 ISSN: 2709-8923

ICBC 2025
&
ICRB 2025

WELCOME MESSAGE FROM THE CONFERENCE CHAIR

Honorable Vice-Chancellor, Fraternity from Academia; Partners from Industry, Presenters; Participants; Research Scholars and Students.

Dear Esteemed Faculty Members, Researchers, Scholars, and Participants,

It is with immense pleasure and enthusiasm that I welcome you all to the Hailey Research Week 2025, scheduled for November 05–07, 2025, at Hailey College of Commerce, University of the Punjab, Lahore. This event underscores our unwavering commitment to fostering a culture of research, innovation, and academic excellence. I am delighted to share that this year's Hailey Research Week will feature several key events, including:

The 5th International Conference on Business and Commerce
The 4th International Conference on Religion in Business
The Three-Minute Thesis (3MT) Competition
Seminars and Training Sessions

The 5th International Conference on Business and Commerce will bring together prominent scholars, practitioners, and researchers from around the world to discuss and exchange insights on contemporary challenges and opportunities in the field. It provides an exceptional platform for knowledge sharing, networking, and collaboration. The 4th International Conference on Religion in Business will explore the intersection of faith, ethics, and business practices. This unique platform aims to enhance our understanding of how religious and ethical values can contribute to sustainable and responsible business practices. The Three-Minute Thesis (3MT) Competition will provide an exciting stage for research students to present their work succinctly and engagingly. This event emphasizes the importance of effective communication, enabling researchers to make complex ideas accessible to diverse audiences. Our seminars and training sessions will offer invaluable opportunities to gain insights and develop skills, benefiting both seasoned academics and emerging researchers. These sessions will ensure participants stay informed about the latest trends and advancements in their fields.

I wholeheartedly encourage all participants to actively engage in these events, share ideas, and contribute to the intellectual dynamism of our academic community. Your enthusiasm and participation are vital to the success of Hailey Research Week 2026. I extend my sincere gratitude to the organizing committee, sponsors, and everyone who has contributed to making this event possible. Let us work together to create a memorable, intellectually enriching experience that inspires innovation and collaboration.

Thank you, and I eagerly look forward to an event filled with insightful discussions, impactful partnerships, and ground breaking research.

Warm regards,
Dr. Hafiz Zafar Ahmad
Principal, Hailey College of Commerce
University of the Punjab, Lahore

KEY NOTE SPEAKERS

Prof. Dr. Muhammad Ali (T.I & S.I), Vice Chancellor University of the Punjab.

Mr. Noman Aslam, Director General IPO Pakistan

Prof. Dr. Farooq Anwar, Pro-Vice Chancellor, NUR University

Ms. Xiaonong Cheng, Ambassadors of China to Pakistan

Prof. Dr. Zulfqar Ahmad, Former Dean & Principal HCC.

THE MEDIATING ROLE OF TECHNOLOGICAL VIGILANCE BETWEEN IT INFRASTRUCTURE AND AIS EFFICIENCY: EVIDENCE FROM CONVENTIONAL BANKS IN PAKISTAN

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The purpose of this study is to investigate the mediating role of technological vigilance within the Conventional banks in Pakistan supporting the relationship between IT infrastructure (including hardware, software, maintenance, security, networks, interoperability, and information quality) and AIS efficiency. This study adopts a quantitative approach, incorporating a survey design and utilizing a questionnaire for primary data acquisition, 279 responses were received from bankers holding various designations, including financial, accounting and financial facilities managers across Conventional banks of Pakistan that was analyzed through Hayes PROCESS macro (Model 4). The study finds that technological vigilance mediates the role between IT infrastructure constructs and AIS efficiency, indicating that the mediating effect is particularly stronger in Conventional banks. These findings underscore the dual operational and strategic value of IT infrastructure in enhancing AIS efficiency and offer valuable insights for improving IT governance within the conventional banking sector of Pakistan.

Keywords: Technological Vigilance, AIS Efficiency, IT Infrastructure, Banks, Conventional Banks, Pakistan

Exploring the Determinants of Sustainable Women Entrepreneurial Practices: The Mediating Role of Women's Empowerment in Pakistan

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Sustainable women entrepreneur practices are the capability of women entrepreneurs to sustain their business undertakings in the long-term without losing economic, social and environmental sustainability. Although there has been increased awareness that women-led ventures are important, most businesses have struggled to prosper in their operations as it is hard for them to access funds to support their businesses. They face lack of support by their social capital, and there are those who are not even aware of technology. This theoretical research paper examines how the concepts of financial literacy, social capital, and digital literacy would impact sustainable women entrepreneur practices. Also, another topic explored in this study is the mediating role of women empowerment between financial literacy, social capital, and digital literacy and sustainable women entrepreneur practices. The paper is based on the theories of social capital and women empowerment; it suggests the concept of an all-inclusive framework, which represents how these can improve the level of innovation, resilience, and sustainability among female entrepreneurs in Pakistan. It is a qualitative study in methodological terms, as the literature review is used to summarize the previous empirical results and establish testable propositions to be followed in the future research. This research study is significant in that it comprehends multidimensional empowerment and offers an insight to the policy-makers and practitioners in enhancing the practice of women entrepreneurs in the emerging economies such as Pakistan.

Keywords: W*omen empowerment, sustainable women entrepreneurship, financial literacy, social capital, digital literacy, emerging economies.*

Exploring the Impact of Board Characteristics on Audit Quality: The Moderating Role of Gender Diversity

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This study investigates the impact of board characteristics on audit quality, emphasizing the moderating role of gender diversity in listed non-financial companies on the Karachi Stock Exchange (KSE-100). Drawing on agency theory, the research explores how board independence and board size influence the quality of external audits, while considering the presence of female directors as a potential enhancer of governance effectiveness. Using data from 70 listed firms over the period 2019–2023, the study employs the Generalized Method of Moments (GMM) regression technique to address endogeneity concerns and provide robust estimates. The findings reveal that board independence has a significant negative relationship with audit quality, whereas board size positively and significantly affects audit quality. Moreover, gender diversity positively moderates these relationships, suggesting that female directors strengthen governance oversight and enhance the credibility of audit outcomes. These results underscore the importance of promoting gender- inclusive governance structures to improve audit quality and corporate transparency. The study offers practical insights for investors, policymakers, and regulatory bodies seeking to enhance corporate accountability in emerging markets like Pakistan.

Keywords: Board size, Board independence, Gender diversity, Audit quality, Corporate Governance, KSE-100.

Revisiting the Liquidity Profitability Nexus: The Role of Working Capital Management in the Food Industry of Pakistan.

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This study aims to evaluate the relationship between working capital management (WCM) and financial performance of companies. This study used the cash conversion cycle (CCC) as proxy to measure the WCM (inventory turnover, accounts receivable turnover, and accounts payable). The present study considered 20 publicly traded food companies listed on PSX from 2019 to 2023. The study uses fixed effects followed by the Hausman test based on trade off theory transaction cost theory and the resource based view. The result show that CCC has a strong and favorable link to ROE and a somewhat less strong link ROA this shows how important it is to time all of your working capital at once. On the other hand the rotation of inventory receivables and payables does not have any statistically significant effects on a company profits also leverage has a big and bad effect on roe which makes worries about debt burden in capital structure decision making even stronger. The result show that integrated WCM, especially CCC efficiency can help businesses make more money in industries with high risk and perishable goods. The report gives managers useful advice on how to enhance WCM procedures, close eye on the working capital cycle these ideas add to the small amount of writing that exists on managing finances in specialized sectors in developing countries like Pakistan.

Key words:

Working Capital Management (WCM), cash conversion cycle (CCC), firm performance Food Industry, Return on Assets (ROA) , Return on Equity (ROE).

The Golden Circle of Sustainability: Aligning Why, How, and What

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Sustainability has become a strategic necessity in a progressively challenging environment, although conceptual clarity continues to be unattainable. The frequent utilization of terms like sustainability, sustainable development, and sustainable performance leads to misunderstandings in both academic and practical realms. This conceptual paper provides a comprehensive framework for understanding sustainability logic by employing Simon Golden Circle model. Why stands for Sustainability (Purpose), How; is for Sustainable Development (Process), and What stands for Sustainable Performance (Outcome). The study offers a unified framework that connects purpose with performance by combining the triadic model with the Tripple Bottom Line (TBL), which includes economic, social, and environmental aspects. It also presents a multi-stakeholder viewpoint, highlighting the roles of individuals, businesses, society, and governments as key factors in determining outcomes. The study conceptually enriches the sustainability literature by providing conceptual clarity, integrating effect frameworks with strategy objectives, and linking diverse notions. It offers a diagnostic tool to help people, groups, countries, politicians, and teachers connect their ideas with clear goals and long-term results that can be measured.

Keywords: Sustainability, Sustainable Development, Sustainable Performance, Golden Circle Framework, Why-How-What, Conceptual Model, TBL Approach

Examining the Impact of ESG factors on firm performance with the moderating role of Board Size

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The theoretical base for the paper is to investigate the impact of Environmental, social and governance factors on Firm financial performance (FFP) measured by ROA in Pakistan. The sample for the study is 50 companies listed on the Stock Exchange of Pakistan from 2019 to 2023. The results entailed that Escore and Sscore has an insignificant impact on firm financial performance measured by ROA. And the Gscore has a positive and significant relationship with Firm financial performance. Board size does not moderate the
Relationship of Escore and Sscore with ROA while in Governance score it moderates the relationship. The data technique used in the study is dynamic panel regression on STATA.

Keywords: ESG, Board size, Firm financial performance, Emerging Markets

Shariah vs. Sin: Does Islam Save our Money in Crisis? A Case of Pakistani Stock Market during COVID-1G

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Crises are more common nowadays than they were few decades ago. As the compelxities of life generaly and businesses specifically are increasing, the frequency and magnitude of economic crises have amplified too. Just in the last 20 years we have witnessed some major economic crises like the Global Financial Crisis (GFC) of 2007-08, European Debt Crisis and more recently, the COVID-19 economic crisis. During these uncertain times, the investors look upon the financial experts and scholars to guide them regarding the most secure investments. Therefore, this study aims at providing such an investment option to the stock market investors by suggesting a stock which shows more resilience during these crises periods. By studying and comparing two of the most famous stocks around the world i.e. Shariah (Islamic) and Sin (Vice) stocks in the context of COVID-19 crisis, we compared their performance in terms of dividend stability and stock price volatililty. Applying descriptive statistics, Correlation analyhsis and paired t-test comparison techniques on Shariah and Sin stocks listed on the Pakistan Stock Exchage during the time period of 2018-22, it was found that Shariah stocks depict more stability in terms of both: Dividend and Stock price volatility. The data for pre and post COVID-19 was also tested and results were similar. Therefore, it is preferable to invest in Shariah stocks than the Sin stocks during the economically difficult times.

Keywords – Crises, COVID-19, Shariah Stocks, Sin Stocks, Dividend, Stock Price Volatility, Resilience

To investigate the relationship between ethnic restaurant cues and behavior intention and brand extension, especially for those who are more exposed to media and have a stronger influence.

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Design/Methodology/Approach -The study will use data of 400 respondents through convenience sampling. In the first phase of study, we will conduct a study on 30 respondents to measure validity and reliability of the questionnaire. Previous studies have explored the impact of religious cues on brand- revisit intention by mediating the role of consumer satisfaction and emotions in ethnic restaurants. The originality and value of this study lie in enhancing the existing framework by including moderators such as media influence, examining how people exposed to media experience a stronger impact of cues on consumer satisfaction than others. Moreover, this media exposure may trigger impulsive food consumption and visits to ethnic restaurants, such as watching vlogs, or serials related to international cuisines, or seeing these foods featured in dramas. To the best of my knowledge, media inducing culture influence has not yet been included in models examining the impact on the relationship between cues, satisfaction, and subsequently, behavioral intention. Furthermore, the study is not limited to behavioral intention but also examines brand extension through word of mouth. It also explores the impact of demographics like income, age, social status, and others on behavioral intention and brand extension. Moreover, this study includes four main international cuisines present in Pakistan: Korean, Chinese, Turkish, and French. This allows assessment of which cuisine has more impact due to social status, price, or media exposure. This constitutes the originality and value of the paper.

Keywords- ethnic restaurants, restaurant cues, media, culture, authenticity, media exposure

Trust-Building through WhatsApp Business Branding: Evidence from Informal Entrepreneurs in Pakistan

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This study aims to how informal entrepreneurs are using WhatsApp features to signal mn credibility, build trust and enhance engagement that can lead to entrepreneurial growth. Limitations like limited financing, lacking institutional support and weak regulatory frameworks are may significantly hinder the development of informal entrepreneurs in emerging economies like Pakistan. However, WhatsApp Business provides features that may help informal businesses through affordable branding and communication that may improve trust and engagement. This research uses signaling, trust and engagement theories and proposes a quantitative model to examine the effect WhatsApp branding practices have on entrepreneurial growth using trust and engagement as mediators while digital literacy and perceived risk moderate this relationship. It will be a cross-sectional study where data from 100 to 200 active WhatsApp business users will be collected to give insight into efficient uses of WhatsApp business features.

The effects of Market Orientation and sales manager control on Salesperson outcome Performance Through Parallel mediation approach: Empirical Evidence from Pharmaceuticals Industry.

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The purpose of this study is to examine the parallel mediation role of sales manager control and salesperson behavioral performance on the relationship between market orientation and salesperson outcome performance in the pharmaceuticals industry in Pakistan. Improving salesperson performance through sales manager control and behavioral performance is a growing issue in the global pharmaceuticals industry, and these factors can improve the performance of the pharmaceuticals industry. In this study 180 sales managers are respondents, and self-administered survey was employed targeting sales managers working at pharmaceuticals companies operating in Pakistan. Its research utilizes non-probability convenience. Samples for study and study have cross section type. Specifically, the results show that market orientation is related to salespersons outcome performance and parallel mediation exist through mediators first sales manager control and then salesperson behavioral performance. The authors discuss the implications of these results and highlight directions for future research.

Keywords Market Orientation, Sales Manager control, Salespersons Behavioral Performance, Salespersons Outcome Performance

The Role of Artificial Intelligence in Quality Education

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This paper discusses how Artificial Intelligence (AI) can be used to improve quality education, and it dwells on the intentions of students to use AI tools in learning contexts. Based on the proposed models like the Technology Acceptance Model (TAM) and Unified Theory of Acceptance and Use of Technology (UTAUT), the study looks at the elements that determine the adoption of AI such as the expectation of AI performance, effort expectancy,Trust and the issue of privacy. A quantitative survey was used to gather information among 107 university students whose results demonstrated that AI performance expectancy and AI trust have the most positive influence on the behavioral intention to use AI tools among students. The role of effort expectancy is also very strong, but concern of privacy is rather weak negative. Findings point to the significance of focusing on the aspects of trust and performance expectations in AI adoption facilitation in education. This paper has value to the knowledge of AI in education and it gives practical recommendations to policy makers and educators in the implementation of AI tools**.**

Green Banking and Bank Performance in Pakistan

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Profitability and sustainability refer to the financial and long-term performance of the bank,demonstrating and its ability to generate return consistently while maintaining responsible and eco-friendly operations. These outcomes can be measured by key financial indicators such as return on asset and return on equity, and the others profitability ratio that reflect how a bank operates its available resources for sustainable and steady growth. The conceptual study will analyze how green banking practices, including green finance, environmental risk analyses, energy-efficient operations, and firms' green investments, contribute to improving the profitability and sustainability of banks in Pakistan. Also, the framework investigates the moderating role played by Digital Transformation, which is foreseen to Enhanced the relationship between green banking initiatives and financial performance through operational efficiency, technological innovation, and greener financial solutions. This study will, therefore, adopt a conceptual methodology through the development of a theoretical framework that guides future empirical studies using existing literature. The proposed model will provide valuable insights into policymakers, researchers, and banking institutions that target an integrated system between environmental sustainability and financial performance in the banking industry of Pakistan.

Keywords: Green Financing Practices, Environmental Risk Assessment, Return on Assets, Return on Equity, Firm’s Green Investment.

Impact of Fintech Adoption on User Behavior of Gen Z and Millennials in Pakistan, A Conceptual Paper

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People in developing countries like Pakistan have been using financial technology more extensively now. However, Fintech adoption varies by generation. The purpose of this study is to look into how various generations use financial technology. This model suggests that two important mediators payment convenience and perceived trust affect this relationship since users would be more inclined to rely on FinTech when transactions become safe and painless. The moderating variable of this study is financial literacy and it is recognized that those with higher levels of financial literacy may make more responsible and confident online financial decisions. The analysis of these interrelated factors will help the study better understand how and why the generational groups vary in their use of FinTech in Pakistan.

Keywords: Financial Technology, Users, Adoption, Gen Z, Millennials, Trust, Convenience

Green Investment and ESG Performance: Unveiling The role of Climate Risk Disclosure in Mitigating Financial Risks.

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Escalation in financial risks and statutory stress have pushed corporate bodies worldwide to blend eco-friendly initiatives with their financial and strategic plannings. In Pakistan, climate driven fluctuations for instance heatwaves, floods and water deficiency are surging, making green investment and environmental, social and governance (ESG) performance crucial for firm resilience in the long run. However, inadequate transparency in climate-related statistics is giving investors a hard time to measure risk sensitivity efficiently. This study analyses how climate risk disclosure can intensify relation between ESG performance and green investment to decrease financial risks by Pakistani Firms. Transparent disclosure leads to strengthen beneficiaries' keenness, boost corporate image and facilitates effective capital allocation. Environment related reporting may alleviate financial uncertainties by refining risk evaluation and assisting compliance in advancing sustainability legislations. By relating disclosure factor with f inancial possibilities, this study focuses on the significance of liable governance and responsibility. The conceptual findings are anticipated to play crucial role for policymakers, administrators, and compliance bodies targeting for sustainable progression in Pakistan's advancing capital market landscape, while giving evidence of investor`s interest with climate driven variabilities.

Capital Structure Decisions and Financial Outcomes: Revisiting the Role of Leverage

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This study investigates the relationship between capital structure decisions specifically leverage and the financial outcomes of non-financial firms in Pakistan. Using firm-level data the research explores whether leverage significantly influences firms' budgetary performance and market value. The findings reveal that leverage does not exert a substantial impact on either financial performance or market valuation. However, firm age exhibits a persistent and significantly negative effect suggesting that older firms tend to experience declining growth and profitability over time. Additionally, managerial ownership was found to have neither a strong moderating role nor a direct effect on financial outcomes, possibly due to data constraints or limitations in ownership structures. These results challenge the applicability of traditional capital structure theories such as the trade-off and pecking order models within the context of Pakistan's corporate environment, which is characterized by market inefficiencies, concentrated ownership, and governance related issues. The study contributes to the ongoing discourse on capital structure by emphasizing the contextual nature of financial theories and highlighting the need for policy and managerial reforms to address structural weaknesses in emerging markets

Enhancing Financial Stability through Governance: Assessing the Role of Risk Management in Pakistan's Islamic Bank

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This study investigates the relationship between risk management and the financial performance of Islamic banks in Pakistan. The study examines the impacts of important variables such as Return on Assets (ROA), Risk, Bank Size, and Corporate Governance (CG) Using panel data from 50 observations and econometric techniques like Pooled OLS, Random Effects, and Fixed Effects models. The results were checked for heteroskedasticity, autocorrelation, and multicollinearity using a variety of diagnostic tests, including the Variance Inflation Factor (VIF), Wooldridge test, Modified Wald test, and Breusch-Pagan LM test. Multicollinearity, guaranteeing the resultsC#39; resilience, the Fixed Effects model was chosen due to its greater explanatory power and theoretical support. The results show that bank size hurts ROA, risk significantly improves financial performance, and corporate governance moderates the relationship between risk and performance by improving the bank capacity to effectively manage risk. Even though CG by itself had a negative impact,when combined with risk, it produced a noteworthy and favourable result, underscoring its significance as a strategic tool. Risk exposure, institutional size, and the calibre of Governance frameworks were important determinants of performance. These findings add to the expanding corpus of research on Islamic finance and provide useful guidance for bank managers, regulators, and legislators looking to improve governance and risk management in Pakistan's Islamic banking industry.

