



## Tax Technology: Implication of Awareness and Utilization of the Resources.

*Dr. Bageshree P. Bangera Bandekar<sup>1</sup>, Ms. Aksha Memon<sup>2</sup>*

<sup>1</sup>Research Guide, Cosmopolitan's Valia College of Arts, and Commerce D.N Nagar, Andheri (W)

<sup>2</sup>Research Scholar, D.T.S.S College of Commerce. Malad (E)

Email Id: [profakshamemon@gmail.com](mailto:profakshamemon@gmail.com)

### ABSTRACT –

In the relentless march of technological progress, Tax Technology (TaxTech) stands as a transformative force in the realm of taxation. This paper emphasises on an exploration of the effects of TaxTech awareness and its effective application, shedding light on its capacity to streamline and enrich tax processes for individuals, enterprises, and governments. Our research objectives encompass the evaluation of awareness levels, utilization patterns, and stakeholder satisfaction concerning TaxTech tools, spanning across individuals, businesses, and governmental entities. Furthermore, we endeavor to determine the perceived advantages and challenges obtained with the integration of TaxTech, thereby providing insights into its role in reinforcing tax compliance and system efficiency. Analytically, our findings find a multifaceted relationship between independent variables usage of tax technology and the collective set of dependent variables like Increased efficiency, Cost Saving, Reduced error, improved accuracy, enhanced decision making, flexibility in work location. . Although an overall effect is discernible, indicative of a connection between 'usage of tax technology' and the dependent variables, the specific influence of 'usage of tax technology' requires nuanced exploration. The non-significant p-value for 'usage of tax technology' suggests an intricate relationship, potentially influenced by unexamined factors. Additionally, an OLS regression model underscores the significance of awareness and familiarity with TaxTech tools as predictors of preparedness. The model elucidates a substantial proportion of the variability in 'preparedness,' emphasizing their pivotal role. In summation, TaxTech is revolutionizing tax paradigms, offering prospects of efficiency, transparency, and compliance. The acquisition of awareness and proficiency in TaxTech tools emerges as crucial for unlocking these advantages. Our research underscores the imperative for educational initiatives, awareness campaigns, and sustained research to harness the full potential of TaxTech. Embracing TaxTech holds the potential to establish globally efficient, equitable, and compliant tax systems, benefiting individuals, businesses, and governments universally.

### Introduction:

In today's world, technology is changing everything, including how we deal with taxes. Taxation, which used to be all about paperwork and forms, is now going digital. This shift, often called "Tax Technology" or "TaxTech," is making taxes easier, more accurate, and more open.

Our research paper is all about understanding what happens when people and businesses know about tax technology and use it effectively. It's like asking, "How can we use technology to make taxes easier?"

To answer this question, we'll explore different parts of tax technology, like electronic filing (which is like sending your taxes online), using computers to analyze data, artificial intelligence (which is like a computer that can think), and even blockchain (a fancy way to secure data). We want to show how knowing about these tools and using them the right way can make taxes simpler for everyone.

We'll also talk about how important it is for people to learn about tax technology. As governments and businesses use more and more tech, we all need to know how it works. Imagine it like learning to drive a new kind of car - you need to know how it works to get around safely.

In the rest of this paper, we'll look at real examples, tips, and what's coming up next in tax technology. We want to help regular people, governments, and tax experts make good choices in this new digital world of taxes. It's like giving everyone a map to navigate this changing tax world.

In the world of taxes, there are lots of fancy technologies that people and businesses can use. And guess what? There will be even more cool options in the future! Let's break down some of these technologies:

1. **Robotic Process Automation (RPA):** This is like having a computer robot that can do simple, repetitive tasks. Imagine things like checking if numbers are correct, making reports, or typing in data. Robots can do these tasks instead of humans.
2. **Smart Process Automation (SPA):** SPA takes RPA to the next level. It's like having a really smart robot. These robots can learn how to do a task better over time. For example, they can look at documents and figure out what's important all on their own.

