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AI: Overrated or the Future of Accounting

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Artificial Intelligence: Overrated or the Future of Accounting?

ABSTRACT:

The purpose of this study is to provide evidence from accounting professionals in various industries to analyze perspectives on the future of artificial intelligence (AI) and its impact on the accounting profession. Using survey data obtained from accounting professionals and accounting educators, we test perceptions of AI adoption in the accounting profession and the risks associated with it. We find that participants have an overall positive perception of AI and believe it will enhance their job performance. In particular, younger participants and participants who work in Big 4 firms believe AI will reduce regulatory scrutiny and improve their work environment. However, there is a disconnect between educators and accounting professionals as it relates to the risk of AI implementation. In addition, respondents are not confident that universities can adequately respond to the changing technological environment in public accounting.

Keywords: Artificial Intelligence; Business Intelligence; Analytical Skills; Accounting Profession; Accounting Education

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"We are investing millions (literally) in digitally up-skilling our workforce by creating Digital Accelerators within each practice. We are also heavily investing in the use of AI, optical character recognition, blockchain, robotic process automation and similar tools to ensure we are leading the profession." ***Big 4 Partner***

"Business will eventually accept tools that improve performance and decrease cost." ***Industry Accountant***

"Based on my interactions with others in both public and industry, I fear that a vast majority of professions are unable or unwilling to develop the skills necessary to utilize and adapt to AI, which would lead me to believe that while it has great potential it will be significantly under-utilized." ***Accounting Educator***

INTRODUCTION

Artificial intelligence (AI) is one of the latest disruptions of modern industry. Companies across all platforms of industry are beginning to incorporate AI technology in many of their professional services. However, there is considerable confusion surrounding just what AI is from a business perspective. Per a news article published by the Journal of Accountancy, Artificial intelligence is "technology that enable computers to perform decision-based tasks previously left to humans" (Ovaska-Few, 2017). This definition is far from the science fiction that many expect. Industries are reevaluating their processes to maximize efficiency in a world of increasing automation. The spectrum of influence spans from large-scale manufacturing companies to professional service companies. The accounting profession in particular has begun to feel the full force of the disruption caused by technological automation. Jon Raphael, the Deloitte audit chief

innovation officer said, “AI is being developed by multiple accounting firms and will dramatically change the profession in the coming year” (Ovaska-Few, 2017). Some top professionals in the field believe that AI is not only going to drastically change accounting as we know it, but that it is going to happen very quickly. With this in mind, will AI dramatically change the accounting profession and how quickly do professionals see this change occurring?

There are many questions surrounding this disruptive technology. A central question being, what will AI in accounting look like? Does the implementation of AI increase the risk involved in auditing? Will the implementation of AI have an impact on the traditional accounting professional? Are accounting professionals excited for increased AI technology or do they perceive AI as a possible hindrance to their productivity or job security? Are accountants concerned about the regulatory risk associated with AI? The growth of AI creates questions regarding who will be responsible for an AI’s failure. AI could impact the day-to-day job accounting professionals will be required to do. In fact, “remaining jobs in accounting are likely to involve… working alongside intelligent accounting machines to monitor their performance and results to improve their performance” (Kokina & Davenport, 2017, p.120). It is reasonable to assume that the future of the accounting profession will involve understanding how intelligent machines perform their tasks in order to adjust or ensure the accuracy of their results.

Traditional accounting students may no longer be recruited at the demand previously seen. In fact, “preparing workers for the future of work will take a very different approach to education, emphasizing skills over knowledge and lifelong learning over front-loaded educational systems.” (EY, 2018, p.27) Companies are shifting their approach to recruitment and reevaluating the criteria required of entry-level employees even as educators are struggling to prepare students to embrace the rapid changes in technology for a successful career in

accounting. This study seeks to better understand the perspectives regarding the implementation of AI from three distinct groups: accounting professionals in public accounting, those in industry, and accounting educators.

The following sections provide background literature, the research methodology and results are reported, followed by a discussion of the findings and implications for practice. To conclude, limitations of the study as well as suggestions for future research are provided.

