

Research Article

Digital Governance and Transparency in Asset Disposal: Evidence from The Gcc Region

Tabrej Naglekar^{1*}

¹ Fixed Asset Disposal and Operation Manager, Gulf Cooperation Council Region

Abstract

Purpose: This study investigates the role of digital governance and transparency mechanisms in transforming the used vehicle and equipment asset disposal market across the Gulf Cooperation Council (GCC) region. The research seeks to identify prevailing governance deficiencies in the sector and evaluate how digital tools, including secure digital verification systems, integrated regulatory compliance platforms, and digital auction marketplaces, address these shortcomings within the context of the region's ongoing national reform and digital transformation agendas. **Design/Methodology/Approach:** The study adopts a qualitative, systematic secondary research methodology, synthesising evidence from peer-reviewed academic literature, multilateral policy reports, government publications, and international industry assessments. A conceptual framework integrating institutional theory and digital transformation theory is developed to structure the analysis across input, process, and output dimensions of digital governance adoption. **Findings:** The findings demonstrate that the GCC used vehicle and equipment disposal sector is characterised by significant informality, valuation inconsistencies, documentation deficiencies, and cash transaction governance risks. Digital governance mechanisms demonstrably reduce information asymmetry, improve price discovery, and enhance regulatory compliance, generating material improvements in resale optimisation outcomes. A five-stage Digital Governance Maturity Model is proposed to guide the sector's progressive digitalisation. **Practical Implications:** The paper provides actionable recommendations for GCC government agencies, private sector asset managers, and policymakers seeking to leverage existing digital infrastructure to strengthen governance and market efficiency in the asset disposal sector. **Originality/Value:** This study is among the first to systematically examine digital governance in the GCC asset disposal market, bridging institutional theory, digital transformation research, and asset management practice in an underexplored regional context.

Keywords

digital governance; asset disposal; used vehicle market; transparency; GCC; Middle East; regulatory compliance; digital transformation

1. Introduction

The global used vehicle and equipment asset disposal market plays a significant role in facilitating the efficient reallocation of capital assets across sectors such as construction, logistics, oil and gas, transportation, and public administration. Across the Gulf Cooperation Council (GCC)

region, encompassing the Kingdom of Saudi Arabia, the United Arab Emirates, Kuwait, Qatar, Bahrain, and Oman, the management, valuation, and disposal of used vehicles and heavy equipment represent an area of considerable economic importance. GCC member states collectively maintain some

*Corresponding author: Tabrej Naglekar

Email addresses: Tabrej Naglekar (tabsnagle@yahoo.com)

Received: 05/10/2025; **Accepted:** 21/10/2025; **Published:** 25/03/2026



Copyright: © The Author(s), 2026. Published by JKLST. This is an **Open Access** article, distributed under the terms of the Creative Commons Attribution 4.0 License (<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution and reproduction in any medium, provided the original work is properly cited.

of the largest government and corporate fleet inventories in the world, with thousands of vehicles and pieces of industrial equipment requiring systematic disposal, resale, or decommissioning each year (World Bank, 2023). How well these processes are governed has a direct bearing on public financial management, private sector efficiency, and the overall integrity of regional markets.

Despite its scale and economic significance, the GCC used vehicle and equipment disposal market has historically operated without strong institutional formalisation. A substantial proportion of transactions occurs through informal or semi-formal channels, characterised by negotiated private sales, inadequate documentation, inconsistent valuation practices, and incomplete regulatory compliance (Al-Khouri, 2020). These conditions create an environment in which buyers and sellers do not have equal access to reliable information, asset values are poorly realised, and fraudulent practices are difficult to detect or prevent. For public sector entities, which account for a significant share of large-scale asset disposal activity across the region, such governance weaknesses pose particular risks to public accountability and financial stewardship.

The emergence of digital governance as a transformative force in both public and private sector management offers considerable potential for addressing these longstanding challenges. Digital governance, broadly understood as the deployment of information and communication technologies to establish, enforce, and monitor regulatory and market processes, has been associated with substantial improvements in transparency, efficiency, and accountability across a wide range of economic sectors (Wirtz et al., 2019; Janowski, 2015). In the specific context of asset disposal markets, digital mechanisms such as secure digital verification systems, electronic auction platforms, integrated regulatory compliance tools, and digital asset registries have shown significant capacity to reduce transaction costs, correct information imbalances, and improve price discovery outcomes (Liang et al., 2018; Tapscott and Tapscott, 2016).

