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Is It Due to the Globalization of American Accounting Standards after the Decision to Consider Accounting as a Science within the Core STEM Disciplines?

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Abstract This study investigates the relationship between logical premises, the classification of accounting as a science, its role within STEM (Science, Technology, Engineering, and Mathematics), and the globalization of American accounting standards. Three hypotheses were tested, focusing on the impact of logical premises on considering accounting as a science, the relationship between accounting as a science and its place in STEM, and the effect of accounting as a basic science on the globalization of American accounting standards. The study adopted a rigorous methodology, combining a theoretical literature review with data collected through expert-reviewed questionnaires. The findings reveal that accounting is widely perceived as a science and that it is considered an essential component of STEM, with strong support for the globalization of American accounting standards. Significant medium-intensity positive correlations were found between the three themes of the study, and non-linear regression models were developed to explain the relationships between accounting as a science, its place in STEM, and the globalization of American accounting standards. The study's findings suggest that logical premises and the recognition of accounting as a science play a crucial role in shaping the acceptance of accounting within STEM, as well as its potential for global standardization.

Keywords Accounting as a Science, STEM (Sciences, Technology, Engineering, and Mathematics), Accounting within STEM, Accounting Education, Accounting and Globalization, American Accounting Standards

1. Introduction

The exploration of accounting as a science involves a complex interplay of theories, practices, and philosophical underpinnings. This discourse highlights the challenges faced in aligning academic theories with practical applications in the accounting profession, which often leads to confusion and hinders progress in the field. Many thinkers may disagree on whether a subject is considered a type of science or not. Perhaps what is most useful in this regard is to return to the principles of science and assess the extent to which accounting aligns or diverges from these principles to determine whether it is a science or not. In these pages, the development of accounting thought will be explained in light of the opinions of the most important philosophers of science to determine the extent to which accounting is a science or not, through application versus theory.

In reality, accounting is characterized by diverse theories and practices, evident in university curricula and the disconnect between academic theory and practical application [1]. The philosophical underpinnings of science, which involve systematic inquiry and objective evidence,

are crucial for establishing accounting as a legitimate scientific discipline. Every phenomenon is restricted by conditions that force it to occur, that is, subject to a law that makes it a necessary consequence of what came before it and a conditional prelude to what comes after it. From studying the history of accounting, it becomes clear that accounting was born from application, as the need for a specific methodology to prove financial operations and events emerged since ancient times. This need for description was not just a preliminary stage but was designed to discover the phenomenon through sets of relationships that were not known before. Therefore, interpretation goes beyond description and adds rules or theories to achieve its goal, marking the real progress of accounting toward becoming a science.

To qualify accounting as a science, it is essential to adopt Descartes' dualism [2], which posits that the mind (or brain) and material reality are interconnected. Rationalism asserts that knowledge should be derived from logical reasoning rather than mere belief or anecdotal evidence. Accordingly, knowledge is linked to human work because its foundation is planning and intellectual expansion. In addition, scientific knowledge depends on measurement and experiments, which use tools of truth that cannot be reached by the senses, but rather through strict scrutiny. As for sensory knowledge, reliance is on the senses and daily experiences, which is the common denominator among people. The question posed is: Does raw sensory knowledge come to the researcher to carefully observe and listen to it without any prejudgments? Does it contribute to building theory or knowledge? The answer is that sensory knowledge alone is completely incapable of formulating a scientific theory. Likewise, the mind may be able to think and contemplate, but it is also unable to do so on its own. This raises the problem of the relationship between theory and practice in building knowledge. It is not possible to conduct scientific research into reality without a theory because there is a strong connection between them, similar to the connection between the soul and the body.

At the same time, an experiment alone is unable to build scientific knowledge because there is a need for an experimental method based on experimentation, not mere observation. Although experiment is the starting point for building theory and the criterion for its validity, the mind alone is not the foundation for scientific theory. Scientific knowledge requires the accumulation of knowledge about phenomena through both experiment and application. To create the science of accounting, the combination of mind, experiment, and theory is needed, as the interaction between them is what ensures the construction and development of accounting knowledge. The more we use the mind and delve deeper into reality through experiment, the more we can enrich the theory. Thus, accounting practices should be grounded in sound reasoning and empirical validation rather than assumptions or unverified claims.

The twentieth century marked significant advancements in identifying generally accepted accounting principles (GAAP), influenced by various disciplines, including mathematics and economics [3]. In this regard, for many researchers, the dualism principle in accounting, embedded in Double-Entry Bookkeeping, became the guiding model or general theory that the accounting scientific community adhered to at some stage. Accordingly, if we accept this rule when theory reaches the level of the guiding model, it means that it has been proven and must be accepted with all its scientific methods and concepts. Nevertheless, the problems of accounting scientific research differ and do not always involve the guiding model or general theory, because this model prepares the researcher to choose problems that can be solved. If the indicative model stops raising research problems while continuing to be acknowledged, it is no longer a scientific research program but rather becomes a technology with a specific meaning, like Double-Entry theory and the accounting equation.

Integrating STEM (Science, Technology, Engineering, and Mathematics) principles into accounting education reflects a proactive response to the demands of modern society. By emphasizing teamwork, applied learning, and real-world relevance, U.S. educational institutions are not only preparing students for future careers but also fostering a culture of innovation essential for addressing global challenges. The ongoing development of these educational frameworks will play a pivotal role in shaping the next generation of scientists and engineers who will drive progress in various fields critical to humanity's advancement [4]. While there are significant barriers to establishing a unified global accounting standard, there is potential for integrating American standards into a broader scientific framework. This integration advocates for ongoing dialogue between practitioners and researchers to advance the field of accounting as a legitimate science.

This comprehensive examination not only highlights the complexities surrounding accounting practices but also calls for a reevaluation of how these practices are taught and understood within an academic context. The trend toward recognizing American accounting standards as well-qualified for international use reflects the growing globalization of business practices. As companies operate across borders, there is a need for standardized accounting practices that facilitate international business operations [5]. This ongoing development will help bridge the gap between theory and practice, advancing the field towards its potential as a recognized science.

Recent educational and policy developments, particularly in the United States, have led to its reclassification as a STEM discipline, emphasizing its analytical rigor, quantitative methods, and integration with data science and information technology [6]. This reclassification raises important questions regarding its broader implications, especially in terms of the global diffusion of U.S. Generally Accepted Accounting Principles (GAAP). While the adoption of accounting standards is largely influenced by institutional, legal, and

market forces [7], the STEM framing may indirectly shape international convergence toward U.S. accounting practices. For instance, classifying accounting as STEM enhances the attractiveness of U.S. accounting programs for international students by providing extended visa options such as the Optional Practical Training (OPT) extension [8]. These students, upon returning to their home countries or joining multinational corporations, may contribute to the spread or preference for GAAP-aligned practices. Moreover, the STEM label reinforces the perception of accounting as a technically sophisticated and globally transferable profession, potentially elevating the status and influence of U.S. accounting models abroad [9]. This study explores whether such educational and institutional mechanisms create a measurable relationship between the STEM designation of accounting and the global use or adoption of U.S. GAAP, particularly at the firm level.

2. Review of Literature

2.1. Accounting's Status as a Science Depends on Its Reliance on Logical Principles that Ensure Consistency, Predictability, and Systematic Analysis, Akin to Other Scientific Fields. These Logical Premises Form the Backbone of Accounting Practices and Theory.

