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The Financial Implications of Information Technology in Enhancing FBR's Performance: Moderating Role of Fiscal Policy Effectiveness

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Abstract

Administration of tax using Information Technology (IT) is paramount in increasing efficiency, transparency, and revenue collection. The paper explores the financial consequences of Information Technology to the performance of Federal Board of Revenue (FBR) in Pakistan with specific reference to moderating effect of Fiscal Policy Effectiveness. The positivist philosophy and the deductive approach were used to carry out a quantitative cross-sectional survey after which 119 respondents (FBR officials and taxpayers) were involved. The correlation, regression, and moderation analysis in SPSS were used to analyze data. The findings indicate a considerable, a strong positive effect of Financial Information Technology (FIT) on FBR Performance (FBRP) (990, p <.001), and IT is an important predictor of performance, explaining 93.2% of its variance. Nevertheless, the moderating role of Fiscal Policy Effectiveness (FPE) on the relationship was small, although statistically significant (interaction coefficient =.0130). This implies that as much as IT is one of the paramount direct contributors to the operation and financial performance of FBR, the current fiscal policy frameworks have minimal contribution of improvement to this relationship. The research finds that the most significant lever to change the efficacy of FBR is strategic investment in innovative IT systems, including AI and blockchain and advanced data analytics, and it is the fiscal policy changes that should have a more significant supportive role.

Keywords: Information Technology, Federal Board of Revenue (FBR), Fiscal Policy, Tax Administration, Moderation Analysis, Digital Transformation.

BACKGROUND OF THE STUDY

Information technology bring revolution in today's world. It has numerous applications in every sector of life. The use of IT cannot be deny in today's era. IT brought accuracy, reduced human efforts, time, energy, and cost. The world is eager for implementing IT system in every sectors, department and field, where tasks to be done on time, accurate, effortless, faster and automatic; Likewise other sectors, IT has also brings great effects in tax collection, reduces tax evasion, monitor banking activities, properties, assets dealings, financial activities and gathering important data about taxpayers and country's economy (Hanna, N., 1991). IT have key roles in enhancing Federal Board of Revenue's (FBR) performance in increasing tax collection, reducing tax evasion, monitoring taxpayers' transactions, capture or measure incomes of individuals, businesses, profits, compliances and increases efficiency, accuracy of tax monitoring, tax collection, reduces efforts and time (Alam, I., 2023).

The country's treasury majorly dependent on FBR performance and withholding Taxation System. It is understood that whenever FBR did not actively did their job properly and accurately; the tax collection ratios cannot be increase, the IMF debt will not be decrease, tax evasion will not finish and economy cannot be flourished and developed. Therefore, the implementation of innovative systems of Information Technology and AIs should introduced which may put pivotal role in enhancing its performance in tax collection, monitoring tax evasion and refunding IMF debt (Alam, I., 2023). From the very start FBR has been facing many problems due to administrative failure and not implementing innovative Information technology systems. FBR has failed to capture those businesses and taxpayers; who are liable to pay tax but they are not paying to the government, it is because there is no such IT, AI, monitoring system to capture and measure their accurate incomes and profits at all (Asif Safdar & Aamir Khan, 2021). The federal board of revenue has no such IT system which collects accurate data of taxpayers i.e. Businesses, businessmen, financial transactions, information about Association of Persons and Individuals. Unfortunately, there's no such tools or strong software which link all the monetary transactions, debits, credits, sales purchases. Banks data, insurance activities and other relevant information of taxpayers with system of FBR i.e. IRIS portal (Integrated Risk Information system). The IRIS portal cannot collect exact information and data of taxpayers' business activities. The IRIS portal (Integrated Risk Information system) is an e-filling system of FBR which can only capture information about salaried person, of government employees and semi government organization's employees but cannot capture exact income of businessmen and businesses which could be the main source of tax collection. There's no source of measuring banking transactions, Sales-Purchases and expenses of individuals and businesses with FBR (Shahid Ijaz, Tarar, 2018). Among the total population of the country; about 4% are registered for tax compliances and just 1.8% are paying tax in it. It means that 4.3 million are paying tax out of 241.49 million (pbs.gov.pk). The income tax collected by FBR from taxpayers through withholding taxation system was 65%-70% of the total income tax collected through overall sources, if we add other withholding voluntary contributions of individuals, this percentage reaches about 96%; it is means that only 3%-4% tax collected by the direct efforts of FBR. This means that the tax collection lies on the arms of withholding taxation system and withholding taxation system lies on the arms of Information technology. Data analysis from different sources showed that salaried persons are paying more than half of the country's withholding tax, this means that the current withholding taxation system is outdated and not that much accurate to monitor income of all taxpayers accurately (Amer Shakeel, 2023).

Problem Statement

The FBR which stands for Federal Board of Revenue, Pakistan is the only tax collection agency in Pakistan. FBR works under Ministry of Finance, Pakistan (MOF). It is responsible for tax collection, revenue collection and enforcement of fiscal laws in Pakistan. From the very start FBR has been facing many problems of administrative and Information technology. The e-filling system (IRIS) of FBR has failed to collect accurate data about taxpayers, cannot monitor taxpayers' monitory transactions and in the case tax collection; tax evasion ate half of the country's tax. FBR cannot captures those who are liable to pay tax, have large income and huge business transactions but they are not paying to the government due the lack of having authentic and strong IT system. There's no such tools or strong software which collect exact information and data about taxpayers (Hanna, N., 1991).