Keywords: Islamic Banking, risk management, corporate governance, financial performance, fixed effect model, ROA, Pakistan

Digital Pathways to Market Transformation: The Synergistic Impact of Mobile Money and Inclusive Innovation on Financial Inclusion in Developing Economies

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Abstract

Millions of small enterprises and poor individuals in the developing Asian and African countries. they are not able to resort to the formal banking system and must therefore conform to the Shadow economy. Cell phones are in vogue, but technology can never be the answer to this issue. The research article imparts a gap. hole in the existing body of knowledge by exploring the impact of bringing about an inclusive Innovation (financial). products that target the poor particularly) and Mobile Money Diffusion (spreading digital). payments) collaborate to enhance "Financial Inclusion." The paper also examines "Regulatory. Quality" as a moderating variable, the point is that the success of digital finance is highly reliant on how. well a government is a maker and enforcer of laws. We believe that there is a relationship between innovation and mobile money. larger positive impact in case they are supported by good rules. Small businesses are depicted in this study. how one can transition to carrying out business on cash basis to carrying out business on a formal basis. The findings indicate that to achieve real growth, policy-makers should do not just support technology. They have to establish a credible regulatory framework that will promote new financial concepts.

Keywords: Mobile Money; Inclusive Innovation; Financial Inclusion; Regulatory Quality; Fintech; Developing Economy.

Exploring the Determinants of Sustainable Women Entrepreneurial Practices: The Mediating Role of Women's Empowerment in Pakistan

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Sustainable women entrepreneur practices refer to the ability of women entrepreneurs to maintain their business ventures over the long term while maintaining economic, social, and environmental continuity. Despite the growing recognition of them importance, many women-led ventures still face difficulties in thriving them businesses due to limited access to finance, insufficient support from their social capital, and difficulties in understanding technology. This conceptual study explores the effects of financial literacy, social capital, and digital literacy on sustainable women entrepreneur practices. Additionally, this study also investigated the mediating effect of women's empowerment in the relationship between financial literacy, social capital, and digital literacy with sustainable women entrepreneur practices. Rooted in social capital and women empowerment theories, this study proposes the idea of a comprehensive framework illustrating the effects of these on enhancing innovation, resilience, and sustainability among women entrepreneurs in Pakistan. Methodologically, this is a qualitative study, based on a literature review to synthesize the prior empirical findings and to formulate testable propositions for future research. This study contributes by understanding multidimensional empowerment and provides insights to strengthen women entrepreneur practices in emerging economies like Pakistan for policymakers and practitioners.

Keywords: Women empowerment, sustainable women entrepreneurship, financial literacy, social capital, digital literacy, emerging economies.

How Environmentally responsible financial and Innovation practices contribute to a firm's Sustainable performance

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Sustainable performance reflects the organizations ability to achieve long-term growth by balancing economic profitability along with environmental and social responsibility. It is focused on the integration of sustainability perspectives into business strategies, which guarantees operational efficiency, stakeholder value creation and resource conservation. This paper will suggest a secondary-data-based model to investigate the role of green finance and green innovation in achieving sustainable performance of the oil and gas industry in Pakistan with environmental regulation mediating the relationships. Based on a quantitative, deductive, longitudinal research design, the study will use data found at the firm-level through the annual reports, sustainability disclosures, SECP filings, PSX databases, State Bank of Pakistan green finance reports, and national environmental regulatory documents. The model is based on Resource-Based View, Institutional Theory, and the Porter Hypothesis, and it states that environmental oriented financing and eco-innovative practices are the major drivers of the enhanced environmental, social and economical performance. The impact of these elements is likely to be enhanced with the help of the environmental regulation which could guarantee the adherence and provide assistance to the resource-efficient practices. The suggested framework fills the voids in the existing body of literature by combining three aspects of sustainability, namely financial, technological, and regulatory dimensions of sustainability in one model. The research under consideration gives ground to further empirical tests and has indicators to be used by policy makers and business leaders who are interested in making the energy sector of Pakistan more sustainable.

Key Words: Green Finance, Green Innovation, Environmental Regulation, Sustainable Performance

The Impact of Behavioral Intentions on Sustainable Supply Chain Practices: Testing the Theory of Planned Behavior in Logistics

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This study will examine the behavioral factors that influence the adoption of Sustainable Supply Chain Practices (SSCP) among the manufacturing organizations within the governorate of Al Buraimi, Oman. Based on the Theory of Planned Behaviour. (TPB), this research studied to what extent attitude towards sustainable practices, subjective norms, and perceived behavioural control together determine the behavioural intentions to adopt sustainable supply chain practices. Design/Methodology/Approach: A quantitative, cross- sectional research design was implemented through structured questionnaires from logistics and supply chain managers in the manufacturing sector in the governorate of Al Buraimi, Oman. Smart PLS 4 was utilized for hypothesis testing through structural equation modelling. Findings: The structural model results demonstrated that attitudes towards sustainable supply chain practices significantly influenced behavioural intentions ($\beta = 0.623$, $p < 0.001$), while subjective norms ($\beta = 0.192$, $p = 0.091$) and perceived behavioral control ($\beta = 0.157$, $p =0.178$) was found to be statistically insignificant in influencing supply chain practices. In addition, Behavioral intention to adopt sustainable supply chain practices was statistically significant in influencing the Adoption of Sustainable Supply Chain Practices ($\beta = 0.819$, $p < 0.001$) Theoretical Contribution: This study extends the application of the TPB within a logistics and supply chain context in the emerging economic region and thus provides fresh empirical evidence in the Sultanate of Oman. In addition, the research will help expand literature in logistics. Limitations/Implication The research is geographically limited to one governorate; generalizability across other industries or regions may thus be constrained. The cross-sectional design also precludes causal inference over time. However, the findings are significant in their implication for

The Role of Artificial Intelligence in Forecasting Demand and Inventory Management

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The research seeks to explore the significance of Artificial Intelligence in Forecasting Demand and Inventory Management among manufacturing firms operating in the governorate of Al Buraimi, Oman. The research is anchored on the Technology Acceptance Model (TAM).Design/Methodology/Approach: The quantitative research design was implemented using a structured survey to collect data from supply chain and operations managers in manufacturing organizations in the governorate of Al Buraimi, Oman. Smart PLS 4 software tool was employed for hypothesis testing. The structural results confirm that AI capabilities significantly predict both perceived usefulness ($\beta = 0.564$, $p < 0.001$) and perceived ease of use ($\beta = 0.529$, $p < 0.001$). Similarly, organisational readiness exerts a positive and significant effect on perceived usefulness ($\beta = 0.363$, $p = 0.002$) and perceived ease of use ($\beta = 0.413$, $p < 0.001$). Both mediating factors further influenced demand forecasting and inventory management Performance, with perceived usefulness ($\beta = 0.569$, $p < 0.001$) and perceived ease of use ($\beta = 0.384$, $p < 0.001$) had a significant effect on demand forecasting and inventory management Performance. These results indicate that successful AI adoption in supply chains is driven by technological capability, internal institutional readiness, and user acceptance.Contribution: This study extends the Technology Acceptance Model in a logistics environment. It illustrates that Technology Acceptance Model, can explain both behaviouralintention and operational performance in a supply chain setting. In addition, the study will also contribute to the existing body of literature review from an Omani perspective.Limitations/Implications The research is region-specific to an Omani governorate, thereby making it specific to that area rather than generalized in other regions. Additionally, it is cross-sectional research, thereby lacking information on the level of adoption maturity achieved over time. However, the research provides valuable managerial implications with regard to emphasizing the importance of capability development for the successful use of AI for operational excellence

Effectiveness of Corporate Social Responsibility on Sustainable business Performance: The mediating role of Green Innovation

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Abstract

One of the aims of organizations has been to achieve sustainable business performance in order to remain economically stable and at the same time be able to fulfill their social and environmental obligations. This study examines the way that Corporate Social Responsibility could enhance sustainable business performance using the role of green innovation that encompass both green products and green process. It also focus on the effect of green intellectual capital consisting of green human,social,technological and spiritual capital to the relationship between CSR and green innovation. The study will seek to learn how CSR established, together with green innovation and intellectual capital, can lead to sustainable longevity and a ruthless edge on business organizations. An approach of quantitative research was applied and questionnaires that were sent to the companies operating in the environmentally sensitive industries. To test the hypotheses and to analyze the proposed model, statistical tests were conducted total, this work contributes to the literature on sustainability by demonstrating a set of interactions between CSR, innovation, and intellectual capital in promoting long-term success of the organization.

Keywords: Corporate Social Responsibility, Green Innovation, Sustainable Business Performance, Green Intellectual Capital.

EWOM and halal cosmetics purchase intentions: An explanatory mechanism

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The Halal cosmetics market has been growing but remains under-researched, particularly regarding what makes young people (Generation Z) in Oman want to buy Halal cosmetics. By using the Theory of Planned Behaviour (TPB), we looked at how online reviews and recommendations (EWOM) and their knowledge about Halal products (HPK) influence them decisions and conducted online surveys from gen Z Omanis to understand them better.Purpose: This study investigates the factors that influence Halal cosmetics purchase intentions with Generation Z consumers in Oman. It looks at the role of Electronic Word-of- Mouth (EWOM) and Halal Product Knowledge (HPK) by using the Theory of Planned Behaviour (TPB) framework to understand the cognitive and social drivers behind their buying decisions. Methods: The research is quantitative, so data was collected with an online survey from a sample of almost 100 Gen Z participants. The collected data was analysed using correlation and regression analysis to test the hypothesized relationships between EWOM, TPB constructs (Attitude, Subjective Norms, Perceived Behavioural Control), HPK, and Purchase Intentions. Findings: The analysis found strong positive connections for Omani youth, seeing positive online reviews (EWOM) was significantly linked to a greater intention to buy Halal cosmetics. This relationship worked by shaping their attitudes, strengthening social pressure, and increasing them confidence in buying. Also, Halal Product Knowledge (HPK) played an important role in strengthening the relationship between online reviews and the factors that drive purchase decisions. Implications: For Researchers we improved a popular theory by adding online reviews and product knowledge, therefore giving them a clearer picture of why young Muslims buy ethical products. And for marketers the results are a practical guide. You should shape your online reviews, make your Halal labels easy to trust and run campaigns that teach customers.

AI as a Strategic Mediator: Enhancing the Impact of Corporate Social Responsibility on Customer Loyalty in the Banking Sector

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This research examines the crucial mediating role of artificial intelligence strategies in enhancing the relationship between corporate social responsibility initiatives and customer loyalty within Pakistan's banking sector. As financial institutions navigate increasing consumer expectations for both ethical business practices and digital sophistication, this study addresses a significant gap in understanding how AI technologies can amplify the impact of CSR on customer retention and loyalty building. Using a quantitative methodology, data was collected from 200 banking customers through a structured questionnaire measuring three key constructs: CSR perceptions, AI-driven strategy implementation, and customer loyalty indicators. The analysis employed rigorous statistical methods including reliability testing, correlation analysis, and mediation analysis using Hayes PROCESS Macro. The findings reveal that AI- driven strategies serve as a significant partial mediator in the CSR-loyalty relationship, with a substantial indirect effect of 0.3272 demonstrating that AI technologies channel approximately one-third of CSR's impact on customer loyalty. Specifically, the research identifies three critical AI applications that drive this mediation effect: AI-powered chatbots that provide consistent ethical service and CSR communication, hyper personalized messaging that tailors' social responsibility content to individual customer values, and sentiment analysis tools that enable real-time adaptation of CSR initiatives based on customer feedback. These technologies enhance the customer experience by increasing perceived authenticity, responsiveness, and emotional connection to the bank's social responsibility efforts. The study provides valuable insights for banking professionals seeking to optimize their CSR investments through strategic AI integration, particularly in emerging markets where digital transformation and ethical banking expectations are simultaneously accelerating.

XR-Driven Engagement in Interior Design – A Pakistani Perspective Abstract The rapid evolution of Extended Reality (XR)—encompassing Virtual Reality (VR), Augmented Reality (AR), and Mixed Reality (MR)—is reshaping how industries engage clients and deliver services.

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This research explores the application of Virtual Experiential Marketing (VEM) within Pakistan's interior design sector, aiming to assess how immersive technologies enhance client engagement, design visualization, and project delivery. By integrating XR tools into the design process, this study investigates their role in creating interactive environments that foster customer satisfaction and influence decision-making. While XR has demonstrated potential to elevate user experience, its impact on workflow efficiency remains contested, with some studies noting increased task completion time despite higher engagement levels. This duality underscores the need for a contextual analysis within emerging markets like Pakistan, where infrastructure and adoption vary significantly. Importantly, this research aligns with the United Nations Sustainable Development Goals (SDGs), particularly SDG 9 (Industry, Innovation and Infrastructure), SDG 12 (Responsible Consumption and Production), and SDG 13 (Climate Action), by promoting sustainable innovation through virtual prototyping and reduced material waste. This study contributes to the growingdiscourse on sustainable innovation, offering insights into how XR can be harnessed to transform creative industries in developing economies.

Analyzing the Influence of AR Interactivity and Immersive Experience on Intention to Purchase

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This research explores the impact of Augmented Reality (AR) interactivity and immersive experiences on consumers' purchase intentions. As digital technologies reshape retail marketing, AR has become a powerful tool to engage consumers through virtual try-ons, interactive visuals, and real-time personalization. This study examines how users' engagement with AR features enhances perceived enjoyment, product understanding, and emotional connection, leading to stronger purchase intentions. Quantitative analysis was conducted using survey data from retail consumers, and results indicate that both AR interactivity and immersive experience significantly influence consumer behaviour by increasing engagement and trust. The findings highlight the importance of incorporating immersive digital strategies in marketing to boost consumer confidence and drive conversions.

Keywords: Augmented Reality, Interactivity, Immersive Experience, Purchase Intention, Consumer Behaviour.

Consumer Perception of Brand Authenticity in the Digital Era ABSTRACT In an age where digital interactions increasingly define brand-consumer relationships, authenticity has emerged as a critical component of trust and loyalty.

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The expanding use of artificial intelligence in marketing, along with the deliberate usage of brand storytelling, opens up new opportunities for personalization while also creating issues about transparency, cultural fit, and ethical conduct. This qualitative research examines how AI driven customization and brand storytelling affect consumer perceptions of brand credibility in the digital marketing context. Grounded in the Consumer Perception of Digital Authenticity Theory (CPDAT), authenticity is investigated as the convergence of emotional significance, technology openness, and brand identity consistency. Using a phenomenological approach, the study explores consumers' lived experiences and viewsm via extensive semi structured interviews with inhabitants of Lahore, Pakistan where a society in which rapid digital adoption meets deep cultural traditions. Thematic analysis discovered five main themes: (1) AI-personalized photographs are frequently seen as manipulated, lowering trust; (2) culturally relevant short form storytelling may boost emotional engagement; (3) skepticism arises when marketing promises differ from reality; (4) ethical AI use, including explicit disclosure of personalization practices, is critical for preserving trust; and (5) authenticity is promoted by minimal content modification, genuine consumer reviews, and a trustworthy internet presence.According to the study, while AI customization and narrative have the potential to increase apparent credibility, misuse or overuse might erode consumer trust. The study recommends clear communication regarding AI usage, consistency between tailored content and brand identity, and the inclusion of real customer experiences into narrative. These techniques enable businesses to take advantage of technical breakthroughs while preserving trust and long-term loyalty in culturally varied and digitally active communities.

Keywords: Brand Authenticity, Consumer Perception, AI Personalization, Storytelling, Consumer Trust, Loyalty and Emotional Engagement.

Adoption of Smart Supply Chain and Smart Technology to improve Operational Performance in manufacturing SMEs: The mediating role of Inter Organizational Collaboration and the moderating role of Green Management Innovation

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The aim of every manufacturing SMEs is to improve their operational performance while adopting the smart supply chain and smart technology with the mediating role of inter organizational collaboration and the moderating effect of green management innovation. This can be done by efficient management techniques and innovative technology which cause an effective result. Thus, the main reason for conducting this study is to analyze the effect of all these variables on operational performance. The data id collected from 392 SME owners. For data analysis present study use the software that is Smart PLS-SEM technique (Structural Equation Modeling). The population for this research is Pakistan's SME owners. Primary data collection through survey methods to identify impact of SMEs towards the smart technology and smart supply chain and use Random Sampling Technique to ensure a representative sample of SMEs. The direct relation indicates that SSC, ST with IO collaboration, and operational performance. The indirect relation between IOC and OP is significant while GMI indicates insignificant effect. Furthermore, IO collaboration significantly and positively mediates the relationship between SSC, ST, and Operational performance. The present research is focused on the implementation of green management innovation with other variables for effective performance.

Keywords: Smart Supply Chain; Smart Technology; Inter Organizational Collaboration; Green Management Innovation; Operational Performance

The role of Social Media Networking Sites in shaping Marketing Strategies through Augmented Reality and Consumer behavior of Generation Z

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In the day and age of digitalization, marketing strategies are progressing vastly, including communication through social media networking sites and augmented reality (AR) to make the customer feel a part of what they're buying. Although these technologies are becoming all the more important, the lack of understanding of how AR affects Generation Z's consumer behavior in social media is a massive gap. Therefore, the aim of this study is to bridge this gap by discussing the effects of AR on Generation Z consumer behavior and the role that AR plays in determining marketing strategies through social media. The study uses a quantitative method, by administering a structured survey to 163 Generation Z university students. Some key variables measured include the impact of social media networking sites on the marketing strategy of businesses, the role of AR in consumer behavior and what is the mediating role of consumer behavior between social media and the marketing strategy. It was then assessed whether there were relationships between these variables using Smart PLS software in data analysis. Overall, it is observed that AR does have a potential to increase consumer engagement and purchasing decisions through social media marketing but due to contextual gap, its influence is less apparent on the Gen Z audience of Pakistan. Future studies should explore the integration of AR in marketing campaigns and how can this technology be used to enhance consumer behavior as well look into how the cultural context influences the AR and SMNS's effect on marketing strategies

Keywords: Augmented Reality, Marketing Strategies, Social Media Sites, Consumer Behavior, Purchasing Decisions, Brand Engagement.

From Brand Loyalty to Ingredient Literacy: The Role of Influencer Authenticity in Shaping Consumer Behavior in an Emerging Market

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This research paper explores the role of influencer authenticity in redefining consumer behavior in the fast-changing Pakistani skincare business where online platforms have upset the traditional brand-market interactions. Based on the Source Credibility model and the Parasocial Interaction model, the study examines how trust, ingredient literacy and reconfiguration of brand loyalty are motivated by perceived authenticity (Lou and Yuan, 2019; Duffett, 2024). A qualitative and social constructivist design was used to conduct 26 in-depth interviews with women aged between 18 and 40 years who actively follow skincare influencers on Instagram, YouTube, and Tik Tok. Thematic analysis (Braun and Clarke, 2006) identified three interconnected patterns, namely the Authenticity Knowledge Nexus, in which authenticity is the basis of perceived credibility; the Intellectual Shift, which points out the emergence of ingredient-based decision-making; and the Validated Journey, which outlines how consumers experience a cycle of research based and personalized verification. The results indicate that consumers now have loyalty to credible people and ingredients instead of corporate brands (Kapitan and Silvera, 2016). By placing authenticity as an intermediate state in influencer-consumer relations, and redefining consumer behavior in the new markets as a self-driven process of knowledge confirmation and empowerment, the research advances the current theory. The article provides theoretical and managerial perspectives on the

Green Banking and Bank Performance in Pakistan

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Abstract.

Profitability & sustainability refer to the financial and long-term performance of the bank, demonstrating its ability to generate returns consistently while maintaining responsible and eco-friendly operations. These outcomes can be measured by key financial indicators such as return on assets (ROA), return on equity (ROE) and the other profitability ratios that reflect on how optimal usage of available resources is undertaken for sustainable and steady growth. The conceptual study will be analyze how green banking practices, including green finance, environmental - risk analyses, energy-efficient operations, and firms' green investments, contribute to improving the profitability & sustainability of banks in the Pakistan. The framework investigates the moderating role played by Digital Transformation, which is foreseen to enhance the relationship between green banking initiatives and financial performance through operational efficiency, technological innovation, and greener financial solutions. This study will, therefore, adopt a conceptual methodology through the development of a theoretical framework that guides future empirical studies using existing literature. The proposed model will provide valuable insights to policymakers, researchers, and banking institutions that target an integrated system encapsulating environmental sustainability and financial performance in the banking industry of Pakistan.
Keywords: Green Financing Practices, Environmental Risk Assessment, Return on Assets, Return on Equity, Firm's Green Investment.

Impact of ESG Disclosure on Firm Value: The Moderating role of Board Independence and Gender Diversity in Board—A Conceptual Framework

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Abstract

Firm value shows the financial stability, profitability and the overall financial performance of. the firm. The non-financial performance indicators in the modern business environment include the biggest contributors have become environment, society and governance (ESG) disclosures. to the firm value. This paper will come up with a conceptual framework through the analysis of the impact. of the value of a firm and investigate the effects of the board characteristics as of ESG disclosure. this impact is enhanced or diminished by the independence of board and gender diversity in board. This framework unveils the impacts of the disclosure of sustainability to the performance of a firm. performance. This study develops a conceptual model based on which is methodologically developed. stakeholder theory, agency theory and resource development theory. A comprehensive review of earlier studies unveils the inconclusive result of ESG disclosure and the firm value. This study addresses the gap by proposing a conceptual framework that integrates the moderating effects of board independence and gender diversity in board, leading to a more comprehensive understanding that how the governance characteristics shape the relevance of ESG disclosure with firm value.