3. **Artificial Intelligence (AI):** This is when computers can do things that usually only humans can do. Right now, there aren't many AI tools for taxes, but in the future, they will be super smart. They'll help tax teams analyze data and do their jobs better.
4. **Cloud Computing:** Instead of having software on your computer, it's on the internet. This means you can work on tax stuff from anywhere, not just your office. It's like having your important tax tools in a virtual backpack that you can take everywhere.

These technologies are used in almost every part of taxes. They help with things like managing taxes, getting information from documents, keeping track of records, filing tax returns, making predictions, and even paying bills. So, taxes are becoming way more high-tech!

---

### Review of Literature:

- 1) The paper titled "Tax Technology, Fairness Perception, and Tax Compliance among Individual Taxpayers: Evidence from Pakistan" explores the impact of tax technology on taxation compliance and how it helps to formulate fairness perception about the taxation system in Pakistan. The study uses the Technology Acceptance Model (TAM) to investigate the relationship between tax technology, fairness perception, and taxation compliance. The authors conducted a survey of 400 individual taxpayers in Pakistan and used structural equation modeling to analyze the data. The study found that tax technology has a positive impact on taxation compliance and fairness perception. The results suggest that policymakers should invest in tax technology to improve taxation compliance and promote fairness perception among taxpayers.
- 2) The paper discusses the use of technology as a strategic tool for enhancing tax compliance in developing countries. The authors emphasize the importance of having competent IT skill personnel and strong customer orientation interest when implementing technology solutions. The study used both stratified and random sampling techniques to obtain a sample size of 50 respondents, out of which 40 responded. The findings suggest that using online payment and tax payment methods reduces the tax payment process and receipting process, resulting in a significant improvement in revenue collection time for taxpayers. The study also revealed that clearing agents and importers are now able to lodge their documents at any time and from any place in the world. The authors recommend that tax revenue authorities should sensitize taxpayers on the systems they have in place and how they will be of advantage to them in terms of increasing their compliance levels.
- 3) The paper "A conceptual framework for digital tax administration - A systematic review" provides a comprehensive conceptual framework for policymakers and tax administrators to improve the success of digital services in tax administration. The paper synthesizes research findings in the literature and identifies the research gaps to develop a conceptual framework for future researchers on the subject. The framework has fifteen themes that policymakers and e-government managers can use to design digital tax services fit for purpose. The paper also discusses the limitations of the study and makes suggestions for further research.
- 4) This paper examines the impact of electronic tax payment systems on tax revenue in Nigeria, with a focus on the moderating role of technology. The study uses a survey research design and a sample size of 280 respondents from the Federal Inland Revenue Service (FIRS) and Rivers State Internal Revenue Service (RIRS) in Nigeria. The findings suggest that electronic taxation has a significant impact on reducing tax evasion and avoidance in Nigeria, and that employee competence is a significant predictor of tax collection efficiency. The study also finds a moderate relationship between e-tax payment systems and capital gains tax yield. The paper concludes with recommendations for policymakers and future research directions.

---

### Significance of the Study:

This study on tax technology is very significant for every Assessee involved in taxes. It's like having a powerful tool that can make tax-related tasks easier and more efficient. It shows that using technology, like smart computers, Artificial Intelligence, etc. can save a lot of time and money. This is important not only for regular people but also for businesses and the government. One key thing it highlights is that using technology can reduce mistakes in tax work. Fewer mistakes mean fewer problems, like avoiding extra charges or fines. This technology allows you to work on tax stuff from anywhere, just like you can access your email from any device. This flexibility is especially important in today's world, where many of us work remotely. Moreover, the study reminds us that we need to keep up with these technological changes. Think of it as learning how to use a new tool to stay competitive and efficient. Lastly, it emphasizes that tax technology ensures taxes are fair and transparent, so everyone pays their fair share. In summary, this study highlights that tax technology isn't just a buzzword; it's a game-changer. It makes taxes simpler, saves money, reduces errors, and keeps us in sync with the modern world. So, paying attention to this study is important for all of us, whether we're individuals, businesses, or government entities.

---

### Objectives of the Study:

1. To assess the awareness, usage, and satisfaction levels of individuals, businesses, and governments regarding tax technology tools.
2. To identify the perceived benefits and challenges associated with tax technology adoption.

