



ASIAN BULLETIN OF BIG DATA MANAGEMENT

<http://abbdm.com/>

ISSN (Print): 2959-0795

ISSN (online): 2959-0809

The Importance of Enhancing Technology in Accounting and Finance

Asghar Ali Arshad *, Faiza Aziz, Zarmeena Imran, Ayesha Fazal, Muhammad Faisal Gulzar

Chronicle**Article history****Received:** Oct 14, 2025**Received in the revised format:** Oct 18, 2025**Accepted:** Oct 20, 2025**Available online:** Oct 21 2025**Asghar Ali Arshad & Muhammad Faisal Gulzar**, are currently affiliated with the Lahore Bussines school university of Lahore Pakistan.**Email:** asghar.ali@lbs.uol.edu.pk**Email:** faisal.gulzar@lbs.uol.edu**Faiza Aziz, Zarmeena Imran, Ayesha Fazal** are currently affiliated with the National Collage of Business Administration & Economics, Lahore, Pakistan.**Email:** azizf1339@gmail.com**Email:** ubhattitara@gmail.com**Email:** ayeshagillani796@gmail.com**Abstract**

Accounting and finance have changed quickly thanks to digital technology. Companies require innovative solutions to improve accuracy, efficiency, and decision-making. This study upgrades accounting and finance technology, focusing on internal controls, automated data processing, electronic accounting, and automated reporting. Financial management systems evaluate technology uptake and performance based on these features. The study shows that technology-driven accounting solutions increase compliance, transparency, and risk management. The research found that sophisticated technology simplifies real-time financial reporting, improves data reliability, and reduces human error, boosting management decision-making. Accounting software and automation boost internal controls and operational resilience. This research found that technology boosts accounting and finance's competitiveness, sustainability, and creativity.

Corresponding Author***Keywords:** Internal controls, Automated data-processing, E-accounting, Automated reporting, Enhancing technologies.

© 2025 The Asian Academy of Business and social science research Ltd Pakistan.

INTRODUCTION

As the scene of accounting and finance continues to undergo changes, technological improvements play a crucial part in determining the degree of efficiency, accuracy, and decision-making processes that are put into place. This is because technological advancements allow for greater accessibility to information. Technology not only has the potential to improve the processes that are already in place, but it also opens the door to the possibility of developing innovative strategies for the administration of financial data and resources. This is because technology has the ability to accomplish both of these things. An examination of the significance of the growing use of technology in the fields of accounting and finance is carried out within the confines of this chapter. In this article, a particular emphasis is placed on the dynamic link that exists between independent elements, such as internal controls, automated data-processing, and automated reporting, and the effect that these variables have on the dependent variable of enhancing technologies. Particular emphasis is being paid to this connection among other things. This study's objective is to draw attention to the significant role that technology plays in the administration of contemporary financial affairs, as well as the essential need for continuous improvement of technological infrastructure within the accounting and finance industries. The report emphasizes the need of technological infrastructure improvement. Examining the links between these two concepts can help you complete this project effectively. The examination of automated data processing,

reporting, and internal controls will dominate this research. According to the inquiry, these three factors will be considered. In the realm of accounting and finance, the purpose of this research is to analyze the influence that these elements have on the development and evolution of technologies that are aimed at improving accounting and finance. Specifically, the study will focus on the impact that these aspects have on the industry. We would want to obtain a knowledge of the ways in which these essential components interact with one another and the ways in which they impact the development of technology within accounting and financial operations for the purpose of acquiring this information with the aid of this research. In order to give insights into methodologies and best practices for using technology to enhance efficiency, accuracy, and creativity in accounting and finance operations, the purpose of this study is to provide information. This research aims to provide information and provide insights. The way by which this aim will be accomplished will be via the conduct of research on how they interact with constantly developing technology. In the end, the objective is to make a contribution to the existing body of knowledge about the improvement of technologies in accounting and finance. Providing companies with assistance that may aid them in strengthening their technical abilities and retaining their competitive edge in line with the present digital age is the purpose of this action, which is implemented with the objective of providing businesses with guidance.

BACKGROUND OF THE STUDY

Technology has changed accounting and financial operations in recent years. This shift made these disciplines more effective. Due to this transition, the operations are more accurate, efficient, and transparent. In the digital age, technology-financial management synergy is most valuable, with an emphasis on technological development. This is because technological advances matter. This is because the two items' relationship is most important. Internal controls, automated data processing, and automated reporting are now considered. These components are considered. Internal controls protect financial data from mistakes and fraud, according to (Pagano, M. S. 2012).

The rules and processes that make up these controls are also included. In accordance with (Romney and Steinbart 2017), automated data processing expedites the management and analysis of enormous volumes of financial data. This, in turn, reduces the number of mistakes that are brought about by human contact and improves the ability to make intelligent decisions. Furthermore, automated reporting helps to speed the process of preparing and delivering financial reports, which in turn provides stakeholders with timely insights (Kogan & Pagano, 2012).

With regard to the present state of accounting and finance, technology is a fundamental component that acts as a driver of innovation, efficiency, and accuracy. Because of the integration of new technology, traditional approaches have been revolutionized, which has led to a transition in the way in which financial data is processed, appraised, and reported. Due to this change, financial data is now reported differently. Technology is becoming increasingly important in accounting and finance, as we shall discuss in this introduction. Technology is growing in importance. We will concentrate on how independent factors including internal controls, automated data processing, and automated reporting shape and upgrade performance-enhancing technology. Our clarity will improve. Explain how internal controls affect organizational operations. Internal controls ensure the reliability and integrity of a company's financial data. These controls are company-required

procedures. Wolk et al. (2016) found that effective internal control systems may improve financial management performance. It seems that such systems benefit organizations. These technologies reduce mistakes, fraud, and non-compliance risks for organizations. These solutions aim to reduce vulnerability. Data Processing Technology Consequences to Consider Automated data processing technologies streamline the administration, analysis, and interpretation of massive financial data. Because these technologies automate. Increasing the speed at which decisions are made, enhancing the quality of data, and gaining new insights that can be used for strategic planning and forecasting are all things that businesses are able to do (Hall, 2011).