Key Words: *ESG Disclosures, Firm Value, Board Independence, Board Gender Diversity*

Big Data Analytics Adoption and Fraud Detection by Audit Firms in Pakistan

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Corporate fraud is evolving in complexity, exposing limitations in traditional audit techniques, and necessitating the development of advanced detection methods. Big Data Analytics (BDA) provides robust tools for uncovering hidden patterns in large datasets, thereby enhancing fraud detection capabilities. This study examines the impact of BDA adoption on fraud detection in forensic accounting services provided by external auditing firms, with forensic accounting skills (FAS) serving as a mediator and technology readiness (TR) and top management support (TMS) as moderators. Using a positivist philosophy and deductive approach, primary data will be collected via a 5-point Likert scale questionnaire distributed to external auditing firms in Pakistan. Structural Equation Modeling (PLS-SEM) will test hypotheses addressing direct, mediated, and moderated relationships. The research addresses a critical gap by investigating how organizational factors and human capital interact with BDA to influence fraud detection efficacy in developing economies. Findings will inform auditors, policymakers, and firms on how to optimize fraud prevention strategies in the big data era.

Keywords: Big Data Analytics, Fraud Detection, Forensic Accounting Skills, Top Management Support, and Technology Readiness

Institutional Shareholder Activism and ESG Performance: Mediating Role of Enterprise Risk Management and Moderating Effect of Board Independence

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CEO Power and Corporate Sustainable Development: The Moderating Impact of Effective Governance on Investment Efficiency

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Impact of financial attitude, financial knowledge, financial spending control, and financial self-efficacy on financial well-being with the moderator financial literacy

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The concept of financial well-being has enhanced beyond traditional assumptions of monetary accumulation prudent decision-making and individual's gratification. In today's intricate financial environment, achieving financially strengths requires more income or wealth, and it depends markedly upon individual's behavior and intellectual abilities. The paper addresses a remarkable gap in the literature presenting a conceptual framework that synthesizes the Theory of planned behavior and social cognitive theory. Precisely, the study argue that financial attitude (being optimistic about money), financial knowledge (making informed decisions about saving), financial spending control (avoiding unnecessary expenses), and financial self-efficacy (confidence in managing finances) have a positive impact on financial wellbeing (being satisfied with financial situation), strengthened by financial literacy (knowledge and understanding of how money works). Differencing from previous research that inspect these antecedent in separate. This paper introduce financial literacy as a moderator. Financial literacy is define as functional understanding crucial for effective personal finance management. Despite extensive scholar work on financial wellbeing, many crucial gaps remain. Previous literature often examine psychological and behavioral factors include Attitude, knowledge, control and self-efficacy separately or in combination of twos and focusing on spending control and emplacing self-efficacy (Du Plessis L. J., 2025) (Priya Gupta, 2025), there isn't a comprehensive model yet that shows which things matters most for financial wellbeing in today's economy. Moreover, financial wellbeing often considered as a crucial contributor to financial life satisfaction. However, new studies find that it might act as supporter, shaping how other traits Effect money related outcomes. For instant one studied examine digital literacy as moderator, but there is still limited research who specifically examine how financial literacy influence the impact of

psychological traits on financial security. This leaves the practical gap that revealing why many people with optimistic mindset and impulsive control still don’t attain high financial satisfaction. By consolidating, previous scattered behavioral factors into comprehensive conceptual model. This study assist to the literature both theoretically and practically, this study provides systematic understanding of financial wellbeing and shaping strategies to amplify financial education and stable financial position.

Keywords: Financial attitude, financial knowledge, financial spending control, financial self-efficacy, financial wellbeing, financial literacy

Behavioral Biases in the Digital Age: Examining the Moderating Role of AI Advisory Services in Gen Z Investment Decisions

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The effect of cognitive biases on investment decision-making behavior is gradually becoming a major factor in Gen-Z investors. It results in impulsive and emotion-driven outcomes, which is more likely to underperform financially. This paper identifies the investment decision-making as the Dependent Variable; focusing on behavioral biases such as Overconfidence Bias (OCB), Fear of Missing out Bias (FOMO), the Loss Aversion Bias (LAB) undermine the rationality of the strategic decision in risk management, selecting assets, and timing. This study focus to create a conceptual framework that examines the effect of the moderating role of Artificial Intelligence (AI) advisory service. It encompasses both algorithmic platforms and robo-advisory in the formation of the connection between investment decision and behavioral biases. These artificial intelligence (AI) systems provide objective and evidence-based ideas that can reduce cognitive biases and assist regularities in making decisions. This is a systematic literature review research methodology focusing on behavioral finance, Gen Z investor psychology, and Digital advisory services. One of the important variables are identified can could be accurately combined in a manner. It provides a consistent base of development of a model. It allows the future usage of the empirical evaluation. This model somehow improves the behavioral finance research. It helps in different ways like visualizing AI as the moderator. This may offer the practical advice to FinTech developers, regulation makers, university professors, and also to enhance the investment behavior in a digital society.

Keywords: *Artificial Intelligence, Gen-Z, Investment Advisory, Cognitive Biases.*

How Infrastructure Connectivity Shapes Trade Efficiency between Afghanistan and Pakistan: The Moderating Role of Terrorism and Governance Quality

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Purpose: This study aims to investigate the role of infrastructure and digital connectivity in shaping trade efficiency between Afghanistan and Pakistan. It further examines how terrorism and governance quality moderate these relationships. between Afghanistan and Pakistan. The research seeks to provide policy-oriented insights for improving bilateral trade performance through enhanced connectivity and institutional quality.Methodology: Panel data regression techniques, including fixed effects, random effects, and moderated regression models, are employed to analyze panel data covering the period from 2006 to 2022 for Afghanistan and Pakistan. The data are obtained from reliable sources such as the World Governance Indicators, the World Bank, and the UNESCAP databases.Findings: The study results indicate, both infrastructure and digital connectivity significantly improve trade efficiency between Afghanistan and Pakistan, while terrorism negatively moderates these relationships, reducing trade efficiency. in-contrast, higher governance quality strengthens the relationship between infrastructure and digital connectivity and trade efficiency, stating that high institutional quality enhances the benefits of improved connectivity.Practical Implications: The findings emphasize the need for coordinated infrastructure investment, digital integration, and institutional reforms to enhance trade efficiency. Policymakers in both Afghanistan and Pakistan should focus on strengthening governance frameworks and reducing terrorism-related disruptions to ensure smoother trade flows and regional economic integration.Originality/Value: This study contributes to the limited literature on connectivity and trade efficiency in fragile and conflict-affected regions. It uniquely integrates the moderating effects of terrorism and governance quality into the connectivity trade efficiency framework, offering empirical evidence and actionable policy recommendations for Afghanistan-Pakistan economic cooperation.

Keywords: Trade efficiency, Digital Connectivity, Infrastructure connectivity, Terrorism,Governance quality, Afghanistan–Pakistan trade.

THE GOVERNANCE INTEGRATED VALUE CREATION MODEL: CSR AND FINANCIAL LEVERAGE IN PAKISTAN'S EMERGING MARKET

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This paper suggests a conceptual research on the determinants of the firm value through the use of corporate social responsibility (CSR) and financial leverage as the independent variables and corporate governance as the moderating variable. The dependent variable is the firm value which represents the perception and the financial health of the organizations in the market. The research addresses an increasing alarm in the emerging economy about the inconsistent governance practices and incomplete knowledge of how CSR projects and decisions on capital structure combined have simultaneous effects on corporate valuation. The conceptual and explanatory research design is used to establish subsequent theoretical framework of the study that explains how corporate governance mediates the relationships among CSR, financial leverage, and firm value. This study defines a major gap in conceptual frameworks that can be used to describe these interactions in developing market situations by synthesizing modern literature and theoretical views. The prospective framework will provide a contribution in terms of the theoretical level since it will explain governance-based processes, which result in the implementation of sustainable practices and financial policies that impact the performance and valuation of firms. The research not only forms a basis of further empirical validation, but also gives strategic value to the managers and policy makers who need to improve the value of firms by using balanced leverage decisions and responsible corporate action that is buttressed by sound governance systems.

Keywords: CSR, Corporate Governance, Financial Leverage, Firm Performance

The Impact of Green Accounting Practices on Firm Performance: Mediating Role of Green Innovation– A Firm-Level Data Study

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The objective of this study that how green accounting practices effect firm performance with the mediating role of green innovation capability. Firm performance shows a company's ability to achieve its financial growth and maintaining operation sustainability, which has become a major concern due to rising environmental challenges. The main problem discuss in this research is that many firms still lack proper adoption of green accounting system that leads to weak environmental accountability and also that can reduce competition. The main aim of this study is to understand that by using green accounting practices can improve performance of firm and how green innovation capability help the firms by encouraging eco friendly plans and ideas to achieve better performance. This study follows a conceptual framework based on existing theories and a past study to explain the relationships between the variables. The link of these three variables provides a foundation for future empirical research.

KEYWORDS:

Green accounting, firm performance, green innovation, accounting quality, sustainability, conceptual framework

Stock Market And growth in economy: a comparative analysis between Conventional and Islamic markets in Pakistan.

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The study aims to test the effect of conventional and Islamic stock markets on economic performance in Pakistan. In the study where GDP is used as an indicator of economic growth of Pakistan, while conventional and Islamic market capitalization ratios are used to represent the progress of stock markets. Correlation Matrix, unit root test, Cointegration test, Vector Autoregression and Granger casualty world test has been used in the study. Data of IMC and CMC is selected for the study from 2008 to 2023 quarterly. GDP declare and investment ratio both are used as control variables in folding models. Findings of the study shows are by the rational relation between Islamic stock market and macroeconomics growth in Pakistan, and their contribution to economic growth is indirect by their influence on investment. Also, you need directional relationship exist between conventional stock market and macroeconomic performance where the progress of conventional stock markets drives macroeconomic growth. The impact of convention stock markets development on macroeconomic growth is higher than the impact of Islamic stock market because of the limitations of Sharia compliance on Islamic stock market.

Barriers to Green Innovation Adoption and Environmental Sustainability in Pakistan: The Role of Carbon Markets

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Pakistan faces escalating environmental degradation due to industrial emissions and weakinstitutional mechanisms. This study will examine how the absence of a carbon market due to lack of government support reduces businesses motivation to adopt green innovations. The purpose of this research is to identify institutional gaps that hinder sustainable business transformation and propose evidence-based policy solutions. This study will employ a quantitative research approach; data will be collected from firms operating in energy-intensive sectors through structured questionnaires. The data will be analyzed using structural equation modeling (SEM) to test the relationships between institutional factors, motivation to adopt green innovation, and environmental outcomes. The anticipated outcomes will offer policy recommendations for establishing carbon markets, enhancing transparency in emission monitoring, and strengthening institutional frameworks to promote green innovation and environmental sustainability in Pakistan.

Keywords: Carbon Markets, Green Innovation, Environmental Sustainability, Industrial Emissions

The Role of Servant Leadership in Promoting Ethical Practices in Karachi's Banking Sector

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This research paper investigates how servant leadership impacts ethical decision making and practices in banks in Karachi. Since servant leadership focuses on the followers' wellbeing and the cultivation of empathy, integrity, and stewardship,the formation of an ethical environment becomes easier. This research conducted studies of corporate governance, ethical guidelines, and relevant literature, for secondary research and used content analysis, to determine how servant leadership encourages ethical dispositions in the banks' employees. Findings indicate that servant leadership significantly contributes to the establishment of ethical cultures in the work environment which fosters greater organizational integrity, enhances employee engagement, and compliance to ethical practices. The paper finishes with an outline of proposed approaches for banks to adopt servant leadership to build ethical practices and accomplish organizational goals.

Keywords: Servant Leadership, Ethical Practices, Ethical Decision-Making, Karachi Banking Sector, Content Analysis, Organizational Integrity, Corporate Governance

THE IMPLICATIONS OF ENTREPRENEUAL STRAGEGIES FOR EMPLOYEES-PEFORMANCE IN PRIVATE BUSINESS ENTERPRISES OF PUNJAB-PAKISTAN

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The regime of industrialization in Pakistan started in the 1960s with the arrival of the mechanization in the Agriculture Sector. The surplus labor and workers working in agriculture started to migrate to the nearby cities to seek jobs and employment in the newly emerging different types of business enterprises and factories. The machines were manual, and labor and workers were recruited to run these machines. However, there were also some positions of supervisors and managers to look after and guide this factory work. With the passage of time, a lot of improvement occurred in the type of machines and nature of jobs in these factories. For the last few decades, the concept of entrepreneurial strategies has been introduced in existing business enterprises and factories. The educated youth have also been motivated to go for their own entrepreneurial enterprises to become job providers rather than job seekers. In other words, the youth has been prepared to lead this change- making from the front and the same has been happening in Pakistan. The purpose of this paper is to see the influence of entrepreneurial strategies upon the employees-performance. It is believed that these particular strategies encourage employees to do their best using a positive mindset and approach. A study was carried out in the private sector business-enterprises of Faisalabad; knowing it as the Manchester of Pakistan. These enterprises included hotels, couriers and education sectors. Random sampling techniques were used to select a sample of employees for the study. Firstly, a sample of 21, 07 from each sector, enterprises were selected through simple random sampling technique. Secondly, a proportionate sample from each sector was taken that made a sample size of 300 employees. A semi-structured questionnaire was used for data collection from the respondents. Different statements were used to get responses on the independent and dependent variables. These questionnaires were distributed among the employees and instructions were made to fill these properly. However, 260 filled questionnaires were received back as the rest was the drop-out. Data analysis revealed that 'trust' 'innovation','empowerment' and 'satisfaction', 'good communication' and 'aspiration' were the most crucial concepts for entrepreneurial strategies and employees-performance, respectively. Alpha Test was used to confirm that all the statements used were unidimensional and depicting the same idea. Therefore, Index Variables were used in the bivariate analysis. ChiSquare and Gama tests were applied to see the significance and strength of the relationship between the predicting and outcome variables. The Correlation Test was I also run to see the direction of this relationship.

Key Words: Entrepreneurial Strategies, Employees Performance, Business Enterprises, Random Sampling, Proportionate Sample, Alpha Test, Bivariate Analysis, Correlation

ENHANCING LABOR MARKET EFFICIENCY THROUGH BUSINESS SOPHISTICATION, EDUCATION, AND INNOVATION: AN ENTREPRENEURIAL PERSPECTIVE

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Global Competitiveness Index (GCI) is one of the most important indicators of national competitiveness of national economies. The framework ranks countries relative to each other on twelve functional dimensions by combining measures of efficiency of labor-market performance with a variety of other data. However, labor-market efficiency determinants have received rather limited research. The existing literature lays its emphasis largely on how education can shape the outcomes of labor-market with little emphasis given to research and development expenditure and technological readiness as potential facilitators of labor- market efficiency. The current paper carries out an organized analysis of these dimensions with a focus in Pakistani setting and provides evidence-based information to the policymakers in a bid to complement the effectiveness of the labor market by making strategic investment. Using panel-data methods, the analysis extends over the years of 1980-2022, and it includes South Asian economies. Random- effects estimation has shown that the GCI subcomponents, i.e., business sophistication, the quality of education, and investment translate into major positive impacts on labor-market efficiency. These results hence emphasize the need to use specific policy measures that reinforce education systems, enhance entrepreneurship and better the business climate that will support efficient, productive and competitive labor force at large. Reforms like these need to be put in place to continue economic growth and development.

Keywords: Labor Market Efficiency, Corporate Sophistication, Strategic Investments, Quality Education, Research and Innovation.

THE IMPACT OF DIGITIZATION ON TRANSPARENCY, AND EFFICIENCY IN PUBLIC FINANCE: EVIDENCE FROM THE PUNJAB LAND RECORDS AUTHORITY (PLRA) – A CONCEPTUAL PAPER.

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Digitization has been recognized as one of the core foundation pillars of a modern system of governance. It is also an inevitable asset in enhancing transparency, accountability, and efficiency within the management of public finances. The theme of the current paper is the impact of digitization on financial transparency and cost-effectiveness in the case of the Punjab Land Records Authority (PLRA), Punjab, Pakistan. Using a qualitative descriptive research design; the study will utilize secondary data sources; which are official reports, policy documents and expert opinions, to evaluate, the extent to which the digital transformation has transformed the way administrative, financial processes and activities in the public sector operations. It will also explain how the digitization process has contributed to the efficiency in public sector, reduce corruption, increase data reliability, and satisfaction of citizens. However, factors like poor infrastructure, insufficient digital literacy and poor technical capacity persist in impeding the full potential of digitization. The study will be summarized that how digitization makes transparency and efficiency even stronger, which is a pillar of sustainable public financial reform. It suggests broadening digital governance efforts by establishing institutional capacity, changes in regulations, and inclusive digital literacy to make them effective in the long run in Pakistan and other developing economies.

Keywords: Digitization, Transparency, Accountability, Efficiency, Public Finance.

A Study Of Bulk and Complex Cargo shipping efficiency at Omani Ports with Special Reference To Sohar

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Purpose: This study looks at how online word of mouth (EWOM) affects people's plans to buy halal cosmetics in Oman and Pakistan. It also checks how attitude and emotions play a role in this.

Methods: The data was collected from women in Oman and Pakistan using easy and snowball sampling. There were 171 answers from Oman and 193 from Pakistan.

Results: EWOM has both direct and indirect effects on buying plans through attitude in both countries. Emotional value makes the link between EWOM and attitude weaker.

Novelty: This study is special because it compares two countries and talks about emotions, which are not often studied in halal cosmetics research.

Keywords: Online word of mouth, Emotions, Halal cosmetics, Oman,Pakistan, Buying intentions

Digital transformation at the Operational Level: Enhancing Retail Warehouse efficiency across GCC

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Digital transformation at the operational level plays a critical role in enhancing warehouse efficiency in the retail sector across the GCC region. This study aims to explore the key digital tools employed in warehouse operations, focusing on technologies such as Warehouse Management Systems (WMS), Radio Frequency Identification (RFID), and automation. By examining their impact on operational efficiency, this research highlights how these tools optimize inventory management, streamline workflows, and reduce errors, ultimately improving overall warehouse performance. The findings demonstrate that integrating these digital solutions significantly enhances the responsiveness and productivity of retail warehouses in the GCC, supporting their ability to effectively meet growing market demands.

Keywords: Warehouse Management Systems (WMS); Radio Frequency Identification (RFID); Internet of Thing (IoT); Inventory Management;

 ISSN: 2709-8923

Young consumers in Lahore, Pakistan, are influenced by social media influencers (SMIs) in status of their lifestyle selection, trust perceptions, and purchase choice

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This study analyzes how young consumers in Lahore, Pakistan, are influenced by social media influencers (SMIs) in status of their lifestyle selection, trust perceptions, and purchase choice. Due to the status of digital platforms such as YouTube, Instagram, and TikTok, influencers have become influential influencers that shape consumer behaviour. Semi-structured interviews with contestants ages 18 to 30 were conducted using a qualitative case study approach. Thematic analysis using NVivo revealed five major themes: platform preferences, parasocial relationships, authenticity and trust, cultural linguistic relatability, and consumption habits. The outcome is pretending that trust and engagement are provided by emotional resonance, cultural closeness, and real worldly. Moreover, influencers are viewed as lifestyle role models that are integrated into daily decision-making rather than just being marketplace. For marketers, content creators, and legislators navigating Pakistan's dynamic digital influence viewpoint, this paper gives theoretical modality and useful suggestions.

