Establishing Clear Guidelines for AI Tools Usage in an Academic Institution

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Abstract

The increasing adoption of Artificial Intelligence (AI) tools in academic institutions has compelled the development of clear guidelines to ensure ethical and responsible use. This study aimed to investigate the guidelines set for using AI tools among students and lecturers, highlighting the need for transparent guidelines and protocols to prevent academic misconduct. Data was collected through a questionnaire using convenience sampling and snowballing, as it was challenging to find participants due to the assessment period at the institution. The participants voluntarily completed the questionnaire, which consisted of 40 undergraduate students, 41 postgraduate students and 20 lecturers. SPSS version 30 and the linear regression method were used for data analysis. The findings indicate that while participants demonstrate confidence and understand the limitations when using AI tools, there is a gap in training, as most stated the need for training in using the AI tools ethically. Four academic institutions were studied, and it was established that all supported AI tools use, provided the students declared when they used these tools. Both students and lecturers must be AI literate through rigorous training and workshops. The guidelines should be regularly assessed and clear instructions on the consequences of misuse should be set. This paper contributes to the evolving role of institutions in ensuring that the guidelines set by the institution are clear and easy to understand.

Keywords: *AI tools, academic integrity, potential bias, AI guidelines, academic institution*

1. Introduction

The popularity of Artificial Intelligence Tools has increased the need for guidance regarding its use in higher education institutions across the world (Moorhouse, Yeo and Wan [1]. As more students are using these tools for research purposes, institutions must, therefore, create watertight guidelines that will ensure learning still takes place and students are not simply copying from the AI tools. According to [2], these tools are adopted in various sectors as they are believed to offer possibilities, such as innovation, efficiency and personalised learning. The study examined one academic institution's guidelines and whether they contained sufficient information for both the lecturer and the student. The research is important as it might assist in developing and enhancing guidelines that will ensure the ethical use of AI tools and guarantee learning. As the institution has nine faculties, it is important to assess gaps in the guidelines set by the university and ensure that these are clear and well-understood by both students and lecturers.

1.1 Background

According to [3], the higher education institution is a public university located in the province of Gauteng, South Africa, with a population of over 50 000 student as well as 3 000 international students from various countries. It is regarded as the largest contact university in the country. The academic institution is made up of four campuses, which were formed because of a merger. These campuses differ in size and have a different culture and character contributing to the institution's diversity. Students can select from nine faculties to further their studies.
The nature of the business is within the Government and Non-Profit Organisations, Higher Education Sector occupying more than 45 000 m^2. It generates income from student tuition fees, government subsidies and research output. It was established in 2005 with a turnover of over R1 billion, and 4 413 employees ranging from academic and support staff.

1.2 Problem Statement/Dilemma

The problem is that since the introduction of artificial intelligence (AI) tools, they have gained momentum in academic universities as more students are using them to tackle tough research questions. Although AI as a disruptive technology has simplified the lives of students at university, there have been reported cases of students using these tools unethically. The university reacted by putting into place some guidelines on the use of AI tools; however, these guidelines appear to lack clear information, thus leaving students confused about what is acceptable. All faculties adhere to these guidelines. The study will recommend how the guidelines can be improved so that they are easy to understand and contain crucial information.

1.3 Dilemma Questions

- Dilemma Question 1: How did students perceive the current guidelines?
- Dilemma Question 2: What limitations were Identified in the existing guidelines that may hinder the ethical and effective use of AI tools?
- Dilemma Question 3: What strategies can be developed to close the gap by comparing best practices from other academic institutions?

2. Theoretical Framework

The Theory of Planned Behaviour (TPB) is a theory of cognition coined by Azjen (1985), which proposes that an individual's decision to engage in a certain behaviour can be centred around the intention to engage in that behaviour [4]. The elements of the theory are determined by three variables listed by [4, 5] as personal attitudes geared towards certain behaviours, subjective norms referring to how the ideas of other people can directly affect the behaviour of a person and perceived behaviour control which refers to the extent to which humans believe they can control their behaviour.