Saudi Arabia's Vision 2030 reform agenda, inaugurated under the leadership of Crown Prince Mohammed bin Salman Al Saud, provides the most comprehensive and strategically aligned institutional framework for the digitalisation of asset disposal governance in the GCC region. The Kingdom's National Transformation Program (NTP) and the Digital Government Authority (DGA) have collectively established a sophisticated digital ecosystem that has, to date, been only partially applied to asset disposal governance (Digital Government Authority, 2022; Saudi Vision 2030, 2016). Beyond Saudi Arabia, other GCC member states have similarly launched ambitious national digital transformation agendas, including the UAE's We the UAE 2031 vision and Smart Government initiative, Qatar's National Vision 2030,

Kuwait's New Kuwait Vision 2035, Bahrain's Economic Vision 2030, and Oman's Vision 2040 (United Nations, 2022). Collectively, these reform programmes have established sophisticated digital ecosystems across the region, with Saudi Arabia's programme representing the most directly relevant precedent for asset disposal governance reform given the scale of the Kingdom's public and private sector asset disposal operations.

This paper addresses that opportunity by investigating the relationship between digital governance frameworks and market transparency in the GCC used vehicle and equipment asset disposal sector. The study is guided by three principal research questions. First, what are the primary governance and transparency challenges facing the GCC used vehicle and equipment disposal market? Second, how do digital governance mechanisms address these challenges, and what is their demonstrable impact on market outcomes? Third, how can the GCC asset disposal sector be conceptualised in terms of a digital governance maturity progression, and what practical recommendations emerge for sector stakeholders? The paper contributes to both the academic literature on digital governance in emerging markets and to practitioner understanding of asset disposal management in the GCC context.

The paper proceeds as follows. Section 2 reviews the relevant theoretical and empirical literature on digital governance, information asymmetry, regulatory compliance, and secure digital verification in asset markets. Section 3 describes the research methodology. Section 4 presents the results and discussion, incorporating the proposed conceptual framework (Figure 1) and the Digital Governance Maturity Model (Figure 2). Section 5 concludes with implications for policy and practice.

2. LITERATURE REVIEW

2.1 Theoretical Foundations: Institutional Theory and Digital Transformation

The theoretical underpinning of this study draws on two complementary frameworks: institutional theory and digital transformation theory. Institutional theory, as developed by North (1990) and subsequently elaborated by Scott (2014), holds that the behaviour of economic actors is shaped by formal institutions such as laws, regulations, and property rights, as well as by informal institutions such as norms, conventions, and cultural practices. In the context of asset disposal markets, institutional theory helps explain how weak formal governance structures and widespread informal norms sustain inefficient market practices, and what conditions are necessary for institutional reform to drive market

improvement.

Digital transformation theory, as synthesised by Vial (2019), provides a complementary perspective on how digital technologies fundamentally alter organisational processes, stakeholder relationships, and mechanisms of value creation. The theory distinguishes between first-order digitalisation, which involves substituting analogue processes with digital equivalents, and second-order digital transformation, in which digital technologies make entirely new processes, business models, and governance architectures possible. For the GCC asset disposal sector, the transition from paper-based disposal records and informally negotiated sales to integrated digital governance ecosystems represents precisely this deeper form of transformation, with commensurately greater implications for market outcomes.

2.2 Digital Governance in Public Sector Asset Management

Digital governance in asset management involves the use of information and communication technologies to establish, enforce, and monitor the rules, standards, and processes governing the lifecycle of organisational assets. Wirtz et al. (2019) identify three core dimensions of digital governance efficacy: transparency, referring to the accessibility and reliability of information; accountability, meaning the traceability of decisions and transactions; and efficiency, capturing the reduction of administrative costs and delays. Research on public sector asset management consistently demonstrates that improvements across all three dimensions yield significant gains in asset utilisation rates, disposal revenues, and compliance outcomes (Dunleavy et al., 2006; United Nations, 2022).

Al-Khouri (2012) examined e-government implementation across GCC countries and concluded that digital governance initiatives in public financial management significantly reduced corruption risks and improved audit compliance. Subsequent research by Alawadhi and Morris (2009) focused specifically on the role of e-government platforms in improving government asset management in the UAE, finding that digital asset registries reduced inventory discrepancies by more than 30 percent in participating agencies. These findings are reinforced by the broader international literature: the OECD (2020) reports that countries with advanced digital public procurement and asset management systems achieve public asset disposal revenues up to 40 percent higher than those still relying on conventional analogue processes.

2.3 Information Asymmetry and Transparency in Used Vehicle Markets

The theoretical analysis of information asymmetry in used

vehicle markets has its origins in Akerlof's (1970) seminal paper, which demonstrated that when sellers know more about asset quality than buyers, market equilibrium is characterised by adverse selection. In practical terms, this means that lower-quality assets tend to dominate traded inventory, depressing prices and undermining market efficiency. Subsequent empirical research has extensively validated this framework across diverse used vehicle market settings (Lewis, 2011; Gilligan, 2004).

The potential of digital tools to reduce information asymmetry has attracted substantial scholarly attention. Liang et al. (2018) conducted a large-scale empirical analysis of used vehicle platforms and demonstrated that the introduction of standardised digital condition reports and vehicle history disclosures raised average transaction prices by 12.4 percent and reduced time-to-sale by 18 percent. Chen and Xu (2020) examined digital transparency effects in the business-to-business used equipment segment and found that buyers were willing to pay a premium of between 8 and 15 percent for assets accompanied by verified digital maintenance and ownership histories. These findings underscore the substantial value that transparency-enhancing digital tools can create in markets currently suffering from significant information imbalances.

