Modeling the Socialization of Artificial Intelligence Technologies in Accounting Using Structural Equation Modeling

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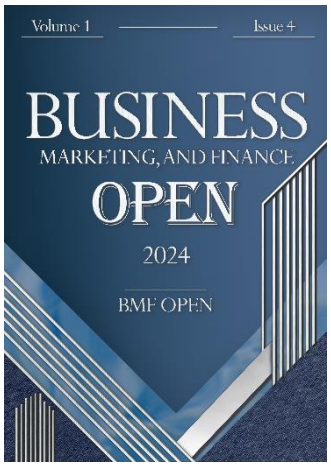

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Abstract: The aim of this study is to model the socialization of artificial intelligence technologies in accounting using structural equation modeling. The research approach follows a grounded theory methodology combined with structural equation modeling. In this context, interviews were conducted with 12 participants, including engineers educated in artificial intelligence, board members, financial managers, accountants, and auditors, until theoretical saturation was reached. The results from the secondary coding process were categorized into 11 main themes, 35 sub-themes, and 6 categories: causal factors, core factors, strategies, mediators, actions, and outcomes. The target population for the quantitative part of this study consisted of all accountants. The questionnaire was distributed among the members of the target population via direct (in-person), electronic, virtual spaces, emails, and mail. Ultimately, 342 individuals responded to the questionnaire. To test the research hypotheses, correlation techniques using structural equation modeling were applied. The results of the analysis of findings from 28 hypotheses showed that training and awareness significantly and positively affect effective communication, the ability to collaborate with artificial intelligence, and the prevention of threats. Moreover, the interaction between artificial intelligence and humans significantly and positively impacts effective communication, the ability to collaborate with artificial intelligence, software compatibility, and threat prevention. Continuous evaluation and improvement also significantly and positively affect effective communication, the ability to collaborate with artificial intelligence, and the prevention of threats. Additionally, support from financial tools positively and significantly influences effective communication, collaboration with artificial intelligence, and the prevention of threats. Effective communication has a significant and positive effect on comprehensive and accurate financial reporting, intelligent financial management, and diversity and inclusion. The ability to collaborate with artificial intelligence has a significant and positive effect on comprehensive and accurate financial reporting, intelligent financial management, and diversity and inclusion. Software compatibility positively and significantly impacts intelligent financial management and diversity and inclusion. Finally, the prevention of threats significantly and positively influences comprehensive and accurate financial reporting, intelligent financial management, and diversity and inclusion. The results indicate that there are fundamental infrastructures and technologies that can assist in the socialization of artificial intelligence in the field of accounting. Furthermore, accountants can play a crucial role in the effective use of artificial intelligence by providing relevant financial information to financial stakeholders and supporting financial information.

Keywords: Artificial Intelligence, Accounting, Socialization, Technology, Structural Equation Modeling

1. Introduction

The advancement and application of artificial intelligence technologies are transforming conventional patterns of life and work, leading to irreversible changes in the social environment. These changes are necessary for better adaptation to the current society, where information and data are rapidly evolving. All fields and professions are restructuring or improving their strategies, organizational products, and processes. The accounting domain is no exception [1]. The field of accounting can now utilize electronic accounting, data mining, and multidimensional data analytics. However, technologies and methods in accounting merely form a subdomain that artificial intelligence is currently transforming, which can have a significant impact on accounting objectives [2]. Artificial intelligence is an essential component for the implementation of international accounting standards. Accounting regulations require system support in complex risk coverage programs, one of the key advantages of artificial intelligence in the accounting profession being the enforcement of these regulations [3]. Stuart and Peter (2016) argue that the emergence of artificial intelligence is a result of social development. The discussion of socialization is one of the primary topics in the fields of social sciences and behavioral sciences. Humans are social beings, and living socially requires acquiring the skills and knowledge needed to adapt to the society in which they live [4]. This is a simple and clear definition of socialization, meaning internalizing and adapting to the norms and values present in society [5, 6]. In other words, socialization is a type of interactive social process through which an individual learns and internalizes the norms, values, and other social, cultural, and political elements of the group or environment around them, aligning them with their personality [7-9]. Socialization, through aligning and adapting individual attitudes, values, and behaviors with organizational goals and values, provides suitable opportunities to familiarize employees with job objectives, tasks, and desirable organizational values, ultimately aiding in achieving competitive advantages [10].

Artificial intelligence is a powerful, versatile, and flexible technology that can significantly advance various industries and businesses. While AI as a field of study is not new and has been developed over the past 70 years by scientists, it has seen substantial practical application across industries and businesses. In today's world, AI has evolved from an academic discipline to a transformative technological innovation due to advancements in computational power, access to large datasets, and algorithmic progress in machine learning [10]. AI encompasses a range of technologies enabling machines to emulate human capabilities, such as perception and learning, thereby achieving a higher level of intelligence [11]. Through technologies like machine vision, speech processing, and sensors, AI can actively perceive its surroundings and interpret data [4]. These systems can also analyze collected information using inference engines such as image processing, speech recognition, and natural language processing [12]. AI's ability to learn from experience allows it to improve over time, and expert systems are a branch of AI that utilizes specialized knowledge and logic to assist professionals in specific fields, such as accounting [7, 13].