Flying a Sleeping Elephant: Viewership, Returns, and Creative Determinants in Pakistan's Film Industry

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This study examines the evolving relationship between creative performance drivers and economic outcomes in Pakistan's film industry—a sector emblematic of the global tension between cultural vitality and commercial sustainability. Employing the analytical lens of cultural economics, the research investigates whether Pakistan's cinematic revival from 2005–2015 has translated into tangible financial success or remains primarily a cultural resurgence. Using a comparative quantitative design, data from 100 films—50 from the old era (1984–1990) and 50 from the new era (2005–2015)—were analyzed through paired- sample t- tests and OLS regression models. Four creative variables (cast, story, direction, and music) were tested against two performance indicators: viewership and returns. Results reveal a significant rise in audience engagement in the new era but no corresponding increase in financial profitability, underscoring a persistent cost–revenue asymmetry within the creative economy. The findings indicate a clear shift in success determinants: while story dominated the earlier decades, direction and music now exert stronger predictive influence on both viewership and returns. Conversely, cast remains statistically insignificant, reflecting a structural transition from celebrity-driven consumption toward technical and aesthetic sophistication. Interpreted through Throsby's and Sacco's frameworks, the results suggest that Pakistan's film revival exemplifies Culture 3.0 dynamics—where cultural production generates social and symbolic capital even when financial returns lag. The study contributes to the discourse on creative industry resilience in developing economies, offering policy insights on financing models, training ecosystems, and institutional integration needed to transform artistic revival into sustainable economic growth.

Keywords: cultural economics, creative industries, film markets, Pakistan cinema,viewership, returns

Modeling Consumer Behavioral Dimensions in Multicultural Societies: Out-group and In-group Dynamics

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The consumption behavior of various ethnic groups in multicultural societies especially how they interact towards each other and other product category is still an under researched area in marketing. This conceptual paper investigates the complex interplay emphasizing a range of constructs including consumer racism, Consumer animosity, Consumer ethnocentrism, Anti-consumption, Brand hate, Consumer discrimination, Consumer alienation and Consumer Boycott. In multicultural environments, consumer bias manifests in various forms, influencing not only personal choices but also in-group and out- group dynamics. This study will conceptualize a holistic framework to analyze how these dimensions influence ethnic consumption decisions among diverse ethnic consumer groups. The paper will employ a conceptual framework to examine how different dimensions of these constructs interact by highlighting the overlaps among various dimensions of these constructs that shape consumer interactions in multicultural societies. This systematic literature review (SLR) will indicate the role and efficacy of these constructs in shaping consumer behavior for ethnic consumption. Ultimately, by critically reviewing the existing literature we have developed different tables of relevant studies on all these constructs and reviewed the models. This conceptual paper seeks to enhance the comprehension of marketing researches in relation to ethnic consumption and emphasize the importance of addressing these constructs in order to foster literary understanding of ethnic consumption. This conceptual paper will enable marketing researchers to set direction of future ethnic marketing research and will have implications for marketers and policy makers.

KEYWORDS: Consumer Racism, Animosity, Consumer discrimination, Consumer boycott,Consumer ethnocentrism, Brand hate, Anti-consumption, Consumer alienation, Multicultural societies, Ethnic consumption.

Impact of Owner's Financial Literacy, Technology Adoption, and Organizational Culture on Strategic Decision-Making Effectiveness in SMEs

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This study aims to investigate the impact of internal organizational factors—Financial Literacy, Technology Adoption, and Organizational Culture—on Strategic Decision-Making Effectiveness (SDME) among small and medium-sized enterprises (SMEs) in Pakistan. SMEs play a vital role in the economic development of the country, yet many struggle with effective long-term decision-making due to internal capability limitations. This research is grounded in the Resource-Based View (RBV) theory, which emphasizes internal resources as sources of competitive advantage. A quantitative research design was adopted, and data were collected through a structured questionnaire from SME owners and managers. Structural Equation Modeling (SEM) using SmartPLS was employed to analyze the relationships between the variables. The findings revealed that Technology Adoption has the strongest and most significant positive effect on strategic decision-making effectiveness. Organizational Culture also showed a significant and positive impact, highlighting its role in shaping decision-making processes. However, Financial Literacy was found to have no significant direct effect on SDME.These findings suggest that while financial knowledge is important, it may not be directly applied in strategic decision making within SMEs, possibly due to reliance on informal practices or external advisors. The study recommends that SME managers focus on enhancing their technological capabilities and building a strong organizational culture to support more effective strategic decisions. This research contributes to the existing literature by offering new insights into internal SME dynamics and identifying key areas for managerial development.

Keywords: Strategic Decision-Making Effectiveness (SDME), Financial Literacy, Technology Adoption, Organizational Culture, Small and Medium Enterprises (SMEs), Internal Capabilities, Resource-Based View (RBV), SmartPLS, Structural Equation Modeling (SEM), Pakistan.

AI-driven marketing strategies influence firm performance, emphasizing the mediating role of marketing effectiveness and the moderating role of organizational readiness.

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This study examines how AI-driven marketing strategies influence firm performance, emphasizing the mediating role of marketing effectiveness and the moderating role of organizational readiness. Using a quantitative research design grounded in positivist philosophy and a deductive approach, data were collected through a structured questionnaire from marketing professionals across various industries in Pakistan. Partial Least Squares Structural Equation Modeling (PLS-SEM) was employed for analysis. Then findings reveal that AI-driven marketing strategies significantly enhance firm performance, primarily through improved marketing effectiveness. Moreover, organizational readiness strengthens this relationship by ensuring proper integration of AI technologies with strategic and operational objectives. The study concludes that successful AI adoption in marketing requires not only advanced technology but also supportive organizational structures, leadership commitment, and employee capability. These insights provide valuable guidance for firms seeking to optimize AI implementation and achieve sustainable performance gains in the era of digital transformation.

Keywords: Artificial Intelligence, Marketing Effectiveness, Organizational Readiness, Firm Performance, PLS-SEM, Digital Transformation.

Social Media Influencers vs Social Media Filters: A Comparative Analysis of Purchase Intentions of Beauty Related Products

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With the rapid growth of digital and social media marketing, consumer perceptions and purchase intentions of cosmetic, skincare and beauty products has transformed drastically and among the most prominent marketing tools are influencers (real individuals who promote products through their online personas) and filters (digital alterations that enhance appearance). The current study does a cross- sectional comparative analysis of the influence of social media filters vs influencers, regarding the purchase intention of cosmetic/beauty/skincare products. For this purpose, a structured questionnaire will be administered to social media users of Pakistan, especially females because they are the majority users of beauty products. Thus, this study aims to fill a gap in literature by doing a comparison of face enhancing social media filters with the influencers of social media promoting skin care products. The findings of this study will be useful for marketing professionals and brand managers to effectively design digital and social media marketing strategies by understanding whether visual enhancement tools or human endorsements hold greater persuasiveness.The purpose of this research is to fill a gap in literature by doing a comparative analysis of filters and influencers of social media on willingness to purchase beauty and skincare products, to provide an aid to marketing professionals by helping them understand which element drives stronger consumer persuasion for optimizing marketing strategies.This study will employ a quantitative research design by using a structured questionnaire distributed among active female social media users following beauty related content. Regression and mediation analysis will be used to assess the impact of social media filters and influencers, by focusing on variables such as trust, authenticity and perceived attractiveness. Findings : The comparative analysis will clarify which factors exert strong influence on the purchase intentions of cosmetic or beauty products, which will guide marketing experts and beauty brands in allocating resources between influencer collaborations or filter-based campaigns.

Originality/Value:This research will uniquely contrast two digital marketing tools, i.e. filters and influencers in the context of Pakistan, by contributing to the growing literature on digital consumer behaviour by integrating social influence theory with visual persuasion frameworks.

Effect of Social Media Marketing Features on Consumer's Purchase Decision in the Fast Food Industry of Pakistan: The Mediating Role of Brand Trust

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The main aim of this paper was to investigate the effect of six features of social media marketing on the purchase decisions of consumers in the fast-food industry. Perceived relevance, Interactivity, informativeness, Entertainment, Habit, and trendiness are the features of social media marketing. It also aimed to determine if brand trust mediates the relationship between them. Fast food industry is growing day by day in Pakistan. Necessary data was gathered from the visitors of different malls and fast food places in Pakistan via a quantitative Self-administered survey. Self-administered questionnaires are distributed that were 380 in total from which 360 responses are received that has represented the response rate of 94.74%. The received quantitative data have analyzed through multivariate analysis (structured equation modelling) in doing so, measurement model and structural model have developed to test the proposed hypotheses in AMOS v21. Supplement analyses have also applied to test the mediation effects.The results confirmed the significance of brand trust in predicting purchase decision. Above all, the findings showed that informativeness, perceived relevance, and interactivity, entertainment, habit, and trendiness have positive effect on purchase decision. The results also confirmed that brand trust mediates the association between the social media marketing features and consumer purchase decision. Implications for theory and practice are given and limitations have discussed along with the guidelines for future research that open new avenues for researchers.

Keywords: Purchase decision, Brand trust, Social media marketing, Fast food industry, Perceived relevance, Interactivity, Informativeness, Entertainment, Habit, and Trendiness

Impact of Digital Media Ads on Consumer Buying Decisions; The mediation roles of Brand Recognition and Brand Obsession

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This research investigates the impact of digital media ads on consumer buying decisions, the dual mediation role of brand recognition, and brand obsession. Businesses built long- term relationships in this quickly changing digital age. Businesses use sentimental marketing ads to establish unbreakable consumer links, so digital media ads increase brand credibility. Brand recognition increases and boosts sales. Brand obsession affects the repetition of buying; this concept is still unclear, despite the commonly used digital channels. On the basis of existing frameworks of consumers' mindset and feelings-based branding, this study adopts research frameworks where digital media ads work as an independent variable, consumer buying decisions as the dependent variable, brand recognition, and brand obsession as mediators. Data collected using a structured online questionnaire distributed via Google Forms, with 282 valid responses, using convenience sampling. The sample focused on business students, plus involves the community with different roots aged 18 to above 45 years, with monthly incomes ranging from 30,000 to over 100,000. For a not currently employed participant, parental (father's) income was used as a symbol for class status. Findings disclosed that digital media ads notably increase buying decisions. This brand recognition recalls and creates remembrance and confidence in the brand, so they wish to own it.Brand obsession expands the influence of customers who are emotionally invested and who are very committed to making frequent buying decisions. The results highlight that ads produced optimal outcomes when the brand is recognized as obsessed. This study analysis shows that brands should adopt a policy of entertaining and appealing ads to cultivate lifelong connections. Limitations include data comes from individuals, which may not be accurate, and the results may not apply to everyone. Overall, the study explains emotional mechanisms and recognition as a result of how digital media ads shape buying behavior, offering a strong base for upcoming studies and actual applications in digital media ads.

Key Words: Digital Media, Brand Recognition, Brand Obsession, Buying decisions.

Revisiting Multicultural Consumer Behavior: A Conceptual Synthesis of Socio-Cultural

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Cultural evolution through intercultural exchange has always been a fundamental phenomenon of the journey of human existence. In the current globalized market, the entertainment world of consumer behavior is experiencing a massive change as the degree of multiculturalism is on the rise. Although the previous studies have recognized the detailed role of multiculturalism as a determinant of consumption behavior, they tend to assume that this construct exists independently of other measures of such a behavior and socio-cultural attributes on consumption behavior without considering that the interrelation among the various attributes could have a mutually reinforcing effect in marketing. The purpose of this conceptual paper and systematic literature review (SLR) is to codify and combine different socio-cultural and psychological concepts capable of offering a substantial contribution to the comprehension of the consumer behavior in a marketplace that is inherently globalized and multicultural. This SLR examines complicated interaction among twelve constructs such as; multiculturalism, cosmopolitanism, religiocentrism, consumer ethnocentrism, consumer alienation, consumer animosity, stereotype threats, global openness, country of origin, culture bridging, self-construal, as well as acculturation. The constructs provide series of attitudes, identities, beliefs and situational stimuli that determine consumption and product, brand, and marketing message engagement across the cultural boundaries.This systematic literature review (SLR) was conducted using well-defined inclusion and exclusion criteria, led to the selection of (n= 39) relevant studies. These were analyzed using content analysis, resulting in a detailed summary table of the literature related to each construct and the development of this conceptual model.The paper presents an integrated conceptual model, which demonstrates and clarifies the way these constructs intersect and synchronize to modify consumer behavioral and socio-cultural variables in multicultural environments.

Keywords: Multiculturalism, Cosmopolitanism, Religiocentrism, Ethnocentrism, Consumer Alienation, Consumer Animosity, Stereotype Threats, Global Openness, Country of Origin,Culture Bridging, Self-Construal, Acculturation, Cross-Cultural Marketing.

From Digital Service Excellence to Enduring Customer Relationships: Analyzing the Mediating Effect of Customer Satisfaction Between E-Banking Services Quality and Customer Loyalty

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This study considers the effects of service quality on customer loyalty in Pakistan banks, Where customer satisfaction is thought to mediate the relationship. Because the financial sector is highly competitive, knowing how excellent service encourages loyalty is essential for keeping customers. Researchers used surveys and interviewed 400 users of internet banking in Pakistan by distributing questionnaires using convenience sampling. To determine if satisfaction and loyalty are affected by service quality, the study assesses five main factors of service quality: reliability, assurance, responsiveness, empathy and tangibility. Study results reveal that all service quality parts improve customer satisfaction, especially responsiveness, assurance and empathy. These results support the idea that service quality helps to form loyalty and satisfaction partially sits in between them. As a result, banks have to make sure customers are emotionally satisfied which is equally essential for keeping them loyal. The lessons from the study allow banking managers to focus on responsiveness, assurance and empathy which can build better relationships with their customers. Trusting a business calls for dependable outcomes and continued reliability. These approaches are especially important in Pakistan's growing digital banking industry, as customer expectations are increasing fast. In future studies, considering corporate image, trust and cultural elements along with the existing variables might give us a better picture of loyalty factors. Insights may also be obtained from comparing how Islamic banks differ from conventional banks or banks in different locations. As a result, this study adds to the dialogue on service management in emerging markets by stressing the link between solid operations and how customers feel, both factors play a role in retaining customers.

Keywords: banking sector, service quality, customer satisfaction, customer loyalty

FINTECH DRIVEN FINANCIAL STABILITY: EVIDENCE FROM BRICS AND PAKISTAN'S BANKING SECTOR

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Introduction: In this era of digitalization, organizations are actively adopting the financial technologies. Within this broad domain of fintech driven performance, financial stability of organizations are affected under the ambit of SDG-09 Industry, Innovation and Infrastructure which aims to build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation. In addition to this, this research emphasizes governance arrangements and specific bank characteristics to examine the relationship of Fintech adoption on firm's financial stability. Objectives: Keeping in view the emerging trend of digitalization and board gender diversity, the purpose of study is to investigate the impact of FinTech adoption on the financial stability of banks by emphasizing governance arrangements Board Gender Diversity as moderator. FinTech enhances stability, particularly with instances of board independence and governance quality.Methodology: This study conducts a comparative study by employing a panel dataset of 300 observations from 30 banks each from Pakistan's and BRICS' banking sector covering the one decade (10-year period) from 2014 to 2023. The data sources include annual reports and bank's websites. For measurement of variables, Fintech is operationalized as the aggregate Fintech Index which is the combination of banks' fintech driven mechanism. Financial stability is the dependent variable and is measured by the Z-score. For governance mechanisms, audit committee attributes are taken as moderators.Results: With the theoretical foundation of stakeholder theory, we have found that technological innovation, alongside adequate governance through Audit Committee, has the potential to meaningfully enhance systemic soundness within different economic circumstances. For analysis, this study employs the fixed effect model. Conclusion: With dual optimization of digitalization, the findings of this study suggests that FinTech is enhancing banks' financial stability, which is evident in both Pakistan and BRICS. However, in BRICS, this effect would likely be even stronger, as BRICS has a more mature system of infrastructure, regulatory regimes, and technology. Pakistan's slower impact is generated through a weak governance system, maintaining low financial inclusion and having undersized limitations in structural conditions.

THE IMPACT OF DIGITIZATION ON TRANSPARENCY AND EFFICIENCY IN PUBLIC FINANCE: EVIDENCE FROM THE PUNJAB LAND RECORDS AUTHORITY.

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Digitization has emerged as a fundamental pillar of modern governance and an indispensable tool for promoting transparency, accountability, and efficiency in public Financial Management This study examines the impact of digitization on financial transparency and operational efficiency within the context of the Punjab Land Records Authority (PLRA) in Pakistan. Employing a qualitative descriptive research design, the study draws upon secondary data sources, including official reports, policy documents, and expert opinions, to assess how digital transformation has reshaped administrative and financial processes in the public sector. The findings reveal that digitization has significantly enhanced operational efficiency, reduced corruption, improved data reliability, and increased citizen satisfaction. However, persistent challenges such as inadequate infrastructure, limited digital literacy, and weak technical capacity continue to hinder the full realization of digital potential. The study concludes that digitization strengthens transparency and efficiency, serving as a cornerstone for sustainable public Financial Reform. It recommends expanding digital governance initiatives through institutional capacity-building, regulatory reforms, and inclusive digital literacy programs to ensure long-term effectiveness in Pakistan and comparable developing economies.

Keywords: Digitization, Transparency, Accountability, Efficiency, Sustainable Economic Development.

Impact of Corporate Governance on the Firm Value with Moderating Effect of CSR

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Abstract: The objective of the paper is to see the impact of corporate governance on the firm value with the moderating effect of CSR. Firm value is simply the perception of the company value by the shareholders and the investors. It is a very important measure of the organizational performance and sustainability, which shows profitability, potential growth and confidence on the part of the market. The firm value determinants are multidimensional with corporate governance (CG) having a critical role. CSR is able to serve as a moderating variable, which strengthens or dilutes the relationship. The primary objective of the research is to test the influence of corporate governance processes on the value of the firms and study the moderating role of CSR on the association between the two. In particular, the study determines whether the effect of CG on the value improvement of firms with more intensive CSR activity is higher in comparison with the increase in the value of firms whose participation in CSR activities is weaker. The research paper will be based on the quantitative research design in which the secondary information proposed is the annual report of the listed companies within a specified period. The indicators of corporate governance (board size, board independence, and ownership concentration), as well as CSR scores through annual report and the value of the firms is estimated by the Tobin’s Q and the market-to-book value.

Keywords: Corporate governance, CSR disclosure, Firm Performance, Board attributes, Firm value, corporate reputation

Determinants of Going Concern Opinions: The Role of Financial Indicators, Auditor Type, and Performance Trends: A conceptual paper

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When auditors issue a going concern opinion (GCO), it signals that a The company's ability to sustain its operations soon is uncertain. However, a lot of the times companies with the same financial conditions end up having a different opinion from their auditors. This suggests that them exist other factors that cause these inconsistencies in auditor's judgment. This study aims to examine these factors that how the type of auditor whether big four firms or non-big four firms interact with the financial distress of the company while issuing concern opinion. Additionally, this study focuses on the mediating role of the companyC#39; s performance trend in shaping auditorsC#39; judgment. Prior literature has mainly focused on companiesC#39; financials as what factors impact this opinion more or any at all. The attention has been limited towards how the type of auditor will differently perceive a company's operational viability from its financial position while also taking past performance trends of the company into account. This conceptual paper adds to the existing literature that the companyC#39;s financial distress and auditor type influence going concern opinion. It also discusses how firm performance trends might change this relation, offering a clearer understanding of how auditors form their going concern opinions by forming a connection of all these factors.

Keywords: Going concern opinion, performance trends, big four – non big four firms, financial distress.

Impact of FinTech Adoption on Sustainable Performance in the Banking Industry: Mediating Role of Digital Modernization and Moderating Role of Digital Financial Literacy-A Conceptual Paper

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Sustainable performance in the banking industry represents bank's efficiency to continue long term economic well-being by integrating social and environmental practices in their frameworks. It indicates banks efficiency to administrate e-resources, lower operational risk, increase transparency and back sustainable economic development. Attaining sustainable performance in modern era of the banking industry needs integrating innovational tools with deliberated digital competences. This study aims to explore how **FinTech Adoption** impacts **Sustainable Performance** in banks, with **Digital Modernization** as mediating tool and **Digital Financial Literacy** moderating the relationship. The purpose is to focus the digital revolution corridor through which FinTech mechanism push the operational effectiveness, efficient services, and long term sustainability within banking sectors. The developing methodology of this conceptual model is grounded with in-depth analysis of existing literature in FinTech, sustainability, digital transformation and innovation in banking. Using this review approach visible gap was identified, while FinTech Adoption is far and wide examined, but partial studies conduct the combine structure of digital modernization and digital financial literacy influence on bank's sustainable performance. This study investigate that gap by offering an integrated model based on digital modernization and competency based assessments. Drawing upon the synthesis of previous studies, this work proposed a conceptual framework for understanding how FinTech enabled modernization can assist to sustainable banking. Therefore suggested that future research can do empirically test and more refine this model with different angle in banking prospective.

