

Health Data Governance: A Strategic Pillar for Enhancing Operational Transparency and Financial Sustainability in the Saudi Health Sector through Digital Transformation

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Abstract

The Saudi Kingdom has strict rules and regulations regarding privacy and the protection of data. In the healthcare sector, it is essential to ensure data quality to align with the proposed vision 2030 of innovation with digital transformation. However, there is still gap in implementing robust governance mechanisms and procedures to enhance operational efficiency and financial stability in Saudi Health sector in Future. This study aimed to explore the role of health data governance at operational level to enhance operational efficiency and financial stability from perspectives of Health Information System (HIS) and data governance managers. A primary qualitative research design was employed to investigate health data governance as a strategic pillar of improving operational transparency and attain financial sustainability in the Saudi health sector. The total of 10 Semi-structured interviews were conducted to collect data to analyze the experiences of the participants. This study suggests that a strategic pillar of enhancing operational transparency and financial sustainability in the Saudi health sector entails effective health data governance. The results reported that policy fragmentation, lack of interoperability between systems, poor quality of data, lack of staff training, and data security have been impeding the implementation of governance. It is also found that effective data governance leads to better financial reporting accuracy, billing and claims errors, cost control and evidence-based financial planning contributing to sustainable healthcare transformation under Saudi Vision 2030.

Keywords: Vision 20230, Heath Data Governance, Digital Transformation, Operational Efficiency, Financial Stability

1. Introduction

The strategic pillar in enhancing innovation in the Saudi Arabian healthcare sector is health data governance (Al Harbi et al., 2024). It has been made possible by the digital transformation that has increased the pace of operational transparency and financial sustainability. Saudi Arabia's healthcare is rapidly adopting digital technologies, and it is changing the governance, sharing, and use of health data (Al Qwaid, 2025). The digital health market, as per the Saudi Digital Health Expansion initiative, constituted USD 1.31 billion in 2024 and will increase to USD 5.03 billion in 2033 at the rate of 16.13 percent per year (Research, 2025). This accelerated digitalization is a result of Vision 2030 and has further solidified health data governance systems by standardizing data collection, enhancing interoperability and boosting accountability across healthcare institutions (Al-Hanawi et al., 2020). Enhanced data governance helps in transparency

of operations through accurate communication of patient-centred clinical processes, delivering service, and making decisions to the patients and other stakeholders. Simultaneously, clear and managed digital health systems result in financial sustainability through the minimization of inefficiencies, minimization of service duplication, resource allocation, and facilitating evidence-based financial planning in the Saudi health sector (Al-Hanawi et al., 2019).

There has been significant development in digital transformation of health and healthcare financing reforms in Saudi Arabia, and there are little empirical research studies on how health data governance is enacted at the operational level, especially the view of Health Information System (HIS) and data governance managers (Alharbi & Alrefaei, 2025). Earlier literature published was mostly concerned with policy models, effectiveness of the systems, and financial sustainability consequences with

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little knowledge about governance processes, problems and practices that influence information utilization in day to day activities (Alhur, 2024; Housawi & Lytras, 2025). Consequently, a lack of knowledge concerning the effects of governance structure on the transparency of operations, accuracy of financial reporting, billing claims, and cost regulation in healthcare organizations exists (Alhodaib & Alanzi, 2021). This disparity limits the capacity of the policy formulators and healthcare administrators to develop realistic context-based governance policy that resonates with the organizational reality.

The objective of this study is to explore the role of health data governance at operational level to enhance operational efficiency and financial stability from perspectives of Health Information System (HIS) and data governance managers.

This study is significant because it contributes both theoretically and practically as well as at the policy level, to the existing literature on health data governance in Saudi Arabia (Alruwaydhan et al., 2025). Theoretically, the study provides existing knowledge by formally establishing health data governance as a tactical pillar between operational transparency and financial sustainability to expand the literature of governance and health information systems in a Middle Eastern setting (Alsadrah, 2020).

