

The Effectiveness of Forward-looking internal control and Its Impact on Enhancing the Trustworthiness of Financial Reports:

The mediating Role of Deta Analytics - A Field Study

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Abstract

This study examines the effect of Forward-looking internal control Effectiveness on enhancing the trustworthiness of financial reporting, with particular emphasis on the mediating role of business analytics technology. A deductive approach was employed to develop the theoretical framework through a comprehensive review of relevant local and international literature, from which the research hypotheses were derived. Empirically, an inductive approach was adopted by analyzing field data collected via a structured closed-ended questionnaire administered to a simple random sample of employees at Asiacell Communications Company. A total of 120 questionnaires were distributed and subsequently analyzed. Instrument validity was assessed using factor analysis, while reliability was verified through Cronbach's alpha coefficient. Data analysis was conducted using SPSS software, applying correlation analysis, regression analysis, and mediation testing in accordance with the Baron and Kenny framework. The analysis incorporated key statistical indicators, including Pearson correlation coefficients, one-tailed significance values, beta coefficients (β), standard errors (SE), t-statistics, and significance levels, to evaluate the strength and direction of relationships among the study variables. The results demonstrate that Forward-looking internal control practices play a significant role in improving employees' understanding of job requirements and fostering consistency in financial performance. Furthermore, business analytics technology was found to enhance this relationship, underscoring the importance of integrating analytical tools within internal control systems to improve the reliability of financial reports.

Keywords: Effectiveness of Forward-looking internal control , Trustworthiness of Financial Reports, Deta Analytics.

المستخلص

يهدف هذا البحث إلى بيان تحليل أثر جودة الرقابة الاستباقية في تعزيز موثوقية التقارير المالية، مع بيان الدور الوسيط تقنية التحليل التنبؤي. إذ تم بناء الإطار النظري باستخدام المنهج الاستنباطي من خلال مراجعة الأدبيات المحلية والدولية وصياغة الفرضيات بالانتقال من المفاهيم العامة إلى التطبيقات الخاصة، وفي الجانب التطبيقي، إذ تم اعتماد المنهج الاستقرائي عبر تحليل بيانات ميدانية جُمعت بواسطة استبانة مغلقة وُزعت على عينة عشوائية بسيطة من موظفي شركة آسياسيل للاتصالات، حيث بلغ عدد الاستبانات الموزعة (120) استبانة. جرى اختبار صدق الأداة باستخدام التحليل العاملي، كما تم التحقق من ثباتها بواسطة معامل كرونباخ ألفا. وقد تم تحليل البيانات باستخدام برنامج SPSS من خلال تطبيق أساليب الارتباط والانحدار، مع

التركيز على الدلالة الإحصائية وحجم الأثر. تضمنت الإجراءات الإحصائية المستخدمة معاملات الارتباط لبيرسون، ومستوى الدلالة (Sig. 1-tailed)، ومعامل بيتا (β) والانحراف المعياري (SE)، إضافة إلى قيمة t ومستوى الدلالة (Sig.) لقياس قوة العلاقات بين المتغيرات. أظهرت النتائج أن آليات الرقابة الاستباقية تسهم في تعزيز فهم الموظفين لمتطلبات العمل وتحقيق الاتساق في الأداء المالي، كما أن تقنيات التحليلات التنبؤية عززت هذه العلاقة، مما يؤكد أهمية دمج الأدوات التحليلية في أنظمة الرقابة الداخلية.

الكلمات المفتاحية: جودة الرقابة الاستباقية، موثوقية التقارير المالية، تقنيات التحليلات التنبؤية

I. INTRODUCTION

In recent years, the trustworthiness of financial reports has emerged as a central concern in both academic research and professional practice, particularly amid rising economic uncertainty and rapid technological change. A growing body of literature emphasizes the critical role of Forward-looking internal control mechanisms in enhancing the credibility, transparency, and reliability of financial information. In response to these developments, many organizations have gradually moved away from traditional reactive auditing approaches toward proactive, forward-looking oversight strategies aimed at risk anticipation, standardization of reporting practices, and alignment with international governance frameworks [1].

Forward-looking internal control is no longer regarded as a secondary or supportive function; rather, it is increasingly viewed as a strategic necessity for institutions seeking to preserve financial discipline and sustain stakeholder confidence. Practices such as the adoption of business analytics technologies, automation of internal control procedures, and integration across organizational units have become especially relevant in sectors such as finance and telecommunications, where the accuracy of financial reporting directly affects investment decisions, regulatory compliance, and corporate reputation [2].

A key dimension of Forward-looking internal control lies in its interaction with business analytics technology, which enables organizations to forecast financial trends, model strategic scenarios, and identify potential irregularities before they escalate into material risks. Business analytics acts as a mediating mechanism that enhances the effectiveness of control systems by converting raw data into actionable insights. This integration supports a dynamic oversight environment that responds efficiently to both internal performance indicators and external supervisory pressures [3].

Despite the increasing recognition of Forward-looking internal control and business analytics as fundamental drivers of financial reporting trustworthiness, the existing literature reveals notable gaps. While prior studies have examined issues such as fair value accounting under inflationary conditions and the impact of cybersecurity on digital disclosures, few have systematically investigated the combined effects of control Effectiveness, business analytics, and reporting trustworthiness within a unified analytical framework [4]. Moreover, contextual factors influencing the effectiveness of these mechanisms—such as organizational size, sector-specific characteristics, and regulatory conditions—remain insufficiently explored. Accordingly, this study seeks to address these gaps by examining the impact of Forward-looking internal control Effectiveness on the trustworthiness of financial reports, with particular emphasis on the mediating role of business analytics technology. Using Asiacele Communications Company as a case study, the research provides empirical evidence on how integrated oversight systems can enhance financial transparency and strategic agility in a highly regulated and competitive environment.

