

Investing AI Ethics in Forensic Investigations: Development, Policies, and Best Practices

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Artificial intelligence (AI) is a dominant technological feature that affects the ethical use of forensic accountants during investigations. A code of ethics can help mitigate ethical risks such as those that arise when AI-generated digital information is presented as court evidence. Normative, informative, and advisory aspects underpin the formulation of a code of ethics and are examined. A conceptual framework, incorporating the research dimensions and philosophical perspectives, is tabled and then discussed to help navigate contemporary challenges such as those posed by AI. Forensic accountants must rely on ethical principles to guide their use of AI, since they are subject to the ethical standards set by their professional bodies. These philosophical principles, anchored in enduring moral principles that apply universally, guide ethical policy making and ensure effective ethical strategies for use in forensic investigations. Risks can be assessed with ethical policies and a code of ethics can be revised as new technologies become available. An effective code of ethics answers the questions whether, how, and to what extent the use of AI is ethically acceptable in forensic investigations. Lastly, introducing AI responsibly and ethically is also significant in teaching professional accountants about ethical principles and the risks associated with using AI.

Keywords: accountant, artificial intelligence (AI), code of ethics, ethics, universal

Introduction

Health care, law, education, transportation, energy, and the environment are all experiencing profound advances owing to artificial intelligence (AI). Advances are being made as data and computing power become more available and AI systems become more refined (Leslie 2019). AI technologies could play a crucial role in the advancement of public interest and human development as society progresses. In the field of forensics, artificial intelligence is used primarily as a tool for analysis, and forensic accountants use it primarily to identify possible accounting risks and oversee fraud prevention initiatives. The use of artificial intelligence in forensic investigations raises incidentally ethical questions. Although AI can perform tasks such as learning and mimicking human reasoning (Aldoseri et al. 2023); it lacks a unique moral code as it remains a machine. Since AI lacks conscience, new strategies must be developed to ensure that forensic accountants and governments use AI ethically in forensic investigations to avoid punishing innocent people (Jerian 2024).

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When forensic accountants employ AI as a tool, the goal is analytical in nature. In forensic accounting, AI is used primarily to recognise potential accounting risks or manage fraud prevention activities. To ensure that forensic accountants or professional accountants adhere to ethical guidelines when using artificial intelligence software or programs, it is necessary to establish a code of conduct or a code of ethics (an ethics policy) that identifies international and domestic influences and inclinations. Ensuring consistent and regulated governance of AI is a significant and consequential challenge of our time, as rapid technological changes may pose high risks (UNESCO 2024). This need to implement consistent ethical norms and effective governance to minimise the potential dangers associated with AI is highlighted by the Global Forum on the Ethics of AI (2024). To determine the scope of the issue and weigh the potential risks and benefits, it is necessary first to determine what is at stake.

The philosopher Carissa Véliz, in her book *The Ethics of Privacy and Surveillance* (2023), discusses privacy regulations and how laws cannot predict good or bad behaviour because they change according to trends and the societies in which we live. Véliz (2023) argues that ethics must play a crucial role in shaping and changing the legislation that governs privacy and surveillance in the age of technology. She argues for the need for ethical considerations to ensure that legal frameworks are not only effective, but also represent the social values, behaviours, and customs of each individual (Véliz 2023). Ethics are an essential prerequisite for law, and regulations cannot exist without them. With the rise of data protection, surveillance, and AI challenges, ethics have to grow and improve the law to make it more effective and inclusive.

Véliz's (2023) ideas echo the UN's call to action for human rights, which reiterates the UN's commitments to civic space in a "time of socioeconomic-cultural crisis" (UN 2020), as well as the central priorities of the Organization for Economic Co-operation and Development (OECD), which urges members to protect and facilitate citizen participation while consolidating democracy (OECD 2022). The OECD (2022) also supports the idea of involving the public in decisions about AI policies and legal structures in a society that values freedom, democracy, openness, and a focus on the individual.

The Centre for Artificial Intelligence and Digital Policy (CAIDP 2024) has expressed concerns about the potential safety risks associated with uncontrolled advanced AI systems. These risks include generative AI, misinformation, deep fakes (videos that feature digitally altered faces), and voice cloning (CAIDP 2024). Therefore, it is important to understand the importance of ethical conduct that adheres to international standards for professional conduct of forensic accountants. Critical aspects include ethics, data privacy, and cybersecurity when using AI technologies. Several guiding pieces of South African legislation are noted at this stage, namely the Constitution of South Africa, 1996, the Cybercrimes Act 19 of 2020, the Electronic Communications and Transactions Act 25 of 2002 (ECTA), and the Protection of Personal Information Act 4 of 2023 (POPI Act). In this article, a discussion of the provisions in the Criminal Procedure Act 51 of 1977 and other evidence rules is not necessary, but these should be discussed with the legal advisor on the forensic team.

Ensuring compliance with relevant international and domestic laws and regulations is necessary when developing a code of ethics, including normative, informative and advisory resources. For example, the Universal Guidelines for Artificial Intelligence (UGAI 2018, CAIDP 2023) which were introduced at the European Union's Global Privacy Assembly Conference in October 2018, represents a significant milestone in the incorporation of moral principles into the legal systems that govern technology. These guidelines underscore the importance of transparency, accountability, and human agency in the development and implementation of AI technologies. Their aim is to address the ethical issues raised by AI's impact on individual rights, drawing inspiration from a variety of sources, including human rights conventions, data protection laws, and ethical frameworks.