In practical terms, the previous studies provided minimal guidance to data governance managers in Saudi healthcare who have to apply governance frameworks on the ground (Alshehri et al., 2023; Housawi & Lytras, 2025). This study covered HIS and data governance managers in capturing their experiences and offers actionable suggestions on the needs of capacity-building, the obstacles in implementation, and successful governance practices that are likely to improve data accessibility, traceability, and financial accuracy (Alshehri & Abduljawad, 2025). The results helped optimize the process of billing and claims handling by healthcare organizations and cost control by enhancing data governance (Chowdhury et al., 2021).

At the policy level, there was a lack of evidence at the stakeholder level in the current Saudi healthcare studies, but focused on the goals of the reforms to put them into practice (Housawi & Lytras, 2025). The gap that was created in this study was completed through coming up with context-specific empirical data that allowed policy makers to develop governance strategies that are based on the realities of operations and not cross-cultural or externally derived models. This study therefore promotes successful and sustainable health system transformations

driven by digital transformation in line with the Saudi Vision 2030.

The research questions for this study are as follows:

1. What challenges hinder the effective implementation of health data governance in the Saudi health sector?
2. Which governance mechanisms are perceived by stakeholders as strategic pillars to enhance operational transparency in the Saudi health sector in this digital era?
3. In what ways do data governance mechanisms influence financial processes such as financial reporting, billing claims and cost control in the Saudi health sector in this digital era?

2. Literature Review

2.1 Theoretical Framework

This study is grounded to the Socio-Technical Theory of Governance Implementation, the assumption that in order to have effective governance at any given time, there should be people, policies, training and the technical factors to maintain better operations, structure, and the overall system (Tsarouhas & Grigoriadis, 2025). This theory can be used in the context of Saudi health sector to gain an insight into the role of health data governance as a strategic facilitator of operational transparency and financial sustainability in the digital age. The work of HIS managers and data governance managers exists in the complex socio-technical space wherein the issues of resistance to change, staff shortages, and insufficient training might weaken the process of governance, despite the presence of sophisticated digital data management resources, including EHRs and real-time reporting systems (Omar, 2020). On the other hand, well established technical infrastructures, qualified staff, clear policies and accountability instruments can improve the quality of data and ease the billing and claims systems and bring out transparency in the transmission of patient information (Rahman, 2020). In such a way, to introduce effective methods of data governance, responding to Saudi Vision 2030 goals, socio-technical alignment will be necessary.

2.2 Operational Transparency

Operational transparency for the health sector is defined as open communication with stakeholders, particularly with patients, to inform them about diagnosis, treatment, organizational processes and to maintain trust (Al-Kahtani et al., 2022). Maintaining operational transparency is essential because it enhances the quality of

care of patients and improves patient safety. Furthermore, access to clear information in front of customers also increases the chance of open decision-making practice (Al-Qahtani & Rahman, 2023).

2.3 Financial Sustainability

Financial sustainability of a healthcare organization is the ability of an organization to sustain a quality healthcare system over the long term without compromising its financial stability. For example, reducing cost, external funding and depletion of resources (Al-Ruithe & Benkhelifa, 2020).

2.4 Health Data Governance in the Saudi Health System

The health data governance in the Saudi Health system aligns with the Vision 2030, and it is focused on a digital governance system. Increasing operational transparency depends upon staff and the management in any sector (Al-Saggaf et al., 2024). For example, in a healthcare sector, health information systems (HIS) and managers are responsible for managing health records, policies, accuracy, digital health records to ensure that every information conveyed to the patient is accurate and secure (Alanzi, 2023; Alasiri & Mohammed, 2022). Therefore, patients can have access to clear and accurate information. Thus, financial sustainability could achieve because accurate healthcare records can prevent to do repeated checking of healthcare information. There will be a chance of waste reduction in terms of staff time and medical resources (Aldayel et al., 2025). The implementation of accurate policy and standard processes is the responsibility of data governance managers who ensure compliance, review and validate data governance methodologies (Alghamdi, 2022).