Keywords: Sustainable Performance, Digital Modernization, FinTech Adoption, Banking Innovation, Digital Financial Literacy

Impact of Audit Quality on Firm Performance Measured by Return on Equity (ROE)

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In this study, Firm Performance is considered to be the dependent variable and is measured by Return on Equity. ROE reflects a firm's ability to generate profit from shareholder’s equity and reflects the management’s efficiency in utilizing the equity capital to further enhance profitability. It hence becomes a very important measure of financial efficiency as well as of the general success of business and therefore suitable for testing the influence of audit characteristics on performance. The specific aim of this conceptual study is to investigate how audit quality, audit firm size, auditor tenure, and audit fee affect the performance of firms. Based on agency theory, signaling theory, and stewardship theory, the paper discusses the theoretical linkage between audit attributes and financial performance. This work consequently aims at highlighting the gaps in existing literature and also proposes testable propositions that can be used in subsequent empirical validations. It will make use of a conceptual research design by systematically reviewing peer-reviewed journals and professional reports. This is intended to synthesize findings into a conceptual framework that explains how audit characteristics may influence firm performance as proxied by ROE, and thus sets the ground for future empirical studies along with policy development.

Key words: Audit Quality, Firm Performance, Return on Equity

Influence of Green Finance and Green Innovation on Firm Financial Performance: The Mediating Role of Environmental Performance

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The study examines how green finance and green innovation influence firm financial performance through the mediating role of environmental performance. Although sustainability is becoming more and more popular worldwide, many firms in developing countries like Pakistan still face challenges in including green and, socially responsible practices in their business and financial activities. The main problem addressed in this study is the limited understanding of how green finance and innovation collectively improve firm performance through better environmental results. The main objective is to build a conceptual framework that explains both the direct effects of green finance and green innovation on firm performance and the mediating role of environmental performance. This paper provides a synthesis of the empirical findings that have been made recently to come up with a model of how green initiatives generate value to firms by reviewing the recent empirical and theoretical work. The research applies the conceptual approach in order to identify gaps in the research and propose future study areas .The paper makes a contribution to the literature by establishing a theoretical background of understanding the strategic role of green finance and innovation in promoting sustainable firm performance.

Keywords: Green Finance, Green Innovation, Environmental Performance, Firm Financial Performance.

CEO Attributes and Firm Performance: Moderating Role of Board Effectiveness

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This study investigates the impact of Chief Executive Officer (CEO) attributes on firm performance within Pakistan's textile industry, focusing on the moderating role of board effectiveness. The research examines how CEO age, tenure, education, ownership, and gender influence financial performance, measured by Return on Assets (ROA) and Tobin's Q. Using panel data from 10 non-financial textile firms listed on the Pakistan Stock Exchange (PSX) from 2014 to 2024, the study employs quantitative methods, including fixed and random effects regression models, to analyze the relationships between CEO characteristics and firm performance. The findings reveal mixed results. CEO ownership shows a significant positive relationship with Tobin's Q, suggesting that higher ownership aligns CEO interests with shareholder interests, enhancing firm value. However, CEO age, tenure, and education do not significantly impact firm performance, indicating that these attributes may not translate into superior financial outcomes in the Pakistani textile sector. Board effectiveness, contrary to expectations, negatively affects Tobin's Q, implying that current governance structures may not effectively enhance firm value. However, board effectiveness positively moderates the relationship between CEO ownership and Tobin's Q, highlighting the importance of strong governance in amplifying the benefits of CEO ownership. The study also finds that older firms tend to have higher ROA, while older CEOs are associated with lower ROA. The interaction between CEO age and board effectiveness negatively impacts ROA, suggesting that board effectiveness may not mitigate the potential drawbacks of older CEOs' decision-making styles. Overall, the research underscores the critical role of CEO ownership and board effectiveness in shaping firm performance, while calling for improved governance practices in Pakistan's textile industry to enhance strategic decision-making and firm value. These findings contribute to the literature on CEO attributes and corporate governance, particularly in developing economies.

Keywords: CEO attributes, Firm performance, board effectiveness, and textile sector.

The Impact of ESG Practices on Financial Distress: The Moderating Role of Government Policy

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This study demonstrates a financially troubled company has a hard time servicing its debts and continues running a normal business. The main concept of the experiment will be to determine whether ESG score that has been used over the years to establish the goodness of a company in issues such as environment, social responsibility and governance can identify how susceptible the company is to financial distress. Relationship of government policy stringency, i.e. the degree to which government rules and regulations are stringent or strong and how this may influence this relationship is also a study subject in this research. In a certain example, financial pressure may be managed better by companies with higher ESG scores in the event that the government is highly regulated on environmental or other social policies. This study aims to develop an explanation model of the ESG performance and government policy based on a simple theory that can be used to explain the impact of both factors towards the financial health of a company. The research does not collect its data. Rather it goes beyond research to construct its concepts. This is aimed at benefiting the future research and to demonstrate to companies and the leaders of the government that the sustainable approach can ensure that businesses can withstand the issues of financial difficulties.

KEYWORDS:

ESG performance, financial distress, sustainability, government policy stringency, conceptual framework

ESG Reporting and Green Bond Issuance: Their Relationship with Green Innovation and the Moderating Effect of Firm Size : A Conceptual Paper

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Green Innovation reflects commitment to the environmental transformation of the firm and can be seen as a measurable outcome of sustainability-oriented strategies. It is defined as the extent to which firms adopt eco-friendly technologies, processes, or practices. Green Bond Issuance and ESG Reporting Quality/Disclosure Score. Green bond issuance reflects financial alignment with environmental goals by capturing a firm's ability to raise capital for green projects. ESG reporting quality refers to the depth, transparency, and credibility of a firm's nonfinancial disclosures concerning environmental, social, and governance dimensions. Firm size reflects the overall scale of the company. This research investigates how sustainable finance mechanisms-green bonds and ESG disclosures-fuel green innovation and whether firm size acts as an enhancer or moderator of these relationships. This paper addresses how sustainable finance and ESG investing drive companies' green innovation. The main goal of this study is to develop a theoretical framework that shows how green bonds and ESG reporting might lead firms to green innovation but at the same time consider the fact that the size of the company might strengthen or weaken the effects. The methodology has relied on reviewing previous academic literature to propose this framework.

Keywords: Green bond issuance, ESG reporting quality, Green Innovation.

FinTech, Green Financial Practices and Sustainable Performance: A framework for Pakistan's Banking Sector

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Technology and environmentally friendly finance are changing the global banking industry of the world and particularly in the developing economies like Pakistan. Although it is a well-known fact that FinTech and green financial practices contribute to the enhancement of operational efficiency and development of eco-friendly behaviour, their joint impact on the sustainability performance is under-researched. The conceptual paper will be a synthesis of relevant literature to analyze the role played by financial technology and green finance in the sustainability outcome in the Banking Sector in Pakistan. The framework introduces financial inclusion as a mediating process and digital literacy as a moderating aspect on these relationships. The study through the conceptual and thematic analysis picks significant gaps in the previous research studies and sets out a holistic framework to connect the digital innovation and green finance to the inclusive financial development and sustainability performance. The results are relevant to the sustainability theory and literature on financial innovations as well as strategic implications to policy makers, regulators and banking institutions that seek to enhance sustainable development by digital and environmental transformation.

Keywords:

Financial Inclusion, Sustainability Performance, Green Financial Practices, and FinTech.

The Impact of Cyber accounting and Forensic accounting on Firm Performance

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Abstract:
This study investigates the impact of cyber accounting and forensic accounting on firm performance in the age of digital transformation. In this study we explore the use of modern digital accounting and fraud detection tools to make the firm more productive and financially strong. It highlight that companies adopt digital operation so their accounting system must also become digital, secure and based on real time data. The primary goal of this study to explore way to analyze the forensic accounting through financial investigation and fraud deduction and cyber accounting through cyber security and real time based data to improve the performance of firm. Additionally, this study seeks to provide a conceptual framework link with advance accounting practice with better financial and operational results. Since most of the studies have looked at forensic accounting and cyber accounting separately rather than combining both to check the affect company performance together, this research fills a significant gap in the literature. Through the combination of these viewpoint this study provide the fresh theoretical framework for understanding how investigative and digital accounting practice work together to improve governance, financial reporting quality and risk management. The results will be useful for academics, policy makers and practitioners looking to improve transparency and long term performance in the modern accounting environment

The Impact of Carbon Offset Quality on Firm Value: The Mediating role of Risk, Cost of Capital & ESG Reputation.

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The current conceptual paper investigates how quality of carbon offsets (OQI) affects the quality of firm value via series of market and stakeholder process. Based on the Signaling Theory, the paper states that the high-quality offsets can be credible indicators of environmental soundness, and low-quality ones can evoke the feeling of greenwash. The model suggests three mediating mechanisms: the risk perception, which is how the investors assess the exposure of the firm to environmental and regulatory uncertainties; the cost of capital, which is how credibility influences the financing terms; and ESG reputation, which is the greater social legitimacy the firm receives at sustainability markets. The model also adds the aspect of digital disclosure as the moderator which reinforces or weakens the perceived visibility and credibility of the signals of offset. The positive effects of high-quality offsets are augmented by clear, verifiable disclosure and such effects may be diluted or overturned by ambiguous disclosure. The article brings sustainability accounting and finance sources literature together in understanding the concept of offset quality, disclosure practices, and capital market reactions. Future empirical work that will test the hypothesis in regard to whether carbon offsets generate actual economic value or symbolic value-generating, the viewpoints of this framework can serve as a guide. The paper can also provide advice to regulators, investors, and companies that want to operate in the changing environment of the carbon accountability revolution.

Keywords: Carbon Offset Quality, Sustainability, Firm value, Greenwashing, Signaling Theory

Factors Affecting the Intention to Adopt Islamic Finance

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The intention to adopt Islamic Finance reveals an individual's behavioral willingness to use Islamic finance products and services. It reflects the motivation on the part of customers to choose ethical, interest-free, and religiously compliant financial systems instead of conventional banking. This paper will discuss the variables which affect consumer intention to adopt IF, which is the low behaviour despite the ethical and religious attractiveness of the Shariah-compliant financial systems. The model is based on the Theory of Planned Behavior and suggests that the Compliance of the Shariah Board, Customer Satisfaction, Accessibility of Product, Religious Preference and Service Quality will affect the adoption intention. The paper also hypothesizes that these relations will be mediated by Awareness of Islamic Finance that will either enhance or dilute the effect of these determinants. The research will incorporate a quantitative research design and primary data-based research design, which will require a purposive sampling of a structured questionnaire of customers of Islamic banking in Pakistan. The anticipated results and outcomes are that the proposed model would be validated and that more insights would be gained regarding the drivers of behaviour of Islamic finance adoption. The research is expected to have a theoretical provision of incorporating important institutional, behavioural, and religious provisions and a practical provision to Islamic banks on how to enhance governance, service provision, accessibility, and awareness efforts.

Key Words: Sharia Board, Religious Preference, Customer Satisfaction, Intention to Adopt Islamic Finance

Commerce for Good: Integrating Islamic Principles in Modern Business and Financial Practices

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This paper explores the integration of Islamic ethical principles within modern business and financial practices, in line with the conference theme “Commerce for Good: Balancing Profit with Purpose.” It examines how Islamic teachings provide a moral and economic framework for sustainable and equitable commerce. The study discusses Islamic Financial Institutions, highlighting riba-free (interest-free) mechanisms such as Mudarabah and Musharakah, rooted in the Qur’anic injunction: Allah has permitted trade and forbidden interest” (Qur’an 2:275). It further addresses Contemporary Economic Problems and Islamic Economic Systems, emphasizing Shariah-based solutions to inequality and ethical governance. The paper evaluates Shariah-Compliant Digital Business, E-Commerce, and Digital Currencies, focusing on the principles of Amanah (trust) and avoidance of Gharar (uncertainty). It also revisits Islamic Principles of Trade and Shariah-Compliant Marketing Practices, guided by the Hadith: “The truthful and trustworthy merchant will be with the Prophets, the truthful, and the martyrs” (Tirmidhi, 1209). Overall, this research emphasizes that Islam envisions commerce not merely as profit-seeking but as an act of worship (Ibadah) when conducted with honesty, justice, and social responsibility.

Keywords: Islamic Finance, Ethical Business, Shariah Compliance, Digital Commerce, Islamic Economics, Corporate Governance

The Legal obligation of Promises in Islamic Banking: A jurisprudential perspective and Modern Applications

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All the alternatives methods introduced in place of conventional interest-based banking systems consist of multiple contracts. (In Islamic banking, there is hardly any contract that is free from the concept of iltizam bil wa'ad [commitment to a promise]). However, the general principle in Islamic law is that combining multiple contracts within a single agreement (safqah fi safqah) is not permissible. To address this, Islamic banks developed a system where, instead of combining contracts, they require customers to make legally binding promises to fulfill different contracts in sequence. This approach ensures compliance while maintaining the appearance of adhering to Islamic principles. This method is now the foundation for Islamic banking practices worldwide. Since these institutions are labeled as "Islamic banks" and claim to operate under an Islamic framework, it is essential to evaluate their practices in light of Islamic jurisprudence. The key questions are: How much flexibility does Islamic law actually allow for iltizam bil wa'ad? Could this practice potentially fall under the prohibited categories of safqah fi safqah (combining contracts) or bay' bil shart (conditional sales)? This article seeks to explore these questions and fill the gap by providing a thorough analysis based on Islamic teachings.

The Juristic Approach of Digital Currency: Developing a Maqāṣid-Oriented Shariah- Compliant Framework for the Emerging Fintech

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The rapid growth of digital currencies presents a critical dichotomy for the global Islamic finance sector, introducing both technological efficiency and profound ethical challenges rooted in the prohibition of riba (interest), gharar (uncertainty), and maysir (speculation). The central issue is the current fragmentation of juristic opinions, where some scholars cite excessive volatility and lack of intrinsic value for outright prohibition, while progressive jurisdictions implement regulated, conditional permissibility based on strong governance and consumer protection. This polarization highlights a critical research gap: the absence of a unified Islamic framework capable of objectively evaluating digital assets according to the ethical goals of Maqāṣid al-Sharīʿah, specifically Hifz al-Māl (wealth protection). This study addresses this deficiency by developing an innovative Shariah-Compliant Framework for Digital Currency Evaluation (SCF-DCE), which shifts the compliance focus from the asset's legal form to its functional governance and ethical outcome. The SCF-DCE is anchored on three mandatory pillars: Asset-Backed Stability to ensure tangible economic value, Dual- Layered Governance (including technologies like the Shariah Oracle for continuous compliance), and mandatory Ethical Utility that prohibits links to prohibited sectors and prevents market exploitation. The findings demonstrate that digital currencies can achieve permissibility when they transition from speculative instruments to value- backed, ethically governed systems. This research will present to bridging traditional Islamic jurisprudence with modern fintech, offering actionable guidelines for policymakers developing Central Bank Digital Currencies (CBDCs) , regulators enforcing risk disclosure, and Islamic financial institutions

The Impact of E-banking, Green investment and Sustainable banking on Bank reputation with a mediating role of Environmental awareness

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The main aim of this paper was to investigate the effect of E-banking, bank reputation and sustainable banking on bank reputation. It also determines the mediating role of environmental awareness. Bank reputation is gaining momentum rapidly in Pakistan. Vital data was gathered from the institution sectors (Business Students) via quantitative online self-administered survey. Online self-administered questionnaires are distributed that were 350 in total from which 240 responses are received that has represented the response rate of 68% The received quantitative data have analyzed through multivariate analysis (structured equation modelling) in doing so, measurement model and structural model have developed to test the proposed hypotheses in PLS-SEM. Supplement analyses have also applied to test the mediation effects. The results confirmed the significance of environmental awareness in predicting the bank reputation. Above all, the findings showed that E-banking, sustainable banking and green investment has a positive influence on bank reputation. The results also confirmed that mediation role of association between the E- banking, sustainable banking, green investment and bank reputation. Implications for theory and practice are given and limitations have discussed along with the guidelines forfuture research that open new avenues for researchers.

Keywords: E-banking, Sustainable banking, green investment, bank reputation and environmental awareness.

From Fear to Empowerment: How Employees Perceive AI Adoption in

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Pakistan's Digital Sectors The rapid integration of Artificial Intelligence (AI) is reshaping modern workplaces by Enhancing productivity, innovation, and decision-making processes. However, limited research examines how employees in developing economies perceive this transformation. This study explores how employees in Pakistan's software and e-commerce sectors perceive AI adoption and how these perceptions influence firm performance (FP). Using an exploratory qualitative design and Krippendorff's six-step content analysis framework, 500 employee comments were collected from LinkedIn, Glassdoor, and Reddit. NVivo 14 software was used for content and sentiment analyses. Six key themes emerged: productivity and efficiency, learning and upskilling, quality and innovation, ethics and governance, job security, and customer experience. Results indicate that employees largely view AI as a performance-enhancing tool that improves efficiency, creativity, and customer engagement. Nonetheless, concerns related to job security and ethical governance persist. Sentiment analysis revealed that 42% of employees expressed moderately positive emotions and 30% showed very positive sentiments, indicating cautious optimism toward AI adoption. The study concludes that effective AI implementation depends not only on technological readiness but also on human-centered strategies that foster trust, skill enhancement, and ethical awareness. By emphasizing employee perspectives, this research contributes to human-centered AI literature and provides insights for developing inclusive and Performance-oriented AI strategies in emerging economies.

Keywords: Artificial Intelligence, Employee Perception, Firm Performance, Software Sector, E-commerce, Pakistan

Exploring the Impact of Job Roles on Job Satisfaction: The Mediating Role of Mental Well-Being

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Job satisfaction in the workplace is the degree to which the employees are satisfied with their job role, workplace motivation and satisfied with their place of work and surroundings. Despite the fact that job satisfaction in workplaces is becoming more and more aware with time, most employees continue to be dissatisfied with their work because of lack of job roles, too many responsibilities and very little autonomy. This is a theoretical paper that will examine the relationship between job role and job satisfaction among employees, as well as examine the mediating effect of mental well-being in this connection. The study demonstrates that well defined and structured job roles are positively implicated in the mental well being of the employees and, in effect, the study will improve the overall job satisfaction of the workers. This paper is based on the role theory and the psychological well-being paradigm of staff. This study also shows the importance of role clarity, organizational support and task fit in creating psychological stability and job satisfaction. The methodology of this study is a literature-based review based on qualitative methodology. It will generalize past empirical results by researchers and make propositions on future empirical studies based on the conceptual study performed in this case. The objective of the study is to develop a correlation between occupation, psychological health, and job satisfaction. It provides useful lessons to organizational leaders, managers and the HR professionals. To improve the productivity and well-being of the employees.

Keywords: Job satisfaction, job role, mental well-being, employee motivation, organizational behavior.

Human–AI Collaboration: How Perceived Usefulness Shapes the Impact of Technological Skills on Managerial Decision Quality

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Decision-making is the important part of managers' responsibilities with strong impact on organizational performance. The increasing adoption of Artificial Intelligence has shifted the focus from relying on complicated calculations to reducing managers' cognitive load in decision-making through AI engagement. The study formulates an individual-level framework that highlights the link between managers' technological adoptability and decision performance. The study uses 3 key factors: Data Literacy, Algorithm interpretation skills, and Technology self-efficacy. The Model also incorporates perceived usefulness of AI as a moderator because when manager thinks AI is effective in decision-making, the positive effect of technological skills on decision quality will be strengthened. The framework contributes to understanding the impact of psychological and cognitive factors on decision performance resulting from AI-human collaboration. Existing studies have worked on the firm performance due to AI adoption, and a few studies have been done on the impact of manager's AI adoption skill and usability in constructing decisions. Quantitative cross-sectional design using survey data from managers will be used to collect data. The results will help firm to organize trainings, skill enhancements and AI usability to improve managers' judgement.

Keywords: *Technological Adoptability, Data literacy, Artificial Intelligence, AI-Human Collaboration.*

The Impact of Digital Transformation, Organizational Culture, and Work Competencies on Work Motivation and Performance of University Teachers: The Mediating Role of Work Environment

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In this modern world, instructions rely heavily on digital innovation, well established organizational culture, and well-trained staff to improve institutional performance. This research paper examines the influence of Digital Transformation, Organizational Culture and Work Competencies on the Work Motivation and Performance of university teachers using Work Environment as mediating variable. It also aims to explore how all these factors together relate to the teachersC#39; professional effectiveness and motivation amidst the digitally transforming academic institutions. Quantitative research design was used in the research, where university teachers from both public and private universities were participants. The study employed a stratified random sampling technique in which responses were collected from representative samples of faculty members across different disciplines. Data analysis was done through the SEM method using SPSS and AMOS to test direct, indirect, and mediating relationships that exist among the study variables. Digital Transformation, Organizational Culture, and Work Competencies are found to have a positive impact on both Work Motivation and Work performance. The Work Environment has been found to partially mediate these relationships, this means that a supportive, resourceful, and collaborative atmosphere at work will enhance the institutional and individual factorsC#39; effect on motivational and performance outcomes. Creating a desirable work environment allows teachers to apply digital tools effectively, comply with organizational culture, and exercise professional competencies. This study helps contribute to the evidence base of managing higher education from an integrated model through the association of human, cultural, and technological variables to motivation and performance. The findings provide a meaningful contribution for informing university administrators regarding ways to improve faculty engagement, digital readiness, and institutional effectiveness overall.