The question of whether accounting qualifies as a science and, if so, whether it belongs to the natural or social sciences has been a subject of considerable debate. This discourse is deeply influenced by how science is defined and the characteristics that distinguish various scientific disciplines. Science is generally understood as the systematic pursuit of knowledge about the natural and social worlds through methods grounded in objective evidence. It encompasses both natural sciences, which study phenomena independent of human relationships (such as physics and biology), and social sciences, which explore human interactions and societal structures (including fields like sociology and economics).

In contrast to the more unified progression seen in natural sciences, where interpretations tend to be complementary, social sciences often face significant divergence in scholarly views, leading to contradictions that can hinder the advancement of scientific understanding. This difference complicates the classification of fields like accounting.

To assess whether accounting qualifies as a science, we must distinguish between the roles of accounting practitioners and researchers. Practitioners apply established principles and practices in real-world contexts, whereas researchers engage in investigating the theoretical foundations and historical development of accounting. This distinction is crucial, as it highlights the tension between applied practice and theoretical inquiry within accounting.

The debate over whether accounting qualifies as a science or not centers on its methodologies and governing principles. Many definitions of accounting emphasize its scientific aspects, such as systematic recording and analysis of financial transactions. However, questions persist regarding its adherence to scientific principles, like hypothesis testing and empirical validation. Philosophers of science have examined this issue by analyzing how accounting practices align with scientific methodologies. They argue that while accounting involves systematic observation and the refinement of knowledge through practice, it may not fully satisfy the rigorous criteria typically associated with scientific disciplines.

A historical perspective is essential in understanding the relationship of accounting to science. Accounting has evolved from simple record-keeping to a more complex system incorporating various theoretical frameworks. This evolution mirrors broader philosophical shifts in knowledge acquisition and validation within professional practice.

In contrast to natural sciences, which have achieved significant progress through the development of clearly defined laws and theories that describe objective relationships among phenomena, social sciences, including accounting, often struggle with varying interpretations [10].

This divergence complicates the establishment of universally accepted principles within accounting, making its classification as a science more difficult.

John Stuart Mill’s contribution in the 19th century emphasized the role of the conscious mind in science. He suggested that awareness of scientific history is essential for understanding its development [10]. This view connects the history of accounting to the development of economic systems and business practices, offering important insights into its growth as a discipline. Nonetheless, the lack of alignment between practical applications and theoretical research has impeded accounting’s recognition as a formal science [11].

The growing interest in the history of science has placed it at the center of philosophical inquiry. Ignoring this history is considered a significant shortcoming in scientific thinking. Both science and philosophy share the goal of advancing knowledge and understanding, but their historical development reveals distinct characteristics. Hegel, for example, argued that philosophy is intrinsically linked to history, suggesting that philosophy transcends time and context, remaining relevant across different ages and environments. He believed that philosophy shapes historical narratives, and thus, its development is interconnected with scientific progress [12].

Hegel’s perspective on history, where consciousness evolves through stages, highlights that the development of scientific thought, including accounting, is not static. His assertion that philosophy derives its material from science, using scientific laws as a foundation, underscores the interdependence of the two disciplines [12]. This suggests

that philosophy, rather than being separate from science, plays a critical role in interpreting and expanding scientific knowledge.

Philosophers of science like Imre Lakatos and William Whewell further emphasize the integration of history and philosophy in understanding scientific practices [13]. Lakatos argued that the history of science without philosophy is blind, and philosophy without history is empty. Similarly, Whewell's emphasis on historical awareness and his inductive-deductive method strengthens the importance of understanding both the past and present in scientific inquiry. He argued that hypotheses, developed through both observation and reasoning, are essential tools for advancing scientific understanding [13].

At the same time, logical positivism, which draws a distinction between the context of discovery and the context of justification, highlights the complexities in scientific processes. Inductive reasoning, often criticized for leading to generalizations that may not always be universally valid, plays a central role in the scientific method. Bacon's advocacy for induction, moving from specific observations to general theories, contrasts with deductive reasoning, which begins with established principles [14]. Yet, both methods contribute to scientific advancements, especially when integrated in a dialectical approach, where hypothesis formulation and empirical observation complement each other.

Accounting research, for instance, has heavily relied on induction as a framework for developing its conceptual framework, with scholars attempting to define inductive steps to form accounting theory. However, the inductive method, particularly in the context of accounting, often serves more as a justification for existing laws rather than a path to new knowledge.

As scientific thought has evolved, so too has the approach to reasoning. The integration of inductive and deductive methods reflects a more sophisticated view of inquiry. For accounting to evolve as a discipline, this integrated approach, emphasizing both observation and hypothesis, could be key.

The logical premises, as shown in Table 1, provide a robust framework for understanding accounting as a science. By integrating elements from both social and natural sciences, accounting not only enhances its methodological rigor but also enriches its theoretical foundations, paving the way for future research and practical applications.

The development of accounting is closely linked to the historical and philosophical evolution of both natural and social sciences.

Table 2 presents the development of accounting history and philosophy in the context of the evolving natural and social sciences [15].

Table 1. Logical Premises and Application to Accounting

Logically Premises	**Application to Accounting**
Systematic and organized knowledge	Accounting is based on a structured body of knowledge, including principles, theories, and methods, which have been developed over time and are applied in a systematic manner. Accounting follows established rules (like GAAP), creating a foundation for analyzing financial transactions consistently.
Use of Theoretical Frameworks	Accounting has its own theoretical frameworks, such as the "Theory of Accounting," which explains how and why certain accounting principles work. These theories provide the basis for understanding accounting practices and guide decision-making, especially when new or complex situations arise.
Empirical Evidence and Observation	Accounting principles are applied in real-world situations and produce measurable results (e.g., financial statements, audits, cost-benefit analyses). These results can be observed, measured, and analyzed to determine the accuracy of financial reporting and the effectiveness of accounting practices.
Predictive Power	Accounting models and principles (such as the time value of money or cost accounting systems) help in forecasting and predicting future financial performance, cash flow, and business viability. For example, predictive financial models like budgeting and variance analysis are used to anticipate future business outcomes.
Repeatability and Consistency	Accounting processes, such as financial reporting, auditing, and taxation, follow standardized methodologies that, when applied under similar circumstances, yield consistent results. This repeatability and consistency are key indicators of a scientific process.
Objective and Logical Reasoning	Accounting relies on logical reasoning and objective criteria to analyze financial data. It uses established principles and standards to ensure that financial statements are free from bias and subjectivity. The reliance on logic (e.g., double-entry bookkeeping) allows for consistent and fair accounting practices.
Critical Review and Evolution	Accounting has undergone significant evolution, from the basic principles developed in ancient times to the complex and specialized methods used today. Continuous updates to accounting standards (such as the transition from traditional to fair value accounting) reflect the scientific process of review, feedback, and improvement.
Problem Solving and Decision Making	Accounting plays a central role in business and financial decision-making. It is used to solve practical problems related to budgeting, financial reporting, risk management, and performance evaluation. Through its methods, accounting aids stakeholders in making informed decisions based on financial data.

Source: Prepared by the researcher.