2.5 The importance of an Effective implementation of Health Data Governance

Health data governance has become a key pillar of current healthcare systems, especially now that digital transformation redefines the way health data is gathered, processed, and used to make decisions (Rahman & Alsharqi, 2019). Health data governance is the arrangement, policies, and procedures of high-quality, secure, and ethical utilization of health data in the clinical and administrative realms. The systematic scoping review reveals that an adequate governance of health information contributes to the improvement of organizational performance, promotes quality improvement, and structure evidence based

decision-making processes, particularly in an environment where the use of digital health is increasing (Research, 2025; Saeed et al., 2023). Research has indicated globally that it is through well-managed health data systems that improve the interoperability, decrease the data fragmentation, and increase the accountability of the data use decision-making, which can lead to better healthcare delivery and improved policy planning (Suleiman & Ming, 2025). Other LMIC settings of poor governance also indicate that inequities in data access, mistrust in patients, and inequities in health outcomes occur because of poor governance, which highlights the strategic importance of governance structures that have defined roles, provide data stewardship, and metrics of performance (Tsarouhas & Grigoriadis, 2025).

In Saudi Arabia, the exponentially growing trend of digital programs, including electronic medical records (EMRs), national health exchanges, and the use of AI-based telehealth interventions, has augmented the amount and complexity of health information (Ur Rashid et al., 2025). In spite of the large scale digitalization, lack of data standards and interoperability remain common that impede the achievement of a complete data governance ecosystem.

As Vision 2030 leads to digital health adoption, proper governance structures are needed to keep data integrity intact and privacy intact and allow data innovation with analytics and AI application (Ur Rashid et al., 2025). In terms of socio-technical factors, these governance structures cannot emerge successfully without social factors, like effective personnel, policies, and training, as well as cultural factors, like effective organizational culture (Zarour et al., 2021). Absence of correlation between these social and technical aspects may mean that the perceived advantages of digital transformation are not realized, including the better clinical decision support, predictive analytics, and population health management, and the risks of misusing data and ethical issues become even higher (Al Harbi et al., 2024). The socio-technical theory emphasizes the reality that both organizing and wholesome governance of health data is not merely a technological imperative, but the assemblage of human, organizational and technical factors is a precondition. The significance of this coordination is to enhance quality, safety and sustainability in Saudi healthcare systems and establish resilient data ecosystems which would facilitate routine and high-tech health services on digital platforms (Al Qwaid, 2025).

2.6 Transparency and Accountability in Saudi Healthcare Organizations in this Digital Era

The idea of transparency and accountability has become essential in the healthcare systems in the digital age, particularly under the Saudi Vision 2030, which is aimed at digital adoption of health and patient-centred care (Al-Hanawi et al., 2020). The former is known as transparency that refers to openness of clinical and operational process and latter is accountability wherein healthcare organizations ought to be answerable regarding their performance, compliance and use of resources (Al-Hanawi et al., 2019). The Governance Framework Health Information Governance (HIG) Framework recommends a conceptual frame, and clear-cut roles, coherent policies, and systems of data stewardship are essential to the transparency and building trust in the system (Al-Kahtani et al., 2022).

Electronic health records (EHRs) (unified) and other digital platforms offer a higher level of visibility, reporting ease, and administrative fragmentation, which facilitates transparency in operations (Al-Qahtani & Rahman, 2023). The Socio-Technical Theory also elaborates that transparency is made by means of technical infrastructure as well as coordinating organizational culture, employees' capacities, and administration procedures (Al-Ruithe & Benkhelifa, 2020). The coordinated effort between social aspects (training, leadership support, and accountability mechanisms) and the digital tools can make healthcare organizations guarantee the correct, timely, and even secure transfer of patient information to improve the efficiency of operations as well as the trust of patients (Al-Saggaf et al., 2024). Nonetheless, a decrease in the institutional digital maturity demonstrates the persistence of the necessity of aligned governance systems that would allow a balance between technical capabilities and the organizational readiness.