Several AI techniques are particularly relevant to accounting. Fuzzy logic, introduced by Aristotle, applies non-binary decision-making, which is beneficial in accounting for decisions related to audits, investment advice, and other financial areas [8]. Similarly, artificial neural networks are employed when traditional methods fail to solve complex numerical problems, such as stock price prediction and credit analysis [14]. Genetic algorithms, which emerged in the 1960s, are used in accounting for asset evaluation, fraud detection, and predicting bankruptcy [14]. AI's most prominent features in accounting include rapid data processing, high accuracy, and cost-effective, up-to-date information exchange, offering significant advantages in financial operations [15]. Furthermore, AI is already utilized in global banking systems for credit assessment and loan approval, where it analyzes multiple factors for

more reliable and secure financial decisions. Investment robots, powered by AI, also act as advisors, executing trades based on predetermined strategies. AI has revolutionized accounting by automating various internal processes, including document conversion, procurement, billing, and accounts payable/receivable [7]. Theories such as Rogers' Diffusion of Innovation (1976) and Fishbein & Ajzen's Theory of Reasoned Action (2010) explain technology acceptance at both the organizational and individual levels. These theories suggest that AI's adoption within accounting and auditing is shaped by the process of innovation diffusion, where the acceptance of technology within a specific community or industry is crucial [16]. AI, as a technological tool, has increasingly found its place within accounting systems, helping auditors navigate the complexities of information processing and decision-making in an evolving digital landscape.

Anca (2022) focused on AI adoption in accounting, emphasizing that AI implementation in management accounting offers various innovative solutions, enhances accounting information usage, and simplifies processes with high levels of automation and customization [17]. Sadeghian et al. (2022) explored accounting technology, affirming that collecting and analyzing financial data is a core function of accountants [13]. Mojaher et al. (2016) examined AI applications in accounting and auditing, highlighting its growing role in emulating human behaviors such as reasoning, learning, and problem-solving [14].

Given the increasing complexity of accounting operations in the current era and the growing need for artificial intelligence in work processes, accounting is inevitably adopting and utilizing new methods to deliver its services and fulfill its duties. Furthermore, the role of information in society has become more important, and information providers, especially accountants, must deliver relevant and high-quality information so that their services remain valuable. Otherwise, they will have no place in the future. Therefore, it becomes essential to focus on artificial intelligence techniques in accounting to improve the future of the field. Additionally, these artificial intelligence techniques in accounting require a model that can be accepted by the accounting community and experts. In this regard, the present study aims to answer the question: How can the socialization of artificial intelligence technologies in accounting be modeled using structural equation modeling?

2. Methodology

In the present study, the first step involves the use of the "grounded theory" strategy. To collect data, purposeful sampling is applied, and the interviewees, who are experts in the field, serve as the research sources. To uncover in-depth information for identifying performance evaluation indicators, semi-structured interviews were employed. The statistical population consists of experts active in the fields of artificial intelligence and accounting. The researcher aims to collect interview data from this group of the target population. The selection of these individuals is based on a purposeful decision-making approach, where criteria are established for selecting experts. The target population of this study includes financial statement preparers and engineers in the field of artificial intelligence, including AI-educated engineers, board members, financial managers, accountants, and auditors. Interviews were conducted with 12 individuals. In the next phase, structural equation modeling was employed to test the hypotheses. The target population for the quantitative part of the research consists of all accountants. Since there was no precise data on the exact number of the population, Cochran’s formula for an unknown population size was used to determine the sample size. Based on Cochran’s formula, the sample size was determined to be 384 individuals. The questionnaire was distributed among the target population through direct (in-person), electronic, virtual email, or postal methods. Ultimately, 342 individuals responded to the questionnaire.

3. Findings

The implementation of the grounded theory method began with conducting interviews, collecting data, and coding the information. The researcher, through initial exploratory interviews, gained more expertise in conducting interviews, which was crucial for the study. The recorded interview records were labeled and stored in a database. This database was organized based on the interviewee's name, the audio file of the interview, and the interview date. After storing the records, the researcher listened to and transcribed the interviews. Based on secondary coding, the model for the socialization of artificial intelligence technologies in accounting is presented in Table 1.

Table 1. Model for the Socialization of Artificial Intelligence Technologies in Accounting