By outlining key principles like transparency, the right to human decision-making, obligations for identification, fairness, evaluation, and responsibility, accuracy, reliability, validity, public safety, cybersecurity, prohibition of covert profiling and singular scoring, and obligations for termination, the UGAI seek to provide guidance on the incorporation of ethical standards into both domestic and international policies. Prioritising social outcomes such as human wellbeing and ensuring sufficient oversight of AI systems by humans are critical factors to consider in law, regulations, and codes of ethics.

A conceptual framework follows that orients the research process.

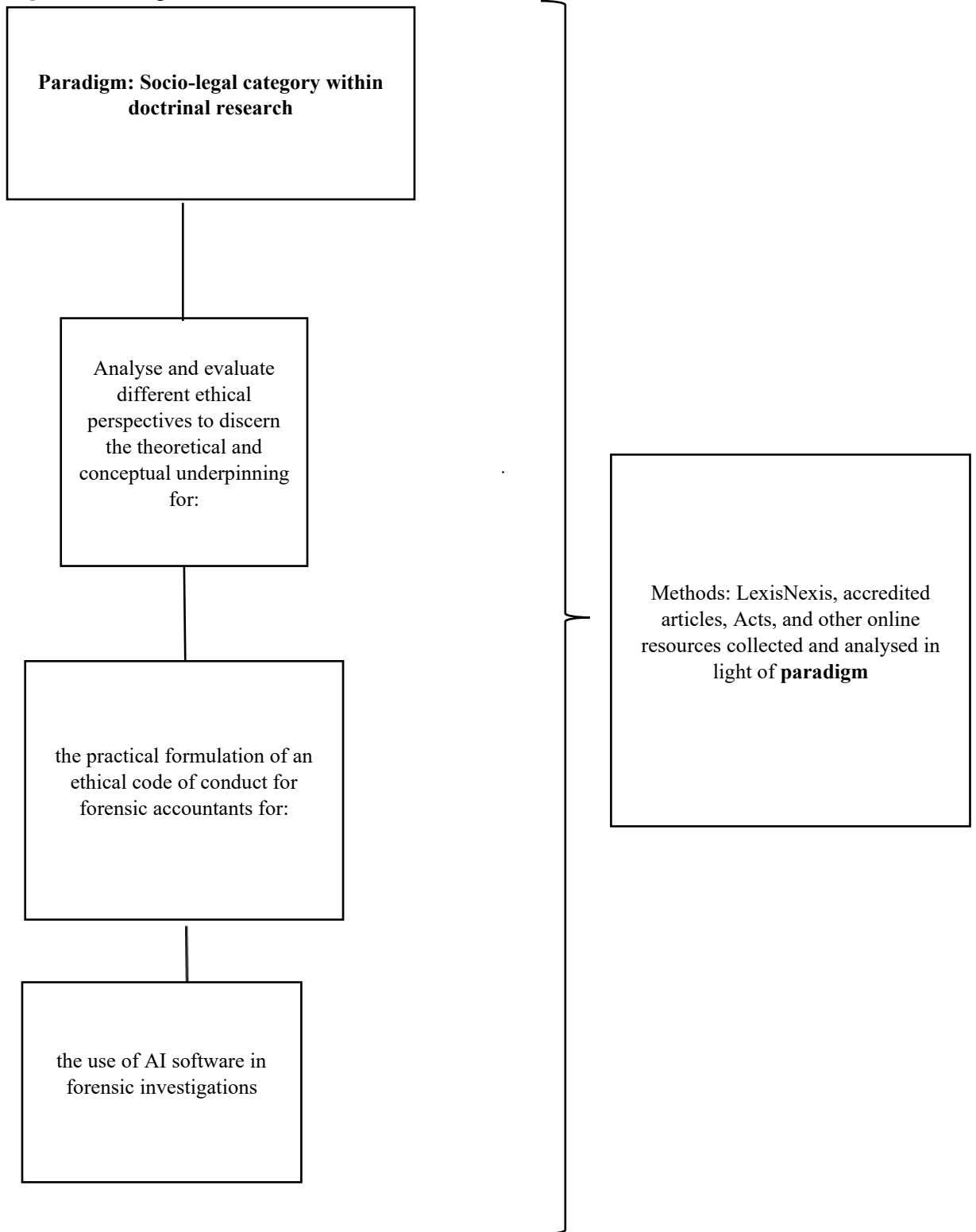
Conceptual Framework

In the first part of the article, background information and the context of the research were provided, along with a brief overview of the problem. A conceptual framework is herewith presented following Lester (2005) who indicates that such a configuration provides an orienting structure for the central concepts aligned to the research process along with the tabling of theoretical and substantive concepts.

In this study, primarily the socio-legal category, within doctrinal research (Arthurs 1983), is used to analyse and evaluate different ethical perspectives, and in doing so to identify key theoretical and conceptual underpinnings for the use of AI software in forensic investigations such that positive social outcomes are achieved.

The article therefore aims to establish, also from a practical perspective, the considerations that should be kept in mind when formulating an ethical policy or code of ethics that forensic accountants could use for AI applications during forensic investigations. This study uses methods that discerned and analysed electronic sources such as LexisNexis, accredited articles, Acts, and other online resources to conduct doctrinal research. These details are captured in the conceptual framework that follows:

Figure 1. Conceptual Framework



Source: Authors 2024.

Next, a review of the literature on ethical considerations applicable to a code of ethics is presented.

Objectives, Key Considerations, and a Review of Literature on the Use of AI in Forensic Investigations

One of the important considerations is transparency. Transparency is necessary to enable judgement (wisdom) of the ethical use of algorithms applied by AI. From a practical perspective, the objective is to encourage transparency in the use of AI algorithms and models in accounting processes. Although the South African Institute of Chartered Accountants (SAICA) Board has adopted a comprehensive Code of Professional Conduct, the use of AI in audits and risk assessments should be clearly defined and explained (SAICA 2021).

