"Ethical Considerations in the Integration of Artificial Intelligence in Accounting: A Comprehensive Review and Framework"

Piyush H. Rana

Assistant Professor University of Mumbai Piyush.rana@avc.ac.in

Abstract: The utilization of accounting ethics in the current era is essential for upholding integrity and trust in financial reporting. This paper throws light on various aspects of accounting ethics, starting with its origin and evolution. Accounting ethics have evolved over time, with principles such as integrity, objectivity, competence, confidentiality, etc., guiding the profession. These ethical standards are crucial for ensuring accurate and reliable financial information, building trust, managing risks, preventing fraud, etc. While accounting ethics offer numerous advantages, they also come with limitations, including complexity in implementation, potential challenges in adherence. The advent of artificial intelligence (AI) in accounting introduces new ethical considerations, such as transparency, accountability, and the prevention of biases in AI systems. The future of accounting ethics is critical, with a need for a principles-based approach, ongoing education, and consideration of the ethical implications of technological advancements like AI. In conclusion, accounting ethics play a vital role in maintaining the integrity of financial information, and as the accounting profession evolves, it is crucial to navigate the ethical dilemmas effectively to uphold the profession's reputation and values.

Keywords: - Accounting ethics, AI in accounting ethics, importance of accounting ethics, future perspective of accounting ethics.

Introduction: -

Accounting aims at recording and reporting business transactions and disclosing the profit or loss of the business. Such recording and reporting of business transactions is done by the accountants who must work on some guiding principles towards integrity, confidentiality, objectivity, etc., showing professional competence. These principles of accounting adopted by the accountants to achieve the above requirements are called accounting ethics. The role of accounting ethics is wider as the accountant must fulfill the legal requirements, manage financial risks, develop professionalism, satisfy the stakeholders of the business, etc. The stakeholders of a business trust the financial statements prepared by the accountants. Hence, it is the moral responsibility of the accountants to follow the moral code of conduct complying with accounting ethics.

Origin of Accounting Ethics: -

Mesopotamia is the country considered as the pioneer of following the accounting ethics in ancient civilization. Today's double entry system of accounting was developed by Luca Pacioli in 1949. Later after the industrial revolution in nineteenth century resulted in growth of business are various levels and this resulted in need of accounting ethics in accounting. In the beginning of twentieth century, the frauds made by the companies like Enron, Worldcom, Ford Motor Company, General Electric, etc., raised the awareness and need of accounting ethics to avoid any errors of fraud which is one of the basic goals of auditing the financial statements. At present, accounting ethics are playing a crucial role in maintaining integrity, objectivity, confidentiality, etc., in the work done by the accountant.

Literature Review: -

Adkins et al (2004), Mintz (2006), Dellaporta's (2006), Peace et al (2021), Okougbo et al (2021) studied the importance of business and accounting ethics education to students and faculty members. Some studies were on students whereas some were on teachers. The main intention of the studies was to develop ethical behavior in accounting through different methods in academics.

Cohen et al (1996), Gambling et al (1991), Ponemon L. A. (1995) surveyed and studied accounting ethics at international levels with reference to varied social cultural, economic, fiscal background. The superiority of western countries over east and vice versa was stated to incorporate ethical accounting.

Enobong (2017), Oseni (2011), Procter (2020), stated the implication of accountant's unethical behavior and corporate failures. A literature review was conducted of 15 articles, and it was found that unethical behavior of the accountants leads to global corporate scandals, damage to the reputations of the business, corruption, and loss of various stakeholders. Ethical behavior of the accountant was focused through the study of unethical behavior of the accountants.

Gunz and Thorne (2020) contributed to the impact of technology on ethics, professionalism and judgment in accounting. Globalization and technical advancement resulted in more adoption of use of technology as it was time saving. The study forecasted that accounting will be controlled by technology to the extent of 40 to 90%. The advancement in technology fostered accounting but to some extent has ignored the ethical part of accounting which was to be looked upon along with the development of technology.

Giriraj Kiradoo(2020), svetlova et al (2022) focused his study on enhancing the knowledge regarding importance of ethics in accounting profession. The study was based on systematic review of various peer reviewed papers and accounting and management books for qualitative evidence. It was found that there were various moral and ethical dilemmas which affected the quality of accounting. Hence compliance with ethical principles and ethical standards was necessary to ensure the quality, fairness and trustworthiness of accounting statements.

Lehner et al (2022), Prates (2018) identified the ethical challenges in using AI in accounting and decision making. The study was based on review of literature and discussions / interviews for the period of 2015 to 2020. It was found that the use of AI put forward ethical challenges in accounting with respect to objectivity, privacy, transparency, accountability and trustworthiness.

Leitner et al (2021), Odonkor et al (2024) Studied the transition in accounting profession with the introduction of AI in accounting. Studies revealed the advantages and limitations of the use of AI in accounting and also showed its importance in future.