Keywords: Digital Transformation, Organizational Culture, Work Competencies, Work Environment, Work Motivation, Work Performance, University Teachers, Higher Education.

Linking high performance work systems to knowledge sharing behavior via perceived organizational support and creative self-efficacy: the moderating role of coaching leadership

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High-performance work systems (HPWS) have been extensively studied for their impact on organizational and employee outcomes, yet their influence on knowledge-related outcomes such as knowledge sharing behavior remains underexplored. This study aims to examine the mechanisms through which HPWS enhances knowledge sharing behavior by integrating two mediators: creative self-efficacy (CSE) and perceived organizational Support (POS). Based on Social Exchange Theory, this study proposes that HPWS increases knowledge sharing behavior through the norm of positive reciprocity, mediated by employees' perceptions of organizational support and their confidence in their creative abilities. Moreover, this study examines the moderating role of coaching leadership in strengthening the relationship between HPWS and creative self-efficacy (CSE). This study follows a quantitative approach collecting cross-sectional data, involving 150 employees to determine that HPWS positively influences knowledge-sharing behavior through both mediators CSE and POS. Additionally, moderated mediation model supports to examine the impact of coaching leadership on employees' knowledge sharing behavior (KSB) Through the indirect effect of HPWS via creative self-efficacy (CSE). This study offers valuable insights for management to enhance knowledge sharing behavior (KSB) Through HPWS especially in the banking and information technology sectors. Further, creative self-efficacy (CSE) and perceived organizational support (POS) help with knowledge sharing behavior (KSB). Moreover, coaching leadership is a beneficial tool for employees to achieve organizational goals.

Keywords: HPWS, creative self-efficacy (CSE), perceived organizational support (POS), coaching leadership, knowledge sharing behavior (KSB)

Green or greed; visual communication or green washing as a dominant corporate social responsibility tactic

Ayesha Gull

Unveiling Digital Ownership: Exploring the Ethical Landscape of Non-Fungible Tokens (NFTs) as Unique Assets and Compatibility with Islamic Principles

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The rapid development of blockchain technology has led to a new paradigm in the ownership of digital assets in the form of Non-Fungible Tokens (NFTs) - one-of-a-kind verifiable digital entities tracked on decentralized ledgers. NFTs are a representation of ownership of a digital artifact such as art, collectibles, music, and virtual property. However, their inception has raised ethical concerns about value creation, authenticity of ownership and speculative trading. This paper examines the ethical context of NFTs and assesses their compatibility with Islamic moral and economic principles that stress upon fairness (adl), transparency (amanah) and avoidance of excessive uncertainty (gharar) and gambling (maysir). Using a qualitative and exploratory research design, this research examines the academic literature, Shariah rulings, and the case studies of NFTs to determine whether or not NFTs meet valid requirements of ownership and trade under Islamic jurisprudence (fiqh al-mu'amalat). Our research shows that while NFTs can be used for legitimate purposes, such as verifying the intellectual property or enabling transparent digital transactions, the current structure of the NFT market is characterized by speculation, price games, and an unclear understanding of intrinsic value. These characteristics bring ethical and legal concerns from Islamic point of view. The paper concludes that NFTs, in their current manifestation, should be carefully regulated and ethically framed in order to meet the requirements of ensuring compliance with maqasid al-shari'ah (the higher objectives of Islamic law) in terms of wealth protection, blocking exploitation and ensuring social benefit (maslahah). The study suggests a conceptual framework for constructing Shariah-compliant NFTs that is based on asset- backed value, fair trading principles, and sustainable digital ethics. Keywords: Non-Fungible Tokens (NFTs), Digital Ownership, Blockchain Ethics, Islamic Finance, Shariah Compliance, Maqāṣid al-Sharīʿah.

The Impact of Leverage, Liquidity, Sales Growth, and Cash Flow Operating on Financial Distress with Interest Rates as a Moderating Variable

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The Financial distress is characterized by firm inability to meet firm financial obligations. It is multi-layered process which influenced by liquidity problems, extremely level of debt and declining revenues. Its impact is not only individual business but also entire economic sectors. Pakistan is facing energy crisis driven by circular debt. Circular debt is cycle of unpaid obligations, especially in energy sectors, delay in operational efficiency, service delivery and investment. Adopting circular economy practice offers a promising approach to reduce financial distress by resource efficiency, sustainability, and innovative models in business. Firms implementing strategies, like as closed loop of supply chains and product- as-a-service models can attain financial flexibility through cost savings, diversified revenue and reduced dependence on instable resources. This research also discusses the keys financial determinants of distress, including leverage, sales growth and liquidity and operating cash flow. Understanding the systemic causes and accepting strategic interventions and policy makers can increase financial stability and improve energy efficiency and economic sustainability.

Keys Words: Financial Distress, Energy Crisis, Circular Economy, Liquidity, Leverage, Sales Growth, Operating Cash Flow, Financial Stability, Economic Sustainability, Resource Efficiency, Supply Chain, Policy Interventions.

Influence of national culture on leader-member relationship (LMX) and performance: An empirical study of relationship of graduate students of Business school with their teachers and its impact on performance.

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This empirical study investigates the influence of national culture on the Leader-Member Exchange (LMX) relationship and its subsequent impact on student performance. Grounded in LMX theory, which posits that high-quality, trust-based dyadic relationships between leaders and members lead to positive organizational outcomes, this research applies the framework to the academic context, examining the relationship between graduate students and their teachers in a Business School setting in Pakistan. The objective was to determine whether the quality of the teacher-student LMX relationship is a significant predictor of performance and, crucially, how this relationship is moderated by a key dimension of national culture. Data was collected via a convenience sample of 105 Master's level students using the LMX-7 scale for relationship quality and established measures for collectivism and performance. The findings confirmed a significant positive relationship between LMX and student performance (beta = 0.348, p=0.003), suggesting that higher-quality relationships with teachers are strongly associated with better academic outcomes. Furthermore, the analysis revealed that the cultural dimension of Collectivism significantly moderates the LMX-Performance relationship (p=0.037). Specifically, collectivism provides an added positive impact, implying that a cultural value system emphasizing group harmony, interdependence, and in-group loyalty enhances the benefits derived from a high-quality LMX relationship.

Keyword: LMX, Leader-Member Exchange Theory, Hofstede Cultural dimensions, Performance

From Ethical Principles to Sustainable Practice: Determinants of ESG Investment Adoption in Islamic Financial Institutions of Pakistan

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The global transition toward sustainability-oriented finance has led asset management firms to reconsider their investment philosophies through the lens of Environmental, Social, and Governance (ESG) criteria. In emerging economies, however, the diffusion of ESG investment practices remains shaped by complex institutional and market dynamics. This study investigates the determinants of ESG investment adoption among asset management firms in Pakistan, focusing on how firm-specific characteristics and external pressuresm influence the integration of sustainability principles within managed portfolios.Drawing on institutional and stakeholder theory, the research conceptualizes ESG investment adoption as a strategic response to legitimacy demands and evolving investor expectations. Firm- level data are obtained from annual reports, sustainability disclosures, and CSR statements of asset management companies, complemented by macroeconomic indicators from the World Development Indicators (WDI) and World Bank databases. Using panel data estimation techniques, the study models ESG adoption as the dependent variable, examining the roles of governance quality, firm size, profitability, market exposure, and regulatory environment as key explanatory factors. Preliminary results suggest that larger, more transparent, and internationally connected firms exhibit higher levels of ESG adoption, driven by both reputational considerations and regulatory expectations. The study provides one of the first empirical assessments of ESG investment behavior within Pakistan's asset management industry, contributing to the broader discourse on sustainable finance in developing economies. Its findings offer policy and managerial insights for fostering a more resilient and responsible investment ecosystem.

Keywords: ESG Investment; Sustainable Finance; Asset Management; Institutional Theory;Pakistan; Financial Institutions; Panel Data; Stakeholder Pressure

The Value Premium in Modern Markets: Integrating Fundamental and Information- Based Valuation Approaches

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The value premium, characterized by systematic excess returns of value stocks, has consistently ranked as one of the most robust empirical anomalies in finance over the past five decades. The premium has significantly diminished since the 1990s, and conventional book-to-market (BM) metrics are increasingly inadequate in markets dominated by intangible assets. This conceptual paper presents an integrated framework that identifies the value premium as stemming from both complementary tangible and intangible sources. The framework compares the conventional BM ratio with emerging alternatives—Valuation- to-Price (V/P) and Fundamental-to-Market (FM) ratios—and introduces a Composite Valuation Measure through principal component analysis. Six testable propositions will guide future empirical research. This foundation enhances value investing theory, integrates risk-based and behavioral viewpoints, and guides practical valuation methods in contemporary markets.

Keywords: value premium, valuation measures, tangible-intangible duality, composite framework, principal component analysis

GREEN FINANCE, GREEN INVESTMENT AND ENVIRONMENTAL SUSTAINABILITY:MEDIATING ROLE OF GREEN INNOVATION.

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The quest of environmental sustainability has become an important strategic priority for the manufacturing sector, particularly in developing countries like Pakistan to adopt sustainable business practices. The study seeks to explore the mediating role of green innovation on green finance, green investments and environmental sustainability nexus in the manufacturing sector of Pakistan. Guided by Resource based-view and Institutional theory, the study assert that green finance and green investment serve as critical enablers that offer firms with the financial and strategic resources necessary to develop innovative, green technologies and practices. Subsequently, Green innovation integrating green product, process and technological innovation act as an operational mechanism that transforms financial and investments into enhanced environmental performance outcomes. This model assumes that, although both green finance and green investment have a singular role in the sustainability, the effect is achieved when the two firms channel or broker such resources to creative practices that minimize pollution, increase resource efficiency and environmental compliance. The conceptual paradigm takes a step forward to theoretical knowledge on the how the financial mechanisms and investment behavior can sustainability based on innovation-led-pathways. Furthermore, it provides valuable insights for policymakers, investors and professional experts in Pakistan on leveraging green financial mechanism to boost up innovation led-pathways towards a sustainable industrial future.

Keywords: Green investment, Green Finance, Green Innovation, Environmental sustainability.

Exploring the Moderating Impact of Environment Policy Stringency on Green Investment Disclosure and ESG Outcomes: A Conceptual Model.

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This conceptual paper defines Environmental(E), Social(S) and Governance(G) performance as the dependent variable which is versatile measured for capturing firm's overall sustainability across environmental guardianship, social\ responsibility and governance practices determine by ESG score. Using Environmental Policy Stringency(EPS) as a moderating factor, the main goal is to investigate the relationship between ESG performance and Corporate Green Investment Disclosure (CGID), or the volume and caliber of reporting on investments with an environmental focus.This model is developed based on existing theoretical and empirical literature from emerging economies, such as Pakistan, where previous research indicates a lack of understanding of the relationship between corporate green investment (CGID), Policy Environment, and ESG outcomes. It does this by drawing on fundamental theories like Stakeholder Theory, Institutional Theory, and Legitimacy Theory. Although earlier research has shown a direct correlation between disclosure and ESG metrics, little is known about the contingent influence of regulatory rigor on these associations. By suggesting EPS as a crucial moderator that enhances the beneficial effects of CGID on ESG performance under strict policy conditions, this conceptual framework fills that gap and offers firms and policymakers nuanced guidance. This model serves as a base for future empirical endorsement and offers practical implications for strengthening sustainability strategies in developing markets.

INTEGRATING SHARIA CONSIDERATIONS FOR SHARIAH COMPLIANT BANKING - A CASE STUDY OF MALAYSIAN SCHOLARS AND EXPERTS

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The research combines elements of Sharia with the CAMELS framework to create more robust Islamic banking performance assessment tools while focusing on Malaysian Islamic banks. The research highlights weaknesses in present systems to introduce essential improvements targeted at strategic development. Traditional CAMELS evaluation metrics that consist of Capital Adequacy and Asset Quality together with Management Quality and Earnings Efficiency and Liquidity do not properly assess important Islamic compliance issues. New measurement tools for Sharia compliance are introduced by the study which become additions to existing analysis metrics. Studies indicate that financial institutions must integrate special Shariah-compliant metrics together with supervisory models that fit Islamic financial product features. The improved CAMELS framework evaluates Islamic banks' stability along with performance using inhanced features to advance the stability and growth of Islamic finance operations.

Keywords: Sharia compliance, Islamic banking, CAMELS framework, Sharia Governance, Banking Stability

Pakistan's Export Competitiveness and Problems Faced by Exporters.

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This study examines Pakistan's export sector, highlighting comparative advantages across key industries, including textiles, food, leather, surgical instruments, and sports goods. The analysis is done both on macro and micro levels. A situational analysis is followed by Revealed Comparative Advantage (RCA) by products of major sectors. Macro-Level Determinants of Revealed Comparative Advantage are also figured out that that while some determinants like industrial output and institutional quality generally enhance Pakistan's comparative advantage, the direction and magnitude of effects vary considerably by sector. These sectors show competitive potential in international markets, but RCA performance alone does not assurance export success, when challenges compel firms from getting their full comparative advantage. Therefore, a survey of exporters is conducted to explore challenges faced by exporters causing low exports in Pakistan. Findings indicate, Textiles and leather appear in robust sectors, while food exports like bovine meat and fresh fish display growing advantages due to efficient production practices. Despite these strengths, exporters face significant operational and logistical challenges, such as transportation costs, warehouse and storage shortages, customs delays, and regulatory complexities. The findings reveal multiple issues in the export market such as nonavailability of working capital and access to finance, hurdles faced due to shipping monopolies, policy inconsistencies, and delays due to custom checks. It is essential for Pakistan to sustain and enhance export growth and compete internationally. As the URAAN initiative also aims to enhance exports, this study recommends keeping interest rates low, ensuring equitable market and financial access, streamlining trade processes, expanding digital banking Camp; technological upgradation, providing essential infrastructure, offering professional training for exporters, and building networks for growth.

Key Words: Export Competitiveness, Revealed Comparative Advantage, Export Challenges,Technological Upgradation, Digital Transformation, URAAN Initiative

Shariah vs. Sin: Does Islam Save our Money in Crisis? A Case of Pakistani Stock Market during COVID-1G

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Crises are more common nowadays than they were few decades ago. As the compelxities of life generaly and businesses specifically are increasing, the frequency and magnitude of economic crises have amplified too. Just in the last 20 years we have witnessed some major economic crises like the Global Financial Crisis (GFC) of 2007-08, European Debt Crisis and more recently, the COVID-19 economic crisis. During these uncertain times, the investors look upon the financial experts and scholars to guide them regarding the most secure investments.Therefore, this study aims at providing such an investment option to the stock market investors by suggesting a stock which shows more resilience during these crises periods. By studying and comparing two of the most famous stocks around the world i.e. Shariah (Islamic) and Sin (Vice) stocks in the context of COVID-19 crisis, we compared their performance in terms of dividend stability and stock price volatililty. Applying descriptive statistics, Correlation analyhsis and paired t-test comparison techniques on Shariah and Sin stocks listed on the Pakistan Stock Exchage during the time period of 2018-22, it was found that Shariah stocks depict more stability in terms of both: Dividend and Stock price volatility. The data for pre and post COVID-19 was also tested and results were similar. Therefore, it is preferable to invest in Shariah stocks than the Sin stocks during the economically difficult times.

Keywords – Crises, COVID-19, Shariah Stocks, Sin Stocks, Dividend, Stock Price Volatility, Resilience

Bridging Faith and Finance: How Religious Values, Cognitive Attitudes, and Financial Literacy Interact in Shaping the Investment Intentions and Behaviour of Muslim Investors.

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This study addresses the motivational factors behind the decision to invest by Muslim investors and assumes that their financial decision making is not purely economic decisions which are based on economic rationality and profit. maximization motives. It can be argued that investment is a trade-off between this worldly gain and spiritual. obligations, the paper has determined the interaction between faith, morality, and financial logic in investment among the Muslims. behavior. This is based on the Theory of Planned Behavior and the principles topped off with the Behavioral Finance. paper elaborates a framework, which defines internalized ethical beliefs that indicate the moral of the investor. an analytical attitude, which is a conscious financial reasoning, and Shariah compliance competencies. including practical knowledge on the Islamic principles as the most important conductors of intention to invest. The study also places intention to invest as a motivation and cognitive ability-based function. hedonistic consumer behaviour as the moderating variable that translates intention to behaviour and conceives. financial literacy as the holism competency because it has the ability of empowering investors to comprehend complexities. financial data and religious adherence. Evidence reveals that financial literacy is low and could be the cause of low results. undercut the intention-behavior relationship in highly motivated investors just like in highly motivated investors. The paper adds to a deeper alternative interpretation of standard financial paradigms and helps in a valuable emerging body of knowledge on Islamic behavioral finance through synthesizing the religious values with cognitive values. and competence-based factors. The research has practical implications on the polity of financial. Teachers, and Islamic financial institutions in their interventions to close the intention behavior gap and create ethically responsible investors in the Muslim communities.

Keywords: Islamic finance, investment behaviour, Theory of Planned Behavior, financial literacy, Shariah. compliance, behavioural finance, intention-behavior gap.

Islamic Banking in Pakistan: An Analytical Comparison Between Perception and Experience

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Understanding consumer perception, satisfaction, and experience with Islamic banking in Pakistan is the primary goal of this research study. The studies compare Islamic and conventional banks, examine how awareness and understanding impact customer behavior, and pinpoint the elements that impact customer satisfaction. The majority of the research focuses on analyzing how clients view Islamic banking services, how their religious convictions influence them, and what changes can raise customer satisfaction. The overall goal is to investigate the discrepancy between what clients anticipate from Islamic banks and what they actually encounter in real life. Methodology In most of the studies that were reviewed, they largely utilized quantitative research methodology relying on surveys and formal questionnaires. The data was provided by customers, managers and even at times the finance students of Islamic banks. The individual banking customer was the unit of analysis in most of the studies. Regression and likers-scale surveys were common research tools that were used to test the relationship between variables which included customer satisfaction, perception and quality of service. The sample sizes were usually 150-200 respondents representing the various cities of Pakistan including Karachi, Lahore and Multan. All the ten studies reveal the same tendency: despite the overall positive attitude of consumers towards the Islamic banking, the gap between perception and reality persists. Even though a large proportion of clients choose Islamic banks because of the presence of religious motives, they often believe that the service quality and mastery of the products offered, are not the best. It is also found in research that when the focus of the Islamic banks is on Shariah compliance, good customer service, and open communication, customer satisfaction increases significantly. Islamic banking in theory leaves its customers quite satisfied, yet they are not always pleased with the actual practice.

Keywords

Islamic banking, Customer perception, Customer satisfaction, Service quality, Awareness, Experience

Full Length Papers

Impact of ESG Disclosure on Firm Value: The Moderating role of Board Independence and Gender Diversity in BoardA Conceptual Framework

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Firm value shows the financial stability, profitability and the overall financial performance of. the firm. The non-financial performance indicators in the modern business environment include the biggest contributors have become environment, society and governance (ESG) disclosures. to the firm value. This paper will come up with a conceptual framework through the analysis of the impact. of the value of a firm and investigate the effects of the board characteristics as of ESG disclosure. this impact is enhanced or diminished by the independence of board and gender diversity in board. This framework unveils the impacts of the disclosure of sustainability to the performance of a firm. performance. This study develops a conceptual model based on which is methodologically developed. stakeholder theory, agency theory and resource development theory. A comprehensive review of earlier studies unveils the inconclusive result of ESG disclosure and the firm value. This study addresses the gap by proposing a conceptual framework that integrates the moderating effects of board independence and gender diversity in board, leading to a more comprehensive understanding that how the governance characteristics shape the relevance of ESG disclosure with firm value.