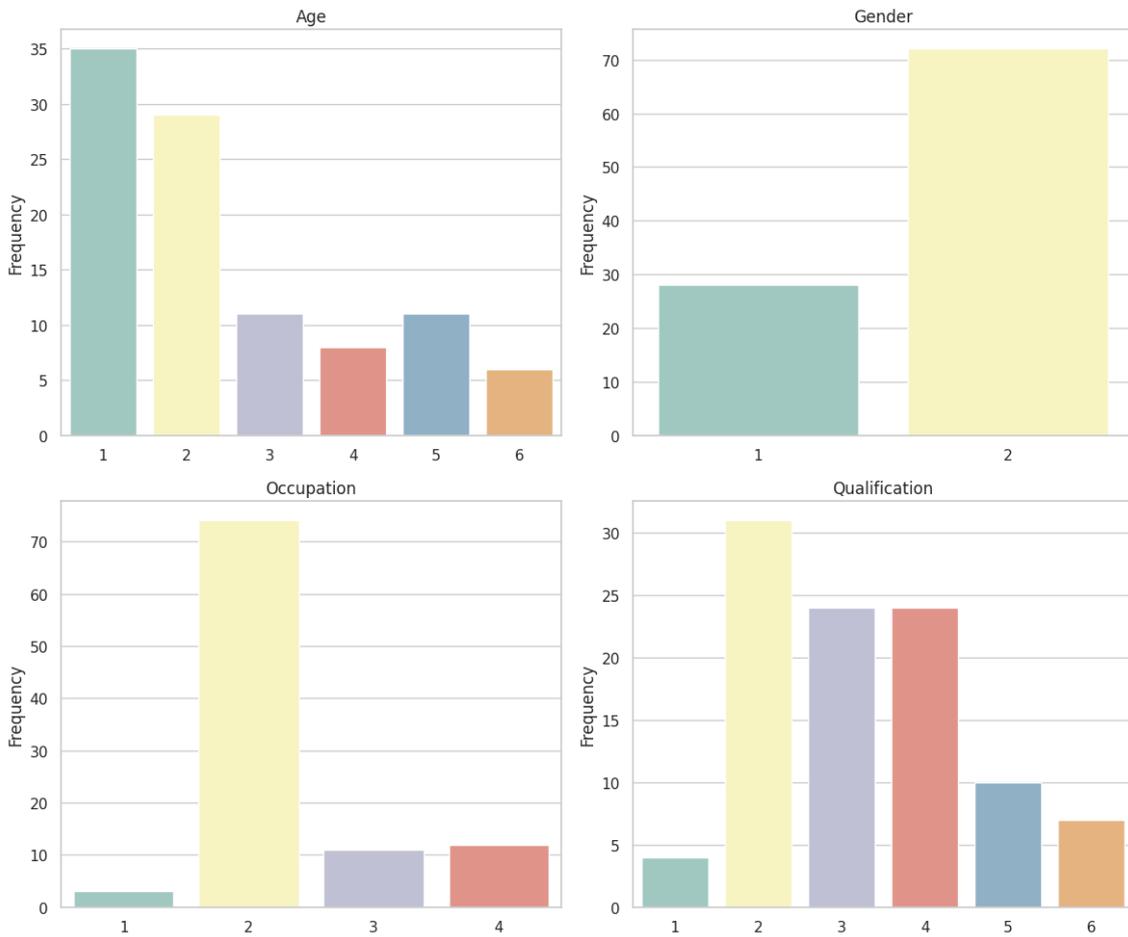
**Hypothesis of the Study:**

Hypothesis 1: There is a positive relationship between the usage of tax technology tools and perceived benefits in terms of efficiency, accuracy, and cost-effectiveness.

Hypothesis 2: Increased awareness and familiarity with tax technology tools correspond to higher levels of preparedness for adapting to future technological advancements.