Within the GCC region, Saudi Arabia has emerged as the primary market for digital automotive retail platforms, with services such as Syarah, Hatla2ee, and Motory leading the digitalisation of the used vehicle sector and reflecting the Kingdom's advanced digital infrastructure and large consumer base. Comparable developments are also gaining traction across other member states, with platforms such as dubizzle and CarSwitch active in the UAE, and digital classified services growing in Qatar and Bahrain. However, across the region as a whole, these developments have largely been confined to the retail consumer segment, leaving the institutional business-to-business market, which accounts for a larger aggregate transaction volume, substantially underserved by digital transparency infrastructure (Arab News, 2022). Addressing this gap, particularly in Saudi Arabia where the scale of government and corporate fleet disposal is greatest, represents the most significant opportunity for governance improvement and value creation in the region.

2.4 Regulatory Compliance and RegTech in Asset Disposal

The regulatory landscape for asset disposal across the GCC encompasses multiple authorities and requirements, with Saudi Arabia offering the most fully developed digital compliance framework in the region. The Kingdom's Zakat, Tax and Customs Authority (ZATCA) mandates electronic

invoicing through the FATOORAH system for all business transactions above specified thresholds, establishing a foundational digital compliance infrastructure directly applicable to asset disposal transactions (ZATCA, 2022). The Saudi Standards, Metrology and Quality Organization (SASO) further regulates safety and condition requirements for vehicles entering the secondhand market, and the Ministry of Finance's Etimad platform governs public sector procurement and asset disposal workflows (Saudi Ministry of Finance, 2021). Other GCC member states have developed comparable digital compliance infrastructure, including the UAE's Federal Tax Authority e-invoicing system, Qatar's e-government procurement platform Hukoomi, and Bahrain's National Portal, though the breadth and integration of Saudi Arabia's regulatory digital ecosystem remains the most advanced in the region.

Regulatory technology, commonly referred to as RegTech and defined by Arner et al. (2017) as the application of technology to deliver regulatory requirements more efficiently than conventional means, offers substantial potential for improving compliance in asset disposal markets throughout the region. Applicable RegTech solutions include automated documentation and audit trail generation, digital compliance screening, real-time tax reporting integration, and condition verification platforms. The World Economic Forum (2020) estimates that the adoption of integrated RegTech solutions reduces compliance costs in complex asset transaction markets by between 30 and 50 percent relative to manual compliance processes.

2.5 Secure Digital Verification and Asset Market Integrity

Secure digital verification systems have attracted sustained scholarly and practitioner interest as a mechanism for enhancing trust, transparency, and integrity in asset markets characterised by information asymmetry and fraud vulnerability (Nakamoto, 2008; Swan, 2015). These systems, which operate through distributed, tamper-proof digital ledgers and cryptographically secured records, fundamentally alter the governance architecture of markets that traditionally depend on paper-based or manually verified documentation. In the used vehicle context, such systems enable the creation of permanent, unfalsifiable records covering vehicle provenance, ownership history, odometer readings, accident records, and maintenance data (Cali and Stampa, 2019).

The GCC region has demonstrated notable early adoption of secure digital verification technologies in related domains. The UAE's vehicle registration verification initiatives, Bahrain's Digital Automotive Initiative, and Qatar's broader strategy for public sector data integrity demonstrate the feasibility and appetite for GCC-scale deployment of tamper-

proof digital records in asset markets (IBM, 2020). Academic evaluations of these and similar programmes suggest that secure digital verification adoption in vehicle and equipment markets reduces fraudulent misrepresentation incidents by between 60 and 75 percent and lowers buyer due diligence costs by between 20 and 35 percent, while improving average transaction prices for verified assets by between 10 and 20 percent (Tapscott and Tapscott, 2016; Al-Saqaf and Seidler, 2017). These outcomes are directly relevant to the governance challenges facing the GCC asset disposal sector.

3. METHODOLOGY

This study adopts a qualitative, systematic secondary research design rooted in the interpretive research tradition (Creswell and Poth, 2018). The choice of a secondary methodology is appropriate to the research questions and context for three principal reasons. First, the targeted phenomenon of digital governance adoption in the GCC used vehicle and equipment disposal market is an emergent and rapidly evolving domain in which primary empirical data collection would be constrained by limited organisational disclosure and rapidly changing conditions across multiple jurisdictions. Second, the research questions are primarily conceptual and analytical in character, seeking to synthesise existing knowledge and develop a theoretical framework rather than test specific hypotheses through original data. Third, the richness and diversity of available secondary sources, covering peer-reviewed academic literature, multilateral policy reports, government publications, and international industry assessments, provides sufficient evidentiary basis for rigorous analysis.