Key Words: *ESG Disclosures, Firm Value, Board Independence, Board Gender Diversity*

Introduction

Firm value represents the overall worth of a firm, as perceived by investors and other stakeholders. It reflects the financial performance, market position and long-term growth potential of the firm (Li et al, 2023). The firms, in today's business environment, are not only valued on the basis of their financial performance but are also valued on the basis of their non-financial performance and the key non-financial performance indicators include environment protection, social responsibility and governance quality. This shift reflects that the firms which create long-term stakeholders value tend to achieve higher market valuation (Mahenthiran et al, 2023). In recent years, ESG (Environment, Society and Governance) Disclosure has become a factor of great significance in corporate sector for assessing the firm value. ESG Disclosure reflects the transparency of a firm in its sustainability practices, ethical operations and governance mechanisms, which are the factors that are valuable for investors, regulators and other stakeholders (Angir & Weli, 2024). Some companies voluntarily disclose their ESG practices to enable themselves to enhance their corporate image, to reduce their cost of capital, to reduce information asymmetry and to attract the long-term investors who value ethical and sustainable performance (Mahenthiran et al, 2023).

With this context, corporate governance characteristics, particularly board independence and gender diversity in board play a very critical role in influencing the effectiveness of ESG Disclosure. Independent directors in board monitor the management decisions objectively ensuring that ESG initiatives are aligned with the interest of shareholders and other stakeholders (Kamaludin, Ibrahim, & Sundarasen, 2022). Independent directors are more likely to support transparency in decision making and prevent managerial opportunism which ultimately leads to a positive impact of ESG Disclosure on firm value. Similarly, a gender-diverse board contributes to broader perspectives in decision-making, ethical awareness and more sensitivity towards stakeholders' interest. Some studies have reported that the boards with more female directors tend to focus more on sustainability and social responsibility leading to a better ESG performance and ultimately increased value of the firm (Gottardo & Moisello, 2024). These governance factors strengthen the positive effect of ESG Disclosure on the firm value.

While various studies have examined the determinants and consequences of ESG Disclosure, its impact on firm value is still inconclusive. Some studies suggest that high quality ESG Disclosure enhances the transparency and accountability that attract long-term investors which leads to increase in firm value. While some studies argue that ESG initiatives only cause additional operating cost with limited financial benefits. This inconsistency in results raises the question that which contextual factors strengthen or weaken ESG-Firm relationship. Moreover, there is limited empirical evidence on how the board independence and gender diversity in board together influence the impact of ESG Disclosure on firm value, particularly in emerging economies like Pakistan where ESG reporting practices are still emerging.

Therefore, following research questions arise from this problem statement:

1. Does ESG Disclosure significantly impact the firm value?
2. Does Board Independence moderate the ESG Disclosure-Firm value relationship?
3. Does Board Gender diversity moderate the ESG Disclosure-Firm Value relationship?

In line with these research questions, this study has following research objectives:

1. To examine the impact of ESG Disclosure on firm value.
2. To analyze the moderating effect of board independence on ESG Disclosure-Firm value relationship.
3. To assess the moderating effect of board gender diversity on ESG Disclosure-Firm value relationship.
4. To provide recommendations for policy makers of public listed firms to improve sustainability reporting and practices.

This study is helpful for various stakeholders in financial and corporate sectors, especially for the public listed firms where ESG reporting and governance reforms are gaining importance. It provides valuable insights for investors and policymakers that are seeking to improve the sustainability initiatives and governance practices. Investors and analysts can make informed decision making by considering ESG performance as an indicator for firm value. Moreover, this research will contribute to the academic literature by providing foundation for future empirical work from an emerging market perspective, particularly Pakistan, where ESG disclosure is gaining momentum but remains underexplored.

Literature Review

Over the past few decades, the significance of assessing the firm's value using non-financial indicators along with the financial indicators, has been enhanced. Earlier, the firm's value was assessed by using financial indicators solely, such as Return on Assets, Return on Equity and Earnings per share. These indicators could only measure short-term profitability but could not measure long-term social and environmental consequences of the firm's business operations, on the basis of which, sustainability of the firm is determined (Stern et al., 1996). To overcome that limitation, value-based measures were evolved for the measurement of firm's value in which Economic Value Added (EVA) was the most notable, developed by Stern Stewart & Co., which measures the residual income after deducting the cost of capital (Stewart, 1991). EVA along with the market-based measure, Tobin's Q, has become a significant measure to determine the firm's value because it measures the firm's ability to generate wealth beyond the accounting profits.

Firm value represents the overall perception of market about the worth of a company, reflecting both its current earnings potential and future growth prospects (Li et al., 2018). A higher firm value leads to increased investors confidence and efficient utilization of resources. Over the last few years, scholars have explored the role of the non-financial performance. indicators, in particular, ESG disclosures, add value to the firm by affecting investors confidence and lessening information asymmetry (Friede et al., 2015). Within the contemporary business context, companies ought to find a way of being transparent and responsible. by means of the non-financial disclosures and in particular, ESG disclosures, to fulfill the expectations of investors and regulators. ESG disclosure is a process of firm communication. performance across three major areas of sustainability environment, society and governance. Global Reporting Initiative (2021). These three essential revelations convey the manner in which the company. removes its ecological risk, manages its employees, makes its connection with the society better. where it acts and is guided and governed.

ESG Disclosure and Firm's Value

There are extensive studies in the past on the connection between ESG disclosure and firm value. is on the subject of studies, and remains provisional. There is a large number of studies that ESG Disclosure positively influences. the Firm Value as it shows the degree of sustainability of the firm. The ESG transparency will bring in more long-term investors, lead to lowering the capital cost of the firm and result in its. good corporate image, which will make the firm more sustainable. For instance, the results of Fatemi et. al (2018) demonstrated that high quality of ESG disclosure has a positive impact on the value of firms. Bualley (2019) also reported that ESG practices of a firm are more effective than those of competitors in the market valuation on basis of better stakeholder faith and good corporate image. Similarly, Alsayegh et al. (2020) have concluded that a high quality of ESG reporting enhances credibility and economic. performance of the firm in Gulf countries. Nonetheless, other studies document that ESG Disclosure is negatively related to Firm Value since ESG investment results in a higher operating cost and it results in shift of utilization of firm resources as they do not maximize profits but make them sustainable. (Maqbool & Zameer, 2018;

Makni et al., 2009). This view can also be agreed with Friedman (1970). neoclassical opinion that shareholders wealth maximization is primary goal of a firm and expenses on sustainability practices, are unnecessary expenditure. Moreover, many A neutral relation between ESG Disclosure and firm value was found to be made in research studies, implicating the fact that the financial effect of ESG disclosures is contextually based on factors like. type of industry and the quality of governance (Cek et al., 2020; Soana, 2011).

Given these inconsistent results, recent studies increasingly emphasize the moderating role of **corporate governance mechanisms** such as board independence and gender diversity in determining whether ESG disclosure enhances or diminishes firm value (Harjoto & Jo, 2011).

The Moderating role of Board Independence

The independence of the firm's board indicates that there are more independent directors in board who can make objective judgements and transparent decisions in the interest of the shareholders. According to agency theory, the risk of managerial opportunism and information asymmetry reduces by effective monitoring. Some studies report that independence of board leads to high quality ESG Disclosure which then leads to stronger financial outcomes (Harjoto & Jo, 2011; Al Amosh & Khatib, 2022).

The Moderating Role of Gender Diversity in Board

Board Gender Diversity refers to the inclusion and active participation of both men and women in the board. According to Resource dependence theory (Pfeffer&Salancik, 1978) and stakeholder theory (Freeman, 1984), gender diversity in board can lead to broader perspective of decision making, improved ethical styles and more focus towards social responsibility. Empirical studies demonstrate that women directors contribute positively to transparency and sustainability orientation (Post et al, 2015 Gul et al, 2011).

Research Gap and Summary

Despite many researchers have studied ESG Disclosure and Firm's Value relationship but the gap remained. Firstly, recent studies mainly focused on financial indicators to measure the firm's value and gave less attention to the non-financial indicators that better reflect the shareholders' wealth and ultimately firm's value. Secondly, some studies reported that ESG Disclosure's impact on firm value is influenced by the contextual factors such as type of industry, size of firm and quality of governance. This suggests that influential role of contextual factors is understudied. Thirdly, the moderating roles of board independence and gender diversity in board together within the ESG

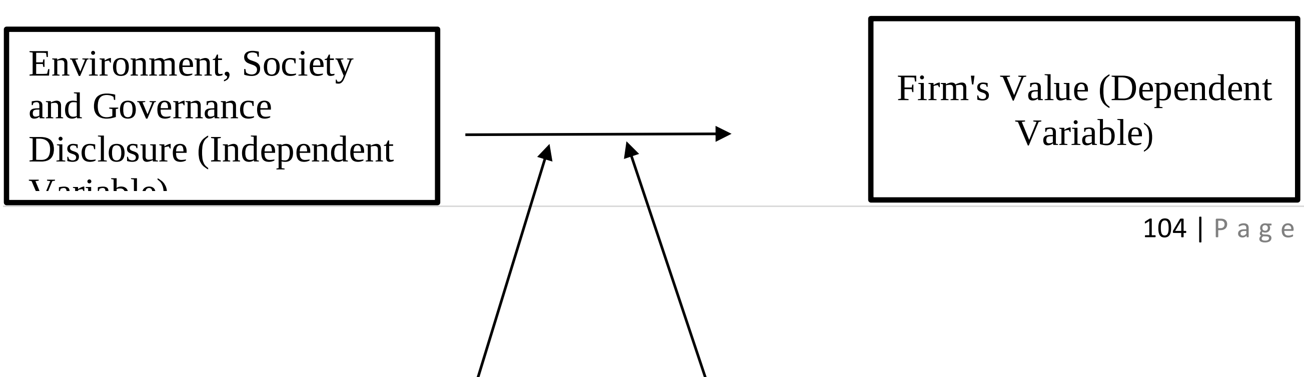
Disclosure-Firm's Value framework are understudied, especially in the developing economies like Pakistan.

Therefore, this study fills the gap by studying how ESG Disclosure impacts the Firm's value and how board independence and gender diversity in board moderate this relationship. Exploring this relationship will enhance the understanding of how environmental, societal and governance practices shape the outcomes of sustainability reporting in emerging economies.

Methodology

This study proposes a quantitative research approach because the relationship between ESG disclosure, firm value, board independence and board gender diversity can be operationalized using measurable financial and corporate indicators. Previous studies have predominantly used quantitative research methods to figure out the impact of ESG Disclosure on Firm. This study plans to focus on secondary data analysis using public listed companies (Pakistan Stock Exchange). The panel data will be collected from annual reports, sustainability reports and CSR/ESG disclosure. These analytical methods are commonly used in previous ESG and corporate governance studies. This study plans to develop an empirical design that is explanatory which means the future methodology will seek to explain how ESG disclosure impacts firm value and how board independence and gender diversity in board strengthen or weaken this relationship. Also, the study intends to develop the methodology that is grounded in stakeholder and agency theories. The dependent variable, firm value, will be measured using financial indicators including Tobin's Q, ROA/ROE and market capitalization. ESG Disclosure can be measured using ESG scores from ESG databases (Bloomberg, refinitiv) and disclosure content analysis. Board Independence can be measured through the percentage of independent directors in the board and the independent chair indicator. Board gender diversity can be measured through the percentage of female directors in the board and female director dummy variable.

Conceptual Model



Board Independence (Moderating Variable)

Board Gender Diversity (Moderating Variable)

Conclusion

This conceptual study develops a theoretical framework that links ESG disclosure to firm value, incorporating the moderating effects of board independence and gender diversity in board. The framework suggests that ESG disclosure enhances the firm value by enhancing investor's trust, reducing information asymmetry and enhancing corporate image (Li et al., 2023). However, this impact is influenced by governance conditions. Independent board is more capable of monitoring the management ensuring transparency and preventing a symbolic ESG reporting (Noor, 2025). Similarly, a gender diverse board enhances decision making through diverse perspectives, enhances ethical orientation and has more sensitivity towards stakeholders (Gottardo & Moisello, 2024).

This study conceptually contributes to sustainability research studies by organizing the findings of different studies and providing structured and organized model for future empirical validation. Researchers can apply this conceptual framework in both, developed and developing markets to test how the governance conditions affect the relevance of ESG disclosure with firm value. It will also be beneficial for policymakers, investors and regulators to understand how governance reforms influence the credibility and transparency of sustainability reporting.

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Behavioral Biases in the Digital Age: Examining the Moderating Role of AI Advisory Services in Gen Z Investment Decisions

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Abstract

The effect of cognitive biases on investment decision-making behavior is gradually becoming a major factor in Gen-Z investors. It results in impulsive and emotion-driven outcomes, which is more likely to underperform financially. This paper identifies the investment decision-making as the Dependent Variable; focusing on behavioral biases such as Overconfidence Bias (OCB), Fear of Missing out Bias (FOMO), the Loss Aversion Bias (LAB) undermine the rationality of the strategic decision in risk management, selecting assets, and timing. This study focus to create a conceptual framework that examines the effect of the moderating role of Artificial Intelligence (AI) advisory service. It encompasses both algorithmic platforms and robo-advisory in the formation of the connection between investment decision and behavioral biases. These artificial intelligence (AI) systems provide objective and evidence-based ideas that can reduce cognitive biases and assist regularities in making decisions. This is a systematic literature review research methodology focusing on behavioral finance, Gen Z investor psychology, and Digital advisory services. One of the important variables are identified can could be accurately combined in a manner. It provides a consistent base of development of a model. It allows the future usage of the empirical evaluation. This model somehow improves the behavioral finance research. It helps in different ways like visualizing AI as the moderator. This may offer the practical advice to FinTech developers, regulation makers, university professors, and also to enhance the investment behavior in a digital society.

Keywords: *Artificial Intelligence, Gen-Z, Investment Advisory, Cognitive Biases.*

Introduction

Investment decision-making could be at a point where the data analysis calculation and human behavior collides. But still the digitization has improved the conflict by channelized some decisions through a tech-related medium. Theory in classical finance believes that investors act as rational thinkers, by increasing profit under some risky context. Behavioral finance is consistently been challenged under belief, showing some biases and also the emotional disturbance that often overcome some rational thoughts (Kahneman & Tversky, 1979; Barberis & Thaler, 2003). The discussion now expand beyond investors behaving logical to analyze tech to shape them, make comfortable strategies. The expansion of this digital AI advisory and data-driven assistance has present new conceptual challenges. They have show relation between AI Logic and personal bias.

During the discussion, the behavioral biases including the loss aversion, overconfidence bias and fear of missing out bias, plays role in investment decision-making processes. Overconfidence bias is rooted in the overconfidence theory in literature. They have overstate their learning position and forcasting abilities and also leading to more risk-taking and trading activities. (Barber & Odean, 2001). FOMO is more of a kind of modern construct. FOMO show excess psychological of current digital connections. Stakeholders behaves abruptly to prevent the sense of isolation from beneficial chances (Zhao & Qiu, 2017). Prospects theory is centrally aligned to loss aversion bias. This enlightens the non-uniformity that how people judge profit and loss. This can build a mental effect that is measurably stronger than profits. Collectively, all these biases are framed framed together as dependent variables of the investment decision-making. They may gradually considered as an output not only of the logical analysis but sometimes also of biases that shaped by online environments.

The divergence in this model is introduced by the moderating role of AI investment advisory services. This is somehow relating to acceptance of technology and also innovation with modern views. They states that tech related stuff may improve the logic by offering objective and also data-driven suggestions (Davis, 1989; Rogers, 2003). Researchers believes that robot advisory and use of AI platforms reduce the urgency, the overconfidence and also oppositely oppose the loss aversion by providing them well-defined AI guidance (Bhatia et al., 2022; Sunstein, 2019).

Although the researchers have eye on this, yet they gaps remain in theoretical understanding. In the literature, it is observed that cognitive biases explored the use of AI robot advisors as technological advancement. It is hardly implement the streams to conceptualize that how AI robo-advisory services balance the relation among the biases and the investment decision behaviors. They are among Gen Z investors in advance economies (Maheshwari & Samantaray, 2025a; Maheshwari et al., 2025b). Gen Z are basically tech addictive generation, socially engaged, have financial goals and are more active socially. Their investment decision patterns are mostly shaped by different behavioral biases that are working in digital environment. However, the conceptual framework is defining that how this dual effect remains less developed.

Therefore, this Paper ultimately pushes a conceptual study that helps in integrating behavioral finance and technology accepted theories to suggest a new model, which includes behavioral finance (FOMO, overconfidence and loss aversion) as independent variables that affects the investment decisions, moderated by AI robo-advisory services. This model is in technology acceptance theory, Prospects theory, and Overconfidence theory. This study also contributing in ongoing discussion about logic in this digital era. The reason for this theoretical exploration is rooted in its strength to bridge the gap between the unsolved conflict between machine logic and human judgements. They are offering a framework grounded viewpoint to understand that how Gen Z investors manage investment decisions in modern era.

Literature Review

Investment Decision-Making (IDM) stands to process a crucial cognitive process through the best strategy (Raut, 2020).It keeps up with the current market trends running on personal aspirants by supposing the related risks of available opportunities. This correspond with personal aspirations and current market trends. Investment decision-making plays a pivotal role in financial behavior. It also includes the choices individuals make regarding investment influence the degree of risk taken. Also the exposure to financial prospects over time. It affects the allocation of available financial resources. It will affect their financial responses to market movements, sometimes their efforts to gain their financial objectives.

Overconfidence Bias is may be an ego-driven tendency and a bias in which investors overestimate their investment knowledge, skills or expertise (Pompian, 2016). It sometimes encourages investors to support subjective assessment over factual data. This often leading to overtrading and weaker investment results. OCB among young investors in emerging markets like India where investors think that they can predict the movement of the stock market better than anyone to make more returns (Ainia & Lutfi, 2019). This bias helps to contribute in impulsive decisions and undermine analysis. OCB has a positive effect on IDM among Gen Z investors (Maheshwari & Samantaray, 2025, Article 1). However, this impact is may often irrational, as overconfident investors earn low returns than their less confident counterparts (Barber & Odean, 2001). This bias may enhances perception of their own skill set, that often resulting in inaccurate judgment and misguided investment choices.

FOMO (Fear of Missing Out) is a psychological phenomenon that can triggers impulsive behavior (Zhao & Qiu, 2017). It may occurs when an investor interprets market moments that can cause them to lose potential gains in it. This may be leading them to make hurried investment choices. Social media accelerates FOMO by showing few success stories, that helps to create a sense of urgency and exclusivity (Tomczyk & Selmanagic-Lizde, 2018). Such Bias is strong among Gen Z, who are specially influenced by FOMO in the stock market. This often chasing quick gains without a solid strategy (Maheshwari & Samantaray, 2025, Article 1). FOMO could may positively influences IDM among Gen Z investors (Maheshwari & Samantaray). However, this can influence is frequently irrational or promoting individuals some market trends and collective behavior, however, instead of investment-based decision-making. Consequently, investors become more vulnerable to hype market and less rigorous in evaluating information.

Prospect Theory has the tendency to individuals feel twice as much distress from losses. They derive satisfaction from gains or profit (Kahneman & Tversky, 1979). Investor sometimes becomes over-conscious and start avoiding risks. This may even when gains outweigh losses. This bias can leads to behavior such as reluctance to sell them underperform the stocks. It sometimes avoiding profitable opportunities due to fear of making new mistakes (Chen et al., 2018; Shiller, 2003). It represents a strong emotional bias. This leading to distorted risk assessment and reduced effectiveness in portfolio construction, development and efficiency.

Artificial Intelligence may known as Robo-advisors, is advanced AI-enabled online platforms. They provide algorithm-driven, databased investment suggestions with minimum or no human intervention (Maheshwari & Samantaray, 2025). These platforms can specifically designed to address the emotions and sentiments of investors. This will ensuring transparency and reliability (Nussbaumer et al., 2011). This is relevant for Gen Z investors as consistently leverage technology to update and it enhance their investment decisions (Lopez et al., 2015).

As per the previous literature review, IDM (investment decision-making) is an intense process, and this process has previously been undermined by behavioral biases. Also particularly among Gen-Z investors operating within emerging markets. The biases including Overconfidence Bias (OB), Fear of missing out (FOMO) & Loss Aversion Bias (LAB), shape how individuals perceive risks, evaluate many opportunities, and act under uncertainty. Overconfidence bias causes investor to overrate their own skill. This encourage the investors and to trade actively and discount data-driven insights. Fear of missing out (FOMO) triggers impulsive decision-making. The investors are exposed to social media narratives or peers' success stories. Loss aversion drives investors to either avoid necessary risk-taking or persist them with declining investment despite of analytical evidence.

In this context, the integration of artificial intelligence enables the digital advisory services to offer a compelling moderating mechanism. Personalized and reduced behavioral intervention makes this platform to perform rationality. AI tools are designed to handle emotional-driven trading incentives as the feedback that helps in shaping down the overconfidence. Although AI strategies helps in preventing loss aversion but still the spectrum is limited when it comes to address the behavioral biases.