BACKGROUND AND LITERATURE REVIEW

In 2018, 36 percent of routine tasks in the Financial Services sector are being performed by machines and algorithms, according to the World Economic Forum (World Economic Forum, 2018). By 2022, this is expected to rise to 61 percent, with the majority of jobs lost being data entry staff and accounting staff (World Economic Forum, 2018). "Financial institutions and vendors are using AI and machine learning methods to assess credit quality, to price and market insurance contracts, and to automate client interaction." (Financial Stability Board, 2017, p.1)

While new technology may make processes more efficient, users are often resistant and may have a negative attitude towards the technology (Böer & Livnat, 1990). We draw on the technology acceptance model (TAM) developed by Davis (1989) in this study to consider how accounting professionals and educators view artificial intelligence. The TAM posits that individual perceptions of new systems can be traced to two concepts: (1) the systems' perceived usefulness, and (2) the systems' perceived ease of use (Davis, 1989). The TAM theoretical framework is useful because it allows us to measure a user's beliefs and attitudes towards technology even if they have not yet used that technology (Turner, Kitchenham, Brereton, Charters, & Budgen, 2010).

AI relies on complex algorithms in order to automate decision-based tasks that would normally require input from professionals. However, many times these systems are "so complicated that even the engineers who designed [them] may struggle to isolate the reason for any single action" (Knight, 2017). In addition, AI is changing rapidly and many professionals are raising concerns over the risks associated with decision making in AI systems (Cobey, Strier, & Boillet, 2018). In 2014, Elon Musk called AI "our biggest existential threat" and others have warned about the risks associated with the rise of AI technology (Bostrom, 2014; Gibbs, 2014; Torresen, 2018).

The risks associated with the development and implementation of AI technology revolve around responsibility. A term commonly associated with modern AI systems is machine-learning. Machine learning is a concept defined as constructed programs containing minimal initial capabilities, however, they improve their performance during repeated use. The machine collects data and then learns from the accumulation of data over repeat processes. The program is affected by the data it receives (Parnas, 2017). In instances of outliers and anomalies, machine-learning systems might create errors because of incomplete or biased experiences (Parnas, 2017). Thus, machine-learning and the algorithms associated with AI technology will produce errors as obstacles are encountered through this early stage of implementation.

External regulators have not kept up with the growth of AI technology and enterprises are dealing with an increase in demand to provide sound and transparent controls for the systems they use (Cobey, Strier, & Boillet, 2018). Therefore, it is reasonable to assume that the initial burden of AI risk will fall on the organizations who choose to implement them. As a result, organizational leaders, "must have confidence that their AI systems are functioning reliably and accurately, and they need to be able to trust the data being used." (Cobey, Strier, & Boillet, 2018)

In order for confidence to be placed in AI systems, it necessitates the demand for individuals who "know how it works" (Parnas, 2017).

As the role of artificial intelligence in the business world continues to grow, accounting programs will need to adequately prepare their students to work with new technologies. However, employers have noted that many accounting programs are failing to do so, and instead focus on the structured tasks performed by entry level accountants, which are likely to be automated in the future (Kokina & Davenport, 2017). Many universities are implementing initiatives to incorporate technology into their programs. However, these universities have struggled with how to best incorporate these systems into their curriculum. Since educators have little to no experience with these modern systems, there is a high degree of uncertainty as to an effective approach to teaching the subjects in a classroom environment. Watty, McKay, and Ngo (2016) find that 93 percent of accounting academics surveyed are resistant to new technology and this resistance is a significant impediment to the introduction of new technologies in the curriculum (Watty, McKay, and Ngo, 2016). However, studies have also found limited differences in technology usage and ability between faculty and students (Kennedy, Dalgarno, Bennett, Judd, Gray, & Chang, 2008).

This study examines perceptions of the impact of artificial intelligence on auditing among three groups of professionals: accountants working in public accounting, accountants working in private industry, and accounting educators.