Evolution of Technology in Accounting and Finance

The journey that has been the development of technology in accounting and finance has been accompanied by a number of key milestones that have been experienced along the route. These landmarks have been encountered during the course of the journey. This journey has been driven by the objective of continuously pursuing efficiency, precision, and flexibility to changing organizational contexts. This has been the driving force behind this journey. We are going to look at the evolution of technology in the domains of accounting and finance over the course of history. This will take up the whole of this section. In addition, we will lay an emphasis on the revolutionary influence that independent factors such as internal controls, automated data processing, and automated reporting have had on the invention of technologies that boost performance. It is necessary to establish controls that are already in place inside the organization. The idea of internal controls can be traced all the way back to the beginning of accounting practice, when manual procedures were used to check the correctness of financial data Internal controls were initially introduced at this time. The notion was initially conceived at this point (Steinbart, P. J. 2017).

Importance of Technology Enhancement in Accounting and Finance

This is due to the fact that these developments are the driving force behind their success. Within the scope of this section, we will examine the relevance of technological advancement, with a specific focus on the role that autonomous components, such as internal controls, automated data processing, and automated reporting, play in the process of developing enhancing technologies. More specifically, we concentrate on the one-of-a-kind function that each of these elements plays in the process. The Improvement of Productivity Then again, Through the deployment of internal controls, the establishment of internal controls Internal controls are the foundation of efficient financial management because of their ability to guarantee the dependability and integrity of the information that pertains to the finances of an organization. Consequently, they are the foundational elements upon which efficient administration of financial resources is constructed. The construction of effective internal control systems offers organizations with the potential to simplify their processes, lower the risk of mistakes and fraudulent actions, and boost their overall performance, as stated by (McLean, E. R. 2003). According to (B., & Elliott, J. 2013), automating data entry, reconciliation, and analysis reduces processing time, eliminates errors, and optimizes resource use. These include data input, reconciliation, and analysis. Additionally, they maximize resource consumption. Artificial intelligence and machine learning algorithms allow firms to get valuable insights from massive information. This has major benefits. This accelerates the organization's proactive and strategic planning. Automated reporting improves decision-making. Automated

reporting systems have changed how firms collect, examine, and share financial data. The implementation of these systems caused this modification. Automating financial report creation and delivery allows firms to streamline reporting cycles, improve data quality, and promote stakeholder engagement, according to Lehmann et al. (2015).

- To examine the influence of internal controls on the enhancement of technologies in accounting and finance.
- To assess the impact of automated data-processing on enhancing technologies in accounting and finance.
- To evaluate the contribution of e-accounting practices towards enhancing technologies in accounting and finance.
- To analyze the role of automated reporting in enhancing technologies in accounting and finance.

In the rapidly evolving business environment, accounting and finance functions are increasingly expected to adopt advanced technologies to improve accuracy, efficiency, and decision-making. However, many organizations continue to face challenges in effectively enhancing technologies within these functions due to weak internal controls, inadequate automated data-processing systems, limited adoption of e-accounting practices, and underutilization of automated reporting tools. The absence of these crucial components can lead to inefficient financial operations, delayed reporting, data inconsistencies, and reduced competitiveness. Therefore, it is essential to investigate how strengthening internal controls, implementing automated data-processing, embracing e-accounting practices, and integrating automated reporting can collectively drive the enhancement of technologies in accounting and finance.

Although several studies have discussed the adoption of technology in accounting and finance, limited research has comprehensively examined how specific organizational factors such as internal controls, automated data-processing, e-accounting practices, and automated reporting contribute collectively to enhancing technologies in this domain. Existing literature often treats these factors in isolation rather than as interconnected components influencing technological advancement. This creates a gap in understanding the integrated role of these variables in promoting technological enhancement within accounting and finance, highlighting the need for empirical research to bridge this gap.

SIGNIFICANCE OF RESEARCH

The study rests in the fact that it investigates the relationship between the independent variables of internal controls, automated data-processing, and automated reporting, and the dependent variable of boosting technologies within the sphere of accounting and finance. This is an important aspect of the research. This is the reason why the findings of this research are substantial. It is of the utmost importance to have a complete understanding of this connection for a number of reasons, including the following considerations: Businesses are able to discover opportunities to simplify procedures, eliminate mistakes, and increase overall efficiency in accounting and financial operations; this is made possible through the examination of the ways in which internal controls, automated data processing, and automated reporting contribute to the enhancement of technologies. This information is crucial for companies. Expanding accounting and financial technologies may spur innovation and allow organizations to respond to changing market circumstances and advanced technology. Consider this while assessing the

possibilities. The conclusion would be positive. This research may provide light on how to foster innovation in accounting and finance. This might happen. Researching the causes that lead to groundbreaking inventions may provide these insights. Businesses that incorporate technology into their accounting and financial processes may compete better in the digital age.

