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Message from the Chief Editor

The year 2022 saw India bringing about major reforms in education, industry and allied sectors. Reforms in higher education is fast catching up in terms of policy formulation and implementation. India is manifesting Economic resilience, being on the path of consistent industrial development, this has made the nation an emerging economy of the future.

Digital technology and innovation are widely in use as developmental models that will serve our growth aspirations. The unprecedented impact of technology, on not just industry, but all walks of human life is indeed phenomenal. Transforming challenges into opportunities and working under the emerging New Normal is what we need to learn and adopt.

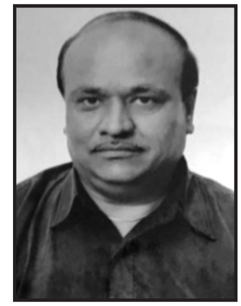
Higher education in India is undergoing a shift in terms of reforms and Adoption of the National Curriculum frame- work. NEP 2020 seeks to make education holistic, trans- disciplinary and flexible. A host of innovative academic programmes and courses are being planned in terms of skill- embedded learning and tech-driven learning methodologies. A very pertinent question that emerges is how to stay relevant in terms of Academics and Research. A deeper and insightful understanding of the demanding environment and up-skilling and upgrading to meet the emerging needs is crucial.

Research in finance and Accounting is turning to be all the more relevant in terms of making it inferential and analytical such that it addresses disruptiveness in terms of the emerging technology. Professionals and researchers need to ponder over this issue With the intention encourage good research in the domains of Accounting, Finance and Financial services, as well as trans-disciplinary research, Indian Journal of Accounting is bringing out the next issue of IJA .

I take this opportunity to thank all the contributors of research papers to this issue and sincerely request all my friends to come up with more research work and research publications, which we would gladly welcome. I also thank all our subscribers and the editorial team. I acknowledge with sincere gratitude the timely intellectual support from our reviewers. I request all our readers and well-wishers to kindly give us suggestions and valuable inputs on improving the journal.

Gabriel Simon Thattil

Professor & Head
Department of Commerce
Dean , Faculty of Commerce
University of Kerala
Chief Editor – Indian Journal of Accounting



Message from the President

Dear Friends,

It is a matter of pride to pen down my message as President of Indian Accounting Association (IAA) for the bi- Annual Research Journal -The IndianJournal of Accounting. My heart fills with immense pleasure as I perceive the progress being made by IAA. I wish to tell that I am eternally grateful for getting the privilege to serve you. The IAA, in its illustrious journey, was founded by academicians and professionals in accounting on March 15, 1969, and was inaugurated on February 14, 1970 by the Accountant General of Uttar Pradesh at Banaras Hindu University, Varanasi.

It is a member organisation of International Association of Accounting Education and Research (IAAER). It is also held in high esteem by American Accounting Association (AAA). This year I am going to attend AAA conference in USA representing all IAA fraternity. At present, IAA has a network of 59 branches in India with more than 7700 life members, and a Research Foundation as an affiliate at Kolkata. It also brings out a biannual research journal 'Indian Journal of Accounting' in the months of June & December to give wider publicity to research findings. The Association also gives IAA Young Research Award and IAA fellowship.

IAA Annual conference is a flagship program to disseminate knowledge and create a platform for discussion on Accounting education and research in allied areas. Past conference have attracted a large number of delegates from across the country and abroad. This year IAA is going to organise its 45th annual conference at Thiruvananthapuram, Kerala on 9-10th December 2023 I invite each one of you to participate in this mega academic event.

I am sure we all meet in this conference in big number, I appreciate the efforts made by Prof. Gabriel Simon Thattil, Head,& Dean,Faculty of Commerce, University of Kerala for putting all possible efforts to make this conference a grand success and memorable one and bringing the issue of this journal in time. As I drive off and set my GPS for Vision 2025 of IAA becoming the world's leading accounting body, All the best to everyone! Best wishes,

Prof. Jas raj Bohra

President, Indian Accounting Association (IAA)
Former Dean & Head, Faculty of Commerce & Management
Studies, Jai Narain Vyas University, Jodhpur

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BLOCKCHAIN ACCOUNTING NEED OF THE HOUR: A WORLD WIDE OPINION SURVEY ANALYSIS

Dr. Shilpa Vardia*

Dr. Shurveer Singh Bhanawat**

ABSTRACT

Although digital transactions have made doing business simpler, they have also introduced various problems and barriers, such as those associated with technology, government, some concerns with the company and environment, etc. Users are also concerned about data security because; all users' data and account information are stored in a database. If these systems are hacked, it might lead to professional and financial failure. As a result, the CTS's flaws paved the ground for the development of Block chain technology (BCT). In order to move towards blockchain based technology in accounting for improving CTS to highlight various shortcomings of Current Transaction System (CTS) and benefits of BCT in accounting, an opinion survey of professionals has been made in this present research. The data was collected from the various professionals like IT experts, Accounting Professionals, Academician and Researchers. Mann-Whitney U Whitney U and Kruskal-Wallis H Test have been applied for the present research. The major shortcomings of CTA are identified by the various respondents are Duplication of efforts as need for third party validation, Lack of trust, transparency and accountability, Possibility of frauds, long time gap between transaction and settlement and Cyber-attacks. As far as benefits are concerned Security, Transparency, Enhanced integrity, Traceability and Distributed in nature are highlighted by various professionals. It was also found that gender; age, profession, work experience and geographical area are a not important factor in influencing opinion of respondents for shortcomings of CTS and different benefits of BCT.

Keywords: *Digital Transactions, Data Security, Blockchain Technology, Trustable System, Peer-to-Peer Transactions, Trusted Third Party.*

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Introduction

Technology often creates disruption over time. Many industries had experienced such disruption which had transformed the respective industry in a big way. Disruptive technology is one which displaces the entire existing technology or erodes the major part of existing technology. There are various examples which have shown complete disruption. Digital photography disrupted conventional film photography. Pagers and landlines are significantly replaced by mobile phones. Typewriters got replaced by computers.

Fortunately, or unfortunately accounting till date has not earned such technology driven disruption except from manual accounting to computerized accounting processes a few decades ago.

Adoption of accounting standards or IFRS, development of accounting procedure, considerably shifting from principle to rule base accounting etc., all these developments were limited to change in procedure only. Accounting till date has seen only limited changes due to technology except in the sphere of recording of transactions in digital mode.

After Bitcoin, now Blockchain Technology (BCT) may prove to be a disruptive technology for accounting. BCT will do for the transaction what the internet did for information. It has been regarded as one of the most disruptive technologies since the internet (Yermack 2017) or even "a game changer" (Andersen 2016).

Right now, intensive research is going on towards shifting of current accounting system to blockchain based accounting system. In the field of accounting CTS has many limitations which lead to develop this technology. Blockchain is very useful for accounting as the blockchain technology is based on transparency, decentralization and immutability (Tapscott, & Tapscott, 2017). The span of accounting has been increased by blockchain (Ducas & Wilner 2017).

Problems with Current Transaction System (CTS)

1. The CTS depends upon managers to ensure that their books are in order. Dozens of high-profile cases like Enron, Lehman Brothers, and World Com showed that management does not always act with integrity. Corruption and false reporting resulting in bankruptcies, job losses and market crises.
2. Human error is a leading cause of accounting mistakes. According to WEB nearly 28% professionals reported that people plugged incorrect data into their firm's ERP system. There is no consensus mechanism.

3. Existing accounting software are working on the principle of central server system in which all control lies in system administration. Consequently, adjustment in accounts is possible according to their wish.
4. Traditional transaction system does not reconcile new business models. Micro transactions are not considered but in the era of crypto currencies, it is having significant impact as 0.1 crypto currencies is having value of Rs 4,72,500.
5. Manual input of data requires slow, extensive and repetitive human work. The printing, mailing, filing and handling of paper documents entail high logistical costs.
6. Large books require a costly and time-consuming bookkeeping process. Moreover, books are imperfect due to the excessive aggregation.
7. Manual invoice creation and separate accounting sheets per party lead to discrepancies, resulting in a costly reconciliation process.
8. Double-entry accounting is not immune to tampering.
9. A balanced ledger does not ensure accuracy of the entries themselves as the Enron, Monte dei Paschi and Wirecard scandals vividly illustrate. Since "fabricated transactions and verifications" may take place, regular auditing is necessary **(Ibañez et al., 2021).**
10. Audit is a costly and time-consuming exercise, requiring information verification and reconciliation among different parties. Furthermore, organizations present their annual accounts generally once in a year leading to a significant time lag between the end of financial year and the commencement of auditing. Thus, increasing the chances of manipulation of accounts and commitment of fraud **(Cai, 2021).**
11. Traditional accounting practice suffers from accuracy issues, security issues and, ultimately, cost issues. Furthermore, assuring the correctness through audits entails additional costs.
12. Finally, non-existent or fraudulent transactions may still be recorded, and the database where entries are recorded may be vulnerable to attacks.
13. Also, double-entry accounting does not control insider fraud, as well as that it does not consolidate the tasks of contracting, transacting and accounting **(Ibañez et al., 2021).**

All the above-mentioned points demanded a new system to address the inherent weaknesses of the double entry accounting system. Thus, to solve the fundamental trust issue between insiders and outsiders, a new system of accounting was required. This thought sounded impractical till Blockchain Technology came in the scenario **(Cai, 2021).**

With the use of Blockchain Technology, companies are able to generate new accounting information systems that record and validate transactions on secure ledgers. Those transactions will include not only monetary exchanges between two parties, such as payments collected from clients, cash deposited to banks, etc., but also the accounting data flow within a company. Such systems would enable close to real-time reporting by instantly broadcasting accounting information to interested parties, such as managers, auditors, creditors, and stakeholders. Because of the dramatic decrease in the unit cost of processing, memory, and storage, as well as the emergence of distributed public ledgers like blockchain, external participants can access companies' real-time accounting information at low cost.

Since the importance of blockchain technology in business and accounting is increasing day by day, as blockchain is very much secure and trustable system which provides peer-to-peer transactions without needing any trusted third party, besides, once the information of the transaction is recorded, the system stores multiple copies of it, so there is rare probability to change or delete it from the system means the blockchain ledger would remain unaffected by unexpected events Furthermore, the quality of data; it is exhaustive, reliable and widely available. Moreover, important advantages of blockchain technology are immutability, decentralization, transparency visibility, traceability and verification.

These are considerable advantages that cannot be ignored. Although a number of studies focus on using the blockchain technology in various application aspects, but the application of blockchain in accounting is still in its early stages so it has many benefits which has not in current transaction system (CTS). In order to explore shortcomings of CTS and benefits of blockchain technology (BCT) in the field of accounting an opinion survey has been made in this present research.

Review of Literature

The purpose of this review is to understand about the shortcomings of CTS and benefits of blockchain technology. The summary of the previous studies would be helpful to know the shortcomings of CTS and benefits of blockchain technology from an accounting point of view.

Vardia S., Singh H. (2022) in their research identified the benefits and challenges of using blockchain technology adoption in accounting and auditing. The result of this study discovered that the better transparency between internal and external user of accounting is the only benefit on which all respondents possess the same opinion but on the rest of the benefits significant difference in the opinion of the respondent was found.

Kapur (2021) in her paper emphasized the merits of this technology like traceability of data and transactions, permanent immutable data, security etc. Blockchain reforms the reporting and recording of monetary transactions; through the medium of creating a decentralized ledger.

Permanent and immutable recording of transactions along-with real-time access by the users; demonstrate an immense impact on accounting. Which are as: security and reliability consolidated bookkeeping and real-time access, privacy of accessibility of digital data, smart-contracts, efficiency in auditing.

Stancheva-Todorova (2020) in the paper "Blockchain Applications in the Accounting Domain" expressed that Blockchain is a shift from the traditional bookkeeping characterized with organised central controlling and guaranteed data trustworthiness. With use of one single ledger, reconciliation between counter parties is avoided and cost savings are realised, efforts of the transacting business parties are significantly decreased and regulatory bodies, tax authorities etc could perform real time monitoring of transaction leading to cost Savings and enhance the efficiency of regulatory and compliance activities

Kwilinski A. (2019) in his paper entitled **"**Implementation of Blockchain Technology in Accounting Sphere" highlighted outcomes of implementation of blockchain technology in companies. The need for traditional double-entry accounting will disappear, as the legality of accounting will be fully automated. Finally, author concluded that accounting system based on Blockchain will be implemented by companies to increase their transparency and facilitate access to auditors. Such changes are beneficial to most actors, but may be negatively perceived by those who work in the shadow economy or hide their share of their income.

Groblacher & Mizdrakovic (2019) in their study**,** "Triple- Entry Bookkeeping: History and Benefits of the Concept," said that the blockchain accounting is considered as a solution to the problems associated with the double entry system. The development of blockchain technology has changed one of the older accounting concepts – triple-entry bookkeeping system.

Dung N.V. (2019) in this paper said that Blockchain technology in accounting greatly reduces the possibility of errors when comparing complex and different information from different sources. Moreover, accounting records will not be editable and changed once they have been saved to the blockchain, even if the owner of the accounting system requires it. Because on the blockchain platform, every daily transaction is recorded and authenticated, so the integrity of the financial records is guaranteed.

Wu et al. (2019) in their paper found that blockchain technology would have a profound impact on corporate governance, including the real-time updating and recording of shareholder status, improving the accuracy and reliability of company elections, increasing the liquidity of equity transactions, and effectively suppressing or mitigating agency problems, such as corporate earnings management, insider trading and related party transactions.

Sarkar S (2018) in his paper discussed blockchain and its futuristic disruption. Author also discussed several advantages of blockchain in accounting which are reducing the cost of maintaining records, Authenticity of information, focus on value adding activities, reduction in frauds, eliminating the need for reconciliation, Real time reporting. In Blocks the entries will be cryptographically secured and hence falsifying or concealing them will be almost impossible. The transactions will be automatically verified in an electronic way.

Dai J. and Miklos A. Vasarhelyi (2017) in their paper titled "Towards Blockchain Based Accounting and Assurance" argued that blockchain has transformed itself from mere secure money transaction system into an important part of ecosystem of emerging Technologies such as artificial intelligence internet of things RPA and Crowd Sourcing. Apart from increasing use of blockchain in various businesses authors stated that blockchain Technology could change the current paradigm of accountancy.

N.A. (2016) in the paper entitled "Blockchain Technology: A Game Changer in Accounting?**"** her study aimed to caught the attention of many of the largest financial institutions, use cases still remain in the experimental phase of blockchain technology This whitepaper lays out the benefits of the blockchain technology for specific use-cases in accounting across industries.

Research Gap

After reviewing the aforementioned literature, it was discovered that in the field of accounting there is no comprehensive survey regarding shortcomings of CTS and benefits of blockchain technology from an accounting point of view. This study aims to investigate stakeholder perceptions on the shortcomings of CTS which lead to towards blockchain based technology in accounting to improve CTS.

Research Questions

This study poses a following research questions related to shortcomings of present accounting system and benefits of blockchain technology from an accounting point of view.

RQ_1: What are the shortcomings of current transaction system?

RQ_2: What are the benefits of implementation of blockchain technology in the accounting?

Hypothesis

Present research proposed to test following hypothesis-

H_{01}-There is no significant difference among the opinions of various Professionals regarding shortcomings of the CTS (CTS)

H_{02}-There is no significant difference among the opinions of various respondents regarding Shortcomings of CTS on basis of demographics (Gender, Age, work experience, professions and geographical area).

H_{03}- There is no significant difference in the opinion of different professionals regarding the benefits of implementing blockchain technology in the accounting.

H_{04}-There is no significant difference among the opinions of various respondents regarding benefits of Blockchain Technology on the basis of demographics (Gender, Age, work experience, professions and geographical area).

Research Methodology

Sampling method: The present research adopted the survey method to collect data. The data collection was conducted by judgmental sampling method.

Survey Instrument and Data collection: In order to achieve the objective of present research work a survey was conducted with the help of a designed structured questionnaire through Google forms for collecting responses from the various stakeholders. The Google form so designed was circulated through mail, WhatsApp and was shared over various social media platform viz. Facebook, LinkedIn, Instagram, WhatsApp Status Stories, whereby making reach-out to an audience.

Questionnaire: The present research adopted the survey method to collect data. Questionnaires were developed after reviewing the existing literature and consulting with various professionals. This was administered to approximately 3000 respondents which comprised Blockchain Developers and Accounting Professionals from different countries. Questionnaire contained two sections. First section dealt with demographic information of respondents. Through this section information on their gender, age-group, city, profession and experience were collected.

Further, the respondents' opinions were asked on certain shortcomings of Current Transaction System (CTS), which lead to the development of blockchain accounting. Respondents were asked to mark their agreement or disagreement with these shortcomings of the CTS on a five-point Likert scale ranging from 1 to 5. In the next section, some statements related to the benefits of Blockchain Technology have been asked to seek respondents' opinions on them. Respondents were offered several benefits of blockchain technology on a five-point Likert scale, and they had to mark their agreement or disagreement ranging from 1to 5.

In all 287 responses could be collected, but responses were almost all parts of the world. The data was collected from the various professionals like IT experts, Accounting professionals, academician and Researchers.

Reliability of Questionnaire: To check the reliability of the questionnaire, Cronbach's Alpha test has been applied separately for the shortcomings of the CTS (CTS), benefits of blockchain technology and results indicating good internal consistency among them. (Cronbach's Alpha is on 20 statements for benefits of Blockchain Technology -.908, and .833 for 8 shortcomings statements of the shortcomings of the CTA)

Statistical Technique: Mean, Coefficient of Variance, Mann-Whitney U and Kruskal-Wallis H Test have been applied for the present research. Normality of data decides whether to use parametric tests or non-parametric tests. Normality has been checked through Kolmogorov-Smirnov (K-S) test. Results show that all the values of K-S test are significant as all the p values are less than 0.05. This rejects the null hypothesis of normality and it can be concluded that the distribution is not normal and non-parametric tests have to be applied.

Demographic Profile of Respondents

A brief demographic profile of respondents for this paper is given in the following table.

Table:1 **Demographic Profile of Respondents**

Gender	**Frequency**	**Percent**	**Age Group**	**Frequency**	**Percent**
Male	236	82.2	<20	8	2.8
Female	51	17.8	20-40	206	71.8
Total	**287**	**100.0**	>40	73	25.4
Work Experience	**Frequency**	**Percent**	**Total**	**287**	**100.0**
0-5	130	45.3	**Professions**	**Frequency**	**Percent**
5-10	45	15.7	Fin Tetch	15	5.2
10 and above	112	39.0	IT Expert	93	32.4
Total	**287**	**100.0**	Accounting	142	49.5
Geographical Area	**Frequency**	**Percent**	Researcher	17	5.9
India	179	62.4	Others	20	7.0
Other than	108	37.6	**Total**	**287**	**100.0**

Total	**287**	**100.0**

Figure 1
Gender

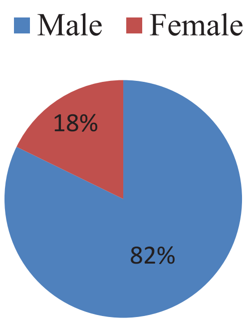

Figure 2
Experience in Years

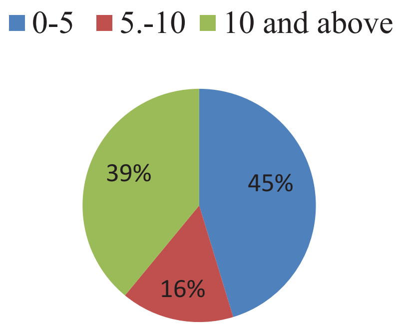

Figure 3
Countries

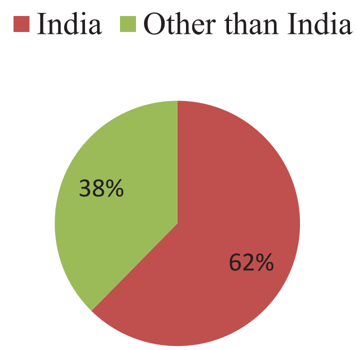

Figure 4
Professsions

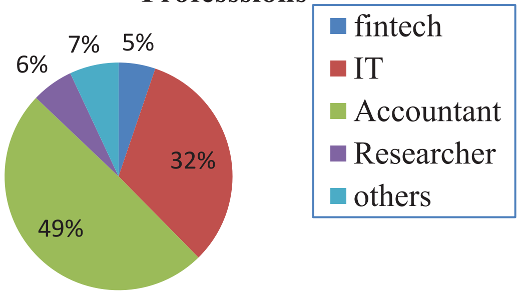

Figure 5
Age in Years

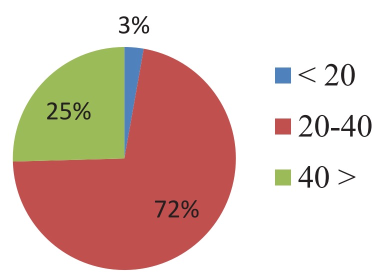

Figure 1 show the distribution of respondents by gender. Table 1 reveals that 82.2% of respondents are male and the remaining respondents are female. Therefore, it can be inferred that the majority of respondents arc male.

Figure 2 depict the distribution of respondents by experience as per table 1 of 45.3 % respondents have 0–5 years' work experience 15.7% of respondents have 5 to 10 years work experience and 39.0% respondents have more than 10 years of work experience.

Figure 3 showed that 62.4% respondents from India and remaining are from rest of world. This consists of 45 countries like United Kingdom, Netherlands, Spain, Bulgaria, Norway, Spain, France, USA, Australia, Austria, Brazil, Bulgaria, Portugal etc.

Figure 4 depict the distribution of respondents by their professions. Professions have been classified in the five education fields. Those who are from hard core accounting field, were 'Accounting professional', those who have done their bachelor or master's degree in computer classified as Information field, those who have studied courses of both finance and computer science are classified as "FinTech'; Those who are doing research in accounting or computer science are classified as 'Research' and remaining are 'Others'. As per Table 3, 49.5% of respondents belonged to the Accounting 32.4 of respondents belonged to the IT field, 25.4% of respondents the FinTech group, 5.9% respondents belonged to Research group and the 7.0% ranged to others group.

Figure 5 depict the distribution of respondents by their age. As per Table 1, 2.8% of respondents belonged to the below 20 age group. 71.8% of respondents belonged to the 20-40 age group and the remaining 25.4% of respondent belonged to the 40 and above age group. Hence, majority of respondents fall into the 20-40 age groups.