3. Methodology

The study used the quantitative research method, which depends on facts and numerical data to better understand people's opinions. The questionnaire was anonymous, and students were assured that no identities would be revealed during the research. Probability sampling was used with a sample size of hundred individuals, namely:

- Undergraduate students, ages 18-25, (40) Postgraduate students, ages 26-60 (41)
- 20 lecturers, all ages (20)

4. Analysis and Results

How do students and lecturers perceive the current guidelines?
Results and discussion for Dilemma Question 1

The questionnaire was completed by 101 respondents, 51 males and 50 females, who were all affiliated with Academic Institution X as either undergraduate or postgraduate students, or lecturers. Participants were selected using both the convenience sampling and snowballing methods. between the ages 18-25, 27 aged 26-40, 24 aged 41-59, and 3 within the 60+ age range, totalling to 101 participants. According to [6] a regression analysis needs at least 50 and normally 100 observations in most research settings. Since the data was analysed using linear regression analysis, a total number of 101 participants can be regarded as a good sample size to provide sufficient results.

Table 1. Demographics

Category				
Age range	18-25	26-40	41-59	60+
Undergraduate (39)	39	0	0	0
Postgraduate (41)	8	20	12	1
Lecturers (20)	0	7	12	2

Table 2. Level of confidence in using AI tools effectively

		Frequency	Per cent	Valid per cent	Cumulative per cent
Valid	Not Confident	3	3,0	3,0	3,0
	Somewhat confident	7	6,9	6,9	9,9
	Neutral	32	31,7	31,7	41,6
	Confident	39	38,6	38,6	80,2
	Very Confident	20	19,8	19,8	100,0
	Total	101	100,0	100,0	

Participants' confidence level in following the guidelines when using AI tools is high as Table 3 shows that 20 participants were very confident, 39 were confident, 32 were neutral, 7 were somewhat confident, and 3 were not confident. This means that 58% felt confident in their ability to use AI tools effectively. This aligns with [7] who state that students who had a good understanding of AI tools used were found to express a low level of anxiety about AI, thus leading to confidence when using the AI tools. However, the presence of neutral and negative responses highlights the need for further training and targeted interventions to bridge remaining skill gaps.

Table 3. The necessary skills to use AI tools effectively

		Frequency	Per cent	Valid per cent	Cumulative per cent
Valid	Strongly Disagree	1	1,0	p,0	1,0
	Disagree	13	12,9	12,9	13,9
	Neither Disagree nor Disagree	18	17,8	17,8	31,7
	Agree	55	54,5	54,5	86,1

In possessing the necessary skills to use AI tools effectively, 14 strongly agreed, 55 agreed, 18 neither agreed nor disagreed, 13 disagreed and 1 strongly disagreed. This meant that 69 participants (68%) believed they had the necessary skills when using AI tools, which aligns with Azjen (Brookes, 2022) who listed the three variables, namely personal attitudes, subjective norms, and perceived behaviour control, which refer to the extent to which humans believe they can control their behaviour. This is evident in students believing they have the skills necessary to use AI tools without any assessment or evidence.

Table 4. Peers belief in participants using AI tools responsibly

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	3	3,0	3,0	3,0
	Disagree	8	7,9	7,9	10,9
	Neither agree nor Disagree	13	12,9	12,9	23,8
	Agree	46	45,5	45,5	69,3
	Strongly Agree	31	30,7	30,7	100,0
	Total	101	100,0	100,0	

In assessing the belief of peers that participants should use AI tools responsibly, 31 strongly agree, 46 agree, 13 neither disagree nor disagree, 8 disagree, and 3 strongly disagree that their peers believe they should use AI tools responsibly. This means that 77 participants (76%) agree that their peers think they should use AI tools responsibly. This aligns with [4] where subjective norms refer to how the ideas of other people can directly affect the behaviour of a person. The beliefs of their peers somehow influenced the participants' decision to use AI tools.