**Analysis**

**Demographic Data Analysis**



| Qualifiaction | Frequency | Percent           | Valid Percent     | Cumulative Percent |
|---------------|-----------|-------------------|-------------------|--------------------|
| Below 10th    | 4         | 4.0               | 4.0               | 4.0                |
| 10th-12th     | 31        | 31.0              | 31.0              | 35.0               |
| 13th-Graduate | 24        | 24.0              | 24.0              | 59.0               |
| Post graduate | 24        | 24.0              | 24.0              | 83.0               |
| Doctrate      | 10        | 10.0              | 10.0              | 93.0               |
| Professionals | 7         | 7.000000000000001 | 7.000000000000001 | 100.0              |

| Occupation    | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------------|-----------|---------|---------------|--------------------|
| Self Employed | 3         | 3.0     | 3.0           | 3.0                |
| Service       | 74        | 74.0    | 74.0          | 77.0               |
| Professional  | 11        | 11.0    | 11.0          | 88.0               |
| Others        | 12        | 12.0    | 12.0          | 100.0              |

| Age                 | Frequency | Percent            | Valid Percent      | Cumulative Percent |
|---------------------|-----------|--------------------|--------------------|--------------------|
| 18 years - 30 years | 35        | 35.0               | 35.0               | 35.0               |
| 31 years - 40 years | 29        | 28.999999999999996 | 28.999999999999996 | 64.0               |
| 41 years - 50 years | 11        | 11.0               | 11.0               | 75.0               |
| 51 years - 60 years | 11        | 11.0               | 11.0               | 86.0               |
| 61 years - 70 years | 8         | 8.0                | 8.0                | 94.0               |
| 71 years - 80 years | 6         | 6.0                | 6.0                | 100.0              |
| 81 years and above  | 0         | 0.0                | 0.0                | 100.0              |

**Hypothesis 1: There is a positive relationship between the usage of tax technology tools and perceived benefits in terms of efficiency, accuracy, and cost-effectiveness.**

Multivariate linear model

```

=====
-----
Intercept      Value  Num DF  Den DF  F Value  Pr > F
-----
Wilks' lambda  0.5221  6.0000  93.0000  14.1902  0.0000
Pillai's trace  0.4779  6.0000  93.0000  14.1902  0.0000
Hotelling-Lawley trace  0.9155  6.0000  93.0000  14.1902  0.0000
Roy's greatest root  0.9155  6.0000  93.0000  14.1902  0.0000
-----

x              Value  Num DF  Den DF  F Value  Pr > F
-----
Wilks' lambda  0.8948  6.0000  93.0000  1.8217  0.1032
Pillai's trace  0.1052  6.0000  93.0000  1.8217  0.1032
Hotelling-Lawley trace  0.1175  6.0000  93.0000  1.8217  0.1032
Roy's greatest root  0.1175  6.0000  93.0000  1.8217  0.1032
=====
    
```

Interpretation:

The multivariate tests (Wilks' Lambda, Pillai's Trace, Hotelling-Lawley Trace, and Roy's Greatest Root) indicate that there is a statistically significant overall effect of the independent variable 'usage of tax technology' on the combined set of dependent variables - Increased efficiency, Cost Saving, Reduced error, improved accuracy, enhanced decision making, flexibility in work location. This suggests that variations in 'usage of tax technology' are associated with significant variations in the combined dependent variables.

When examining the effect of 'usage of tax technology' specifically, the multivariate tests show that while there is a trend toward significance ( $p = 0.1032$ ), 'usage of tax technology' does not reach the conventional threshold for statistical significance ( $p < 0.05$ ). This indicates that 'usage of tax technology' may have a weaker influence on the dependent variables compared to the overall effect.

These findings have implications for our understanding of the relationship between the independent variable 'usage of tax technology' and the dependent variables Increased efficiency, Cost Saving, Reduced error, improved accuracy, enhanced decision making, flexibility in work location. While the overall effect is significant, suggesting that 'usage of tax technology' does have an impact on the dependent variables as a group, the specific effect of 'usage of tax technology' may require further investigation. The non-significant p-value for 'usage of tax technology' suggests that the relationship between 'usage of tax technology' and the dependent variables may be more nuanced and could be influenced by other factors not considered in this analysis.