The country's treasury majorly dependent on the taxes; collected from public. It is understood that whenever FBR do not actively starts its job properly; the country's economy cannot be flourished and developed. Information technology of the department and FBR staff performance have direct relation with tax collection; in the sense that FBR performance is totally dependent upon the efficiency of IT system like the IRIS (Pakistan's e-filling System). But IRIS (Integrated Risk Information system) cannot collect complete and accurate data, it only capture salaries of government and semi government organization but cannot capture exact income of businessmen and businesses which could be the main source of tax collection. There's no source or monitoring system of measuring expenses of individuals and businesses with FBR. IRIS rarely collects data about Property Sold and Purchased, Bank withdrawals, Excise and Taxation Vehicle Registration Data, Educational Expenses, International Travels, Credit Cards Transactions,

online Payments and Withholding. Data from the mentioned sectors are not 100% confirmed to be collected, sometime collected and sometime not. Likewise, it works only 50% (Shahid Ijaz Tarar, 2018).

During the recent Tax Year returns filling of TY-23, FBR tax returns filling system had not worked more than 30 days in 120 days deadline of tax returns. Every day, there were so many technical glitches, system had continual down after every five minutes. Data collected of tax years were wrong, banking transactions data were not matched the actual data of taxpayer banks details. MIS system is still down and not working from last 130 days. Data sources of property sold- purchased, vehicles and withholding are not showing from three months (Ammar, A., 2023). The IRIS system is open to all and it is in the use of every person, tax consultants and individuals. It is a friendly system, through which anyone can file their annual and monthly income tax returns, and may put income by his/her own choices and calculations. Every individuals and business representatives at the end of the year try to show a low income and high expenses in the sense that profit come below from tax circle and this cannot be monitor or check by the administration. The reason is, the system cannot measure exact educational, personal and domestic expense, cannot measure electricity, gas bills and cannot measure other expenses and administration is sleeping and enjoying at their offices. The system need innovations and improvement, like in USA and other developed countries, Like USA using about 6 such database system which up to date and innovative (Khurram, S., & Arshad, S., 2024).

Federal Board of Revenue brought many improvement in the staff but like always failed to improve information technology cell. Today, is the era of automation and Artificial Inelegance. Many countries like India, USA, UK and Russia following AI tools in tax collection and have greatly improve the performances in tax collection (Ezeife, E., 2021). The IT system of FBR is outdated, full of glitches, technically weak and have no extended feature and menus. The online refiling portal of FBR i.e. IRIS portal should be improve to make online tax filing faster, AI audits, 24/7 availability, easy to calculate data, separate tabs for all kinds of business sectors and individuals, the system must be easy to use and error free. Tax Asaan mobile app of FBR, Pakistan must be improve, because it is very limited in features, tabs and menus. NADRA link is very weak, sometimes names, addresses and data from NADRA taxpayers put incorrect. Must install Artificial Intelligence tools to identify evaders by analyzing financial transactions, proper records and luxurious expenses. FBR should expand POS (Point of Sale) system to all retailers of every area far away and it should be updated and up-to date. FBR should promote digital transactions and should discourage cash payment rather to make penalties on cash payments.

Research Questions:

1. What is the Financial Implications of Information Technology on FBRs performance?
2. What is the moderating role of Fiscal policy effectiveness in the relationship of financial implication of FBR's performance?

Research Objectives

1. To investigate the impact of financial implication of Information Technology on FBR's performance
2. To examine the moderating role of Financial Implication.

Literature Review

Miyahira, H. (2008) analyzed, that the importance of information technology in tax collection shows that it has great impact on tax collection ratio, monitoring tax compliances, identifying tax base, reduction tax evasion, human efforts, cots, increases operational efficiency, transparency, accountability, error free, enhance FBR performance and improve country's economy.

Immad Alam & Dr. Muqeem-ul-Islam (2024) investigated that the implementation of IT system in tax collection can boost the tax collection ratios, reduces tax evasion, human efforts, increases efficiency, accuracy and collection of monetary data about taxpayers. They further explained that IT is the only way to reduces tax evasion in Pakistan, monitor monetary transactions, business activities, banking transactions and insurance activities. They discussed that tax collection is the major source of country's economy, every country's has majorly dependent on tax collection which utilizes for country's structure, infrastructure and public interest. They did not discuss proper solutions and did not suggest any innovative IT system or AI technology that may solve the problems.

Asif Safdar & Aamir Khan (2021) explored, that FBR has failed to collect accurate data of taxpayers. It has no innovative system which capture and sensor accurate incomes and profits of individuals and business persons. They further explained that the board has no innovative monitoring system which gathered exact and accurate data and predict tax obligations and liabilities on taxpayers. They did not suggests any online tools that must collect relevant and accurate data about taxpayers which may increase tax collection ratio.