2.7 Financial Performance and Sustainability in the Data-Driven Health System in Saudi Arabia in this Digital Era

Saudi Arabia is a country where a data-driven healthcare system is being transitioned with vision 2030, and pay attention to efficient distribution of resources and monitoring of performance, as well as financial planning basing on evidence (Alasiri & Mohammed, 2022). Specifically, Health Information Governance (HIG) Framework comes in handy since the organized governance guarantees the presence of accurate, reliable, and timely

financial data to allow organizations to maximize on the accuracy of billing, claims, and cost control (Aldayel et al., 2025). Digital infrastructures that enable these processes have been achieved through integrated health information systems, real-time reporting platforms that reduce errors, duplication of services and enhance financial operations accountability in the operations (Alghamdi, 2022).

According to the Socio-Technical Theory, the financial sustainability is not merely a technological phenomenon, but also depends upon how well the human and organizational components of the staff expertise, adherence to the policies, cooperation of their leaders, etc., correlate with the technical systems of both health and financial data management (Alharbi & Alrefaei, 2025). Through the attainment of socio-technical alignment, Saudi healthcare organizations will be able to enhance decision-making, enhance operational effectiveness, and sustain positive financial performance. Effective health data governance, therefore, acts as a key strategic pillar, where the digital transformation, operational transparency, and economic sustainability are connected in the changing Saudi healthcare environment (Alhodaib & Alanzi, 2021).

3. Methodology

3.1 Study Design

A primary qualitative research design was employed to investigate health data governance as a strategic pillar of improving operational transparency and attain financial sustainability in the Saudi health sector. Data were collected over six months, from March 2025 to September 2025. This research design was considered suitable since the study was exploratory in nature and few empirical studies existed to describe the experiences of stakeholders with regard to health data governance in Saudi Arabia (Alhur, 2024; Alqahtani & Albabtain, 2025).

3.2 Sampling and Participants

This study used purposive sampling to determine participants who had direct engagement and experience in health data governance and health information systems. The sample population included a total of 10 Health Information Systems (HIS) Managers and Data Governance Managers from Saudi healthcare institutions. These participants were chosen on account of their strategic and operational position in the administration of health information, governance structures, and decision-making processes with respect to transparency and financial performance.

3.3 Data Collection

The total of 10 Semi-structured interviews were conducted to collect data to analyze the experiences of the participants. The interview questions were prepared with reference to the research questions and a literature review of pertinent literature on health data governance, transparency, and financial sustainability. The interview questions were dedicated to the issues of governance, capacity building requirements, data transparency mechanisms, and the impact of data governance on the financial processes, i.e., the accuracy of billing, claims management, cost control, and financial reporting. All the interviews were done with informed consent and took a duration of between 45 and 60 minutes. The interviews were carried out online, which is a secure option, depending on the availability of the participants.

3.4 Data Analysis

This study used thematic analysis approach to analyze the interview data iteratively. The transcript was read thoroughly to familiarize data. Therefore, preliminary codes were created to reflect the data patterns depending on the governance barriers, operational transparency, and financial sustainability. Then those codes were subsequently categorized into major themes: (1) Barriers to Effective Health Data Governance, (2) Health Data Governance Mechanisms as Strategic Pillars to Operational Transparency, and (3) Influence of Health Data Governance on Financial Processes and Sustainability. Coding was used to achieve consistency and accuracy, on which the framework of interpreting health data governance as a strategic force of transparency and financial sustainability in Saudi healthcare was established.

4. Results and Discussion

Thematic Analysis Table: Strategic Data Governance in Saudi Healthcare; Source (Author)

Theme	Sub-Theme	Codes
Barriers to Effective Health Data Governance Implementation in the Digital Saudi Health Sector	Policy and Governance-related Barriers	Lack of clear policies, inconsistent procedures, poor alignment with Vision 2030
	Gaps in Technical Systems	Fragmented HIS, poor interoperability, outdated software
	Challenges of Data Quality and Management	Inaccurate data, missing records, lack of standardized coding
	Security and Privacy Issues	Data breaches, limited cybersecurity, compliance challenges
Health Data Governance Mechanisms as Strategic Pillars for Operational Transparency	Effective Policy Structures and Standardized Governance Procedures	Standardized protocols, governance frameworks, clear roles
	Real-Time Reporting and Performance Monitoring Systems	Dashboards, automated reports, KPI tracking
	Maintaining Patient Information through EHRs	EHR adoption, accurate record-keeping, accessibility
Influence of Health Data Governance on Financial Processes and Sustainability	Financial Reporting	Accurate reporting, compliance, audit readiness
	Billing Claims	Correct billing, error reduction, faster claim processing
	Cost Control	Resource optimization, service duplication reduction, budget efficiency