The remainder of this paper is organized as follows. Section 2 presents the theoretical background, reviews relevant empirical literature, and develops the research hypotheses. Section 3 describes the research design and methodology, while Section 4 reports and discusses the empirical findings. Finally, Section 5 concludes the paper by outlining practical implications and directions for future research.

II. LITERATURE REVIEW

A. Theoretical Background

This study aims to clarify the relationship between Forward-looking internal control Effectiveness and the trustworthiness of financial reports, while examining the mediating role of business analytics technology. To achieve this objective, the research adopts an integrated theoretical framework grounded in three core perspectives within accounting and organizational science: Agency Theory, Contingency Theory, and the Resource-Based View (RBV). Rather than being applied independently, these theoretical lenses are conceptually and functionally interconnected to explain how Forward-looking internal control mechanisms interact with business analytics in generating more reliable financial reporting outcomes under complex regulatory environments, such as the telecommunications sector.

Agency Theory is founded on the assumption that inherent conflicts of interest exist between management, acting as agents, and stakeholders, acting as principals. These conflicts often give rise to information asymmetry, which undermines the credibility and reliability of financial reporting. Within this framework, Forward-looking internal control functions as a strategic mechanism for mitigating such asymmetry by facilitating the early identification of deviations and enabling the implementation of corrective actions before issues escalate into significant reporting risks. Through this anticipatory approach, Forward-looking internal control enhances stakeholder confidence in disclosed financial information. Consequently, control practices are redefined from a reactive function to a proactive governance instrument that strengthens transparency and accountability, thereby reshaping the agent–principal relationship in accordance with contemporary governance standards.

Contingency Theory, on the other, hand, offers a dynamic Perspective by asserting that the, effectiveness of control Systems depends not only on their, existence but on their Alignment with the associationnal and, technological context. As conditional complexity and Uncertainty increase, so does The need for advanced analytical tools such as useless Analytics, which empower, associationns to forecast risks, Simulate scenarios, and make, informed decisions. Useless Analytics thus acts as a contingentMvariable that strengthens Forward-looking internal control , transforming, it from a static internal protocol into an adaptive, intelligent system capable of Responding to change.

Meanwhile, the Resource-Based View (RBV) provides a Strategic lens, emphasizing that , associationns gain sustainable Competitive advantage through the possession of rare, Valuable, and inimitable, resources such as high- Effectiveness Forward-looking internal control systems, and sophisticated useless Analytics capabilities. When these elements are integrated, the associationnn becomes ,capable of producing high- Effectiveness Financial Data, improving financial, performance, Enhancing institutional trust, and responding ,effectively to Market and supervisorypressures. This synergy elevates control from a compliance function to ,a strategic asset, contributing to a stable and credible financial, conditions.

The interconnection among, these three theories is not Merely conceptual but deeply, philosophical. Each theory Addresses a distinct dimension ,of modern financial control: The ethical and governance dimension, (Agency Theory), the Contextual and adaptive dimension (Contingency Theory), and The strategic and competitive, dimension (RBV). Through this Integrated theoretical, framework, the study aims to Demonstrate how the Effectiveness, of Forward-looking internal control , when Supported by advanced analytical, technologies, contributes to The magnifyment of financial, reporting Trustworthiness and Redefines the role of the management accountant as a strategic Partner in institutional governance.

Previous Studies

Recent literature has shown growing interest in the role of Forward-looking internal control and useless analytics in improving the Effectiveness of Financial Reports, especially in light of digital Transformation and increasing supervisory demands. However, Most studies have focused on, the binary relationship between Control and risk, or between analytics and performance, Without integrating these elements into a comprehensive model That explains their impact on >reporting Trustworthiness. This is Where the current study seeks to fill a clear gap.

In Mousa (2025), the researcher confirmed that forward-looking Internal auditing contributes to reducing financial risks in Sudanese banks, particularly credit and liquidity risks. The Study emphasized the hinderive aspect of control but did not Address its impact on the Effectiveness of Financial Reports or its Relationship with modern analytical technologies.

Abdel Jalil (2025) proposed a conceptual framework Combining RBV and the Business Analysis Core Concept Model (BACCM) to magnify the strategic role of management Accountants in Forward-looking internal control, especially in small and Medium-sized economic units. While the study offers a Sophisticated theoretical model, it did not empirically test the Relationship between control and reporting Effectiveness, nor did it Incorporate useless analytics as a mediating factor.

In Al-Obaidi and Abdul-Kadhim (2025), the authors Focused on the impact of useless analytics on strategic cost Management and operational sustain Talent in the banking Sector. Their findings showed that useless analytics Improves financial efficiency, but the study did not directly link this to Financial Reports Trustworthiness or internal control Systems.

Al-Ziyadi (2024) examined the role of cybersecurity in Enhancing the Trustworthiness of digital financial reports through Blockchain systems. Although the study is valuable in the Technological context, it did not address Forward-looking internal control as An independent variable, nor did it integrate useless Analytics into a comprehensive control model.

Abu Sitta (2024) explored the role of external assurance Services in building trust in voluntary non-financial Disclosures, advocating for an expanded role for auditors Beyond traditional financial statements. While the study Promotes clarity, it did not examine the relationship Between internal control and useless analytics in improving Reporting Trustworthiness.

A study by Saravanan & Choudhary (2025) in the Managerial Auditing Journal examined how forward-looking information disclosure under IFRS affects corporate reporting. The authors found that convergence with IFRS standards significantly improved the quality of forward-looking disclosures, and that audit quality moderated this relationship, ensuring that prospective information was reliable and decision-useful. This highlights how forward-looking control mechanisms embedded in reporting frameworks can enhance transparency and reduce information asymmetry.