Data Analysis and Discussions

In order to identify the shortcomings of CTS and potential benefits of implementation of BCT in accounting an intensive review of literature review has been made. The critical analysis of respondents' opinions on the shortcomings of CTS, the Benefits of Blockchain Technology

1. **Shortcomings of the Current Transaction System**

The many aspects of our lives have changed due to the development of computers and globalization. Financial transactions made online are also included. Although digital transactions have made doing business simpler, they have also introduced various problems and barriers, such as those associated with technology, government, some concerns with the company and environment, etc. Users are also concerned about data security because, in the present transaction system, all user data and account information are stored in a database. If these systems are hacked, it might lead to professional and financial failure. As a result, the CTS's flaws paved the ground for the development of BCT. The views of the respondents regarding the drawbacks of the existing transaction system that gave rise to BCT are gathered in the opinion survey. The respondents were asked to rank specific flaws on a five-point Likert scale. Further, the normality of the collected data has been checked to determine the statistical tests applied to the data.

Table:2 Descriptive Statistics of opinion of Professionals regarding Shortcomings of CTS

Sr. No	Shortcomings of CTS	Mean	S.D.	C.V.	Rank	S-W Stat.	P value
1	Duplication of efforts as need for third party validation	4.27	.695	16.27%	I	.783	.000
2	Lack of trust, transparency and accountability	4.24	.699	16.48%	II	.789	.000
3	Possibility of frauds	4.23	.732	17.30%	III	.789	.000
4	Long time gap between transaction and settlement	4.13	.695	16.82%	IV	.801	.000
5	Cyber attacks	4.06	.780	19.21%	V	.803	.000
6	Consumes more time and resources	4.02	.726	18.05%	VI	.809	.000
7	Lack of technology integration	4.02	.743	18.48%	VI	.809	.000
8	High transaction cost	4.01	.748	18.65%	VII	.809	.000

Significant at 5% level, Source: SPSS

Table 2 presents all the shortcomings in the descending order of their mean values. It can be interpreted from results that all the respondents are inclined toward agreement on shortcomings of Blockchain technology. Table also shows that respondents identified Duplication of efforts as need for third party validation as major shortcomings of **CTS.** The mean value ranges from 4.27 to 4.01, indicating a high level of agreement among respondents. Standard deviation and coefficient of variation reveal low variation in data. It shows consistency among respondents' opinions. C.V. ranges from 19.21% to 16.27%. Hence, it can be concluded that most respondents have almost similar opinions about all the shortcomings of the CTS.

It is also found that the S-W statistic for normality testing was significant as the p-value of all variables is less than 0.05. Hence it can be inferred that the data of all variables are not normally distributed. Therefore, the null hypothesis of normality is rejected and the study administered the non-parametric tests to the data for further analysis.

Hypothesis Testing

(A) H_{01}-There is no significant difference among the opinions of various respondents regarding CTS.

Table:4 Hypothesis testing of Shortcomings of CTS.

Sr. No.	Shortcomings of CTS	Chi-Square	PValue	Hypothesis Accepted/Rejected
1.	Duplication of efforts as need for third party validation	47.380	.000	Rejected
2.	Lack of trust, transparency and accountability	43.742	.000	Rejected
3.	Possibility of frauds	47.380	.000	Rejected
4.	Long time gap between transaction and settlement	43.784	.000	Rejected
5.	Cyber attacks	5.693	.058	Accepted
6.	Consumes more time and resources	25.638	.000	Rejected
7.	Lack of technology integration	17.610	.000	Rejected
8.	High transaction cost	15.477	.000	Rejected

Significant at 5% level, Source: SPSS

In table no.3 results reveal those opinions of respondents significantly different for seven statements for shortcomings CTS. Results of chi-square test reveal that opinions of respondents are not significantly different for 1 out of 8 statements. Thus, it can be said that all respondents having different opinion for various shortcoming of CTS.

(B) **H_{02}**-There is no significant difference among the opinions of various respondents regarding Shortcomings of CTS on basis of demographics (Gender, age, work experiences, professions and geographical area).

- **Gender and Geographical area wise opinions on Shortcomings of CTC**: The study administered the Mann-Whitney U test to the data to determine whether the mean values of opinions on shortcomings of the CTS by males and females equal or not. The study also administered the Mann-Whitney U test to the data to determine whether the mean values of opinions on shortcomings of the CTS by Indian respondents and outside respondents equal or not.

The test's output revealed that p values of all the shortcomings reported more than the significance value (.05); Therefore, it can be interpreted that there is no significant difference in the opinion of male and female respondents and Indian respondents and outside respondents regarding the specific shortcomings of the CTS. The output table is not presented here.

- **Age, Work experiences and Professions wise opinion on Shortcomings of CTC:** The study administered the **Kruskal-Wallis H** test to the data to determine whether the mean values of opinions on shortcomings of the CTS of respondents having different:

  a) Age groups
  b) Professions groups
  c) Work experiences groups

The test's output revealed that p values of all the statements of shortcomings on CTS by different age and profession groups reported more than the significance value (.05); therefore it can be interpreted that there is no significant difference in the opinion different age group & profession groups' respondents regarding the specific shortcomings of the CTS. The output table is not presented here.

As far as opinions of different work experience groups are concerned only one statement found significantly different which is 'Possibility of frauds.' The output table is given below.

Table: 5 (A) Shortcomings of CTS.: Experience wise opinion

Shortcomings of CTS	**Kruskal-Wallis H**	**Asymp. Sig.**	**Hypothesis Accepted/Rejected**
Possibility of frauds	7.680	.021	**Rejected**

Significant at 5% level, Source: SPSS

Thus, it can be said that gender, age, profession, work experience and geographical area are a not important factor in influencing opinion of respondents for various shortcomings of CTS which lead to development of blockchain technology.

(I) Benefits of Blockchain Technology

Every technology has a few special features that make living or conducting business easier. Block chain Technology also has some benefits. An international survey was done by the study in order to determine the advantages of BCT adoption. The respondents expressed their opinions on the advantages. On a scale of one to five, data were gathered. Data normality must be verified prior to using statistical tests because the type of test depends on data normality. For this the Shapiro-Wilk test of normality has been administered. In order to provide basic information about data collected regarding the benefits of BCT adoption, descriptive statistics have been administered. Under descriptive statistics, mean scores and variation in data have been calculated.

Table:6 Opinions of various respondents regarding Benefits of Blockchain Technology

Benefits of Blockchain Technology	Mean	S.D.	C.V. %	Rank	S-W Stat.	P value
Security	4.36	1.004	23.02%	I.	.659	.000
Transparency	4.32	1.015	23.49%	II.	.676	.000
Enhanced integrity	4.31	.982	22.76%	III.	.688	.000
Traceability	4.29	1.040	24.23%	IV.	.690	.000
Distributed	4.26	.977	22.94%	V.	.726	.000
Reduced Frauds	4.22	1.031	24.40%	VI.	.740	.000
Full worldwide accessibility	4.10	1.037	25.30%	VII.	.778	.000
Consensus Based	4.07	.996	24.44%	VIII.	.789	.000
Real time Transactions	4.06	1.117	27.55%	IX.	.780	.000
Reduced Errors	4.05	.988	24.41%	X.	.798	.000
Immutability	4.23	.984	24.4%	XI.	.805	.000
Non-Repudiation of Data and Robustness	4.02	.991	24.67%	XII.	.799	.000
Sustainable	4.00	1.038	25.94%	XIII.	.813	.000
Highly Efficient	3.95	1.045	26.43%	XIV.	.829	.000
No Third Party	3.94	1.098	27.85%	XV.	.830	.000
Lower Audit risk	3.91	.989	25.29%	XVI.	.823	.000
Saves Time	3.86	1.092	28.32%	XVII.	.845	.000
Flexibility	3.73	1.068	28.63%	VIII.	.876	.000
Improved Speed	3.67	1.156	31.52%	XIX.	.874	.000
Reduced Costs	3.48	1.203	34.52%	XX.	.891	.000

Significant at 5% level, Source: SPSS

Table 2 presents all the benefits in the descending order of their mean values. It is found that all the respondents are in agreement for all the benefits of blockchain technology. The mean value ranges between 4.36 and 3.48 indicating high level of agreement among respondents regarding various benefits of blockchain technology. Standard deviation along with coefficient of variation reveals low variation in responses of respondents. C. V. ranges between 22.76% and 34.52%. Hence it can be concluded that majority of respondents have almost similar opinion for various benefits of blockchain technology.

It is also found that the S-W statistic for normality testing was significant as the p-value of all variables is less than 0.05. Therefore, the null hypothesis of normality is rejected and the study administered the non-parametric tests to the data for further analysis.

Hypothesis Testing

(A) H03-There is no significant difference among the opinions of various respondents regarding benefits of Blockchain Technology.

Table:7 Opinions of various respondents regarding Benefits of Blockchain Technology

Benefits of Blockchain Technology	Chi-Square	Asymp. Sig.	**Hypothesis Accepted/Rejected**
Improved speed	14.160	.001	Rejected
Highly efficient	46.502	.000	Rejected
Reduced frauds	83.087	.000	Rejected
Reduced Errors	34.146	.000	Rejected
Real time transactions	65.672	.000	Rejected
Enhance security	143.944	.000	Rejected
Enhance integrity	111.415	.000	Rejected
True traceability	124.063	.000	Rejected
Better transparency	130.481	.000	Rejected
Reduced costs	3.122	.210	Rejected
Saves time	21.833	.000	Rejected
Distributed	86.474	.000	Rejected
Sustainable	38.808	.000	Rejected
Flexibility	13.763	.001	Rejected
Consensus based	45.164	.000	Rejected
No third party	34.230	.000	Rejected
Full worldwide accessibility	62.328	.000	Rejected
Repudiation of data and robustness	47.923	.000	Rejected
Immutability	37.889	.000	Rejected
Lower audit risk	29.401	.000	Rejected

Significant at 5% level, Source: SPSS

In table no.7 results reveal that opinions of respondents significantly different for twenty statements for benefits of Blockchain Technology. Thus, it can be said that all respondents having different opinion for various benefits of Blockchain Technology.

(B) H04-There is no significant difference among the opinions of various respondents regarding benefits of Blockchain Technology on the basis of demographics (Gender, age, work experiences, profession and geographical area).

- **Gender wise opinions on benefits of BCT:** The study administered the Marm-Whitney U test to the data to determine whether the mean values of benefits of Blockchain Technology for males and females are equal or not. Table 8 (A) shows the output of the Mann-Whitney U test. Only those benefits have been presented, for which the difference in opinion was found statistically significant.

Table: 8 (A) Benefits of Blockchain Technology: Gender wise Opinion

Benefits of Blockchain Technology	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)	**Hypothesis Accepted/Rejected**
Reduced frauds	5016.500	6342.500	-2.095	.036	Rejected
Saves time	4908.000	6234.000	-2.221	.026	Rejected

Significant at 5% level, Source: SPSS

Table (8) depicts that the *p* values of benefits — 'Reduced Frauds', & `Saves Time', are less than Significance value, i.e.05.); hence the null hypothesis is rejected for these benefits Or, it can be interpreted that there is a significant difference in the opinion of male and ale respondents regarding the benefits mentioned above. Thus, it may be concluded that apart from some benefits, gender is not influencing the opinion of respondents for benefits from blockchain technology.

- **Age wise opinions on benefits of BCT:** The Kruskal-Wallis H Test is administered to check whether respondents' opinion from different age groups differ significantly for the benefits of Blockchain Technology.

Table: 8 (B) Benefits of Blockchain Technology: Age wise Opinion

Benefits of Blockchain Technology	**Kruskal-Wallis H**	**Asymp. Sig.**	**Hypothesis Accepted/Rejected**
Improved speed	6.929	.031	Rejected

Significant at 5% level, Source: SPSS

Table 8 (B) depicts that the *p* values of benefits ‘Improved Speed are less than .05. Thus, it may be concluded that apart from one benefits, age is not influencing the opinion of respondents for benefits from blockchain technology.

- **Experience wise opinions on benefits of BCT:** The Kruskal-Wallis H Test is administered to check whether respondents' opinion from different experience groups differ significantly for the benefits of Blockchain Technology.

Table: 8 (C) Benefits of Blockchain Technology: Experience wise Opinion

Benefits of Blockchain Technology	Kruskal-Wallis H	Asymp. Sig.	Hypothesis Accepted/Rejected
Reduced costs	6.995	.030	**Rejected**
Repudiation of data and robustness	6.684	.035	**Rejected**
Distributed	8.062	.018	**Rejected**

Significant at 5% level, Source: SPSS

According to Table 8 (C) values of the above three benefits —are less than 0.05. Hence, the null hypothesis is rejected at 5, level of significance.

- **Profession wise opinions on benefits of BCT:** The Kruskal-Wallis H Test is administered to check whether respondents' opinion from different profession groups differ significantly for the benefits of Blockchain Technology

Table: 8 (D) Benefits of Blockchain Technology: Profession wise Opinion

Benefits of Blockchain Technology	Kruskal-Wallis H	Asymp. Sig.	Hypothesis Accepted/Rejected
Improved speed	10.391	.034	**Rejected**
Enhance security	16.144	.003	**Rejected**
True traceability	12.835	.012	**Rejected**

It is reveled from Table 8(D), the p-values of 'Improved Speed' and 'Enhanced Security' & True traceability' are less than .05, which indicates a significant difference among the mean values of all profession groups. Hence, the null hypothesis is rejected at 5% level of significance. Thus, it may be concluded profession is also not playing significant role in influencing opinion on benefits of blockchain technology.

- **Geographical area wise opinions on benefits of BCT:** The Kruskal-Wallis H Test is administered to check whether respondents' opinion from different country groups differ significantly for the benefits of Blockchain Technology.

Table: 8 (E) Benefits of Blockchain Technology: Geographical area wise Opinion

It is reveled from Table 8(E), the p-values are above four statements are less than .05, which

Benefits of Blockchain Technology	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)	**Hypothesis Accepted/Rejected**
Real time transactions	7251.000	12816.000	-3.760	.000	**Rejected**
Enhance security	8149.000	13714.000	-2.465	.014	**Rejected**
Reduced costs	8176.000	13741.000	-2.164	.030	**Rejected**
Benefits [Saves time]	7986.000	13551.000	-2.491	.013	**Rejected**

It is reveled from Table 8(E), the p-values are above four statements are less than .05, which indicates a significant difference among the mean values of respondents of India and outside India. Hence, the null hypothesis is rejected at 5% level of significance.

Conclusion

The many aspects of our lives have changed due to the development of computers and globalization. Financial transactions made online are also included. Although digital transactions have made doing business simpler, they have also introduced various problems and barriers, such as those associated with technology, government, some concerns with the company and environment, etc. Users are also concerned about data security because, in the present transaction system, all user data and account information are stored in a database. If these systems are hacked, it might lead to professional and financial failure.

As a result, the CTS's flaws paved the ground for the development of BCT. With the use of Blockchain Technology, companies are able to generate new accounting information systems that record and validate transactions on secure ledgers. External participants can access companies' real-time accounting information at low cost.

In the current study, opinions collected from experts were used to highlight a number of CTA's inadequacies that led to the development of BCT. Further benefits of BCT also identified in the present research. The primary issues with CTA, as reported by the respondents, are Lack of trust, transparency, and accountability; duplication of work due to the necessity for third-party validation; fraud risk; lengthy delay between transaction and payment; and cyber-attacks.

As far as BCT's benefits are concerned Security, Transparency, Enhanced integrity, Traceability and Distributed in nature are prominently highlighted by various professionals. Nonparametric tests were used in this study to determine whether respondents who were male and female, from different age groups, with varying levels of professional experience, as well as Indian and other respondents, had differing viewpoints or not.

It was discovered that respondents' opinions of the various CTS shortcomings that led to the development of blockchain technology were not significantly influenced by respondents' gender, age, profession, work history, or geographic location.

Regarding benefits of blockchain technology in gender only two statements, in various age group only one statements, in different profession and various experience group only three statements and in Indian v/s outside respondents only four statements found significant different. So, it was concluded that gender; age, profession, work experience and geographical area are a not important factor in influencing opinion of respondents for various benefits of BCT.

Importance of blockchain technology in business and accounting is increasing day by day, as blockchain is very much secure and trustable system which provides peer-to-peer transactions without needing any trusted third party, besides, once the information of the transaction is recorded, the system stores multiple copies of it, so there is rare probability to change or delete it from the system means the blockchain ledger would remain unaffected by unexpected events.

BCT still has many risk and challenges which will be reduced in a short amount of time, as more experience with applications is grown and blockchain becomes a popular technology. Most importantly, however, as usage increases the motivation for improvements will increase, too, as has been the case with the internet that witnessed substantial advancements over a short period of time. Such advancements will provide solutions to blockchain's inability to scale, significantly reducing usage costs. Future work will focus on robust risk management strategy, governance, and controls framework for successful implementation of Blockchain technology in accounting.

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MEASUREMENT OF INTERNAL CONTROL PRACTICES AND ITS EFFECT ON FINANCIAL PERFORMANCE OF RURAL LOCAL GOVERNING BODIES (GAON PANCHAYATS)

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ABSTRACT

The quality of the organization's internal control system is closely tied to the management team's efficiency and the accomplishment of its goals. Internal control procedures would raise the probability that programmes would run smoothly, inexpensively, efficiently, and productively while lowering the chances of errors and abnormalities. In the Gaon Panchayats, there was no structured internal control mechanism in place, which made this research necessary. Our study sought to determine the Gaon Panchayats' (GPs') current internal control system as well as the extent to which the GPs' financial performance was impacted by the internal control practices. Employees of GP in the accounting and finance division were the respondents. Only one of the five internal control practice variables had a substantial impact on the GP's financial success (the "control environment"). This is the first study that, as far as we are aware, uses qualitative traits to investigate the connection between internal control methods and financial performance in rural local self-government institutions. The study's ramifications are extensive. This study first presented qualitative features to examine the financial performance of local bodies through internal control methods since rural local bodies do not maintain financial records adequately and do not provide financial documents. They came in second by examining internal control procedures in order to prevent fraud and errors. A rigorous internal control system, according to the C &AG Audit Report of India on local bodies in Assam, is missing from the state's rural local governments. In order to assess the situation and identify any gaps in internal control, the authorities needed to be quite familiar with these techniques. The conclusions of this study are significant as a result.

Keywords: *internal control practices, financial performance, rural local bodies, gaon panchayat*

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Introduction

An organisation can reduce waste and fraud with a strong internal control system (Adams, 2012). Internal control refers to all the steps an organisation takes to safeguard its resources against fraud, waste, and inefficiency, ensure the correctness and dependability of financial and operational data, ensure compliance with its policies, and assess the performance of its organisational units (Grace, 2017). An organization's internal control system plays a crucial role in ensuring that its operations are successfully managed and that its goals are met. Internal control processes would ensure the orderly, cost-effective, efficient, and productive execution of programmes while lowering the likelihood of mistakes and abnormalities (Report of the Comptroller & Auditor General of India on Local Bodies, 2017).

By implementing the AP Act, 1994 and AP (F) Rules, as well as the State Government's own rules and policies relating to finances, budgets, and personnel matters, the Government of Assam mandated the internal control system at the level of each Panchayati Raj Institution (PRI) or rural local self-government institution.

The audit revealed several problems with the PRIs of Assam's internal control system, notwithstanding the importance of sound internal control procedures to any successful enterprise.

1. There was no information accessible regarding the revenue mobilisation of the PRIs, the Department lacked control over its revenue resources. Even after numerous requests, the Department refused to give information about the funds received for 2016–17.
2. The Department does not provide information on how the PRIs' accounts are currently being prepared.
3. The Government provided funds despite Zilla Parishads (ZPs) failing to submit budget plans, contradicting the goal of annual budgeting and planning.

Through inspection reports and audit reports, these flaws were frequently brought to the attention of the Panchayati Raj Institutions (PRIs) and the State Government, but little was done to address them. We determined that there is a legitimate justification for carrying out the current study in light of the statutory requirement of the internal control system in the rural local bodies on the one hand and the unfavourable audit report finding regarding the absence of a formal internal mechanism of the local bodies on the other. Prior to starting the inquiry, we made an effort to evaluate the body of available research on the range of internal control procedures and the financial health of the local bodies.

Review of Literature

Internal control systems are a collection of guidelines and practises implemented to protect a company's assets by reducing the likelihood of fraud and preserving the viability of the company (Adams, 2012). One essential component of a high-performance organisation is a strong internal control system. The nature and distinctive qualities of the organisations determine how internal control is structured (Dangi et al., 2020). An organisation can reduce waste and fraud by implementing a strong internal control system. Strengthened asset custody assures management of the reliability of accounting data, removes unfounded suspicion, and aids in maintaining adequate and trustworthy accounting records (Grace, 2017). Dewi et al. (2019) investigated how internal controls and human resource proficiency affected the accuracy of the financial reporting and accountability of local governments. Their research demonstrated that the internal control system and human resource competency had a favourable impact on the information quality of the financial statements of local governments. Financial accountability is positively impacted both directly and indirectly through the information quality of local government financial statements by internal control mechanisms and human resource competency. A well designed and successfully executed internal control system, according to Abbas & Iqbal (2012), helps prevent resource wasting and lays the groundwork for the efficient running of all sorts of businesses. They added that it not only generates trustworthy financial reports but also aids firms in lowering operational risk and enhancing the accuracy of financial reporting to increase stakeholder confidence and decision-making. According to Fadzil et al. (2005), who conducted an empirical study to determine whether or not adherence to internal auditing practises leads to a better internal control system, compliance with internal auditing practises has a significant impact on the monitoring aspect of the internal control system. Scope of work and performance of the audit work have a significant impact on the information and communication aspect of the internal control system, while implementation of audit work, professional competence, and objectivity have a significant impact on the control environment aspect of the internal control system. The study also shows how the risk assessment portion of an organization's internal control system is affected by factors including management of the internal audit department, audit work quality, audit programme design, and audit reporting. Last but not least, the execution of audit work and reporting has a big impact on the internal control system's control activities component.