4.1 Barriers to Effective Health Data Governance Implementation in the Digital Saudi Health Sector

4.1.1 Policy and Governance related Barriers

According to research, policy fragmentation and lack of enforcement are major problems with effective health data governance (Alruwaydhan et al., 2025). Despite the fact that Saudi Arabia has already developed national digital health strategies within the framework of Vision 2030, participants mentioned a lack of alignment between national policies and implementation at the operational level in health institutions of the kingdom. Past research studies also highlighted that the governance performance is not just limited to the availability of policies but also clarity in the roles, enforcement mechanisms, and institutional responsibility (Al-Kahtani et al., 2022; Alshehri et al., 2023). In a social-technical system, weak institutions of governance are a social-organizational imbalance that compromises the goodness of superior technical systems, which eventually constrains operational transparency. According to the responses of HIS and Data Governance Manager;

“We have never had a shortage of digital systems, but a lacking in governance policy.”

“The alignment is nationally consistent with Vision 2030, but in hospitals, the policies are not enforced consistently or are not clear at all.”

4.1.2 Gaps in Technical System

Poor interoperability and fragmented HIS architectures were noted to be key technical barriers among participants. EHR integration remains an issue even when there is widespread adoption of EHRs due to the absence of clinical, administrative, and financial systems. Previous studies established that technical fragmentation enhances the operational inefficiency, data redundancy, and lag in reporting and especially in digitally transforming health systems (Al-Kahtani et al., 2022; Al-Qahtani & Rahman, 2023). Socio-technically, lack of interoperability of systems causes dissatisfaction of technological capacity and governmental goals, destabilizing the transparency and financial sustainability. HIS manager said;

“Various systems fail to communicate with one another. There is a fragmentation of billing, clinical records, and reporting platforms.”

Data governance manager said;

“Interoperability is a significant problem; most cases of data extraction to audit or even financial reporting are manual.”

4.1.3 Challenges of Data Quality and Management Due to Insufficient Knowledge

The problem of data quality was noted as one of the most crucial governance problems, which can mostly be explained by the inadequate staff training and the absence of standardized data practices (Al-Saggaf et al., 2024). The results are in line with available literature on the importance of human capacity and data literacy as the pillars to effective data governance. Bespoke digital systems cannot be assured of data reliability without training users. High-speed digitalization has escaped the readiness of the workforce in the Saudi context contributing to the validity of the socio technological theory which holds that technology without proper human congruency cannot be able to show desired results and in the case of transparency and financial accuracy (Alasiri & Mohammed, 2022). The responses of HIS and data governance manager for challenges are;

“Accuracy of the data is dependent on the input of the staff, however, most employees lack training in the coding practices and standards of data.”

“We also have missing or inconsistent information, which has an impact on reporting and financial reconciliation.”

4.1.4 Security and Privacy Issues

Security and privacy were presented as one of the major governance challenges considering the fact that greater amounts of digitized health data are generated (Ahmed et al., 2025). Respondents also highlighted the fact that data breaches pose risks to patient trust and the image of the organization, which has a direct impact on transparency. Previous literature has universally emphasized that effective data governance systems are necessary in order to ensure that there is a balance between access to data and protection of privacy, especially in health systems that are digitally well developed (Mmari, 2025). These results support the necessity of the well-established models of governance including technical protection and regulatory requirements as well as staff education, which is aligned with the principles of socio-technical governance (Omar, 2020).