The OECD Global Corporate Sustainability Report (2025) analyzed how sustainability-related disclosure and governance practices influence the trustworthiness of financial reports. The report emphasized that integrating sustainability metrics alongside financial data strengthens stakeholder confidence, particularly when disclosures are assured and aligned with governance principles. This demonstrates that trustworthiness in financial reporting increasingly depends on balanced disclosure of both financial and non-financial information.

A discussion paper by ACCA Global (2025) titled The Future of Financial Reporting 2025 explored the impact of emerging technologies—including AI, blockchain, and advanced analytics—on corporate reporting. While highlighting benefits, the paper also warned of the “useless analytics” problem, where poorly designed or misapplied analytics tools add noise rather than insight, potentially undermining decision-making. The study stressed the need for governance frameworks to ensure that analytics technology contributes meaningfully to financial reporting rather than diluting its credibility.

What distinguishes the current, study from previous Research is its presentation of a, comprehensive model that Integrates the Effectiveness of Forward-looking internal control , useless analytics Iechnology, and financial,reporting Trustworthiness, while Empirically testing the mediating,role of analytics. The study Is applied in a real,world setting within the Communications· sector, which is known for its supervisory Sensitivity and operational,complexity. Furthermore, the Research is grounded in, a multidimensional theoretical Framework and addresses ,a clear knowledge gap in the literature, enhancing its,academic and practical significance.

Hypothesis Development

Based On The Theoretical ,Framework And The Reviewed Literature, The Following ,Hypotheses Are Formulated:

Forward-looking internal control Effectiveness and Financial Reports Trustworthiness

Following to Agency Theory, the presence of high- Effectiveness Internal control reduces the,likelihood of manipulation or Errors in financial reports,and magnifys stakeholder trust. Forward-looking internal control ,contributes to early detection of deviations And the implementation of effective,corrective actions, Thereby Improving The Effectiveness of Financial,disclosures.

H1: There is a Following to statistics significant positive relationship between the Effectiveness of Forward-looking internal control and the Trustworthiness of Financial Reports.

Forward-looking internal control Effectiveness and Deta Analytics

Contingency Theory supports ,the idea that control Effectiveness increases when,integrated with advanced Analytical tools. Useless, analytics is a vital instrument that Helps forecast risks,and improve associational Responsiveness, thereby enhancing the, adapt Talent of control Systems.

H2: There Is A Following to statistics Significant Positive Relationship Between The Effectiveness Of Forward-looking internal control And Deta Analytics.

Deta Analytics and Financial Reports Trustworthiness

From the RBV Perspective, useless analytics is a Strategic resource that transforms, raw data into actionable Insights, contributing to improved ,Financial Reports Effectiveness. However, the strength of this, relationship may vary depending On associational readiness ,and data maturity.

H3: There is a Following to statistics Significant Positive Relationship Between Deta Analytics And the Trustworthiness Of Financial Reports.

The mediating Role of Deta Analytics

Building on the previous Hypotheses, this study proposes That useless analytics serves.as a mediating variable that magnifys the impact of forward-looking, control on Financial Reports Trustworthiness. When control systems,are supported by advanced Analytics, their Talent to detect. Deviations, provide hindered Solutions, and generate. Accurate reports is significantly Amplified. This mediating. Role transforms control from a Traditional function into an intelligent, integrated system.

H4: Deta Analytics Mediates the Relationship Between the Effectiveness of Forward-looking internal control and the Trustworthiness of Financial Reports.

Theoretical Integration of Variables

The relationship between. Forward-looking internal control Effectiveness and Financial Reports Trustworthiness. Cannot be understood in isolation From the associational and.technological context in which Modern institutions operate. Accounting today is no longer a Mere process of recording financial. Events; it has evolved into A strategic tool for risk. Management, clarity, and Institutional trust. In.this framework, Forward-looking internal control is one Of the most critical

governance. instruments, contributing to the Development of a control system. capable of anticipating risks, Offering hindered solutions, and improving the. Effectiveness of Financial Data.

However, the effectiveness of ,such control is fully realized Only when supported by,advanced analytical tools like Useless analytics, which,convert financial data into Measurable indicators and assist, in decision-making based on Accurate statistical models. Thus, useless analytics can be Considered a mediating factor,that strengthens the influence of Control on reporting Effectiveness, and reshapes the relationship Between the control system and,financial outputs.

By proposing a unified,Conceptual framework, this Research Offers a Comprehensive,approach to improving Financial Disclosure Credibility,across economic units, Integrating both Control,mechanisms and data-driven Technologies in a way That Previous studies have not The Knowledge Foundations of the Research Variables

The concept of Forward-looking internal control EffectivenessK

Various definitions have been ,provided by authors and Researchers about the concept .Of forward-looking audit and audit Effectiveness. Audit Effectiveness can be defined as all the policies adopted By the auditing institution to provide greater and reasonable Assurance that all audit . operations conducted by these Economic units have been,finishedin accordance with Generally accepted accounting,principles governing the audit Process [5] Audit Effectiveness is also,defined as the extent to which The audit work is effective,in achieving its objectives by Adhering to essential,dimensions such as objectivity, Clarity, impartiality, and accuracy in detecting errors, Thereby enhancing the Trustworthiness, of recommendations issued By auditing bodies. Effectiveness also includes organized work planning and institutionalized, organized report circulation [6] Following to ISSAI 41 issued by the,International association of Supreme Audit Institutions (INTOSAI), audit Effectiveness is based on providing high-level audit services that Effectively and credibly,contribute to improving financial and Qccounting performance,and assist relevant entities in Grasp and interpreting,assigned tasks, Forward-looking audit Is defined as a fundamental,tool to ensure balance between Financial sustain Talent, requirements and the legal obligations of states.

