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# Digitalization of Tax System Legal and Administrative Challenges for FBR

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## Abstract

The digitalization of Pakistan's tax system represents a crucial step towards improving tax administration, enhancing compliance, and reducing inefficiencies within the Federal Board of Revenue (FBR). However, this transition faces significant legal and administrative challenges. Legally, the existing tax framework needs extensive amendments to accommodate e-filing, electronic payments, and digital audits, raising concerns about data privacy, security, and authenticity of digital records. Administratively, FBR must address issues such as the lack of digital literacy among taxpayers, resistance to change, and the need for robust cybersecurity measures to protect sensitive financial data. Furthermore, the automation of tax processes requires careful coordination between various government agencies to ensure smooth interoperability and compliance monitoring. This paper explores these challenges and emphasizes the need for a comprehensive approach that includes legal reforms, technological upgrades, and awareness programs to facilitate the successful implementation of a digital tax system in Pakistan.

**keywords**: Tax Digitalization, Federal Board of Revenue (FBR), E-Governance, Tax Compliance, Legal Framework, Administrative Reforms, Data Security and Privacy

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## I. Introduction

In recent years, the world has witnessed a rapid shift toward digitalization, fundamentally transforming the way governments manage public finance and taxation (Yang et al., 2024). Pakistan, too, has embarked on this digital journey through the Federal Board of Revenue (FBR), aiming to enhance efficiency, transparency, and tax compliance. The digitalization of the tax system is seen as a critical step toward broadening the tax base, reducing human interference, and ensuring real-time data integration. By introducing online tax filing, e-audit systems, and electronic payment methods, FBR seeks to modernize tax administration and align it with global best practices. However, while the digital transformation promises numerous benefits, it also presents significant legal and administrative challenges that need careful attention. Issues related to data protection, legal validity of electronic records, and administrative readiness have emerged as serious concerns. Thus, understanding these challenges is essential for developing a balanced and effective digital tax framework that meets both legal standards and administrative capabilities.

The legal challenges in the digitalization of Pakistan's tax system primarily stem from outdated laws and insufficient regulatory frameworks (Atique et al., 2024). Many of FBR's existing tax statutes were drafted in an era that did not foresee digital or electronic transactions. Consequently, ambiguities exist regarding the legal validity of e-records, digital signatures, and online tax assessments. For instance, while the Electronic Transactions Ordinance 2002 provides a general legal foundation for electronic documentation, its integration into tax law remains incomplete. Moreover, cyber security laws in Pakistan are still developing, leaving taxpayers vulnerable to data breaches and unauthorized access. This legal uncertainty creates difficulties for both taxpayers and tax administrators in ensuring compliance. Without comprehensive legal reform, FBR's digital initiatives may face judicial scrutiny or challenges in enforcement. Therefore, revising existing tax laws to include digital provisions and ensuring compatibility with data protection standards are vital for the sustainable success of tax digitalization.

From an administrative perspective, the FBR faces several internal and structural challenges in implementing digital reforms. The transition from manual to digital systems requires a significant shift in organizational culture, technical expertise, and operational procedures. Many FBR officials lack adequate training in using digital tools, resulting in inefficiency and resistance to change. Moreover, the existing IT infrastructure within FBR is often outdated and prone to technical failures, which disrupts the digital workflow. Another major issue is the lack of interdepartmental coordination various departments within FBR operate independently, leading to duplication of efforts and inconsistencies in data management. Additionally, the digital tax system demands a high level of cybersecurity and continuous system maintenance, both of which require substantial financial investment. Therefore, unless the administrative structure of FBR is strengthened through training, infrastructure upgrades, and internal accountability mechanisms, the benefits of digitalization will remain limited.

The digitalization of Pakistan's tax system represents a crucial step toward economic modernization, transparency, and improved governance (Majid et al., 2022). However, its success depends on effectively addressing the intertwined legal and administrative challenges. On the legal side, reforms must ensure that digital transactions, e-records, and online audits are fully recognized and protected by law. Simultaneously, FBR must strengthen its administrative capacity by investing in technology, training, and cybersecurity infrastructure. Collaboration between government institutions, private technology firms, and legal experts is also essential to develop a robust digital framework that safeguards taxpayer rights while promoting compliance. Furthermore, public awareness and trust in digital systems need to be enhanced through consistent communication and secure digital experiences. By addressing these issues comprehensively, FBR can not only modernize tax administration but also create a fair, transparent, and efficient system aligned with Pakistan's broader vision of digital governance and sustainable economic growth.