Table 2. The development of the history and philosophy of accounting

Sciences	The history of science	The philosophy of science	The history of accounting	The philosophy of accounting
Natural science	Science's earliest roots can be traced to Ancient Egypt and Mesopotamia around 3000 to 1200 BCE.	The Metaphysical Foundations of Natural Science (1786) appears at the height of this period.	The early development of accounting dates to ancient Mesopotamia, ancient Egypt, and the Babylonians.	The philosophy of accounting history is, in fact, the logical extension of accounting history.
Social science	The history of the social sciences has its origin in the common stock of Western philosophy and began most intentionally in the early 18th century with the positivist philosophy of science.	While philosophical thought pertaining to science dates back at least to the time of Aristotle, the general philosophy of science emerged as a distinct discipline only in the 20th century.	Not confirmed	Not confirmed

Source: Prepared by the researcher

There was a conformation between natural science and accounting regarding the history of science and the history of the philosophy of science.

However, many accounting professionals overlook the historical and philosophical background of their field, focusing instead on immediate financial or legal concerns. This neglect can hinder a fuller understanding of the discipline's evolution and significance. Philosophical inquiry into the history of accounting provides a framework for interpreting its historical development, offering valuable insights into the ethical, social, and cultural contexts that shape accounting practices.

Therefore, philosophical approaches to accounting are not merely academic exercises, but are essential for enhancing the ethical dimensions of the discipline. By critiquing the assumptions underlying accounting practices and synthesizing knowledge from various fields, philosophy can refine the principles of accounting. This reciprocal relationship allows both disciplines to evolve, with philosophy benefiting from empirical examples provided by accounting, and accounting becoming more philosophically grounded.

In conclusion, while accounting may not fully align with traditional definitions of science, it embodies a unique blend of practical knowledge and theoretical reflection. Philosophical inquiry into accounting history and practice is not only essential for understanding the discipline's evolution, but also for ensuring that accounting remains ethically sound and socially responsible in a dynamic world. Understanding these philosophical dynamics is crucial for both practitioners and scholars aiming to navigate the complex landscape of accounting.

2.2. Accounting, as a Discipline, Is Increasingly Being Recognized as a Science and Is Gaining Recognition as One of the Foundational Fields in the STEM (Science, Technology, Engineering, and Mathematics) Spectrum.

The educational process of accounting has come under increasing scrutiny in light of rapid changes in the international business environment and technological advancements. This scrutiny raises important questions regarding the scientific foundations of accounting education, practices, and regulations. More specifically, there is an ongoing inquiry into whether accounting education is underpinned by robust scientific principles. Research suggests that while accounting practices and regulations often align with scientific principles, they may not always be recognized as such by practitioners. This disconnect highlights the need for a more rigorous examination of the theoretical foundations of accounting curricula.

To address this, it is crucial for accounting education to evolve by prioritizing primary academic resources over secondary ones. This shift emphasizes the importance of developing conceptual understanding rather than focusing solely on procedural details. Accounting concepts, which remain enduring, provide the necessary foundation for students to adapt to changing practices [16], whereas specific practices themselves can evolve rapidly under external pressures. Consequently, to enhance the relevance and effectiveness of accounting education, it is vital to focus on core concepts that will serve students well in the long term, regardless of changes in practice.

Moreover, the curriculum should aim to connect accounting to other fields, particularly economics, allowing students to understand how accounting fits into the broader economic landscape. This approach not only fosters critical thinking about the societal implications of accounting but also encourages students to perceive accounting as a dynamic field, one that raises important questions regarding its role and impact. Despite the challenges posed by technological advancements and evolving business practices, there is a unique opportunity for accounting education to adapt. By integrating scientific inquiry into research methodologies and focusing on conceptual frameworks, educators can better prepare students for the complexities of modern accounting roles [17].

Further, addressing the foundational questions about the scientific basis of accounting education is crucial for its evolution. This effort requires prioritizing academic rigor

and fostering interdisciplinary connections, ensuring that accounting education aligns with contemporary realities and future developments. Given this context, developing an educational philosophy that focuses on broad accounting skills and knowledge becomes essential. Such an approach emphasizes the cultivation of analytical thinking, problem-solving techniques, and logical reasoning, which are critical for graduates navigating complex professional environments [18].

Given the gap between the skills possessed by graduates and those required by employers, this educational philosophy is gaining momentum. Many employers have pointed out deficiencies in key areas, such as scientific, technical, management, and communication skills, hindering graduates' ability to contribute effectively to the workforce. Thus, incorporating general knowledge courses alongside specialized accounting topics is vital. These courses provide context, enhance critical thinking, and allow students to connect their specialized knowledge to broader societal issues, fostering the well-rounded education that employers increasingly demand [19].

A balanced curriculum that combines both breadth (a wide range of knowledge) and depth (in-depth understanding of specific areas) is essential. This balance ensures that students develop both core concepts and practical applications, preparing them for real-world challenges. As the labor market continuously evolves, the shift toward this educational philosophy is in direct response to the growing demand for well-prepared graduates who possess not just technical skills, but also the capacity for innovative thinking and collaboration [20].

Accordingly, the importance of STEM (Science, Technology, Engineering, and Mathematics) education has become particularly evident in the context of accounting. The integration of STEM principles into accounting curricula is driven by the increasing need for graduates to possess skills that are both scientific and technology-driven. A STEM-focused curriculum equips students with the necessary tools to address real-world problems, fosters teamwork and collaboration, and emphasizes analytical thinking. By aligning accounting education with STEM principles, institutions can help bridge the skills gap and prepare students for competitive job markets [21].

This shift is also supported by recent developments, such as the recognition of accounting as an essential component of STEM curricula by Congress in 2021 [22]. While this designation has sparked debates, some arguing that accounting qualifies due to its reliance on quantitative methods and technology, while others contend it does not meet the strict criteria typically associated with STEM fields, although there is no doubt that the evolution of accounting education is critical. This change in the curriculum framework reflects the growing acknowledgment that accounting, in its modern form, requires a deep understanding of quantitative and technological principles, aligning it more closely with STEM disciplines, as shown in Table 3.

Table 3. Contribution of STEM in Accounting. [23] [24] [25]

Technology	**Engineering**	**Sciences**	**Mathematics**
Accounting Software	Enterprise Resource Planning (ERP) Systems	Mathematics	Basic Arithmetic
Cloud Accounting	Automation and Robotics Process Automation (RPA)	Physics and Engineering	Percentages
Automated Bookkeeping Tools	Data Analytics and Business Intelligence (BI) Tools	Computer Science	Ratios and Proportions
Tax Software	Cloud-based Accounting Software	Economics	Algebra
Financial Reporting and Analytics Tools	Document Management Systems	Psychology	Time Value of Money (TVM)
Enterprise Resource Planning (ERP) Systems	Predictive Analytics and Forecasting Tools	Sociology	Statistical Analysis
Document Management Systems	Blockchain for Secure Transactions	Political Science	Financial Models
Bank Reconciliation Tools	Tax Automation Tools	Anthropology	Geometry and Spatial Analysis
Artificial Intelligence and Machine Learning	Project Management Tools with Financial Integration	Dualism principle	Matrix and Programming
Block chain Technology	AI-driven Fraud Detection Tools	Stochastic and linear programming	Calculus (Advanced Accounting)
Audit and Compliance Tools	Payment Processing Systems	Law of Accuracy	Probability and Risk Analysis
Expense Management Tools	Cost Management and Control Tools	fundamental laws	Rational numbers
Customer Relationship Management (CRM)	Interdisciplinary Collaboration Digitalization	stimulating cognition	Financial Mathematics

With a STEM designation, accounting programs may place greater emphasis on quantitative skills, data analysis, and technological proficiency, preparing graduates to meet the demands of a globalized economy.