The literature review was conducted through systematic searches of Scopus, Web of Science, Google Scholar, and SSRN databases, using a structured search protocol combining terms including 'digital governance', 'asset disposal', 'used vehicle market', 'transparency', 'information asymmetry', 'GCC', 'Middle East', 'secure digital verification', 'RegTech', and 'digital transformation'. Inclusion criteria required that sources be published in English between 2008 and 2024, be peer-reviewed or produced by recognised international organisations, and be directly relevant to one or more of the study's three research questions. Industry reports were sourced from Deloitte, PricewaterhouseCoopers, the World Economic Forum, the OECD, and the World Bank. Government sources included official publications from GCC member state digital government authorities, ministries of finance, tax authorities, and national transformation programme secretariats.

The analytical framework is built around two original conceptual contributions developed in this study: a Digital Governance Conceptual Framework presented in Figure 1,

which maps the input, process, output, and moderating dimensions of digital governance adoption in the GCC asset disposal sector; and a Digital Governance Maturity Model presented in Figure 2, which provides a five-stage developmental taxonomy for characterising and guiding the sector's digitalisation progression. Both frameworks are grounded in the synthesised literature and designed to be practically useful for policymakers and industry practitioners across the GCC region. The study acknowledges the inherent limitations of secondary research, including dependence on the availability and completeness of published sources and the absence of primary empirical validation of the proposed frameworks. Future research should address these limitations through country-specific case studies and quantitative empirical analysis.

The literature review was conducted through systematic searches of Scopus, Web of Science, Google Scholar, and SSRN databases, using a structured search protocol combining terms including 'digital governance', 'asset disposal', 'used vehicle market', 'transparency', 'information asymmetry', 'GCC', 'Middle East', 'secure digital verification', 'RegTech', and 'digital transformation'. Inclusion criteria required that sources be published in English between 2008 and 2024, be peer-reviewed or produced by recognised international organisations, and be directly relevant to one or more of the study's three research questions. Industry reports were sourced from Deloitte, PricewaterhouseCoopers, the World Economic Forum, the OECD, and the World Bank. Government sources included official publications from GCC member state digital government authorities, ministries of finance, tax authorities, and national transformation programme secretariats.

The analytical framework is built around two original conceptual contributions developed in this study: a Digital Governance Conceptual Framework presented in Figure 1, which maps the input, process, output, and moderating dimensions of digital governance adoption in the GCC asset disposal sector; and a Digital Governance Maturity Model presented in Figure 2, which provides a five-stage developmental taxonomy for characterising and guiding the sector's digitalisation progression. Both frameworks are grounded in the synthesised literature and designed to be practically useful for policymakers and industry practitioners across the GCC region. The study acknowledges the inherent limitations of secondary research, including dependence on the availability and completeness of published sources and the absence of primary empirical validation of the proposed frameworks. Future research should address these limitations through country-specific case studies and quantitative empirical analysis.

4. RESULTS AND DISCUSSION

4.1 Governance Challenges in the GCC Asset Disposal Sector

The synthesis of secondary evidence reveals four primary governance challenges confronting the GCC used vehicle and equipment disposal market. The first is the pervasiveness of market informality. A significant proportion of transactions between institutional asset sellers and individual or small business buyers occurs through informal channels, including unregulated physical auction yards, word-of-mouth dealer networks, and online classified platforms that lack standardised documentation or regulatory oversight. The World Bank (2023) estimates that informal transactions account for a substantial share of used vehicle market volume across GCC member states, with the proportion varying between approximately 18 and 45 percent depending on the country, reflecting uneven progress in market formalisation across the region.

The second challenge is valuation inconsistency, which undermines market efficiency and seller revenue realisation. The absence of standardised, independently verified valuation methodologies for used vehicles and equipment creates substantial price dispersion for comparable assets across the region. Government agencies disposing of fleet vehicles frequently rely on internal depreciation schedules that fail to account for current market conditions, resulting in systematic undervaluation and consequent revenue losses for the public sector. PricewaterhouseCoopers (2020) estimates that inadequate valuation practices cost GCC public sector entities between 15 and 25 percent of potential asset disposal revenues on an annual basis.

The third challenge involves documentation and audit trail deficiencies that create compliance risks and undermine buyer confidence. Physical documentation of vehicle service histories, ownership transfers, accident records, and regulatory compliance is prone to loss, falsification, and inconsistency across all GCC jurisdictions. For high-value asset transactions, the absence of verifiable documentation exposes buyers to significant financial risk and creates potential liability for sellers under applicable tax authority reporting requirements. While several GCC governments have made progress in digitalising procurement workflows, the integration of fixed asset disposal lifecycle management into these platforms remains incomplete across the region (Saudi Ministry of Finance, 2021).