Another consideration is risk assessment, which describes the process of assessing risks associated with AI technologies, including poor data quality, biases and potential errors in AI-driven decision-making processes. A significant consideration when conducting a forensic investigation, as with any criminal investigation, is that people must be presumed innocent until any misconduct or crime is proven (see section 35 of the 1996 Constitution).

For SAICA members, the SAICA Code of Professional Conduct (subsection R607) allows chartered accountants to offer supportive litigation services to a public interest entity, provided that the firm of chartered accountants is not the appointed auditor of the same entity. For non-public entities, a chartered accountant may offer supportive litigation services, provided that the individual chartered accountant providing such services is not a member of the team that performs the audit on such entities (SAICA 2023: R607.5). However, should none of the threats to professional conduct (i.e. objectivity, advocacy, integrity, and professional behaviour be present), the SAICA professional code allows members to offer supportive litigation services, such as forensic accounting services, and to act as expert witnesses in court proceedings (SAICA 2023).

For members of the Independent Regulatory Board for Auditors (IRBA), IRBA describes the relationship of providing supportive litigation services to a client as an advocacy threat (IRBA 2023: 300.6 A1). Like SAICA, IRBA and the CPA (CPA, s120) also provide measures to address threats to professional conduct, such as assigning non-assurance services (e.g. litigation support relating to forensic accounting services) to a different partner than the one performing assurance services (IRBA 2023: 200.8 A2). Both the ICFP, which is the professional body for forensic accountants in South Africa, and the ACFE, which is the international body, require their members to act professionally by avoiding conflicts of interest (ICFP, Rules of conduct, 2.1; ACFE, Code of Professional Conduct, II).

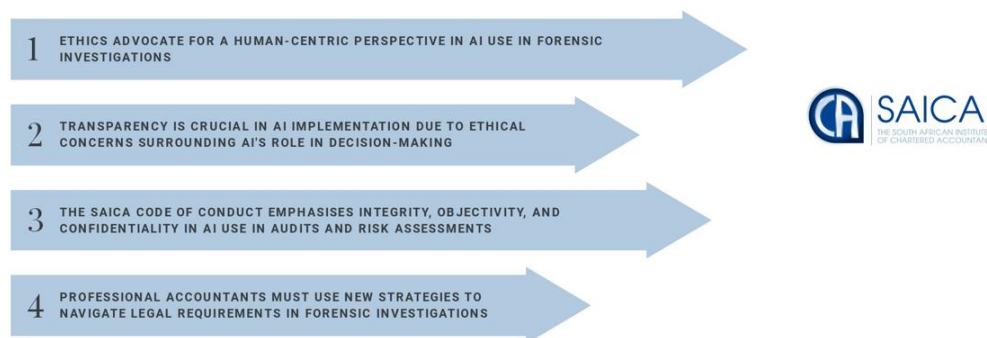
These requirements to ensure independence are in agreement with the SAICA and IRBA codes of conduct, which confirm that they need to be included in policies on using AI in forensic investigations. Once it has been established that the ethical conduct of the forensic accountant will be acceptable to a court, the details of the AI

applied in the forensic investigation need to be addressed. The next section discusses philosophical aspects of ethics and AI.

In line with the SAICA Code of Professional Conduct, Figure 2 provides guidance on the use of ethical guidelines during a forensic investigation:

Figure 2. *AI Ethics in Forensic Investigations*

Ethical Guidelines for Forensic Investigations in AI



Source: Coltri 2024.

Ethics and AI

Aristotle (384–322 BCE) wrote *Nicomachean Ethics*, in which he addresses ethics, virtues, and human flourishing. Examining this work can help us understand how ethics function in the current digital era of AI. Aristotle believed that each action, decision, and investigation had a goal, and true fulfilment was achieved through the cultivation and excellence of virtue. This holistic approach to achieving a happy life is crucial for ethical considerations in the use of technology and AI. Aristotle also defined and applied technology (*techne*), which is the practical knowledge of doing or making things that are useful to humans and “defend humans” (Ellul 1964). The 20th century French philosopher Jacques Ellul (1912–1994), in his masterpiece *The Technological Society* (1954), argues that humans are not paying enough attention to the risks of technology. He believes that technology has the capacity to lead to catastrophe, and we need to be aware of its ethical consequences. This idea aligns with Aristotelian views, namely that technology, like the Natural Law, is determined by human reason and independent of the natural world. This distinction focuses on the unique role of humans in affecting their environment through invention and creativity.

Fulfilment and happiness are universal aspirations of all individuals, regardless of their background. AI, or pure machine action, can be considered a part of these universal aspirations to attain human excellence. Human excellence involves applying scientific frameworks to lead a morally virtuous life. AI goods can be considered good in and of themselves if they benefit from human action. If AI

developers benefit from their ideas or results, it can be concluded that AI contributes to an accountable, accurate, equitable, relevant and safe society, promoting human values and virtues.

Contemporary AI Ethicists

Contemporary AI ethicists, such as Friar Paolo Benanti, a member of the Italian AI Commission on Information and the UN Advisory Body on AI, argue that in the ethics of technology, technology is a human-created artefact (Benanti 2018), distinguishing between natural and artificial. Friar Benanti defends the use of AI in the context of human dignity. He argues that by examining our ethical principles, we can avoid the potential dangers of AI. Benanti's advocacy for AI that improves lives without jeopardising human dignity is evident in his interactions with influential figures in Silicon Valley. Consequently, a focus on AI ethics is crucial. It is important to delineate right and wrong, and to formulate codes and principals to guide ethical behaviour in the development and usage of AI technology.