The continuous development of accounting curricula is vital in ensuring that graduates are prepared for the complexities of modern financial environments. Enhancing students' proficiency in quantitative methods and mathematics is essential for accounting education, as these tools are vital in today's professional environments. However, as noted by Budnick [26], the goal is not to turn accountants into mathematics specialists, but to equip them with the skills they need to apply quantitative methods effectively in their work. This approach will better prepare accounting students to navigate the evolving landscape of global business and technology.

In conclusion, updating accounting to be recognized as part of the STEM curriculum can have significant implications, not just for domestic students but also for international students. This change will have far-reaching benefits, as it encourages the integration of innovative teaching methods, real-world applications, and a focus on critical thinking. As the demand for STEM professionals continues to rise, early exposure to STEM concepts will be vital in attracting students to accounting and ensuring that they are well-prepared to contribute meaningfully to society and the global economy.

2.3. Accounting, as Part of the Basic Sciences within STEM, Is Essential for the Global Adoption of American Accounting Standards.

The historical development of accounting reflects a long-standing process of globalization characterized by the exchange of knowledge and practices across various cultures. Accounting practices date back to ancient Babylon, where rudimentary record-keeping methods were employed for trade and taxation. These early forms of accounting laid the groundwork for more sophisticated systems that would evolve over time. As these practices spread through Mediterranean countries, they absorbed various cultural influences, enhancing their complexity and utility. This period saw significant advancements in record-keeping techniques, spurred by trade dynamics and economic needs.

A major turning point came during the Italian Renaissance, marking a pivotal moment in the history of accounting with the introduction of double-entry bookkeeping. Originating in cities like Genoa, this method revolutionized financial reporting by allowing for a more accurate representation of the financial position of a business. The principles established during this time emphasized transparency and accountability in financial statements, influencing accounting practices for centuries [27].

As accounting practices continued to evolve, the development of accounting standards took a significant turn with the rise of the Anglo-American model. This model, which prioritizes capital market efficiency, emphasizes the presentation of true and fair financial statements, heavily influencing accounting practices in both the United States and the United Kingdom [28]. It focuses on investor needs and public accountability, contrasting with the Continental European model, where government influence is more pronounced. It also tends to focus on creditor interests, resulting in distinct approaches to financial reporting and accountability across different countries.

In fact, accounting is inherently adaptable, evolving alongside societal changes while maintaining a national identity. It serves as a bridge between local practices and global standards, facilitating knowledge exchange across borders. The cumulative nature of accounting knowledge allows it to absorb innovations from various environments while contributing its own developments back to the global community. This adaptability underscores the crucial role of accounting in today's interconnected world, where no country operates in isolation regarding accounting practices. The exchange of information and collaboration among nations are essential features of contemporary accounting, reflecting broader trends in globalization. This interconnectedness highlights the universal characteristic of accounting, as knowledge is shared and built upon across different cultures and time periods.

As a result, the evolution of accounting demonstrates its role as a companion to society, adapting to its environment while simultaneously fostering international cooperation. The duality of national affiliation and global outreach emphasizes how accounting not only reflects local economic conditions, but also participates actively in the global dialogue on financial practices. As accounting continues to evolve, it remains a critical component of economic interaction worldwide, driven by ongoing exchanges of knowledge and practice across diverse contexts.

The accounting profession in the United States, which has worked diligently to establish financial reporting standards, plays a pivotal role in this evolution. Over the 21st century, it has gained recognition for its integrity, discipline, and adherence to strong ethical values [29]. This reputation was built over many years of development, positioning the U.S. as a leader in global financial reporting standards. This leadership is particularly evident in the movement toward a unified set of global accounting standards, driven by the increasing interconnectedness of world economies and the expansion of corporate America into international markets. This shift necessitates a consistent framework for financial reporting that can accommodate both domestic and cross-border transactions for multinational companies.

The Financial Accounting Standards Board (FASB) has played a crucial role in shaping accounting practices, particularly in the United States. Its standards have influenced many countries and accounting firms globally, fostering a degree of uniformity in financial reporting. However, the adoption of International Financial Reporting Standards (IFRS) has faced significant challenges in the U.S. due to cultural and regulatory resistance. Despite the push for international accounting standards, there remains a strong reluctance within the United States to fully embrace IFRS. This resistance stems from several factors, including the U.S.'s distinct accounting culture, which prioritizes transparency and detailed reporting, a regulatory framework deeply entrenched in U.S. Generally Accepted Accounting Principles (GAAP), and a preference among stakeholders for the familiarity and perceived reliability of GAAP over IFRS [30]. While the need for a single set of global accounting standards is clear due to globalization, the path towards harmonization remains complex. This complexity is particularly evident in the challenges faced by the U.S. in reconciling GAAP with international standards. The role of the business community in the U.S. has been pivotal in shaping the accounting profession, particularly concerning the establishment of accounting standards. This influence is deeply rooted in historical developments that underscore the need for American global accounting standards.

The evolution of accounting standards in the U.S. has been significantly influenced by the globalization of business practices. As the largest economy in the world, the U.S. has acted as a driving force behind globalization, with many American companies expanding their operations internationally. This expansion necessitates a standardized approach to accounting that can be applied across different jurisdictions, ensuring clearer communication and understanding among global stakeholders.

The Literature Points to Several Key Reasons Advocating for American Global Accounting Standards:

- Consistency and Comparability: Global accounting standards promote consistency in financial reporting, making it easier for investors and stakeholders to compare financial statements across countries and companies.
- Facilitation of International Trade: As international trade grows, standardized accounting practices help reduce misunderstandings and discrepancies in financial reporting, thus enhancing trust among trading partners.
- Support for Multinational Operations: Companies operating in multiple countries benefit from uniform accounting standards, which simplify compliance with various regulatory environments and reduce costs associated with maintaining different reporting systems.
- Enhancement of Foreign Investments: Clear and consistent accounting standards attract foreign investment by providing reliable financial information, fostering a more stable investment climate.

The Globalization of Accounting Practices Is Viewed as Beneficial for Several Reasons:

- Knowledge Sharing: It allows countries and businesses to learn from each other.
- Autonomy in Adoption: Countries have the freedom to adopt practices that align with their specific needs without undue pressure or external conditions.
- Universal Application: This form of globalization reflects a natural tendency among nations to engage with one another, promoting cooperation and mutual benefit across various sectors.

The international nature of contemporary accounting challenges, such as those arising from international trade, multinational corporations, foreign investments, and global financial markets, underscores the necessity for a unified approach to accounting standards. The push towards internationalization is not merely a trend but a fundamental shift that aligns with the realities of a globalized economy. Adopting standardized accounting practices is essential for enhancing transparency, accountability, and efficiency in financial reporting on an international scale.

The influence of American accounting practices on global standards is significant, primarily due to the dominant position of the United States in the global economy. American GAAP is often viewed as the benchmark for high-quality accounting standards, which complicates the transition to IFRS for both domestic and foreign companies. This reliance stems from the perception that what benefits the American market will similarly benefit global markets, leading to reluctance in adopting alternative frameworks. As the U.S. is a leader in global financial markets, its accounting standards serve as a model for other countries, with the Securities and Exchange Commission (SEC) and the accounting profession reinforcing the importance of GAAP as the highest-quality standards available.

Additionally, the Federal Accounting Standards Advisory Board (FASAB) contributes to this reputation by enhancing consistency in federal financial accounting and reporting through its conceptual framework. This framework not only supports U.S. GAAP but also fuels ongoing debates with IFRS and other international standards. Historically, many international accounting standards have emerged after American standards were established, indicating a trend where U.S. practices set precedents for global accounting norms.