LITERATURE REVIEW

Enhancing Technology in Accounting and Finance

Technology has become a crucial driver of efficiency, accuracy, and innovation in accounting and finance. This is because technology is essential to contemporary life. This introduction summarizes the context to help people understand the importance of boosting technologies in the area. Internal controls, automated data processing, and reporting are independent factors. Technological development is the dependent variable. The independent variables these three factors and their interplay are carefully examined. Businesses are realizing the importance of internal controls to ensure data integrity, automating data-processing tasks to speed up decision-making, and automating reporting systems to improve transparency and accountability. Businesses are increasingly prioritizing these. All of these are becoming more important in business operations. Changes in accounting and finance need new tech. New tech altered this. Technology improves corporate strategy, efficiency, and innovation. We study how accounting and finance technology improves the sector. This section examines how internal controls, automated data processing, and reporting affect sector technology. This research will assess their impacts. Advanced technology and internal control Internal controls are needed to implement accounting and finance improvement technologies. These tools enhance finance and accounting. Businesses may safeguard financial data by permanently incorporating internal control into their technology. Technology allows internal control tasks to be automated. These positions include risk assessment, continual monitoring, and fraud detection (Fardinal. 2013).

Internal Controls

Modern technology depends on accounting and finance's most important internal controls. This foundation promotes tech excellence. Knežević et al. (2020) define controls as policies, strategies, and processes that safeguard assets, preserve financial records, and comply with laws. Technology integration internal controls are needed for governance and risk management. Technology integration requires internal controls. Furthermore, internal controls important. The process needs internal controls. This enabled valuable innovations. Internally controlled IT systems decrease data breaches, fraud, and errors. Because of this, the risks to the company's operations that are associated with these occurrences are reduced. It may be necessary to impose access controls in order to prevent unauthorized alterations to sensitive financial data. There is a chance that access restrictions will stand in the way of the implementation of such improvements. According to the research conducted by Knežević and colleagues in the year 2020, it is proposed that the separation of duties and responsibilities has the potential to eliminate conflicts of interest and provide responsibility in the sphere of financial transactions. Internal controls simplify technology risk identification and mitigation. Implementing these rules has an added benefit. These potentially dangerous events raise data confidentiality and system weaknesses issues. Internal controls provide the foundation and framework needed for firms to employ new technologies effectively.

This simplifies the usage of these technologies. Automated data processing systems need internal controls to assure data input and output correctness and dependability. This is why they matter. They are noteworthy because of this. Because of this, they are very important. Similar to how automated reporting systems are supported by internal controls, which monitor the compilation of financial reports, as well as their distribution and access (Gliem, R. R. 2003), automated reporting systems are also supported by internal controls. Providing the basic basis for successful governance, risk management, and technology integration is the objective of internal controls, which are designed to fulfill this aim. In other words, the system is supported by its internal controls, which constitute the backbone. In a word, internal controls are the base upon which the strengthening of technologies in accounting and finance is constructed. This is because internal controls serve as the cornerstone. If businesses make the development and upkeep of effective internal control systems a top priority, it is possible for them to provide a strong basis for the use of technology in order to improve the efficiency, accuracy, and innovation of their financial management processes. All of this will make it possible for the companies to have a solid basis for the use of technology (A., & Razak, M. 2011).

Automated Data-Processing

Automated data processing is the foundation of accounting and finance technology modernization. Because it lays the groundwork for current technology integration. As an independent variable, it helps ensure financial management techniques are proper and effective. This is because it helps ensure proper process execution. According to Gelinas et al. (2016), automated data-processing technologies help firms streamline processes, reduce human mistakes, and speed up decision-making. Automation of data input, validation, and analysis allows these systems to meet their goals. Automation boosts creativity and optimization in data processing. This is important for technology. Advanced algorithms and machine learning may help organizations enhance strategic decision-making and forecasting. Firms may increase their skills. These strategies help organizations gain abilities by pulling insights from massive financial data sets. Financial transaction data may be analyzed automatically to find patterns, trends, and irregularities. These gadgets also detect anomalies, which is beneficial.

Gelinas et al. (2016) think this helps firms anticipate dangers and seize opportunities. Financial data management and analysis in real time are further advantages of automated data processing. This has huge advantages. This method enables companies respond quickly to market changes and satisfy many stakeholders. It also helps organizations respond to market changes. The automated data-processing technology improved accounting and finance efficiency. This is done by lowering processing time and enhancing data quality. Eliminating processing time achieves this goal. This also boosts company performance, making it more competitive. In conclusion, automated data processing is the main driver of accounting and financial technology. This driving force improves financial management efficiency, accuracy, and agility. Businesses benefit greatly from this. Companies may uncover new innovation and optimization opportunities by using their automated data-processing systems. They may uncover new possibilities. This gives organizations a higher chance of sustained development and success in the present business climate, which is highly competitive and constantly changing (Velicer, W. F. 2006).

Automated Reporting Systems

In accounting and finance, automated reporting systems are crucial. Additionally, they are crucial to technical skill development. Automation reporting systems, an independent variable, are vital to changing financial information production, assessment, and presentation. This transition uses automated reporting systems. Decision-making processes are facilitated by this. These systems leverage technology to speed up reporting and provide stakeholders with accurate, fast, and actionable company performance data. Automated reporting systems accelerate reporting cycles, which (Kaiser, H. 2006), say is one of their biggest innovative advantages. This is one of these systems' biggest benefits. One of the biggest benefits of these systems is this influence. Businesses may save time by automating financial report creation and delivery. This may be done via minimizing report preparation time. This may save them a lot of wasted time. This gives stakeholders faster access to crucial information, which is practical.