Finance is a resource and, as such, is quite likely to be a means in the performance management framework when it comes to managing performance. By prudently managing financial resources, managers are likely to raise the calibre of services offered to the general public (Gomes et al., 2013). As stated by Needham & Dransfield (2010), there are a number of indicators that may be used to evaluate a company's financial performance. The three most fundamental financial statements are the profit and loss account, the cash flow statement, and the statement of comprehensive income. According to Palmer et al. (1993), the indicators that Local Government departments most frequently used to measure success are related to prices, the amount of service provided, usage rates, time goals, and productivity. These signs can be measured quite easily. Less frequently, indicators of service quality, client happiness, and objective success are seen. For smaller communities, Brown (1993) proposed the Ten-point test of financial condition analysis. The Municipal Finance Officer was able to evaluate the city and offer some supporting data during the trial using a rating process. Atan et al. (2010) found that there are multiple ways to classify the fiscal health of Malaysian municipalities: fiscal-year balance, short-term liquidity, and long-term solvency. The three kinds of LAs—city councils, municipal councils, and district councils—were the subject of their investigation, which looked for any differences in the versions of each indicator utilised by each group. To gauge financial performance, they looked at the self-income ratio, the typical collection period, and the collecting efficiency ratio. Robinson et al. (2000), which looked back a decade, found that the same three financial performance criteria were crucial for judging the effectiveness of Australia's local government units. When it comes to assessing the efficiency of Ireland's municipal governments, Turley et al. (2015) have uncovered a useful approach. Their analysis of local governments examined 14 different factors and five broad financial performance metrics to determine their liquidity, autonomy, operating performance, collection efficiency, and solvency. In addition, they proposed including their framework in annual financial statements for local authorities to make it easier for users to evaluate financial performance and distinguish between relatively well-performing councils, allowing for the early detection of councils that are having financial difficulties. For the Tororo Municipal Council Local Government, Mutya & Josephine (2018) established a model of the connection between financial management and financial performance. They employed a descriptive design for their study and random and purposeful sampling strategies to gather their data. Their study's conclusions demonstrated a link between sound financial management and successful financial performance. The study also suggested that in order to ensure that there were no budgetary deviations and expenditures for better financial performance, the control local authorities should frequently review their budgetary activities.

Various industries, including banking, County government, small and medium-sized businesses, private and public organisations, non-governmental organisations (NGOs), etc., have previously investigated the connection between internal control practise and financial performance. Positive and statistically significant effects of internal control methods on financial performance were found by the researchers (Ahmed & Nganga, 2019; Channar et al., 2015; Nyakundi et al., 2014; Htun, 2019). When it comes to the financial health of county governments, nothing is more important than identifying and mitigating risks. One of the critical elements of internal control techniques is the implementation of a user-friendly information and communication system, which in turn improves the fiscal health of the local government. Internal control efficacy was found to be highest in private banks, lowest in public banks, and intermediate at Islamic financial institutions. There is a distinction, but it is not huge by any means (Channar et al., 2015).

Table 1: Constructs Identification for Dependent and Independent Variable

Variables	Constructs	Citations
Internal Control Practices (IV)	Control Environment, Risk Assessment, Control Activity, Information and Communication. Monitoring	(Dangi et al., 2020; Htun, 2019; Lagat, 2018; Wangombe, 2017)
Financial Performance (DV)	Liquidity, Autonomy, Operating Performance, Collection Efficiency, Solvency	(Turley, et al., 2015; Carmeli,2002; Groves, 1980; Robinson, et al., 2000; Zafra-Gómez et al., 2009; Atan et al., 2010,)

Theoretical Framework

Our study used Agency Theory to analyse internal control procedures and Gaon Panchayats' financial performance. Ross is recognised with inventing the economic theory of agency, whereas Mitnick is credited with developing the institutional theory of agency, despite the similarities between the two approaches (Mitnick, 2013). The accounting and finance literature goes into considerable depth to illustrate how the agency relationship inevitably arises when one person oversees another's financial affairs. According to Mitnick (2013), the link between principals, like shareholders, and agents, such corporate leaders and managers, is the basis of agency theory. According to this theory, the shareholders, who collectively make up the company's owners or principles, hire the agents to do the work. Directors or managers are given management of a corporation by the principals, who act as the shareholders' agents. Agency theory, according to Adams (1994), offers a practical, theoretical framework for analysing internal and external auditing initiatives in the public sector. The study's guiding principles are the people who live in the gaon panchayats. They selected the gaon panchayat executive and members to represent them in running the operations of the group and providing services.

The agency theory, on the other hand, can be used to both explain and anticipate the existence of internal control procedures in gaon panchayats (a government sector). Assam Gaon Panchayat Act, 1994, however, requires that every Gaon Panchayat have an internal audit function. An internal audit is intended to help the Gaon Panchayat serve its constituents by providing the local government with a more effective means of reviewing and improving its risk management, control, and governance systems. To better understand the Goa's statutory function and responsibilities for the Auditor General's Office under the AP Act, 1994, and the AP (F) Rules, 2002, as well as the State Government's own rules and policies covering finances, budgeting, and personnel matters, the agency theory can be useful. Financial auditing and reporting by local governments are mandated by constitutional provisions. Locals can voice their displeasure with any violations of the rules that result in the withholding of services or the alleged misuse of funds by filing reports (Adams, 1994). According to the agency hypothesis, interactions between principals, residents, and agents like the Local Executive Committee lead to improvements in local government performance. Financial performance management will be used to assess the Gaon Panchayats' ability to manage spending and effectively utilise the assets and resources at their disposal to generate revenue. Assessing ratio-based performance criteria, such as customer satisfaction, employee engagement and satisfaction, service delivery quality, and enhancing how the general public perceives local government operations, is all included in non-financial performance management. The greatest predictors of future financial performance are thought to be non-financial performance metrics.

Conceptual Framework

The researchers developed a conceptual framework after the literature review on Internal Control Practices and the Financial Performance of local governments. We conceptualize that: Dependent variable (DV) is the Financial Performance of Gaon Panchayats, and Internal Control Practices (ICP) is the independent variable (IV). The model is operationalized as illustrated by the conceptual framework shown in Figure 1.

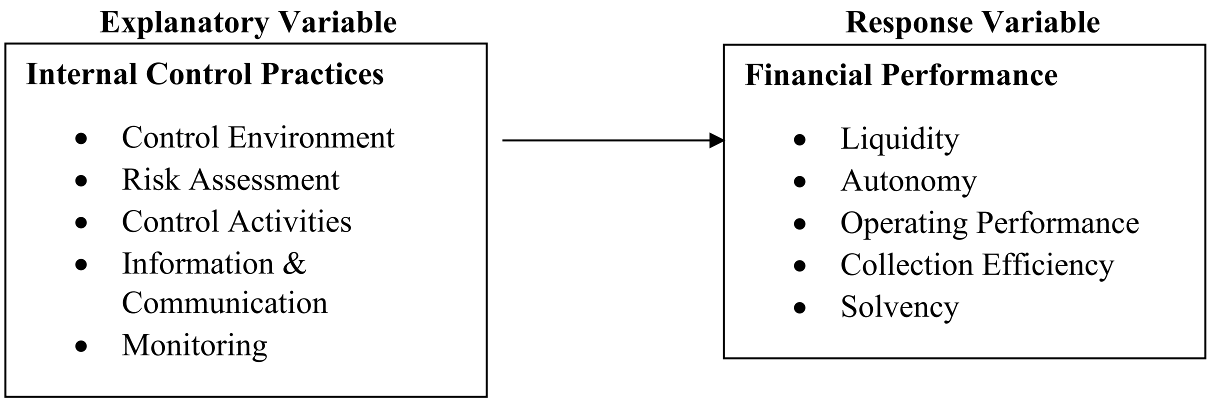

Figure 1: Constructs for Explanatory and Response Variable

Objectives of the Study

To measure the effect of Internal Control Practices on the Financial Performance of the Gaon Panchayats in Assam.

Hypothesis

From the existing situation of the local bodies in Assam, we can formulate the following research hypothesis

H_0: None of the Internal Control Practices constructs significantly affect the Financial Performance of Gaon Panchayats in Assam.

Methodology

Research design

A survey design was used in this study. Google form was used to administer a standardized questionnaire in order to gather empirical data. The questionnaire was designed using a five-point Likert scale, with 1 being strongly disagreed with, 2 being disagreed with, 3 being neither disagreed with nor agreed with, 4 being agreed with, and 5 being strongly agreed with (Bryman, 2015).

Research framework

The explanatory variable (IV) of the study is internal control practises, while the response variable (DV) is financial performance. The COSO research framework (Cendrowski & Mair, 2009; Dangi et al., 2017) has been modified to assess the internal control practices used in the current study. Five structures make up the COSO Framework: Control Environment, Risk Assessment, Control Activity, Information, and Communication & Monitoring.

It was discovered that the five constructs liquidity, autonomy, operational performance, collection efficiency, and solvency were the ones most appropriate for assessing the dependent variable, financial performance (Turley et al., 2015; Carmeli, 2002; Groves, 1980; Robinson et al., 2000; Zafra-Gomez, 2009; Atan et al., 2010).

Population

According to the most recent report that is publicly accessible, the C&AG Annual Report of Local Bodies for the year 2017, the State of Assam has an estimated 2202 GPs from 26 districts (excluding the sixth scheduled districts).

The 26 districts, or Zilla Parishads, of Assam were divided into five zones: Assam, Upper Assam, Lower Assam, Central Assam, North Assam, and South Assam.

Since it takes time to obtain information from the PRI officials, the CEO of the relevant ZPs was formally asked to provide the necessary assistance. As a result, the CEOs of the relevant Zilla Parishads recommended sharing the link to the google form questionnaire in the official WhatsApp group. Within 20 days, 56 respondents total from 15 Zilla Parishads and 40 GPs returned the responses via the electronic link (August 2 to August 23, 2022).

Sample Size Estimation and Technique

The study initially used a full enumeration methodology. However, due to time restrictions and the officials' lack of reaction, only 56 replies were finished and received for review. We took the mean value of all the responses from a single GP to provide unit-level data. There were 40 total unit replies from all GPs.

Table 1: **Sample size estimation and the technique**

Valley	Zones	No. of Districts/Zilla Parishads Targeted	No. of Districts/Zilla Parishads Actually Participated	No. of GPs Participated	No of Officials from GPs reverted with the filled in Questionnaire via google form link
Brahmaputra	Upper Assam	9	5	8	9
	Lower Assam	8	5	20	30
	Central Assam	3	2	2	2
	North Assam	3	2	4	4
Barak	South Assam	3	1	6	11
Total		26	15	40	56

Source: Authors' own compilation

Data Collection

After receiving prior approval from the relevant authority, questionnaires were circulated. The researcher sought the requisite support from the CEO of each Zilla Parishad to get genuine responses. The distribution of questionnaires by the authority through their official WhatsApp group facilitated the data collection procedure. Only 40 GPs from 15 districts out of 26 responded within the allotted period, yielding 56 replies that could be accessed and evaluated. The people who work in the accounts and finance departments of the respective Gaon Panchayats made up the respondents. Officials who participated in the survey included the GP Secretary, President, Vice President, Gram Rojgar Sahayak (GRS), Tax Collector, Accounts Assistant, Accredited Engineers, and GP Coordinator (GPC).

Data Codification

Coding of the constructs for Financial Performance (DV): Liquidity, Autonomy, Operating Performance, Collection Efficiency, and Solvency were codified as LQ, AUT, OP, CEF, and SOL, respectively.
Coding of the constructs for Internal Control Practices (IV): Control Environment, Risk Assessment, Control Activity, Information & Communication were codified as CEN, RA, CA, IC, and MON, respectively.

Result And Analysis

Reliability Test

According to Zikmund et al. (2013), a questionnaire's reliability refers to its capacity to produce consistent results. The Cronbach's Alpha (α) scores, which divide scores into excellent, good, acceptable, and unacceptable categories, were used to calculate the scale reliability coefficient.

Table 2: Cronbach (α)Reliability test

Variable	Constructs	Cronbach's Alpha Values
Internal Control Practices (IV)	Control Environment	.806
	Risk Assessment	.805
	Control Activity	.956
	Information & Communication	.944
	Monitoring	.948
Financial Performance (DV)	Liquidity	.806
	Autonomy	.705
	Operating Performance	.750
	Collection Efficiency	.805
	Solvency	.748

The independent variable's and dependent variable's Cronbach's reliability results are shown in Table 2, and they were both above 0.70 (α =0.806, 0.805, 0.956, 0.944, 0.948) for the independent variable and (α =0.806, 0.705, 0.750, 0.805, 0.748) for the dependent variable. According to Corbin et al. (2014), a Cronbach's alpha value of 0.7 or higher is a respectable result and a sign of an excellent data collection tool. Therefore, it was determined that the instrument was trustworthy enough to gather the required data.

The Financial Performance Index (FPI)

The variables and subscript below will be used to properly note the design of the financial performance index.

Let x_{ij} represent the raw value of the *ith* Gaon Panchayat in the *jth* financial parameter as there are five financial parameters, viz. LQ, AUT, OP, CEF, and SOL, so we have where j = 1, 2, ..., 5. There are 40 Gaon Panchayats in all, so the subscript moves from 1 to 40.

The value of a Gaon Panchayat for the financial parameter LQ is obtained by adding the level of agreement of the member of that Panchayat on the several statements under LQ obtained from the Likert Scale. The average value is considered in the opinion available for more than one member from a given Gaon Panchayat. Similarly, the other matters of the financial parameters, viz. AUT, OP, CEF, and SOL are computed.

Let max ($x_{.j}$) and min ($x_{.j}$) denote the highest/lowest score on the *j*th financial parameter (j = 1, 2, …,5) across all the Gaon Panchayat under consideration.

Then the corresponding normalized value is given by,

$$N_{ij} = \frac{x_{ij} - \max(x_{.j})}{\max(x_{.j}) - \min(x_{.j})} \qquad \ldots(1)$$

The value of N_{ij} varies from zero to one, where the value of 1 implies that the *ith* Gaon Panchayat is the best amongst the Panchayat in the *j*th financial parameter. The reverse is valid for a value of 0.

When putting out a financial performance index to compare Gaon Panchayats, it's crucial to remember that not all financial metrics are created equal. That's why it wouldn't be ideal if the index were built by just taking the mean of the parameters after they've been adjusted. Alternatively, Morris & Liser (1977) suggested adopting a weighted average when creating the

Physical Quality of Life Index (PQLI). Iyengar & Sudarshan (1982) also made a significant contribution to this discussion by assuming that the weights fluctuate inversely to the fluctuation in the appropriate variable. Based on the current literature, the weighted index of financial performance (financial performance index) for the *ith* Gaon Panchayat is given by,

$$FPI_i = W_1 \times N_{i1} + W_2 \times N_{i2} + ... + W_5 \times DI_{i5}, \text{ with } \sum_{j=1}^{5} W_j = 1 \qquad ...(2)$$

Where Wj is the importance placed on the j^{th} financial metric ($j = 1, 2, ..., 5$).

Further connecting the regional weight to parameter variance was done by Iyengar & Sudarshan (1982). To be more specific, they hypothesised

$$W_j = \frac{C}{\sqrt{\underset{i}{Var}(N_{ij})}} \qquad ...(3)$$

Where, C is a normalizing constant that follows

$$C = \left[\sum_{j=1}^{5} \frac{1}{\sqrt{\underset{i}{Var}(N_{ij})}} \right]^{-1} \qquad ...(4)$$

By selecting the weights in this way, we can make sure that large differences in any single indicator do not skew our inter-district comparisons (Iyengar & Sudarshan, 1982).

When all five financial indicators are considered combined, the FPI value can serve as a measure of a Gaon Panchayat's financial health. Again, according to the calibration of Iyengar & Sudarshan (1982), a score close to 0 indicates poor financial performance on the part of that Gaon Panchayat, while a value close to 1 indicates average financial success. In this way, the various Gaon Panchayats can be compared to one another.

Relation Between Fpi and Internal Control Practices

Once the FPI of the gaon panchayats is obtained, we further delved into knowing how far the Internal Control Practices (ICP) influences the financial performance of the Gaon Panchayats. The identified ICPs and about which opinion was sought from the members of the concerned Gaon Panchayat are CEN, RA, CA, IC, and MON. Under each ICP, several statements and the agreement level of the members of the Gaon Panchayat are captured through the Likert Scale. The Likert scale being summative, the scores under CEN statements (say) for a Gaon Panchayat provides the combined score of that Gaon Panchayat on CEN and so on for the other ICPs. RA, CA, IC, and MON.

Multiple regressions are an appropriate tool that can help us to reach the extent of the influence of the ICPs on financial performance. Here, FPI acts as the response variable with the ICPs, i.e., CEN, RA, CA, IC, and MON, as the explanatory variables. The multiple regressions are based on several assumptions like- independence between the explanatory variables, normality assumption of the response variables, etc. On testing the hypothesis, based on the data, the multiple regression equation is fitted. The general form of the regression model is given below.

$FPIi = b0 + b1\mathrm{CENi} + b2\mathrm{RAi} + b3\mathrm{CAi} + b4\mathrm{ICi} + b5\mathrm{MONi} + eI$ … (8)

Though the primary purpose of the regression model is prediction here, it can be utilized to understand if the ICPs impact the FPI and, if so, which are significant.

The weights of the FPI are computed using equations (3) and (4). Based on the data available from the survey, and then using equations (1) and (2), the FPI for each Gaon Panchayat is computed. (Table 1 indicates the weights corresponding to the different indicators of Financial Performance).

Table 1: Weights associated with the indicators of the Financial Performance

Financial Indicator	LQ	AUT	OP	CEF	SOL
Weights	0.1971	0.155	0.2002	0.23	0.2176

After obtaining the weights, the FPI for all the Gaon Panchayats is obtained using equation (2). The FPI for the different Gaon Panchayats is computed. The Gaon Panchayat with the best Financial Performance is Dakshin Mohanpur GP of the Cachar district, and the worst is Saidpur GP which also belongs to Cachar District. Values of the FPI of all the Gaon Panchayats under consideration can be seen in Table 3.

Table 3: Classification of Gaon Panchayats based on the values of the Financial Performance Index

Name of the Gaon Panchayat	District	FPI	Level
Borgang GP	BiswanathChariali	0.2722	
Serelia GP	BiswanathChariali	0.3023	
Bihmari GP	BiswanathChariali	0.3703	
Saidpur GP	Cachar	0.0204	
Akajan GP	Dhemaji	0.4024	
Damra GP	Goalpara	0.3687	Low
BapurbhitaJurigaon GP	Goalpara	0.2389	
23 RajapukhuriBerhantiRangamati GP	Kamrup	0.3792	
Khobang GP	Tinsukia	0.3192	
Kachomari GP	Tinsukia	0.2765	
Kailashpur GP	Dibrugarh	0.5526	
Lela GP	Goalpara	0.5402	Below Average
Maloibari	Kamrup M	0.4735	
Chakarabastikhairakata GP	Nagaon	0.5155	

Name of the Gaon Panchayat	District	FPI	Level
48(2) Upper Borbhag GP	Nalbari	0.4590	
PachimBorgaon GP	Sonitpur	0.4764	
69 Satrakanara GP	Bajali	0.6242	
Dubi GP	Bajali	0.5773	
Swadhin Bazar GP	Cachar	0.6644	
Dimoruguri GP	Dibrugarh	0.5654	
Puranibhita GP	Goalpara	0.6679	
Ratanpur GP	Golaghat	0.6889	
Akashiganga GP	Hojai	0.6274	Above
Dhopatari GP	Kamrup	0.6435	Average
Dhuhibala GP	Kamrup	0.5811	
Athgaon GP	Kamrup	0.5954	
Satpur GP	Kamrup	0.6215	
Maj-jakhili	Kamrup	0.60526	
Gandhmow	Kamrup M	0.68576	
19 Chataibari GP	Nalbari	0.65836	
108 Majgaon GP	Bajali	0.7714	
DakshinMohanpur GP	Cachar	0.7619	
Satkorakandi GP	Cachar	0.8040	
Pallorbond GP	Cachar	0.7277	
80 Badri Chandrapur GP	Cachar	0.8800	
Sepon GP	Dibrugarh	0.7492	
36 Nowboisa GP	Jorhat	0.7732	
Sonapur GP	Kamrup	0.7416	High
Maliata GP	Kamrup	0.8035	
85 Khetrihardia GP	Kamrup	0.7100	

Source: Data compiled by the Authors

Subsequently, we established the multiple regression of FPI with the ICPs, i.e., CEN, RA, CA, IC, and MON, as the explanatory variables. At the same time, after checking the assumption that the existence of multi-collinearity in the variable CA with a VIF value of 12.347 (> 10), we excluded it from further analysis.

Table 4: Collinearity Statistics of the regression model

Variables	Tolerance	VIF
CEN	0.417	2.398
RA	0.533	1.876
CA	0.081	12.347
IC	0.114	8.778
MON	0.107	9.337

The final multiple regression model is given by:

$FPIi = 0.094 + 0.019\text{CENi} + 0.009\text{RAi} + 0.004\ \text{ICi} - 0.001\text{MONi} + eI$

The multiple regression shows overall significance with F-statistic as 4.993 (p-value of 0.003, refer ANOVA table from Appendix-I), and CEN is the only independent variable significant at the 5 percent level and is positive. Thus, the financial performance is influenced by CEN only.

Therefore, the study concludes with the following test of hypothesis:

Conclusion

We find that out of five internal control practices, viz, Control Environment, Risk Assessment, Control Activity, Information, and Communication & Monitoring, only Control Environment significantly affects the financial performance in the gaon panchayats. We may infer that the Employees in the GPs have good working relationships among themselves and are also committed to their jobs. Self-regulation among the operational staff and a flexible work structure allows individuals to give their best to the job without pressure. However, a non-significant effect of the other four constructs of internal control practices casts a serious concern upon the financial performance of the gaon panchayats.

Policy Implications

Although the C&AG Audit Report draws severe aspersions on the internal control practices, we find that there is still a silver lining to the existing internal practices of the GPs. However, Risk Assessment, Control Activity, Information, and Communication & Monitoring still are far from actuality. The authorities need to formulate strong guidelines on internal control practices so that their existence can be a solid deterrent to achieving financial performance. Future researchers may find other relevant constructs for internal control practices and financial performance to evaluate existing gaps that this study has found.

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Appendix-I

Regression Tables:

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.603[a]	.363	.291	.1595034

a. Predictors: (Constant), MON, RA, CEN, IC

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.508	4	.127	4.993	.003[b]
	Residual	.890	35	.025		
	Total	1.399	39			

a. Dependent Variable: CI
b. Predictors: (Constant), MON, RA, CEN, IC

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.094	.115		.823	.416
	CEN	.019	.009	.431	2.072	.046
	RA	.009	.014	.121	.659	.514
	IC	.004	.011	.129	.375	.710
	MON	-.001	.010	-.022	-.069	.946

a. Dependent Variable: CI

BIG TECH IN FINANCIAL SERVICES: A DIGITAL TRANSFORMATION OR DISRUPTION FOR FINTECH

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Lal Baboo Jaiswal***

ABSTRACT

Digitalizing financial services leads to large competition in the fintech market. BigTech firms have large database access and digital sets up all over the world, and these things lead to Big Techs for entering into the fintech industry. This study is descriptive and explanatory in nature, where we focused on how Big Tech firms enter into the payment industry and make an impact on fintech and banks. We considered the economic and market factors which motivate to Big Techs to enter into the financial services. With the entry of Big Tech into fintech industry creates lots of opportunities and challenges for fintech and existing financial systems, which we have considered in our study. In study, we found a lack of regulations for BigTech, that's why they dominate the banks and fintech. Complex intertwined operational linkages between big tech and financial institutions lead to concentration and contagion risks which relating to anti-competitive behavior, that's why regulators face challenging balancing act between innovation friendliness and managing risk to financial stability. All these issues require more engagement of stakeholders such as regulators, Fintech industry to works toward common principles for management of fintech activities which includes governance, business and revenue model, risk management. So, government should focus on proper rules and regulations for digital financial services and make it possible for sustainable and balanced growth of fintech and banks.