In summary, while American accounting procedures reflect a blend of national beliefs and practices that benefit its economy, they also pose challenges for global standardization efforts due to their established dominance and the complexities involved in transitioning to alternative frameworks like IFRS. This reflects a broader trend in the

global accounting evolution, where the differences between International Accounting Standards (IAS) and U.S. GAAP are shaped by various factors, such as verification, measurement, and alternatives, each of which has significant implications for financial reporting and decision-making [31].

Both GAAP and IFRS share fundamental accounting principles, such as the recognition of revenue, measurement of assets and liabilities, and the importance of transparency in financial reporting. This foundational similarity facilitates a degree of interoperability between the two systems.

The dominance of American accounting practices has influenced the development of international standards. Many aspects of IFRS can be traced back to GAAP, suggesting that international standards often reflect American practices, reinforcing the idea that they serve as a "common language" for global financial reporting, as shown in Table 4.

2.4. The Relationship between U.S. Accounting Standards and International Accounting Standards

A review of the International Accounting Standards (IAS) based on significant convergence between U.S. GAAP and IFRS over the past two decades, according to older comparative studies, showed that there were 42 International Accounting Standards (IAS/IFRS) that were originally issued [32], although newer IFRS standards have superseded them. Many older IASs have been replaced or amended by newer IFRS standards (e.g., IAS 18 has been replaced by IFRS 15 on revenue).

As a result, the review shows that they address all accounting topics, but generally in broad terms without providing the necessary detailed guidance. In other words, the standards mainly cover general principles in accounting topics.

One criticism of IAS is their failure to address accounting issues specific to certain industries or practical application challenges faced by practitioners.

Because of this lack of detail in IAS, many companies, whether American or multinational, tend to refer to U.S. accounting standards for many topics.

A comparative analysis of 42 International Accounting Standards reveals the following:

1. Areas of Convergence (First Group: 64% / 27 IAS)

In this group, IFRS and U.S. GAAP show high degrees of conceptual and procedural alignment. These aligned standards promote cross-border comparability and reduce compliance costs for multinational entities.

2. Areas of Divergence (Second Group: 36% / 15 IAS)

This group reflects the continuing divergences in conceptual foundations and practical applications:

These divergences stem from the **principles-based** nature of IFRS versus the **rules-based** framework of U.S. GAAP.

Table 4 is not based on officially published or universally recognized data from standard-setting bodies like the FASB (U.S.) or IASB. Instead of being based on a review of significant convergence between U.S. GAAP and IFRS over the past two decades, according to older comparative studies.

Table 4. Percentage Number of IAS Relationships with U.S. GAAP Classification. **Older comparative studies [33] [34] [35]**

First Group	About 27 Aligned with U.S. GAAP	About 27	About 64%
Second Group	About 15 Not aligned with U.S. GAAP	About 15	About 36%
100%	42	Total IAS evaluated	

Source: Prepared by the researcher after analyzing old comparative studies.

The table shows that International Accounting Standards are essentially U.S. accounting standards that have been globalized following the issuance of the U.S. standards.

Recent Discussions Between the Financial Accounting Standards Board (FASB) and the International Accounting Standards Board (IASB) (2011–2014).

Concentrated on keeping U.S. accounting standards as an option for international application (i.e., globalization of U.S. accounting standards).

Given these formal differences in reality, a great extent of conformity is found between American accounting standards and international accounting standards.

Finally, the comparison between American accounting standards, known as Generally Accepted Accounting Principles (GAAP), and International Financial Reporting Standards (IFRS) reveals both significant similarities and a few differences. This analysis focuses on the extent of conformity between these frameworks, highlighting their historical development and practical implications.

The analysis indicates a high degree of conformity between American accounting standards and international accounting standards. About 64% of international accounting standards align with American standards, while about 36% do not. This suggests that many countries adopting IFRS are essentially implementing a version of GAAP adapted to their local contexts.

Given that the fundamental accounting principles, assumptions, and rules are essentially the same across most countries, the differences between International Accounting Standards (IAS/IFRS) and U.S. Generally Accepted Accounting Principles (US GAAP) are not rooted in the science of accounting itself. Rather, they stem largely from regulatory and procedural differences related to the structure and functioning of financial markets. Therefore, considering accounting as a scientific discipline with a systematic and empirical foundation necessitates the

adoption of unified international accounting standards. This unification is a natural outcome of the objective and methodological evolution of accounting in the United States, reflecting the growing need for consistent, transparent financial information that supports decision-making in an increasingly interconnected global economy.

In regions like the Arab countries, the translation of international standards often reflects an indirect application of American standards. This trend indicates that while countries aim to adopt global best practices through IFRS, they are simultaneously aligning themselves with the established norms set by GAAP [36].

The standards provide a basis for reliability in the U.S. financial markets, and the reliance on accounting rules using GAAP is one of the main reasons behind the reluctance of the United States to conform to international accounting standards. U.S. accounting standards are seen as high-quality and strict, and tight rules [37].

In conclusion, while there are clear differences between American accounting standards and international accounting standards, the extent of conformity is significant. The historical influence of GAAP on IFRS underscores the notion that international standards are largely a reflection of American practices. As globalization continues to shape financial reporting, understanding these similarities and differences becomes crucial for stakeholders engaged in cross-border transactions and investments.

3. Research Methodology

The study adopts a rigorous methodology that combines theoretical literature review with practical data collection through expert-reviewed questionnaires. By focusing on validity and reliability, it aims to produce credible and actionable insights relevant to its research objectives. This structured approach not only enhances the quality of data but also contributes to the overall integrity of the research findings.

The sample size (n) was calculated using Cochran's sample size formula, under the assumption of a 95.5% confidence level (corresponding to Z=2. The margin of error is denoted as e, set at 10% (or 0.1), while p represents the estimated proportion of the population possessing the attribute of interest, assumed to be 50% (or 0.5). Accordingly, q=1−p=0.5. The formula is applied as follows: [38]

$$n = \frac{z^2 pq}{e^2} = \frac{(2)^2 * 0.5 * 0.5}{(0.1)^2} = 100$$

The minimum required sample size (n) for this study, based on the previously applied formula, is at least 100. However, if the margin of error is reduced from 10% to 5%, the required sample size increases to 400.

$$n = \frac{z^2 pq}{e^2} = \frac{(2)^2 * 0.5 * 0.5}{(0.05)^2} = 400$$

Therefore, with a confidence level of 95.5% and a margin of error between 5% and 10%, the required sample size should range from 100 to 400 individuals. In this study, the researcher collected data from 100 participants.

The questionnaire was designed based on the views of prominent accounting scholars and authors in the United States, Yuji Ijiri, Richard Mattessich, Robert R. Sterling, William A. Paton, A. C. Littleton, Nobes, Christopher. W. Demski, J. S, Watts, R. L., and J. L. Zimmerman whose influential contributions to accounting theory and practice have granted the questionnaire scientific credibility and academic legitimacy. These experts emphasized the classification of accounting as a science with a systematic methodology, thereby supporting its inclusion among fundamental sciences. Moreover, many of them advocated for the global adoption of U.S. accounting standards (U.S. GAAP), given their theoretical coherence and practical applicability, which reflect the advancement of American accounting thought and its responsiveness to contemporary economic realities.