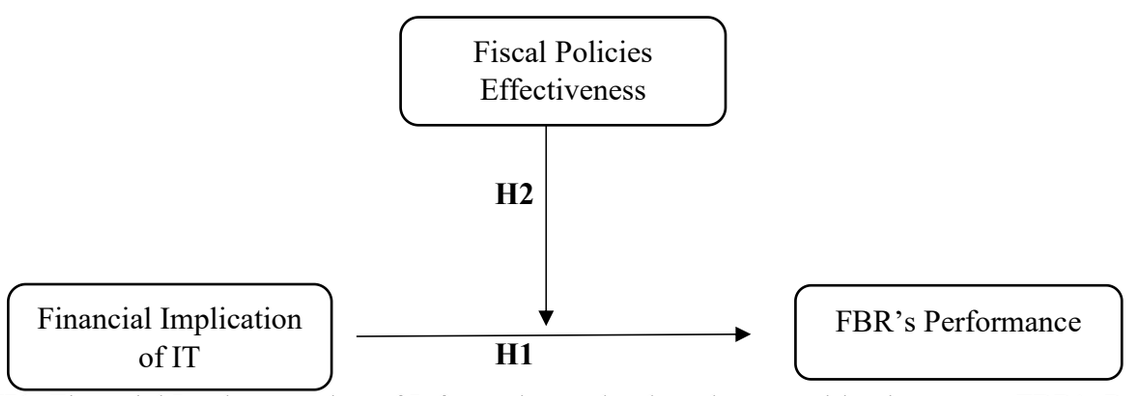
Digital transformation of tax administration is neither a luxury nor an innovation anymore, but an international necessity in the context of improving efficiency, transparency, and compliance. The conceptual foundations of this change can be usually traced back to Diffusion of Innovation (DOI) Theory (Rogers, 2003) and Technology Acceptance Model (TAM) (Davis, 1989) that describe the way new technologies are embraced and accepted in organizations. Regarding the situation in the context of public finance, the theories have developed into such theories as the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2003, 2016), which assumes that the adoption and successful implementation of technological systems depends on performance expectancy, effort expectancy, social influence, and facilitating conditions. Tax systems worldwide have used IT to shift away the manual systems that use paper to automated systems.

In its report, placing special focus on the creation of proactive data-driven tax systems, Organisation for Economic Co-operation and Development (OECD, 2020) notes that digitalisation is a key factor in the revision of tax administration products. This includes pre-filling tax returns with sophisticated analytics, application programming interfaces (APIs) and centralized data hubs and interacting with taxpayers in real time. In a case in point, other countries such as Estonia have adopted an entirely digital tax system with 99 per cent of all tax returns filed online and processing time is cut to few minutes which saves a lot of money in administration and increases compliance rates (Mannersoo, 2021). It is also true that the HM Revenue & Customs (HMRC) of the United Kingdom has also made a significant investment in its programme known as Making Tax Digital (MTD), which requires businesses to maintain digital records and submit tax information quarterly. Preliminary assessments have shown that MTD has minimized mistakes, enhanced record-keeping preciseness, and increased timeliness of payment of taxes (HM Revenue & Customs, 2022). These illustrations highlight a vital change: the contemporary tax administration is not only the digitalization of the processes already existing, but the re-engineering of the processes based on the data and non-interrupted digital interaction.

The relationship between IT spending and the improvement of performance in revenue authorities is documented. In this case, performance is a multidimensional concept, which will include the efficiency in revenue collection, the levels of compliance, cost-effectiveness, satisfaction with taxpayers, and operational transparency. One of the most decisive studies conducted by Slemrod (2019) holds that technology is a force multiplier of tax agencies. Automation of routine activities (using data entry, invoice matching, and simplifity compliance checks) can help agencies redirect their human resources towards sophisticated audit investigations, taxpayer education, and policy analysis. The change not only increases the level of productivity, but also enhances the quality of enforcement. As an example, the service of custom and commercial registries, Chile, Servicio de Impuestos Internales (SII) deployed an integrated data analytics platform, which cross-link transaction data provided by banks, customs, and commercial registries. This system uncovered inconsistencies and underreporting that resulted in a 15 percent growth in the amount of revenues collected by large corporations in two years of operation (Bastani and Waldenström, 2020).

Oyebola (2023) explored that, financial implications of Information technology may bring great effects. Like, it reduce costs, increase revenue, time savings, accuracy, efficiency, timework, automation, framework, command, easy access and easy results. Implication of Information Technology need for enhancement in the performance of FBR and tax collection ratios. IT system will make double the ratios and performance of the department. Tax collection moderate fiscal policies. Low tax ratios weakens moderating role. Fiscal policies moderates public investments and economic growth. AI audit, AI invoicing, AI Tax returns formats, formulae, e-invoicing, digital documentation, risk assessment, AI-Powered audits, block-chain for transparency, 24/7 availability, digital reporting, one click summaries, real time monitoring. Information Technology with its applications and significances may strengthen fiscal policies

Conceptual Framework



H1: Financial Implementation of Information technology has a positive impact on FBR's Performance

H2: Fiscal policy moderates the relationship of financial implication of information technology and FBR performance.

Advance Journal of Econometrics and Finance
Vol-4, Issue-1, 2026

RESEARCH METHODOLOGY

Research Philosophy

The research philosophy is Positivism. The study can brings positive changes, enhance FBR performance, innovation in digital system of FBR to make easy e-filling tools, AI tools for time and costs reduction, automation in all processes, digitalization of data, 24/7 availability of system, AI audits services for businesses and individuals.

Research Approach

Research approach is deductive approach. Deductive research method is applied, which starts from the existing previous and models. The existing theories like Diffusion of Innovation, Theory (DOI) and technology Acceptance Model (TAM). The research Formulates hypothesis based on the previous article from literature

Research Strategy

The research strategy is survey based. The survey based strategy was adopted because it enables data collection from hug sample accurately. It provides empirical and numerical evidence on how information technology affects the performance of FBR and tax collection. It help and test the moderating role of fiscal policies effectively.

Methodological Choices/ Method

This study is based on survey.

Time Horizon

Time horizon for this study is cross sectional, it is because the study can examine financial implication on FBR performance at a specific point in time, rather than to select any extended time period.

