourced information obtained through Public APIs.	Explains how Public APIs enrich human-centered strategic decision-making processes.
Responsible Digital Innovation	Previous research focuses on governance, ethics, transparency, and accountability.	Limited discussion on how responsible innovation guides the utilization of Public APIs in strategic management.	Integrates responsible digital innovation principles into API-enabled strategic decision making.
Humanistic Impact	Research highlights organizational well-being, stakeholder value, and sustainable development.	Limited application within strategic decision making in digital organizations.	Demonstrates how API-enabled strategic decisions contribute to organizational well-being, stakeholder trust, and sustainable value creation.

Interpretation of Table 2, the current literature has not comprehensively explained the relationships among Public APIs, Human-Centered Strategic Decision Making, Responsible Digital Innovation, and Humanistic Impact. Addressing these conceptual gaps requires an integrated theoretical perspective that com-

binates technological infrastructure, human judgment, responsible governance, and stakeholder-oriented value creation. The present study responds to this need by proposing a unified framework that connects these complementary concepts.

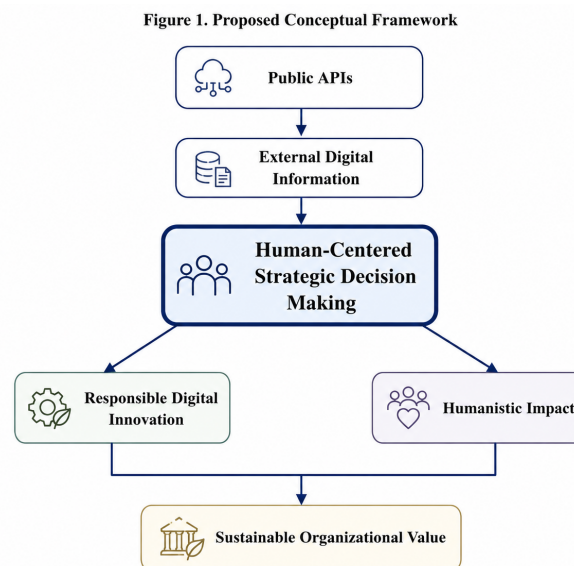


Figure 1. Proposed Conceptual Framework

Figure 1 illustrates the conceptual framework proposed in this study. Public APIs provide access to reliable external digital information that supports organizational decision makers. Through Human-Centered Strategic Decision Making, this information is interpreted using managerial expertise, contextual understanding, and ethical judgment. The resulting strategic decisions are implemented in accordance with Responsible Digital Innovation principles, ultimately generating Humanistic Impact by enhancing organizational transparency, stakeholder trust, organizational well-being, and sustainable value creation. This framework serves as the theoretical basis for the empirical analysis presented in the following sections.

3. RESEARCH METHODOLOGY

3.1. Research Design

This study employed a qualitative research design using a systematic literature-based approach to investigate how Public APIs support Human-Centered Strategic Decision Making in digital organizations. The study emphasizes conceptual synthesis rather than statistical testing by integrating evidence reported across previous empirical studies. This approach enables a comprehensive understanding of how Public APIs function as strategic digital resources that facilitate organizational decision making, responsible digital innovation, and sustainable value creation.

The research process consisted of four sequential stages: literature identification, study selection, thematic content analysis, and conceptual framework development. These stages were designed to ensure that the proposed framework was derived from systematically synthesized evidence rather than isolated theoretical arguments.

3.2. Literature Search and Study Selection

Secondary qualitative data were collected from peer-reviewed publications indexed in internationally recognized scientific databases, including Scopus, Web of Science, IEEE Xplore, ScienceDirect, SpringerLink, ACM Digital Library, and Google Scholar. The literature search employed combinations of keywords related to Public APIs, Digital Ecosystems, Human-Centered Strategic Decision Making, Responsible Digital Innovation, and Humanistic Technology.

Following the initial retrieval process, all publications were screened according to predefined inclusion and exclusion criteria. Studies discussing the organizational utilization of Public APIs for decision support,

innovation, governance, or value creation were retained, whereas publications focusing exclusively on software implementation, API programming, or system architecture without organizational implications were excluded.

Each selected publication was assigned a unique study code (S1–Sn) to facilitate systematic coding and thematic comparison throughout the analysis. The analytical dataset extracted from the selected studies is summarized in Table 3.