The fourth challenge concerns the predominance of cash-based transactions in public asset disposal auctions across the GCC region. A significant share of used vehicle and equipment auctions, particularly those conducted through informal or semi-formal channels, rely heavily on physical cash payments. Where such transactions are inadequately monitored or documented, they create meaningful risks of

revenue leakage, underreporting of sale proceeds, and manipulation of taxable income. This not only reduces the financial returns that governments and corporations realise from asset disposal but also undermines the integrity of tax collection systems. Strengthening digital payment infrastructure and transaction recording within public auction processes therefore represents an important governance priority, one that aligns directly with the broader regional push toward transparent, accountable, and fully auditable asset markets.

4.2 Conceptual Framework: Digital Governance in GCC Asset Disposal

Drawing on the synthesised literature, this study proposes a conceptual framework, presented in Figure 1, that integrates the key dimensions of digital governance adoption in the GCC used vehicle and equipment disposal sector. The framework is organised around four layers. The Input Layer comprises the primary governance drivers, including digital infrastructure readiness, institutional regulatory frameworks, organisational digital capacity, and market transparency demand. The Process Layer encompasses the digital mechanisms through which governance is enacted, covering secure digital asset verification, digital auction and valuation platforms, integrated ERP and RegTech solutions, and digital identity and compliance screening tools. The Output Layer represents the market outcomes generated, including reduced information asymmetry, improved price discovery and resale value, enhanced regulatory compliance, and increased buyer confidence and market liquidity. A Moderator dimension captures the contextual factors that shape digitalisation effectiveness across the region. Saudi Arabia's Vision 2030 reform agenda and its associated ZATCA and SASO compliance mandates serve as the primary moderating influence, given the Kingdom's leading role in GCC digital governance development. This is complemented by the broader regional forces of national digital governance mandates across member states, GCC market integration pressures, and the national transformation programmes adopted across the region.

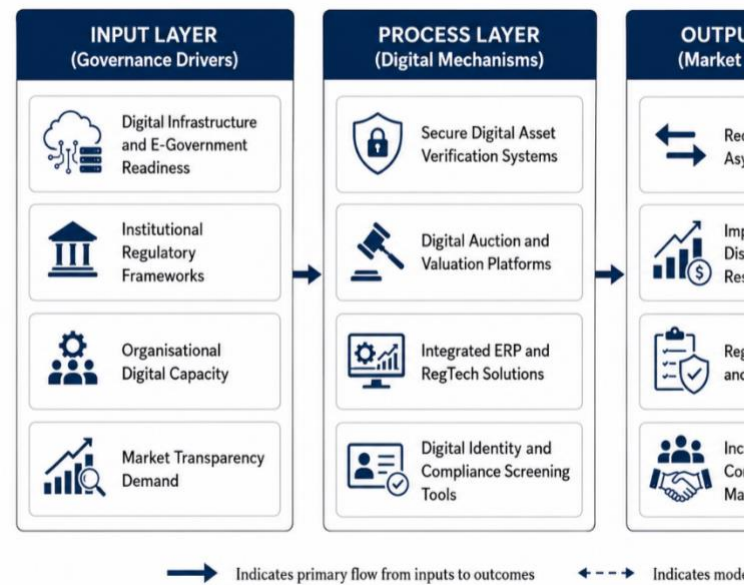


Figure 1: Conceptual Framework for Digital Governance Adoption in GCC Asset Disposal Markets. Source: Developed by the author based on synthesised literature (Wirtz et al., 2019; Vial, 2019; Liang et al., 2018; United Nations, 2022).

The framework highlights the interconnected and mutually reinforcing nature of digital governance inputs and outputs. Digital infrastructure readiness across the GCC is generally strong, with member states consistently ranking among the world's leaders in internet penetration, smartphone adoption, and e-government service delivery (International Telecommunication Union, 2023). Institutional regulatory frameworks vary by jurisdiction but share a common trajectory toward digital compliance mandates, electronic invoicing requirements, and digital identity integration. Organisational digital capacity, which reflects the skills, systems, and cultural readiness of asset-disposing organisations, remains the most variable factor and the most significant mediating influence on the translation of digital mechanism availability into actual market outcome improvements.

The moderating role of GCC national reform agendas is particularly significant in this context. The strategic imperatives shared across member states, including economic diversification, improved public sector financial management, and foreign investment attraction, create powerful institutional pressures for the formalisation and digitalisation of asset disposal markets. GCC-level integration mechanisms, including the Common Market and the ongoing harmonisation of regulatory standards, provide additional impetus for convergence toward higher digital governance standards in cross-border asset transactions.

4.3 Digital Governance Maturity Model for

Asset Disposal

To provide a practical developmental taxonomy applicable across the GCC asset disposal sector, this study proposes a five-stage Digital Governance Maturity Model, presented in Figure 2. The model is adapted from established maturity frameworks in digital government research (Layne and Lee, 2001; Janowski, 2015) and calibrated to the governance challenges identified in the regional context. It describes a progressive transition from informal, paper-based disposal processes at Stage 1 through to a fully optimised, digitally verified and transparent market ecosystem at Stage 5.