Munoko et al (2020), Anca et al (2022), Melinda et al (2023), Jacob et al (2021), Mokander et al (2021) focused on ethical implications of using AI in auditing and managerial accounting. Use of AI fostered auditing work and had many advantages over human accounting and auditing. However, over the period, the ethical aspect of using ai was to be given importance. For the same the responsibility of for the policy and governance of emerging technology was also discussed.

Research methodology: -

Ethics being a normative concept, cannot be brought into the limits of statistical methods. However, the norms, behavior of an individual, philosophy, values play a vital role in ethical behavior. The study is based on the concepts and theories of past and present to focus the needs of accounting ethics.

Types of Accounting Ethics: -

There are various accounting ethics which help the accountant to fulfill his duty of preparing the financial statements of the business. These accounting ethics are deep rooted and affect the working of any business. Accounting principles provide a road map to the accountants to maintain transparency in the recording and reporting the financial statements. The distinct types of accounting ethics are:

- Integrity: Integrity is the basic accounting ethic which emphasizes values like honesty, loyalty, truthfulness, transparency, etc. It is the first accounting ethic which initiates the working of accountants.
- 2. **Objectivity**: An Accountant is expected to present accurate financial information about the business without being influenced by personal interest or any kind of internal and external pressure from the stakeholders. This accounting ethic is called Objectivity.
- 3. **Competency**: An accountant is expected to be updated with the current trends in accounting. Being Competent will result in smooth handling of the challenges in the accounting work. The accountant should possess some skills and competency to handle the work tactfully.
- 4. **Confidentiality**: Accountant has access to the most sensitive financial data of the client's business. Confidentiality aims at keeping the data of the client confidential in any condition. An accountant should not leak the financial data of the client's business either by negligence or by personal interest.
- 5. **Professionalism**: -Accountant should uphold his behavior to the level required to comply with the standard of his/her profession. Maintaining dignity and appearance (physical and intellectual) with reference to the profession is one of the basic ethics of accounting.

Importance of Accounting Ethics: -

It stated above that the financial statements of any business affect different stakeholders related to a particular business. Hence, accounting ethics are particularly important in the following aspects: -

1. **Accuracy**: - Ethical accounting results in accurate preparation and presentation of financial statements of the business. Accuracy in financial statements helps the stakeholders to take timely decisions on their investment and other financial matters.

- 2. **Reliability**: An accountant with ethics will prepare the financial statements without mispresenting any financial information. Such financial statements are reliable in nature in that the stakeholders can interpret the value of their investment in the business.
- Trustworthiness: Accounting with ethics will always help the accountant to prepare and present the data with confidence which will ensure a long-term relationship of the business with its investors, creditors, etc.
- 4. **Goodwill and reputation**: Accounting ethics will ensure a true and fair view of the financial statements which will result in a good image of the business i.e., goodwill which ensures creditworthiness and reputation in the industry in which the business operates.
- 5. Prevention of Errors and Frauds: Ethical accounting will make the accountant believe in his own work rather than diverting the mind from personal interest or any fraudulent activities in the business. Accounting ethics helps the accountant to make the financial statements free from errors and fraud.

Limitations of accounting ethics: -

On one hand where accounting ethics provides a road map for making error or fraud free financial statements, on other hand accounting ethics also have some limitations due to its difficulty in practical application and other reasons as mentioned below: -

- Complexity and understanding: accounting ethics are complex in nature and their
 interpretations change from person to person as per the understanding level of accountant. Also, it
 is difficult to implement accounting ethics complying with the guidelines of accounting and other
 rules and regulations.
- 2. **Difficulty in practical implementation:** Ethical behavior requires persistent efforts to be ethical and hence any accountant who lacks ethics will find difficulty in implementation of accounting ethics in the day-to-day practice of accounting.
- 3. **Expertise knowledge required:** Accountant needs to be an expert in his field of knowledge in preparation and presentation of financial statements. When it comes to practical application of accounting ethics, it becomes necessary that an expertise person should be given the task of accounting with respect to following the accounting ethics.
- 4. **Time consuming**: An unorganized business or the one which lacks resources may find it difficult and time-consuming to apply accounting ethics in its accounting activity. Accounting itself is a time-consuming task and incorporating accounting ethics may consume more time in finalization of financial statements.
- 5. **Inadequate support from management:** Sometimes, the management of the company may not support the practical implementation of accounting ethics due to their personal interest, making the ethics of an accountant fruitless due to management pressure.

Effect of AI on accounting ethics: -

The use of AI in accounting and auditing is increasing due to its benefit of saving time and accuracy. However, AI also raises ethical concerns, like transparency and accountability in accounting.