Keywords: *Fintech, Big Tech, Financial Services, Payment Industry, Banks.*

Introduction

The explosive development of the digital economy in the last few years has affected various activities in which the banking and financial sectors are also involved. In the digital transition

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era, financial sectors and banks redefine themselves and also cause huge changes in their operations and management. So consequently, financial system includes one of the components, which is “fintech”. According to the Financial Stability Board (FSB), fintech is a “technologically activated financial innovation, which could result in new business models, application process or product with an associated material effect financial market and institutions and in the provision of financial services”. So, innovation of fintech blurs the boundaries of financial products and services. The innovation of fintech creates lots of opportunities and challenges for traditional banking and financial systems worldwide. In the era of competition today, various BigTech companies showed their interest in digital financial services. So, with the same respect, financial institutions and fintech companies develop participation with BigTech companies to become the largest financial service providers. However, the collaboration of fintech and BigTech creates various opportunities in the form of digital transformation for financial system but also increases many threats in the form of disruptions.

The main purpose of this study is to analyze that how BigTech firms make an impact on financial services system by entering on it and also how it directly or indirectly makes impact on fintech as well as banking system. Basically, BigTech is a generic name used for large technology companies, and is activated worldwide with relative advantage in using digital technology (Mărăcine et al., 2020). So these giants' BigTech are meta(formally name Facebook), Apple, Google, Microsoft, and Amazon (“MAGMA”) in United States and Baidy, Alibaba and Tencent (BATs) in China (Arner et al., 2022). So original activities of these companies were not only in the financial sector but also in the software development, social media, marketing, online retail and content services, however recently in few year big tech companies have shown interest in exploring and expanding their scope of activities and services portfolio into the finance (Bethlendi, 2022). In study we consider the synergy effect of fintech and BigTech in financial services sector. But BigTech entry is likely to more significantly change the structure of financial industry and their magnitude and nature of risk (Rodríguez & Ortún, 2020). In the beginning BigTech companies offered financial services as well as financial solutions as a complement with their original services; then, in recent years, companies realized that the direct provision of financial services can create synergies with delivery of their existing services and build deeper customer relationship (Bethlendi, 2022). So, paper analyzed that whether BigTech with fintech creates synergies in form of digital financial transformation or create disruption in financial system.

Statements of Problem

In the era of innovation, technology leads to the whole world, and if we talk about our banking and financial system, it also adopts new technology which explores its limits with digital financial inclusion of individuals. So, in finance, our fintech companies provide incredible services to the individuals with our banking system. But with the advancement of technology and entries of Big Tech companies into the world of finance, change the prospect of financial services with their dominating roll in front of fintech and banks. So, in this study, we will see the impact of entry of Big Tech into our fintech firms and financial service system.

Research Questions

- What are the factors which motivate to Big Techs for entering into the payment industry?
- How do Big Techs create opportunities and challenges for fintech and our financial system with their entry into the payment industry?

Review of Literature

The review of literature is conducted in three sections; where in first section analyse the fintech ecosystem and in second section study the current status of Big Tech companies in financial services sector and then third is that to analyse fintech with Big Tech in financial services sector.

Fintech Ecosystem

The golden age of fintech was 1960, when banks started using computers and introduced ATM (Stulz, 2019). In the evolution of fintech ecosystem, competitive collaboration of banks and startups laid the foundation of first building block (Bethlendi, 2022). Fintech is divided into four main segments i.e., “financing”, “assets management”, “payment”, and “other fintech” (Doritfleitner et. al, 2017). Fintech ecosystem considered different components shown in the diagram below(Vijai, 2019).

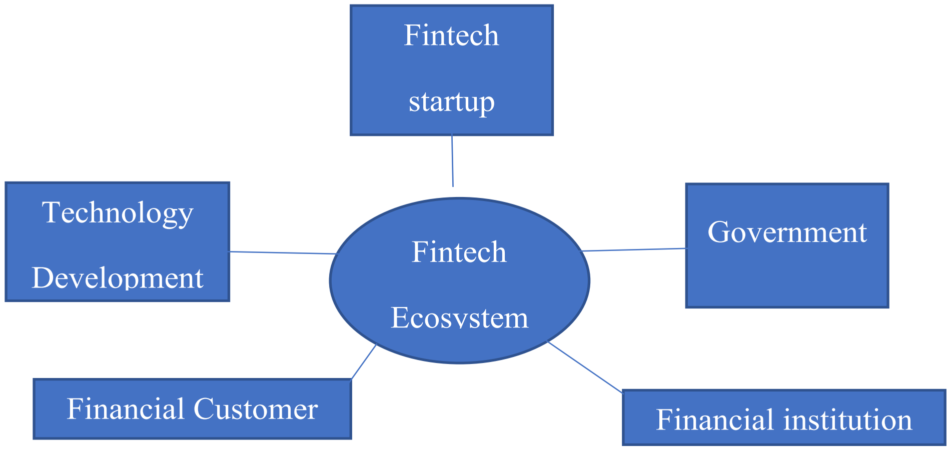

Figure:1

In the diagram, fintech startup includes payment, wealth management, lending, crowdfunding, insurance fintech companies etc. Government will play role as financial regulator and legislature. In financial institutions, our bank, insurance companies, and venture capitalists will consider and in financial customers individuals and organization included. And in the last component, technology development, considers BigTech analytics, cryptocurrency, and social media development.

Global Fintech Ecosystem

In the emerging and growing firm area, the biggest sector is fintech industry across the all sectors. The United State have largest fintech companies and also have highest number of unicorn but in this emerging market in globally both China and India have adoption rate of fintech is 87% and closely behind these two Russia and South Africa both have 82%.

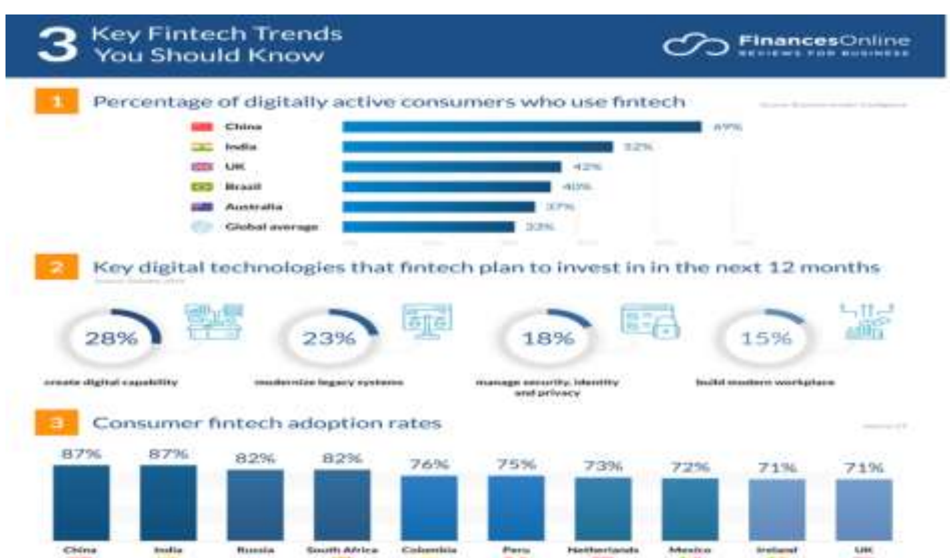

Figure:2 Source: FinancesOnline.com

Global fintech market reached nearly USD 111.2bn in 2019 and USD 110.57bn in 2021. The expected market growth of fintech reaches to USD 325.3bn in 2030 by the increase use of digital payment, investment in block chain technology and also exponential growth of e-commerce which shows in (figure 3).

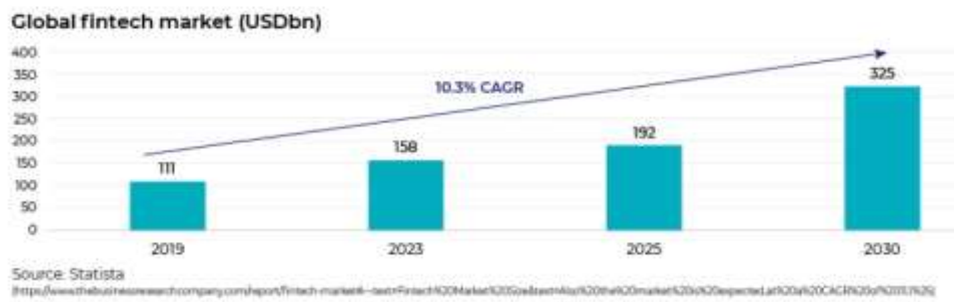

Figure:3

Fintech in India

India is transitioning into a dynamic ecosystem and offering fintech startup platform to grow into the unicorn (KPMG, 2016). India fintech industry's market size is $50 Bn in 2021 and India's payment landscape over the last few years has developed into the advance payment system with regard to digital payment by volume CAGR 50% and by value CAGR 6%. The estimated growth of fintech market in India is 31% OF CGAR up to 2025.in recently there are 6636 fintech startup in India. In India some high valued fintech are Paytm, Razorpay, BharatPe, Groww etc. Paytm UPI based fintech unicorn company valued at over 16 billion US droller in first half in financial year in 2022. In below mentioned graph we can see that fintech funding in India is growing year to year which was $922M in 2016 and $3.1B in 2021.

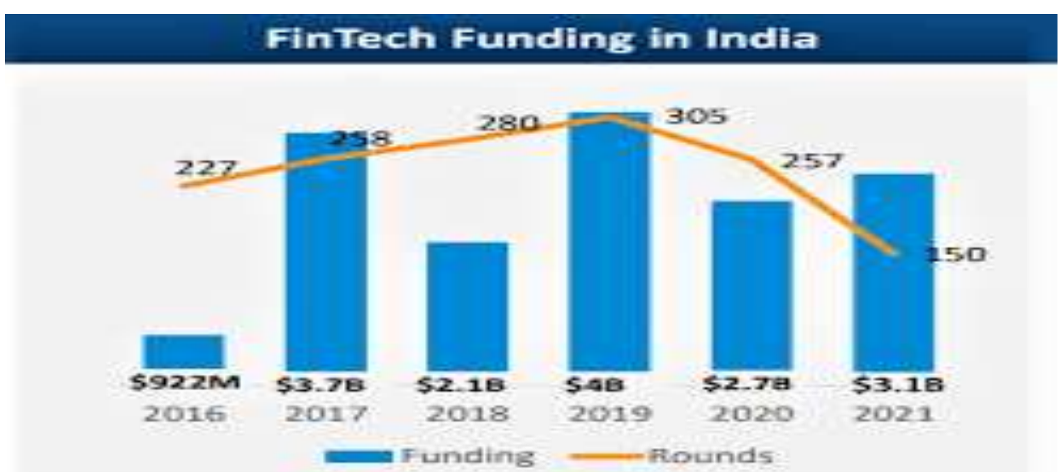

Figure:4 Source: BLinC Insights

Big Tech

BigTech firm are " technology companies with established presence in the market for digital services" (Cornelli, G., Frost, J., Gambacorta, L., Rau, R., Wardrop, R., Ziegler, 2021). The firms have successful digital platform like in US have Amazon, Facebook and google etc. (Stulz, 2019). BigTech companies are providers of web based services, social networking etc. for end users on the internet and also development and maintain an infrastructures for provide their product and services (Mărăcine et al., 2020). BigTech firms presents different business model just because of combination of two key features which networking effects and another is technology, so with the help of these combination they exploit the external network and massive quantity of data generated by them(Cornelli, G., Frost, J., Gambacorta, L., Rau, R., Wardrop, R., Ziegler, 2021). There are some world's largest Big Tech company below in the table 1 with their market size:

Table 1: World Largest Tech Companies in 2022

Company name	Country	Sale value	Market value
Apple Inc.	United States	$378.7 billion	$2.6 trillion
Alphabet Inc.	United States	$257.5 billion	$1.6 trillion
Microsoft Corporation	United States	$184.9 billion	$2.1 trillion
Samsung Group	South Korea	$244.2 billion	$367.3 billion
Meta Platforms	United States	$117.9 billion	$499.9 billion
Tencent Holdings Ltd.	South Korea	$86.9 billion	$414.3 billion
Intel Corporation	United States	$79 billion	$190.3 billion
Taiwan Semiconductor Manufacturing Co.	Taiwan	$61.5 billion	$494.6 billion
Cisco Systems Inc.	United States	$51.5 billion	$213.4 billion
IBM	United States	$67.3 billion	$124.3 billion

Source: Forbes' Global 2022

BigTech firm have large database about the individuals and also, they can analyse which type of product or services costumer need. So BigTech company also showed their interest in financial services sector where they provide credit facility, insurance etc. Some BigTech have ventured into various financial services including payments, money management and lending (Carstens et al., 2021) which explained in below table.

Table 2: Financial Services Offering by Big Tech Companies

Big Tech	Core Business	Banking	Credit Provision	Payment	Crowd funding	Insurance
Google	Internet search/advertising	✓		✓		
Apple	Tech/producing hardware			✓		
Meta	Social media/advertising			✓		
Amazon	E-commerce/online retail		✓	✓	✓	✓
Alibaba	E-commerce/online retail	✓	✓	✓	✓	✓
Tencent	Tech/gaming and messaging	✓	✓	✓	✓	✓

Source: Crisanto et al. (2021)

Fintech and Big Tech

In the Beginning Big Tech firm provide only financial solution as compliment but in recent years these firms collaborate with financial institutions as well as with fintech firms and also sometimes provides their own financial services to their customer.

Table 3: Top Big & Fintech Acquisitions

Acquirer	Target Fintech startup	Deal amount	Description
Apple	Mobeewave	$100M	Mobeewave offers technology that allows phones to securely receive payment transactions made with contactless cards and wallets.
Amazon	Perpule	$20,4M	Perpule is an India-based self-checkout, queue management, omnichannel engagement, and

			payments platform for offline retail stores.
Facebook	Chainspace	N/A	Chainspace using blockchain technology and offers a smart contract development platform that facilitates payments and other services for customers.
Google	Orbitera	$100M	Orbitera's Cloud Commerce Platform enables multi-channel software delivery and commerce on cloud platforms.

Source: CB Insights report 2021

The entry of Big Tech into financial services has its own pros and cons. The entry of Big Tech into online banking have significant impact on competition in retail banking (Padilla, 2018). Some big tech has ventured into various financial services such as lending, payments, money management, etc. and through this they make entry into finance promises efficiency gains and greater financial inclusion (BIS, 2021). Fintech and big tech credit are growing in countries around the world, but nearly in few years big tech firm dominate the fintech firm into the financial services sector such as big tech credit in absolute terms are China, Japan, Korea and USA. (Giulio et al. 2021). There are some competitive mapping between banks, fintech and Big tech on the basis of some parameter which present in table 4.

Table 4: Competitive Mapping

Competitiveness aspects	Traditional financial institutions	Fintech	Big Techs
Customer base (economy of scale), customer information	Large, in case of large institutions. But the processing of customer information is less developed	Rarely large enough, only in case of the biggest players, developed processing of customer information	Very large (global), processing of customer information in the core their business model

Customer trust in data safeguard (Armantier et al., 2021)	Highest	Medium	Lowest
Customer influence	Mostly indirectly by a third service (marketing) provider	Mostly indirectly by a third service (marketing) provider	The core of their business model
IT development capability	Moderate, legacy core banking systems characterizing the sector	Strong	Strong
Economy of scope	Limited to the financial sector	Limited to the financial sector	Broad, but financial services could compete with other services (advertisement)
Funding opportunity	Very good	Medium depend on market situation	Very good
Regulation	Tailored to the sector, defending the traditional players	Disadvantage	Their activities are not in the traditional scope of central banks and financial regulators

Source: (Bethlendi, 2022)

Methodology

This study is descriptive and explanatory in nature, where we explained about the financial services providers from the aspects of fintech and big tech. Here we make comparative analysis between fintech and big tech regarding their financial services performance. In study we have taken data from 2016 to 2021 because globally up to these periods, online financial activity was at its top level, and also in India after the 2014 revolution of digitalization came. Basically, this study is based on a secondary database, where we have collected data from various reports given by various institutions and also used research papers, articles, etc. In this study, for the analysis purpose used, graphs, charts, comparative tables, trends analysis, etc.

Factors Which Motivate to Big Tech to Enter into the Financial Services

The advantages of reinforcing nature of the data-network-activities loop, some Big Tech entered into the financial services because they have potential to spark rapid changes in the industry with their low-cost structure (BIS,2021). Financial services are riding the wave of technology, so with this flow, Big Techs have also started providing digital financial services in partnership with large conglomerates. So, answer to the first research question on factors that motivate Big Techs to enter into financial services includes supply and demand side factors (Frost et al. 2020).

Demand side factors

- Unmet Customer Demand
- Consumer Preferences

Supply-side factors

- Access of data
- Technology Advantages
- Lack of regulation
- Lack of Competition
- Access of funding

Demand side factors

Where consumers are underserved by banks, there may be an opportunity for rapid lending growth by fintech and by Big Techs and to meet customer demand. If we talk about consumer preference to use the financial services so (Bain & company and research Now, 2017) find in survey that 91% Indians respondents, and 60% of US respondents consider from technology firm. These preferences may create various opportunities for cross-selling by Big Tech firms.

Supply-side factors:

So Big Tech firm have access wide range of customer data which provide them information about customer creditworthiness, their financial product, and services-related choices and all about their demand. The other factor is technology advantage, which is a legacy of Big Tech firms. Access of funding is a big constraint for Big Tech firms, that's why they partnership with fintech or with financial institutions. One of the biggest driving factors is lack of regulation, because consumer protection and prudential requirement do not apply equally to Big Tech firms to entering into financial services. Most of Big Tech are not completely required by central banks, so they have better leeway to expand and innovate the payment market. As we know, the unit cost of finance is high, and this may be difficult for new entrants, but Big Techs have sufficient funds, so they can take advantage of the lack of competition.

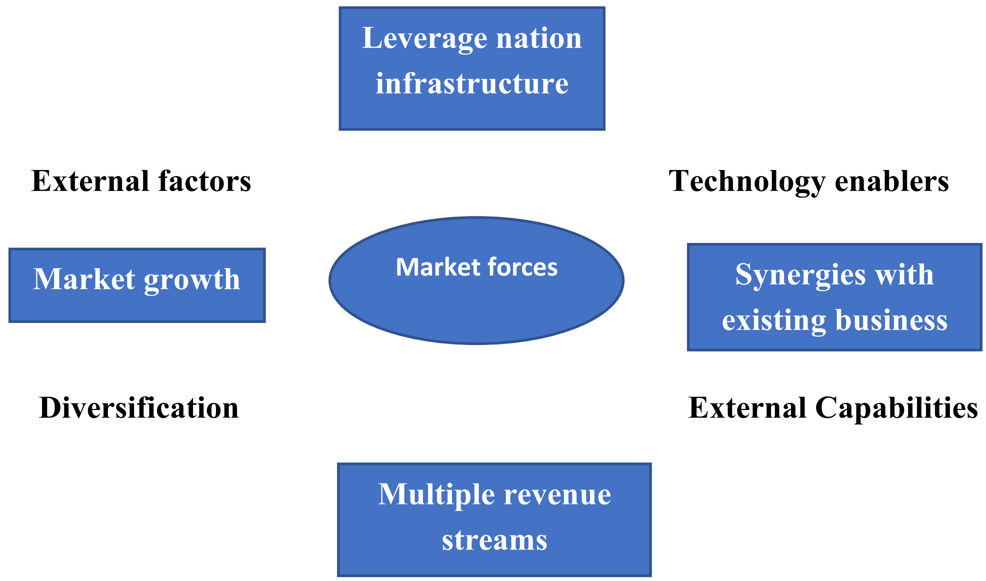

Figure 5: Some market forces making the payments industry lucrative: from the prospect of India (PwC, 2020).

Payment industry in India is very lucrative in nature, it attracts the attention of many Big Tech firms who are looking for innovative products and services for entering into the market. So Big Tech firms collaborate with an Indian payment system with a wide range of opportunities and their existing capabilities. In Indian payment industry, external market forces are national infrastructure considering UPI, JAM trinity, and market growth which makes payment industry a lucrative area for investment. So, these market forces are:

1. **Synergies with existing business:** Payment industry is one of the leading and emerging industries which enable Big Techs to drive synergies with their external and internal capabilities, which are (1) Technical capabilities, (2) Levering Customer base and data, (3) Financially capable in surviving losses due to low margin.
2. **Huge market and growth potential:** The payment industry has a huge market size with growth potential that attracts Big Tech. The government also tried to strengthen this sector by giving investment opportunities to fin tech and Big Tech firms.
3. **Leveraging national infrastructure:** In India as, national infrastructure in payment industry considers Jan-Dhan-Aadhar-Mobile trinity, Unified payment interface (UPI),

etc.so that can be leveraged by Big Tech and integrated with the user-friendly application, which eliminate the risk in payment industry.

4. **Multiple revenue streams:** In payment industry customer data leads to build various value-added services, so big tech can take advantage of customer database. Basically, payment industry data is helpful for other industries for customer profiling, assessing payment in supply chains, drawing customer insight, and developing new products.

5. **Entry of Big Techs in financial services: Opportunities and Challenges for Fintech industry:** Entry of Big Techs into financial services has its pros and cons form the prospects of fintech industry and financial institutions. Big techs have various internal as well as external capabilities which can make an impact on fintech industry in favorable and unfavorable ways, so these discussions consider second research question.

Opportunities

Big tech firm have large advantages as compared to fintech and bank (Stulz, 2022) because they have up to data system, large database so, fintech can take advantages of database of big techs with the help of collaboration. Fintech firm can expand their capabilities to reach out to each individual customer with the help of big techs and expand their potential to international reach. For any firm, global expansion is very time-consuming and risky because it includes various factors like cost, regulation, etc. So, with big tech, fintech can reach to global audience (PwC, 2020) and can offer innovative product and services to the customers. Entry of big tech can open various new opportunities for fintech industry, because they have good capabilities and financial resources to invest in disruptive technology such as blockchain technology. If we talk about from the prospect of bank, so consumer trust in data safeguards available in this and consumer database in large level available with big tech so, banks can expand themselves with the help of big tech. Due to large database access with big techs, bank can analyse consumer profiles, so that which type of financial services they need. One of the biggest advantages is that with the help of big tech entry in financial industry, we can reach to the large audience and achieve high level of financial inclusion.