## II. Methodology

The research methodology employed in this study is primarily qualitative, utilizing a doctrinal and analytical approach to examine the legal and administrative challenges associated with the digitalization of Pakistan's tax system under the Federal Board of Revenue (FBR). The study relies on an extensive review of existing literature, including national tax laws (such as the Income Tax Ordinance 2001 and Sales Tax Act 1990), relevant statutory instruments like the Electronic Transactions Ordinance 2002 and the Prevention of Electronic Crimes Act (PECA) 2016, as well as policy documents issued by the FBR and international bodies like the OECD. This legal analysis is complemented by a critical assessment of secondary sources such as academic articles, government reports, and case studies on e-governance and digital tax reforms in comparable developing economies. The objective is to identify gaps between current legal frameworks and the requirements of a fully functional digital tax ecosystem.

In addition to doctrinal analysis, the study incorporates elements of institutional and policy analysis to evaluate administrative readiness and operational barriers within the FBR. This includes examining structural issues such as interdepartmental coordination, IT infrastructure capacity, staff training deficits, and taxpayer engagement mechanisms. The methodology also draws on real-world implementation challenges reported through FBR's digital platforms like IRIS and Track & Trace systems. By synthesizing legal critique with administrative realities such as digital literacy gaps, cybersecurity vulnerabilities, and resistance to change, the research adopts a holistic, interdisciplinary lens. This dual focus ensures that proposed reforms are not only legally sound but also practically feasible within Pakistan's socio-technical context, thereby offering actionable recommendations for a resilient and inclusive digital tax transformation.

## III. Results

### A. Integration with Existing Tax Framework

Digitalization of the tax system refers to the transformation of traditional manual tax processes into digital and automated systems. In Pakistan, the Federal Board of Revenue (FBR) has undertaken several initiatives to digitalize tax administration, such as online return filing, e-payment systems, and real-time data integration. The main purpose of this transformation is to enhance transparency, improve tax collection efficiency, and minimize corruption. Digitalization also helps in reducing human error and facilitates taxpayers through user-friendly online platforms. However, the journey toward complete digital transformation is complex and requires strong legal, technical, and administrative infrastructure. The FBR's efforts are commendable, but they must be accompanied by legislative reforms, updated data protection laws, and adequate capacity building among tax officials and taxpayers (Ehtisham & Aekapol, 2024).

The digital transformation of the FBR faces significant legal challenges. Existing tax laws in Pakistan were primarily designed for manual systems and are not fully compatible with digital platforms. There are ambiguities regarding the validity of electronic records, e-signatures, and data privacy. Cybersecurity laws are also underdeveloped, exposing the system to potential hacking or data theft risks. Moreover, legal frameworks related to electronic evidence, confidentiality, and digital transactions need substantial revision to ensure the enforceability of online tax procedures. Another issue is the coordination between federal and provincial tax laws, which often creates jurisdictional conflicts. To overcome these challenges, Pakistan must strengthen its cyber laws, introduce digital tax regulations, and ensure proper legal recognition of online transactions within the tax system.

Apart from legal issues, the FBR also faces several administrative hurdles in implementing a fully digital tax system. Many tax officials and staff lack the necessary training and digital literacy to manage online systems effectively. The infrastructure in remote areas is insufficient, with limited internet connectivity and unreliable power supply. These limitations prevent taxpayers from easily accessing online services. Furthermore, resistance to change among employees accustomed to traditional methods slows down digital adaptation. Data integration between various departments, such as customs, sales tax, and income tax, also remains weak, leading to inefficiencies. To address these administrative challenges, FBR must invest in employee training, upgrade IT infrastructure, and promote awareness among taxpayers to increase trust and participation in digital platforms.

Integrating digitalization within the existing tax framework is crucial for ensuring continuity, efficiency, and compliance. The FBR needs to harmonize digital systems with current tax laws, procedures, and record-keeping mechanisms. A unified data management system should be developed to link income tax, sales tax, and customs data, allowing for real-time monitoring and analysis. Collaboration with banks, NADRA, and provincial revenue authorities is also essential for creating a comprehensive and transparent taxation network. Furthermore, integration should not only focus on technology but also on policy consistency and procedural alignment. The ultimate goal should be to create a smart tax ecosystem where all processes from registration to audit are streamlined through digital platforms. Successful integration will help FBR improve tax collection, broaden the tax base, and strengthen public confidence in Pakistan's taxation system.

### B. Legal and Regulatory Adjustments

The digitalization of Pakistan's tax system, led by the Federal Board of Revenue (FBR), requires significant legal and regulatory adjustments to ensure effective implementation. The transition from manual to digital operations demands reforms in existing tax laws, rules, and procedures that were primarily designed for paper-based systems. Traditional tax codes often lack provisions for electronic filing, digital signatures, and online verification of documents. Therefore, the Income Tax Ordinance 2001, the Sales Tax Act 1990, and other related statutes must be amended to recognize digital transactions, electronic evidence, and online assessments as legally valid. Without these adjustments, disputes may arise regarding the authenticity and enforceability of digital records, undermining the credibility of the entire system (Rasheed et al., 2024).