Main Components	Indicators	Primary Concepts
Effective Communication	Creativity and Innovation	Creativity in accounting. Interest and enthusiasm. Spread of innovation.
	Increased Efficiency and Productivity	Increased efficiency. Increased productivity. Increased accounting knowledge.
	Predicting Financial Behavior	Analysis of customer behavior. Risk management. Analysis of accountants' needs. Automation of financial tasks. Interaction with stakeholders.
Ability to Collaborate with AI	Awareness and Technical Knowledge	Familiarity of managers with AI applications. Familiarity of professors in the field of AI applications. AI knowledge. Presence of specialists. Expert consultation.
	Need for New Skills	Curriculum planning. Labor market training in AI. Modeling from successful AI examples.
Comprehensive and Accurate Financial Reporting	Time and Cost Savings	Time savings. Cost savings. Security of accounting data. Increased speed of information collection. Improvement in accuracy and speed. Reduction of repetitive tasks.
	Improvement in Financial Reporting	Reduction of financial errors. Reduction of fraud. Reduction of system errors. Reduction of suspicious financial activities.
	Increased Confidence in Financial Reports	Increased financial accuracy. Increased confidence in financial statements. Assurance of numerical accuracy. Providing accurate and correct reports.
Smart Financial Management	Financial Data Analysis	Accurate prediction and analysis. Advanced financial data analysis. Strong databases.
	Transaction Reconciliation	Invoice processing. Financial statement preparation. Automated accounting processes.
	Development of Operational Skills	Operational skills. Analytical skills. Skill development.
Diversity and Inclusion	Collaboration and Cooperation	Optimizing accounting processes. Collaboration and interactions among accountants.
	Transparency	Transparency. Justice. Fairness. Accountability.
	Accountability	Improvement of accounting tasks. Enhanced professional credibility.
Training and Awareness	Infrastructure and Technology Development	Creating necessary infrastructure. Government and policymaker support. Required investments. Sufficient budget allocation. Financial support. Organizational support.
	Development and Experimentation within the Organization	AI leadership. Decision-making improvement. Performance evaluation. Management improvement.
	Change Management	Organizational culture building. AI adoption. Embracing AI. Financial planners' acceptance. Implementing organizational changes. Cultural adaptation.
	Organizational Skills Training and Development	Training. Awareness. Formation of specialized teams. Creation of integrated financial systems.
	Organizational Goal Setting	Goal setting. Prioritization. Establishment of pre-determined policies.
Interaction Between AI and Humans	Human Resource Adaptation	Adaptation of human resources to AI. Expansion of AI. AI acceptance.

	Enhancement of Human Resource Knowledge	Use of accounting technologies. Educating accountants. Teaching AI to accountants.
Continuous Evaluation and Improvement	Identification of Training Needs	Better understanding of AI. How to use AI. Familiarity with AI applications. Increased AI knowledge.
	Identification of Financial Needs	Rise of electronic banking. Awareness of digital currencies. Knowledge of financial analysis. Creation of electronic markets.
Prediction and Prevention of Threats	Ease of Use	Hands-on and operational experience. Access to data quality.
	User-Friendly Tools	Availability of software. Big data analysis. Cloud systems.
	Trust in Financial Tools	Trust-building. Data security. Hardware and software support.
	Increased Financial Security	Secure storage of financial data. Financial data security. Secure transmission of financial information.
Software Compatibility	Automation of Repetitive Processes	Process automation. Data analysis. Data processing systems.
	Real-Time Financial Analysis	Financial robots. Robotic support. Financial decision-making systems.
	Financial Protection and Security	Data security. Data protection. Use of host systems. Advanced encryption.
	Compliance with Standards	Respect for privacy. Prevention of misuse.
Financial Tools Support	Capability of Financial Tools	Suitable financial applications. Proper support for applications. Features and capabilities of software tools.
	Complexity of Financial Tools	Training on how to use applications. Proper promotion of AI. Legal responsibilities of financial tools. Upgrading tools.