Challenges

The entry of big techs may transform the fintech and banking industry in very radical ways and increase the competition to benefit the consumer in the very short term and monopolize the payment industry (Padilla & de la Mano, 2018). The impact of big tech on retail banking and fintech market has already been felt in Asia. But entry of Big Tech in banking and fintech industry may harm the competition and reduces the consumer welfare and also increase the financial instability. Big tech competes head-to-head with banking industry because, according to McKinsey report, Big Techs target bank which represent 47% of revenue, 65% of profit, etc., declining customer trust in bank, and big tech can take advantage of that by providing attractive technology services with the increase of digital financial literacy. So, bank have to choose collaboration with big tech for technology advantages or sacrifices some of their technology advantages and also losing control over cost and customer data. There are one of the challenges which is lack of regulation, there are lots of rules and regulation for banks and also for fintech industry but there are very few regulations for big tech firms, so that these firms take advantages to enter into payment industry. RBI, in its bi-annual report, talked about the entry of big tech in payment industry. There are lots of rules and regulations that banks should follow, like maintaining the margin, CRR, SRR, etc., but there is no such rule for big tech. Big Tech operates on multiple platforms and due to large database access and technology advantage, they play a dominating role in the payment industry. Google, Facebook, Amazon, etc., accumulate the customer data about their preferences and habit and they able to combine this information with payment data and account information data for the development of products and services which traditional banks will not be able to replicate. The changes in payment industry hurt the financial stability and also create operational risk and security risk.

Conclusion

The advent of Big Techs technology would be blessing and curse for fintech and banking institutions because in one hand. it opens new opportunities and on other hand it threatens the existing business model of fintech and banks (VOICAN, 2020). There are many BigTech which operated in India like Google, Amazon, WhatsApp which integrate with UPI and providing financial services. Both BigTech and Fintech provider have seen a surge in demand for digital payment services, which introduce further transaction data, which we can use it for lending decision (BIS, 2020). We can see that BigTech and fintech credit growth rapidly increases in all countries around the world. With the entry of BigTech firm into the payment industry enhance competition and also financial inclusion in emerging market and developing technology. it is most important to understand that how BigTech firms fit within frame work of financial regulation and for which principle regulation should be organized. Basically, BigTech is a part of fintech ecosystem and for regulation of payment industry, we will have to make better rule and regulation so that BigTech can not dominate on fintech and financial institutions and also can reduce various operational and potential systematic risk. If we will do nothing, then these risks may build up underserved, uncertain, uncontrolled and unmitigated long term next financial crisis for the whole economy. Another important thing is data governance. There should be a clear coordination between our central bank and data governance regulators. There should be data profitability rule, proper protocols regarding data transfer (BIS, 2020, 2021). So, we should to make focus on sustainable and balanced growth of payment industry.

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A PILOT STUDY ON THE EFFECT OF UNDERSTANDING, TAX EVASION ENVIRONMENT AND TAX KNOWLEDGE ON ETHICAL PERCEPTION AND TAX COMPLIANCE

Neha Banshiwal*

Dr. Hemant Kaduniya**

Abstract

This study examines the factors of ethical perception of tax evasion. We also examine the effect of ethical perception of tax evasion on voluntary tax compliance level. For this study data was collected through primary and secondary source both. Structured questionnaire with 5point Likert scale was used to collect the primary data. The survey was conducted with 60 participants consist of taxpayers and return fillers from various background. Out of these 60 responses only 56 responses are finalized for data analysis procedure. In this study the data is processed with PLS-SEM method. The findings show a positive & significant impact of tax evasion environment toward the ethical perception of tax evasion and insignificant positive influence of understanding of tax evasion conditions, negative insignificant impact of tax knowledge on ethical perception of tax evasion. We find that ethical perception of tax evasion has a significant negative influence on voluntary tax compliance level.

Keywords: *Voluntary tax compliance, tax evasion environment, tax knowledge, ethical perception of tax evasion.*

Introduction

In developing countries taxation is the major source of revenue of the government. Tax collection is carried out with the purpose of meeting the expenditure for the supply of public goods and services and fulfillment of basic infrastructures. For tax compliance the perception and attitude of taxpayers play an important role. We can say that if a person has a positive attitude and perception regarding tax compliance, they voluntarily pay the tax amount without any force. In the present scenario evading taxes is a main issue that the developing countries

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have been facing. Therefore, policymakers need to determine the causes behind tax evasion to minimize the effect of tax evasion. In this study we are analyzing the voluntary tax compliance level of taxpayers' and impact of ethical perception of tax evasion on tax compliance.

Voluntary tax compliance means the willingness of taxpayers to pay taxes. Previous researches done on ethics and tax compliance issues finds that tax compliance would be higher when taxpayers are confident that tax evasion is unethical. Studies on tax evasion explained that there are many factors that affect tax evasion and the attitude of taxpayers towards tax evasion like socio- economic factors, institutional factors and individual factors. In our study we take understanding of tax evasion conditions, tax evasion environment and tax knowledge as factors those effect ethical perceptions. We take these factors on the basis of theory of planned behavior because a person's behavior depends on the attitude, social norms and subjective norms in easy language we can say that person's behavior depends on the environment surrounding them and the understanding of them on that particular point. Findings of the previous study explained that tax knowledge have a negative impact on ethical perception of tax evasion because if a person have higher level of tax knowledge, they are not involved in the tax evasion activities.

Objectives of the Study

The general objective of this study was to investigate taxpayers' perception of tax evasion.

The following are the specific objectives of the study.

1. To assess the effect of understanding level of tax evasion conditions of the taxpayers on their ethical perception of tax evasion.
2. To examine the influence of tax evasion environment on taxpayers' ethical perception of tax evasion.
3. To examine the effect of tax knowledge on the ethical perception of taxpayers of tax evasion.
4. To examine the effect of ethical perception of tax evasion of taxpayers on their voluntary tax compliance level.

Literature Review

(Kenno, 2020) The Author concluded in this study that our understanding of the issue related to tax evasion environment and the perception of the taxpayers are also included as factors that affect attitude of tax payers toward tax evasion. Results show that majority of the respondents are agree with the tax evasion conditions and the tax evasion environment statement which that both has a significant effect on the perception of taxpayers towards tax evasion.

(**Mitu, 2016**) Author concluded that a better understanding of attitudes and behavioral motivations of taxpayers against taxation may improve both voluntary compliance and tax administration efficiency, because if the behavior of taxpayer regarding tax compliance is positive than it is good for the tax authorities. A modern healthy tax system does not mean exclusively a series of norms and the increase or decrease of the amount of taxes, duties and contributions, but it also entails a long history in which it was created and stratified, in which a certain behavioral culture of taxpayers has been shaped in order to facilitate the proper operation and compliance with the norms and the consolidation of good practices in the field.

(**Redae and Sekhon, 2015**) In this article the authors examined how taxpayers' compliance behavior affected by tax knowledge. Results have indicated that, Tax knowledge as one of the factors in compliance is correlated to the taxpayers‟ ability to understand taxation laws, and their willingness to comply. According to this article if tax payers know about why they are paying tax and what will be the penalty if they don't pay it and how they save tax by following tax laws and rule, also affect their tax compliance behavior.

(**Machogu and Amayi, 2013**) The authors concluded that taxpayer education has an effect on voluntary tax compliance. It indicates that tax knowledge is essential in promoting voluntary tax compliance, means that if a taxpayer has knowledge about tax laws and provisions than they can save their tax-by-tax planning under tax rule and if the tax payment is not a big amount than taxpayers not thought about tax evasions which is a good sign for tax revenue. It is necessary for the taxpayer to acquire the tax knowledge which will enable them to make right compliance decisions. The taxpayer can make rational decisions of complying with the tax laws, as he/she is certain of the outcome. Therefore, these findings support the application of prospect theory to the tax compliance decisions.

(**Pickhardt and Prinz, 2013**) In this article the authors focus on the behavioral dynamics of tax evasion and compliance. After reviewing the literature related to tax compliance and tax evasion authors revealed that for the dynamics of personal attitudes, norms and justifications, interactions between taxpayers, taxpayers and tax authorities as well as taxpayers and tax practitioners are crucial. To detect tax fraud, audits and punishment is required and less complexity of tax codes; more service-oriented tax authorities and a nicer attitude of tax authorities to taxpayers appear very helpful for reducing tax evasion. Trust is also the main element for cooperative tax behavior because if tax authorities distrust people, taxpayers start to distrust tax authorities.

(**Eriksen and Fallan, 1996**) The authors revealed that specific tax knowledge improves tax ethics and tax compliance attitude of taxpayers. When the attitude of taxpayers towards taxation is improved, this will increase tax compliance and reduce the tendency to evade taxes. Authors carried out this study as a quasi-experiment with pre-testing and post-testing of two groups of student and Principal component analysis (varimax) was applied. The result shows that increase in tax knowledge influences the respondents' perceptions for fairness of the tax system.

(**Reckers, Sanders and Roark, 1994**) In this study the authors' main objective was to examine the influence of ethical beliefs on the tax compliance decisions. For this data was collected through questionnaire method and analyzed by using regression method. The Results of this study indicate that ethical beliefs are highly significant in tax evasion decisions.

Conceptual Framework

The latent variables relationship in this study is described as follows:

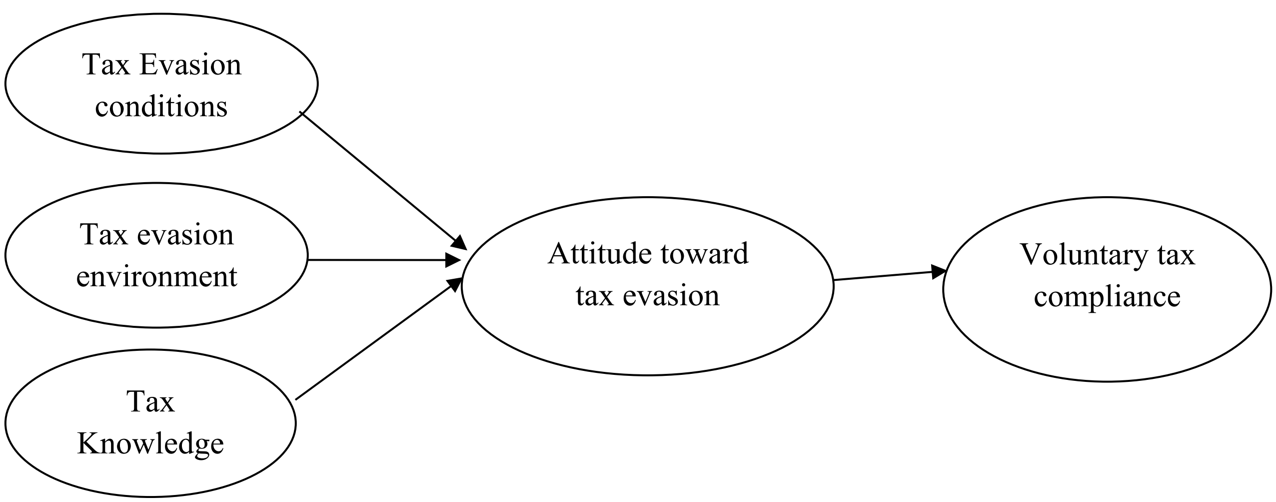

Figure1: Latent variables relationship (own construct)

Research Hypotheses

- H1: Ethical perception of tax evasion negatively affects voluntary tax compliance.
- H2: Understanding of tax evasion conditions positively affects ethical perception of tax evasion
- H3: Tax evasion environment positively affect ethical perception of tax evasion
- H4= Tax knowledge negatively affect ethical perception of tax evasion.

Research Method

This research is quantitative in nature and a pilot study. It mainly uses primary data obtained from surveys. The survey was done in February 2022. Individual taxpayers and return fillers are selected to be survey respondents. For choosing the respondents convenience sampling method was used. Convenience sampling was used due to the limited time and cost. However, the results of this study cannot represent the population.

The survey is conducted through online and offline mode by giving a questionnaire to the target sample then filled out independently by the respondents. This pilot study was done to check the understandability of the questionnaire which will be use for the final study. For this pilot study data was collected through primary and secondary source. In the questionnaire 5-point Likert scale is used, 1= strongly agree; 2= Agree; 3= Neutral; 4= Disagree; 5= Strongly Disagree. Out of the 60 questionnaire 56 were finalized for data analysis procedure 4 was left due to the incompleteness. The respondent's profile is described in table 1.

Table 1: Demographic Descriptive

Variable	Frequency	Percentage
Gender:		
Male	37	66.1
Female	19	33.9
Total	56	100
Age:		
21 to 30 years	32	57.1
31 to 40 years	16	28.6
41 to 50 years	8	14.3
Above 50 years	0	0
Total	56	100
Level of education:		
Higher secondary	4	7.1
Graduate	14	25.0
Post graduate	24	42.9
Professional	14	25.0
Total	56	100
Occupation:		

Government employee	12	21.4
Private employee	26	46.4
Professional	18	32.1
Total	56	100
Marital status:		
Married	36	64.3
Unmarried	20	35.7
Other	56	100
Income level:		
Below 250000	12	21.4
250000 to 500000	21	37.5
500001 to 1000000	20	35.7
More than 1000000	3	5.4
Total	56	100

Table 2: Measurement of the latent variables

Variable	Items	Source
Ethical perception of tax evasion	1. Tax evasion is ethical even if most of the money collected is spent wisely. 2. Tax evasion is ethical if the probability of getting caught is low. 3. Tax evasion is ethical if everyone is doing it. 4. Tax evasion is ethical even if a large portion of the money collected is spent on worthy projects. 5. Tax evasion is ethical if a large portion of the money collected is spent on projects that do not benefit you. 6. Tax evasion is ethical if I can't afford to pay 7. Tax evasion is ethical if tax system is unfair. 8. Tax evasion is ethical if the money collected is wasted	(McGee. R.W.,2012)

1. Trend of tax evasion is high

Tax Evasion Environment	2. Tax system is unfair 3. Government spends tax revenue improperly 4. People pay beyond their ability to pay 5. The risk of getting caught is low. 6. The potential consequences (e.g. fines and penalties, public naming, prosecution) of getting caught are not serious enough to stop people evading paying their taxes.	(Bijiga Gerba Kenno, 2020)
Tax Evasion Conditions	1. Majority of taxpayers do not report all of their income 2. Taxpayers evade tax if possible 3. The current tax audit is strong 4. Tax evasion is less considered as a serious crime among the society.	(Bijiga Gerba Kenno, 2020)
Tax Knowledge	1. I know that in which income bracket (slab) I have been paying tax 2. I know the penalty for breaking the tax rules 3. I know that the highest rate of personal income tax in India is currently 30%. 4. I know about the deductions and exemptions available to me	(Saragih and Putra, 2021)
Voluntary tax compliance	1. I pay my taxes as required by the regulations because I want to pay my taxes voluntarily 2. I pay my taxes as required by the regulations without spending a long time thinking about how I could reduce them 3. I pay my taxes as required by the regulations to support the Nation and other citizens	(Saragih and Putra, 2021)

Data Analysis

In this study for testing the formulated hypotheses and analyzing data, partial least square-structural equation modeling (PLS-SEM) was adopted. PLS-SEM is a statistical method that bears some relation to principal components regression. PLS is used to find the fundamental relations between two matrices (X and Y), i.e., a latent variable approach to modelling the covariance structures in these two spaces. In this study PLS-SEM version 3 is used to process with data. After building SEM-PLS model based on figure 1, we measure both the measurement and structural model. Data analysis will be explained more in the next section.

Results and Discussion

Before presenting the hypothesis results, both measurement and structural model must be assessed with several procedures. The assessment is shown below.

Measurement Model: Reflective Model Assessment

In PLS-SEM the first step in testing reflective model is to see the loading factor values. Recommended loading value is above 0.708 (Hair et al.). Deleting item may affect the content validity, therefore items with loading value between 0.4 and 0.7 are still tolerated (Hair et al.).

Table 3: Convergent Validity Assessment

Latent construct	Items	Loading	CA	CR	AVE
Ethical perception of tax evasion (EPTE)	EPTE 1	0.885			
	EPTE 2	0.884			
	EPTE 3	0.874			
	EPTE 4	0.841	0.934	0.945	0.684
	EPTE 5	0.836			
	EPTE 6	0.784			
	EPTE 7	0.786			
	EPTE 8	0.710			
Understanding of Tax evasion conditions (TEC)	TEC1	0.864			
	TEC2	0.902	0.884	0.919	0.740
	TEC3	0.856			
	TEC4	0.818			
Tax evasion environment (TEE)	TEE1	0.842			
	TEE2	0.789			
	TEE3	0.867	0.906	0.927	0.681
	TEE4	0.852			
	TEE5	0.847			
	TEE6	0.746			
Tax knowledge (TK)	TK1	0.897			
	TK2	0.915	0.927	0.948	0.820
	TK3	0.930			
	TK4	0.880			
Voluntary tax compliance (VTC)	VTC1	0.762			
	VTC2	0.652	0.714	0.831	0.627
	VTC3	0.935			

Table 3 show the loading value of each indicator. All indicators meet the loading value criteria>0.5 (EPTE, TEC, TEE, TK, VTC). Step two is reliability assessment. For the reliability assessment of a construct Cronbach's alpha and Composite reliability are measure. A high value indicates a high level of reliability. The good Cronbach's alpha and composite reliability value is in the range of 0.70-0.90 (Hair et al.). Table 3 shows the composite reliability value and Cronbach's alpha of ethical perception of tax evasion. Tax evasion conditions, tax evasion environment, tax knowledge and voluntary tax compliance each variable holds the value which is more than 0.70.

Convergent validity testing is performed by looking at AVE (average variance extracted), at least 0.5 for reflective latent variables (Kock, N., & Lynn, G.S.). All reflective variables (EPTE, TEC, TEE, TK, VTC) have an AVE value >0.50.

Table 4 shows the confirmation of the convergent validity, the Discriminant validity was examined using Fornell-Larcker's criterion, as recommended by hair et al. (2014). The Discriminant validity of the latent constructs was confirmed through the comparison of the AVE square roots and the variables' correlation coefficients. Table 4 shows that the AVE square roots exceeded the diagonal values in the respective rows and columns, which is indicative of the presence of the Discriminant validity among the variables. It can be stated that the measurement model achieved the requirements in light of the validity and reliability (reliability, convergent and Discriminant validity) at the level of the indicators and variables.

Table 4: Discriminant validity assessments

Variables	EPTE	TEC	TEE	TK	VTC
EPTE	**0.827**				
TEC	0.635	**0.860**			
TEE	0.766	0.772	**0.825**		
TK	-0.348	-0.288	-0.206	**0.906**	
VTC	-0.332	-0.369	-0.362	0.353	**0.792**

Structural Model Assessment

Figure 2 show the structural model and the path coefficient values of the latent variables. The structural model testing is described in the following sections. Figure 2 show that the tax evasion environment and tax evasion conditions have the positive path coefficients whether the tax knowledge and ethical perception of tax evasion have negative path coefficients values.

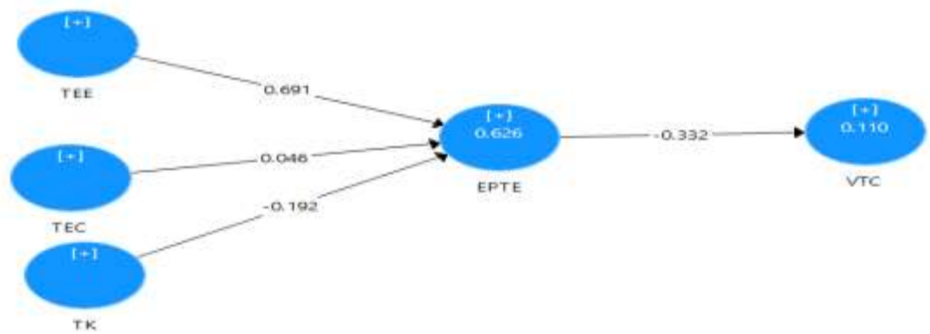

Figure 2: Structural model

Collinearity testing needs to be done to ensure there is no bias in the regression results (Hair et al.). A Collinearity issue in the predictor variable occurs if the VIF value is more than 5. Table 5 shows the VIF values of all the predictor variables (TEC= 2.590, TEE= 2.480, TK= 1.091, EPTE=1.000, VTC= 1.000) explain that all the values are <5 means there is no Collinearity issue exist in the study.

Table 5: VIF and R^2 Values

	TEC	TEE	TK	EPTE	VTC
VIF	2.590	2.480	1.091	1.000	1.000
R^2 Values				0.626	0.110

In the structural model R^2 or the determination coefficient is a value that reflects the ability level of an independent variable in describing dependent variable (Mooi & Sarstedt). (Hair et al., 2019) explained that the value of R^2 will differ in each discipline, so there is no definitive standard in classifying the value of R^2. Human behavior cannot precisely predict, so the R^2 value may be low. (Van tonder & Petzer, 2018) explains that a value more than 0.1 was appropriately considered adequate. In this study we have two R^2 value. One for the EPTE (dependent variable) and second for the VTC (as dependent variable). The three construct show an R^2 value of 0.626, which means that tax evasion conditions understanding, tax evasion environment and the tax knowledge explained 62.6% of the variance in the ethical perception of tax evasion. The value of $R^2 = 0.11$ means that the construct ethical perception of tax evasion explained 11% of the variance in the voluntary tax compliance.

Table: 6 Results of the hypothesis testing

Hypothesis testing	Relationship	Path coefficients	T-Value	P-Value	Decision	F^2
H1	EPTE ->VTC	-0.332	2.440	0.015	Supported	0.124
H2	TEC-> EPTE	0.046	0.499	0.618	Not supported	0.002
H3	TEE-> EPTE	0.691	6.641	0.000	Supported	0.515
H4	TK-> EPTE	-0.192	0.103	0.061	Not Supported	0.091

Note: $*p<0.05$, $**p<0.01$

Hypothesis Testing

In this study hypothesis testing is performed by looking at the path coefficients or coefficients of the path as well as P-value of the coefficient of the path. The coefficient and P- value paths are not only able to reflect the strength of the relationship between variables, but also the strength of the test performed. The path coefficient values are in range of -1 to 1. Based on the table 6, the path coefficients for EPTE> VTC is -0.332 with a P-value of 0.015, which means that ethical perception of tax evasion has a significant negative influence on the voluntary tax compliance level. The path coefficients for TEC>EPTE is 0.046 with a P-value of 0.618, indicates that understanding of tax evasion conditions has a positive but insignificant influence on the ethical perception of tax evasion. The path coefficient for TEE>EPTE is 0.691 with a P-value of 0.000 explains that tax evasion environment has a significant positive influence on ethical perception of tax evasion. TK>EPTE has a path coefficient value of -0.192 with the P-value of 0.061, indicates that tax knowledge has an insignificant negative influence on ethical perception of tax evasion. Hypothesis testing can also be done by looking at T-ratios as well as confidence intervals. The hypothesis is accepted if the T-ratios > critical value. With the P-value >0.05 H2 and H4 are not supported.