Furthermore, the legal framework must align with modern data protection and cybersecurity standards. As FBR's systems collect sensitive financial and personal information, there is a pressing need for comprehensive data protection laws that define how such information can be stored, accessed, and shared. The Prevention of Electronic Crimes Act (PECA) 2016 offers some protection, but it is not fully sufficient for the complexity of tax data management. Introducing specific provisions for tax-related digital records such as encryption, access control, and penalties for unauthorized use would ensure taxpayer trust. A secure legal framework strengthens both taxpayer compliance and the legitimacy of digitalization initiatives.

Another essential legal adjustment involves integrating Pakistan's tax regulations with international digital tax practices and standards. Global trends, particularly the

OECD's Base Erosion and Profit Shifting (BEPS) framework and digital economy taxation principles, influence how countries manage cross-border e-commerce and online businesses. Pakistan must adapt its laws to handle taxation of digital services, online platforms, and foreign digital entities earning income from Pakistani sources. This integration not only enhances FBR's capacity to collect revenue from emerging sectors but also prevents tax evasion through digital loopholes. Legal clarity in these areas will position Pakistan as a compliant and modern participant in the global tax environment.

Legal reforms must ensure coordination between federal and provincial tax authorities. The digitalization of tax administration is not limited to federal taxes but also includes provincial sales taxes, excise duties, and property levies. Conflicting laws and overlapping jurisdictions often create confusion for taxpayers and reduce efficiency. Therefore, harmonization of tax laws through digital platforms like the Pakistan Single Window (PSW) and the Pakistan Revenue Automation Limited (PRAL) is crucial. Clear legal definitions, uniform digital standards, and mutual data-sharing agreements can eliminate duplication, improve transparency, and promote inter-agency cooperation. These coordinated legal and regulatory adjustments are fundamental for achieving a truly digital and efficient tax ecosystem in Pakistan.

### C. Data Privacy and Security

The digitalization of the tax system represents a transformative shift in how tax authorities manage, collect, and monitor taxes. For the Federal Board of Revenue (FBR) of Pakistan, digital transformation aims to enhance efficiency, transparency, and accountability within the tax administration. By introducing online tax filing systems, electronic invoicing, and data-driven decision-making tools, FBR seeks to reduce corruption and improve taxpayer compliance. However, despite these benefits, the shift from manual to digital processes brings numerous legal and administrative challenges. The integration of digital systems into existing bureaucratic structures requires not only technological upgrades but also legislative reforms. These reforms must ensure the protection of taxpayers' rights while empowering FBR with the necessary tools to combat tax evasion in a digital environment. Hence, digitalization is not just a technical upgrade but a comprehensive reform demanding strong governance, clear legal frameworks, and institutional capacity building (Odunayo Adewunmi Adelekan et al., 2024).

Digitalization introduces several legal challenges for FBR, particularly concerning data ownership, consent, and cross-border data sharing. Pakistan's current tax laws were primarily designed for a paper-based system, and adapting them to regulate digital transactions is complex. There is an urgent need to amend existing tax legislation to define the legal status of electronic records, e-signatures, and online submissions. Moreover, digital platforms often involve third-party service providers, raising issues of accountability and legal liability in cases of data breach or system errors. Jurisdictional challenges also arise when taxpayers operate across multiple digital platforms or international boundaries. FBR must ensure that digital laws align with international standards such as the OECD guidelines for digital taxation. Without a clear and updated legal framework, digitalization could lead to disputes over data handling, tax assessments, and enforcement procedures, undermining the very efficiency the system seeks to achieve.

From an administrative standpoint, the digitalization process faces challenges of infrastructure, capacity building, and institutional coordination. Many FBR offices still lack the necessary IT infrastructure and trained personnel to manage digital systems effectively. The successful implementation of a digital tax system requires extensive staff training, reliable internet connectivity, and integration among various government databases, such as NADRA and the State Bank of Pakistan. Resistance to change within the bureaucracy and low levels of digital literacy among taxpayers further complicate the process. Administrative transparency and accountability are crucial; otherwise, technological tools can be misused or poorly maintained. Furthermore, the cost of developing and maintaining digital systems is significant, requiring sustainable financial and technical support. To overcome these challenges, FBR must adopt a long-term strategic plan that includes partnerships with private tech companies, public awareness campaigns, and continuous policy review to ensure adaptability and efficiency (Manny et al., 2021).