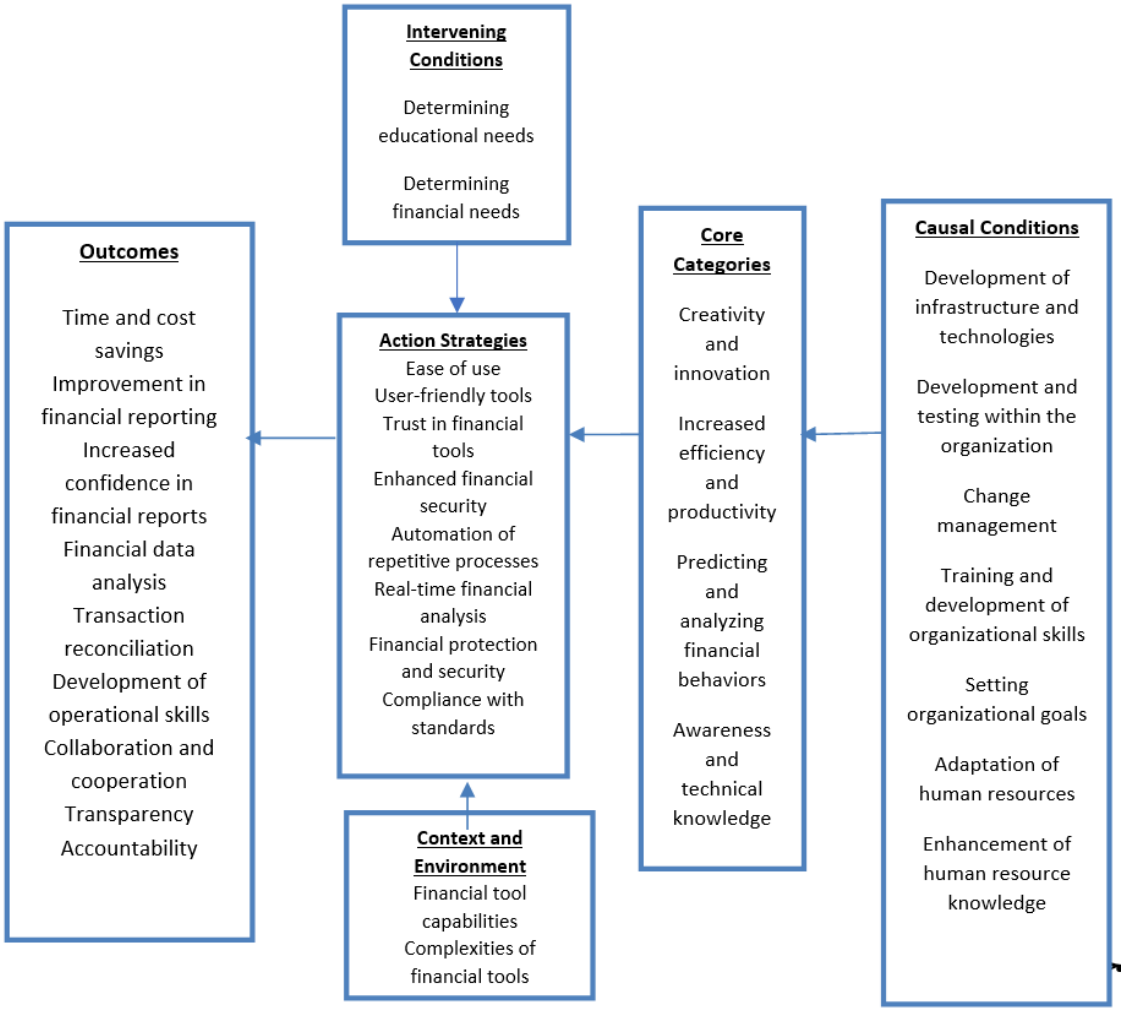

Figure 1. Paradigmatic Model of the Socialization of Artificial Intelligence Technologies in Accounting

Based on the model for the socialization of artificial intelligence technologies in accounting shown in Figure 1, and Table 1, the conceptual model of the research is presented as follows.