Techniques and Procedures

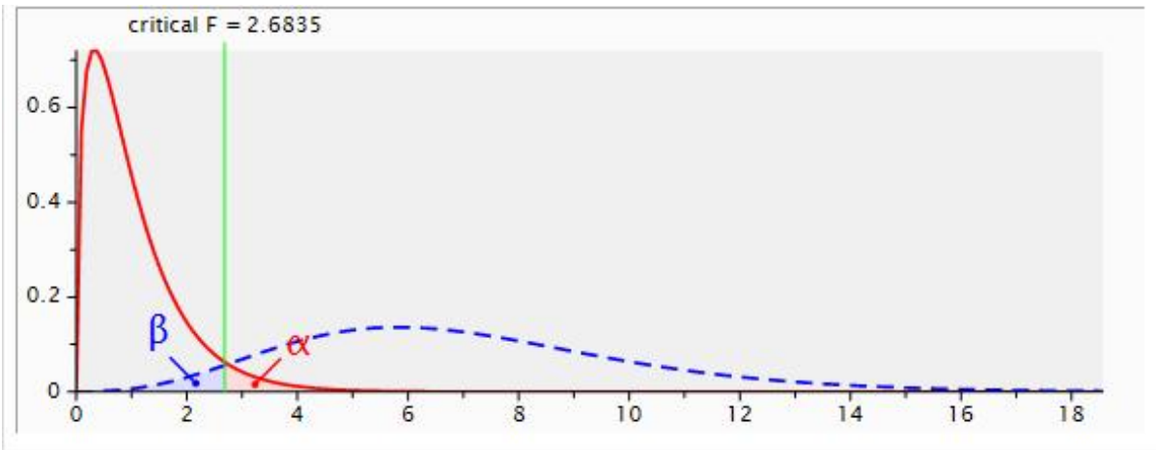
The data collected has been analyze by using SPSS.

Population of the Study

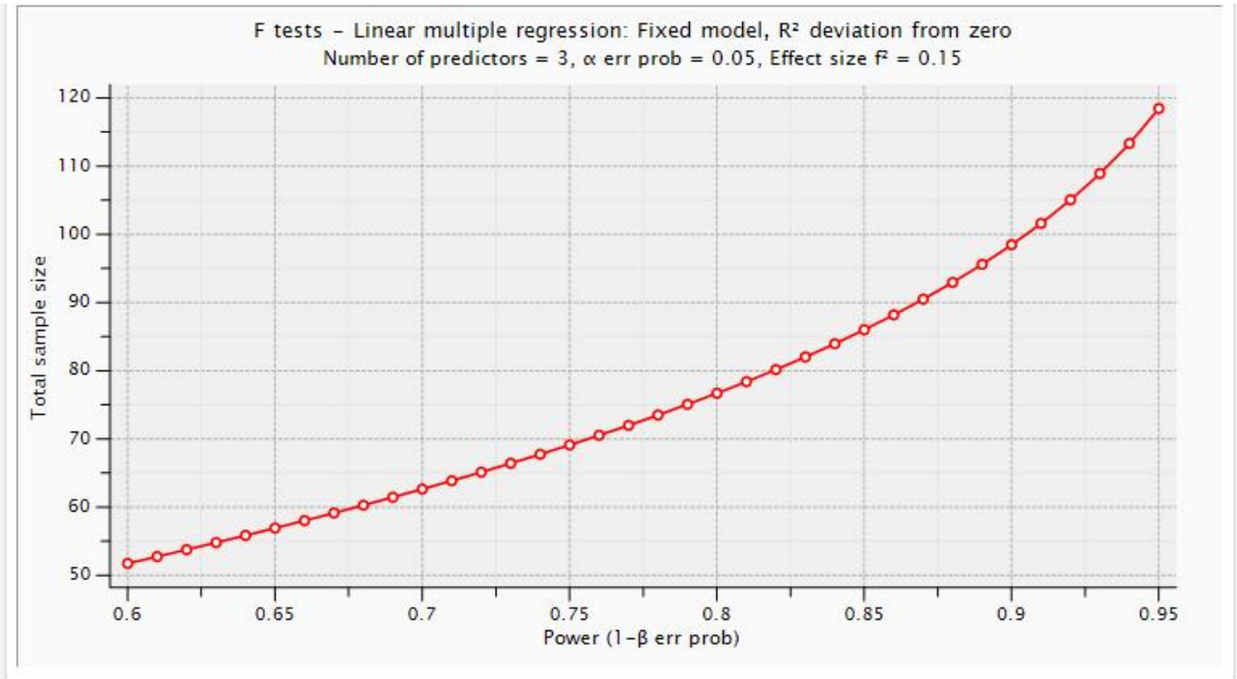
FBR officials, tax officers, auditors, FBR (RTO Peshawar) administration and taxpayers.

Sample Size

As the total population is unknown therefore G Power technique will have to employ. As per this technique, the total sample from which the data will be collected is 119.



Advance Journal of Econometrics and Finance
Vol-4, Issue-1, 2026



RESEARCH ANALYSIS

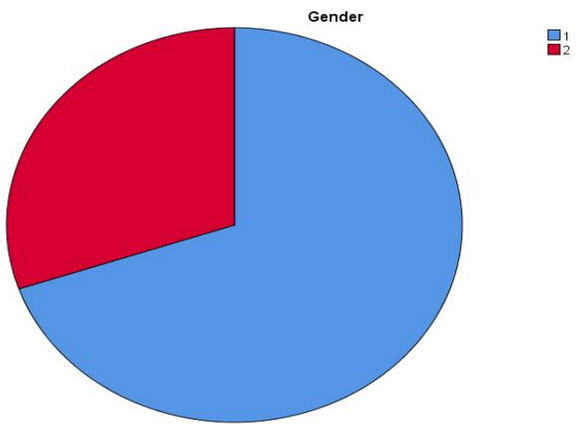
Demographics:

The analysis reveals a comprehensive examination of financial system dynamics among 119 respondents, predominantly male (69.7%) and highly educated, with most holding mid-to-high qualification levels. The sample is relatively mature, with the majority spread across two older age groups.