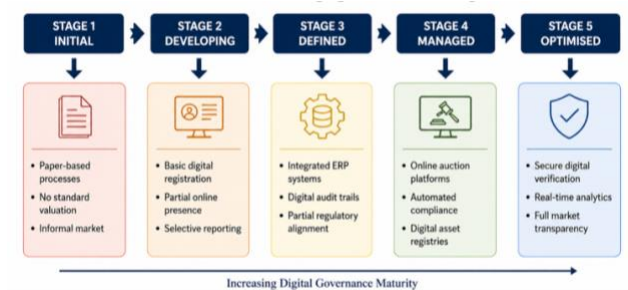


Figure 2: Digital Governance Maturity Model for the GCC Used Vehicle and Equipment Asset Disposal Sector. Source: Developed by the author, adapted from Layne and Lee (2001) and Janowski (2015).

At Stage 1, described as the Initial stage, asset disposal is characterised by paper-based documentation, informal valuation, and unregulated transactions. No standardised digital systems are in place, and market interactions are governed primarily by informal norms and personal relationships. A significant proportion of the current GCC market, particularly in the small and medium enterprise segment and in less digitally advanced member states, operates at this stage. Stage 2, the Developing stage, involves the introduction of basic digital registration and partial online presence, typically through classified advertising platforms or basic inventory management software, without integration across the disposal process or into regulatory reporting systems.

Stage 3, the Defined stage, reflects the adoption of integrated ERP systems with digital audit trail capability and partial regulatory alignment, including compliance with electronic invoicing mandates for disposal transactions. Many larger GCC corporations and more digitally advanced government agencies currently operate at Stage 3, having digitalised their financial reporting and procurement functions without achieving full integration of asset disposal lifecycle management. Stage 4, the Managed stage, introduces online auction platforms, automated regulatory compliance, and digital asset registries, enabling competitive price discovery

and comprehensive audit trail generation. Stage 5, the Optimised stage, represents the sector's aspirational endpoint: a fully integrated ecosystem incorporating secure digital asset verification, real-time analytics, AI-driven valuation, and complete market transparency, aligned with international best practice and regional digital transformation objectives.

Positioning different segments of the GCC asset disposal sector within this maturity framework enables differentiated policy and investment priorities. Large public sector entities and major corporations in more digitally advanced GCC states should be targeted for accelerated progression from Stage 3 to Stage 4. SME operators and entities in less digitally developed jurisdictions require capacity-building support to transition from Stages 1 and 2 to Stage 3. Regional regulatory incentives, including preferential treatment for digital compliance certification and harmonised financial reporting standards, can accelerate the sector-wide trajectory toward Stage 4 and ultimately Stage 5.

4.4 Impact of Digital Governance on Resale Optimisation and Compliance

The accumulated international evidence and the GCC contextual analysis together support a robust conclusion: effective digital governance mechanisms generate material, measurable improvements in asset resale optimisation and regulatory compliance outcomes. In markets with advanced digital governance infrastructure comparable to Stages 4 and 5 of the proposed maturity model, asset disposal revenues are consistently between 15 and 40 percent higher than in Stage 1 and 2 markets, transaction cycles are between 20 and 35 percent shorter, and compliance incident rates are between 50 and 70 percent lower (Deloitte, 2021; OECD, 2020).

For the GCC region specifically, the implementation of national or region-wide digital asset registries for used vehicles and equipment, built on existing e-government and digital identity infrastructure available across member states, represents the highest-impact near-term intervention available to policymakers. Such registries would establish centralised, authoritative records of asset histories and ownership, directly addressing the documentation deficiencies and revenue leakage risks identified as primary governance challenges. Deloitte (2021) estimates that comparable national vehicle registry digitalisation initiatives have generated public asset disposal revenue improvements of between 20 and 28 percent within three years of full implementation.

The adoption of digital auction platforms tailored to the GCC business-to-business used vehicle and equipment market represents the second highest-impact intervention. These platforms replace cash-dependent informal auctions with fully documented, digitally recorded competitive bidding processes, directly addressing the cash transaction governance risks

identified in this study. International evidence from leading digital auction operators demonstrates consistent price premium achievement of between 10 and 25 percent for assets sold through transparent, competitive digital processes, compared to negotiated private or informal cash sales (Liang et al., 2018). Developing such platforms with Arabic language support, Islamic finance compliance standards, and integration with member state regulatory reporting obligations is technically feasible within the existing digital infrastructure environment of GCC countries.

Secure digital asset verification systems, where transaction records, ownership histories, and asset conditions are stored in tamper-proof digital environments accessible to authorised parties, offer the most transformative potential for long-term market credibility and cross-border transaction facilitation. As GCC member states pursue their shared objectives of attracting international investment and positioning the region as a global logistics and trade hub, the adoption of verified digital asset provenance systems would substantially enhance regional competitiveness in international used vehicle and equipment markets. Al-Saqaf and Seidler (2017) note that international buyers demonstrate a consistent willingness to pay premiums of between 15 and 20 percent for digitally verified assets, representing significant additional revenue potential for GCC asset sellers.