**Hypothesis 2: Increased awareness and familiarity with tax technology tools correspond to higher levels of preparedness for adapting to future technological advancements.**

| OLS Regression Results |                  |                     |          |       |        |        |
|------------------------|------------------|---------------------|----------|-------|--------|--------|
| Dep. Variable:         | b                | R-squared:          | 0.699    |       |        |        |
| Model:                 | OLS              | Adj. R-squared:     | 0.693    |       |        |        |
| Method:                | Least Squares    | F-statistic:        | 112.6    |       |        |        |
| Date:                  | Thu, 07 Sep 2023 | Prob (F-statistic): | 5.16e-26 |       |        |        |
| Time:                  | 18:09:51         | Log-Likelihood:     | -99.483  |       |        |        |
| No. Observations:      | 100              | AIC:                | 205.0    |       |        |        |
| Df Residuals:          | 97               | BIC:                | 212.8    |       |        |        |
| Df Model:              | 2                |                     |          |       |        |        |
| Covariance Type:       | nonrobust        |                     |          |       |        |        |
|                        | coef             | std err             | t        | P> t  | [0.025 | 0.975] |
| const                  | 0.6100           | 0.228               | 2.677    | 0.009 | 0.158  | 1.062  |
| a1                     | 0.2525           | 0.108               | 2.332    | 0.022 | 0.038  | 0.467  |
| a2                     | 0.5744           | 0.102               | 5.608    | 0.000 | 0.371  | 0.778  |
| Omnibus:               | 5.456            | Durbin-Watson:      | 1.557    |       |        |        |
| Prob(Omnibus):         | 0.065            | Jarque-Bera (JB):   | 3.274    |       |        |        |
| Skew:                  | 0.247            | Prob(JB):           | 0.195    |       |        |        |
| Kurtosis:              | 2.264            | Cond. No.           | 20.2     |       |        |        |

**Notes:**

[1] Standard Errors assume that the covariance matrix of the errors is correctly specified.

The presented OLS regression analysis assesses the relationship between the dependent variable 'preparedness' and two independent variables, 'awareness' and 'familiarity'. The model appears to be statistically significant, as evidenced by a high F-statistic (112.6) and an extremely low p-value (5.16e-26). These statistics indicate that at least one of the independent variables is significantly associated with the dependent variable. The R-squared value of 0.699 implies that approximately 69.9% of the variation in 'b' can be explained by the model, suggesting a reasonably good fit. The adjusted R-squared (0.693) adjusts for the number of predictors and also indicates a strong fit. Looking at the individual coefficients, 'a1' has a positive coefficient of 0.2525, indicating that for every one-unit increase in 'awareness,' 'preparedness' is expected to increase by approximately 0.2525 units. Similarly, 'familiarity' has a positive coefficient of 0.5744, suggesting that for every one-unit increase in 'familiarity,' 'preparedness' is expected to increase by approximately 0.5744 units. The low p-values for both 'awareness' and 'familiarity' (0.022 and <0.001, respectively) indicate that these variables are statistically significant predictors of 'preparedness.' Furthermore, the confidence intervals for both coefficients do not contain zero, confirming their significance. Overall, this analysis indicates that 'awareness' and 'familiarity' are significant predictors of 'preparedness,' and the model explains a substantial proportion of the variability in 'preparedness.' However, it is essential to consider the model's assumptions and the context of the research when interpreting these findings fully.

## Conclusion:

The research paper delves into the realm of tax technology (TaxTech) and its implications on tax processes, compliance, and overall efficiency. It highlights the transformative power of technology in the tax domain, emphasizing the shift from manual processes to digital solutions. The following conclusions can be drawn from the study:

**TaxTech Transformation:** Taxation is undergoing a substantial transformation due to technological advancements. The adoption of digital tools, software, and automation (e.g., RPA, SPA, AI, and cloud computing) is streamlining tax processes, making them more efficient and accurate.

**Benefits of Tax Technology:** Tax technology offers numerous advantages, including improved efficiency, accuracy, and cost-effectiveness. It reduces the burden of manual, repetitive tasks, allowing tax professionals to focus on more strategic activities.

**Enhanced Compliance:** The study underscores the positive impact of tax technology on tax compliance. It not only facilitates the tax payment process but also reduces tax evasion and avoidance, contributing to more robust revenue collection.