The questionnaires were distributed among faculty members in accounting departments across ten prestigious Arab universities, utilizing a convenient sampling method for data collection. The total sample size comprises 150 faculty members in accounting departments.

Data were gathered using a well-structured questionnaire (refer to Appendix). The targeted Universities include: Cairo University, the University of Jordan, Kuwait University, University of Baghdad, Sultan Qaboos University, Algiers University, Qatar University, University of Sharjah (United Arab Emirates), King Saud University, and Damascus University.

The three Axes of the questionnaire were evaluated using five-point Likert scales, with responses anchored by the verbal statements "strongly agree" (1) and "strongly disagree" (5). The questionnaire underwent two rounds of pre-testing. Out of 150 distributed questionnaires, 50 were rejected, resulting in 100 valid responses for analysis.

Given the challenges of conducting a comprehensive inventory of this research community, mainly due to constraints of cost, effort, and time, the researcher opted for a random sampling approach. This method allows for a representative subset of faculty members to be selected without the need for exhaustive data collection from the entire faculty in accounting departments at all Arab Universities.

A group of faculty members evaluated the questionnaire, leading to revisions of several questions without altering the core themes. This process ensures that each item on the questionnaire is relevant and accurately reflects the constructs being studied. The questionnaire included three main parts:

1. Accounting as a science consists of 10 questions.
2. Accounting is part of STEM: It consists of 10 questions.
3. Globalized American accounting standards: It consists of 10 questions.

3.1. Hypothesizes

3.1.1. Variables and Measurements

The researcher used the following statistical methods, based on the Statistical Package for the Social Sciences SPSS) Version 25 for data analysis:

- Descriptive statistics: See the percentages and frequencies of categorical variables.
- Truthfulness and reliability test: Using the alpha-Cronbach coefficient and its positive square root, to study the compatibility of the sample answers with the population from which it was taken, and the extent to which this sample represents the studied population.
- Correlation and regression: Through the Spearman test, the non-intermediate alternative to the Pearson test, to study the existence and strength of the relationship between two quantitative variables, in preparation for studying regression to know the significance of the relationship, and to study the impact of an independent variable on a dependent variable.

H1. There is a statistically significant correlation between the perception of accounting as part of STEM and the tendency to globalize American accounting standards.

H2. There is a statistically significant correlation between the perception of accounting as a science and the tendency to globalize American accounting standards.

H3. There is a statistically significant correlation between the perception of accounting as a science and the perception of accounting as part of STEM.

3.1.2. Study the Validity and Stability of the Study Tool

Concerning the stability of the study resolution, the internal consistency coefficient was used to verify the stability of the tool according to the Cronbach alpha coefficient, and the root of the alpha coefficient, which represents honesty, where the internal consistency stability coefficients were added to the questionnaire axes as in the following table as shown in Table 5.

The results of the previous table indicate that the questionnaire with its three axes is stable and honest and represents the population from which the sample was taken.

Table 5. Internal Consistency Stability Coefficients of the Questionnaire Axes

	Number of questions	**Coefficient of stability (alpha coefficient)**	**Honesty coefficient**
The first variable: Accounting as a science	10	0.720	0.848
The second variable: Accounting is part of STEM	10	0.833	0.912
Third variable: Globalized American accounting standards	10	0.640	0.800
Full Questionnaire	30	0.811	0.900

Source: Prepared by the researcher using SPSS statistical software.

4. Results and Analysis

4.1. Clarification of the Likert Pentameter (for the Questions of the Questionnaire Axes)

The Likert pentagram scale is an ordinal scale, which is dealt with during the analysis with quantitative weights corresponding to each of its states, the results obtained by various types are interpreted as a mean, median or other according to the following table: "The length of the period = 0.80, calculated by dividing 4 by 5, where 4 is the number of spaces between choices, and the number 5 is the number of options" as shown in Table 6:

Table 6. Likert pentameter

Answer	Value	Weighted average
strongly disagree	1	1 – 1.79
Disagree	2	1.80 – 2.59
neither nor	3	2.60 – 3.39
Agree	4	3.40 – 4.19
strongly agree	5	4.20 – 5

Source: Prepared by the researcher using SPSS statistical software.

4.2. Analysis of the Opinions of the Respondents on the Axes of the Questionnaire

The following is an analysis of the respondents' opinions on the themes of the study: Accounting is part of STEM, and this is reflected in the Globalized American accounting standards presented in Table 7.

The results of the previous table show that the average answers of individuals about accounting as a science is 3.5190, corresponding to the degree of consensus. Also, the results indicate that there are real differences between the average answers of the study members and the assumed average, which corresponds to the degree of neither nor in favor of the degree of agree, while the value of the standard deviation of 0.36782 indicates a low dispersion of the respondents' answers from their arithmetic average.

Moreover, the average of the individuals' answers about accounting is part of STEM with a value of 3.5440, corresponding to the degree of agree, and the results indicate that there are real differences between the average answers of the study subjects and the assumed average, which corresponds to the degree of neither nor in favor of the degree of agree, while the standard deviation value of 0.32203 indicates a low dispersion of the respondents' answers from their arithmetic average.

With regard to the answers of individuals about Globalize American accounting standards, the average value was 3.5160, corresponding to the degree of agree, and the results indicate that there are real differences between the average answers of the study members and the assumed average, which corresponds to the degree of neither nor in favor of the degree of agree, while the standard deviation value of 0.36341 indicates a low dispersion of the respondents' answers from their arithmetic average.

Table 7. Analysis of Answers to the Study Axes

Paragraph	Arithmetic mean	Standard deviation	Grade	Sig	T-test	result
Accounting as a science	3.5190	.36782	agree	0.000	14.110	Significant
Accounting is part of STEM	3.5440	.32203	agree	0.000	16.893	Significant
Globalized American accounting standards	3.5160	.36341	agree	0.000	14.199	Significant

Source: Prepared by the researcher using SPSS statistical software.

5. Discussion

The correlation of the questionnaire was examined using the Spearman non-parametric test, an alternative to the Pearson test, with results shown in Table 8.

The previous table shows that there is a relationship between the axes of the questionnaire, and this is indicated by the p-value being smaller than the significance level of 0.05.

- There is a medium-intensity direct correlation between "Accounting is part of STEM" and "Globalized American accounting standards."
- There is a medium-intensity direct correlation between "Accounting as a science" and "Globalized American accounting standards."
- There is a medium-intensity direct correlation between "Accounting as a science" and "Accounting is part of STEM."

In this section, regression relationships will be studied, and to work on that, the researcher applied nonlinear regression analysis to test the effect of both "Accounting as a science" and "Accounting is part of STEM" on "Globalized American accounting standards."