SAMPLE AND SURVEY METHOD

Sample

This exploratory study utilizes survey data from accounting professionals in public accounting, industry, and education. A link to the survey was distributed through an email

request to 793 individuals who were either accounting alumni or other contacts in the accounting profession. The survey was completed by 107 participants (approximately 13% response rate). Table 1 reports the demographic information of the 107 survey responses. Only participants who fully completed the survey variables of interest were utilized in the forthcoming analysis. The sample includes 51.4% percent male, 74.6% percent white/Caucasian, 53.3% Millennials or younger, 48.6% from public accounting, 29% industry, and 6.5% education. Twenty-six percent of the sample reported being with their current profession for 15 years or more.

Insert Table 1 about Here

Measures

To measure participant attitudes regarding the use of AI technology, three scales were developed from prior research to determine the perceived usefulness of AI technology to facilitate processes, the level of anxiety toward using AI technology, and the expectation of improved performance through the use of AI technology. Appendix A includes the survey questions for each scaled measure described below. The survey questions were based on a 7-point Likert scale ranging from strongly agree (1), neither agree or disagree (4), to strongly disagree (7). The descriptive statistics, correlations, and reliabilities are reported in Table 2.

Insert Table 2 about Here

The measure for the perceived usefulness of technology to facilitate processes (Venkatesh, Morris, Davis, & Davis, 2003; Ajzen, 1991; Taylor & Todd 1995a, 1995b) has a Cronbach's Alpha of .697 (mean = 4.31, sd = 1.309). A sample question was "I have the resources necessary to use AI". Two of the survey questions were omitted from the usefulness

scale variable due to a lack of internal consistency. Both omitted questions "AI is not compatible with other systems I use" and "A specific person (or group) will be available for assistance with AI difficulties" lacked variation since participants on average neither agreed or disagreed with these statements.

The measure for anxiety toward using technology (Venkatesh et al., 2003; Venkatesh, 2000) has a Cronbach's Alpha Reliability of .790 (mean = 4.33, sd = 1.330). A sample question was "I feel apprehensive about using AI".

The measure for expectation for improved performance through the use of technology (Venkatesh et al., 2003, Davis, 1989; Davis, Bagozzi, & Warshaw, 1989; Moore & Benbasat, 1991; Compeau & Higgins, 1995; Compeau, Higgins, & Huff, 1999) has a Cronbach's Alpha of .773 (mean = 2.77, sd = 0.956). A sample questions was "I would find AI technology useful in my job".

Controls

The regression analysis includes control variables to determine the variation due to participant demographic information. The control variables are defined below:

Gender was set to 1 if the participant identified as male, 0 otherwise.

Generational identity was set to 1 if the participant indicated they were either Gen Z or Millennial.

Big 4 was set to 1 if the participant identified Public Accounting (Big 4) as his or her primary profession.

Tenure is an ordinal variable set to 1 for participants with less than one year of work experience, 2 for work experience between one and five years, 3 for work experience between

six and ten years, 4 for work experience between 11 and 15 years, and 5 if greater than 15 years of work experience.

Position is an ordinal variable ranking from intern at the lowest level to partner at the highest position. The values assigned were intern 1, staff 2, senior 3, manager 4, and partner 5.

RESULTS

Exploratory Factor Analysis

Exploratory factor analysis was implemented to identify relationships between the survey questions which were designed to measure perceptions related to the adoption of AI technology, the risk of AI technology, and the impact on accounting curriculums in higher education. Nine factors were identified which represent the dependent variables for analysis. The survey questions are provided in Appendix B. The nine factors are described below by order of effect including the specific survey questions, their loadings, including the mean and standard deviation.

AI Adoption: Factor one relates to the positive perception of artificial intelligence adoption. The most important aspects of adoption relate to AI technology as a significant tool in client interactions (Appendix B, Q 8, loading .547), the importance of specific skills related to data management, data cleansing, and correcting inaccurate or incomplete data (Q21, loading .544), the ability to remove the burden of repetitive tasks (Q22, loading .513), a reduced workload due to task automation (Q10, loading .512), and the ability to rely on AI to communicate with clients (Q9, loading -.464 indicating that participants prefer to rely on AI to communicate with clients).

Accounting Education: Factor two relates to the perception of necessary changes in accounting education and skills development as a result of advances in technology related to AI.