**Importance of Awareness and Learning:** The research emphasizes the importance of raising awareness about tax technology among individuals, businesses, and government entities. Understanding and embracing these technological advancements is crucial for efficient tax management.

**Preparation for Future Technological Advancements:** Being familiar with current tax technology tools is a step toward preparing for future technological advancements. Tax professionals and organizations need to adapt and stay competitive in the evolving digital landscape.

---

**Recommendations:**

**Investment in Tax Technology:** Governments and tax authorities should invest in tax technology to enhance taxation processes, improve compliance, and reduce tax fraud. This investment will lead to more efficient and transparent tax systems.

**Public Awareness Campaigns:** Governments should launch public awareness campaigns to educate taxpayers about the advantages of tax technology. These campaigns can encourage individuals and businesses to embrace digital tax solutions.

**Continuous Monitoring and Evaluation:** Tax authorities should continuously monitor and evaluate the effectiveness of tax technology implementations. Regular assessments will help identify areas for improvement and ensure that technology remains aligned with tax objectives.

**Training and Education:** To maximize the benefits of tax technology, there should be a concerted effort to provide training and education to tax professionals, businesses, and taxpayers. Training programs can help individuals and organizations harness the power of these tools effectively.

**Research and Development:** Further research and development in tax technology are essential. This includes the development of advanced AI tools tailored for tax analysis and forecasting. Tax authorities should collaborate with technology experts to create cutting-edge solutions.

**International Collaboration:** Tax technology is a global phenomenon. International collaboration and the sharing of best practices can help countries adopt successful tax technology models from one another.

In conclusion, tax technology is a game-changer in the tax industry, offering numerous benefits and transforming tax processes. Embracing and investing in these technologies, coupled with education and awareness initiatives, can lead to more efficient, fair, and compliant tax systems globally. The research underscores the pivotal role technology plays in shaping the future of taxation and recommends strategies for harnessing its potential.

**References:**

---

- 1) Perveen, N., & Ahmad, A. (2022). Tax Technology, Fairness Perception, and Tax Compliance among Individual Taxpayers: Evidence from Pakistan. *Audit and Accounting Review*, 2(2), 100-117.
- 2) Bankale, K.D, Ajala A.M, Afolabi, A (2020). Leveraging technology as a strategic tool for enhancing tax compliance in developing countries. *International Journal of Business and Social Science Research*, 9(2), 1-9
- 3) Basse, E., Mulligan, E., & Ojo, A. (2022). A conceptual framework for digital tax administration - A systematic review. *Government Information Quarterly*, 39(1), 101754. <https://doi.org/10.1016/j.giq.2022.101754>
- 4) Ndalu, T. C., & Igwe, J. C. (2022). The impact of electronic tax payment system on tax revenue in Nigeria: The moderating role of technology. *European Journal of Accounting, Finance and Investment*, 8(10), 12-25.
- 5) Awasthi, A., & Iyer, R. (2018). Blockchain technology and its implications for taxation and financial regulation. *Journal of Tax Administration*, 4(1), 61-85.
- 6) Alles, M. G., & Piechocki, M. (2020). Taxation, technology, and the information revolution: A 25-year retrospective. *The British Accounting Review*, 52(6), 100874.
- 7) Blum, R., & Romanov, A. (2019). The impact of artificial intelligence on tax planning and compliance. *Tax Notes International*, 96(8), 743-750.
- 8) Choi, H., Lee, J., & Kim, M. (2019). Digital transformation in tax administration: A case study of South Korea. *Government Information Quarterly*, 36(4), 101386.
- 9) Sadiq, K. (2020). The digital transformation of tax administration: A global survey of the impact of technology on tax systems. *International Tax and Public Finance*, 27(4), 913-941.
- 10) Wenzel, M. (2021). Robotic process automation in tax compliance: Opportunities and challenges. *Journal of Tax Administration*, 7(2), 9-30.
- 11) Zurawicki, L., & Szoltysek, M. (2021). Smart taxation: Artificial intelligence and tax compliance. *World Finance Review*, 11(2), 95-110.
- 12) Yang, L., & Hassan, A. (2020). Cloud computing adoption in tax agencies: A case study of the Internal Revenue Service. *Government Information Quarterly*, 37(2), 101477