“The issue of cybersecurity is increasing. Any violation may harm the trust of patients and the credibility of the institution.”

“Difficulty in compliance with the regulations of data safety is presented by the complexity of the systems used and ignorance.”

4.2 Health Data Governance Mechanisms as Strategic Pillars for Operational Transparency

4.2.1 Effective Policy Structures and Standardized Governance Procedures

Participants pointed out that well established governance systems and standard operating procedures contributed greatly to transparency in operations. These results are in line with more recent studies which find preconditions to transparency, trust, and accountability in healthcare organizations in the formal governance structure (Rahman, 2020; Rahman & Alsharqi, 2019). Standardized governance practices within the Saudi health system contribute to turning the objectives of the Vision 2030 to actual operational processes, which illustrates how governance can be used like a strategic pillar and not an administrative role.

“Accountability was enhanced once the governance roles were defined, and there were the data treatment, which became transparent.”

“The use of standardized processes assisted in minimizing the uncertainty in decision-making and reporting.”

4.2.2 Real-Time Reporting, Employee Training and Performance Monitoring Systems

Employee training as well as real time reporting systems were seen to be fundamental facilitators of transparency (Devina & Nasution, 2025). The participants noted that the visibility of their relevant data on dashboards enhances the process of decision-making and accountability, whereas training contributes to using the data correctly. The findings are supported by prior researches, which state that the performance monitoring systems enhance the operational control and patient trust (Chen et al., 2025; Hemnath). In socio-technical aspect, these mechanisms show that there is effective implementation of technical instruments in conjunction with human capacity-building to result in transparency.

“It can be seen that Dashboards and real time reports enable the management to keep a check of performance in real time.”

“The impact of training the staff on how to use the data is better to encounter with fewer mistakes.”

4.2.3 Maintaining Patient Information through Electronic Health Records (EHRs)

Participants admitted that EHRs are the key aspects in ensuring patient information transparency. Patients interact with the company and are more inclined to trust

it because of accurate, readily available, and traceable records. The available sources confirm that transparency through EHR can enhance care coordination and decrease medical errors particularly in health systems that are digitally fortified. These results indicate that properly managed EHRs can serve as a central platform of operation transparency at Saudi healthcare facilities (Adeniyi et al., 2024). HIS and data governance manager said;

“Unified EHRs will guarantee congruent and correct information on patients.”

“Simple Enhanced Clinical Decision Traceability and Service Delivery.”

4.3 Influence of Health Data Governance on Financial Processes and Sustainability

4.3.1 Financial reporting

The participants identified robust data governance as a relationship to better financial reporting accuracy and compliance. Past researches also show the same, that transparent financial reporting is supported by quality data, which in turn promotes institutional credibility and continuity (Al-Atrsh, 2023; Lebaea et al., 2024). This brings out governance as a liaison between operational transparency and financial accountability.

“Financial reports became more accurate and audits were less problematic by good data governance.”

4.3.2 Billing Claims

Efficient billing and claims management is the obvious consequence of better data governance (Adepoju et al., 2023). It is established in literature that the standardization of data reduces rejection of claims and financial leakage which help to enforce sustainability. These results affirm that governance procedures have a strategic role to play in the alignment of clinical data with financial workflow processes.

“Billing errors decreased, and the processing of claims increased due to standardized data.”

4.3.3 Cost control

The participants stressed that cost control and resource optimization, which are of significance in financial sustainability are supported by data accuracy enabled by governance. The premises of a previous study confirm the belief that a data-driven governance lowers the level of waste and optimizes the budget, particularly in healthcare systems that are digitally transforming (Ahmed et al., 2025). This validates health data governance as an

enabler of financial sustainability of Saudi Vision 2030. “The correct data aided in detecting service duplication and efficient allocation of the resources”

4.4 Discussion

The results support the existing evidence that health data governance is a strategic social-technical pillar, which relates to digital transformation to operational transparency and financial sustainability in healthcare systems (Ahmed et al., 2025). In line with previous studies, the results show that although Saudi Arabia has most certainly achieved significant advances in digital health implementation during Vision 2030, the success of such technologies mainly relies on the governance frameworks that harmonize policies, individuals, and technical frameworks (Al Harbi et al., 2024; Al Qwaid, 2025). Participants noted that fragmentation of policies and lack of uniformity in implementation of governance as being a main obstacle on the operational level. The findings of the preceding literature have also highlighted that the lack of standardized governance systems results in poor accountability, low transparency and inconsistency of data management (Al-Atrsh, 2023).