Transparency: - The conclusions arrived from use of AI in accounting may be challenged on various background like basis of conclusion, openness, and transparency in the results of accounting statements, understanding the decision-making ability of AI, etc. It becomes a challenging task for accounting

professionals to interpret and validate the results generated by AI in accordance with accounting principles and standards.

Accountability: - Accounting professionals must ensure the accuracy and reliability of the data used for training AI models. Accounting professionals must be liable for the interpretation and presentation of accounting statements with the use of AI software. Accountability must be ensured using AI in accounting. For the same, an independent auditor must check the effectiveness and ethical compliance of AI software used in the accounting process.

Limitations of AI on accounting ethics: -

Despite the benefits of AI in accounting, there are also ethical concerns, such as lack of professionalism, data breaches, and isolation among accountants. AI systems can access and process substantial amounts of data, including sensitive financial information, raising the risk of confidential data being compromised

Future of accounting ethics: -

The future of accounting ethics is challenging due to some of the reasons the ever-changing business environment, technological development, use of AI, blockchain, globalization, unstable political and economic environment of the nations, etc. The future of accounting ethics is explained below with reference to few of the factors stated above.

- Technology and automation: The use of automation due to technological advancement and use
 of AI makes it a crucial role to select proper technology for transparency in accounting and auditing.
 Concerns like data privacy, unbiased algorithm, transparency in automated decision are to be
 handled carefully.
- 2. **Globalization**: Businesses today have crossed the borders of a country and in such an era of globalization, accounting ethics will play a vital role in harmonizing cross cultures and maintaining good relations with the partner country in business. International accounting standards are to be incorporated with the implementation of accounting ethics.
- 3. **Sustainable growth and social responsibility**: When the world aims at sustainable growth in business on one hand, it also aims at fulfilling social responsibilities of corporate houses. Accounting ethics will help to fulfill the corporate social responsibilities to eliminate poverty, illiteracy, etc., if the accounting professionals bridge the corporate social responsibilities and accounting ethics.
- 4. **Data security:** With increasing use of digitalization in the field of accounting, data security becomes a matter of concern. Accounting ethics will ensure the security of data, avoidance of frauds, security of financial data, etc.
- 5. **Ethical leadership and governance**: Business organizations will need leaders with strong ethics to develop a culture of integrity and accountability. All the levels of management will need to have a strong ethical base to inculcate ethical culture in the business.

Conclusion: -

Finance is the blood of business and financers provide the same. Hence it is especially important to present the financial data with transparency and integrity. Accounting ethics not only provide

transparency and integrity in financial statements but also increase the trust of the investors as it ensures them the efficient use of funds. It can be concluded that accounting ethics are not only a guiding force for the accounting staff but also a controlling parameter to avoid any fraudulent activity in the preparation and presentation of financial statements. It can also be concluded that accounting ethics are applicable with use of AI and accounting ethics also have scope in future business world resulting the reliability and trustworthiness of financial data.

References: -

- Radtke, R. R. (2004). Students' and faculty members' perceptions of the importance of business ethics and accounting ethics education: Is there an expectations gap? *Journal of Business Ethics*, *51*(3), 279–300. https://doi.org/10.1023/b:busi.0000032700.07607.02
- Cohen, J. R., Pant, L. W., & Sharp, D. J. (1996). A methodological note on cross-cultural accounting ethics research. *The International Journal of Accounting Education and Research*, *31*(1), 55–66. https://doi.org/10.1016/s0020-7063(96)90013-8
- Dellaportas, S. (2006). Making a Difference with a Discrete Course on Accounting Ethics. *Journal of Business Ethics*, 65(4), 391–404. https://doi.org/10.1007/s10551-006-0020-7
- Enobong, E. U. (2017). Implications of accountants unethical behavior and corporate failures. *International Journal of Business, Economics and Management, 4*(4), 82–94. https://doi.org/10.18488/journal.62.2017.44.82.94
- Fülöp, M. T., Topor, D. I., Ionescu, C. A., Cifuentes-Faura, J., & Măgdaş, N. (2023). Ethical concerns associated with artificial intelligence in the accounting profession: a curse or a blessing? *Journal of Business Economics and Management*, 24(2), 387–404. https://doi.org/10.3846/jbem.2023.19251
- Gunz, S., & Thorne, L. (2020). Thematic Symposium: The Impact of Technology on Ethics, Professionalism and Judgement in Accounting. *Journal of Business Ethics*, 167(2), 153–155. https://doi.org/10.1007/s10551-019-04404-4
- Karim, T. G. a. R. a. A. (1991). Business and accounting ethics in Islam. *CiNii Books*. http://ci.nii.ac.jp/ncid/BA12739483
- Kiradoo, G. (2020). Ethics in Accounting: Analysis of current financial failures and role of accountants. https://papers.srn.com/sol3/papers.cfm?abstract_id=3553336
- Latifah, L., Setiyani, R., Arief, S., & Susilowati, N. (2023). The role of personal values in forming the AI ethics of prospective accountants. *Ethics in Progress*, *14*(2), 90–109. https://doi.org/10.14746/eip.2023.2.7
- Lehner, O. M., Ittonen, K., Silvola, H., Ström, E., & Wührleitner, A. (2022). Artificial intelligence based decision-making in accounting and auditing: ethical challenges and normative thinking. *Accounting, Auditing & Accountability, 35*(9), 109–135. https://doi.org/10.1108/aaaj-09-2020-4934