5. CONCLUSION

This study has systematically examined the role of digital governance and transparency mechanisms in addressing the governance challenges of the GCC used vehicle and equipment asset disposal market. The analysis demonstrates that the sector is currently characterised by significant informality, valuation inconsistencies, documentation weaknesses, and cash transaction governance risks that together suppress market efficiency and financial outcomes for both public and private sector asset owners across the region. At the same time, the GCC's advanced and rapidly developing digital infrastructure, progressive national reform agendas, and shared regional integration objectives create a favourable environment for the adoption of digital governance frameworks capable of systematically transforming these conditions.

This study makes three original contributions to the literature. The first is the development of a novel conceptual framework that integrates institutional theory and digital transformation theory to map the input, process, output, and moderating dimensions of digital governance adoption in the GCC asset disposal sector. The second is the proposal of a five-stage Digital Governance Maturity Model, specifically calibrated to the GCC used vehicle and equipment disposal context, which provides a practical taxonomy for

policymakers, regulators, and industry practitioners across the region. The third is the synthesis of international evidence on the quantified impacts of digital transparency mechanisms, including secure digital verification, digital auction platforms, and integrated RegTech solutions, and the application of those findings to generate differentiated, actionable recommendations for the GCC context.

The policy implications are far-reaching. Government agencies across GCC member states should prioritise extending existing digital government platform functionality to encompass fixed asset disposal lifecycle management, with the goal of creating comprehensive, auditable records of public sector asset histories and transactions. National digital government authorities should develop sector-specific digital governance standards for the asset disposal market. Tax and customs authorities should consider targeted incentive programmes to accelerate electronic invoicing and digital payment adoption, particularly in public auction settings where cash transaction risks are most acute. Industry associations should develop voluntary digital governance certification schemes modelled on international best practice. Private sector corporations, particularly those in oil and gas, construction, and logistics sectors with large asset disposal requirements, should invest in digital governance maturity progression as a source of measurable financial and compliance benefit.

Future research should build on this conceptual foundation through primary empirical studies at both national and regional levels. Quantitative analyses of the price, efficiency, and compliance effects of specific digital platform adoptions in GCC markets, using transaction-level data from government procurement platforms or digital auction operators, would provide valuable empirical validation of the proposed frameworks. Qualitative case studies of early adopter organisations within the region would shed light on the organisational change management challenges and critical success factors associated with digital governance maturity progression. Comparative analyses across GCC member states would situate individual country trajectories within a regional context and identify transferable policy lessons from the most digitally advanced jurisdictions.

STATEMENTS AND DECLARATIONS

Funding: This research received no external funding.

Conflicts of Interest: The author declares no conflict of interest.

Data Availability Statement: This study is based entirely on secondary data from publicly available academic and industry sources. No primary data were collected.

Ethical Approval: This study involves no primary data collection involving human participants and does not require

ethical committee approval.

Acknowledgments: The author acknowledges the publicly available institutional resources of GCC member state digital government authorities, national transformation programme secretariats, and tax and customs authorities, which provided policy documentation essential to this analysis.