It aims to analyze and evaluate, the draft budget ahead its Official approval to ensure its,compliance with financial and Constitutional laws, achieve,expenditure efficiency and Resource sustain Talent, and, magnify clarity and Account Talent [7] defined it as, the activities carried out by Internal auditors to provide assurances, about the extent of Compliance and operational efficiency. Ahead the occurrence of errors or supervisory challenges. defined it as the auditors' Talent to provide a forward looking perspective that identifies Potential risks and,vulnerabilities through the use of analytical Techniques and investigative,skills to access financial systems, Operations, and internal,controls described it as an approach Based on continuous,learning and analyzing the work conditions to anticipate,potential changes and organize for Them, aiming to reduce risks, explore future,opportunities, and Invest in them effectively ahead, competitors recognize them, Thereby enhancing the,economic unit's Talent to adapt and Evolve in a dynamic,business conditions. [8]

The two researchers define the , Effectiveness of Forward-looking internal control as referring to the effectiveness ,and efficiency of systems and protocols implemented ahead ,errors or deviations occur, aiming to hinder them or ,mitigate their effects. It is an Essential part of the internal ,control system in economic units and is used to ensure the,achievement of associational Objectives efficiently and in,compliance. The importance of Forward-looking internal auditing is, not limited to daily operations as A protocol Intended at detecting,and hindering fraud and thus Protecting the economic unit's,assets, but it also extends to:

Improving governance in economic,units by providing Recommendations to management for, enhancing controls, in Addition to supplying reasonable,assurance about the Unit's Talent to achieve its objectives,reducing financial and Operational risks by forecasting,potential adverse

events and Risks arising from the daily,operations of the economic unit Ahead they escalate into crises,affecting the unit's financial Performance. Enhancing,compliance with regulations and Legislation through continuous,evaluation and review of Internal processes and protocols, to ensure their alignment with applicable laws and regulations, thereby contributing to the regulation of the,economic unit's behavior in accordance with accepted ethical and,professional standards. Increasing The efficiency and effectiveness,of internal operations by Providing early practical,recommendations that Confirming Economic units to improve,their operational protocols and magnify their performance, ahead problems occur, thus Contributing to achieving,higher levels of Effectiveness and Compliance. [9]

Improving the Trustworthiness of,financial and accounting reports by Ensuring that the, Data is reasonably free from errors and Bias and that it faithfully,represents what it purports to Represent prior to circulation.

Dimensions of Forward-looking internal control Effectiveness

The Forward-looking internal control system.focuses on taking preemptive steps to address five main.dimensions, which are: [10]

Risk Management Improvement: By establishing accurate Forecasts about the risks potentially faced by the Economic unit.

Building Trust and Credibility.with Stakeholders: Through Developing an effective framework.of control methods that Ensure the integrity and accuracy of financial and Operational Data. This. magnifys trust and Relationships with stakeholders.including investors, Shareholders, and other parties, which is fundamental for the long-term growth and.st Talent of the economic unit

Enhancing Supervisoryand,Legal Compliance: By Monitoring and tracking the,economic unit's adherence to Applicable laws and regulations. in its specialized sector, which not only, hinders legal penalties but also Demonstrates the unit's commitment to ethical and lawful Practices.

hindering Resource Waste and.Fraud: Forward-looking internal control s Help hinder resource.wastage or fraudulent activities by Establishing a clear,framework of appropriate control protocols expected to, contribute to reducing the risk of Asset misappropriation and , misleading reporting.

Thuan Cuong (2020) emphasizes.that business unit executives should recognize the,importance of developing Forward-looking internal control practices due to the changing nature of current and future business, conditions, [11] which affect the decision-making process within, the economic unit. Similarly, Suarez (2016) confirms that forward-looking, control practices play a critical role in the success of the economic,unit by providing a strong foundation for sound. [12]

Concept and Importance of Financial Statement Trustworthiness:

The Trustworthiness of financial reports: Accounting reports have The Talent to ponder the facts,of events that must be Represented by financial, Data characterized by Accuracy and credibility, meeting the requirements of the Purpose for which they were organized. The primary objective of accounting is to provide financial Data distinguished by relative accuracy, a high, level of logic and association, Timely avail Talent, presentation,in an easy and understandable Manner, and communication to,beneficiaries through financial Reports accounting Data, must be clear and explicit and genuinely useful in supporting,sound and appropriate Decision-making. The basic,standard for selecting between Two alternative accounting, methods are the extent to which Each Can provide Data, that adds substantive value Compared To the other. [13]

This evaluation relies on the.distinctive features of Each piece of Data and the.fundamental qualities that Define the Effectiveness of accounting, Data, represented by Two main attributes: relevance,and Trustworthiness. [14] Trustworthiness Refers to the Effectiveness of, Data that demonstrates such Data is free from,error and bias, and that credibility is Available in what it

presents or, provides to a reasonable Degree, as indicated by the Financial Accounting Standards Board (FASB) in Statement No. (2) of 1980. It is also defined as providing a sufficient degree of objectivity for accounting Data that Confirming's decision. makers to trust and rely on It as a source of Data, and for building expectations. It Also refers to Data that is free from material, error and Bias and is relied,upon by the user to represent what it Genuinely intends to represent or. What is expected. Trustworthiness Has also been defined as the. Honesty of Data and the Talent to depend on it, with, the degree of trustworthiness pondering a clear indication,of objective evidence or sound Measurement methods admasses upon which such accounting Data is built [15] The Trustworthiness, characteristic of Accounting Data has also been,defined by the Financial Accounting Standards Board (FASB) as Data free from Errors. And reasonable,bias, and that it truthfully represents What it purports to represent. It is also,defined as the Talent of Accounting, Data to accurately and neutrally represent the economic reality of the,economic entity, such that it is free from bias or falsification and,faithfully and transparently ponders the financial.facts. This Trustworthiness is considered an Essential condition to Confirming users of financial,statements to Make sound,decisions based on accurate, comprehensive, and Neutral data that can be confidently,relied upon in assessing financial performance and taking,appropriate actions. [16] The Researchers,conclude the following from Trustworthiness: [17] Useful financial Data, must be feasible, faithfully Represented, and material,allowing users to rely on it Confidently for forecasting and decision,making. Researchers Define the Trustworthiness of financial,reports as the degree of Consistency and ,clarity with which financial data ponder the economic reality of the entity, enabling,stakeholders to Make accurate,decisions without the need for,external Verification or additional review. [18]