- Leitner-Hanetseder, S., Lehner, O. M., Eisl, C., & Forstenlechner, C. (2021). A profession in transition: actors, tasks and roles in AI-based accounting. *Journal of Applied Accounting Research*, 22(3), 539–556. https://doi.org/10.1108/jaar-10-2020-0201
- Mintz, S. M. (2006). Accounting ethics education: Integrating reflective learning and virtue ethics. *Journal of Accounting Education*, 24(2–3), 97–117. https://doi.org/10.1016/j.jaccedu.2006.07.004
- Mökander, J., & Floridi, L. (2021). Ethics-Based auditing to develop trustworthy AI. *Minds and Machines*, *31*(2), 323–327. https://doi.org/10.1007/s11023-021-09557-8
- Munoko, I., Brown-Liburd, H. L., & Vasarhelyi, M. (2020). The ethical implications of using artificial intelligence in auditing. *Journal of Business Ethics*, *167*(2), 209–234. https://doi.org/10.1007/s10551-019-04407-1
- Odonkor, N. B., Kaggwa, N. S., Uwaoma, N. P. U., Hassan, N. a. O., & Farayola, N. O. A. (2024). The impact of AI on accounting practices: A review: Exploring how artificial intelligence is transforming traditional accounting methods and financial reporting. *World Journal of Advanced Research and Reviews*, 21(1), 172–188. https://doi.org/10.30574/wjarr.2024.21.1.2721
- Okougbo, P. O., Okike, E. N., & Alao, A. (2021). Accounting ethics education and the ethical awareness of undergraduates: an experimental study. *Accounting Education*, 30(3), 258–276. https://doi.org/10.1080/09639284.2021.1888135
- Omorokpe, R. O., & Nomuoja, J. O. (2010). UNETHICAL PRACTICES BY ACCOUNTANTS, AUDITORS, COMPANY SECRETARIES AND DIRECTORS: TYPES, CAUSES AND REMEDIES. In *Knowledge Review (No. 1; Vol. 21)*. Retrieved from https://www.globalacademicgroup.com/journals/knowledge%20review/UNETHICAL%20PRACTICES%20BY%20ACCOUNTANTS,%20AUDITORS,%20COMPANY%20SECRETARIES.pdf
- Oseni, A. I. (2011, August 22). Unethical behavior by professional accountants in an organization. *Oseni | Research Journal of Finance and Accounting*. Retrieved from https://www.iiste.org/Journals/index.php/RJFA/article/view/188
- Ponemon L. A. (1995, January 1). Research on accounting ethics. *CiNii Books*. Retrieved from http://ci.nii.ac.jp/ncid/BA30033104
- Prates, M. O. R., Avelar, P. H. C., & Lamb, L. C. (2018). On Quantifying and Understanding the Role of Ethics in AI Research: a historical account of flagship conferences and journals. *EPiC Series in Computing*. https://doi.org/10.29007/74gj
- Procter, R., Rouncefield, M., & Tolmie, P. (2020). Accounts, Accountability and Agency for Safe and Ethical AI. *SciSpace Paper*. https://typeset.io/papers/accounts-accountability-and-agency-for-safe-and-ethical-ai-2xgtc7afpj
- Svetlova, E. (2022). AI ethics and systemic risks in finance. *AI And Ethics*, 2(4), 713–725. https://doi.org/10.1007/s43681-021-00129-1

- Vărzaru, A. A. (2022). Assessing the impact of AI solutions' ethical issues on performance in managerial accounting. *Electronics*, 11(14), 2221. https://doi.org/10.3390/electronics11142221
- Yoon, S. (2020). The impact of new technology on ethics in accounting: Opportunities, threats, and ethical concerns. *Gyeongyeonghak Yeongu/Gyeong'yeonghag Yeon'gu Han'gug Gyeong'yeong Haghoe*, 49(4), 983–1010. https://doi.org/10.17287/kmr.2020.49.4.983
- Zhang, C., Zhu, W., Dai, J., Wu, Y., & Chen, X. (2023). Ethical impact of artificial intelligence in managerial accounting. *International Journal of Accounting Information Systems, 49*, 100619. https://doi.org/10.1016/j.accinf.2023.100619