This is extremely beneficial. Decision-makers may make informed decisions and react quickly to new possibilities and challenges due to timely financial data. Because they can make informed judgments, this is achievable. With this knowledge, they may make choices that benefit the company. Lehmann et al. (2015) found that automated reporting methods reduce human error. This improves financial data quality and dependability. These technologies also decrease human error. These systems automate data collection, validation, and aggregation. This ensures accurate and consistent data. Because of this, concerned parties may trust the information supplied to them. Taking this into consideration makes it easier to design concepts based on real facts and that build stakeholder confidence. Automation allows for customization and flexibility in reporting, which helps them meet stakeholders' different expectations (King, M. 2007).

This helps firms satisfy stakeholders. This is a major advantage. This is one of the biggest benefits. Because these technologies allow stakeholders to create customized reports, dashboards, and visualizations, they can obtain relevant information for their jobs. This is achievable because these systems provide customizable reporting. This is feasible since they provide customized reporting. This development has boosted the usefulness and efficiency of financial information for decision-making. Automated reporting systems also ensure regulatory and industry conformity. Technology-accelerated reporting systems improve decision-making efficiency, accuracy, and effectiveness. They may also boost decision-making. Due to their progress, they can finally contribute to field technology (Itang, A. E. 2017).

Automated Reporting to Enhancing Technologies

Accounting and finance need automated reporting systems, which have contributed to technical advances. New technologies are another example. Automated reporting, an independent variable, simplifies reporting procedures, improves data accuracy and reliability, strengthens decision-making skills, and ensures regulatory compliance. Automated reporting is crucial in all of these areas. These contributions ultimately create and deploy more complicated improving technologies. We build these technologies to improve financial management operations. These technologies are designed for maximum efficiency. Automated reporting solutions reduce reporting time, according to Lehmann et al. (2015). These technologies automate certain report-preparation steps. This makes the procedure more efficient. Reports, statistics, and documentation are among the various tasks in this area. These technical

technologies help businesses create financial reports more efficiently and effectively. They do this by eliminating human input, which reduces reporting time and effort. Eliminating human participation is necessary to achieve this goal. This efficiency saves money and maximizes resources, allowing businesses to employ them to fulfill their strategic goals. For instance, corporations might save money and maximize resources. Automated reporting solutions reduce human mistakes, improving financial data quality and reliability (Nandan, D. 2010).

As a consequence of having access to information in a timely fashion, stakeholders are able to make choices that are based on facts, swiftly react to changing market circumstances, and passionately embrace chances for development and innovation. All of these things were activities that they were unable to accomplish in the past. According to (Chasalow, L., & Dhillon, G. 2011) automated reporting systems simplify regulatory and industry compliance. This is why such systems are growing increasingly popular. This may be achieved by automating standardized report and disclosure production. This ensures that reports and disclosures follow industry standards. Businesses may lessen the risk of violating regulations and the fines that may result by employing these technologies. These tools help businesses to verify reporting techniques. Because these technologies increase governance and risk management, the situation is worse. In the disciplines of accounting and finance, automated reporting has been attributed with a range of contributions to the development of technology. One may argue that these contributions have been significant. It is possible, for instance, to assert that automated reporting has played a role in the development of technology in a variety of different ways. The development of better technologies that are aimed at enhancing financial management practices is being considerably supported by automated reporting systems, which are playing a vital role in the process. At this very moment, the development of these technologies is now underway. It is promised by these systems that the reporting methods will be simplified, that the data quality and dependability will be better, that decision-making abilities will be strengthened, and that compliance with the required regulatory requirements will be accomplished (Schell, G. 2006).

E-Accounting

"Electronic accounting," or "e-accounting" for short, is the term used to describe the use of digital systems and internet-based technologies to fulfil accounting duties. These functions include, but are not limited to, recording, processing, and reporting financial data. In the financial services industry, this component—which is considered indispensable—is crucial to transforming conventional accounting methods into ones that are supported by technology. Organizations may increase data accuracy, expedite financial reporting timeliness, and manage their financial operations more effectively by using electronic accounting methods (Ismail & King, 2020). The primary driver of technology adoption in the accounting and finance fields is e-accounting, also referred to as electronic accounting. Cloud-based platforms, real-time data processing tools, and enterprise resource planning (ERP) systems are integrated to do this. By using these technical talents, accountants and financial managers may automate regular tasks, reducing the number of human mistakes and operating expenses (Rikhardsson & Yigitbasioglu, 2018). Additionally, by offering digital audit trails, secure access restrictions, and real-time financial activity monitoring, electronic accounting makes it easier to implement stronger internal controls. For data security and compliance to be maintained, each of these characteristics is essential. Additionally, in a way that increases efficiency and

production, electronic accounting supports other technical processes like automated data processing and automated reporting. It makes it easier for data to be seamlessly integrated across departments, which improves the accuracy and speed of automatically generated reports. In addition to increasing organizational efficiency and competitiveness, this integration facilitates the process of making informed choices (Ahmad, 2022). Therefore, if businesses want to improve their accounting and finance processes via the advancement of the technology they now employ, it is imperative that they apply e-accounting practices correctly. (Alzoubi, 2021).

Hypothesis Development

H0: There is a no relationship between Internal controls with Enhancing technologies.

H1: There is a significant relationship between Internal controls with Enhancing technologies.

H0: There is a no significant relationship between Automated data-processing with Enhancing technologies.

H2: There is a significant relationship between Automated data-processing with Enhancing technologies.

H0: There is a no significant relationship between Automated reporting with Enhancing technologies.

H3: There is a significant relationship between Automated reporting with Enhancing technologies.

H0: There is a no significant relationship between E-Accounting with Enhancing technologies.