The absence of localized governance structures in the Saudi environment despite demonstrating the existence of national-level strategies governing digital health is reflective of the results of previous healthcare governance studies, which hold the view that governance effectiveness can be characterized through the effectiveness with which high-level policies are converted into organizational life routines (Al-Hanawi et al., 2020). Existing literature has solid backing towards some of the technical interoperability challenges that were identified in this study (Al-Kahtani et al., 2022). The literature on health information systems has repeatedly noted that, broken digital infrastructures have restricted data exchange, enhanced duplication, and affected real time reporting abilities. The experiences of the participants prove the fact that interoperability between the systems prevents the maximum transparency in clinical and financial activities. Socio-technically, it portrays the lack of harmonization of technological investment and the design of governance, which is highly reported in digitally transforming health systems (Al-Qahtani & Rahman, 2023).

Human capacity and data quality promoted as the central governance concerns reflected the previous findings that highlight the importance of data governance as a process in which humans play the central role (Al-Ruithe &

Benkhelifa, 2020). Investigations suggest that a lack of training, data illiteracy and the low level of understanding coding standards have direct impact on the accuracy of data, billing reliability and reporting integrity (Al-Saggaf et al., 2024). The present research builds upon this evidencing by demonstrating the direct effect of these aspects of a human factor on the operational transparency and financial sustainability within the Saudi healthcare scenario.

The security and privacy issues, which are reported by respondents, are in line with recent research worldwide that identifies data protection as the fundamental governance role in digital health ecosystems (Alasiri & Mohammed, 2022). Past researches demonstrate that the vulnerability to breaches of data is amplified by a poor governance structure, thereby undermining patient trust and credibility of institutions (Alghamdi, 2022; Alhur, 2024). The results re-establishment to the idea that transparency is impossible without well-developed privacy protections, which contributes to the arguments that the ethical attention is the cornerstone of the sustainable digital healthcare ecosystem (Alqahtani & Albabtain, 2025; Alshehri & Abduljawad, 2025).

The article also validates the previous findings that good health data governance system enhances financial performance and sustainability (Alshehri & Abduljawad, 2025; Chen et al., 2025). Previous studies indicate that standardized data administration improves the quality of financial reporting, the rejection of claims, and cost management by the fair allocation of resources (Chowdhury et al., 2021; Housawi & Lytras, 2025). The experiences of the participants confirm such results by showing how controlled data of high quality can help minimize repetitiveness in services and enhance the management of bills and audits in Saudi healthcare facilities.

5. Conclusion

This study supports the socio tech theory and the findings indicate that sustainable digital transformation necessitates the alignment between the policy governing governance, technical systems, and human ability. Offering stakeholder-based insights within the Saudi Arabian context, the present study adds to the previous ones and presents context-dependent evidence in order to aid the formulation of the policy and operational change that aligns with Vision 2030.

5.1 Strengths and Limitations

The strength of this study is, its focus on the

Saudi health sector to provide actionable insights for implementing changes to increase operational transparency and financial stability. This will allow policymakers to implement it in the Saudi health sector instead of finding data governance mechanisms to overcome challenges from cross-cultural studies of data governance. However, the study is limited to only the Saudi health sector and not in the cross-cultural context.

3.2 Future Recommendations

A mixed-method study should be conducted in future for more practical and actionable implementation in the Saudi health sector as strategic pillars for enhancing operational transparency and achieving financial sustainability.

Data Availability:

Data used to support the findings of this study are available from the corresponding author.

Conflicts of Interest:

Authors declare that there are no conflicts of interest regarding the publication of this paper.

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