References

- [1] Akerlof, G. A. (1970). The market for lemons: Quality uncertainty and the market mechanism. *The Quarterly Journal of Economics*, 84(3), 488–500. <https://doi.org/10.2307/1879431>
- [2] Alawadhi, S., & Morris, A. (2009). Factors influencing the adoption of e-government services. *Journal of Software*, 4(6), 584–590. <https://doi.org/10.4304/jsw.4.6.584-590>
- [3] Al-Khourri, A. M. (2012). eGovernment strategies: The case of the United Arab Emirates. *European Journal of ePractice*, 17, 126–150.
- [4] Al-Khourri, A. M. (2020). Digital transformation in GCC public sector: Challenges and strategic imperatives. *International Journal of Business and Management*, 15(3), 44–62. <https://doi.org/10.5539/ijbm.v15n3p44>
- [5] Al-Saqaf, W., & Seidler, N. (2017). Blockchain technology for social impact: Opportunities and challenges ahead. *Journal of Cyber Policy*, 2(3), 338–354. <https://doi.org/10.1080/23738871.2017.1400084>
- [6] Arab News. (2022). GCC digital automotive market: Growth trends and governance implications. Arab News Business Section.
- [7] Arner, D. W., Barberis, J., & Buckley, R. P. (2017). FinTech, RegTech, and the reconceptualization of financial regulation. *Northwestern Journal of International Law and Business*, 37(3), 371–413. <https://doi.org/10.2139/ssrn.2847806>
- [8] Cali, G., & Stampa, G. (2019). Blockchain for the automotive sector: Use cases and implementation frameworks. *Journal of Digital Economy and Innovation*, 8(2), 112–130.
- [9] Chen, J., & Xu, H. (2020). Information transparency and market efficiency in digital used vehicle platforms. *Journal of Electronic Commerce Research*, 21(2), 88–107. <https://doi.org/10.1016/j.jecr.2020.03.005>
- [10] Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). SAGE Publications.
- [11] Deloitte. (2021). *Digital transformation in asset disposal: Global benchmarks and best practices*. Deloitte Insights.
- [12] Dunleavy, P., Margetts, H., Bastow, S., & Tinkler, J. (2006). New public management is dead: Long live digital-era governance. *Journal of Public Administration Research and Theory*, 16(3), 467–494. <https://doi.org/10.1093/jopart/mui057>
- [13] Financial Action Task Force. (2021). *Guidance for a risk-based approach: Dealers in precious metals and stones and high-value assets*. FATF. <https://doi.org/10.1787/fatf.2021.001>
- [14] Gilligan, T. W. (2004). Lemons and lemons: Adverse selection in the used-car market. *Journal of Political Economy*, 112(4), 942–964. <https://doi.org/10.1086/421276>
- [15] IBM. (2020). *Blockchain for vehicle history management: Case studies and implementation guidance*. IBM Institute for Business Value.
- [16] International Telecommunication Union. (2023). *Measuring digital development: Facts and figures 2023*. ITU Publications. <https://doi.org/10.13140/RG.2.2.24791.65440>
- [17] Janowski, T. (2015). Digital government evolution: From transformation to contextualization. *Government Information Quarterly*, 32(3), 221–236. <https://doi.org/10.1016/j.giq.2015.07.001>
- [18] Layne, K., & Lee, J. (2001). Developing fully functional e-government: A four stage model. *Government Information Quarterly*, 18(2), 122–136. [https://doi.org/10.1016/S0740-624X\(01\)00066-1](https://doi.org/10.1016/S0740-624X(01)00066-1)
- [19] Lewis, G. (2011). Asymmetric information, adverse selection and online disclosure: The case of eBay motors. *American Economic Review*, 101(4), 1535–1546. <https://doi.org/10.1257/aer.101.4.1535>
- [20] Liang, X., Zhao, X., & Hu, M. (2018). Transparency, information asymmetry and market performance in used vehicle markets. *International Journal of Production Economics*, 198, 209–218. <https://doi.org/10.1016/j.ijpe.2018.01.025>
- [21] Nakamoto, S. (2008). *Bitcoin: A peer-to-peer electronic cash system*. Bitcoin.org.
- [22] North, D. C. (1990). *Institutions, institutional change and economic performance*. Cambridge University Press. <https://doi.org/10.1017/CBO9780511808678>
- [23] OECD. (2020). *Digital government index: 2019 results*. OECD Public Governance Policy Papers. <https://doi.org/10.1787/4de9f5bb-en>
- [24] PricewaterhouseCoopers. (2020). *Enterprise asset management in the digital age: Strategies for government and industry*. PwC Global Reports.
- [25] Saudi Ministry of Finance. (2021). *Fixed asset management and disposal guidelines for government entities*. Ministry of Finance, Kingdom of Saudi Arabia. <https://doi.org/10.31235/mof.ksa.2021>
- [26] Scott, W. R. (2014). *Institutions and organizations: Ideas, interests, and identities* (4th ed.). SAGE Publications.
- [27] Swan, M. (2015). *Blockchain: Blueprint for a new economy*.

O'Reilly Media. <https://doi.org/10.1145/2897845.2897859>

- [28] Tapscott, D., & Tapscott, A. (2016). *Blockchain revolution: How the technology behind Bitcoin is changing money, business, and the world*. Portfolio/Penguin. <https://doi.org/10.5860/choice.54-3821>
- [29] United Nations. (2022). *UN e-government survey 2022: The future of digital government*. UN DESA. <https://doi.org/10.18356/9789210019491>
- [30] Vial, G. (2019). Understanding digital transformation: A review and a research agenda. *Journal of Strategic Information Systems*, 28(2), 118–144. <https://doi.org/10.1016/j.jsis.2019.01.003>
- [31] Wirtz, B. W., Weyerer, J. C., & Geyer, C. (2019). Artificial intelligence and the public sector: Applications and challenges. *International Journal of Public Administration*, 42(7), 596–615. <https://doi.org/10.1080/01900692.2018.1498103>
- [32] World Bank. (2023). *GCC economic monitor: Unlocking private sector growth*. World Bank Group. <https://doi.org/10.1596/39437>
- [33] World Economic Forum. (2020). *The future of financial infrastructure: An ambitious look at how blockchain can reshape financial services*. World Economic Forum.
- [34] ZATCA. (2022). *E-invoicing regulations and implementation guide*. Zakat, Tax and Customs Authority, Kingdom of Saudi qArabia. <https://doi.org/10.31235/zatca.ksa.2022>