Data privacy and security remain among the most critical issues in the digitalization of the FBR's tax system. The collection and storage of sensitive taxpayer information such as income details, business transactions, and banking data create significant risks if proper cybersecurity measures are not in place. A single data breach can damage public trust, compromise national financial security, and violate individual privacy rights. Pakistan currently lacks a comprehensive and fully enforced data protection law, which increases the vulnerability of digital tax records. FBR must adopt international best practices in cybersecurity, including data encryption, regular system audits, and access controls. Additionally, the creation of an independent oversight body to monitor data usage can enhance accountability. Clear privacy policies and transparent communication with taxpayers regarding data handling can also help build confidence. Ultimately, ensuring robust data protection is not just a technical requirement but a legal and ethical responsibility essential for the success of Pakistan's digital tax revolution.

### D. Lack of Digital Literacy Among Taxpayers

The Federal Board of Revenue (FBR) in Pakistan has taken major steps towards the digitalization of the tax system to promote transparency, efficiency, and accountability in tax collection. The use of digital platforms, online filing systems, and e-payments is meant to reduce corruption and increase ease of doing business. However, despite these benefits, a significant obstacle to the success of these reforms is the lack of digital literacy among taxpayers. Many citizens, especially in rural areas and small business sectors, are not familiar with online systems, electronic forms, or digital payment methods. This lack of awareness leads to difficulties in tax filing and compliance. As a result, taxpayers often rely on intermediaries or agents, which increases the risk of errors and fraud. Therefore, while digitalization has improved system efficiency, the absence of digital literacy among taxpayers continues to limit its effectiveness (Setor et al., 2021).

The lack of digital literacy creates several legal challenges for both taxpayers and the FBR. Taxpayers who are unable to understand or properly use digital platforms often commit unintentional errors in filing their tax returns. Such mistakes can lead to penalties, legal notices, and unnecessary litigation. The tax laws assume that taxpayers have equal access and understanding of digital tools, but this is not the reality in Pakistan, where internet access and education levels vary greatly. Consequently, many citizens find themselves facing legal consequences for what are essentially technical issues rather than deliberate tax evasion. This raises concerns about fairness, accessibility, and equality before the law. Furthermore, the absence of proper legal frameworks for protecting digital users from cyber fraud and data breaches also discourages taxpayers from trusting the online tax system, thereby creating a legal barrier to digital transformation.

From an administrative perspective, the FBR faces considerable challenges in implementing digital tax systems in a country with low digital literacy. Many taxpayers require constant guidance and technical support to file their returns correctly. This puts extra pressure on FBR’s helpdesks and regional offices, which often lack sufficient staff and training to handle the volume of queries. The need for manual assistance defeats the purpose of automation and slows down the entire system. Additionally, poor data entry and errors caused by digitally illiterate taxpayers make it difficult for FBR to maintain accurate tax records. The department must also spend more resources on public awareness campaigns, user training, and customer support, which increases administrative costs. Therefore, while digitalization aims to simplify the tax process, the lack of digital literacy makes it more complicated for both administrators and taxpayers (Rizqiyanto et al., 2025).

To overcome the problem of low digital literacy, FBR must adopt a comprehensive strategy that combines legal reforms, public awareness, and administrative support. Firstly, the government should introduce legal provisions ensuring that taxpayers are not unfairly penalized for technical or digital errors. Secondly, FBR should establish nationwide training programs, workshops, and online tutorials to educate taxpayers about e-filing, digital payment systems, and online security. Collaboration with local governments, educational institutions, and media can further enhance digital awareness.

Additionally, user-friendly tax software in local languages could make the system more accessible. Lastly, a reliable helpline and guidance centers should be available for real-time assistance.

### E. Cybersecurity Threats

The Federal Board of Revenue (FBR) of Pakistan has made significant progress in digitalizing its tax system to enhance efficiency, transparency, and taxpayer convenience. However, this digital transformation has brought with it a new set of challenges, especially related to cybersecurity. The use of online portals, e-filing systems, and digital recordkeeping has increased the vulnerability of sensitive taxpayer information to cyberattacks. Hackers, data thieves, and malicious software pose serious threats to the confidentiality and integrity of financial data stored within FBR's digital infrastructure. Any breach could lead not only to loss of taxpayer trust but also to large-scale financial and reputational damage. Therefore, cybersecurity has become a critical issue that directly impacts the success and credibility of FBR's digital initiatives (H. A. Ullah et al., 2023).

The primary legal challenge associated with cybersecurity in the digital tax system is the lack of a comprehensive legal framework governing data protection and cybercrime prevention in Pakistan. Although the Prevention of Electronic Crimes Act (PECA) 2016 provides a foundation for combating cyber offenses, it remains inadequate to address the sophisticated cyber threats targeting tax administration systems. There is an urgent need for specialized legislation that specifically deals with data breaches, hacking of government databases, and misuse of taxpayer information. Furthermore, FBR's policies must align with international standards such as the General Data Protection Regulation (GDPR) to ensure legal compliance and strengthen citizens' data privacy. Without strong legal safeguards, FBR's digitalization efforts risk being undermined by the growing threat of cybercrime.