H4: There is a significant relationship between E-Accounting with Enhancing technologies

CONCEPTUAL FRAMEWORK

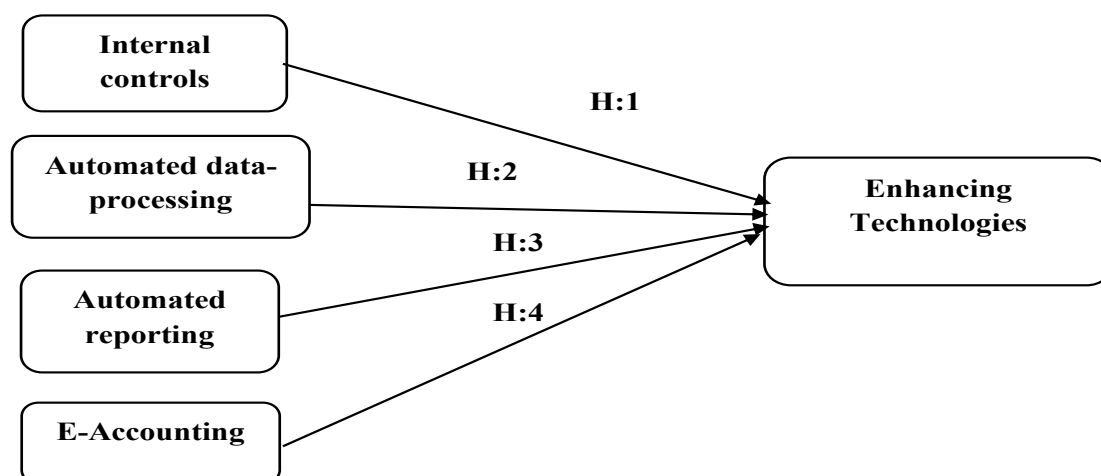


Figure 1.
Conceptual frame work

METHODOLOGY

This is our main method for analyzing how technology influences accounting and Enhancing technologies. Our recommended study method is comprehensive and goal-oriented. The primary research will employ indicators to examine the importance of enhancing technology in accounting and finance.

Deductive Approach

The deductive approach, use in our research and the research based on statistical base. It is possible that in order to investigate the connections between variables and evaluate the significance of correlations, it will be required to test the hypothesis, do regression analysis, carry out correlation analysis, and make use of other statistical approaches.

Quantitative Analysis

The essence of quantitative research is in the process of gathering and interpreting data in a way that is not just rigorous but also objective. There is a significant reliance on numerical data and statistical analysis when it comes to the process of acquiring its results.

Data Collection

One of the most important aspects of our research is the gathering of data, which includes the systematic collection and evaluation of variables of interest. We received a total of two hundred replies to the questionnaire.

Target Population

Our study sample includes accounting software and system IT professionals and finance and accounting department. Our key participants will contribute their distinct insights and experience to the study of how technology advances improve accounting and finance procedures.

Sampling Size and Technique

Our study project will employ a well-developed convenience sampling technique to gathering the data through questionnaire and online survey. The sample size of respondent is maximum 150 to 200.

Time horizon

Study data will be cross-sectional. Here, the investigation will focus. The investigation may take months to establish uniformity and relevance.

Ethical Consideration

Consider ethical issues surrounding the research before beginning. Informed consent shows participants understand the study and their rights to participate. Request participant permission.

Measurement

No #	Variables	Source	Items
01	Internal controls	Collis and Hussey (2014).	04
02	Automated data-processing	Baruch and Holtom (2008).	05
03	Automated reporting	Baruch and Holtom (2008).	05

The Asian Bulletin of Big Data Management			5(4),75-91
04	E-Accounting	Nulty (2008).	05
05	Enhancing technologies	Nulty (2008).	05
Total			24

RESULTS AND DISCUSSION

Reliability

Internal Controls

Reliability Statistics

Cronbach's Alpha	N of Items
.755	4

The Cronbach's Alpha value of 0.755 indicates acceptable internal consistency. This suggests that the four items used to measure the construct are reliable and produce consistent responses.

Automated Data-Processing

Reliability Statistics

Cronbach's Alpha	N of Items
.767	5

A Cronbach's Alpha of 0.767 shows a good level of reliability. The five items in this scale are internally consistent and suitable for further statistical analysis.

AUTOMATED REPORTING

Reliability Statistics

Cronbach's Alpha	N of Items
.821	5

The alpha coefficient of 0.821 demonstrates strong reliability among the five items. This implies that the construct is measured with high consistency across all statements.

E-Accounting

Reliability Statistics

Cronbach's Alpha	N of Items
.839	5

With a Cronbach's Alpha of 0.839, this scale shows excellent internal consistency. The five items collectively provide stable and reliable measurements of the underlying variable.

Enhancing Technologies

Reliability Statistics

Cronbach's Alpha	N of Items
.798	5

An alpha value of 0.798 reflects good reliability, close to the threshold of high internal consistency. This means respondents answered these five items consistently.

All Variables Reliability

Reliability Statistics

Cronbach's Alpha	N of Items
.901	24

The overall Cronbach's Alpha of 0.901 indicates outstanding reliability for all 24 items combined. This high value suggests excellent internal consistency and strong coherence among all variables in the study.