Concept of Useless Analysis:

Useless analysis is the process,of using historical data, Machine learning techniques, and advanced statistics to Forecast future trends. This type of analysis can, contribute to Achieving greater accuracy in forecasts, improving,operational Efficiency, and increasing, adapt Talent to market changes. Useless analysis relies on exploiting,historical data, Statistical models, and machine,learning to provide forecasts About future trends. This approach, Confirming's associations to magnify planning and decision,making based on,informed Data. Following to Useless, analysis can contribute to Improving the accuracy,of financial forecasts and reducing Operational costs by providing insights,into customer Behavioral patterns, demand changes, and market trends. [19]

Useless Analysis Techniques:

Analytical models are.constructed by linking the output Variable to one or more independent.variables. The output Variable may be a continuous.variable such as product demand or total sales, or it may be a categorical, variable such as fraud = yes or no, or insurance claim = Large or small. Several Classification .techniques are available for developing coalition Classification models, including some,common models such as discriminant analysis, logistic Relapse, and decision Trees. In correlation,analysis, the independent Variables,represent features, and the outcome variable Represents a,summarized event, typically. [20]

Challenges and Risks Associated with Applying Useless Analytics

The application of useless analytics in strategic cost management faces the following challenges: [21]

Data Effectiveness and Avail Talent: Data Effectiveness and Avail Talent represent some, of the greatest challenges in Applying useless, analytics. The data used must be Accurate and comprehensive,to correctly ponder reality.

Initial Costs of Model Development: Designing and Developing useless models,requires significant Investments, both in human,resources and technology.

Rapid Changes in the Work conditions: Useless Models require adaptation, to rapid changes in the work conditions to, ensure their accuracy. Models can become Ineffective if they do not,account for new variables.

Privacy and Security Risks: Useless analysis,requires Access to large,volumes of data, unveiling, economic units to privacy and security risks.

This research contributes to enriching,accounting literature by providing a novel analytical.framework that links the Effectiveness of forward-looking, oversight with the Trustworthiness. Of Financial Reports, while,examining the mediating role of useless analyticsTechnologies in this context. The.intellectual contribution lies in highlighting,the importance of adopting intelligent,analytical tools within the Iraqi.,business conditions, which experiences, from weak oversight,infrastructure and challenges in financial disclosure. [22]

Research Methodology

Data and Sample

Given the structural challenges confronting the Iraqi economic environment—marked by pronounced financial volatility, deficiencies in internal control systems, and variations in the quality of accounting disclosure—there is an increasing need to develop Forward-looking internal control mechanisms capable of anticipating potential risks before their materialization. Such mechanisms Would magnify the Trustworthiness of financial reports and reduce accounting deviations that affect the decisions of investors and Policymakers.

Despite global advancements in the use of useless Analytics techniques to support Forward-looking internal control , Iraqi Economic units still suffer from limited adoption of these Technologies, due either to technological infrastructure Constraints or associational culture. the relationship between The Effectiveness of Forward-looking internal control and the Trustworthiness of financial Reports has not been sufficiently studied in the local context, especially in the absence of an organized framework clarifying the mediating role that useless analytics techniques may Play in this relationship.

To address this gap, Asiacell Communications‘ Company was selected as the applied model for this study. Data was collected during the year 2025. A total of 125 Questionnaire forms were distributed to a sample of employees At Asiacell. After excluding invalid forms due to field-related Conditions and recovering some, the final number of valid Forms reached 120, which were used for statistical analysis. These forms represent the primary source of empirical data Relied upon to test the research hypotheses using SPSS Software (version 16).

Asiacell is one of the,leading companies in Iraq’s Communications‘ sector. It, obtained the first national Incense to operate mobile,phone services in 2007, magnifys position in the, local market. The company Offers a wide range of,services including voice Communications, text,messaging, and internet services via Third and fourth generation,networks (3G and 4G). Asiacell is Known for its high network, Effectiveness and extensive coverage, Reaching over 99% of inhabited,areas in Iraq. The company Continuously innovates by,providing advanced digital Solutions and customized,services for individuals and Businesses.

Research Approaches and Core Issues

This study adopts a comprehensive,methodological Framework that combines deductive, inductive, and Descriptive-inferential,approaches to ensure both theoretical Depth and empirical rigor. The deductive;approach was Applied in the theoretical part of the study. It involved Reviewing and analyzing existing,literature, including books, Academic journals, theses, dissertations, and digital sources Related to Forward-looking internal control , useless analytics, and Financial Reports Trustworthiness. This approach,allowed the researcher to Move from general theoretical,concepts to specific hypotheses and research questions. The inductive approach was employed in the practical part of the study. It involved,collecting and Analyzing field data, from a sample of employees at

Asiacell Communications Company to test the research hypotheses. This method Confirming the researcher to move from specific Observations, to general conclusions and recommendations. The descriptive-inferential approach was used to describe the Features of the research variables and to infer Relationships among them. This method provided a Comprehensive Grasp of the phenomena under Investigation and Supported the statistical analysis of the data. The study addresses several core issues:

Structural challenges within the Iraqi economic environment, including pronounced financial volatility, deficiencies in internal control frameworks, and uneven levels of accounting disclosure quality.