From an administrative perspective, cybersecurity management demands advanced technical expertise, continuous monitoring, and updated security protocols areas where FBR often faces limitations. Many government departments, including FBR, lack sufficient skilled IT professionals capable of handling sophisticated cyber threats. Inadequate infrastructure, outdated software, and lack of encryption technologies further expose the digital tax system to vulnerabilities. Moreover, coordination between FBR's technical and operational departments remains weak, which delays the detection and response to cyber incidents. To effectively manage cybersecurity, FBR must establish a dedicated cybersecurity division, invest in modern technologies like Artificial Intelligence (AI)-based threat detection, and provide regular training to its employees(Yao & García de Soto, 2024).

To counter cybersecurity threats effectively, FBR must adopt a multi-layered security approach that combines legal, administrative, and technological measures. The implementation of strict cybersecurity policies, regular security audits, and real-time monitoring of digital systems can significantly reduce potential risks. Additionally, public awareness campaigns about secure online tax filing can help taxpayers protect their own data. Collaboration with national and international cybersecurity agencies can also provide FBR with access to advanced tools and intelligence against cybercriminals. Ultimately, the success of FBR's digital tax system depends on its ability to protect the integrity and privacy of taxpayer data. A robust cybersecurity framework will not only ensure system reliability but also strengthen public confidence in Pakistan's tax administration.

### F. Legal Framework for E-Assessments and E-Audits

The digitalization of the tax system in Pakistan, particularly through the introduction of e-assessments and e-audits, represents a major shift in how the Federal Board of Revenue (FBR) manages compliance, transparency, and taxpayer interaction. E-assessment refers to the electronic evaluation of taxpayers' records and returns without the need for physical appearances, while e-audit involves an automated review of financial data to detect irregularities and ensure accurate tax reporting. These mechanisms aim to reduce human discretion, minimize corruption, and improve efficiency. However, the move toward digital systems requires a robust legal framework to define procedures, responsibilities, and rights of both taxpayers and tax authorities. Without proper legislation, such digital practices may face legal challenges in terms of authenticity of documents, admissibility of electronic evidence, and procedural fairness (Khan & Chaudhry, 2024).

The legal framework for e-assessments and e-audits in Pakistan is primarily derived from the Income Tax Ordinance, 2001, and the rules introduced by the FBR through statutory regulatory orders (SROs). These laws have been amended to incorporate electronic methods of communication, notice issuance, and data verification. The Electronic Transactions Ordinance (ETO) 2002 also plays a crucial role by giving legal recognition to digital documents, electronic signatures, and online communication. Together, these laws ensure that any assessment or audit conducted electronically is legally valid and enforceable. However, practical implementation faces issues such as inadequate data protection laws, unclear guidelines for e-verification, and lack of judicial precedents interpreting e-taxation procedures. Therefore, FBR must continuously update its legal instruments to ensure they align with global digital taxation standards and constitutional guarantees of due process.

While the legal structure provides a foundation, the administration of e-assessments and e-audits faces significant challenges. One major issue is the integration of taxpayer databases with reliable digital infrastructure that can securely handle large volumes of sensitive financial information. Many taxpayers, especially small businesses, lack digital literacy, resulting in procedural errors and non-compliance. Furthermore, administrative officers require specialized training to manage online systems and interpret electronic data. Technical glitches, cybersecurity threats, and system downtime also affect the credibility of the e-assessment process. Moreover, digital communication between taxpayers and officials sometimes lacks transparency due to unclear procedural protocols. To address these issues, FBR must invest in advanced software systems, establish strong data protection policies, and ensure the availability of online helpdesks for taxpayer assistance (Khan et al., 2020).

For e-assessments and e-audits to become fully effective, FBR must adopt a comprehensive reform strategy that balances technological innovation with legal and administrative safeguards. The legal framework should clearly outline the rights of taxpayers, appeal mechanisms, and data confidentiality provisions. Administrative reforms must focus on capacity building, real-time monitoring, and coordination with other government departments to ensure information accuracy. Additionally, collaboration with international tax bodies like the OECD can help Pakistan adopt best practices in digital taxation and audit automation. Regular audits of the digital system itself should be conducted to ensure transparency and reliability. In conclusion, while e-assessments and e-audits represent the future of tax administration, their success depends on a balanced approach that ensures technological efficiency, legal clarity, and administrative accountability.