Much has been written about the use of AI in theory and in the development of computer systems (Mikalef & Gupta 2021, Hunt 2014). In contrast, little has been written about the current state of AI in forensic investigations and the ethical considerations involved. To accomplish the objective of the study, which is to develop an ethics policy for forensic accounting, it is helpful to refer to the early works of Greek philosophers and ethicists for guidance. Ethics has been debated by several Greek philosophers, including Socrates, Plato, and Aristotle (Perdue 2014).

What is the highest goal that can be achieved through action or good practice? Everyone aspires to be fulfilled and happy, whether they are rich, poor, educated, healthy, or sick. Furthermore, if the goal of healthcare is health, the final goal of the economy is wealth, the end of military action is strategy or victory, and the end of education is knowledge, then all have an end; that is, fulfilment. Similarly, we analyse whether the act of deploying AI (a pure machine action that ought to be subjected to human capabilities and, therefore, regulated by ethical standards) is the end of human action, and hence human goodness.

Human excellence is defined as the ability to apply a scientific framework to answer key questions, and to lead a good and morally virtuous life. If we consider AI to be part of our universal good and excellence, we can divide goods into two categories: *a priori* and *posteriori*; the first is goods that we love and pursue for themselves and are intrinsic, and the second is goods by reason.

What kinds of AI goods would be considered good in and of themselves, and why? If AI goods are treated as entities that are separate from human action, they will almost certainly be worthless, and thus empty. As a result, the main argument is that if the AI developer will benefit from their idea or outcome, which is a good thing in and of itself, we can conclude that AI contributes to an accountable, accurate, equitable, relevant and safe society, and upholds human values and virtues. Somehow, this seems to be parallel with Aristotelian views.

In philosophy, according to the ancient Greeks, Plato and Aristotle, technology is similar to the natural law, which is determined by our human reason, and is therefore an outcome of human innovation and labour. This exists independently of

the natural world. This distinction emphasises the unique role of humans in affecting their environment through invention and, by extension, creativity.

AI Use and Moral Behaviour

Old debates about ethics are resurfacing as humans engage in technological change, interaction with AI, and moral behaviour (Bankins & Formosa 2023). For the professional accountant, this is significant, because the use of AI in forensic inquiries changes the moral code of use. The SAICA Code of Professional Conduct outlines several principles that establish the expected standard of conduct for professional accountants (SAICA 2022, p. 20). These principles include integrity, objectivity, professional competence, due care, confidentiality, and professional behaviour. The use of artificial intelligence in the field of forensic accounting raises ethical concerns about the extent to which AI should be involved in decision-making processes.

Forensic or professional accountants subscribe to codes of professional ethics (Naidoo 2021), and it cannot be delegated to AI as accountability for these codes cannot be transferred to algorithms, which lack moral agency (Raji et al. 2020). AI is based on a vast number of algorithms, and although the creators of these algorithms are held accountable by regulators (Novelli et al. 2023), such accountability cannot replace that of the professionals applying AI in their work (Munoko et al. 2020).

The questions now are how AI is employed during a forensic investigation and which ethical principles will affect the work of a professional accountant. By considering how these principles will affect their work, the professional accountant can adopt new strategies in the form of policies and procedures to assist with forensic inquiries. As a result, adopting the use of AI to conduct more effective forensic investigations is essential. Considering perpetrators' use of emerging technologies such as AI to commit financial crimes, it is necessary for professional accountants to adopt AI to conduct more efficient forensic investigations and catch up with perpetrators.

Additionally, it is important to ensure that the data used to create AI tools are reliable and free from bias. The question is how to do it. Professional accountants can use AI in their field of work by following the due process and using policy guidelines that address the principles stated above to improve their ethical behaviour in the workplace.

Conflict of Interest and Ethical Decision-making

Professional accountants' conflicts of interest arise from relationships with the entities on which they have a duty to report. Such relationships negatively affect the ability of the professional to report truthfully. Professional accountants are required to complete a declaration of interest form and present it to the designated manager before they conduct an investigation or audit. They are prohibited from participating in decisions that might affect organisations with whom they have a relationship. Professional accountants, when faced with an ethical dilemma, should answer the following questions:

- Are you carrying out your job responsibilities in a *bona fide* manner (in good faith)?
- Is your decision in line with the organisation's policies?
- Are you acting according to a specified procedure?
- Is the decision based on the core values of the organisation?
- Is the decision in line with your professional ethics and the law?

The decision or action aligns with the values of the organisation if the answer to all these questions is yes. It is important to treat cases of suspected fraud, theft or corruption with caution and, in terms of Chapter 7 of the Prevention and Combating of Corrupt Activities Act 12 of 2003, to report any fraudulent activities identified in an investigation.

Breach of Ethics and the Consequences of a Failure to Act Ethically

In the case of *S v Western Areas Ltd and Others* 2004 4 SA 91 (W), Labuschagne J addressed a comparable issue concerning an alleged fraud resulting from a failure to disclose information mandated by the rules of the Security Regulation Panel, the Companies Act, and the Johannesburg Stock Exchange (JSE) listing requirements:

‘[7] [7.1] ... the crucial question for decision in this case is whether it is competent in law to found criminal liability for fraud based on a duty of disclosure flowing from the (SRP) rules and the Companies Act and the JSE listing requirements where neither the rules, the relevant provisions of the Companies Act nor the JSE listing requirements create criminal liability for their breach.’