Table 5. Social pressure to use AI tools

		Frequency	Per cent	Valid per cent	Cumulative per cent
Valid	Strongly Disagree	6	5,9	5,9	5,9
	Disagree	25	24,8	24,8	30,7
	Neither Disagree nor Disagree	34	33,7	33,7	64,4
	Agree	29	28,7	28,7	93,1
	Strongly Agree	7	6,9	6,9	100,0
	Total	101	100,0	100,0	

In students feeling socially feeling pressured, 29 participants strongly agree, 7 agree, 34 neither agree nor disagree, 25 disagree, and 6 strongly disagree that they feel socially pressured to use AI tools. This shows that 36 (36%) feel pressured to use AI tools because others are doing it; they may not necessarily want to use the AI tools but do so because of pressure. According to [8]. Social Influence Theory (SIT) is a psychological framework used to demonstrate that individual behavioural intentions are shaped by the actions and presence of others in their social milieu, instead of making their own decisions they are often influenced by social norms, peer interactions and group dynamics, and peer interactions. The 34 (34%) who neither agree nor disagree show that there are still a large number of participants who need training and research on AI tools; they are, therefore, prone to changing their minds once sufficient knowledge is gained. The 31 (31%) who disagree display participants who utilize the AI tools not because of being pressured but based on sufficient knowledge. This conforms to the variable of personal attitudes in the (TPB) theory, where individuals are geared towards behaviours that include knowledge, prejudice, negative and positive behaviour, [5].

Table 6. Trust that the guidelines provided by the institution will help in using AI tools responsibly

		Frequency	Per cent	Valid per cent	Cumulative per cent
Valid	Strongly Disagree	2	2,0	2,0	2,0
	Disagree	3	3,0	3,0	5,0
	Neither Agree nor Disagree	14	13,9	13,9	18,8
	Agree	42	41,6	41,6	60,4
	Strongly Agree	40	39,6	39,6	100,0
	Total	101	100,0	100,0	

The participants trust that the guidelines set by the institution will help them use AI tools responsibly, where 40 strongly agree, 42 agree, 14 neither disagree nor disagree, 3 disagree, and 2 disagree. This means that 82 (81%) participants trust that the guidelines will help them using use AI tools responsibly. According to Choung et al. (2022), trust is an essential construct in human relationships and in technology, particularly AI, and has engendered significant interest in the academic community with researchers regarding it as a fundamental step toward social acceptance of new and disruptive technologies.

Table 7. Following the institution's guidelines is essential for maintaining academic integrity

		Frequency	Per cent	Valid per cent	Cumulative per cent
Valid	Strongly Disagree	2	2,0	2,0	2,0
	Disagree	1	1,0	1,0	3,0
	Neither Agree nor Disagree	6	5,9	6,1	9,1
	Agree	39	38,6	39,4	48,5
	Strongly Agree	51	50,5	51,5	100,0