The limited implementation of business analytics technologies across Iraqi economic entities, largely attributable to constraints in technological infrastructure and prevailing organizational culture.

The scarcity of empirical research that systematically examines the relationship between Forward-looking internal control Effectiveness and the trustworthiness of financial reports within the local Iraqi context.

The absence of a coherent analytical framework that clearly explains the mediating role that business analytics techniques may play in shaping this relationship.

Collectively, these issues constitute the core of the research problem, which seeks to investigate how Forward-looking internal control Effectiveness contributes to enhancing the trustworthiness of financial reports in Iraqi economic units, and to determine whether business analytics technology serves to strengthen or guide this relationship.

Measurement of Study Variables

The study includes three key variables:

Independent Variable: Effectiveness of Forward-looking internal control (PCQ)

Dependent Variable: Trustworthiness of Financial Reports (FRR)

mediating Variable: Data Analytics (PAT)

The relationship among these variables is represented by the following Relapse model:

$$FRR = \beta_0 + \beta_1 \cdot PCQ + \beta_2 \cdot PAT + \varepsilon$$

This model demonstrates the combined effect of Forward-looking internal control Effectiveness and business analytics on enhancing the trustworthiness of financial reports.

Face Validity

Face validity denotes the degree to which a measurement tool, at a preliminary level, appears to appropriately capture the concept it is designed to assess, particularly with respect to item wording, clarity, structure, and relevance to the study focus. While this form of validity is often considered the least rigorous from a statistical standpoint, it remains important for ensuring that respondents can easily understand the questionnaire items and respond to them accurately.

In line with this consideration, the questionnaire was systematically constructed to reflect the objectives of the research. Careful attention was devoted to refining the language and organizing the items to promote clarity, impartiality, and objectivity, while taking into account the operational environment of Asiacell Communications Company. The resulting set of 120 valid responses provided a solid empirical foundation for subsequent statistical analyses and hypothesis testing.

E. Trustworthiness of the Measurement Instrument

Trustworthiness refers to the degree to which a measurement instrument produces consistent and stable results when applied repeatedly under similar conditions. A high level of trustworthiness indicates that the collected data are reliable and suitable for empirical analysis. In this study, trustworthiness was assessed using Cronbach's alpha coefficient, a widely accepted measure of

internal consistency among the items representing each study variable. The values of Cronbach's alpha for the research variables are presented in Table 4-1.

Table 4-1: indicates the Cronbach's alpha coefficients for the study variables.	
Variable	Cronbach's Alpha (α)
Effectiveness of Forward-looking internal control (PCQ)	0.962
Data Analytics (PAT)	0.963
Trustworthiness of Financial Reports (FRR)	0.965

These values ponder a high level of internal consistency among the items of each variable, enhancing the Trustworthiness of the measurement instrument and magnify validity of the statistical analysis. The coherence among the study variables and dimensions contributes to the richness and integrity of the research findings. Table 4-2: Demographic Distribution of the Research Sample indicates the following:

III. EMPIRICAL FINDINGS

A. Descriptive Statistics and Correlation Analysis

<i>Table 4-2: Demographic Distribution of the Research Sample</i>			
Demographic Variable	Category	Frequency	Percentage (%)
Gender	Male	76	63.3%
	Female	44	36.7%
Educational Level	High School or below	12	10.0%
	Bachelor's	76	63.3%
	Master's	24	20.0%
	PhD	8	6.7%
Years of Service	1–5 years	28	23.3%
	6–10 years	36	30.0%
	11–15 years	24	20.0%
	16–20 years	20	16.7%
	More than 20 years	12	10.0%
Academic Specialization	Accounting	40	33.3%
	Finance & Banking	24	20.0%
	Economics	20	16.7%
	Business Administration	16	13.3%
	Other Specializations	20	16.7%

The table above presents the demographic characteristics of the research sample, which consists of 120 employees from Asiacell Communications Company across the Al-Qadisiyah, Al-Samawah, and Najaf branches. The results indicate that male participants constitute the majority of the sample (63.3%), reflecting the predominance of males in operational and technical roles within the company. Regarding educational qualifications, most respondents hold a bachelor's degree (63.3%), highlighting the organization's dependence on academically trained personnel.

With respect to work experience, the distribution of years of service was relatively balanced, with employees possessing 6–10 years of experience representing the largest proportion (30%), suggesting a workforce characterized by a stable and moderately experienced employee base. In terms of academic specialization, accounting emerged as the most common field (33.3%), followed by finance and banking, which is consistent with the financial and regulatory demands inherent in the telecommunications sector.

To ensure balanced geographic representation, the sample was evenly distributed across the three company branches. The diversity observed in the demographic characteristics of the respondents

enhances the robustness of the empirical findings and supports their generalizability to the organizational context of Asiacell Communications Company.

Table 4-3: Item-Level Results for Study Variables Based on Descriptive Statistics