Table 7: Construct cross validated redundancy (Q^2)

Endogenous latent variable	SSO	SSE	1-SSE/SSO
EPTE	448.000	273.355	0.390
VTC	168.000	159.964	0.048

Predictive Relevance of The Model

In this study, the predictive relevance of the model was tested using the Stone-Geisser test, through the blindfolding approach (Geisser 1974; Stone 1974). The blindfolding techniques was applied to determine the predictive relevance of the model, as suggested by Sattler et al. (2010), because they stated that the "blindfolding procedure is only applied to endogenous latent variable that have reflective measurement model operationalization". The premise behind reflective measurement is that a latent construct produce a variation on observable items. Henseler et al. (2009) explained that a Q^2 statistic exceeding zero represent predictive relevance. Table 7 presented the cross –validated redundancy Q^2 value for this study which is 0.390 for EPTE and 0.048 foe VTC both the values are > zero indicates the predictive validity.

Conclusions

From the results of the study, it can be concluded that tax evasion environment has significant positive influence on the ethical perception of tax evasion. Understanding of tax evasion conditions and tax knowledge do not significantly influence ethical perception but Ethical perception has a significant negative effect on voluntary tax compliance. The discussion of each construct is explained below.

The results of this study show that the tax evasion conditions have a positive influence on ethical perception but not significant. The influence is based on the path coefficient value of 0.046, p-value 0.618. Positive value in the path coefficients mean that the higher understanding of tax evasion conditions will lead to an increase in ethical perception. Mean respondent with higher score (show the disagreement if they are dis-agree with the conditions they take evasion as an unethical act) in tax evasion conditions consider tax evasion as an unethical act.

Tax evasion environment is found to have a positive significant influence on ethical perception

Tax evasion environment is found to have a positive significant influence on ethical perception coefficient indicates that the higher score of tax evasion environment means individuals consider tax evasion to be an unethical act.

There is a negative but not significant influence of tax knowledge on ethical perception with path coefficient value -0.192, p-value 0.061. The negative effect means the higher the level of tax knowledge, the more the individual will consider tax evasion to be an unethical act. People with higher tax knowledge have a better understanding of the tax system, tax rates, allowances and other facilities available to them.

The results find that there is a significant negative influence of ethical perception of tax evasion on voluntary compliance with the path coefficient value -0.332, p-value 0.015. This means individuals who consider tax evasion as an ethical act have lower level of voluntary tax compliance and those who consider evasion as an unethical act have higher level of compliance.

Limitation of this Study

This study is inseparable from some limitations. First, a small sample in this research, which is selected with convenience sampling method, could not represent the overall population, so further research with a more adequate and representative sample is needed. Second, we only take tax evasion environment, tax knowledge and understanding of tax evasion conditions to predict the ethical perception. There are also other factors available those affect tax evasion so further research with the other construct is needed.

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A STUDY ON PERFORMANCE ANALYSIS OF SELECTED ELSS MUTUAL FUND SCHEMES

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ABSTRACT

Investors always find multiple investment opportunities, where they can generate high returns and save their money in one or another forms. For this saving purpose, investment in the ELSS scheme is one of the alternatives. Here the study attempts to explore ELSS Tax Saving Mutual Funds and aspects that should be considered in the investment. Also, the present study reveals the performance of the selected ELSS Mutual Funds performance. The schemes are identified based on the Funds under Management. Different financial tools are used for purpose of the analysis. The study attempted to make a note of the performance of Tax Saving schemes and to verify, whether it is a better option for investment for investors. The risk associated with this tax saving Mutual Funds are also analyzed with the help of different financial tools which are popularly used in decision making. The present study will help the investors to understand the concept of ELSS mutual funds and also helps to track the performance of these funds.

Keywords: *Mutual Funds, AUM, AMC's, ELSS, Portfolio.*

Mutual Funds

Mutual funds are pools of money collected by investors. Funds are managed by experts. The fund collected will be invested in different combinations of securities. The investment option is available for the short term and for the long term. The investment process is very easy and flexible in open-ended schemes. The collected fund will be invested in multiple securities to diversify the risk connected with the investment. There are more numbers of asset management companies exist in India for professional management of funds. They will charge fund management expenses.

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ELSS Mutual Funds

Equity Linked Saving Scheme is shortly known as ELSS. It is an equity-oriented mutual fund scheme; the majority of funds invest in equities and equity-related products. ELSS is a special group among mutual funds that qualify for a deduction in tax under section 80C of the IT Act, 1961, so this scheme is popularly known as tax-saving mutual funds. The returns generated under these schemes will be taxed under the Capital Gains head.

ELSS is one of the equity-oriented funds; it is having three years compulsory lock-in period. In this scheme bulk of the funds are invested in equities, so the returns an investor could earn on them are directly linked to stock market performance. A tax deduction on investments is available to investors up to Rs. 1.5 lakh. The statutory lock-in time for these funds is three years, which is thought to be the shortest lock-in term among all other available tax-saving investing options. One of the most well-liked investing possibilities is this one.

Literature Review

Alpesh Gajera and et al., (2020), made clear that there is dissimilarity in return and return between SIP and lump sum investment after examining the ten selected ELSS mutual funds. Return on Lump sum investment showed a higher variance than the return on SIP investment. It suggests that when risk and return are the most concerning thing then lump sum investment is a better option than SIP after analyzing ten selected ELSS mutual funds.

R. Rakesh and Magdalene Peter (2020), analyzed the performance of tax-saving mutual funds, especially the analysis of the potential of ICICI Prudential life insurance co. Ltd. Researchers mentioned that a maximum of Rs. 100000 can be saved by investing in ELSS funds. In terms of returns from inception, Templeton India Tax Shield fund has given the highest percentage of returns followed by ICICI tax plan funds and Reliance tax saver. This paper concludes that tax-saving funds are very beneficial for investors.

Narayana K.C and et al., (2019), focused on different tax-saving investment option schemes. Available mutual fund investment options were mentioned in this paper. It found that, though mutual was the second most popular investment option according to the researcher. Many investors are not completely informed about mutual fund investment. This paper suggested that companies need to reduce the initial investment amount and further concludes that investors need to give closer look at the MF investment option.

Vijaya Kittu Manda and et al., (2018), identified the tax-saving investment options preference and behavior of ELSS mutual fund investors. This paper found that ELSS investors are loyal to ELSS, many investors preferred only one ELSS investment in their portfolio, ELSS is more popular than other tax-saving products, most of the ELSS schemes have a high rate of expense ratio, and many more. This paper concluded that investors need to be educated about different investments option and especially about ELSS schemes; researchers further suggested the government about increasing limits of 80C to encourage long-term investments.

Jitendra Kumar and Ajeya Jha (2017), evaluated the influence of demographic factors on perception and preferences toward an investment. The research was conducted in some Eastern Indian states. With results obtained from primary data, researchers found that demographic factors affect the investor's investment preference and perception towards tax-saving mutual fund investment options.

Seema Sharma (2015), recognized the investor's behavior while investing in ELSS and evaluated components that affect investment decisions along with assessing the perception and satisfaction level which can influence investment decisions and build a model to define customer satisfaction as the basis for the investment behavior. This research found that grievance redressed, after-sales services, and operational transparency will affect the investor's behavior towards ELSS funds and suggest that mutual fund companies need to be careful about those factors.

J. Lilly and D.Anusuya (2014), examined the ELSS in the stock market and its performance. This paper uses some tools to study the selected Mutual Funds. This study concludes that among selected 49 open-ended tax saving schemes LIC Nomura MF Tax Plan-Growth and Dividend scheme tops the list in performance evaluation. According to researchers LIC's tax-saving mutual fund plans performed better than the market and are risk borne compared to other selected schemes.

Statement of the Problem

The current study aims to know whether ELSS funds are just a tax-saving option or a good investment option based on risk and return. This paper aimed to provide basic information about mutual funds and specifically about ELSS mutual funds. The ELSS mutual funds are one of the major tax-saving investment options. But it is necessary to evaluate the performance of these funds to make a further investment decision. For the said purpose it is required to measure the risk and consider various factors. Therefore, the study analyzes the performance of selected mutual fund ELSS schemes.

Need for the Study

As of today, multiple investment opportunities are there for investors to invest in India. Now day Mutual Fund is one of the major investment choices among investors. Diversification, various schemes, good performances from the past few years, some particular scheme-related benefits, and other benefits make mutual funds a very attractive investment option. Equity Linked Saving Scheme or ELSS is one of the schemes of mutual funds generally known as tax saving mutual funds. A taxpayer can claim deductions by investing in these funds up to 1.5 lakhs U/S 80C. It is a very useful option for investors who are looking for a tax-saving investment option that can also provide a good yield on investment.

Objectives

1. To evaluate the performance of ELSS schemes.
2. To analyze the Risk and Return of selected schemes.
3. To evaluate the relationship between the actual return and duration of the investment.

Scope of the Study

The study has taken into account assessing the chosen ELSS funds, which have been around for eight years as of March 31, 2021. Ten ELSS funds have been taken into account for this study. The 10 funds that make up the sample set of diversified equity funds were selected based on having the greatest average AUM at the end of July–September 2021. A sample set of two benchmark indices is also included in the study.

Research Methodology

10 ELSS funds were selected from the top 10 mutual fund firms based on the AUM. The performance of selected ELSS funds is evaluated in two parts. In the first part, the past 8 years' performances of the selected funds were evaluated based on secondary data by using tools such as Annual Return, Maximum Return, Minimum Return, and AUM. In the second part, the schemes were evaluated based on Standard deviation, Beta, Sharpe Ratio, Jension's Alpha, Treynor's Ratio, and the correlation between Return and Period of Investment.

Hypotheses

H0: There is no relationship between the return on the ELSS scheme and the duration of the Investment.

Tools and Techniques

Annual return – As the term suggests, it refers to the return earned from a scheme in one year. Normally it is calculated between the 1st of January and the 31st of December of a particular year. An annual return on an investment or fund helps investors to analyze performance over any given year the investment is held.

Annual Return = (Ending NAV - Beginning NAV) / Beginning NAV

CRISIL ranking – This is a global credit rating agency for financial instruments and financial institutes. CRISIL offers a myriad of financial services. It assigns ratings on a scale of 1 to 5 to mutual funds where 5 is the highest and 1 is the lowest rating. These ranking shows how likely a particular fund is going to deliver returns on time and within the policy framework. Since it is a globally recognized and premiere rating agency many investors like to check the ratings and rank given by CRISIL before selecting a mutual fund.

AUM – Assets under the Management are the entire market value of all the financial assets of a financial institution or AUM refers to the gross market value of the assets that a mutual fund company manages at a given point in time. AUM is used as an indicator of mutual fund size and also performance. A mutual fund with a high AUM shows a large customer base, which means the fund's trust factor, is high. The assets value that a fund manages changes based on the number of investors and investments.

Standard Deviation –It calculates the data's dispersion or deviation from the mean or average. From the perspective of a mutual fund, it conveys how far the return from a portfolio of funds is deviating from the likely or expected return, given the fund's prior performance. Forecasting the range of returns for a mutual fund can be done using the standard deviation that is calculated from previous mutual fund performance. The volatility of one mutual fund is not a worry in portfolio design, but it can be used as an indicator of future volatility by using historical performance, and it can benefit an investor by preventing the mistake of choosing an aggressive mutual fund.

Beta – A mutual fund scheme's beta refers to the scheme's volatility about its market benchmark. In 1968, Michael Jensen created the Jensen Alpha metric to measure the performance of mutual funds on a risk-adjusted return basis. if the beta of a scheme is greater than 1. When investing in assets, investors must understand the dangers involved. Investors must know the entire return on an investment in comparison to the associated risk to do this. Jensen's Alpha is a metric for comparing a fund's risk-adjusted performance to its benchmark.

Beta = (Fund return – Risk-free rate) ÷ (Benchmark return – Risk-free rate).

Sharpe Ratio – William F. Sharpe, a Stanford economist, developed the Sharpe ratio in 1966. This is a technique to consider how the potential rewards of investing are weighed against the risks. Using standard deviation, the Sharpe ratio calculates a mutual fund's risk-adjusted returns. It is a popular metric for calculating risk-adjusted returns. The excess returns of the scheme are can be determined by the Sharpe ratio.

Sharpe ratio = (Return – Risk-free return) ÷ Standard deviation

Jensen's alpha – It was created by Michael Jensen in 1968 as a statistic to measure performance on a risk-adjusted basis. When investing in assets, investors must understand the dangers involved. Investors must understand the entire return on an investment in comparison to the associated risk to do this. Jensen's Alpha is a metric for comparing a fund's risk-adjusted returns to its benchmark. The excess return of a fund that has delivered over the benchmark is a positive Alpha signaling that its outperformance and a negative one indicating its underperformance. It even helps to analyze the performance of fund managers. Between two funds with the same returns, the one with higher Alpha is preferable. That said, other parameters have to be factored in along with Alpha while selecting a fund.

Jensen's alpha equation is calculated as follows, α = Expected return from the investment – RF + β (MR – RF) Where:

RF = the risk-free rate of return β = volatility or the beta of the investment MR = expected return from the market.

Treynor's Ratio – Jack Treynor was the one who invented it. The reward-to-volatility ratio is another name for the Treynor ratio. It is figuring out the surplus return a portfolio generated for each unit of risk it took on. It draws attention to the risk-adjusted returns generated by a mutual fund plan. The Treynor Ratio focuses solely on how well the portfolio has done with the risks that are present in the economy. How well you will be compensated for incurring the risk associated with a specific mutual fund scheme is shown by the mutual fund's Treynor Ratio. The formula for Treynor ratio: (Rp-Rf)/Beta where,

Rp: Portfolio Return and Rf: Risk-free rate of return B: Beta

Limitations of the Study

1. Only 10 mutual funds were selected for analysis based on AUM.
2. Past 8 years' performance or returns selected for analysis purposes.

Analysis and Interpretation

Table:1 Annual Returns (in %) of ELSS Mutual Funds

Sl.No	Scheme Name	Crisil Rank	2021	2020	2019	2018	2017	2016	2015	2014
1	SBI Long Term Equity Fund. Growth ELSS	3	30%	19%	5%	-7%	34%	2%	4%	50%
2	ICICI Prudential Long Term Equity Fund (Tax Saving).	3	33%	14%	9%	2%	28%	5%	5%	52%
3	HDFC Tax Saver Fund	2	34%	6%	4%	-10%	40%	7%	-6%	57%

4	Aditya Birla Sun Life Tax Plan	4	11%	15%	5%	-4%	44%	4%	9%	55%
5	Kotak Tax Saver Scheme	4	33%	16%	14%	-2%	36%	8%	3%	57%
6	Nippon India Tax Saver Fund	2	36%	0%	2%	-20%	47%	4%	-3%	84%
7	Axis Long Term Equity Fund.	1	23%	21%	16%	4%	39%	0%	7%	69%
8	UTI Long-Term Equity Fund (Tax Saving)	3	32%	21%	11%	-5%	34%	4%	3%	42%
9	IDFC Tax Advantage (ELSS) Fund	5	48%	20%	4%	-8%	55%	1%	8%	44%
10	DSP Tax Saver Fund	3	35%	16%	16%	-6%	38%	11%	5%	53%

(https://www.moneycontrol.com/)

Annual Returns

The returns were not constant over the years. It may have happened because it is an equity fund-based scheme and volatility is normally high in these funds compared to others. Almost all selected funds performed well and moved in a positive trend after 2018. IDFC Tax Advantage (ELSS) Fund performed Better than other funds (48%) followed by Nippon India Tax Saver Fund (36%) and DSP Tax Saver Fund (35%) in 2021 while Aditya Birla Sun Life Tax Plan (11%) and Axis Long Term Equity Fund (23%) were given fewer returns than other funds.

CRISIL Ranking

The above chart shows that According to the CRISIL ranking, the IDFC Tax Advantage (ELSS) Fund is in the lead by getting the highest rank possible. Contrastingly, Axis Long Term Equity Fund gets the lowest rank followed by Nippon India Tax Saver Fund and HDFC Tax Saver Fund. Alongside Axis Long Term Equity Fund, Aditya Birla Sun Life Tax Plan and Kotak Tax Saver Scheme also performed well.

Table: 2 Returns Analysis of ELSS Mutual Funds

Sl. No	Scheme Name	Maximum Return	Minimum Return	Average Return
1	SBI Long Term Equity Fund. Growth ELSS	50%	-7%	17%
2	ICICI Prudential Long Term Equity Fund (Tax Saving).	52%	2%	19%
3	HDFC Tax Saver Fund	57%	-10%	17%
4	Aditya Birla Sun Life Tax Plan	55%	-4%	17%
5	Kotak Tax Saver Scheme	57%	-2%	21%
6	Nippon India Tax Saver Fund	84%	-20%	19%
7	Axis Long Term Equity Fund.	69%	0%	22%
8	UTI Long-Term Equity Fund (Tax Saving)	42%	-5%	18%
9	IDFC Tax Advantage (ELSS) Fund	55%	-8%	22%
10	DSP Tax Saver Fund	53%	-6%	21%

(https://www.moneycontrol.com/)

The above table showed that the performance analysis of selected ELSS mutual fund Schemes. In that, the maximum, minimum, and average return factors are considered. The Nippon India Tax saver fund showed the highest return level among all other tax saving Funds. And also, the same scheme showed a very negative performance during the study Period. If the study considers the average performance of the tax-saving funds the Axis Long-term Equity Fund and IDFC ELSS funds performed better. The Nippon India Tax Saver Fund is more fluctuating compared to other funds.

Table: 3 Analysis of ELSS Mutual Fund schemes based on AUM

Scheme Name	AUM (Cr)
SBI Long Term Equity Fund - Growth	10602.07
ICICI Prudential Long Term Equity Fund, (Tax Saving)	10049.05
HDFC Tax Saver Fund, (Growth)	9216.02
Aditya Birla Sun Life Tax Plan - Growth	392.06
Kotak Tax Saver Scheme	2696.29
Nippon India Tax Saver Fund	12022.72
Axis Long-Term Equity Fund	32052.74
UTI Long Term Equity Fund, (Tax Saving) – Growth	2904.32
IDFC Tax Advantage (ELSS) DSP Tax Saver	3715.97
DSP Tax Saver Fund	9872.41

Among selected companies, Axis Long Term Equity Fund has the highest AUM under the ELSS category having Rs. 32052.74Cr, its near competitor under this head Nippon India Tax Saver Fund has an Rs. 12022.72Cr as their AUM. Axis Long Term Equity Fund is miles ahead of its selected competitors here. Aditya Birla Sun Life Tax Plan (Rs.392.06 Cr) has the lowest AUM under ELSS funds among selected companies. Kotak Tax Saver Scheme (Rs. 2696.29Cr), UTI Long Term Equity Fund (Tax Saving) (Rs. 2904.32Cr), and IDFC Tax Advantage (ELSS) Fund (Rs. 3715.97Cr) also have very low investment funds to invest in ELSS Fund.

Table: 4 Analysis of ELSS Mutual Fund Schemes based on Return Ratios

Scheme Name	Standard Deviation	Beta	Sharpe Ratio	Jensen's alpha	Treynor's Ratio
SBI Long Term Equity Fund, Growth	20.05	0.91	0.64	-0.43	0.14
ICICI Prudential Long Term Equity Fund, (Tax Saving)	20.4	0.93	0.7	1.06	0.15
HDFC Tax Saver Fund, (Growth)	21.01	0.95	0.49	-3.31	0.11
Aditya Birla Sun Life TaxPlan, Growth.	19.39	0.87	0.33	-6.17	0.07
Kotak Tax Saver Scheme.	19.99	0.92	0.82	3.33	0.18
Nippon India Tax Saver Fund	22.99	1.03	0.46	-4	0.1
Axis Long-Term Equity Fund	20.59	0.92	0.7	1.29	0.16
UTI Long Term Equity Fund, (Tax Saving) – Growth	20.49	0.94	0.75	2.89	0.16
IDFC Tax Advantage (ELSS) DSP Tax Saver	21.4	0.96	0.84	4.02	0.19
DSP Tax Saver Fund	20.85	0.96	0.79	2.76	0.17

(https://www.moneycontrol.com/)

Standard deviation indicates the variation a fund has in its return from the mean point, it means the higher the standard deviation resembles the higher the volatility. The above chart shows that selected funds have a higher standard deviation means the performances of almost all selected funds fluctuate in nature. Among selected funds, Aditya Birla Sun Life Tax Plan's standard deviation (19.39) looks better, which means the fund may earn +19.39% or 19.39% from the average point or mean point. Still, it is not a good standard deviation to have until an investor is ready to take the risk because an investor can earn as high as 19.39% or as low as 19.39%. Nippon India Tax Saver Fund stands at last in this category's list with a standard deviation of 22.99.

According to the above chart about the Beta of the previous year, almost every fund's Beta is below 1. It means other than Nippon India Tax Saver Fund (1.03), every fund's volatility is low. Since funds are shown stability the risk of the Fund is low. Among selected funds, Aditya Birla Sun Life Tax Plan (0.87) performed better in this analysis tool followed by SBI Long Term Equity Fund (0.91). According to this tool, almost all funds are good to be invested in.

As mentioned earlier, the Sharpe ratio calculates the extra returns of the scheme over the risk-free rate. IDFC Tax Advantage (ELSS) Fund (0.84) and Kotak Tax Saver Schemes (0.82) performed better than other selected funds. Aditya Birla Sun Life Tax Plan (0.33) performance seems not good against other selected funds.

This risk ratio will tell how the portfolio has performed against the benchmark. According to this ratio, IDFC Tax Advantage (ELSS) Fund (4.02) and Kotak Tax Saver Scheme (3.33) performed well when compared with the benchmark and in front of other selected funds. 6 out of 10 funds showed positive results here, which means they performed better than their respective benchmarks, and only4 funds out of 10 failed to outperform their benchmark in the previous year. According to this ratio, Aditya Birla Sun Life Tax Plan (-6.17) and Nippon India Tax Saver Fund (-4) need to be improved.