Thus, a breach of the code of conduct by a professional accountant can also cause reputational damage and a loss of trust from clients, as well as legal consequences, including disciplinary action taken by their professional bodies and even being deregistered by their professional bodies. According to section 100.1A of the IRBA Code of Professional Conduct for Registered Auditors (2023), a code of conduct imposes obligations on the registered professional auditor. It also states that the accounting profession is distinguished by its commitment to act in the interest of the public and not only in the interest of the individual. Therefore, a registered auditor must comply with the code, unless prohibited to do so by other laws or regulations. Where laws and regulations do not prevail, the registered auditor shall comply with the other parts of the code.

Ethics and its Universal Influence

In his philosophical work *Groundwork of the Metaphysics of Morals* Immanuel Kant (1785) said, ‘Act only according to that maxim, whereby you can at the same time will that it should become a universal law without contradiction.’

Kant's deontological ethical principle focuses on morality above other aims. It promotes universalism by encouraging organisations to behave as they would like

others to behave. This technique may be related to AI laws. The ethical implications of AI and universal moral norms must be considered as they evolve. In the AI age, when robots may outperform humans, this is crucial.

Likewise, Copernicus's *De Revolutionibus* (1543) places the sun, rather than the earth, at the core of the cosmos, implying that the human subject is inevitably at the heart of the cognitive process. Before the revolution, people (subjects) had to adapt to nature (objects); today, with the roles reversed, nature must adapt to humans (Kuhn 1992). Such a Copernican revolution is part of the change in our values in an AI technological period, when our androcentric or human-centric perspective suggests that AI should be at the centre of the universe or cosmos, with AI serving as a mirror of human abilities and thus human knowledge. This shift in perspective encourages us to reconsider intelligence, awareness, and the implications of developing machines capable of outperforming humans.

In his most recent paper, Luciano Floridi (2024) comments about pronouncements on AI made by Pope Francis. Floridi (2024) argues that AI is not 'intelligence', but a technical tool that are without consciousness or emotions and can benefit people. AI is not neutral and always has an ethical value. It can be a tool for good or harm, depending on how it is used. As a result, humanity must ensure that it is used for good while avoiding misuse. The development and regulation of AI should not be solely based on rules and laws; AI development should be based on a spiritual approach, promoting social and environmental benefits and facilitating spiritual rebirth from the individual to the collective (Floridi 2024).

The Role of AI and Ethical Considerations in Organisational Commitment

Ethical policies or guidelines are contingent upon normative (legislation and primary case law), informative (organisational policies and procedures), and advisory resources that direct their implementation. These resources help organisations, especially employers in the field of accountancy, to establish ethical standards for decision-making and behaviour related to AI. In addition, they enable organisations to fulfil their social mandates by considering the consequences of their actions and AI-generated results on stakeholders and society. There is, however, a warning, as can be seen from the case of *Oudekraal Estates (Pty) Ltd v City of Cape Town and Others* 2004 (6) SA 222 (SCA). In this case, the Supreme Court of Appeal ruled that an unlawful act may still result in legally binding consequences, meaning that an unlawful decision remains enforceable until it is overturned. While we are navigating contemporary challenges, it is crucial to consider the philosophical perspectives of our ancestors, who strived to impart enduring moral principles that apply universally.

As we continue to develop AI, we have to examine its ethical and philosophical implications and also develop a set of categorical imperatives, or moral rules, that apply to everybody. In this new era of AI, it is crucial to consider the ethical implications of creating machines that may surpass human capabilities. It is essential to establish universal moral guidelines to ensure that AI is developed and used responsibly.

Why do governments, companies, and people require rules, and how can rules be used to integrate AI systems? The EU created the AI Act in 2021. The Act came into effect on 13 March 2024 (European Commission 2024). This AI Act is an example of a vital regulatory framework that aims to regulate critical AI-related developments in organisations worldwide. These regulations aim to promote trustworthy AI in Europe and beyond by ensuring that AI systems uphold fundamental human rights, meet transparency and safety requirements, adhere to ethical standards, and address the risks associated with AI models.

The AI Act classifies AI systems into four risk categories: unacceptable, high-risk, low-risk, and general-purpose models. Data quality, openness, human supervision, accuracy, cybersecurity, and compliance play an important role in these systems.

Organisations have the deontological commitment to carry out impact assessments on rights, create risk management systems, notify people and test AI material under the AI Act. Violators face penalties amounting to 7% of their worldwide turnover, or 7.5 million euro in fines (European Parliament 2023) (Chee et al. 2023). The Centre for Artificial Intelligence and Digital Policy (CAIDP 2024) has expressed concerns about the potential safety risks associated with uncontrolled advanced AI systems. These risks include generative AI, misinformation, deep fakes (videos that feature digitally altered faces) and voice cloning (CAIDP 2024). Therefore, it is important to understand the importance of ethical conduct that adheres to international standards for the professional conduct of forensic accountants. The CAIDP has endorsed the Universal Guidelines for AI (UGAI) as a necessary tool when developing a code of ethics and regulations globally. For example, the introduction of the UGAI at the EU's Global Privacy Assembly Conference in October 2018 represents a significant milestone in incorporating moral principles into the legal systems that govern technology.

King IV Corporate Governance

For the purposes of King IV, proper corporate governance is defined as the exercise of ethical and effective leadership by the governing body towards the achievement of the following governance outcomes:

- Ethics culture
- Good performance
- Effective control
- Legitimacy

The use of 'corporate' in the term 'corporate governance' differentiates it from other forms of governance, for example national or political governance. 'Corporate' refers to legal entities separate from their founders and therefore applies to all forms of incorporation, whether as a company, voluntary association, retirement fund, trust, legislated entity, or others.