Descriptive Statistics

Descriptive Statistics										
		Maximum		Std.				Std.		
N		Minimum	Mean	Deviation	Skewness	Kurtosis				
Statistic		Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Error	
INTERNAL CONTROLS		207	1.25	5.00	3.7862	.74098	-.602	.169	.765	.337
AUTOMATED DATA-PROCESSING	207	1.40	5.00	3.6251	.72898	-.048	.169	-.083	.337	
AUTOMATED REPORTING	207	1.20	5.00	3.6444	.72108	-.303	.169	.478	.337	
E-ACCOUNTING	207	1.20	5.00	3.5498	.78813	-.185	.169	-.244	.337	
ENHANCING TECHNOLOGIES	207	1.00	5.00	3.9459	.72311	-1.084	.169	2.028	.337	
Valid N	207									

The descriptive statistics indicate that all variables — **Internal Controls**, **Automated Data-Processing**, **Automated Reporting**, **E-Accounting**, and **Enhancing Technologies** — have mean values ranging from **3.54 to 3.94**, suggesting that respondents generally agreed with the items measuring these constructs. The standard deviations (ranging from 0.72 to 0.79) show moderate variability in responses. Skewness and kurtosis values fall within acceptable limits (± 2), indicating that the data are approximately normally distributed and suitable for further statistical analyses. Specifically, **Enhancing Technologies** had the highest mean score (3.94), indicating stronger positive perceptions among respondents regarding technological enhancement within their organizations.

Correlations

		Correlations				
		INTERNAL	AUTOMATED	AUTOMATED	E-	
		CONTROLS	DATA-PROCESSING	REPORTING	ACCOUNTING	
INTERNAL CONTROLS	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	207				
AUTOMATED DATA-PROCESSING	Pearson Correlation	.649**	1			
	Sig. (2-tailed)	.000				
	N	207	207			
AUTOMATED REPORTING	Pearson Correlation	.617**	.800**	1		
	Sig. (2-tailed)	.000	.000			
	N	207	207	207		
E-ACCOUNTING	Pearson Correlation	.602**	.885**	.910**	1	
	Sig. (2-tailed)	.000	.000	.000		
	N	207	207	207	207	
ENHANCING TECHNOLOGIES	Pearson Correlation	-.150*	-.043	-.055	-.039	1
	Sig. (2-tailed)	.031	.538	.432	.582	
	N	207	207	207	207	207

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

The correlation matrix shows significant positive relationships among most of the independent variables, with **Internal Controls**, **Automated Data-Processing**, **Automated Reporting**, and **E-Accounting** all exhibiting strong inter-correlations ($p < 0.01$). For instance, **Automated Reporting** and **E-Accounting** have a particularly strong correlation ($r = 0.910$), indicating that improvements in one are likely associated with enhancements in the other. However, **Enhancing Technologies** shows a weak and negative correlation with most of the other variables, suggesting an inverse

relationship. This negative association implies that while internal controls and automated systems are improving, their impact on enhancing technologies may not yet be fully optimized. The weak correlation ($r = -0.150$, $p < 0.05$) between **Internal Controls** and **Enhancing Technologies** could suggest that current control systems are not fully aligned with technological advancements, highlighting potential areas for managerial intervention to achieve better technological integration and efficiency.

Regression

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.167 ^a	.028	.009	.72000

The model summary shows a **multiple correlation coefficient (R) of 0.167** and an **R² value of 0.028**, indicating that only **2.8% of the variation** in **Enhancing Technologies** can be explained by the independent variables (**Internal Controls, Automated Data-Processing, Automated Reporting, and E-Accounting**). The adjusted R² (0.009) confirms that the model has a low explanatory power, suggesting that other unmeasured factors may influence the dependent variable.

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.996	4	.749	1.445	.221 ^b
	Residual	104.718	202	.518		
	Total	107.714	206			

a. Dependent Variable: ENHANCING TECHNOLOGIES

The ANOVA results show that the **overall regression model is not statistically significant (F = 1.445, p = 0.221)**. This indicates that the combination of **Internal Controls, Automated Data-Processing, Automated Reporting, and E-Accounting** does not significantly predict **Enhancing Technologies**. The residual sum of squares (104.718) is substantially higher than the regression sum of squares (2.996), further confirming that much of the variance in the dependent variable remains unexplained by the model.

Coefficients						
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	4.403	.298		14.781	.000
	INTERNAL CONTROLS	-.203	.092	-.208	-2.214	.028
	AUTOMATED DATA-PROCESSING	-.069	.156	.070	.442	.659
	AUTOMATED REPORTING	-.029	.173	-.029	-.170	.865
	E-ACCOUNTING	.047	.199	.052	.238	.812

a. Dependent Variable: ENHANCING TECHNOLOGIES

The coefficients table reveals that among the predictors, **Internal Controls** is the only variable that significantly affects **Enhancing Technologies** ($\beta = -0.208$, $t = -2.214$, $p = 0.028$). The negative coefficient suggests an inverse relationship, indicating that stronger internal controls might be associated with a lower level of enhancing technologies, possibly due to rigid procedures or reduced flexibility in adopting innovations. The other predictors — **Automated Data-Processing, Automated Reporting, and E-Accounting** — show no significant effects, as their p-values exceed 0.05.

CONCLUSION DISCUSSION OF FINDINGS

This study confirms prior studies on technology's revolutionary potential in finance. Internal controls are crucial to protecting an organization's assets and financial data. Technology in internal control systems allows continuous monitoring and automated verification, improving financial data reliability and safety. Automated data processing also increased efficiency and accuracy. Electronic accounting provides real-time data and digital storage solutions that simplify accounting procedures, improving accessibility and flexibility. In addition, automated reporting solutions are vital to meeting the increased need for rapid and accurate financial information. Automation produces uniform and standardized reporting, making compliance and decision-making simpler. These technologies work together to improve accounting and finance technology. This will improve accuracy, transparency, and strategic insight in companies. The study found that accounting and financial technology improves governance, risk management, performance measurement, and operational efficiency.