The additional return per unit of systematic risk is calculated using Treynor's ratio. This ratio establishes the amount of excess return that a portfolio generated for each unit of risk it undertook. The above chart which is created based on the results of Treynor's ratio clearly shows that IDFC Tax Advantage (ELSS) Fund (0.19) and Kotak Tax Saver Scheme (0.18) performed better than the other selected funds. It means these funds earned more return for each unit of risk taken than other funds. According to this risk ratio Aditya Birla Sun Life Tax Plan (0.07), Nippon India Tax Saver Fund (0.10), and HDFC Tax Saver Fund (0.11) underperformed compared to other selected funds.

Table: 5 Relationship between the return on the ELSS scheme and the duration of Investment

Sl. No	Scheme Name	Correlation
1	SBI Long Term Equity Fund. Growth ELSS	-0.14
2	ICICI Prudential Long Term Equity Fund (Tax Saving)	-0.17

3	HDFC Tax Saver Fund	-0.19
4	Aditya Birla Sun Life Tax Plan	-0.45
5	Kotak Tax Saver Scheme	-0.18
6	Nippon India Tax Saver Fund	-0.34
7	Axis Long-Term Equity Fund	-0.31
8	UTI Long-Term Equity Fund (Tax Saving)	0.00
9	IDFC Tax Advantage (ELSS) Fund	0.04
10	DSP Tax Saver Fund	-0.15

(https://www.moneycontrol.com/)

The study attempts to find the relationship between fund performance and fund age. With the help of the above table, it can be interpreted that there is no relationship between fund performance and age. In the case of UTI Long Term Equity Fund (Tax Saving). Except for IDFC Tax Advantage (ELSS) Fund, all other funds negatively correlated with the duration or age of the fund. Since the majority of results are not certain and negatively correlated it was found that there is no significant relationship between the fund age and performance.

Findings

- The returns were not constant over the years. It may have happened because ELSS is an equity fund-based scheme and volatility is normally high in these funds compared to others.
- Almost all selected funds performed well and moved in a positive trend after 2018.
- IDFC Tax Advantage (ELSS) Fund performed better than other funds (48%) while Aditya Birla Sun Life Tax Plan (11%) performance was not so impressive compared to others.
- In the CRISIL ranking, the Axis Long Term Equity Fund got the highest rank possible.
- Axis Long Term Equity Fund has the highest AUM under the ELSS category. It has Rs. 32052.74Cr as AUM under the ELSS category.
- Among selected funds, Aditya Birla Sun Life Tax Plan has the lowest standard deviation (19.39).
- Aditya Birla Sun Life Tax Plan (0.87) performed better in the BETA analysis.
- IDFC Tax Advantage (ELSS) Fund (0.84) and Kotak Tax Saver Schemes (0.82) performed better than other selected funds according to the Shape ratio.
- According to Jension's Alpha ratio IDFC Tax Advantage (ELSS) Fund (4.02) and Kotak Tax Saver Scheme (3.33) performed well when compared with the benchmark and in front of other selected funds.
- Treynor's ratio clearly shows that IDFC Tax Advantage (ELSS) Fund (0.19) and Kotak Tax Saver Scheme (0.18) performed better than the other selected funds.

- The average return and the Correlation showed that IDFC Tax Advantage (ELSS) Fund is a better one for the investment.

Suggestions

- It is understandable that since ELSS is equity-based fund volatility is generally high; still, fund managers need to reduce the high volatility of the fund.
- Mutual fund houses need to maintain their return trend as it is.
- Mutual fund houses need to get the highest CRISIL ranking, so people's trust may increase.
- Mutual fund houses need to take care of their higher expense ratio.
- Since Axis Long Term Equity Fund and IDFC Tax Advantage (ELSS) Fund performed better with the average return, these are advisable.
- Aditya Birla Sun Life Tax Plan-Growth Scheme is less risky compared to the remaining schemes.
- The risk factors, average return, CRISIL ranking, Correlation and showed that IDFC Tax Advantage (ELSS) Fund is the better one for the investment

Conclusion

The goal of this study is to evaluate the performance of the equity-linked savings scheme. This study took into account data from the years 2014 to 2021 to analyze the investment performance of ELSS funds. The average category performance and average overall performance of Market indices for this period were found to be met by ELSS funds. A few funds are very volatile. Some of the funds fell short of beating their respective criteria in performance. The performances of the various ELSS funds fluctuated during this time. The ability of the investors to understand their investments is crucial to the success of ELSS funds. Investment awareness is the first step in understanding an investment, and investor experience is the last step. Mutual fund distributors and advisors have the chance to quickly and significantly contribute to making this possible. Together, AUMs and Mutual Fund Regulators must achieve this objective for the good of all stakeholders.

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ENVIRONMENTAL ACCOUNTING PRACTICES IN INDIAN COMPANIES – A PERCEPTIONAL ANALYSIS

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ABSTRACT

There is a growing concern among all sections of the society and also among different stakeholders of corporate society about the need for conserving and protecting the environment. Hence, the thinking is gaining ground about the need for each corporate citizen to account for the extent to which it has caused environmental degradation and also the efforts made by the corporate entity towards the environmental protection and welfare. In this background, environmental accounting is receiving importance world over. Even in India, a few guidelines have been issued by the authorities. However, the current regulations are not adequate and therefore, there is a diversity in the environmental accounting and disclosure practices. Further, two important, powerful players in this regard are the academicians and the professionals. In this backdrop, the present paper makes an attempt to analyze the opinions of both the academicians and professionals about a few aspects of environmental accounting and practices.

Keywords: Environmental Accounting, Academicians, Professionals, Corporate Sector, Regulations and Disclosures etc.,

Introduction

Industries contribute to society through creating employment opportunities, developing cutting-edge technology, raising the nation's income overall and per capita income, among other things. Industries are essential to the nation's overall economic development. The Gross Domestic Product (GDP) and National Product can be used to determine the state of any nation's economy (NDP). However, GDP only contains and accounts for the marketing of products and services, not the detrimental effects on the environment, human health, or society. It quantifies the volume of commodities and services produced by the nation. Businesses now must comply

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with a growing number of environmental standards, and every sector—from manufacturing to technology—must take into account its ecological and social impacts.

Business organizations are forced to take the environment into account increasingly as public concern over environmental deterioration has grown. The necessity to take into account the many linkages between the environment and all economic sectors has arisen as a result of mounting environmental pressures and rising environmental consciousness. For a firm to satisfy the information needs of its stakeholders, which include shareholders, creditors, employees, consumers, the government, and society at large, disclosure of environmental issues in the annual report is a vital necessity. An innovative and brand-new subfield accounting called environmental accounting has been born out of a concern for environmental responsibility and sustainable industrial development. This branch's goal is to guarantee that all interested parties, financial institutions, and the general public may obtain information on the constituent environment that is uniform, comparable, and similar to corporate financial reporting.

Conventional national accounts do not include how economic activity affects the environment; instead, they focus on measuring economic success and growth as they are represented in market activity. Therefore, implementing ecological disclosure methods can assist businesses and other stakeholders in lowering costs and pollution in line with each other. The gains attained and expenses incurred in relation to environmental exploitation occurring as a result of economic development must be thoroughly analyzed. This will make it easier to anticipate the acceptable boundaries of economic progress. To ascertain the advantages and disadvantages of acts taken to safeguard the environment, an analysis of environmental accounting is therefore required. Due to the increased concern for global warming and environmental deterioration, the study of environmental accounting has gained importance throughout the world.

Review of related literature

There are no good number of studies conducted so far on the adoption of environmental accounting in companies. Different news report of electronic and print media has conducted few studies on this issue. Different economic and financial agencies have also undertaken few studies to assess the impact of adoption of environmental accounting in companies regarding various economic indicators and manufacturing sectors.

In order to understand the notion of green accounting and its legal framework in the Indian context, Vijayashekaranayaka J R (2021) sought to understand it. He also made an effort to look at the application of green accounting methods and how they aid in sustainable development. In this regard, he revealed that only a small number of industries in India are required to utilize green accounting, which is still in its early stages. However, some Indian companies are voluntarily converting to green accounting practices to meet CSR requirements. The ecology is not specifically protected by any rules, regulations, or laws. Green accounting, which necessitates a defined environmental plan, suitable accounting methods, and adequate follow-up, is one of the best ways to the country's sustainable growth. According to Asmita Mali (2020), there are presently no definite policies in place to guarantee the degree of compliance with environmental norms at the national, state, or even company levels. Businesses and households are required to develop a concise environmental policy, put in place pollution prevention measures, abide by applicable legislation, and provide enough information about environmental issues in published yearly reports. By compiling data from 18 companies listed on the Bombay Stock Exchange over a ten-year period from annual reports of companies, Nandini et al. (2020) threw light on the relationship between amounts spent on environmental protection costs and Return on Capital Employed, Return on Assets, Return on Net worth/Equity, Net Profit Margin, and Dividend per Share. Rupam Majumder (2020) focused on gathering information from roughly 22 enterprises with locations in Siliguri and Fulbari to gauge the level of worries regarding who bears the duty for maintaining the environment (North Bengal). They observed that there is a need for a great degree of sensitivity towards to the way in which green accounting procedures are implemented and how their requirements are to be relevant and practical theoretical policy prescriptions. In order to promote the effective and efficient management of natural resources, Devarajappa S. (2018) sought to understand the extent to which environmental actions are reported by the Indian business sector in their published annual reports. After doing the study, he came to the conclusion that environmental accounting and reporting is still in a developing stage and that there is no accepted method for measuring, disclosing, and assessing a corporate enterprise's environmental performance. There is no requirement for it, but the majority of Indian businesses are still unaware of environmental difficulties and haven't found a suitable space in the director's report to notify their stakeholders about environmental issues.

On the lines of the above, many a number of researchers have worked on different dimensions of evolution, nature, significance, areas, and methodology of environmental accounting and the volume of environment disclosure and reporting practices in selected companies. Many studies focused on identifying the development of corporate environmental accounting and reporting and highlighting the corporate accounting and reporting practices in India as wellas outside India.

Objectives of the Study

1. To Study the adoption of Environmental Accounting Policies in IndianCompanies.
2. To examine the level of awareness and perception towards environmental accounting.

Hypotheses of the Study

Keeping in mind the above stated objectives of the study, the following hypotheses are formulated and tested in this regard:

$H0_1$: There is no significant relationship between Gender and the Level of knowledge of respondents regarding Environmental Accounting.

$H0_2$: There is no significant relationship between occupation and the level of knowledge of respondents regarding Environmental Accounting.

$H0_3$: There is no significant relationship between Educational Qualification and the Level of knowledge of respondents regarding Environmental Accounting.

Scope of the Study

The present study is confined to the evaluation of the level of knowledge or awareness about Environmental accounting. For this purpose students of commerce streams like B.com, M.com, MBA, and BBA, students of professional courses like CA, CS, and CMA are considered along with the faculties of Commerce and Management department of various colleges in Karnataka State.

Research Methodology

Research methodology mainly explains the flow of research concerned. It is an important section of the study, which particularly throws light on the study area followed by the adoption of the sampling procedure, sources of data, statistical tools and techniques used for data analysis, and so on.

1. **Research Design:** The present study is purely descriptive research as it analyzed and describes the data related to the Environmental Accounting Practices in India.

2. **Research Approach:** Quantitative approach has been used in the research study. Descriptive and inferential analysis is used for describing the characteristics of the population and to test the hypotheses formulated for the present study.

3. **Sources of Data collection:**

   For obvious reasons, this study is mainly based on primary and secondary data.

   a) **Primary Data:** The primary data has been collected through direct interviews of the concerned respondents with the structured Questionnaire.

   b) **Secondary Data:** The secondary data has been collected from published sources such as textbooks, journals, newspapers, periodicals, websites, annual reports submitted by various committees or departments and commissions, etc.

4. **Sampling Design:**

   a) **Target Population:** The population for the research is postgraduate students, i.e. M.com, MBA. Undergraduate students viz, B.com, BBA, and the students of Professional Courses, viz, Chartered Accountant, Company Secretary, and Cost and Management Accountant. Faculties of Commerce and Management are also considered for the study.

   b) **Sampling Technique:** Simple random sampling has been used in the selection of the respondents.

   c) **Sample Size:** Total sample size 115

5. **Tools used for Data Analysis:**

   For the analysis of the data, a few statistical tools are used such as Simple, Graphical Presentation, Percentage Analysis and the hypotheses are tested by using Chi-Square Test with the help of IBM SPSS Statistics version 29.0

Results and Discussions

In the light of the above, and keeping in mind the objectives and hypotheses, a few relevant parameters are identified below for the purpose of evaluating the level of knowledge and perception towards environmental accounting and the corresponding hypotheses are, as stated above. The research has been conducted based on the Survey Data collected from 115 respondents with a structured questionnaire. The questionnaire consists of 21 questions with different parameters. Every question is different in nature and includes all the points of the objective of the study. Each question is given in the appropriate option accordingly.

Table 1: Gender-wise Classification of the Respondents

Gender	Frequency	Percentage
Female	73	63.5
Male	42	36.5
Total	**115**	**100.0**

(**Source**: Survey Data)

The above table 1: shows the gender-wise classification of the respondents. Among 115 respondents, 63.5% (73) are female, 36.5% (42) are male. Hence, it can be said that most of there respondents are female.

Table 2: Relationship between Environmental Accounting and Profitability of a Company

Attributes	Frequency	Percentage
Yes	85	73.9
No	30	26.1
Total	115	100.0

(**Source:** Survey Data)

Table 2, shows the classification of respondents based on their opinion regarding the relationship between Environmental accounting and Profitability of a company. Among 115 respondents, 73.9% (85) of respondents said yes, and 26.1% (30) said no to the relationship between environmental accounting and profitability. Hence it can be concluded that the majority of the respondents said that there is a relationship between environmental accounting and profitability of a company.

$H0_1$: There is no significant relationship between Gender and the level of knowledge of the respondents towards Environmental Accounting.

Table 3: Chi–Square Test for Gender and Level of knowledge of theRespondents about Environmental Accounting

Pearson Chi–Square	Calculated Chi – Square Value	Degree of Freedom	Table Value	Remarks
Gender	2.092	2	5.99	Accepted

Significant at 5% level

It is observed from the above table that the calculated chi-square value is 2.092 which is less than the table value (5.99). The result is significant at a 5% level. Hence, the null hypothesis (H0) is accepted.From the analysis, it can be concluded that there is no significant relationship between gender and the level of knowledge of the respondents about Environmental Accounting.

$H0_2$: There is no significant relationship between Occupation and the level of knowledge of the respondents regarding Environmental Accounting.

Table 4: Chi–Square Test for the Occupation and Level of knowledge of the Respondents about Environmental Accounting

Pearson Chi – Square	Calculated Chi – Square Value	Degree of Freedom	Table Value	Remarks
Occupation	3.875	6	12.59	Accepted

Significant at 5% level

It is observed from the above table that the calculated chi – square value is 3.875 which is less than the table value (12.59). The result is significant at the 5 % level. Hence the null hypothesis (H0) is accepted. From the analysis, it can be concluded that there is no significant relationship between occupation and the level of knowledge of the respondents regarding Environmental Accounting.

$H0_3$: There is no significant relationship between Educational Qualification and the level of knowledge of the respondents regarding Environmental Accounting.

Table 5: Chi–Square test for classification of the respondents based on the Educational Qualification and the Level of knowledge regarding Environmental Accounting

Pearson Chi – Square	Calculated Chi–Square Value	Degree of Freedom	Table Value	Remarks
Educational Qualification	37.447	10	18.31	Rejected

Significant at 5% level

It is observed from the above table that the calculated chi-square value is 37.447 which is greater than the table value (18.31). The result is significant at the 5 % level. Hence the null hypothesis (H0) is rejected and the alternative hypothesis (H1) is accepted. From the analysis, it can be concluded that there is a significant relationship between Educational Qualification and the level of knowledge of the respondents regarding Environmental Accounting.

Table 6: Reasons for the Failure to use Environmental Accounting in India

Problems	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. Lack of accounting standard	19 (16.52%)	21 (18.26%)	28 (24.35%)	20 (17.39%)	27 (23.48%)
2. Ignorance of benefits	9 (7.83%)	20 (17.39%)	34 (29.56%)	24 (20.87%)	28 (24.35%)
3. Voluntary nature of	16	18	30	32	19

Environmental	(13.91%)	(15.65%)	(26.09%)	(27.83%)	(16.52%)
4. Lack of clear-cut Government Policy on	12 (10.43%)	18 (15.65%)	31 (26.96%)	26 (22.61%)	28 (24.35%)
5. Difficulty in measuring environmental cost	16 (13.91%)	14 (12.17%)	37 (32.17%)	31 (26.96%)	17 (14.78%)
6. Any other	11 (9.56%)	22 (19.13%)	42 (36.52%)	27 (23.48%)	13 (11.30%)

(**Source:** Survey Data)

Table 4.22 shows the responses given by the respondents about the Reasons for the failure to use Environmental Accounting in India. 6 problems are listed and given to the respondents to rank them accordingly. Followed by the above table the first rank, i.e. 'strongly disagree' is highest at 16.52% (19), andlowest at 7.83% (9) for lack of accounting standards and ignorance of benefits respectively. Thesecond rank, i.e. 'disagree' is maximum at 19.13% (22) for other reasons and lowest at 12.17% (14) for difficulty in measuring environmental cost. The third-rank 'neutral' is ranked highest at 36.52% (42), and a minimum of 24.35% (28) for lack of accounting standards. The fourth rank, i.e. agrees is ranked with a maximum of 27.83% (32) and a minimum of 17.39% (20) for the voluntary nature of environmental accounting and lack of accounting standards respectively. However the fifth rank, i.e. 'strongly agree' is ranked with a maximum of 24.35% for ignoranceof benefits and a minimum of 11.3% (13) for other reasons

Conclusion and Implications

Global pollution has reached alarming levels, thus many countries are working to minimize pollution and transition to sustainable economies. Sustainability is defined as serving the demands of the present generation without compromising the needs of future generations. In order to adequately safeguard the environment, industries are currently focusing on creating eco-friendly products and increasing their spending on energy-saving initiatives. Additionally, many affluent nations have made significant progress in implementing environmental accounting, which is now required by law. Although reporting of environmental information is also fairly rare in the developed nations, there is no accounting for natural resources in India due to the lack of environmental accounting standards. Government, accounting experts, NGOs, or environmental agencies must immediately take the initiative to create environmental standards, and periodic environmental assessments are also necessary regulations from the appropriate regulatory organization (both central and state) for environmental protection operations, reporting, and accounting of such information. Since, we are aware that there is no legal obligation to account for natural resources in India.

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FACTORS AFFECTING ONLINE SHOPPING IN UDAIPUR DISTRICT

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Dr. Shilpa Vardia**

ABSTRACT

The accretion of online shopping in udaipur district is low compared to other major cities. This fact has brought the researcher to conduct at the research work to identify the major factors affecting the online shopping behavior at udaipur District. This study has identified four factors. They are facility, product quality, web site merits and consciousness. The objective of the study was to access the influence of these factors towards online shopping. There are 200 samples selected for this research work. Primary data were collected by using well-structured questionnaire. Likert five point scales are used to collect the opinion of the respondents. The convenient sampling method is used for this research. There are four online mobile applications are chosen for this study. They are amazon, flipkart, snapdeal and others. The SPSS 25.0 software is used for data analysis. The factors such as convenience, product characteristics and web site quality are positively correlated among themselves. The findings show that three factors affect online shopping in udaipur District.

Keywords: *Online shopping, Facility, Website merits, Consciousness*

Introduction

Online shopping is an emerging shopping trend for youthful people. The internet provides a comfortable facility for the users to access the web sites. The accretion of online shopping in worldwide is increasing very fast. The technology acceptance model (TAM) model is famous in twenty first century. The internet supplier are facing non acceptance from the internet users. This model analyzed perceived usefulness, perceived enjoyment and perceived ease of use. This study shows perceived use and enjoyment impact more on online shipping (Umair Cheema et. al., 2012).

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Statement of the Problem

The online shopping business is not attractive in Udaipur District. The growth population in the study area may create an opportunity for online shopping business. The industry is stagnant in this segment. There are many factors contributing to the accretion of online shopping pattern. The factors differ by different writers, different time and in different countries. This study has made and exploratory investigation with a questionnaire to get more insight about the respondent's opinion. This study has identified convenience, product characteristics, and web site quality and awareness factors affecting online purchase intention.

Objectives of the study

- To identify the factors affecting online shopping in Udaipur District
- To analyze the correlation between the variables for online shopping
- To analyze the impact of convenience, product characteristics, web site quality and awareness on purchase intention

Review of Literature

Yu and Wu (2007) found the determinants of online shopping pattern. The convenience is playing a major role in consumer's satisfaction. Ahmad (2002) found convenience is the major promotion tool for online shopping. It facilitates better shopping experience. Wang et. al., (2005) investigated online service facilities. They found convenience is the major factor influence on online shopper's willingness. The consumers purchase around the clock in the online stores.

Jahng et. al., (2001) studied the factors affecting electronic commerce. The Technology Fit Model used in to measure the relationship between product and electronic commerce characteristics. The study concluded that there is a positive relationship between product characteristics and electronic commerce environment which give better customer satisfaction as an outcome.

Gefen and Straub (2000) analyzed the importance of website quality for online websites. Jasur Hasanov and Haliyana Khalid (2015) analyzed the impact of website quality towards online purchase intention. This study has used 'WebQual Model Approach'. This study determines the impact of website quality on purchase intention. Anantha Laxmi and Sarat Kumar (2016) investigated the factors affecting online purchase. They found awareness and attitude are the major factors. Cash on delivery, customized website and free home delivery attracts online purchasers.

Research Methodology

This study has used deductive design. The total population is infinite in the study area. The convenient sampling method is used for this research work. This study considers the respondents in Udaipur District. The Udaipur city and surround area are cover for data collection. The online shopping websites, journals and books are referred for secondary data collection. The questionnaire consists of twenty questions. The Likert five-point scales are used to collect the respondent's opinion.

Results and Discussion

There are three stages in the result analysis. There are demographic analysis, online shopping pattern and independent variables analysis.