King IV defines ethics that resonates with Kant's definition. Consider what is good and right for you and the other, and what can be expressed in terms of the golden rule. The golden rule is: Treat others as you would like to be treated yourself.

In the context of organisations, ethics refer to ethical values applied to decision making, conduct, and the relationship between the organisation, its stakeholders, and society.

Ethical Behaviour and Business Practices

Integrity is essential for professional accountants to ensure ethical business practices. As they remain responsible for their actions and behaviours, integrity should permeate their business relationships. There are several constitutional principles and values that business practices may never violate, including respect for human dignity, non-discrimination, diversity, impartiality, and reputation. Whether it has previously been condoned or not, anything prohibited by organisational policy, law, or the Constitution remains prohibited.

AI Ethics and the Rights and Obligations of the Employer

It is the employer's responsibility to cultivate a culture of trust and respect for the dignity of the organisation among stakeholders. All stakeholders' needs must be treated as equally important. Fairness, impartiality, and justice are all aspects of ethical behaviour. A code of ethics not only pertains to the conduct of employees in financial matters, but also requires transparency and integration with other employer policies. Forensic accountants must apply their skills, competencies, and expertise when using AI in investigations to act ethically by upholding the values of the organisation. Organisations must be transparent about their AI ethics policies and practices to build trust with stakeholders. Accountability mechanisms must be in place to ensure that ethical guidelines are followed, and that any violations are addressed effectively and from a human-centric perspective (Lepri et al. 2021).

Integrating AI in Forensic Accounting

As stated above, ethics teaches us that AI should be used from a more human-centric perspective; thus, in the case of a forensic investigation, we advocate an ethical policy for forensic accountants when using AI in investigations. The South African Institute of Chartered Accountants (SAICA) Code of Professional Conduct provides for audits and risk assessments. Risk assessment involves evaluating data quality, biases, and potential errors. Permission to investigate is presumed until misconduct or a crime has been proved.

The use of *artificial intelligence* in forensic accounting raises ethical concerns, as it changes the moral code of conduct. The SAICA Code of Professional Conduct outlines principles such as integrity, objectivity, professional competence, due care, confidentiality, and professional behaviour (SAICA 2022). Since AI lacks moral agency (Raji et al. 2020), accountants cannot delegate professional ethics (Naidoo 2021). Governments are responsible for holding AI systems accountable (Novelli et al. 2023), but they cannot replace the professionals who use AI in their work (Munoko et al. 2020).

The following questions arise: How is AI used during a forensic investigation? Which ethical principles will affect the work of the professional accountant? By considering these principles, professional accountants can adopt new strategies in the form of policies and procedures to assist with forensic investigations. Given that criminals use AI tools to commit financial crimes, adopting AI ethics to perform more effective and reliable forensic investigations is necessary to ensure successful convictions.

Forensic accountants must maintain professional affiliations and uphold codes of conduct as AI continues to evolve. For example, members of professional bodies for forensic accountants in South Africa must avoid conflicts of interest when providing services. Possible conflicts of interest are defined by the Institute of Commercial Forensic Practitioners (CFP) and the Association of Certified Fraud Examiners (ACFE).

Forensic accountants employ AI to detect fraud and submit results to court (Kommunuri 2022), and provide the defendant with the source code of these algorithms (Garrett 2020). By employing AI ethically, they should be able to defend its benefits of increased accuracy and context (Novelli et al. 2023). Auditors must remain responsible for the results generated by AI technologies, using professional scepticism to ensure dependability (Ghanoum & Alaba 2020) and avoiding shifting responsibility for audit errors (Malouin 2020). Data governance principles should form the basis of rules for data collected, stored, managed and processed by AI, making sure that data protection laws (e.g. the Cybercrimes Act 19 of 2020 in South Africa and the Economic Crime and Corporate Transparency Act 2023 in the United Kingdom) are followed. Despite the ethical implications, the Cybercrimes Act 19 of 2020 does not explicitly prohibit AI from collecting personal information.

One of the measures used by auditors to assess the quality of their work is the frequency of restating already audited amounts. The use of AI has been found to reduce such restatements significantly, which proves that AI brings about increased accuracy (Fedyk et al. 2022). In the final analysis, the auditor remains responsible for the results produced by AI tools by exercising professional scepticism to ensure that the results are reliable (Ghanoum & Alaba 2020). Such accountability also holds for forensic accountants as the results presented will be scrutinised by the court.

Evidence and AI

Courts must be informed of the exact procedures followed and the steps taken to obtain and preserve the evidence presented to them (chain of custody). The respondent (defendant) in a court case is entitled to an explanation of how AI was applied to arrive at the evidence presented. Such explanations should be sufficient to stand up or be subjected to public scrutiny (Collenette et al. 2023). Documenting the use of AI systems can help to facilitate accountability by creating a clear audit trail. AI evidence can only be presented to court if it is accompanied by the necessary documentation, there is a complete audit trail and the chain of custody has been maintained.

Chain of custody should be proven from the point where permission has been obtained in the form of a court order, up to the point where evidence has been submitted. The forensic accountant must explain every step taken to process the data, up to the conclusion drawn, to the court, and may be challenged by the counsel for the respondents (defence). The forensic accountant's explanation will include which AI applications were applied and why the forensic accountant decided to apply them. Furthermore, the court needs to be informed of the AI data analysis results and the evidence emerging from those results to prove or disprove allegations.