Gender

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	83	69.7	69.7	69.7
	2	36	30.3	30.3	100.0
	Total	119	100.0	100.0	



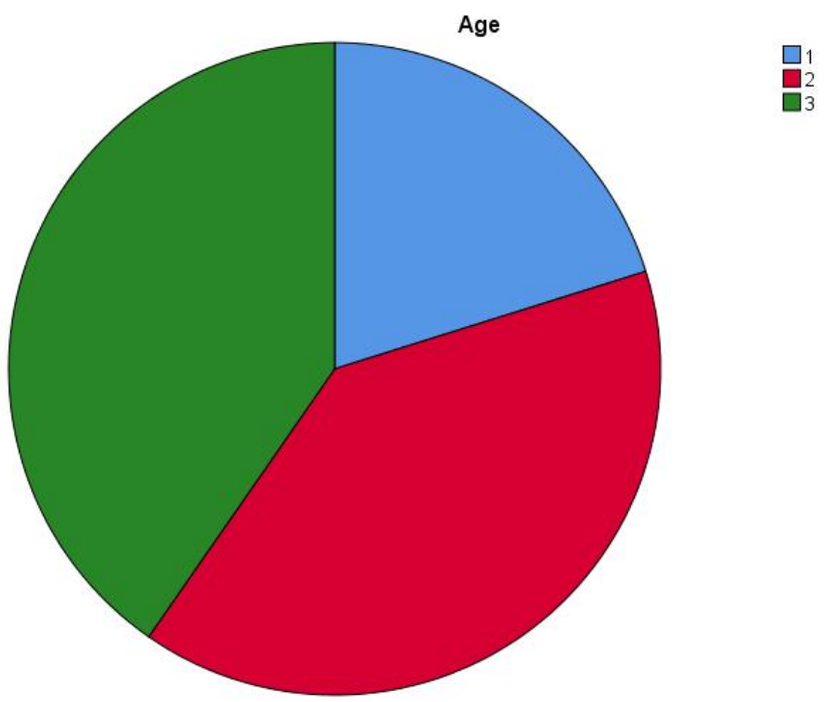
Age

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	24	20.2	20.2	20.2
	2	47	39.5	39.5	59.7

Advance Journal of Econometrics and Finance
Vol-4, Issue-1, 2026

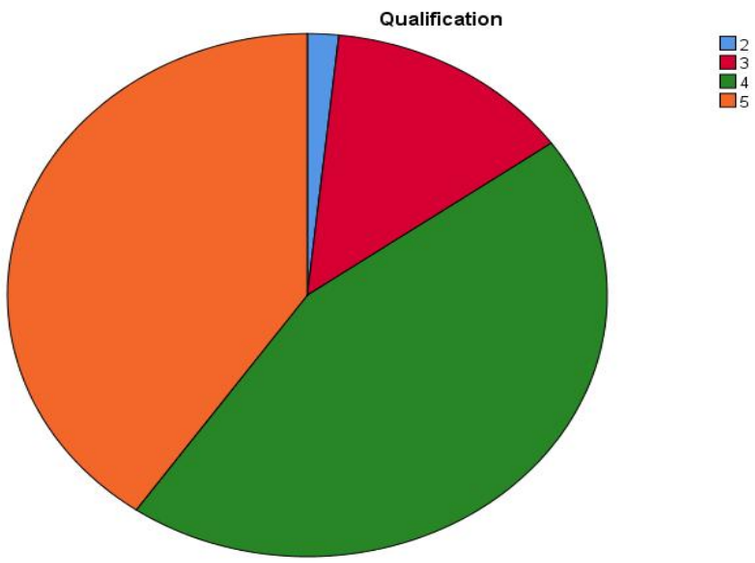
	3	48	40.3	40.3	100.0
	Total	119	100.0	100.0	



Qualification

Qualification

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	2	1.7	1.7	1.7
	3	16	13.4	13.4	15.1
	4	53	44.5	44.5	59.7
	5	48	40.3	40.3	100.0
	Total	119	100.0	100.0	



Reliability Analysis Financial Information Technology:

Reliability Statistics

Cronbach's Alpha	N of Items
.959	8

The Financial Information Technology (FIT) scale has high internal consistency, as shown by a Cronbachs Alpha =.959 indicating the use of 8 items. It means that the items of the FIT scale are very correlated and they always measure the same construct. An alpha over.90 is believed to be exceptional and in research, it indicated that the scale is extremely reliable and can be used to make confident conclusions regarding the perception of respondents towards financial technology systems.

FPR Performance:

Reliability Statistics

Cronbach's Alpha	N of Items
.835	8

The FBR Performance (FBRP) scale has excellent internal consistency registering Cronbachs Alpha of.835 with 8 items. This is a high score compared to the generally accepted standard of.70 which validates that the scale is valid and that its items are consistent in measuring fiscal and budgetary performance. The scale can use slight improvement, yet it is solid and can be subjected to further statistical examination

Fiscal Policy Effectiveness:

Reliability Statistics

Cronbach's Alpha	N of Items
.938	6

Excellent reliability is also demonstrated by the Fiscal Policy Effectiveness (FPE) scale of Cronbachs Alpha of.938 in 6 items. Such a high internal consistency also means that the item on the scale is highly related and has a high degree of reliability in measuring the perceptions of the effectiveness of the policy. The finding confirms the FPE.