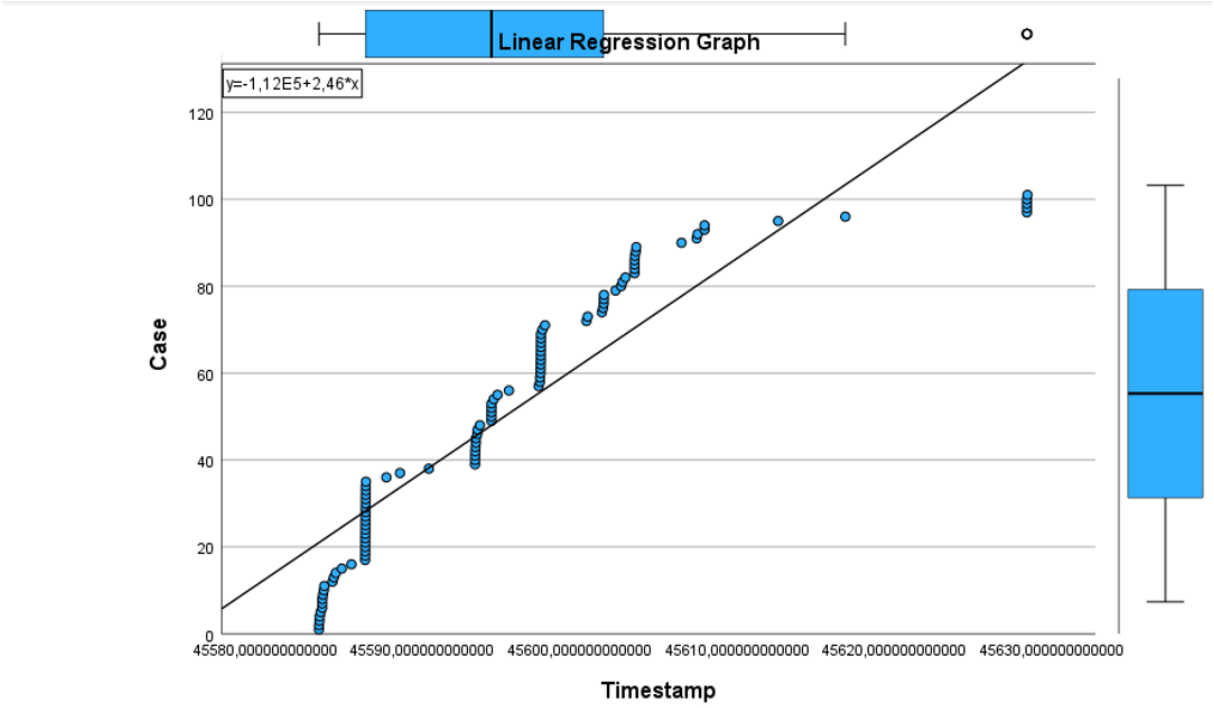
Following the institution's AI usage guidelines is essential for maintaining academic integrity, as 51 strongly agree, 39 agree, 6 neither agree nor disagree, 1 disagrees, and 2 strongly disagree. This

means that 90 participants (89%) believe in following guidelines set to maintain the institution's integrity. Academic integrity is a critical education component in today's rapidly changing academic landscape. Academic integrity must be maintained because it represents the value of the qualifications offered by an institute, namely the honesty, trust, and ethical conduct of students [9]. The AI tools guidelines should be reviewed and updated regularly to ensure they remain consistent with the institution's integrity policies and values.

Table 8. ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	71 183,954	1	71 183,954	480,512	<,001[b]
	Residual	14 666,046	99	148,142		
	Total	85 850,000	100			

The ANOVA table therefore suggests that the regression model fits the data well, as indicated by the significant F-statistic (Cronk, 2024. The regression model explains a significant amount of the variance in the dependent variable, as indicated by the large F-statistic. The residual (or error) term is relatively small compared to the regression model, suggesting that the model fits the data well.
The following linear regression graph was plotted using the results from the variables used.



The black line illustrated represents the best-fit line derived from a linear regression analysis. The corresponding equation is y = 1.125x + 2.46. This can be interpreted as follows:

- Slope (1.125): For each unit increase in the timestamp, the case count is expected to rise by approximately 1.125.
- Intercept (2.46): At a timestamp of zero, the model predicts an initial case count of around 2.46. Although a timestamp of zero holds no practical significance in this context, it is a component of the equation.
- Scatter Plot: The blue dots signify individual data points, representing specific cases at distinct timestamps. The data aligns closely with the trend line, indicating a strong linear relationship.

- Box Plot on Y-Axis (Cases): positioned on the right, this box plot illustrates the distribution of case values.
- The middle line inside the box indicates the median number of cases.

Based on the results, this means that the linear model fits the data well, suggesting that cases increase over time in a relatively steady and predictable pattern. The slope shows a moderate increase rate, with an outlier on the boxplot might indicate an anomaly or peak in case reporting.