Table 3. Analytical Dataset of Public API Applications					
Study Code	Organizational Context	Public API Category		Strategic Function	Human-Centered Outcome
S1	Government	Open Data API		Evidence-based policy analysis	Improved transparency and public service planning
S2	Financial Services	Open API	Banking	Financial service integration	Personalized financial decision support
S3	Healthcare	Health Information API		Clinical information exchange	Improved clinical decision quality
S4	Transportation	Mapping API		Route optimization	Enhanced mobility planning
S5	Retail	Product Information API		Market intelligence	Customer-oriented strategic planning
S6	Smart City	Mobility API		Urban traffic management	Sustainable urban development
S7	Agriculture	Weather API		Agricultural Planning	Climate-informed farming decisions
S8	Digital Marketing	Social Media API		Consumer sentiment analysis	Customer-centered campaign strategy

Table 3 presents the analytical dataset extracted from the selected studies included in this research. Each publication was assigned a study code (S1–S8) to support consistent thematic coding and cross-study comparison. The extracted information includes the organizational context, category of Public API, strategic organizational function, and the reported human-centered outcomes. These analytical dimensions formed the primary evidence used during the thematic synthesis.

3.3. Thematic Content Analysis

The selected studies were analyzed using thematic content analysis to identify recurring concepts, theoretical relationships, and organizational patterns associated with the strategic utilization of Public APIs. The analysis began with the extraction of qualitative evidence from each publication according to the analytical dimensions defined in Table 3. This procedure ensured that information was collected consistently across all selected studies.

Following data extraction, the identified concepts were coded and iteratively compared to reveal similarities, differences, and recurring theoretical patterns. Conceptually related findings were grouped into broader analytical themes describing the strategic role of Public APIs, Human-Centered Strategic Decision Making, Responsible Digital Innovation, Humanistic Impact, and Sustainable Organizational Value.

The resulting thematic synthesis provided the empirical basis for the comparative analysis presented in Table 1, the research gap analysis summarized in Table 2, and the conceptual framework illustrated in Figure 1. Rather than measuring statistical relationships, the analysis focused on interpreting theoretical convergence and integrating evidence into a coherent conceptual explanation.

Table 4. Analytical Dataset of Selected Studies			
Theme	Study Codes	Frequency	Representative Findings
Public APIs	S1, S3, S5, S8	18	APIs provide access to interoperable external digital information.
Human-Centered Strategic Decision Making	S2, S4, S7	15	Human judgment remains essential for interpreting API-derived information.

Responsible Digital In- novation	S1, S6, S9	13	Ethical governance improves trans- parency and accountability.
Humanistic Impact	S3, S5, S10	11	Strategic API utilization contributes to stakeholder trust and organizational well-being.
Sustainable Organiza- tional Value	S2, S4, S8	17	Responsible API adoption strength- ens long-term competitiveness and re- silience.

Explanation of Table 4 presents the thematic coding matrix developed from the selected studies. Each analytical theme is linked to the corresponding study codes and supported by the qualitative evidence extracted during the analysis. The analytical interpretation synthesizes recurring findings across the literature and forms the foundation for the conceptual framework proposed in this study.

3.4. Research Trustworthiness

The credibility of this study was enhanced through the systematic application of transparent literature selection and thematic coding procedures. All selected studies were analyzed using identical analytical dimensions, allowing consistent comparison across publications and reducing interpretative bias. Furthermore, evidence was triangulated through publications retrieved from multiple internationally recognized scientific databases, ensuring that the conceptual synthesis reflected diverse scholarly perspectives. This systematic analytical procedure strengthens the transparency, dependability, and theoretical robustness of the proposed conceptual framework.

4. RESULT AND DISCUSSION

4.1. Public APIs as Strategic Information Resources

The thematic synthesis demonstrates that Public APIs have evolved beyond their traditional function as software interoperability mechanisms into strategic organizational resources that support evidence-based decision making. Across the eight organizational contexts summarized in Table 3, Public APIs consistently provide organizations with timely access to reliable external digital information originating from heterogeneous digital ecosystems. Government organizations utilize Open Data APIs to support evidence-based policy formulation, healthcare institutions employ Health Information APIs to improve clinical decision quality, financial organizations implement Open Banking APIs to deliver personalized financial services, while transportation, agriculture, retail, smart city, and digital marketing sectors similarly leverage Public APIs to strengthen organizational planning and responsiveness. Furthermore, the thematic coding matrix presented in Table 4 identifies Public APIs as the most dominant analytical theme, appearing eighteen times across the selected studies, indicating their central role in supporting strategic organizational activities.