- Study the impact of "Accounting as a science" on "Globalized American accounting standards":

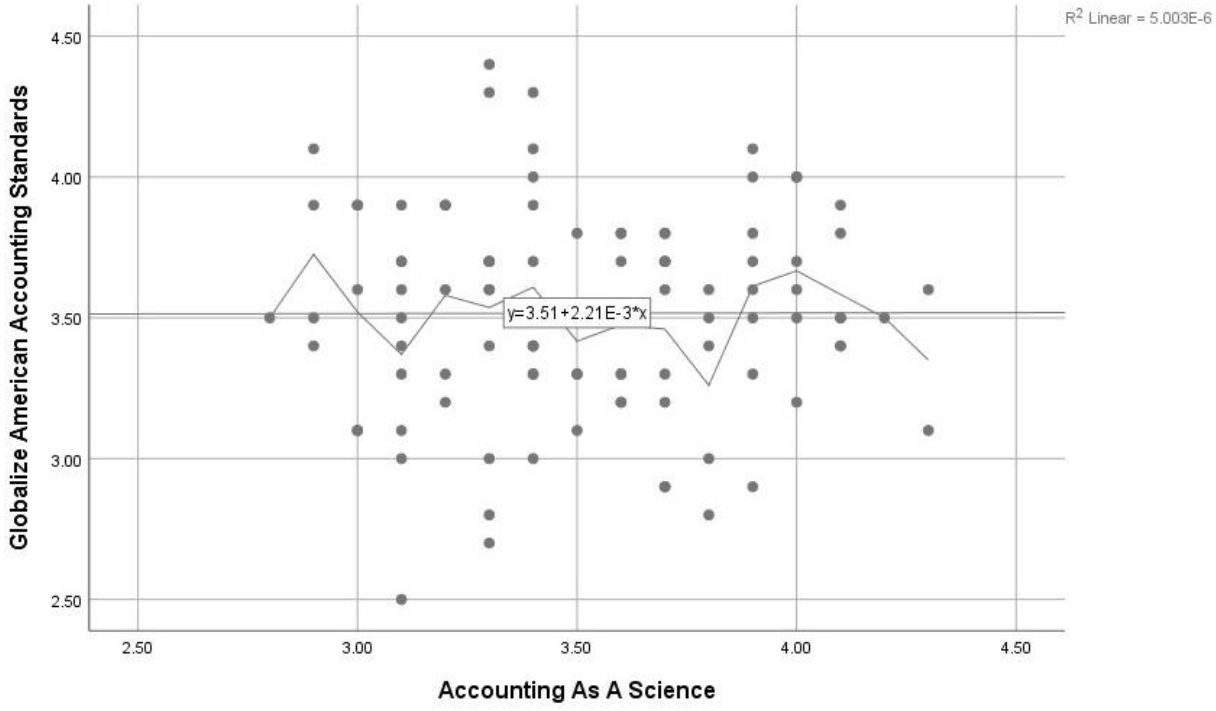
The researcher conducted a test for the existence of a linear relationship between "Accounting as a science" and "Globalized American accounting standards" by the graph method, as shown in Diagram 1, where the relationship is non-linear and an optimal line is fitted to represent it.

Based on the foregoing, the researcher built a non-linear regression model, which is the quadratic model. As shown in Table 9, the values of the coefficients and the model constant.

Table 8. Study of the Relationship between the Axes of the Questionnaire

		Accounting as a science	Accounting is part of STEM	Globalized American accounting standards
Accounting as a science	Correlation coefficient value	1.000	.469	.493
	P-value	.	.000	.000
Accounting is part of STEM	Correlation coefficient value		1.000	.551
	P-value		.	.000
Globalized American accounting standards	Correlation coefficient value			1.000
	P-value			.

Source: Prepared by the researcher using SPSS statistical software.



Source: Chart generated by the researcher using SPSS statistical software.

Diagram 1. The relationship is non-linear, and the optimal line to represent the relationship between them

Table 9. The values of the coefficients and the model constant

Parameter Estimates				
Parameter	Estimate	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
b0	5.065	3.281	-1.447	11.577
b1	-.886	1.863	-4.584	2.812
b2	.125	.262	-.396	.646

Source: Prepared by the researcher using SPSS statistical software.

Therefore, the regression equation has the form

$$Y=5.065+(0.886\times X)+(0.125\times X^2)$$

- Study the Impact of "Accounting is part of STEM" on "Globalized American Accounting standards":

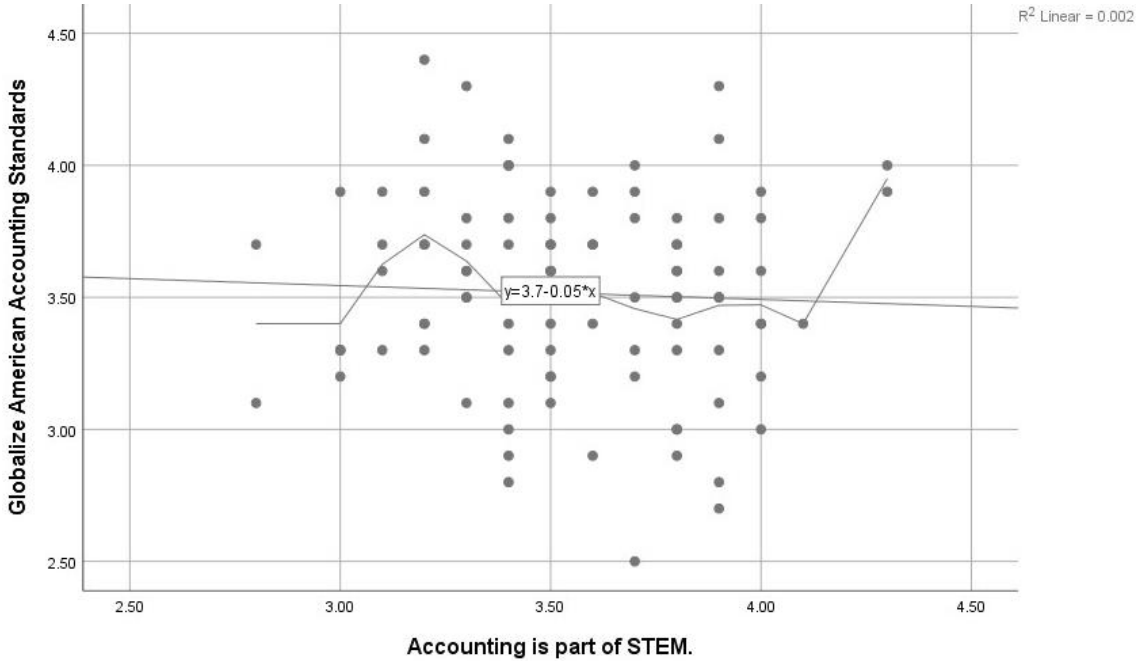
The researcher conducted a test for the existence of a linear relationship between "Accounting is part of STEM" and "Globalized American accounting standards" by the graph method, as shown in Diagram 2. A non-linear model optimally represents the relationship between them.

Based on the above, the researcher constructed a non-linear regression model, specifically a cubic model. The coefficients and the model constant are presented in Table 10.

Therefore, the regression equation has the form

$$Y=57.797-(53.459\times X)+(15.408\times X^2)+(1.468\times X^3)$$

- The relationship between Logical Premises and "Accounting as a science" is perceived positively: The average response score of 3.5190, which corresponds to "agree," indicates that the respondents, based on logical premises, generally view accounting as a science. The low standard deviation of 0.36782 suggests there is consensus among the respondents regarding this perception.
- Accounting is recognized as part of STEM: The average score of 3.5440 for the statement "Accounting is part of STEM" suggests a strong agreement among the respondents, with the low standard deviation of 0.32203 highlighting that the opinions were tightly clustered around the "agree" category.



Source: Chart generated by the researcher using SPSS statistical software.

Diagram 2. The non-linear relationship is optimal to represent the relationship between them

Table 10. The values of the coefficients and the model constant

Parameter Estimates				
Parameter	Estimate	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
b0	-57.797	27.063	-111.517	-4.078
b1	53.459	23.145	7.517	99.401
b2	-15.408	6.566	-28.441	-2.376
b3	1.468	.618	.242	2.695

Source: Prepared by the researcher using SPSS statistical software.