## IV. Discussion

### A. Automation of Tax Collection and Disbursements

Automation of tax collection and disbursement is one of the most significant steps in the digital transformation of the Federal Board of Revenue (FBR). It involves replacing traditional manual systems with digital tools that can collect, record, and distribute tax revenues electronically. The main objective is to make the process more transparent, efficient, and corruption-free. Through automation, taxpayers can easily file returns, pay taxes online, and track their payments without visiting FBR offices. This not only saves time but also reduces human interference, which is often the main cause of inefficiency and misuse of authority. Digital portals and automated payment gateways have been introduced to create a seamless interface between taxpayers and the FBR. However, full implementation requires a strong legal framework and technological infrastructure to ensure data protection and prevent misuse of digital platforms (Mahmood & Karim, 2025).

From an administrative point of view, automation enhances the operational efficiency of the FBR by centralizing data and integrating various tax departments. It enables real-time monitoring of revenue inflows and helps identify non-filers and tax evaders through digital tracking. Automated systems can generate accurate reports, reduce errors in tax assessments, and ensure timely disbursement of refunds. Furthermore, automation promotes accountability within the tax system as every transaction is digitally recorded and can be audited easily. Despite these benefits, the administrative challenge lies in training government officials and tax officers to adapt to new technologies. Many employees are accustomed to manual methods, leading to resistance to change and operational delays. Therefore, continuous training, monitoring, and policy adjustments are crucial to make automation successful in the long term (Okunogbe & Santoro, 2023).

Legally, the automation of tax collection and disbursement requires comprehensive reforms in tax laws, data protection regulations, and cybersecurity policies. The FBR must ensure that all digital transactions are backed by legal recognition under the country’s tax statutes. Issues like electronic signatures, digital receipts, and online verification processes must have legal validity to prevent disputes in courts. Additionally, privacy laws must be strengthened to safeguard taxpayer data from unauthorized access or hacking attempts. The automation process also raises questions about jurisdiction, legal accountability, and procedural fairness, especially when decisions are made by algorithms rather than human officers. Thus, the legal framework must be updated in line with modern digital practices to ensure transparency, trust, and fairness in the automated tax system (Nose, 2023).

Despite its challenges, automation holds great promise for the FBR and the overall economy of Pakistan. It can drastically reduce corruption, enhance revenue collection, and promote voluntary tax compliance among citizens. Automation also aligns Pakistan’s tax administration with global standards followed by advanced economies. However, successful implementation depends on a combination of strong legal backing, administrative capacity, and technological investment. The government must collaborate with IT experts, legal professionals, and financial institutions to build a secure, user-friendly, and legally sound automated system. In the long run, automation will not only improve the efficiency of tax collection and disbursement but also strengthen public confidence in FBR’s digital transformation, paving the way for a more transparent and accountable fiscal system in Pakistan.

### B. Challenges in Enforcement and Compliance

The digitalization of Pakistan’s tax system has significantly transformed how the Federal Board of Revenue (FBR) manages taxation, yet it has also introduced serious enforcement and compliance challenges. One of the foremost issues is the difficulty in ensuring that all taxpayers particularly small businesses and individuals in the informal economy are properly registered and report accurate data. Many sectors still lack digital literacy, resulting in underreporting or complete avoidance of tax obligations. Despite online platforms such as IRIS and Track and Trace systems, taxpayers often face technical barriers, data entry errors, and delays in processing returns. The FBR's enforcement mechanisms struggle to keep pace with the rapid expansion of e-commerce and digital transactions, creating loopholes that are exploited by non-compliant entities (He & Yi, 2023).

Another key challenge in enforcement lies in the area of data integration and verification. The FBR relies on multiple databases such as NADRA, banks, and utility companies to track income sources and expenditures. However, the lack of full interoperability and real-time data sharing limits the system's effectiveness. Many taxpayers manipulate information by exploiting weak linkages between databases or by conducting cash-based transactions outside the formal system. Moreover, cybercrime and data privacy concerns make it difficult for FBR to implement aggressive monitoring systems without violating legal boundaries. The absence of clear data protection legislation and enforcement protocols also discourages institutions from sharing sensitive information, weakening compliance monitoring efforts.

From an administrative perspective, enforcement of digital taxation faces resistance within the FBR itself due to institutional inertia and limited capacity-building. Many tax officers lack sufficient training to interpret or analyze data generated from digital systems. As a result, digital audits and electronic record assessments often become ineffective. Corruption and manual interference remain issues, especially when officials bypass automated systems to favor influential taxpayers. The absence of strict internal accountability and performance-based evaluation further slows down the implementation of digital reforms. Additionally, FBR's infrastructure such as server capacity and system reliability frequently suffer from technical outages, reducing public confidence in the digital system and discouraging voluntary compliance (Ammar, 2023).