Table 1: Demographic Details

Sl. No.	Demographic Details		Frequency	Percentage
1.	Gender	Male	144	72
		Female	56	28
2.	Age	Less than 21	26	13
		22 to 30	52	26
		31 to 40	88	44
		Above 40	34	17
3.	Qualification	U.G. Degree	84	42
		P.G. Degree	66	33
		Others	50	25
4.	Marital Status	Single	94	47
		Married	106	53
5.	Occupation	Student	26	13
		Private Job	94	47
		Self-employee	32	16
		Government Job	28	14
		Others	20	10
6.	Income per month	Less than 15,000	72	36
		15,0001 to 30,000	48	24
		Above 30,000	30	15
		No income	50	25

7.	Residence	Urban	156	78
		Rural	44	22

The above table shows the demographic details. This study selects gender, age, qualification, marital status, occupation, income per month and residence to collect the details about the respondent's demographic details. There are two classifications for gender. The above table value shows 72 percent of the respondents are male and 28 percent of the respondents are female. The age has classified into four options. The table value shows 13 percent of the respondents are less than 21 year, 26 percent are between 22 to 30, 26 percent are 31 to 40 and 44 percent are above 40 years in Udaipur District. The educational qualification has three options. The table result shows 42 percent have studied U.G. Degree, 33 percent have studied P.G. Degree and 25 percent have studied other courses. The marital status has classified into two options. The data show 47 percent are single and 53 percent are married in the study area. This study chooses five options for occupation. The table value shows 13 percent are student, 47 percent are doing private jobs, 16 percent own their own business, 14 percent are working in government organization and 10 percent are in other occupation category. The research has chosen four options for income per month. There are 36 percent of the respondents earning less than Rs.15,000 per month, 24 percent are earning from 15,000 to 30,000, 15percent are earning above 30,000 and 25 percent do not have their own income in Udaipur District. There are two classifications for residence. 78 percent are living in urban and 22 percent are living in rural area.

Table 2: Online purchase pattern

Sl. No.	Buying pattern		Frequency	Percentage
1.	Internet access	Mobile phone	130	65
		Computer	70	35
2.	Usage of Internet	Less than 1 hour	48	24
		2 to 3 hours	52	26
		4 to 5 hours	58	29
		Above 5 hours	42	21
3.	Reasons for internet usage	Online shopping	70	35
		Knowledge search	64	32
		Entertainment	66	33

4.	Internet browser	Google	144	72
		Mozilla Firefox	56	28
5.	Shopping goods	Book	24	12
		Electronic items	68	34
		Dress material	54	27
		Gifts	28	14
		Others	26	13
6.	Website preference	Amazon	66	33
		Flipkart	48	24
		Snapdeal	42	21
		Others	44	22
7.	Purchase intention	Yes	128	64
		No	72	36

There are seven questions selected to know the respondent's online purchase pattern. They are internet access, usage of internet, reasons to use internet, internet browser, shopping goods, and website preference and purchase intention. The internet access has classified into two. The table result shows 65 percent of the respondents are using mobile phone and 35 percent of the respondents are using computer to access the internet. The usage of internet has four options in the questionnaire. 24 percent of the respondents use less than 1 hours, 26 percent of the respondent's use 2 to 3 hours 29 percent of the respondents use 4 to 5 hours and 21 percent of the respondents use above 5 hours. The respondents use internet for the following reasons. They are 35 percent of the respondents are searching the internet for online shopping, 32 percent of the respondents are using internet for knowledge search and 33 percent are using for entertainment purpose. The respondents prefer Google and Mozilla Firefox search engine. 72 percent of the respondents prefer Google and 28 percent of the respondents prefer Mozilla Firefox search engine. The shopping goods are classified into books, electronics, dresses, gifts and others. The table shows the internet user's preference with these items. The table shows 12 percent prefer to purchase books, 34 percent prefer to buy electronics, 27 percent prefer to purchase dresses, 14 percent prefer to purchase gifts and 13 percent prefer to purchase other items. This study chooses four options for website preferences. They are amazon, flipkart, snapdeal and others for online purchase. The respondent's distributions are 33 percent purchase from amazon, 24 percent from flipkart, 21 percent from snapdeal and 22 percent from other websites. The purchase intention is measured with two options. The result shows 64 percent prefer to buy through online and 36 percent do not prefer to purchase through online shopping.

Table 3: Mean

	Mean	Std. Deviation	N
facility	7.1200	1.05357	200
Product Characteristics	7.4364	.98540	200
website merits	7.1612	.86069	200
consciousness	7.224	.66160	200

The above table shows the mean value of convenience, product characteristics, web site quality and awareness. They are 3.56, 3.71, 3.58 and 3.61 respectively. The standard deviation values are 1.05, 0.98, 0.86 and 0.66 respectively. This show the mean values are above average in Udaipur district.

Table 4: Correlation Analysis

		Convenience	Product Characteristics	Website Quality	Awareness
facility	Pearson Correlation	1	.923**	.358**	-.040
	Sig. (2-tailed)		.000	.000	.693
	N	100	100	100	100
Product Characteristics	Pearson Correlation	.923**	1	.322**	-.057
	Sig. (2-tailed)	.000		.001	.576
	N	100	100	100	100
Website merits	Pearson Correlation	.358**	.322**	1	-.071
	Sig. (2-tailed)	.000	.001		.483

	N	100	100	100	100
consciousness	Pearson Correlation	-.040	-.057	-.071	1
	Sig. (2-tailed)	.693	.576	.483	
	N	100	100	100	100

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

The above table shows the correlation between the selected variables. Convenience is positively correlated with product characteristics (0.923) and website quality (0.358). It is negatively correlated with awareness (-0.040). Product characteristics are positively correlated with convenience (0.923) and website quality (0.322). It is negatively correlated with awareness (-0.057). Web site quality is positively correlated with convenience (0.358) and product characteristics (0.322). It is negatively correlated with awareness (-0.71). Awareness is negatively correlated with convenience (-0.040), product characteristics (-0.057) and web site quality (-0.071).

Table 5: Model Summary

Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**	**Change Statistics**				
					R Square Change	**F Change**	**df1**	**df2**	**Sig. F Change**
1	.489[a]	.239	.207	.97315	.239	7.447	4	95	.000

a. Predictors: (Constant), Awareness, Convenience, Website Quality, Product Characteristics

The above table shows the 'R' value as 0.489, 'R Square' value as 0.239 and 'Adjusted R Square' value as 0.207.

Table 6: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	28.211	4	7.053	7.447	.000[b]
	Residual	89.967	95	.947		
	Total	118.177	99			

a. Dependent Variable: Purchase Intention

b. Predictors: (Constant), Awareness, Convenience, Website Quality, Product Characteristics

The above ANOVA table shows the 'F' value as 7.447 with <0.05 significance. There is no significance association between the dependent and independent variables.

Table 7: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.198	.760		.261	.795
	Convenience	.069	.245	.067	.282	.778
	Product Characteristics	-.168	.258	-.152	-.651	.517
	Website Quality	.129	.122	.101	1.054	.294
	Awareness	.785	.148	.475	5.288	.000

a. Dependent Variable: Purchase Intention

The above table beta value shows convenience, website quality and awareness influence on the purchase intention.

Conclusion

This study found convenience, web site quality and awareness affect online purchase intention in Udaipur District. The extent of the effects of these four factors found differences in the level of significance. The correlation between the four factors show, except awareness other factors are positively correlated. Convenience and product characteristics are highly and positively correlated than other variables. Online shopping websites can exert their effort to increase the awareness and benefits of the consumers to attract them. The E-commerce websites can focus on new strategies to enhance the demand for online purchase. The online websites need to attract consumers by providing offers and discounts to attract them.

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FORENSIC ACCOUNTING AND MANAGEMENT OF FRAUD IN MICROFINANCEINSTITUTIONS IN INDIA: CHALLENGES & OPPORTUNITIES

Yasmeen Khan*

Prof. K.S. Thakur**

ABSTRACT

This Present Scenario is a Hub of Challenges and Opportunities in which Business Circles hasto be vigilant about every Financing Activity. Forensic Accounting has a key role in investigating financial anomalies, inaccuracies such as fraudulent activity, financialfalsification, or delinquency and disputes. Forensic Accounting is an instrument that assists in the management of fraud in Financial Institutions. In recent past, we can experience some fraudcases in Andhra Pradesh SHGs and Odisha-based NBFC (MFI) Sambandh Finserve Pvt. Ltd. in India. Not only do Outsiders who are Customers, Partners of Financial Institutions or Companies seem involved in fraud but also Senior management seems involved in some of theirregularities and fraud cases (Apurva Joshi:2022). As per RBI's annual report for the year 2019-2020, more than INR. 1.85 lakh crore Bank frauds was announced at the end of June 2020 as compared to the previous fiscal with over INR.71,500 crore. As per the report fraud has been arising mainly in the loan portfolio (advances category), in form of value and number. Various aspects associated with the Fraud Risk Management Framework have been discussed.Mainly this research pivot to Forensic accounting influences the fraud management in Microfinance institutions in India. An issue in this review consequently reclines on how to productively manage and prevent fraud in Microfinance Banks accompanying the implementation of Forensic Accounting Services. The disposition of research is descriptive and exploratory. The objectives of study are to assess how Forensic accounting as a tool assistin the management of fraud in Microfinance institutions and to analyse Challenges & Opportunities associated with the fraud risk management in Microfinance institutions in India.Data has been collected from Secondary sources.

Keywords: *Forensic accounting, Management of fraud, Microfinance institutions.*

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Introduction

Forensic accounting is the application of investigative and analytical skills to resolve financialissues in a manner that meets standards required by courts of law. Forensic accountants apply special skills in accounting, auditing, finance, quantitative methods, certain areas of the law, research, and investigative skills to collect, analysed evaluate evidential matter and interpretand communicate findings. (Hopwood, Leiner, and Young, 2008).

Forensic accounting encompasses two major elements: Litigation services and InvestigatingServices. Some of the most common examples are here under:

- Financial fraud comprises theft and embezzlement (customers, employees, or outsiders)
- Money Laundering
- Default on debt

'Fraud' denotes a false statement made knowingly or without trust in its truth, or recklessly careless, whether true or untrue," according to Lord Herschell. The classifications are provided here:

- Misappropriation and criminal breach of trust.
- Fraudulent encashment through forged instruments, manipulation of books of account.
- Negligence and cash shortages.
- Cheating and forgery.
- Irregularities in foreign exchange transactions.

Microfinance institutions are financial companies that offer small loans to poor households who do not have any access to banking facilities. It works as a vaccine in Indian population. MFIs play an important role in providing various financial services and other services such as insurance, savings, transfer of funds, training, counselling, supporting borrowers. A part of the Indian population does not maintain savings account. So this rural population require financial services to fulfil their aspirations such as the building of assets and protection against risk. The fact that some borrowers of microfinance use these loans to pay off their existing debts for necessities.

Conceptual Framework

Forensic accounting is the systematic investigation of facts. It helps solve frauds, mysteries, and financial irregularities. Thus, it predicts, proves, and prevents financial felonies from being committed in the first place.

Source: Wall Street Mojo Editorial Team

1. Investigation

The investigation is the first step in the forensic accounting process Under this step, when he/she found any fraudulent suspicious the forensic accountant starts an investigation and collects the data. To indicate fraud depicts the data and discrepancies with red flags. If required then these accountants take the interfaith of the staff at an organization for collecting more information and too caught people against the fraud.

After that, they form a supposition based on that information so that a follow-up plan can be made to assess the business without hindrance. On the completion of this step, the forensic accountant's hand over the important data to the company and move for the next action.

2. Information Reporting

After collecting information and forming a case, these accountants demonstrate the statement of their conclusion to the necessary personnel. With the help of this information,they determine how the fraud occurred and who the main culprit is. They decide how to tackle case then suggest the necessary steps to a company that should be taken.

Additionally, these accountants can suggest ways to prevent such incidents in the futureby strengthening internal security and figuring out red flags. After report submission, these accountants get ready to present their points and role in the court for further processing related to the case.

3. **Litigation**

This is the final step in this process. It involves the participation of the accountant as an expert witness in the incident's court case. The findings are presented in the court as an evidence by the investigators and are testified against the offenders.

They present the evidence and interpret the financial documents of a firm in an understandable manner. This means the duty of the accountant is not just limited to collecting the documents but also to use rhetorical questions that make sense to the court and the point strong. Once this step is completed, the court goes for last decision on the condition. Hence, forensic accountant plays a huge role till the end of the process.

It has been observed through various recent reports that banking frauds or reported fraud cases have declined in the Covid-19 Phase, and the quantum of money lost has significantly increased in these years. Irregularities and fraud cases not only involve outsiders who are just Customers, Partners of Financial Institutions, or Companies but also Senior Management as seen in some of the cases. (Apurva Joshi:2022).

Therefore, various aspects associated with the **Fraud Risk Management Framework** have been discussed.

Source: Fraud Risk Management in Indian Banks and Companies – India Forensic

- **Early Warning Signals** – RBI acquaints a system for the banks called (EWS) and (RFA) wherein it mentioned 45 red flags.
- **Red Flag Account** – A RFA is solitary in which a dubious of fraudulent activity elevated by existence of one or more Early Warning signals.
- **Market Intelligence** –In the prevention of these financial crimes market intelligence plays a significant role. Market Intelligence is ultimately a nexus-building activity wherein a banker, an investor, or a company can find out whom they are dealing with. Market Intelligence should be seen as one of the best practices to employ across the industries and thus forming a vital part of corporate governance.
- **Third-Party Fraud Risk** – The Risk of dealing with third parties has increased significantly and it has become essential to verify the business partners to avoid unpleasant surprises. In the wake of the Foreign Corrupt Practices Act, the UK Bribery Act, as well as other such enactments across the world, data, and discreet checks play an important part in investigating nexus of (Individuals who are acting as) Director with the politically connected, exposed, high net-worth or sensitive persons. Gathering public and non-public information to provide insights into the background, track record, reputation, and associations of any potential business partner is the key.
- According to the **RBI's annual report for 2019-20**, Bank Frauds are more than INR.
- 1.85 lakh crore was announced in the year ended June 2020 compared with INR.71,500 crore in the past fiscal. The report also states that Fraud has been occurring predominantly in loan portfolio (advances category), in form of number and value.
- **Ministry of Corporate Affairs** – This MCA has rectified Companies (Auditor's Report) Order, or CARO (In a bid to check corporate frauds), under which auditors are now required to report more extensively on many crucial aspects including frauds, loan whistle blower complaints, and Benami properties.
- **SEBI** – As per SEBI (Listing Obligations and Disclosure Requirements) (second amendment) Regulations, 2021 was made public on 5th May 2021.

Managing fraud risk: prevent, detect, and respond

Organization requires is to realize the relevance of addressing fraud risks strategically and move away from the reactive approach and adopt a proactive approach.

Fraud Risk Management Framework

Source: Deloitte Managing Fraud risk: Prevent, Detect, and Respond

- **Fraud prevention** - It is primary range of defence that minimizes fraud risk. The implementation of fraud prevention is done via fit system of preventive controls that decreases motive, restricts opportunity, and bound the rationalization of fraudulent acts. This involves techniques such as codes of conduct, employee and third-party screening, communication and training, segregation of duties, and continued transaction monitoring. The effectiveness of the various fraud prevention schemes is highlydependent on continuous communication and reinforcement across the organization
- **Fraud detection** – When fraud occurs the monitoring and review tools are used in fraud detection. For e.g. process-level detection controls, substantive testing, and whistleblowing channels. This is followed by a reporting mechanism for getting the information to the right person.
- **Fraud response** – The strategies are framed to confer guidance on tracking thedetection or suspicion- of fraud cases in a regular manner. Fraud responses are critical to bound minimization of losses and damage caused by fraud. Organizations benefit from incorporating thorough investigation protocols, reporting and disclosure protocols, and remedial action protocols into their fraud response plans.

Literature Review

Impact of Forensic Audit on Fraud Prevention

S, Nandini & Raju, Ajay. (2021) The study focused on the impact of forensic Audit on the investigation and prevention of fraud in any financial performance or corporate company. The theoretical research study considers the role of forensic auditors in combating fraudulent activities, the differentiation of statutory and forensic auditors, features, and the impact of the forensic auditor on corporate governance. Analysis of data has been done by using charts, graphs, tabulation, and regression. The results depict that forensic audit have a main negative impact on the number of fraud cases, and staff involved in fraudulent activities. Sample size of

125 respondents was collected through well-structured questionnaires from the auditors, accountants, managers, professional accountants, and accounting knowledgeable persons. Authors have used SPSS to find the Regression, Correlation Coefficient, Descriptive statistics, Reliability test, Anova, and Factor analysis.

Sri, S and Maria, S. (2019) The study was conducted to find an appropriate order to prevent or minimize the financial frauds which form a part of forensic accounting and it also throws light on various kinds of financial frauds which are currently present in all the organizations. Finding: i The management was careless and was not aware of the happenings in the Bank. ii. There was no proper communication and link between SWIFT and CBS which made the situation more difficult. iii. The amount involved in any kind of fraud cannot be recovered fully, but in a few cases, the nominal amount is also not recovered. iv. Frauds however small in the beginning will turn out to be worse in the long run and will hurt the organization as wellas the economy.

Impact of Fraudulent Financial Practices in the Microfinance Industry

Khan, F. (2017). This paper attempts to address the research questions: What has been the impact of fraudulent practices (as reported in 2005-10) on the Indian Microfinance Industry? Do some risk factors continue to persist? How can microfinance institutions (MFIs) manage these risks? The paper was divided into four key aspects. Section 1 provides an evolutionary view of the Indian microfinance industry inclusive of - the AP MFI crisis. Section 2 enunciates key regulatory initiatives taken by RBI & NABARD to reign in the risk factors and give an impetus to the industry. A few recent trends in the microfinance industry are highlighted in

Section 3 in the ultimate part of the paper Section 4 lists out risk factors that will persist and require prudent risk management by MFIs.

Bassey E.B. (2018). In this paper, the author has focused on forensic accounting that influences the management of fraud in Microfinance institutions in Cross River State and the problem herein lies in how to effectively manage and prevent fraud in microfinance banks by using forensic accounting services. Survey Research Design has been adopted by the author. Analysis of data has been done by using both first-hand sources and Second-hand sources and OLS technique has been used. The author concluded that forensic accounting plays an important role in preventing theft and corruption in selected microfinance banks in Calabar, Cross River State. Appointed Managers for managing and running microfinance banks should be tested and their integrity, as well as trustworthiness, should be proven they are appointed as a manager for managing and overseeing the affairs of banks.

Fraud in Microfinance Institutions in India

As per the E&Y draft report Ghost loans and diversion of funds by a section of Sambandh Finserve management fraud has been occurring for the past 8 years, of which an initial assessment was shown by Ernst & Young, a consultant assigned with a forensic audit at the Odisha-based microfinance lender. By Atmadip Ray, Economic Times Bureau (November 05,2020).

Four cases were found in Andhra Pradesh self-help- groups that seem unsafe to bank frauds. VIJAYAWADA: These last 4 evidence of Nationalised bank workers in swindling money cases that were meant for Microfinance schemes- in the last twelve months have once again exposed the unsafety of SHGs to fraud. Ujwal Bommakanti, Times of India, (September 07,2021). The most recent one took place on August 31, When seven Women SHGs in Annavaram village of Mopidevi Mandal, Krishna district, alleged that the staff members of a public sector bank committed irregularities by swindling money credited to their accounts.

Rationale of the Study

The rationale of the present research work lies in the fact that Microfinance Institutions are lacking behind due to some reasons like delays in providing loans, risk management, fraud, and many more. In the recent past, we can experience some fraud cases in Andhra Pradesh SHGs and Odisha- based NBFC (MFI) Sambandh Finserve Pvt. Ltd. in India.

Objectives of the Study

- To assess how Forensic accounting as a tool assists in the management of fraud in Microfinance institutions?
- To analyse the Challenges & Opportunities associated with the fraud risk management in Microfinance institutions in India.

Research Methodology

This Research paper has been done by collecting various research papers from the journals, articles, newspapers, books, and websites. The present study is based on Secondary data. The Research design is descriptive in nature. A Comprehensive internet search was also conductedspecifically through various websites stated in references. Main purpose of the paper is to focuson Forensic accounting as a fraud management tool in MFIs on a broader level.

Opportunities

Forensic accounting as an instrument works in the management of fraud in MFIs by providing forensic accounting services such as fraud risk assessment, money laundering compliance program, litigation support, information security risk assessment, etc. In this present era, vast opportunities are provided by the banking sector for Forensic auditors. For microfinance institutions, banks, and companies forensic auditing is required to identify the loss or wilful default. This is the reason behind the huge demand for forensic audit services. For proper running of the Institution's fraud risk management framework provides an opportunity to deal most safely with outsiders and senior management. Technologies such as Text Mining enableforensic accountants to find documents for keywords and sort documents by date ranges, and AI technologies can analyse data faster than human.

Challenges

Some Challenges faced by Microfinance institutions in India are funding sources where MFIshave to depend on borrowing from banks and financial institutions, financial illiteracy on the part of the people as a client, regional imbalances, lack of information, and many more. As these microfinance institutions are still lacking behind in collecting the full information from their clients and this becomes a big challenge for forensic accountants because they are not having relevant data due to poor data management policies of the company and along with this sometimes, they do not reach to the right people who have the dubious transactions if any.

Therefore, these forensic procedures require technical and financial expertise in the management of frauds. The Investigation is not a short process due to which forensic accounting becomes complex.

Limitations of the Study

- The study was limited to only some fraud cases in selected states of India. The Scope of Forensic Accounting is wider and this study was limited to only Microfinance Institutions.
- Time Limit was also considered as one of the limitations.

Findings

- Forensic accounting is used as an instrument that prevents financial institutions from fraud. (Bassey E.B., 2018).
- The loan portfolio (advances category), plays a significant role in microfinance institutions and banks both in terms of number and value therefore utmost care is required in dealing with this section so that frauds may not occur predominantly. (RBI'sannual report for 2019-20).
- Forensic auditing is required to identify the loss or wilful default. This is the reason behind the huge demand for forensic audit services.
- Management Fraud has occurred for the past 8 years at Sambandh Finserve therefore forensic audit task has been assigned to the E & Y consultant. (Atmadip Ray, Economic Times Bureau , November 05, 2020).
- Four of evidence of Nationalised bank workers in swindling money cases were meant for Microfinance schemes in the last twelve months and have once again exposed the unsafetyof SHGs to fraud. (Times of India, September 07,2021).
- The staff members of a public sector bank committed irregularities by swindling money credited to their accounts.
- Under insolvency laws, many cases were filed.

Conclusion

According to the study, the role of Forensic accounting in the management of fraud in financialinstitutions seems effective. As we know that in India, still, forensic accounting is not very popular therefore, it is required to make forensic accounting audit compulsory for all financial institutions. Various aspects associated with the Fraud Risk Management Framework indicate that there should be a proper follow-up of the process of managing fraud in microfinance institutions in India. In this present era, vast opportunities are provided by the banking sector for Forensic auditors. The use of advanced AI technologies like Text mining plays an importantrole in forensic accounting services.

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