Descriptive Statistics

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
FIT	119	3.38	4.88	4.2658	.34157	-.568	.222	.020	.440
FBRP	119	2.88	5.00	4.3183	.40185	-1.109	.222	1.872	.440
FPE	119	2.00	4.67	3.8529	.71313	-1.106	.222	.124	.440
Valid N (listwise)	119								

The data is analyzed with full data on all the three key variables of the 119 respondents. Financial Information Technology (FIT) and FBR Performance (FBRP) both scored high averages with a mean of 4.27 and 4.32 respectively which is most probably on a 5-point scale. Another good score was Fiscal Policy Effectiveness (FPE) which had a mean of 3.85 but with a slightly lower score. An interesting fact to note is that the skewness of all the three variables is negative and all of them are non normally distributed and are concentrated at the higher and favourable end of the scale.

Correlation

Correlations

		FIT	FBRP	FPE
FIT	Pearson Correlation	1	.786	.639
	Sig. (2-tailed)		.000	.000
	N	119	119	119

FBRP	Pearson Correlation	.569	1	.632
	Sig. (2-tailed)	.000		.000
	N	119	119	119
FPE	Pearson Correlation	.545	.555	1
	Sig. (2-tailed)	.000	.000	
	N	119	119	119

**. Correlation is significant at the 0.01 level (2-tailed).

Correlation matrix indicates that all the three variables have a strong positive and statistically significant correlation at the 0.01 level. The most significant relationship is between Financial Information Technology (FIT) and FBR Performance (FBRP) in that the correlation coefficient is.786. This shows that an increase in perceptions of financial IT systems is highly correlated with an increase in the fiscal and budgetary performance ratings. There is also a strong positive relationship between Fit and Fiscal Policy Effectiveness (FPE) (.639) and FBRP and FPE (.632). These interconnection imply that the three constructs e.g. technological infrastructure, performance outcomes as well as policy effectiveness are viewed as reinforcing components of financial system.

Regression Analysis of FIT and FBRP:

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.965[a]	.932	.931	.11280

a. Predictors: (Constant), FIT

The fit of the regression model is very high. The value of this correlation coefficient (R) of 0.965 shows that there is virtually a perfect linearity between FIT and FBRP. The value of the R-SQ at.932 indicates that Financial Information Technology accounts 93.2% of the variance in FBR Performance. It is an extremely large power of explanation and it implies that the power of FIT is the strong and almost exhaustive factor in the current context affecting the performance results.

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	20.395	1	20.395	1602.904	.000[b]
	Residual	1.489	117	.013		
	Total	21.884	118			

a. Dependent Variable: FBRP

b. Predictors: (Constant), FIT

The results of ANOVA prove that the model is very statistically important ($F = 1602.904$, $p < .000$). The p-value (Sig. =.000) is extremely small, which implies that the likelihood of this relationship to arise due to chance is almost zero. This gives a good argument that predictive relationship between FIT and FBRP is real and valid within a population the sample was obtained.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	-.117	.091		-1.285	.201
	FIT	.990	.025	.965	40.036	.000

a. Dependent Variable: FBRP

The coefficient of the fit of (.990) is very significant (p <.000) and means that with a one unit change in Financial Information Technology, the change in FBR Performance is (.990) units. The beta coefficient of 0.965 is standardized to confirm the strength of the relationship whereby FITNESS is almost one-to-one with FBRP in both cases where both variables are measured in standard deviation units.

Moderation Analysis:

Model : 1

Y : FBRP

X : FIT

W : FPE

Model Summary

R	R-sq	MSE	F	df1	df2	p
.6271	.3933	.3136	58.3400	3.0000	270.0000	.0000
Model						
	coeff	**se**	**t**	**p**	**LLCI**	**ULCI**
constant	.8265	1.1194	.7355	.4631	1.3813	3.0266
FBRP	.5235	.3170	1.6412	.1019	.1038	1.1443
FPE	.2685	.2871	.9392	.3485	.2956	.8349
Int_1	.0130	.0763	.1702	.0001	.1655	.1375

The Fiscal Policy Effectiveness (FPE) does alter the strength or direction of the relationship that exists between Financial Information Technology (FIT) and FBR Performance. The positive coefficient (.0130) indicates that the increase in FPE contributes a small positive effect on the positive one of FIT on FBRP. The coefficient is low and therefore suggests that the moderating effect might be statistically significant yet not possibly big.