These findings suggest that the strategic contribution of Public APIs extends considerably beyond technical interoperability. Previous studies have primarily emphasized API architecture, software integration, and platform ecosystems as mechanisms for improving digital connectivity. However, the present synthesis demonstrates that Public APIs also function as strategic information infrastructures that continuously enrich organizational intelligence through access to real-time external information. By integrating diverse digital resources into managerial decision processes, organizations become more capable of identifying environmental changes, anticipating emerging opportunities, and responding proactively to dynamic market conditions. This finding directly addresses the research gap identified in Table 2 by positioning Public APIs as organizational knowledge resources rather than purely technological interfaces.

The proposed conceptual framework presented in Figure 1 is further supported by these findings. Public APIs constitute the initial layer of organizational intelligence by supplying external digital information that serves as the foundation for subsequent strategic interpretation. Consequently, the value of Public APIs should be evaluated not solely according to technological efficiency but also according to their contribution to organizational learning, strategic awareness, and evidence-based managerial decision making.

4.2. Human-Centered Strategic Decision Making

The thematic analysis indicates that Human-Centered Strategic Decision Making represents one of the most prominent themes identified throughout the reviewed literature, appearing fifteen times within the analyti-

cal coding matrix summarized in Table 4. Although Public APIs substantially improve access to external digital information, the reviewed studies consistently reveal that final organizational decisions remain dependent upon human judgment, managerial expertise, contextual understanding, and ethical reasoning. Rather than automatically translating API-derived information into organizational actions, managers evaluate information reliability, organizational relevance, stakeholder interests, and strategic priorities before implementing decisions.

These findings reinforce the growing consensus within Human-Centered Artificial Intelligence and Decision Support System research that digital technologies should augment rather than replace human decision makers. While previous studies have extensively discussed Human-in-the-Loop approaches, comparatively limited attention has been devoted to understanding the role of externally sourced digital information obtained through Public APIs. The present study extends existing knowledge by demonstrating that Public APIs provide complementary organizational intelligence capable of strengthening managerial reasoning while preserving human responsibility throughout strategic decision-making processes.

Furthermore, the findings indicate that Public APIs encourage collaborative decision making by providing shared access to external information among managers, analysts, and multidisciplinary organizational teams. Such collaborative interpretation enhances organizational communication, reduces information asymmetry, and improves collective understanding during strategic planning. These observations support the conceptual framework illustrated in Figure 1, where Public APIs function as information providers while human expertise remains the primary mechanism transforming external information into meaningful organizational knowledge. Consequently, effective strategic decision making emerges from the integration of technological capability with managerial intelligence rather than from technological automation alone.

4.3. Responsible Digital Innovation

The thematic synthesis identifies Responsible Digital Innovation as a critical mechanism for governing the effective utilization of Public APIs. As summarized in Table 4, this theme appeared thirteen times across the selected studies, highlighting the need to balance technological innovation with transparency, accountability, ethical governance, and stakeholder responsibility. Although Public APIs provide extensive access to external information, their use also involves challenges related to information reliability, data quality, privacy protection, cybersecurity, and dependency on external digital platforms.

These findings indicate that technological capability alone is insufficient to ensure successful and sustainable digital transformation. Organizations require comprehensive governance frameworks to ensure that externally sourced information is interpreted responsibly and aligned with organizational objectives and ethical principles. By integrating Public APIs with responsible governance practices, this study demonstrates that technological infrastructure and organizational governance represent complementary dimensions of sustainable digital transformation.

Within the proposed conceptual framework, Responsible Digital Innovation functions as the governance mechanism connecting Human-Centered Strategic Decision Making with broader organizational outcomes. Responsible governance enables managers to transform external digital information into trustworthy strategic knowledge while reducing risks related to misinformation, bias, security vulnerabilities, and stakeholder distrust. Accordingly, organizations utilizing Public APIs should establish governance practices addressing data validation, ethical information use, cybersecurity, transparency, and accountability to maximize the long-term benefits of API-enabled decision making.

4.4. Humanistic Impact and Sustainable Organizational Value

The findings show that Public APIs generate value beyond operational efficiency by contributing to broader human-centered outcomes. Humanistic Impact appeared eleven times, while Sustainable Organizational Value appeared seventeen times in the thematic analysis, highlighting the links between digital transformation, organizational well-being, stakeholder trust, transparency, and long-term sustainability. Organizations combining Public APIs with human-centered interpretation and responsible governance demonstrate stronger collaboration, stakeholder engagement, adaptability, and resilience.