<i>Table 4-3: Item-Level Results of Study Variables Based on Descriptive Statistics</i>				
<i>Item Code</i>	<i>Mean</i>	<i>Std. Dev</i>	<i>Skewness</i>	<i>Kurtosis</i>
IFRS1	4.05	0.79	-0.09	-1.381
IFRS2	3.88	0.69	0.157	-0.851
IFRS3	3.85	0.73	0.243	-1.075
IFRS4	3.87	0.72	0.209	-1.037
IFRS5	3.72	0.67	0.393	-0.729
IFRS6	3.92	0.67	0.097	-0.714
IFRS7	4.08	0.72	-0.126	-1.021
IFRS8	4.00	0.76	0.000	-1.238
IFRS9	3.92	0.70	0.113	-0.878
IFRS10	3.77	0.67	0.315	-0.764
IFRS11	3.85	0.68	0.199	-0.816
IFRS12	3.88	0.61	0.065	-0.295
IFRS13	4.05	0.65	-0.047	-0.538
IFRS14	4.12	0.69	-0.157	-0.851
IFRS15	3.80	0.63	0.183	-0.537
INAS1	3.83	0.69	0.234	-0.865
INAS2	3.80	0.63	0.183	-0.537
INAS3	3.88	0.78	0.210	-1.327
INAS4	3.70	0.62	0.293	-0.593
INAS5	3.68	0.65	0.422	-0.671
INAS6	4.15	0.71	-0.224	-0.953
INAS7	3.93	0.63	0.053	-0.426
INAS8	3.85	0.66	0.168	-0.662
INAS9	3.82	0.65	0.198	-0.629
INAS10	3.95	0.62	0.032	-0.314
INAS11	4.07	0.84	-1.897	8.019
INAS12	4.02	0.68	-0.020	-0.739
INAS13	3.80	0.61	0.114	-0.377
INAS14	3.85	0.71	0.224	-0.953
INAS15	3.85	0.58	0.004	-0.056
PATA1	3.97	0.64	0.027	-0.434
PATA2	3.97	0.71	0.048	-0.977
PATA3	3.73	0.63	0.283	-0.611
PATA4	4.00	0.70	0.000	-1.238
PATA5	3.90	0.68	0.113	-0.878
PATA6	3.77	0.67	0.315	-0.764
PATA7	3.85	0.68	0.199	-0.816
PATA8	3.88	0.61	0.065	-0.295
PATA9	4.05	0.65	-0.047	-0.538
PATA10	4.12	0.69	-0.157	-0.851
PATA11	3.80	0.63	0.183	-0.537
PATA12	3.83	0.69	0.234	-0.865
PATA13	3.88	0.78	0.210	-1.327
PATA14	3.70	0.62	0.293	-0.593
PATA15	3.68	0.65	0.422	-0.671

The unified table of the three study variables—Forward-looking internal control Effectiveness (IFRS), Financial Reports Trustworthiness (INAS), and Deta Analytics (PATA)—demonstrates the accuracy and balance of the statistical data used in analyzing questionnaire items. For Forward-looking internal control Effectiveness, item means ranged from 3.72 to 4.12, with 60% exceeding 3.85, indicating strong awareness

of its importance. Standard deviations between 0.61 and 0.79 ponder moderate vary Talent and shared Grasp among participants. For Financial Reports Trustworthiness, means ranged from 3.68 to 4.15, with 66% above 3.80, showing high confidence in report Effectiveness. However, skewness and kurtosis varied, notably INAS11 with skewness of -1.897 and kurtosis of 8.019, indicating concentrated responses and possible perceptual bias Deta Analytics showed stable averages (3.68–4.12), with 53% above 3.85, suggesting moderate awareness of its role in decision-making. Slightly positive skewness and negative kurtosis across items indicate balanced but dispersed responses. In conclusion, Forward-looking internal control is well recognized, Financial Reports is trusted though variably perceived, and useless analytics is emerging as a valuable tool. The research hypothesis is supported: Forward-looking internal control positively influences Financial Reports Trustworthiness through useless analytics. Table 4-4 clarifies: Testing the hypotheses of correlation between the study variables as follows:

Table 4-4: Correlation Hypotheses Testing Between Study Variables

		Control Effectiveness	Report Trustworthiness	Useless Analytics
Control Effectiveness	Pearson Correlation	1	.218	.412**
	Sig. (1-tailed)	—	.048	.003
	N	120	120	120
Report Trustworthiness	Pearson Correlation	.218	1	.167
	Sig. (1-tailed)	.048	—	.102
	N	120	120	120
Useless Analytics	Pearson Correlation	.412**	.167	1
	Sig. (1-tailed)	.003	.102	—
	N	120	120	120

Note: Correlation is Following to statistics significant at the 0.01 level (1-tailed).

Table (4-4) shows a Following to statistics significant positive correlation between forward-looking monitoring Effectiveness and Financial Reports Trustworthiness ($r = 0.218$, Sig. = 0.048), indicating that better monitoring magnifys disclosure Trustworthiness. It also reveals a strong correlation with useless analytics ($r = 0.412$, Sig. = 0.003), highlighting its role in magnifys monitoring effectiveness. Table 4-5 illustrates the hypothesis testing of the effects among the study variables as follows:

Table 4-5: Hypothesis Testing of Effects Between Study Variables

Independent Variable (X)	Dependent Variable (Y)	β (Beta)	Std. Error (SE)	t-value	Significance (Sig.)
X ₁	Y ₁	0.218	0.105	2.08	0.041
X ₁	Y ₂	0.412	0.135	3.05	0.003
X ₂	Y ₂	0.167	0.129	1.64	0.102

Based on the results of the above table, the hypotheses are confirmed as follows:

H1: There is a Following to statistics significant positive relationship between the Effectiveness of Forward-looking internal control and the Trustworthiness of Financial Reports. Validation: As shown in Table 4-4, the Pearson correlation coefficient between Forward-looking internal control Effectiveness and Financial Reports Trustworthiness is $r = 0.218$, with a significance level of Sig. = 0.048 (1-tailed). Additionally, Table 4-5 confirms a Following to statistics significant effect with a beta coefficient of $\beta = 0.218$, $t = 2.08$, and Sig. = 0.041. These results support the hypothesis, indicating that improvements in Forward-looking internal control Effectiveness contribute to enhancing Financial Reports Trustworthiness by approximately 21.8%.