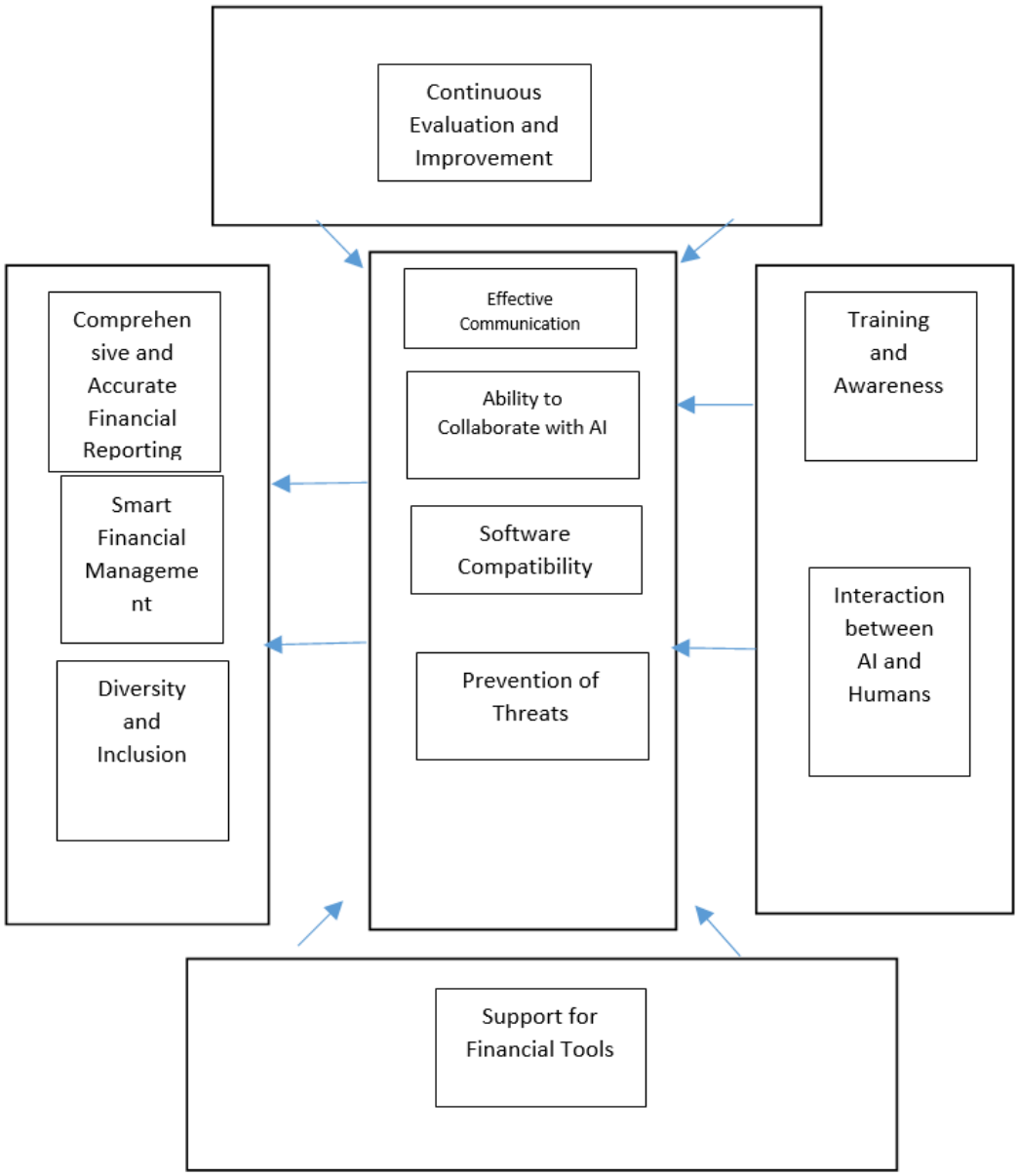

Figure 2. Conceptual Model of the Research

Based on the conceptual model in Figure 2, the research hypotheses are formulated as follows:

1. Training and awareness have a significant and positive impact on effective communication.
2. Training and awareness have a significant and positive impact on the ability to collaborate with artificial intelligence.
3. Training and awareness have a significant and positive impact on software compatibility.
4. Training and awareness have a significant and positive impact on software compatibility.
5. Interaction between artificial intelligence and humans has a significant and positive impact on effective communication.
6. Interaction between artificial intelligence and humans has a significant and positive impact on the ability to collaborate with artificial intelligence.

7. Interaction between artificial intelligence and humans has a significant and positive impact on software compatibility.
8. The ability to collaborate with artificial intelligence has a significant and positive impact on software compatibility.
9. Continuous evaluation and improvement have a significant and positive impact on effective communication.
10. Continuous evaluation and improvement have a significant and positive impact on the ability to collaborate with artificial intelligence.
11. Continuous evaluation and improvement have a significant and positive impact on software compatibility.
12. Continuous evaluation and improvement have a significant and positive impact on software compatibility.
13. Support for financial tools has a significant and positive impact on effective communication.
14. Support for financial tools has a significant and positive impact on the ability to collaborate with artificial intelligence.
15. Support for financial tools has a significant and positive impact on software compatibility.
16. Support for financial tools has a significant and positive impact on software compatibility.
17. Effective communication has a significant and positive impact on comprehensive and accurate financial reporting.
18. Effective communication has a significant and positive impact on smart financial management.
19. Effective communication has a significant and positive impact on diversity and inclusion.
20. The ability to collaborate with artificial intelligence has a significant and positive impact on comprehensive and accurate financial reporting.
21. The ability to collaborate with artificial intelligence has a significant and positive impact on smart financial management.
22. The ability to collaborate with artificial intelligence has a significant and positive impact on diversity and inclusion.
23. Software compatibility has a significant and positive impact on comprehensive and accurate financial reporting.
24. Software compatibility has a significant and positive impact on smart financial management.
25. Software compatibility has a significant and positive impact on diversity and inclusion.
26. Prevention of threats has a significant and positive impact on comprehensive and accurate financial reporting.
27. Prevention of threats has a significant and positive impact on smart financial management.
28. Prevention of threats has a significant and positive impact on diversity and inclusion.

The diagnostic validity of constructs was assessed using the Average Variance Extracted (AVE). This assessment is conducted to determine whether the questions measuring each construct create a clear distinction between the relevant construct and other constructs. The minimum acceptable criterion for the AVE index in this study is 0.5. In other words, the questions should explain at least half of the variance of the relevant construct.

Table 2. Average Variance Extracted (AVE) for Each Construct of the Study

Construct Title	Average Variance Extracted (AVE)	Acceptable Level
Training and Awareness	0.815	0.5
Effective Communication	0.850	0.5
Continuous Evaluation and Improvement	0.898	0.5
Comprehensive and Accurate Financial Reporting	0.834	0.5
Interaction between AI and Humans	0.880	0.5
Diversity and Inclusion	0.834	0.5
Ability to Collaborate with AI	0.887	0.5
Software Compatibility	0.837	0.5
Smart Financial Management	0.838	0.5
Support for Financial Tools	0.896	0.5
Prevention of Threats	0.844	0.5

The results from Table 2 show that the Average Variance Extracted (AVE) values for all constructs are greater than 0.5. Therefore, the constructs of the questionnaire, or the research components, have good diagnostic validity.

Next, the validity of the constructs was assessed in terms of the Heterotrait-Monotrait Ratio (HTMT). As reported in Table 3, for all the constructs of the study, the HTMT values are less than 0.9, indicating an acceptable level of discriminant validity for the constructs in the research questionnaire.