Findings and discussion of Dilemma Question 2

What limitations can be identified in the existing guidelines that may hinder the ethical and effective use of AI tools?

Table 9. Understanding the AI tools limitation and potential bias

		Frequency	Per cent	Valid per cent	Cumulative per cent
Valid	Strongly Disagree	2	2,0	2,0	2,0
	Disagree	1	1,0	1,0	3,0
	Neither agree nor Disagree	19	18,8	19,0	22,0
	Agree	47	46,5	47,0	69,0
	Strongly Agree	31	30,7	31,0	100,0
	Total	100	99,0	100,0	

Participants indicated that they understood the limitations of AI tools and their potential bias as outlined in the institutional guidelines, with 31 strongly agreeing and 47 agreeing 19 neither agreeing nor disagreeing, 1 disagreeing, and 2 strongly disagreeing. This means that 78% of participants understood the limitations of AI tools. This conforms to [11] where students in Australia found that the students believed that AI would negatively impact their social skills as it lacked human touch and could be better viewed to assist humans. AI tools can therefore act as a copilot to search for information, provide keywords and translate text [11].

Table 10. Training required in using AI tools ethically

		Frequency	Per cent	Valid per cent	Cumulative per cent
Valid	Strongly Disagree	5	5,0	5,0	5,0
	Disagree	13	12,9	12,9	17,8
	Neither agree nor Disagree	9	8,9	8,9	26,7
	Agree	37	36,6	36,6	63,4
	Strongly Agree	37	36,6	36,6	100,0
	Total	101	100,0	100,0	

There were many participants who indicated the need for training in using AI tools ethically, where 37 strongly agreed, 37 agreed, 9 neither agreed nor disagreed, while 13 disagreed and 5 strongly disagreed. In total, 74 participants (73%) required training to ensure they use AI tools ethically and not in a manner that would diminish the integrity of the institution's integrity. This conforms to [12] who advise that students and lecturers should be trained on the limitations and benefits of using AI tools in order to learn and use AI ethically to uphold academic integrity. With the increasing automatisation of the digital economy, students will also use AI tools in their professional life and should be given opportunities to learn new AI skills during their course of study [12]. The dilemma question was structured around literature and Table 11, shows the benefits and limitations of using AI tools as well as the principles used by Academic Institution X. It was discovered that the principles currently used by the institution did not provide information on the level of AI tools use allowed for students as well as, the consequences of misuse and the type of action taken on those found to be unethically using the tools. The lecturers often communicate the information verbally to students during class, which

increases grounds for students denying knowledge of such information being discussed before submission. This was established during the completion of the questionnaire, where some participants shared their views upon completion. Risks of overreliance and data bias were identified as some of the challenges in using AI tools, which conforms to Zamri et al. (2024), who state that the overuse of and overreliance on AI can negatively exploit the educational system. This is because AI tools can weaken learners' critical thinking and social skills and destroy their awareness of their own talent and creativity.

Findings and discussion for Dilemma Question 3

What strategies can be developed to close the gap by comparing best practices from other academic institutions?

Based on the literature from the four academic institutions and the tables above, it is evident that the use of AI tools is supported as there are guidelines and policies to which students have to adhere**.** The reasons for institutions to develop practical guidelines lie in the fact that as AI technology is prevalent in various sectors, graduates will require a strong understanding of principles to succeed. A policy will enhance students' skills and knowledge to work with AI professionally. AI tools can revolutionise society and education by providing students with personalised and real-time feedback, thus enhancing learning. To maintain integrity, students must understand the principles of the technology and prevent cheating and plagiarism.

The guidelines envision permitting and encouraging the responsible use of generative AI tools as well as institutions reserving the right to disallow use if students do not declare using AI tools upon submission. Students are cautioned against using AI to plagiarise by creating output and presenting it as their work, which violate the university's policies and academic integrity. Students are therefore advised to always check information and use AI tools only to look up basic concepts for self-learning and improvement as well as for proofreading and editing written work. Adhere to current policies of the institution by using information distributed by the faculty as a guideline. There should be support for staff and students to become AI literate and for faculties to be well equipped to support students in using AI tools.