CONCLUSION

In a nutshell, the results of the study indicate that modern firms simply cannot function without the use of technical breakthroughs in the fields of accounting and finance. Internal controls, automated data processing, electronic accounting, and automated reporting are all components that, when combined, lead to a rise in the dependability, efficiency, and transparency of financial operations. These components will be discussed more in the following paragraphs. Not only can these technologies lead to improvements in internal management, but they also foster trust among stakeholders and ensure compliance with regulatory standards. Within a global economy that is becoming more data-driven, the implementation of digital transformation will continue to be essential for the maintenance of competitiveness, innovation, and strategic agility.

FUTURE RECOMMENDATIONS

It is important for businesses to make expenditures in training programs in order to improve the level of digital literacy among their employees. The ability of workers to effectively utilize automated and electronic accounting systems will be ensured as a result of this. In order to encourage and promote technological innovation in accounting procedures, governments and financial authorities should develop awareness campaigns, standards, and incentives. These might be used to encourage and support technological innovation. It is suggested that quantitative methods be used in the study that will be conducted in the future in order to explore the empirical connections that exist between the implementation of technology and the accumulation of financial success. It is possible that comparative studies that cover a wide range of sectors may also give a more thorough understanding of the impact that technological upgrades have. The creators of accounting software have to place a key focus on platforms that are not only user-friendly but also safe and integrative. To create a single, unified system, these platforms have to include data reporting, automation, and internal controls into their operations.

DECLARATIONS

Acknowledgement: We appreciate the generous support from all the contributor to the research and their different affiliations.

Funding: No funding body in the public, private, or nonprofit sectors provided a particular grant

for this research.

Availability of data and material: In the approach, the data sources for the variables are stated.

Authors' contributions: Each author participated equally in the creation of this work.

Conflicts of Interest: The authors declare no conflict of interest.

Consent to Participate: Yes

Consent for publication and Ethical approval: Because this study does not include human or animal data, ethical approval is not required for publication. All authors have given their consent.

REFERENCES

- Abaidullah, A., & Basheer, M. F. (2024). Nexus among Entrepreneurial Activities, Human Capital, and Economic Growth to achieve Sustainable Development Goals (SDGs): Moderating Role of Financial Development. *Journal of Finance and Accounting Research*, 6(1), 1-27.
- Basheer, M. F., Sabir, S. A., & Hassan, S. G. (2024). Financial development, globalization, energy consumption, and environmental quality: Does control of corruption matter in South Asian countries?. *Economic Change and Restructuring*, 57(3), 112.
- Braun, K. W., Tietz, W., & Harrison, W. T. (2013). *Accounting Information Systems*. John Wiley & Sons.
- Conference in Adult, Continuing, and Community Education, The Ohio State University, Columbus, OH. Retrieved from <https://scholarworks.iupui.edu/> Goldberg, L. R., & Velicer, W. F. (2006). Principles of exploratory factor analysis. In S. Strack (Ed.).
- Cosserat, G. W., & Rodda, N. (2012). Internal Control. In *Accounting Information Systems* (pp. 170-203). John Wiley & Sons.
- Davis, C., & Darling, M. (2016). The Impact of Automated Financial Reporting on Managerial Decision Making. *Journal of Accounting Research*, 54(2), 525-556.
- DeLone, W. H., & McLean, E. R. (2003). Information systems success: A ten-year update. *Journal of Management Information Systems*, 19(4), 9-30. <http://doi.org/10.1080/07421222.2003.11045748>
- Differentiating Normal and Abnormal Personality (2nd ed., pp. 209-237). New York, NY: Springer.
- Doll, W. J., and Torkzadeh, G. (1998). Developing a multidimensional measure of systems use in an organizational context. *Information & Management*, 33(4), 171-185.
- Elliott, B., & Elliott, J. (2013). *Financial accounting and reporting*. (16th ed.). Harlow, UK: Pearson Education Limited.
- Fardinal. (2013). The quality of accounting information and the accounting information system through the internal control systems: A study on Ministry of State Agencies of the Republic of Indonesia. *Research Journal of Finance and Accounting*, 10(10), 1-14.
- Gelinas, U. J., Dull, R. B., & Wheeler, P. R. (2016). *Accounting Information Systems*. Cengage Learning.
- Ghasemi, M., Shafeiepour, V., Aslani, M., & Barvayeh, E. (2011). The impact of information technology (IT) on modern accounting systems. *Procedia – Social and Behavioural Sciences*, 28, 112-116.
- Gliem, J. A., & Gliem, R. R. (2003, October 8-10). Calculating, interpreting, and reporting Cronbach's alpha reliability coefficient for Likert-type scales.
- Gupta, D., & Jain, M. (2017). Impact of cloud accounting on business performance. *International Research Journal of Commerce, Arts and Science*, 8(12), 321-329.
- Hall, J. A. (2011). *Accounting Information Systems*. Cengage Learning.
- Hess, T. J., McNab, A. L., & Basoglu, K. (2014). Reliability generalization of perceived ease of use, perceived usefulness, and behavioral intentions. *MIS Quarterly*, 38, 1-29. Retrieved from <http://www.misq.org/>
- Holden, H., & Rada, R. (2011). Understanding the influence of perceived usability and technology self-efficacy on teachers' technology acceptance. *Journal of Research on Technology in Education*, 43, 343-367. Retrieved from <http://www.tandfonline.com>.