Table 3. HTMT Index Results for Discriminant Validity Analysis of the Study Constructs

Construct	Training and Awareness	Effective Communication	Continuous Evaluation and Improvement	Comprehensive and Accurate Financial Reporting	Interaction between AI and Humans	Diversity and Inclusion	Ability to Collaborate with AI	Software Compatibility	Smart Financial Management	Support for Financial Tools
Effective Communication	0.865									
Continuous Evaluation and Improvement	0.830	0.887								
Comprehensive and Accurate Financial Reporting	0.754	0.776	0.543							
Interaction between AI and Humans	0.766	0.875	0.332	0.875						
Diversity and Inclusion	0.843	0.332	0.642	0.551	0.652					
Ability to Collaborate with AI	0.654	0.332	0.582	0.579	0.537	0.780				
Software Compatibility	0.833	0.499	0.487	0.567	0.690	0.802	0.831			
Smart Financial	0.788	0.870	0.492	0.484	0.664	0.744	0.705	0.539		

Management										
Support for Financial Tools	0.799	0.572	0.602	0.567	0.683	0.739	0.766	0.498	0.706	
Prevention of Threats	0.811	0.549	0.659	0.654	0.702	0.721	0.760	0.429	0.648	0.864

The reliability of the research instrument was assessed by calculating Cronbach's Alpha coefficient and Composite Reliability (CR). The results of this assessment are reported in Table 4.

Table 4. Cronbach's Alpha and Composite Reliability (CR) for Each Construct of the Study

Construct	Cronbach's Alpha	Acceptable Level	Composite Reliability (CR)	Acceptable Level
Training and Awareness	0.943	0.700	0.956	0.600
Effective Communication	0.912	0.700	0.944	0.600
Continuous Evaluation and Improvement	0.887	0.700	0.946	0.600
Comprehensive and Accurate Financial Reporting	0.900	0.700	0.938	0.600
Interaction between AI and Humans	0.863	0.700	0.936	0.600
Diversity and Inclusion	0.900	0.700	0.938	0.600
Ability to Collaborate with AI	0.872	0.700	0.940	0.600
Software Compatibility	0.935	0.700	0.954	0.600
Smart Financial Management	0.903	0.700	0.940	0.600
Support for Financial Tools	0.885	0.700	0.945	0.600
Prevention of Threats	0.938	0.700	0.956	0.600

The results from Table 4 indicate that the Cronbach's Alpha and Composite Reliability values for all constructs are higher than their respective acceptable levels. Therefore, it can be concluded that the constructs in the questionnaire possess good reliability.

The quantitative variables in the study were measured based on the average scores of the related questions. In this section, some statistical indicators for these variables are provided.

Table 5. Descriptive Statistics for Quantitative Variables in the Study

Construct	N	Mean	Median	Minimum	Maximum	Standard Deviation	Skewness	Kurtosis
Training and Awareness	342	3.082	3	1	5	1.37	-1.226	-0.107
Effective Communication	342	3.126	3	1	5	1.251	-1.088	-0.024
Continuous Evaluation and Improvement	342	3.158	3	1	5	1.304	-1.089	-0.136
Comprehensive and Accurate Financial Reporting	342	3.041	3	1	5	1.376	-1.241	-0.02
Interaction between AI and Humans	342	3.079	3	1	5	1.341	-1.22	0.023
Diversity and Inclusion	342	3.111	3	1	5	1.344	-1.192	-0.037
Ability to Collaborate with AI	342	3.135	3	1	5	1.327	-1.139	-0.083
Software Compatibility	342	3.167	3	1	5	1.272	-1.103	-0.033
Smart Financial Management	342	3.193	3	1	5	1.308	-1.121	-0.078
Support for Financial Tools	342	3.199	3	1	5	1.298	-1.113	-0.1
Prevention of Threats	342	3.096	3	1	5	1.361	-1.241	-0.078

The analysis of Table 5 shows that the mean values for all quantitative variables in the study are around the middle value of 3, which indicates relatively favorable conditions for all the variables.