The findings for Dilemma Question 3 displayed a strong sense of adaptation and acceptance as all institutions allow their students and lecturers to use AI tools. This is a good indication of academic institutions being in full support of their students and the institutions surviving in the digital economy that requires one to adapt, be innovative, and have an open mindset. Academic Institution X must therefore consider providing its students and lecturers with sufficient knowledge through training and workshops to ensure they are AI literate. This will ensure there is no plagiarism and violation of the institution's policies as the faculty will be equipped to provide support to students, while students will use the AI tools ethically as the training they attended will equip them with sufficient knowledge.

5. Recommendations

From the research findings based on the data collected and literature reviewed, the following recommendations can be made Training and workshops, as many participants indicated the need to understand how to use AI tools ethically and in a manner that will not hinder the institution's academic integrity.

- Lecturers communicating the implications of submitting AI-generated work.
- The permitted percentage of AI-generated work must be indicated as is the case with Turnitin, where students cannot exceed a certain percentage.
- Students must declare whenever AI tools are used for research purposes.
- As AI tools are generated rapidly, a task team should be developed with the responsibility of regularly monitoring the creation of new AI tools.This will enable the institution to update and amend its guidelines.
- The ethics committee members across various faculties can be part of the task team as they will provide guidance on what is allowed.
- The guidelines must be updated regularly as new AI tools are developed frequently.
- The guidelines should be clearly visible on the website, as currently, one has to search online, which is time-consuming and tedious for students.
- Short learning programmes (SLPs) should be established to equip students and lecturers with the necessary skills to evaluate and responsibly use AI tools critically.

Artificial Intelligence is a phenomenon that shapes the ever-changing knowledge economy. Therefore, to remain relevant and maintain honesty among lecturers and students, the guidelines must provide insight into what is acceptable and the punishable actions that will be taken, as is the case with plagiarism.

Conclusion

The study was divided into dilemma questions that were used to gather insight into the AI tools guidelines that were set by the institution. Through the literature conducted, it was established that there was a gap in the AI tools research as AI tools are rapidly evolving and are yet to be scrutinised and assessed as there are constant updates and new tools developed. The use of a questionnaire enabled participants to give feedback anonymously, and upon completion, there were some who gave advice, which entailed rapid training to ensure that the participants fully understood how the tools work and how to use them ethically without hindering the academic integrity. In answering the questions, Dilemma Question 1 addressed the user perceptions of the current guidelines set by the institution. To better understand the views, the questionnaire was structured around the theory of planned behaviour, where it was discovered that the participants were confident in using the AI tools guidelines set and that they possessed the skills necessary to use the tools in line with the set guidelines. The presence of neutral and negative responses highlighted the need for further training and targeted interventions to bridge the remaining skill gaps

Dilemma Question 2 was addressed the benefits and challenges of the AI tools were discussed, and it was discovered that the tools could enhance creativity and provide easier learning as students could use them to find more ideas and information on difficult concepts. Dilemma Question 3 was addressed by comparing various universities, and it was discovered that these institutions allowed their students to use the tools. The participants also required rapid training on using the tools ethically Based on the information gathered, AI tools are beneficial for learning and should, therefore, be used ethically and responsibly. Academic Institution X must ensure that students are familiar with the guidelines and know where to locate them and how to declare AI tools used upon submission. On the other hand, lecturers must be transparent about what is required and list the implications of submitting AI-generated work. Establishing a task team will be beneficial as the institution will be aware of new rapid training to ensure that the participants fully understood how the tools work and how to use them ethically without hindering the academic integrity.

Acknowledgment

This paper is an output of the the evolving role of institutions in ensuring that the guidelines set by the institution. The findings have the potential to help the institution in setting up task teams responsible for monitoring AI tools and amending the guidelines accordingly.

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