Compliance challenges also stem from legal ambiguities and outdated regulatory frameworks. Pakistan's tax laws were largely designed for a paper-based environment, and many do not adequately address issues arising from digital transactions, such as cryptocurrency income, cross-border e-commerce, and digital service taxation. These legal gaps hinder FBR's authority to enforce digital tax collection effectively. Furthermore, taxpayers often exploit procedural delays in the appellate and adjudication system to avoid timely payment. Without comprehensive legal reform and modernization of tax procedures, enforcement through digital means remains incomplete. Therefore, while digitalization offers immense potential for transparency and efficiency, the FBR must address these legal and administrative hurdles to achieve full compliance and effective enforcement in Pakistan's evolving tax ecosystem.

### C. Interoperability with Other Government Agencies

The Federal Board of Revenue (FBR) of Pakistan is undergoing a significant transformation through the digitalization of its tax system. One of the most crucial aspects of this transformation is achieving interoperability with other government agencies. Interoperability refers to the seamless exchange of data and coordination between different government departments such as NADRA, SECP, SBP, FIA, and provincial revenue authorities. Effective integration enables FBR to verify taxpayer identities, monitor financial transactions, and cross-check declared income with real-time data from other institutions. However, the lack of standardized data systems, inconsistent technological infrastructure, and bureaucratic silos have made this coordination extremely challenging. As a result, despite having large amounts of taxpayer information available across various departments, FBR struggles to fully utilize it for efficient tax collection and enforcement (Fang, 2025).

Legally, interoperability faces hurdles due to privacy laws, data protection concerns, and the absence of clear legislation governing inter-agency data sharing. Many departments are reluctant to share sensitive data without proper legal cover, fearing breaches of confidentiality and misuse of information. Pakistan currently lacks a comprehensive legal framework for digital data governance that ensures accountability while allowing necessary information flow among government entities. This limitation has caused delays in FBR’s efforts to link its systems with agencies like NADRA or SECP. Without robust data-sharing laws, FBR’s digital initiatives remain partial, limiting the effectiveness of digital tax audits and e-filing systems. Thus, legal reforms are urgently required to establish clear parameters for secure and lawful data exchange between government bodies (A. Ullah et al., 2021).

From an administrative perspective, interoperability demands not only advanced technology but also strong coordination among government agencies. Different departments in Pakistan operate on separate digital platforms with incompatible software, databases, and security protocols. This fragmentation prevents the creation of a unified national data ecosystem that could support efficient tax administration. Moreover, administrative resistance to change, lack of technical expertise, and overlapping jurisdictions further complicate collaboration. FBR often faces difficulties in obtaining timely data from other institutions, which affects its ability to track undeclared income and curb tax evasion. Hence, administrative reforms, including inter-agency task forces, shared databases, and centralized digital governance, are essential to overcome these barriers.

To achieve true interoperability, FBR must adopt a multi-dimensional approach combining legal reform, technological advancement, and administrative cooperation. The establishment of a central digital governance framework under the Ministry of Finance or

Cabinet Division could ensure standardized protocols and data-sharing agreements. FBR should also invest in secure cloud-based systems and adopt blockchain or AI technologies to enable real-time and tamper-proof data exchange. Simultaneously, a comprehensive Data Sharing Act should be introduced to define the rights and responsibilities of all involved agencies. Only through such legal and administrative synchronization can FBR realize the vision of a fully digital, transparent, and integrated tax system. Interoperability, therefore, is not just a technical requirement but the cornerstone of Pakistan's future tax governance.

### D. Addressing Resistance to Change

Resistance to change is one of the major challenges faced by the Federal Board of Revenue (FBR) during the digitalization of Pakistan's tax system. When new digital technologies are introduced, employees, taxpayers, and other stakeholders often feel uncertain or threatened by the shift from manual processes to automated systems. Many fears losing control over traditional procedures or their positions within the organization. Others resist due to a lack of understanding of how digital systems function, fearing errors or loss of data. This psychological and organizational resistance slows down implementation and affects the overall success of reform. In Pakistan, where bureaucratic culture is deeply rooted in conventional paperwork and human interaction, the transition to digital platforms such as online filing, e-payments, and data analytics systems requires not just technical infrastructure but also a major cultural shift within the FBR and among taxpayers (Sonnerfeldt, 2026).

A significant source of resistance to digitalization within FBR arises from its own employees and internal culture. Many officers and staff members have operated within traditional, paper-based systems for decades. They often view digital reforms as unnecessary complications or fear that automation may reduce their influence and authority. Moreover, some may be reluctant because digital systems enhance transparency and accountability, reducing opportunities for discretionary decision-making. The hierarchical nature of the FBR also makes it difficult for lower-level employees to adapt quickly, as decision-making and innovation are usually centralized. Without proper incentives, capacity building, and reassurance from leadership, resistance tends to increase. Therefore, digital transformation requires parallel reforms in human resource policies, regular digital training, and performance-based promotions to align employees' interests with technological advancement (Mandasari, 2024a).