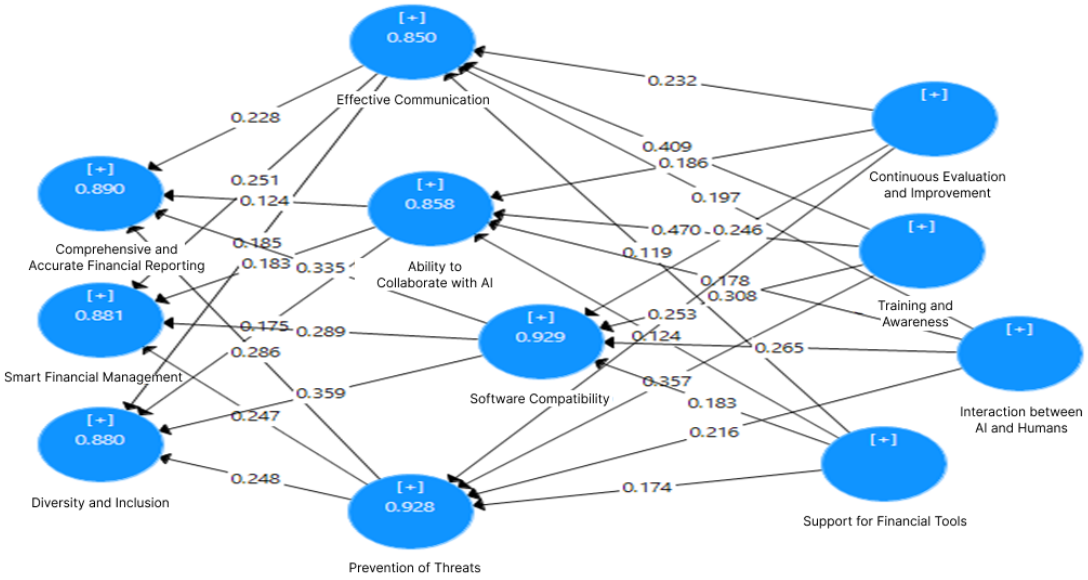

Figure 3. Path Coefficients in the Structural Model of the Study

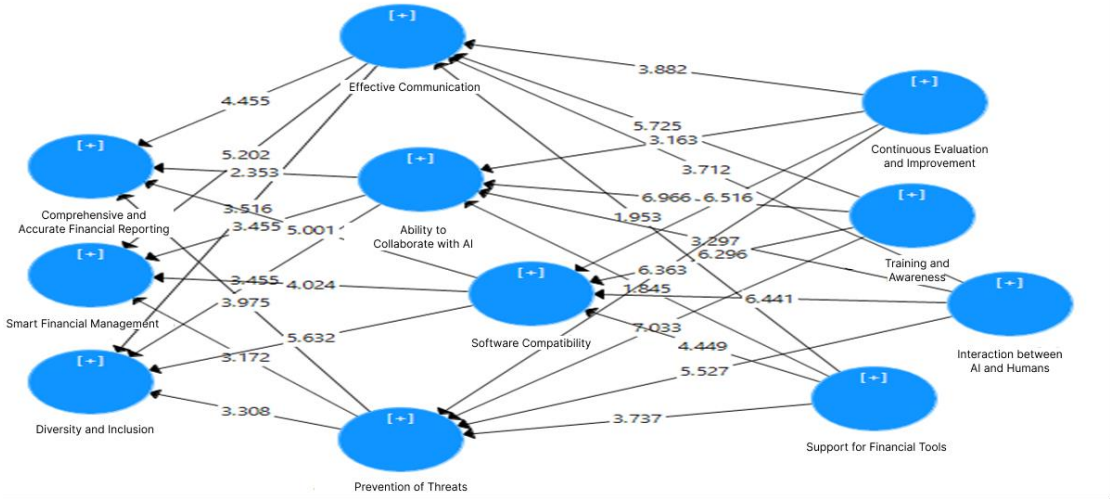

Figure 4. t-Statistic for the Significance of Path Coefficients in the Structural Model of the Study

Table 6. Results of Structural Model Analysis

Path	Path Coefficient	t-Statistic	p-Value
Training and Awareness → Effective Communication	0.409	5.953	0.000
Training and Awareness → Ability to Collaborate with AI	0.470	7.424	0.000
Training and Awareness → Software Compatibility	0.308	6.254	0.000
Training and Awareness → Prevention of Threats	0.357	7.045	0.000
Effective Communication → Comprehensive and Accurate Financial Reporting	0.228	4.674	0.000
Effective Communication → Diversity and Inclusion	0.185	3.284	0.001
Effective Communication → Smart Financial Management	0.251	4.987	0.000
Continuous Evaluation and Improvement → Effective Communication	0.232	4.015	0.000
Continuous Evaluation and Improvement → Ability to Collaborate with AI	0.186	3.125	0.002
Continuous Evaluation and Improvement → Software Compatibility	0.246	6.315	0.000
Continuous Evaluation and Improvement → Prevention of Threats	0.253	6.109	0.000
Interaction between AI and Humans → Effective Communication	0.197	3.843	0.000
Interaction between AI and Humans → Ability to Collaborate with AI	0.178	3.000	0.003
Interaction between AI and Humans → Software Compatibility	0.265	6.822	0.000

Interaction between AI and Humans → Prevention of Threats	0.216	5.484	0.000
Ability to Collaborate with AI → Comprehensive and Accurate Financial Reporting	0.124	2.420	0.016
Ability to Collaborate with AI → Diversity and Inclusion	0.175	3.371	0.001
Ability to Collaborate with AI → Smart Financial Management	0.183	3.371	0.001
Software Compatibility → Comprehensive and Accurate Financial Reporting	0.335	5.059	0.000
Software Compatibility → Diversity and Inclusion	0.359	5.587	0.000
Software Compatibility → Smart Financial Management	0.289	3.817	0.000
Support for Financial Tools → Effective Communication	0.119	2.018	0.044
Support for Financial Tools → Ability to Collaborate with AI	0.124	2.017	0.045
Support for Financial Tools → Software Compatibility	0.183	4.100	0.000
Support for Financial Tools → Prevention of Threats	0.174	3.528	0.000
Prevention of Threats → Comprehensive and Accurate Financial Reporting	0.286	3.906	0.000
Prevention of Threats → Diversity and Inclusion	0.248	3.350	0.001
Prevention of Threats → Smart Financial Management	0.247	3.152	0.002

The analysis of Table 6 reveals that the p-values for the null hypothesis regarding the zero path coefficients for the proposed relationships between variables are all equal to 0.000 and less than the Type I error threshold of 0.05. This indicates that these relationships are statistically significant. The positive path coefficients in all relationships suggest that the influence of independent variables on dependent variables is direct.