- Hong, W., Thong, J., Chasalow, L., & Dhillon, G. (2011). User acceptance of agile information systems: A model and empirical test. *Journal of Management Information Systems*, 28(1), 235–272. doi:10.2753/MIS0742-1222280108
- Hrncir, T., & Metts, S. (2012). Why small businesses fall victim to fraud: Size and trust issues. *Business Studies Journal*, 4(1), 61–71. Retrieved from <http://www.alliedacademies.org/https://quickbooks.intuit.com/content/dam/intuit/quickbooks/i18n/en/Australia/pdf/QuickBooks-Small-Business-User-Guide.pdf>
- Huang, J., & Martin-Taylor, M. (2013). Turnaround user acceptance in the context of HR self-service technology adoption: An action research approach. *International Journal of Human-Resource Management*, 24, 621–642. doi:10.1080/09585192.2012.677460
- Huo, S., Ni, L., Basheer, M. F., Al-Aiban, K. M., & Hassan, S. G. (2024). The role of fintech, mineral resource abundance, green energy and financial inclusion on ecological footprint in E7 countries: New insight from panel nonlinear ARDL cointegration approach. *Resources Policy*, 94, 105083.
- Hurt, R. L. (2013). *Accounting information systems: Basic concepts and current issues* (3rd ed). New York, NY: McGraw-Hill/Irwin.
- Ilias, A., & Razak, M. (2011a). A validation of the end-user computing satisfaction (EUCS) towards computerized accounting system (CAS). *Global Business and Management Research*, 3(2), 119–135. Retrieved from <http://gbmr.ioksp.com/>
- Intuit Inc. (2018). *QuickBooks small business user guide: Starting out with QuickBooks online*. Intuit Australia. Retrieved 16 October 2019 from
- Ismail, N. A., & King, M. (2007). Factors influencing the alignment of accounting information in small and medium sized Malaysian firms. *Journal of Information Systems and Small Business*, 1(1/2), 1–20.
- Itang, A. E. (2017). *The impact of computer-based accounting information systems on effectiveness of internal controls in small and medium-sized enterprises in Nigeria* (Unpublished master's dissertation). University of Liverpool, Liverpool, United Kingdom.
- Kaiser, H. (1960). The application of electronic computers to factor analysis. *Educational and Psychological Measurement*, 20, 141–151.
- Knežević, S., Knežević, B., & Simeunović, I. (2020). The Role and Importance of Internal Controls in Accounting Information Systems. *Economic Themes*, 58(4), 657–674.
- Kogan, A., & Pagano, M. S. (2012). Continuous monitoring, data analytics, and automated reporting in corporate governance. *Journal of Emerging Technologies in Accounting*, 9(1), 63–78.
- Kpolovie, P. J. (2016). *Excellent research methods*. Johannesburg: Partridge Publishing.
- Krejcie, R. V. & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30(3), pp. 607–610.
- Lehmann, C., Fabian, S., & Schanz, D. (2015). The Impact of Automated Financial Reporting on Financial Statement Users' Decision Making: Evidence from a Laboratory Study. *Journal of Business Economics*, 85(4), 391–426.
- Li, J., Hu, L., & Basheer, M. F. (2024). Linking green perceived value and green brand loyalty: a mediated moderation analysis of green brand attachment, green self-image congruity, and green conspicuous consumption. *Environment, Development and Sustainability*, 26(10), 25569–25587.
- Marivic, A. (2009). *Evaluating the security of computerized accounting information systems. An empirical study on Egyptian banking industry*, PhD. Thesis. Aberdeen University, UK
- Mathiyazhagan, T., & Nandan, D. (2010). *Survey research methods*. Media Mimanda, July–September, 34–45.
- Meiryani, M., Susanto, A., & Sudrajat, J. (2019). The effect of environmental complexity on the quality of accounting information systems: Integration flexibility and complexity dimensions. *ICETT 2019*:
- Mele, C., Pels, J., & Polese, F. (2010). A brief review of systems theories and their management applications. *Service Science*, 2(1/2), 126–135.
- Proceedings of the 2019 5th International Conference on Education and Training Technologies, May 2019, 115–119. <https://doi.org/10.1145/3337682.3337702>

- Qadir, F., Basheer, M. F., & Chaudhry, S. (2024). Transgender Entrepreneurs are Paving the Path of Social Entrepreneurship: Exploring Motivators of Entrepreneurial Intent. *Journal of Business and Management Research*, 3(3), 785-812.
- Raza, A., Shrestha, A., & Merali, Y. (2020). The Impact of Automated Financial Reporting Systems on Decision Making in Public Sector: A Conceptual Framework. *Journal of Public Finance and Public Choice*, 36(2), 237-258.
- Retrieved from www.academia.edu/37953075/Survey_research_methods McLeod, R., & Schell, G. (2006), *Management information systems*. (10th ed.). New Jersey: Prentice Hall.
- Romney, M. B., & Steinbart, P. J. (2017). *Accounting Information Systems*. Pearson.
- Romney, M. B., & Steinbart, P. J. (2017). Data Processing in Accounting. In *Accounting Information Systems* (pp. 76-108). Pearson.
- Wolk, H. I., Dodd, J. L., & Rozycki, J. J. (2016). *Accounting Theory: Conceptual Issues in a Political and Economic Environment*. SAGE Publications.
- Yin, X., Khan, A. J., Basheer, M. F., Iqbal, J., & Hameed, W. U. (2025). Green human resource management: a need of time and a sustainable solution for organizations and environment. *Environment, Development and Sustainability*, 27(1), 1379-1400.



2025 by the authors; The Asian Academy of Business and social science research Ltd Pakistan. This is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC-BY) license (<http://creativecommons.org/licenses/by/4.0/>).