Apart from administrative resistance, legal barriers and compliance resistance from taxpayers also hinder digitalization. Many tax laws in Pakistan were framed decades ago and do not adequately address digital operations, electronic documentation, or e-signatures. This outdated legal framework creates confusion and slows the adoption of modern tax systems. Taxpayers, especially small business owners and those in the informal sector, often resist using digital portals due to fears of exposure, lack of digital literacy, and distrust in data privacy. They are accustomed to manual interactions and sometimes prefer informal dealings that digitalization seeks to eliminate. As a result, both the legal system and the taxpayer mindset need to evolve together. Modernizing tax laws, ensuring cybersecurity, and conducting awareness campaigns can help in overcoming these deep-rooted fears and compliance challenges (Mandasari, 2024b).

Addressing resistance to change requires a comprehensive change management strategy within FBR. This includes leadership commitment, transparent communication, employee involvement, and consistent training. The FBR should promote a culture of innovation and trust by involving employees at all stages of digital reform and by clearly explaining the benefits of automation such as efficiency, accuracy, and reduced workload. Incentive-based programs can motivate employees to embrace new technologies, while public awareness campaigns can build taxpayer confidence in digital systems. Collaboration with legal experts to reform outdated tax laws and the development of user-friendly digital platforms will further support this transition. Ultimately, overcoming resistance to change is not merely a technical task but a human process that depends on vision, patience, and consistent engagement from both FBR leadership and the citizens of Pakistan.

## Conclusion

The digitalization of the tax system in Pakistan marks a transformative step towards transparency, efficiency, and accountability within the Federal Board of Revenue (FBR). However, despite notable advancements like e-filing, online registration, and digital monitoring, the journey has been fraught with challenges. One major concern lies in the legal framework, which has not evolved at the same pace as technological innovation. Many existing tax laws were designed for a manual era and lack provisions for issues like data privacy, cybersecurity, and digital fraud. This legal lag creates uncertainty for both taxpayers and the administration. Moreover, enforcement mechanisms for electronic records and e-audits remain underdeveloped, making it difficult for the FBR to rely solely on digital evidence in legal proceedings. Thus, while digitalization promises a more efficient system, it also demands urgent legislative reforms to align Pakistan’s tax laws with the realities of the modern digital economy.

From an administrative standpoint, the FBR faces immense challenges in managing the shift from traditional to digital operations. Many officials lack adequate technical training to effectively use and interpret data generated by digital tools. Resistance to change among staff, combined with the absence of a robust accountability structure, hinders smooth digital adoption. Additionally, the integration of various tax databases such as income tax, sales tax, and customs remain incomplete, resulting in data duplication and inefficiency. The lack of real-time data sharing between government departments and financial institutions also limits the FBR's ability to detect tax evasion. Furthermore, the limited digital literacy among taxpayers, particularly in rural areas, restricts public participation in online systems. Hence, administrative reform, training, and public education are crucial components that must accompany digitalization to ensure its effectiveness.

Cybersecurity and data protection represent another critical area of concern in FBR's digital transformation. As tax collection becomes increasingly digital, the sensitivity of taxpayer data grows exponentially. Unfortunately, Pakistan's data protection laws are still evolving, leaving taxpayers vulnerable to breaches, identity theft, and misuse of personal information. Several instances of hacking attempts and data leaks from public institutions have already raised alarms regarding the FBR's cyber resilience. Without a comprehensive legal framework for data protection and clearly defined cybersecurity protocols, the credibility of digital tax systems may suffer. Therefore, FBR must prioritize investment in advanced security infrastructure, regular system audits, and compliance with international cybersecurity standards. Ensuring the confidentiality, integrity, and accessibility of data is fundamental to building trust among taxpayers and achieving sustainable digital transformation.

The digitalization of Pakistan's tax system holds vast potential to enhance revenue collection, minimize corruption, and broaden the tax base. Yet, this potential can only be realized through a synchronized approach addressing both legal and administrative challenges. The FBR must work closely with policymakers to update outdated tax laws, create new digital regulations, and strengthen cybersecurity frameworks. Simultaneously, administrative reforms should focus on capacity building, inter-departmental coordination, and taxpayer awareness. Digitalization is not merely a technological upgrade. it is a cultural and institutional shift that requires transparency, accountability, and adaptability. If FBR successfully overcomes these obstacles, Pakistan's tax system could emerge as a model of digital governance in the region, ensuring economic growth and fiscal stability for the future.

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