4. Discussion and Conclusion

The aim of the present study was to model the socialization of artificial intelligence (AI) technologies in accounting using structural equation modeling techniques. The results derived from secondary coding were categorized into 11 main themes and 35 subcategories, grouped into six categories: causal, central, strategies, mediators, actions, and outcomes. For testing the research hypotheses, correlation techniques using structural equation modeling were employed. The results of the analysis from 28 hypotheses indicated that training and awareness have a significant and positive impact on effective communication, the ability to collaborate with AI, and the prevention of threats. Furthermore, the interaction between AI and humans significantly and positively affects effective communication, the ability to collaborate with AI, software compatibility, and the prevention of threats. Continuous evaluation and improvement have a significant and positive impact on effective communication, the ability to collaborate with AI, and the prevention of threats. Additionally, support for financial tools significantly and positively affects effective communication, the ability to collaborate with AI, and the prevention of threats. Effective communication significantly and positively influences comprehensive and accurate financial reporting, smart financial management, and diversity and inclusion. The ability to collaborate with AI significantly and positively influences comprehensive and accurate financial reporting, smart financial management, and comprehensive financial reporting. Software compatibility significantly and positively impacts smart financial management and diversity and inclusion. Lastly, the prevention of threats significantly and positively influences comprehensive and accurate financial reporting, smart financial management, and diversity and inclusion.

The findings can be explained as follows: If an organization or company feels the need to improve its financial system and aims for more precise planning, it can quickly develop an accurate plan and report with reduced time. Consequently, by minimizing costs related to hiring more personnel and instead utilizing accounting systems with excellent reporting capabilities, the use of AI-powered financial systems can enable more accurate planning. As the organization becomes familiar with this approach and identifies its needs, it will naturally be able to facilitate

financial systems by employing AI to assess financial status, reporting, and other benefits offered by AI technologies in accounting systems. This results in significant advantages, including faster reporting, higher accuracy, and the reduction of discrepancies or inconsistencies. By integrating AI, accountants and financial managers can expedite and enhance the accuracy of their financial processes.

AI's key advantage is that it helps to speed up the process of generating reports, enabling rapid and precise outputs. Any discrepancies can be easily identified and corrected through the AI system, enhancing the overall speed and efficiency of the accounting and financial reporting system. One of the most critical benefits is that it allows financial managers and accountants to optimize their resources, thus improving productivity. The adoption of AI is a completely new and innovative idea that, while not yet universally widespread, is gradually being used in certain regions and cases globally. As it is a novel concept, widespread cultural adoption has not yet taken place, and proper training and justification are needed to ensure that people, especially accountants, understand its potential.

A key concern is that AI might replace many jobs, which can lead to job insecurity for accountants. Therefore, job security measures must be implemented to ensure that AI is seen not as a threat but as an opportunity for accountants. Only through this approach can AI technology be further developed in accounting and finance. It is essential to create a sense of job security and stability for accountants to prevent them from viewing AI as a threat. If this is not addressed, the widespread adoption and development of AI in accounting systems may be hindered.

There are significant gaps in legal, ethical, and social areas, which will only be addressed if there is a serious commitment from the government and economic, industrial, political, administrative, and educational institutions working together to resolve these issues. These gaps are extensive, and policymakers can play a vital role in convincing the government to implement strategies for bridging these gaps. The results of this study suggest that accounting, as a fundamental infrastructure of any organization, plays a critical role in technological transformations and can be viewed as a tool for technological development. Further exploration can uncover the broader dimensions of this relationship. While the studies conducted may not directly align with the results of this study, they are indirectly consistent with prior works [1, 7, 8, 13, 16-20].

Based on the results of the present study, the following recommendations are proposed:

1. Since policymakers and implementers play a crucial role in the fields of accounting, finance, and government, the most important step is the cultural promotion of this topic. Before procuring hardware and software tools and resources, the significance of the issue must be communicated. Following that, cultural awareness should be promoted, justifications should be provided, and training should be conducted at senior management levels, as well as among policymakers in the financial and accounting sectors. It is recommended that policymakers and implementers use advertisements, circulars, directives, and legislative measures through the cooperation of the parliament to make this process mandatory and create legal requirements. Alternatively, the necessary training can be provided through orientation sessions or in-service training programs, both of which are critical.
2. Accountants are encouraged to use artificial intelligence (AI) in the process of recording and reporting financial data. This is because AI systems are highly competent and have access to sufficient data. AI can facilitate quick reporting and accurate reporting at any given time, based on the conditions provided by the system. It is sufficient to have the data available, as AI can also gather much of the data independently. By engaging with information exchange systems, AI can generate precise financial reports in any format required by the organization.

3. Regarding the necessary training and awareness for auditors and financial managers, there are three approaches that can be successful: First, senior management within organizations must be educated and convinced about the importance of the issue. Second, policymakers in the accounting and auditing domains must be involved. Third, the government can provide the necessary justifications, knowledge, and resources to ensure that these individuals are well-acquainted with the technology. In this context, providing training and awareness to accountants and auditors is strongly recommended.

Authors' Contributions

Authors equally contributed to this article.

Ethical Considerations

All procedures performed in this study were under the ethical standards.

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Conflict of Interest

The authors report no conflict of interest.

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