The survey participants expect AI to change the focus of accounting curriculums to include specialized computer skills (Q3, loading .491), curriculums will need to focus broadly on consulting and strategic planning (Q6, loading .474), include programming and understanding computer language (Q7, loading .442), AI takes away tasks from workers, but in practice its overall effect is to amplify and augment staff abilities (Q23, loading -.440), and using AI to recalculate 100% of the population is a substantive test of details (Q19, loading .420).

AI Readiness: Factor three relates to anxiety, apprehension, and an overall negative perception of the readiness for changes related to artificial intelligence. Participants indicate that the development of AI will decrease the need for regulatory scrutiny (Q18 loading .461) which could indicate greater responsibility at the firm level. A negative loading for the statement that AI will enable employees to focus on solving complex issues while reducing the risk of error indicates (Q22, loading -.423) implies that there is a question regarding the risk involved and therefore, increased anxiety. Two questions related to accounting curriculums were identified as components, both of which were negative loadings which indicate anxiety in the area of data analytics. Question 20 was included in the survey to determine the need for data analytics in accounting curriculum (loading -.398) and question 7 to determine the need for increased programming and understanding computer language (Q7, loading -.396). The negative loadings indicate uncertainty and anxiety related to the readiness of accounting curriculums to address AI technology.

Risk and Dependence: Factor four relates to perceived risk and dependence on artificial intelligence to make business decisions. Business risk will increase as a result of the creative and innovative approaches to complex problem solving as AI technology evolves (Q4, loading .534), assessing risk of material misstatement at the account level will not be reduced by AI

technology (Q5 reverse coded question, loading -.491), AI cannot be relied upon to make business decisions (Q2 reverse coded question, loading -.443), and using AI to handle automated tasks will reduce the workload (Q10, loading .423).

Complexity Risk: Factor five relates to the complexity, risk, and responsibility affiliated with the use of artificial intelligence. Participants indicate they will never fully understand AI (Q13, loading .516), auditors will have an increased responsibility since 100% of the population can be tested with AI (Q17, loading .498), and AI will not reduce the amount of audit work outsourced (Q14 reverse coded question, loading -.461).

Company Culture: Factor six relates to the change in responsibility and company culture as a result of AI technology. The survey responses indicate that participants believe auditors will have an increased responsibility since 100% of the population can be tested with AI (Q17, loading .498), but do not anticipate a change company culture (Q16, loading -.381).

Tasks; Factor seven relates to critical thinking skills in relation to repetitive manual tasks. The negative loading for question 11 suggests that there was disagreement with the statement that repetitive manual tasks are a waste of time compared to critical thinking tasks (Q11, loading -.447).

Regulatory Scrutiny: Factor eight relates to regulatory scrutiny. The factor loading suggests that participants believe that AI will decrease the need for close examination from regulators (Q18, loading .444).

Procedures: Factor nine relates to the adoption of AI and effects on accounting standards and procedures. Participants indicate that AI can easily be incorporated into generally accepted

auditing standards and procedures (Q1, loading .491) and will decrease human interaction (Q15, loading .458).

Regression Analysis

OLS regression was used to evaluate the statistical significance of participant attitudes regarding the perceived usefulness of AI technology to facilitate processes, the level of anxiety toward using AI, and the expectation of improved performance on the nine dependent variables identified. Table 3 reports the results for the nine regressions including the control variables.

Insert Table 3 about Here

Usefulness and Performance both have a significant impact the participant views of AI Adoption (β=.229, P>.05; β=.534, P>.01, respectively). Accounting education related to AI technology is viewed negatively by males and participants working in Big 4 (β=-.446, P>.10; β=-.670, P>.10, respectively). Questions related to AI readiness are significantly impacted by anxiety and questions related to performance (β=.346, P>.01; β=.196, P>.10, respectively).

Participants working in Big 4 (β=.798, P>.05) and those with more work experience (β=.517, P>.10) are concerned with the risk and dependence issues of AI technology. In addition, anxiety and performance have a significant impact on risk and dependence issues (β=.300, P>.01; β=.411, P>.05, respectively).