DISCUSSION

This research sought to investigate the financial effect of Information Technology on the FBR performance and the determination of whether the Fiscal Policy Effectiveness mediates this relationship. The results strongly prove the first hypothesis (H 1), which is that there is a very strong and significant positive relationship between Financial Information Technology (FIT) and FBR Performance (FBRP). The regression coefficient (=.990, p <.001) and the high value of R-squared (=.932) indicate that the perception of advanced IT systems, including automation, AI tools, e-filing efficiency, and data analytics, is nearly identical to the high performance in the fields of tax collection, compliance monitoring, and efficiency in operations. This is in line with evidence worldwide that digital transformation is one of the pillars of efficient tax management, cost reduction, minimization of evasion and enhanced accuracy (Miyahira, 2008; Adelakun, 2023). The second hypothesis (H2) has a more subtle outcome to the test. The analysis indicates that there is a statistically significant, and practically marginally significant, moderating effect of Fiscal Policy Effectiveness (FPE) in the relationship between FIT-FBRP (interaction term p =.0001, coefficient =.0130). This implies that even the well-crafted fiscal policy (e.g., the incentives of going digital, IT budget, and enabling regulation) does have a positive impact on the magnitude of IT-enhanced-performance, but that this effect is presently extremely low in the Pakistani context. This low level of moderation can be construed in a number of ways. To begin with, the key impediment to the performance of FBR could be a technological shortcoming instead of a policy issue. Such limitations of the IRIS system, failure to integrate with financial databases, and the absence of sophisticated analytics may be so profound that even a powerful fiscal policy can have little effect on it until the fundamental IT infrastructure is completely redesigned. Second, the current fiscal policy climate itself might be not specific, enforcement machinery, or financial investment that would significantly trigger IT-based performance improvement. The policies can be on paper but not implemented and geared to digital adoption in FBR. The fact that all the three constructs (FIT, FBRP, and FPE) have strong positive correlations supports the use of these as perceived as interconnected elements of a contemporary financial ecosystem. But the moderation analysis also shows that the reform route is a series of steps: the priority of urgent need is direct investment and development of IT systems. As it is currently set, the fiscal policy is rather a weak facilitator than a strong multiplier.

CONCLUSION

The research arrives at a conclusion that Information Technology is the most imperative determinant of the performance of Federal Board of Revenue in Pakistan. The empirical results prove the almost perfect linear correlation, and improvement in financial IT directly and strongly matches to the better collecting taxes, efficiency, and transparency of the system. Conversely, the moderating position of the current fiscal policies, although statistically significant is of a marginal nature in reality. As such, modernization of the IT backbone, encompassing AI-driven audits, blockchain to provide transparency, real-time data integration, and easy-to-use digital interfaces are the key suggestions of revolutionizing the effectiveness of FBR. At the same time, there is a need of landmark changes in the fiscal policies to cease playing a passive supportive role and become active and forceful agents of technological adoption and innovation in the tax administration system.

RECOMMENDATION

Recommendations are made based on findings and they are as follows:

In the case of FBR and Ministry of Finance: Pay priority to an overall IT overhaul. Invest a significant capital in the modernization of the old IRIS system with an integrated platform based on AI-driven risk assessment, real-time database connection (with banks, NADRA, SECP), automated audit triggers, and a simplified taxpayer portal. It should develop a strong roadmap of FBR Tech.

To the Policymakers: Fiscal policies: Reform of fiscal policies to actively stimulate the uptake of IT. These involve providing special tax benefits on firms that implement e-invoicing and e-bookkeeping, establishing a special fund known as the Digital Tax Transformation Fund, and instituting electronic data-sharing of governmental departments and FBR to expand the taxpayer base.

To be implemented: Pilot large-scale uses of new technologies (e.g. blockchain to track large transactions, AI to detect GST fraud) and only then roll out nationally. At the same time, invest in an unprecedented digital literacy and training initiatives among staff members of the FBR as well as on taxpayers to make them get a proper use out of new systems.

To Future Research: Longitudinal research to determine the actual change in the revenue collection level and compliance rates after the specific IT implementation. Pakistan could be given a working roadmap through comparative work with the taxation systems of countries that have already digitized their systems successfully (e.g., Estonia, Singapore).

REFERENCES

Adelakun, B. O. (2023). How technology can aid tax compliance in the US economy. Journal of Knowledge Learning and Science Technology ISSN: 2959-6386 (online), 2(2), 491-499.

Ahmed, M. A. (2016). Pakistan's governance goliath: The case of non-professional Chairman, FBR. *The Pakistan Development Review*, 621-656.

Alam, I. (2023). Exploring the potential and challenges of AI and blockchain integration for revenue enhancement in Pakistan: A comprehensive policy analysis. Khyber Journal of Public Policy, 3(2).

Ali, M., Asmi, F., Rahman, M. M., Malik, N., & Ahmad, M. S. (2017). Evaluation of E-service quality through customer satisfaction (A case study of FBR E-taxation). *Open Journal of Social Sciences*, *5*(9), 175-195.

Alles, M. G., Kogan, A., & Vasarhelyi, M. A. (2008). Audit automation for implementing continuous auditing: Principles and problems. *Rutgers Business School*, *1*, 1-24.

Ammar, A. (2023). Broadening of Tax Base: Policy Challenges and the Way Forward. *Journal of Public Policy Practitioners*, *2*(2), 101-115.

Anomah, S., Ayeboafo, B., Aduamoah, M., & Agyabeng, O. (2024). Blockchain technology integration in tax policy: Navigating challenges and unlocking opportunities for improving the taxation of Ghana's digital economy. *Scientific African*, *24*, e02210.

Asif Safdar & Aamir Khan - Broadening of Tax Base in Pakistan: Legislative and Administrative Prospects-2021

Baer, M. K., & Silvani, M. C. (1997). *Designing a tax administration reform strategy: Experiences and guidelines*. International Monetary Fund.

Bird, R. M. (1989). The administrative dimension of tax reform in developing countries. *Tax reform in developing countries*, 315-346.

Bou Reslan, F., & Jabbour Al Maalouf, N. (2024). Assessing the Transformative Impact of AI Adoption on Efficiency, Fraud Detection, and Skill Dynamics in Accounting Practices. *Journal of Risk and Financial Management*, *17*(12), 577.

Chohan, U. W., & Mujtaba, H. (2021). Pakistan's Taxation Conundrum.