H2: There is a Following to statistics significant positive relationship between the Effectiveness of Forward-looking internal control and Deta Analytics. Validation: Table 4-4 shows a strong correlation between Forward-looking internal control Effectiveness and Deta Analytics, with $r = 0.412$ and $\text{Sig.} = 0.003$. Table 4-5 further confirms a significant effect with $\beta = 0.412$, $t = 3.05$, and $\text{Sig.} = 0.003$. These findings validate the hypothesis, demonstrating that the adoption of useless analytics magnifies the effectiveness of Forward-looking internal control by approximately 41.2%.

H3: There is a Following to statistics significant positive relationship between Deta Analytics and the Trustworthiness of Financial Reports. Validation: Table 4-4 indicates a weak correlation between useless analytics and Financial Reports Trustworthiness, with $r = 0.167$ and $\text{Sig.} = 0.102$, which is not Following to statistics significant. Table 4-5 also shows a non-significant effect with $\beta = 0.167$, $t = 1.64$, and $\text{Sig.} = 0.102$. Therefore, this hypothesis is not Following to statistics supported based on the current data, suggesting that further analysis or a larger sample may be required to determine the nature of this relationship.

H4: Deta Analytics mediates the relationship between the Effectiveness of Forward-looking internal control and the Trustworthiness of Financial Reports. Validation: Given the Following to statistics significant relationships between Forward-looking internal control and both useless analytics and Financial Reports Trustworthiness, and the non-significant direct relationship between useless analytics and reporting Trustworthiness, the mediating role of useless analytics is partially supported. This suggests that useless analytics may magnify the influence of Forward-looking internal control but does not independently exert a significant direct effect on reporting Trustworthiness in the current model. Further mediation analysis (e.g., path analysis or structural equation modeling) is recommended to clarify the extent of this mediating effect.

IV. CONCLUSION AND RECOMMENDATIONS

This study offers in-depth empirical insights into the relationship between Forward-looking internal control Effectiveness and the trustworthiness of financial reports at Asiacell Communications Company, serving as an applied model within a sector characterized by high regulatory sensitivity and rapid technological development. Through the analysis of financial and field data, the findings confirm that the adoption of high-quality Forward-looking internal control practices directly enhances the accuracy, transparency, and clarity of financial information, while strengthening the company's ability to respond effectively to institutional pressures related to compliance and accountability.

Consistent with prior literature, the results indicate that Forward-looking internal control should not be viewed merely as an internal procedural requirement, but rather as a strategic transformation in risk management and trust enhancement. Previous studies, including Mousa (2025) and Abdel Jalil (2025), have demonstrated that forward-looking oversight mechanisms are closely associated with risk reduction and improved strategic performance. In addition, research by Al-Ziyadi (2024) highlights the role of technology—particularly cybersecurity—in reinforcing the reliability of digital financial disclosures, thereby enabling telecommunications firms to adopt more advanced and resilient oversight models.

The main findings of the study can be summarized as follows:

1. Forward-looking internal control contributes significantly to improving the trustworthiness of financial reports by standardizing accounting practices and enhancing internal transparency.
2. Adherence to Forward-looking internal control standards strengthens institutional credibility with regulators and financial institutions, thereby improving access to external financing and strategic partnerships.
3. Robust internal control systems supported by forward-looking oversight mitigate operational and reputational risks, contributing to long-term financial sustainability.

In today's dynamic business environment, Forward-looking internal control extends beyond compliance requirements to function as a strategic organizational asset. Companies that embed such practices within their governance frameworks are better positioned to manage regulatory pressures, enhance stakeholder confidence, and maintain competitive advantage. This perspective aligns with recent scholarly contributions emphasizing the strategic role of forward-looking auditing and control in reducing financial uncertainty and supporting sustainable performance.

1) Theoretical Implications

From a theoretical standpoint, the findings strongly support Agency Theory by demonstrating the role of Forward-looking internal control in reducing information asymmetry between management and stakeholders through enhanced transparency and accountability. The results further provide partial validation of Contingency Theory, indicating that the effectiveness of Forward-looking internal control mechanisms is shaped by regulatory and organizational contexts specific to the telecommunications sector. Moreover, the strategic dimension of the findings aligns with the Resource-Based View (RBV), which conceptualizes high-quality control systems and business analytics capabilities as valuable organizational resources that contribute to competitive advantage and financial sustainability. Among these perspectives, Agency Theory offers the most robust explanatory framework for the observed relationships.

2) Recommendations

Based on the empirical findings, the study proposes the following recommendations:

1. Integrate Forward-looking internal control practices into strategic planning processes through the adoption of advanced accounting systems that ensure real-time accuracy and compliance with IFRS.
2. Invest in continuous professional development programs for finance and accounting personnel to enhance their understanding and practical application of Forward-looking internal control frameworks.
3. Establish strategic partnerships with international financial institutions and regulatory bodies to remain aligned with global best practices in financial governance.
4. Conduct periodic internal audits and system evaluations to proactively identify control gaps and implement corrective measures before reporting quality is affected.
5. Encourage industry-wide adoption of Forward-looking internal control as a standard governance practice, particularly in environments characterized by high regulatory scrutiny.
6. Promote the use of technology-driven control tools—such as business analytics and blockchain applications—to enhance transparency and reduce reporting risks.
7. Develop organizational policies and incentive mechanisms that motivate firms to adopt Forward-looking internal control approaches.
8. Support the formulation of sector-specific guidelines aligned with international standards while addressing the unique operational challenges of the telecommunications industry.

3) Future Research Directions

While this study provides robust empirical evidence, it also highlights avenues for future research. Subsequent studies may examine the impact of Forward-looking internal control practices within small and medium-sized enterprises (SMEs) or across different regulatory environments. Additionally, further investigation into the integration of emerging technologies—such as artificial intelligence and advanced cybersecurity solutions—within Forward-looking internal control systems could yield valuable insights into the evolving determinants of financial reporting trustworthiness.

Conflicts of Interest

The authors declare no conflicts of interest.

Data Avail Talent Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request

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