Company culture related to the implementation of AI technology is significantly influenced by Generation Z and Millennials (β=1.647, P>.01), accountants in Big 4 (β=.990, P>.01), those with more tenure (β=.560, P>.05), and the perceived usefulness of AI technology (β=.186, P>.10). Generation Z and Millennials indicate that they believe the development of AI technology will decrease the need for regulatory scrutiny (β=.947, P>.05), in addition, survey

participants view the usefulness of AI technology as helping to decrease the need for regulatory scrutiny (β=.331, P>.01).

Table 4 reports the regression analysis to further explore the differences between groups on the impact of perceived usefulness of AI technology, the anxiety related to AI implementation, and the perceived performance related to AI technology on the nine factors. As shown by the highlighted values in the table, there were significant differences in all factors except the perceived effect on company culture. All groups perceived an improvement to performance through AI adoption, however, usefulness was significant for only those in public accounting and industry, and anxiety related to AI technology was negative for those in education. The factor for accounting education measured the perceived changes to the accounting curriculum. The significance of positive anxiety for those in public accounting may indicate this group is concerned about the ability of higher education to adequately address the changes needed to prepare students for the profession given advances in AI technology.

Insert Table 4 about Here

The results related to AI readiness demonstrate the disconnect between those in public accounting and education. While public accounting is positive about the usefulness of AI technology and report a level of anxiety related to AI technology, those in education view the usefulness of AI technology negatively, report a negative level of anxiety, and also a negative view of the performance of AI technology.

The positive level of anxiety reported by public accountants related to risk and dependence is not surprising since this group provides compliance reporting and assurance of the accounting for business activity.

The complexity risk factor has a difference between the industry and education groups on the perception of performance of AI technology. This measure included questions regarding the understanding of AI technology and the ability of auditors to text 100% of the sample population. Those in industry report this as performance enhancing and those in education view this negatively. Industry also reports positive views of performance related to the impact of AI technology on tasks to reduce mundane processes and allow for higher level critical thinking, but this factor also contains a significant level of anxiety.

AI technology for use in the area of regulatory scrutiny is viewed positively only by those in pubic accounting. Procedures was the last factor identified in the factor analysis and it included a statement regarding the ease in which AI technology could be incorporated into procedures. Those in industry reported a significantly negative view of this factor for performance.

DISCUSSION

Adoption

Our results found that participants who perceived AI as easy to use or capable of enhancing job performance, expressed more positive responses relating to the acceptance of AI. Across professions, participants were positive in their responses relating to AI's enhancement of job performance. Therefore, respondents who perceived AI as enhancing their job performance were more likely to accept AI. However, we observed that the perceived ease of use was not significant for educators in particular compared to our other categories of participants. We believe that this is related to educators' inherent detachment from industry. Respondents from public accounting and industry are more likely to be the ones using modern AI systems. Therefore, the respondents in these categories will be more concerned with AI's ease of use than

educators who are less likely to be concerned with the ease of use relating to systems they do not currently use.

Another factor relating to the adoption of AI technology pertains to the belief that company culture will not change, however, many participants believe that the responsibility of professionals will change. We observed participants who identified with the generational groups: Gen Z and Millennials believed adopting AI would lead to a change in auditor responsibilities. Participants who were Big 4 responded similarly. We believe this is due to public accounting being characterized by a young workforce. We also found participants who had longer tenure in their respective industry agreed with the sentiment that professional responsibility will change rather than the overall company culture. Finally, participants who believed they had the resources and the skills necessary to use AI also believed it would increase auditor responsibility. Therefore, participants believe that AI will not change the work environment, however, AI will change the work itself.

Education

Overall, participants believed significant changes in accounting curriculums are necessary. Specifically, participants believe new curriculum will need to broaden to include courses that emphasize computer understanding. However, we observed male participants were less inclined to view education changes positively. Participants in Big 4 shared this negative perception toward changing accounting education. This reinforces the need for future research as it relates to the different gender perceptions of changing accounting education, as well as, different industry perspectives. Another opportunity for further research would be to understand what kinds of changes are need to accounting curriculums to address the changing business environment due to the advances in AI technology.