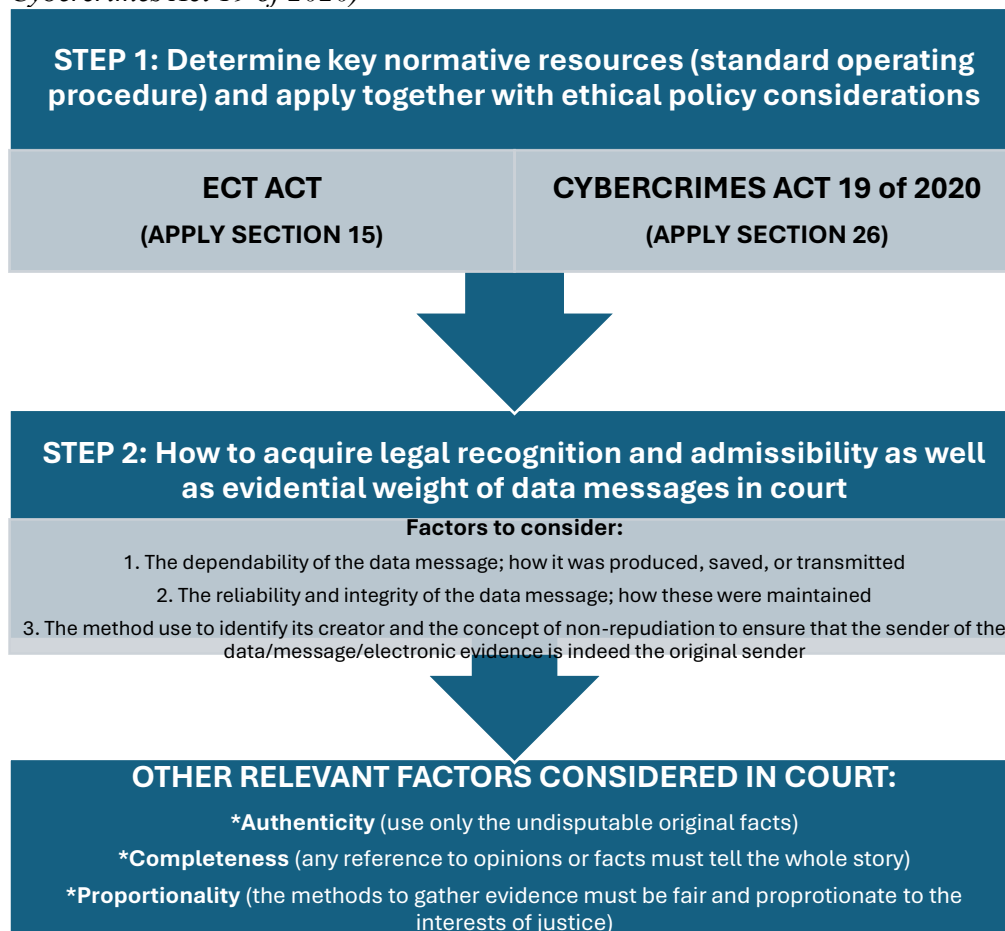
Requirements for the chain of custody and the transparency of AI usage should be incorporated in the code of ethics. Note that the requirement for data governance aligns with the chain-of-custody specifications discussed in the previous paragraph. Such governance principles should establish guidelines on data acquisition, storage, and management, guaranteeing compliance with data protection laws, including the ECTA and the Cybercrimes Act. It is crucial to consider concerns about data privacy and the application of sensitive data in light of the POPI Act 4 of 2023.

The code of ethics must be supported by training and competency objectives that promote ongoing professional development to ensure that accountants develop the necessary skills and knowledge to work effectively with AI technologies. It is essential to encourage them to learn about AI and the role of ethics in its responsible use, as well as to mitigate emotional bias and irresponsible AI practices through employer training initiatives. Coping with emotional bias in the ever-changing world of technology is crucial and should be supported by the code of ethics. To ensure collaboration with AI, accountants should be encouraged to accept AI as a tool to enhance rather than replace their own inputs.

Monitoring and evaluation are critical, therefore it is imperative to establish procedures to assess the performance and impact of AI technologies on accounting processes regularly. The precision, reliability, and fairness of all technologies used must be evaluated regularly. Forensic accountants will need to ensure that the AI software used has been fully reviewed and originates from a reliable source. Software designed specifically for forensic accountants should be accompanied by comprehensive explanations that may be provided in court. If an AI produces incorrect findings, the service provider could be exposed to negligence cases (Bambauer 2023).

However, the professional codes of SAICA and similar bodies will continue to require their members to accept final responsibility for the accuracy of their work and will not hold service providers vicariously or strictly liable, although a degree of blame will be shared between the professional and the AI service provider (Bambauer 2023). Figure 3 can serve as a standard operating procedure (SOP) for use during a forensic investigation, together with an ethics policy and the POPI Act 4 of 2023.

Figure 3. Adopted SOP for Use by Forensic Accountants to Verify the Admissibility and Evidential Weight of Cyber Evidence (adaptation from section 26 of the Cybercrimes Act 19 of 2020)



Source: Authors 2024.

Code of Conduct and Ethics Standards for Accounting Professionals

Professional accountants and officials must maintain high ethical standards when using *artificial intelligence* during forensic investigations. This they must do in order to achieve positive social outcomes. They must also disclose any conflicts of interest that may arise, as stipulated by the National Treasury Regulations published in GN R225 of the Government Gazette 27388 on March 15, 2005 (reg 16A.8). A code of ethics must be read in the context of the general legislative framework and other mandatory and regulatory prescripts. For example, the National Treasury Code of Conduct for Supply Chain Management Practitioners (National Treasury 2003) requires that high ethical standards of conduct must be met by all officials and persons doing business with the government. As the credibility of supply chain management practices has been questioned by various media commentators, the importance of ethical behaviour cannot be overstated.