- Globalization of American accounting standards is supported: Respondents also agreed with the idea that American accounting standards should be globalized, as indicated by the average score of 3.5160, corresponding to "agree." The low standard deviation of 0.36341 further confirms that most respondents held similar views on this matter.
- Significant relationships between the themes: There were medium-intensity positive correlations between the three axes of the study. Specifically, there is a direct relationship between:
- Accounting is a science and is part of STEM (correlation coefficient of 0.469).
- Accounting as a science and Globalized American accounting standards (correlation coefficient of 0.493).
- Accounting is part of STEM and Globalized American accounting standards (correlation coefficient of 0.551).
- The p-values for all these relationships were less than 0.05, indicating that the correlations are statistically significant.
- The study found that the relationship between Accounting as a science and Globalized American accounting standards is best described by a non-linear quadratic regression model. The regression equation is:

$$Y = 5.065 + (-0.886 * X) + (0.125 * X^3).$$

The relationship between accounting and globalized American accounting standards is best represented by a cubic regression model. The regression equation is as follows:

$$Y = -57.797 + (53.459 * X) - (15.408 * X^3) + (1.468 * X^3).$$

The questionnaire used in this study was shown to be reliable and valid, with Cronbach's alpha coefficients of 0.720, 0.833, and 0.640 for the three axes, and a total of 0.811 for the full questionnaire. The high internal consistency coefficients demonstrate the tool's stability and honesty.

- The analysis suggests that there is a general agreement among the respondents on the themes related to accounting as a science, its role in STEM, and the globalization of American accounting standards, with low levels of dispersion in responses across all axes.

These findings indicate a strong alignment between the respondents' perceptions and the research themes.

6. Conclusions

This study offers valuable insights into the relationship between logical premises, the classification of accounting as a science, its integration within STEM fields, and the globalization of American accounting standards. Several key conclusions can be drawn:

The study confirms that accounting is widely recognized as a science, particularly among accounting faculty members. This perception is grounded in logical reasoning, where accounting's systematic processes, theories, and frameworks align with scientific principles.

Accounting is increasingly seen as an integral part of the STEM fields. This finding is significant as it reflects the evolving nature of the profession, where accounting is no longer viewed as a standalone discipline but as one that supports technological and scientific advancements.

There is strong support for the global adoption of American accounting standards. This is driven by the recognition that standardized accounting practices enhance international business, improve financial reporting, and foster consistency across borders. The study suggests that accounting as a science, particularly in the context of its place in STEM, influences its role in the globalization process.

The medium-intensity positive correlations between the three themes of the study indicate that the classification of accounting as a science, its integration within STEM, and the globalization of accounting standards are interconnected. These elements are mutually reinforcing, suggesting that changes in one area may have a ripple effect on the others.

The findings underscore the importance of accounting education in shaping the future of the profession. As accounting becomes more embedded in STEM, educators and institutions should focus on equipping students with the necessary scientific and technological knowledge to thrive in a globalized accounting environment.

This study opens avenues for future research in areas such as the impact of technological innovations on accounting, the role of accounting in global financial markets, and the evolution of accounting as a science. Further exploration could help clarify the long-term implications of these shifts for accounting education and professional practice.

This research highlights the dynamic role of accounting as a science and its critical place within the broader context of STEM, emphasizing the importance of logical premises in shaping its global influence. The findings suggest that accounting will continue to evolve and integrate with other scientific disciplines, further promoting the globalization and standardization of accounting practices.

So the globalization of U.S. accounting standards, according to the paper, was caused by the STEM classification; both trends reflect a converging global recognition of accounting as a rigorous, science-based, and technologically integrated field. The STEM classification may reinforce and legitimize the influence of U.S. accounting standards.

APPENDIX [QUESTIONNAIRE]

UNIVERSITY OF DAMASCUS

FACULTY OF ECONOMICS

QUESTIONNAIRE

This survey questionnaire is intended to collect data from the respondents about the study entitled "Is it due to global American Accounting Standards after considering accounting as a science within a STEM?".

The information will be kept private and confidential. Please indicate your level of agreement with each statement by selecting the appropriate response based on your perception of the effectiveness of each item. Kindly put a check (✓) on your best answer. Thank you for your valuable input. Please use the scale below.

	Strongly Agree	**Agree**	**Neither nor**	**Disagree**	**Strongly Disagree**
First Axis: Accounting As A Science					
Do you agree that accounting is related to other sciences and follows flexible accounting treatments?					
Do you agree that the philosophy of accounting treatment varies between accountants and leads to a science?					
Do you agree that accounting belongs to natural sciences and follows basic natural laws?					
Do you agree that accounting combines rationality and experience through the analysis of data to provide financial reports?					
Do you consider accounting a science based on laws that relate to real-world events and belong to natural sciences?					
Do you agree that accounting is a coherent and objective science based on continuity, consistency, and acceptance?					
Do you consider the principle of duality fundamental to accounting, similar to the first law of thermodynamics?					
Do you agree that the first and second laws of motion dynamics form the basis of duality in accounting theory?					
Do you agree that the mathematical formulation of dualism is similar to equations in other natural sciences?					
Do you agree that understanding accounting as a theory of measurement requires the use of mathematics in accounting systems?					
Second Axis: Accounting is part of STEM.					
Do you believe integrating STEM principles into accounting education offers technology-driven solutions and promotes innovative teaching methods?					
Is there a positive link between incorporating science, mathematics, technology, and engineering in accounting education and student performance?					
Do you think that STEM integration in accounting education enhances the diversity of scientific subjects among students?					
Is the integration of STEM concepts into accounting education becoming more popular in educational technologies?					
Do you agree that integrating STEM principles into accounting education helps students succeed, regardless of their academic background?					
Do you think that STEM integration in accounting education enhances students' technical and analytical skills needed in data and informatics?					

Do you believe there is strong support for integrating STEM concepts into accounting education at the primary and secondary school levels?					
Do you think the dynamic nature of accounting necessitates STEM integration to develop skills for understanding business language?					
Is STEM integration in accounting education likely to encourage exchanges between high school, university, and accounting students?					
Do you agree that technology, including information systems and cybersecurity, plays a key role in advancing accounting through STEM integration?					
Third Axis: Globalized American Accounting Standards					
Do you think the development of accounting theory in the 20th century was influenced by developments in the United States?					
Do you agree that European developments in accounting were influenced by U.S. ideas, where most innovations originated?					
Do you think disclosing two types of financial statements in a year negatively impacts confidence in financial information?					
Do you agree that U.S. accounting standards are issued by professional bodies, while in other countries, legislation plays a bigger role?					
Do you think U.S. GAAP is adequate for the accounting profession both in the U.S. and globally?					
Do you agree that because U.S. capital markets are the largest, U.S. GAAP is superior to IFRS?					
Do you believe American accounting principles can be globalized due to the U.S. economy's characteristics and the dollar's role in global finance?					
Do you believe globalization has affected people's lives, including accounting standards?					
Do you agree that a single set of American accounting principles worldwide could lower capital costs and drive global economic growth?					
Do you agree that accounting practices would be more uniform internationally with a unified set of American accounting principles?					

This completes your involvement in the questionnaire. Thank you for your involvement. If you have any queries regarding this questionnaire, contact me via email (Prof.essamalarbed@gmail.com). Thank you for participating in this questionnaire.

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