Risk & Anxiety

We observed that participants who felt that they did not have the knowledge or resources necessary to use AI were more inclined to believe industry as a whole is not ready for the implementation of AI. Participants who exhibited anxiety regarding the implementation of AI believed that regulation and education standards are not currently adequate. We noted a disparity between public accounting and educator responses. Participants in public accounting were more inclined to understate their readiness compared to educators who were more inclined to overstate their readiness. Therefore, public accountants are more cautious about the process of AI implementation than educators.

We anticipated a high degree of anxiety associated with the risk of implementing AI technology. Per our results, higher tenured participants exhibited more anxiety associated with the risk of dependence on AI technology. Therefore, participants who have been in the profession longer are more skeptical about using AI to make business decisions. It could be that participants responded this way because generally those who are in a position longer have more professional responsibility to make credible and well-informed decisions or that they are less inclined to embrace change. AI is still unproven in many aspects and there is a high degree of uncertainty associated with dependence on AI assisted decisions. We observed a similar response in participants in Big 4. The nature of public accounting requires a higher degree of regulatory scrutiny, which would make professionals more apprehensive about relying on AI to make the decisions for which they are responsible.

Finally, we observed that younger participants who identified with the generational categories: Gen Z and Millennials, believed that AI will decrease the need for regulatory scrutiny. Participants in public accounting who feel they have the knowledge and resources

necessary to use AI are more likely to believe regulatory scrutiny will decrease as a result of implementation. These participants believe strict oversight will not be as necessary when AI is fully implemented. We believe a point for further research exists to determine regulator's perspective on how regulation will change to incorporate the disruptive force of AI.

LIMITATIONS AND CONCLUSIONS

Limitations to our study include: (1) relatively small sample size, (2) demographic restrictions, (3) lack of regulator perspectives, and (4) lack of prior research associated with the implementation of AI. There was a lack of diversity relating to ethnicity among our respondents and two generation options dominated our responses, participants were overwhelmingly either Millennial or Gen X. The participant pool was primarily from alumni of one small, highly ranked, liberal arts university in the Southwest. Per our survey, we did not receive any responses that we can attribute to regulators. The lack of this perspective represents a point for further study and would add further discussion on the risk and anxiety associated with the implementation of AI.

The lack of prior academic research on AI as it relates to the field of accounting demonstrates the need for additional research as advances in AI technology create a disruption in business processes. This study makes a contribution by providing an analysis of the perceptions of professionals as it relates to artificial intelligence. Per our results, we found participants had an overall positive perception of AI in relation to adoption and enhanced job performance. However, there appears to be a disconnect between educators and participants in industry as it relates to the risk of AI implementation. We noted another disparity between different groups of respondents in relation to changing accounting education systems. Therefore, we conclude, individuals are excited for the application of AI in theory, however, there is a high degree of

uncertainty as it relates to AI's practical application and risks associated with the changes necessary to implement AI.

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Table 1: Survey Distribution and Respondent Characteristics

Demographic Information		Frequency	Percent
Gender	Male	55	51.4
	Female	50	46.7
	Prefer Not to Say	2	1.9
	Total	107	100.0
Race/Ethnicity	Black or African American	4	3.4
	Asian / Pacific Islander	12	10.2
	Hispanic or Latino	9	7.6
	Native American or American Indian	3	2
	White	88	74.6
	Other	2	1.7
	Total	118*	100.0
What generation do you identify with?	Gen Z	1	0.9
	Millennial	56	52.3
	Gen X	41	38.3
	Baby Boomer	3	2.8
	Other	6	5.6
	Total	107	100.0
What is your profession?	Public Accounting (Big 4)	44	41.1
	Public Accounting (non-Big 4)	8	7.5
	Education	7	6.5
	Government	3	2.8
	Industry	31	29.0
	Other	14	13.1
	Total	107	100.0
Time in current profession	Less than 1 year	4	3.7
	1-5 years	37	34.6
	6-10 years	25	23.4
	11-15 years	13	12.1
	More than 15 years	28	26.2
	Total	107	100.0

* This total response is greater than the total response of other categories because our survey allowed participants to select more than one option and multiple selections are represented in the total. There were 11 participants that indicated a multi-racial ethnicity.