Cohen, J., Janssen, M., Chambost, V., & Stuart, P. (2010). Critical analysis of emerging forest biorefinery (FBR) technologies for ethanol production. *Pulp & Paper Canada*, *111*(3), 24-30.

e Hassan, I., Naeem, A., & Gulzar, S. (2021). Voluntary tax compliance behavior of individual taxpayers in Pakistan. *Financial Innovation*, *7*, 1-23.

Ezeife, E. (2021). AI-driven tax technology in the United States: A business analytics framework for compliance and efficiency. *International Journal of Multidisciplinary Research and Growth Evaluation*, *2*, 693-701.

FBR Biannual Review July-December FY 2023 Vol. 22, No.1

Ferdiana, R., & Sulistyo, S. (2019). The role of information technology usage on startup financial management and taxation. *Procedia Computer Science*, *161*, 1308-1315.

Geetanjali Upadhyaya-2011- ICT application in service delivery: A case of Inland Revenue Department

Hanna, N. (1991). The information technology revolution and economic development (Vol. 120). World Bank Publications.

Hao, X., Li, Y., Ren, S., Wu, H., & Hao, Y. (2023). The role of digitalization on green economic growth: Does industrial structure optimization and green innovation matter?. *Journal of environmental management*, *325*, 116504.

Hasan, A., Sheikh, N., & Farooq, M. B. (2024). Exploring stakeholder perceptions of tax reform failures and their proposed solutions: a developing country perspective. *Meditari Accountancy Research*, *32*(3), 721-755.

Hassan, A., & Abbas, M. An Assessment of Low Tax Paying in Pakistan: Causes and Problems.

Hussain, M. (1982). The relative effectiveness of monetary and fiscal policy: An econometric case study of Pakistan. *Pakistan Economic and Social Review*, *20*(2), 159-181.

Jiang, Y., Qin, J., & Khan, H. (2022). The Effect of tax-collection mechanism and management on enterprise technological innovation: evidence from China. *Sustainability*, *14*(14), 8836.

Khurram, S., & Arshad, S. DOCUMENTATION SIMPLIFICATION VIA TAX E-FILING: EXAMINING BARRIERS TO ADOPTION AND CONTINUANCE INTENTION OF USING E-FILING BY TAXPAYERS IN PAKISTAN.

Kothari, C. R. (2004). Research methodology: Methods and techniques. *New Age International*. Chih-Pei, H. U., & Chang, Y. Y. (2017). John W. Creswell, research design: Qualitative, quantitative, and mixed methods approaches.

Lodhi, K. M. (2017). Tax incentives and impact on investment in Pakistan. *Abasyn Journal of Social Sciences*, *10*(1), 192-211.

Malik, M. B. (2022). Appraisal of comprehensive scheme of increasing tax base proposed by FPCCI. *Journal of Public Policy Practitioners*, *1*(2), 01-32.

Marangunić, N., & Granić, A. (2015). Technology acceptance model: a literature review from 1986 to 2013. *Universal access in the information society*, *14*, 81-95.

Miyahira, H. (2008). Using Information Technology to Improve Tax and Revenue Collection. THE INSTITUTE OF BRAZILIAN BUSINESS & PUBLIC MANAGEMENT ISSUES & George Washington University, Washington DC.

Oyebola Okunogbe, fabrizio and celeste Scarpini- 2023, The Implication of Information technology for tax mobilization.

Puspita, T. (2023). Tax Planning in Transition: Evaluating the Impact of Evolving Legislation on Financial Strategies. *Advances in Taxation Research*, *1*(3), 136-146.

Pylypenko, O., Matviienko, H., Putintsev, A., Vlasenko, I., & Onyshchuk, N. (2022). Government tax policy in the digital economy. *Cuestiones Políticas*, *40*(72), 279-296.

Qian, Y., Fang, Y., & Gonzalez, J. J. (2012). Managing information security risks during new technology adoption. *Computers & security*, *31*(8), 859-869.

Rice, R. S. (1969). Tax Reform and Tax Incentives. *Law and Contemporary Problems*, *34*(4), 782-804.

Sabitova, N. M., & Khafizova, A. R. (2015). Information technologies as a factor of evolution of tax administration. Mediterranean Journal of Social Sciences, 6(1), 169-173.

Shahid (2018). (2018). *Enhancing the Performance of Federal Board of Revenue, Pakistan through Innovative Administrative Measures* (Doctoral dissertation, Seoul National University Graduate School

Shahid Ijaz Tarar- Enhancing the Performance of Federal Board of Revenue, Pakistan through Innovative Administrative Measures-August, 2018

Shahid. (2018). Enhancing the Performance of Federal Board of Revenue, Pakistan through Innovative Administrative Measures (Doctoral dissertation, Seoul National University Graduate School

Shaikh, M. A. (2023). Economic Challenge For Pakistan. *Journal of Islamic Banking & Finance*, *40*(3).

Shakeel, A. WITHHOLDINGIZATION OF TAXATION SYSTEM: BENEFICIAL OR NOT?.

Venkatesh et al., 2003 - Unified Theory of Venkatesh, V., Thong, J. Y., & Xu, X. (2016). Unified theory of acceptance and use of technology: A synthesis and the road ahead. *Journal of the association for Information Systems*, *17*(5), 328-376.

Weber, D. (2023). The implications of online platforms and technology for taxation.

Xia, Y., & Zhang, G. P. (2010). The impact of the online channel on retailers' performances: An empirical evaluation. *Decision Sciences*, *41*(3), 517-546.