These findings extend conventional evaluations of Public APIs based mainly on technological performance, interoperability, and platform efficiency. Their strategic value should also be assessed through their contribution to positive organizational and societal outcomes. By interpreting external information through Human-Centered Strategic Decision Making and applying Responsible Digital Innovation principles, organizations can strengthen stakeholder trust, transparency, collaborative governance, and sustainable development.

The findings support the relationships in Figure 1: Public APIs provide external information, Human-Centered Strategic Decision Making transforms it into organizational knowledge, Responsible Digital Innovation governs its ethical use, and Humanistic Impact contributes to Sustainable Organizational Value. This integrated perspective emphasizes that digital innovation should be evaluated not only by economic performance but also by its contribution to organizational resilience, stakeholder well-being, responsible governance, and sustainable value.

5. MANAGERIAL IMPLICATIONS

The findings of this study suggest that organizations should reposition Public APIs from being merely technical integration tools to strategic information infrastructures that support evidence-based decision making. By systematically integrating reliable external digital data into organizational processes, managers can improve environmental scanning, strengthen organizational responsiveness, and make more informed strategic decisions in increasingly dynamic digital environments. This perspective enables organizations to utilize Public APIs not only for operational efficiency but also for enhancing strategic organizational intelligence.

Furthermore, organizations should adopt a human-centered approach when utilizing Public APIs by combining externally sourced digital information with managerial expertise, contextual understanding, and ethical judgment. Rather than relying solely on automated information processing, managers should critically evaluate the relevance, credibility, and strategic implications of API-derived information before implementing organizational actions. Encouraging collaboration among managers, analysts, and domain experts can improve decision quality while ensuring that strategic decisions remain aligned with organizational objectives and stakeholder expectations.

Finally, successful implementation of Public APIs requires governance practices grounded in the principles of Responsible Digital Innovation. Organizations should establish policies for data quality management, privacy protection, cybersecurity, transparency, and accountability to ensure the trustworthy use of external digital information. In addition to measuring operational and financial performance, managers should evaluate API adoption through broader indicators such as organizational transparency, stakeholder trust, collaborative decision making, and long-term organizational resilience. Such an integrated approach enables organizations to maximize the strategic value of Public APIs while fostering sustainable and human-centered digital transformation.

6. CONCLUSION

This study addressed the existing research gap concerning the limited understanding of Public APIs as strategic information resources within human-centered organizational decision making. Through a systematic literature-based thematic synthesis, the findings demonstrate that Public APIs extend beyond their traditional role as technical integration mechanisms by enabling organizations to acquire reliable external digital information that supports evidence-based strategic decisions. The study further shows that the strategic value of Public APIs is maximized when external information is interpreted through Human-Centered Strategic Decision Making and implemented under the principles of Responsible Digital Innovation, ultimately contributing to Humanistic Impact and Sustainable Organizational Value.

The primary novelty of this study lies in the development of an integrated conceptual framework that connects four research domains that have previously been investigated independently, namely Public APIs, Human-Centered Strategic Decision Making, Responsible Digital Innovation, and Humanistic Impact. Unlike previous studies that primarily emphasized technical interoperability or platform ecosystems, this research reconceptualizes Public APIs as strategic information infrastructures that support managerial judgment, responsible governance, and stakeholder-oriented value creation. This integrated perspective contributes to the growing body of knowledge on human-centered digital transformation by providing a broader theoretical explanation of how external digital information can be transformed into sustainable organizational value.

Despite these contributions, this study is limited by its conceptual and qualitative literature-based approach, which does not empirically validate the proposed framework in real organizational settings. Future research is therefore encouraged to conduct quantitative, mixed-method, or multiple case study investigations across different industries to examine the relationships among Public API utilization, human-centered strategic decision making, responsible digital innovation, and organizational performance. Further studies may also incorporate emerging technologies, such as artificial intelligence, generative AI, and real-time analytics, to

evaluate how these technologies complement Public APIs in supporting responsible, human-centered, and sustainable digital transformation.

7. DECLARATIONS

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7.2. Author Contributions

Conceptualization: FR; Methodology: FR; Software: FR; Validation: FR ; Formal Analysis: FR ; Investigation: FR; Resources: FR; Data Curation: FR; Writing Original Draft Preparation: FR ; Writing Review and Editing: FR ; Visualization: FR; All authors, FR, have read and agreed to the published version of the manuscript.

7.3. Data Availability Statement

The data presented in this study are available on request from the corresponding author.

7.4. Funding

The authors received no financial support for the research, authorship, and/or publication of this article.

7.5. Declaration of Conflicting Interest

The authors declare that they have no conflicts of interest, known competing financial interests, or personal relationships that could have influenced the work reported in this paper.

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