Table 2: Descriptive Statistics, Correlations, and Reliabilities

Panel A. Descriptive Statistics

	Min	Max	Mean	St. Dev.
1. Usefulness	1.00	7.00	4.31	1.309
2. Anxiety	1.25	7.00	4.33	1.330
3. Performance	1.25	6.25	2.77	0.956
4. Big4	0.00	1.00	0.41	0.494
5. Tenure	1.00	5.00	3.22	1.276
6. Position	2.00	5.00	3.58	1.073

Panel B. Correlations and Reliabilities (Cronbach's Alpha)

	1	2	3	4	5
1. Usefulness	***.697***				
2. Aniety	-0.366**	***.790***			
3. Performance	0.247*	-0.264**	***.773***		
4. Big4	-0.026	-0.326**	0.158		
5. Tenure	0.130	0.261**	0.044	-0.282**	
6. Position	0.331*	0.186	0.013	-0.320*	.860**

**, * Denotes statistical significance at the 0.01 and 0.05 levels.
Cronbach's Alpha
Reliabilities on the diagonal
in italics

Table 3: OLS Regression Analysis of Participant Perceptions of AI Adoption, Risk, and Anxiety Factors

Factors	AI Adoption	Accounting Education	AI Readiness	Risk and Dependence	Complexity Risk	Company Culture	Tasks	Regulatory Scrutiny	Procedures
Constant	-0.955	0.595	-2.549^	-4.069**	-0.880	-4.849**	-0.233	-1.584	-0.355
Gender	0.097	-0.446^	0.063	0.092	-0.220	-0.043	0.005	-0.006	0.022
GenZ & Millennials	-0.452	-0.216	0.373	0.598	0.127	1.647**	-0.154	0.947*	0.327
Big 4	-0.575	-0.670^	0.263	0.798*	-0.062	0.990**	0.546	0.551	0.271
Tenure	-0.306	-0.168	0.399	0.517^	-0.487	0.560*	-0.054	0.361	-0.022
Position	0.102	0.011	-0.266	-0.386	0.437	-0.202	-0.033	-0.298	0.061
Usefulness	0.229*	-0.044	0.196^	0.102	0.155	0.186^	-0.159	0.331**	0.223
Anxiety	-0.074	0.176	0.346**	0.300**	0.207	0.164	0.186	-0.022	-0.032
Performance	0.534**	0.068	-0.130	0.411*	-0.255	0.136	-0.037	-0.257	-0.391
	R^2 .506	*R^2 .213*	*R^2 .351*	*R^2 .242*	*R^2 .205*	*R^2 .360*	*R^2 .172*	*R^2 .255*	*R^2 .078*

**, *, ^ Denotes statistical significance at the 0.01, 0.05, and 0.10 levels

Table 4: Comparison of Participant Perceptions of AI Usefulness, Anxiety, and Performance by Accounting Profession

Factors	Public Accounting			Industry			Education		
	Usefulness	Anxiety	Performance	Usefulness	Anxiety	Performance	Usefulness	Anxiety	Performance
AI Adoption	0.224*	-0.029	0.618**	0.296*	0.078	0.494**	-0.576	-1.656^	0.857*
			R^2 .464			*R^2 .515*			*R^2 .908*
Accounting Education	-0.068	0.193^	0.142	-0.025	0.332	-0.364	-0.111	0.025	-0.111
			R^2 .082			*R^2 .284*			*R^2 .257*
AI Readiness	0.215*	0.353**	-0.196	0.065	-0.022	-0.448*	-1.030**	-1.235*	-0.160^
			R^2 .313			*R^2 .164*			*R^2 .965*
Risk and Dependence	0.078	0.236*	0.294	-0.182	0.088	0.140	0.647	0.538	0.156
			R^2 .128			*R^2 .085*			*R^2 .435*
Complexity Risk	0.053	0.138	-0.138	-0.181	-0.004	0.439*	-0.220	0.681	-0.368^
			R^2 .058			*R^2 .227*			*R^2 .788*
Company Culture	0.045	0.047	0.110	0.247	0.182	-0.027	-0.047	-0.922	0.140
			R^2 .016			*R^2 .078*			*R^2 .441*
Tasks	-0.184	0.104	-0.103	-0.124	0.307*	0.316^	0.036	-0.007	0.275
			R^2 .130			*R^2 .295*			*R^2 .250*
Regulatory Scrutiny	0.207^	-0.115	-0.268	-0.049	0.115	0.123	0.811	0.658	0.379
			R^2 .100			*R^2 .045*			*R^2 .672*
Procedures	0.166	-0.080	-0.374	-0.009	-0.183	-0.317^	-0.670	-1.477	0.257
			R^2 .055			*R^2 .112*			*R^2 .733*