Development of the Code of Ethics

The first part of the code should consist of an explanation of normative, informative, and advisory sources, including definitions. The second part presents the policy, its scope, and ethical behaviour and conduct in the workplace, and its application in business practices. The third and final section of the code could include the rights and obligations of employers and professional accountants, their relationships with stakeholders, the handling of conflicts of interest, relationships with third parties, and ethical decision-making. As past trends suggest a promising future trajectory (Papanikos 2024), it would be deemed prudent to review the code regularly.

Normative, Informative, and Advisory Resources

Every code of ethics should include normative and informative sources. Advisory sources provide additional guidance on best practices and are only persuasive in nature. This is necessary to provide a living framework document to adopt the key principles and values that underlie the code. For example, the UK government adopted an outcomes-based framework to regulate AI based on key principles and values, including safety, security, transparency, explainability, fairness, accountability, governance, contestability, and redress (Deloitte 2024). Such an outcomes-based code is a pertinent reminder of the responsibilities that its theoretical and substantive concepts should offer to society. Hence, within this study, the socio-legal paradigm (see Section: Conceptual Framework) provides the meta-level worldview that informs the practical formulation of the code of ethics. In the light of social outcomes, we posit the resource-bases below that guide the code.

Firstly, a code of ethics should be guided by the regulatory landscape within which it operates (normative resources). From a South African perspective, a key normative resource is the Constitution of South Africa, 1996. It supports human values, including the right to privacy (section 9), the right to the security of people (section 12), and the right not to be automatically assumed guilty (section 35). Normative resources include the Prevention and Combating of Corrupt Activities Act 12 of 2004, Protected Disclosures Act 26 of 2000, Public Finance Management Act 1 of 1999 (as amended), and, as previously mentioned, the POPI Act 4 of 2023, the Cybercrimes Act 19 of 2020, and the ECTA.

Secondly, the use of informative resources could include current or existing organisational policies and procedures.

Thirdly, advisory references can be obtained from experts in the fields of ethics and AI, such as forensic auditors and IT specialists. These advisors can train AI software to perform compliance checks on a client's system to determine whether a prescribed standard has been applied correctly (Ng & Alarcon 2020). Other references could include academic or scientific papers or written material that provides background information or introduces alternative views on AI that are both ethical (Vyas 2022) and technically sound (Danish 2023).

A discussion of the significance of definitions is an essential next step in the draughting of ethics. Examples of definitions can be found in various statutes and

regulations. Definitions should generally be included in the first paragraphs of a code. Definitions serve as statements that provide the meaning of a word or phrase. They also provide guidance to the policy user regarding the factual meaning of a word or phrase, regardless of how it may be interpreted in a particular context. Since different values may be assigned to a word or phrase, providing a clear and accurate definition clarifies and explains the actual purpose and intent of that word or phrase to the user. For example, AI can have a dual purpose (think of its military/peace and risk detection/risk prevention abilities). Definitions are necessary to eliminate ambiguity and confusion. To ensure that a policy is comprehensive and widely accepted, it is crucial to consult with relevant stakeholders when defining words or phrases. It is advisable to provide stakeholders with multiple interpretations, such as those found in dictionaries or online.

Any code should provide for the enhancement of gender sensitivity. Non-discriminatory wording must not only be used with reference to gender, but also for other sensitive identifiers such as race, religion, privacy, age, disability, and equity. AI can inherit human flaws during the design phase, and therefore the sensitive issues mentioned above should be carefully considered when big data are analysed.

The second part of the code includes the introduction, scope, and ethical principles that should be incorporated. This section includes information resources such as other organisational policies. In accordance with the scope of the code, all stakeholders should be recognised. Ethics should describe ways to behave in specific business situations based on the concepts of right and wrong. Ethical behaviour involves the ability to discern what is morally right and to commit to taking the appropriate course of action.

To ensure continuous improvement of the code, it is necessary to encourage feedback and active participation from professionals, such as forensic accountants, to improve the details and ensure the code remains abreast of evolving technology and industry standards. Improvements are required to keep AI ethics useful by guarding against meaningless, isolated, and toothless principles. AI justice should be practised by engaging with groups that may suffer as a result of AI usage, such as LGBTQIA+ communities and migrants. AI justice should also aim to decolonise AI by refraining from using discriminatory terminology.

Conclusions

This article aimed to establish, from a practical perspective, the ethical considerations for an ethical policy or ethics code for use by professional accountants when using AI. The philosophical debates presented in this paper show that a holistic approach is necessary to achieve a meaningful code of ethics by which professional accountants can do their work. For the sake of human values, AI must create an accountable, accurate, equitable, relevant, and safe environment. Integrating AI into forensic accounting practices is not only necessary, but it has also become a requirement to meet the demands of the changing world. AI must be trained to recognise potential biases and account for them when making decisions. Additionally, AI algorithms must be tested and monitored for accuracy, fairness, and

accountability. Finally, AI systems should be regularly reviewed and updated to ensure their continued ethical use, as the past is an indicator of the future.

Gathering evidence using AI technology requires that the evidence chain be maintained by professional accountants. To validate evidence, a complete audit trail and an explanation of every step are required by the court. Organisations and employees must be guided by normative, informative, and advisory resources when pursuing ethical considerations when using AI. This means that when AI is used to conduct investigations and gather accounting evidence, it is crucial to keep an eye on the legislative requirements (laws and regulations) and on the guiding policies of the organisation. In a follow-up article, practical examples of ethical policies will be examined and evaluated to develop a code of ethics.

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