**, *, ^ Denotes statistical significance at the 0.01, 0.05, and 0.10 levels

APPENDIX A
Acceptance of information technology

Scales used to measure the acceptance of information technology were development from prior research (Venkatesh et al., 2003) and modified to fit the setting of artificial intelligence. Participants were asked to rate their level of agreement to the following statements. A response of 1 indicated strong agreement, 4 indicated the participant neither agreed nor disagreed with the statement, and a response of 7 indicated strong disagreement with the statement.

Usefulness of technology to facilitate processes (Venkatesh et al., 2003; Ajzen, 1991; Taylor & Todd 1995a, 1995b):

1. I have the resources necessary to use AI.
2. I have the knowledge necessary to use AI.
3. AI is not compatible with other systems I use. (R)
4. A specific person (or group) will be available for assistance with AI difficulties.

Anxiety toward using technology (Venkatesh et al., 2003; Venkatesh, 2000):

5. I feel apprehensive about using AI.
6. It scares me to think that I could lose a lot of information using AI by hitting the wrong key.
7. I hesitate to use AI for fear of making mistakes I cannot correct.
8. AI is somewhat intimidating to me.

Expectation of performance enhancement through the use of technology (Venkatesh et al., 2003, Davis, 1989; Davis et al., 1989; Moore & Benbasat, 1991; Compeau & Higgins, 1995; Compeau et al., 1999):

9. I would find AI technology useful in my job.
10. Using AI will enable me to accomplish tasks more quickly.
11. Using AI will increase my productivity.
12. If I use AI, I will increase my chances of getting a raise.

APPENDIX B
Survey Instrument

Participants were asked to rate their level of agreement to the following statements. A response of 1 indicated strong agreement, 4 indicated the participant neither agreed nor disagreed with the statement, and a response of 7 indicated strong disagreement with the statement.

1. AI can easily be incorporated into generally accepted auditing standards and procedures.
2. AI can be relied upon to make business decisions.
3. The growth of AI technology will change the focus of accounting curriculums to include specialized computer skills.
4. If AI technology evolves to have creative and innovative approaches to complex problem solving, it will increase business risk.
5. AI technology will be relied upon for assessing the risk of material misstatement at the account level.
6. If AI adoption decreases audit and tax new hires, then education programs will need to evolve to focus broadly on consulting and strategic planning in their accounting curriculum.
7. Programming and understanding computer language needs to have an increased role in Accounting curriculums.
8. AI technology will become a significant tool in client interactions.
9. I'd rather NOT rely on AI to communicate with clients.
10. Using AI to handle automated tasks will reduce my workload.
11. Repetitive manual tasks are a waste of time compared to critical thinking tasks.
12. AI poses a minimal threat to privacy.
13. I do not believe I will ever fully understand AI.
14. AI will reduce the amount of audit work outsourced.
15. AI has a risk of decreasing human interaction.
16. AI adoption will change company culture.
17. If AI can be used to test 100% of the population, auditors will have an increased responsibility to provide assurance that there is no fraud or misstatement.
18. The development of AI will decrease the need for regulatory scrutiny.
19. Using AI to recalculate 100% of a population is a substantive test of details, not a substantive analytical procedure.
20. Data analytics or business analytics along with appropriate IT skills and knowledge development should be a key component of accounting curricula.
21. Accounting students will need specific skills in data management, data cleansing, and correcting inaccurate or incomplete data.
22. AI can help remove the burden of repetitive administrative work and enable employees to focus on solving more complex issues while reducing the risk of error, allowing them to focus on value-added tasks.
23. In theory, AI takes away tasks from workers, but in practice its overall effect is to vastly amplify and augment their abilities.