Psychological biases of Gen-Z investors are understood by this model through empirical analysis in the behavioral finance framework. This positioning of AI advisory services as a moderating factor that promotes rationality. It reduces the bias-induced errors in emerging financial economies.

Conceptual Framework

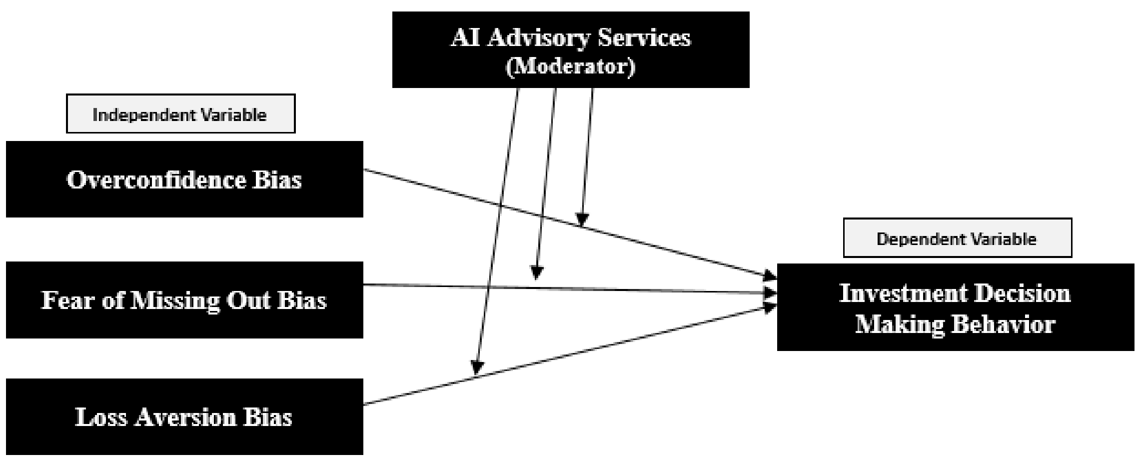

Figure 1. Conceptual Framework

Methodology (Proposed)

Data collection for this will only rely on a self-administered questionnaire. It helps to uncover perspectives on behavioral biases and judge investors attitudes towards AI advisory services. This study will focus on Gen Z investors in emerging markets. They are also known for their first digital behavior, active participation in online trading. This will being more prone to biases that includes biases like overconfidence, fear of missing out, and loss aversion. The study will may employ a cross-sectional, exploratory design that aim to conceptually assess the relation between variables at some specific point rather than observing or seeing them over time. This kind of study will take place in a controlled environment or setting to check the real investment conditions of Gen Z investors. It can be gathered only one time to align with the study of conceptual framework. The research instrument consist of a structured questionnaire and a section designed to collect demographic profiles. From capturing behavioral biases to the investment decisions of the investors, who are influenced by the limited knowledge of AI-advisory to be examined by the system. From improving the reliability of instrument and to make sure that future empirical work stands out with their cultural tests, a very limited number of Gen-Z investors will be selected. They will lead to full data collection through pilot testing.

Conclusion

This paper explores the impact of digital platforms on Gen-Z investors. They have FOMO but also have the tendency to be driven by loss aversion and overconfidence bias. This research provides a model that shows a range of biased investment decisions studied under multiple theories. Even the existence of AI advisory services offers correct feedback and data based on guidelines causes to bias to get worsen. It may results in such outcomes where the promises and tensions overpower the digital age. Therefore, building bridges between AI innovation behavioral finance are the primary outcomes of this proposed model. Additionally it helps the policy makers and Fintech developers in preparing a rational and resilient behavior for for investment in Gen-Z investors as their learning process becomes easier.

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 ISSN: 2709-8923

The Impact of Digital Transformation upon the Internal Audit Function

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Abstract- Internal audits promote effective and efficient risk management through assessing and improving operational controls and ensuring compliance with internal policies. Traditional audits and techniques, though, may not satisfy the demand for up-to-date, relevant, risk-based insights. This research aims to design a conceptual framework that applies the impact of digital advancements, analytics, and shifting evaluation skill sets on the internal audit function considering the scope of digital integration. Some research examined the digital tools adoption or the analytics competency separately but there isn't sufficient literature on the synergistic way digital adoption and azuring competencies impact audit quality and efficiency. This research presents a unified design to demonstrate the relationship between digital integration, technology convergence, competency building, and the underlying structure of an organization to show the impact of digital advancement on the audit function. This work aims to fill a literature gap by empirically demonstrating digital risk technologies impact internal auditing on compliance testing, risk assessment, and operational efficiency.

Keywords- digital transformation, internal audit function, analytics competency, operational efficiency.

I. INTRODUCTION

Digital transformation has been one of the most typical trends that have influenced business designs, business patterns, and business decision-making in organizations. The association of technologies, e.g. automation, analytics, artificial intelligence (AI), cloud systems, and data-oriented platforms, to the essence of an organization can be defined. Unlike the earlier rounds of digitization, which involved majorly computerizing organizational routines, the recent digital transformation completely reorganizes the manner in which organizations act, respond to threats, their relationship with their stakeholders, and value creation. The supply chain management process and the financial reporting process are among the processes in an organization that transform significantly, as the organizations move to system-based environments. This is a direct change in the nature of risks, internal controls as well as working processes, thus, the Internal Audit Function is required to evolve accordingly.

The internal audit role has always been a retrospective assurance tool whose primary role was to find out the design and performance of controls, whether they were in line with rules and policies, and provide an independent analysis of the efficiency of operation. These were mostly manual, paper based, sample based and were left to the judgment of the auditors. However, the growing complexity and digitalization of organizational operations has put the internal audit departments under strain in the process of re-analyzing their tools, their competences and practices. Internal audit is no longer supposed to be expected as a compliance check only, but it is being viewed as a partner that is capable of identifying new risks, controls that are introduced into new digitalized systems and help the senior management to improve governance in a changing environment.

As the digital systems are introduced within an organization, the internal controls are altering their nature and form of appearance because they are ceasing to be manual controls but system embedded controls. Enterprise Resource Planning (ERP) systems, financial automation, and artificial intelligence-based decision engines now have internal auditors who not only analyze the processes manually (approval hierarchies, access rights, reconciliations, and transactions flows) but also analyze them automatically. Because of this shift, auditors are forced to know how such technologies work, the movement of data in the system and the configuration of digital controls. The digital transformation therefore does not indirectly affect the internal audit profession, but it affects the profession structurally. It is now possible to have a new internal auditor to test controls relying on algorithms, analyze the integrity of data between interconnected systems, and can understand the risks of cybersecurity, system access, data privacy, and digital governance.

This is a new reality, and a variety of empirical studies have identified this. Researchers such as Khatab et al. (2022) have established a positive relationship between the digital transformation and internal audit quality. The rationale is straightforward since audits may be more accurate, more effective, and more connected with real-time character of the organizational risks with the assistance of digital means. Still on the same note, Bouguerri and Dahia (2023) fixed that digitalization has made internal audit tasks increasingly relevant and effective since auditors gain greater access to data and they can take advantage of end-to-end transactional tracking. Also, the professional bodies have experienced a recent development wherein according to deliberations on the professional bodies such as the Institute of Internal Auditors (IIA), the digital competency has become a qualitative element of the profession and the job.

Despite these developments that have occurred, the literature remains fragmented. Many of the research papers explore such elements of this change, such as adoption of analytics, AI application, or auditor competencies, but do not analyze them jointly. Researchers tend to emphasize more the technology (e.g. data analytics, Artificial Intelligence, Robotic Process Automation) or the human qualities required to use the technology (e.g. analytical thinking, strategic problem-solving, digital literacy). The others are discussing the organizational culture or regulatory pressures that are affecting the change. However, the studies that integrate these dimensions into a single framework with which one can determine the impact that the digital transformation has on the internal audit performance and in which situations the effects of this transformation can be stronger or weaker are not numerous.

This is a major gap because digital transformation is not a one factor phenomenon. It is an inter-connected process that involves technological, auditor skills and organizational structure and regulatory expectations change. How internal auditing performs at the time depends not so much on their access to technology but on whether auditors can effectively use that technology, whether organizations have sufficient supportive provision and whether external standards are supporting the change.

Based on this gap, this conceptual paper will suggest one framework that will integrate digital adoption and auditor competencies and contextual factors to explain their overall effect on the internal audit role. It does not focus on testing hypotheses using the assistance of empirical data but integrating the available studies as a complete-fledged conceptual design that will be tested by future researchers. These factors are combined to enable the paper to illuminate the mediating and moderating factors as a result of which the digital transformation influences the internal audit performance.

Lastly, this paper will not refer to the digital transformation as a stand-alone event but rather, a strongly interconnected yet requiring more intricate tools, certified auditors, positive corporate culture, and regulatory guidelines. It is this holistic perspective that is needed to explain how internal audit departments could be applicable, effective and in-conformity with the needs of the existing organizations.

II. LITERATURE REVIEW

1. Setting the Context and Identifying the Research Gap:

Digital transformation refers to the utilization of recently developed digital technologies, such as analytics, automation, and artificial intelligence as the fundamental components of organizational work. The shift forces internal audit teams to be more active and progressive rather than merely working on conventional compliance activities.

The current studies have already laid a very strong ground on the impact of digital transformation on organizations. Khatab et al. (2022) discovered that there is a direct, positive correlation that exists between internal audit quality and digital transformation as well as the quality of financial reporting. Bouguerri and Dahia (2023) also added that as digitalization becomes more common within the economy, it facilitates and even enhances the internal audit activities.

However, the literature is not organized properly, and one cannot fully understand this complicated process to the full extent. As the abstract of this study indicates, previous studies tend to examine digital technologies or auditor skills independently. One huge gap that remains is the development of an individual model demonstrating the interaction of digital transformation and auditor competencies to impact audit quality and efficiency. This research will fill this gap by combining these factors in a single conceptual framework.

2. Internal Audit Function Performance and Value:

The definition of internal audit performance must be equal to its changing role to measure the effects of digital transformation. Conventionally, internal audit teams have invested in working within the professional standards and enhancing efficiency, e.g. lower costs and timely audit.

As digital technologies are being embraced, value measurement is now required to be evaluated differently. In this study, the research is conducted in accordance with professional standards and both quantitative and qualitative measures are equally used:

- **Quantitative measures** now include continuous data analysis, detection of risks in real time and greater accuracy including higher frequencies of fraud detection

- **Qualitative measures** have strategic impacts such as satisfaction by stakeholders (such as the Board or Audit Committee), the general quality of the audit reports, and ways in which internal audit assists in enhancing governance, risk management, and control processes.

The reorientation towards digital practices reinforces these changes. According to El Bahi et al. (2025), internal audit is changing and becoming faster, more precise, and efficient due to the artificial intelligence and audit analytics. Technology also assists internal audit to become much closer to strategic digital governance requirements.

3. The Dual Mediation Pathway:

This paper postulates that technological ability and human skill should interact to make digital transformation in internal audit successful.

3.1. The Use of Data Analytics and Advanced Technologies:

Auditing now revolves around data analytics and advanced technologies and is making the audit process different. Research reveals that the use of these tools by the auditors shifts them out of the traditional sampling towards data analysis that is more precise, efficient, and able to detect risk and outliers in financial data. As an illustration, such activities as internal control tests, and reconciliations can be transformed into automation.

This change does not only concern technology, but also it alters the way internal audit can add value. Betti et al. (2021) discovered that digitalization does not have a direct effect on the performance of consulting, but rather the effect is indirect through data analytics. The resulting productivity of data analytics and enhanced technologies provides internal audit with an opportunity to dedicate more time to advisory and consulting services to make it seem more of a strategic partner, as opposed to a watchdog.

3.2. Evolution of Auditor Competencies:

The second important driver is the growth of auditor skills which impacts in the quality of technology utilization. Studies reveal that digital tools are successful when the auditor has proper skills. Contemporary auditors require both technical ability such as data mining, machine learning and RPA, as well as the fundamental human capability of strategic thinking, flexibility, and good judgment.

One of the greatest problems, as observed in the literature, is the fact that although the majority of organizations claim to use analytics, very few of them are at an advanced stage. The reason is that many business leaders believe that their internal auditors cannot generate valuable reports with the help of analytics due to the maturity gap. Thus, one cannot be equipped with the right tools only, but also requires strategic skills to process the data, predefine audit objectives, and verify the reliability of the data before any analysis occurs. This is taken care of in our approach through the deployment of advanced technologies and application of auditor skills.

4. Contextual Determinants:

It has been confirmed that the environment and regulations of the organization are significant factors that influence the impact of digital transformation on internal audit.

4.1. Organizational Context:

One of the factors is organizational context. According to the contingency theory, digital transformation is successful when it aligns the efforts of the organization with its culture. Research indicates that a successful culture must be flexible, receptive to new ideas and be a data-driven culture. Wang et al. (2023) discovered that digital transformation has the potential to significantly enhance operations, with a condition of being constrained by the current culture. The use of digital tools in internal audit will require overcoming a resistance to change before it will be used.

Good governance is also needed to implement it successfully. The internal audit teams also should be sure that the new tools will be able to fit the business, correspond to the corporate strategy, and be governed by the project governance framework of audit professionals.

4.2. Institutional and Regulatory Environment:

The strategic driver is the regulatory environment. Whereas internal audits have been influenced by past regulations, the recent standards are even more so precise on technology. The new Institute of Internal Auditors (IIA) Global Internal Audit Standards which become effective in January 2025 enforce audit heads to enhance methodologies and processes through automation, standardization, and artificial intelligence. They also demand the increase of the role of internal audit in the riskiest related to cybersecurity and IT governance. These regulations connect digital transformation to compliance and quality so that there is a need to invest in technology and skills to respond to external expectations.

5. Key Findings:

The existing studies provide good support to the given framework. Incorporating the results on the value of digital change, the importance of analytics, and the necessity of hybrid skills, this paper justifies why these aspects are to be integrated. The framework assists in filling the gaps in the available knowledge by demonstrating how data analytics and auditor skills can be combined, and how organizational and regulatory aspects of the relationship can be altered. This methodology will facilitate further scholarly discourse and provide an elaborate means of comprehending the revitalized worth of internal audit during the era of digitalization.

III. RESEARCH METHODOLOGY

This conceptual framework describes the effect of Digital Transformation that is suggested to impact the Internal Audit Function by two mutually mediating factors: the application of Data Analytics and Advanced Technologies, and the Development of Auditor Competencies. This model also introduces the Organizational Context and Institutional and Regulatory Environment conditions as moderating conditions that determine the strength of these relationships. This design incorporates scattered information of the previous literature into one complete framework.

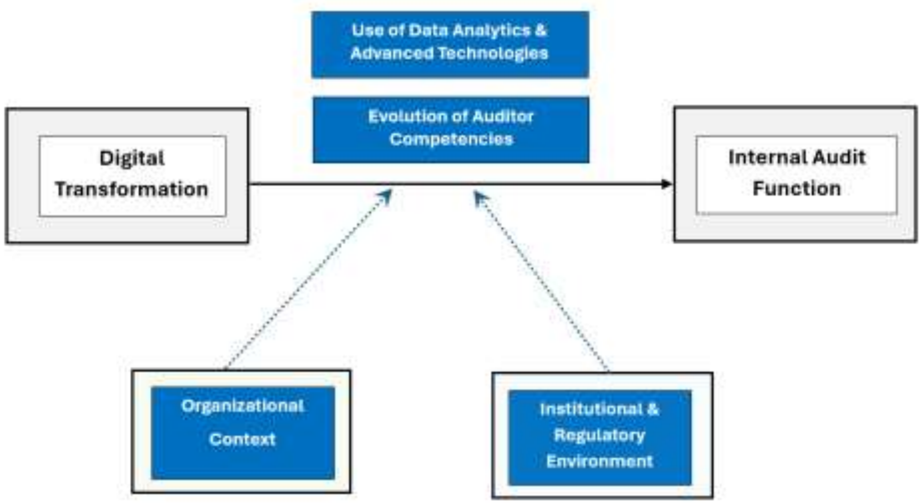

Figure 1: Co … **dit**

The conceptual research approach has been applied in the proposed study because there was no primary data collection, surveys, interviews, or statistical analysis used. Instead, the approach is entirely concerned with the synthesis of the available peer-reviewed literature, professional conventions and theoretical frameworks in the development of an overall conceptual framework.

Firstly, a target literature review was conducted with the assistance of such academic databases as ScienceDirect, Emerald Insight, Taylor and Francis, and Google Scholar. Articles were selected on three criteria namely; (1) relevant to digital transformation; (2) relevant to internal audit function or auditor competencies and (3) published in reputable journals or conference papers. The literature published within 2020-2025 was given preference to reflect on the current trends of digitalization.

Secondly, thematic analysis has been done on the selected literature. The notions such as embracing the data analytics, AI-powered audit practices, the shifting skills base, organizational preparedness, and regulatory demands were identified and grouped. This allowed the research to categorize the ways the internal audit activities are influenced by the digital transformation.

Third, the conceptual framework was developed through the analysis of the identified relationships in literature. The independent variable was digital transformation, the dependent variable was internal audit performance, data analytics and auditor competencies were the mediating variables, and the organizational/regulatory environment was the moderating variables. This framework is consistent with trends in the studies reviewed though it integrates them into a single model.

Finally, the conceptual framework is mentioned as a theoretical input, which can be empirically confirmed by future researchers. This would become a methodical process of broadening the internal audit research during the digital age.

IV. CONCLUSION

This theoretical paper has demonstrated that the internal audit role is undergoing transformation as a result of digital transformation in a way that goes beyond the embrace of technology. It alters the design of the audit, the collection of evidence, assessment of the controls and provision of value to the stakeholders. According to the literature, data analytics, automation, and AI are all digital tools which increase the accuracy of the audits, their efficiency, and their part in the strategy. However, these benefits will only be attained when the competencies of auditors to implement these tools in the right manner and power and regulatory provisions support it.

The conceptual framework that this paper creates incorporates these mechanisms under one framework and shows the mediators to be auditor competency and data analytics in the association between digital transformation and internal audit performance, and organization and regulatory environment in the moderation of this association. The model seals a knowledge gap in literature, by connecting the piece-meal results, and providing an overall picture of the impact that digital transformation has on the internal audit position.

Their relationships are not empirically tested because it is a conceptual paper. Instead, it provides a research with a theoretically underpinned premise in the future. Researchers can further elaborate on this framework to conduct empirical studies, the test of hypothetical relations or the test of new variables that may influence digital auditing practices. Practitioners can also use the model to acquire the skills, technology and conditions in the environment to modernize internal audit function

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Exploring the Determinants of Sustainable Women Entrepreneurial Practices: The Mediating Role of Women's Empowerment in Pakistan

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Abstract

Sustainable women entrepreneur practices are the capability of women entrepreneurs to sustain their business undertakings in the long-term without losing economic, social and environmental sustainability. Although there has been increased awareness that women-led ventures are important, most businesses have struggled to prosper in their operations as it is hard for them to access funds to support their businesses. They face lack of support by their social capital, and there are those who are not even aware of technology. This theoretical research paper examines how the concepts of financial literacy, social capital, and digital literacy would impact sustainable women entrepreneur practices. Also, another topic explored in this study is the mediating role of women empowerment between financial literacy, social capital, and digital literacy and sustainable women entrepreneur practices. The paper is based on the theories of social capital and women empowerment; it suggests the concept of an all-inclusive framework, which represents how these can improve the level of innovation, resilience, and sustainability among female entrepreneurs in Pakistan. It is a qualitative study in methodological terms, as the literature review is used to summarize the previous empirical results and establish testable propositions to be followed in the future research. This research study is significant in that it comprehends multidimensional empowerment and offers an insight to the policy-makers and practitioners in enhancing the practice of women entrepreneurs in the emerging economies such as Pakistan.

Keywords: *Women empowerment, sustainable women entrepreneurship, financial literacy, social capital, digital literacy, emerging economies.*

Introduction:

Women entrepreneur plays a vital role in job creation, supporting families and in contributing to countries economic growth. Still, in many developing countries including Pakistan there are women who are struggling to sustain their businesses in the long term. Challenges faced by them includes limited access to finance, lack of social networking, low digital literacy and access and socio-cultural restrictions imposed by society. The effects these barrier causes are large gaps between the real potential of these women entrepreneurs and their actual business performances. Because of this gap it has now became more important to understand what factors enables women entrepreneurs to sustain their businesses. This has become an increasingly important study area for development organizations, policymakers and academics. All over the world, sustainable development goals (SDG) focus more on significance of women's economic participation. SDG 5 and SDG 8 highlights it more as they express gender equality and decent work and economic growth (United Nations, 2020). Sustainable Women Entrepreneurial Performance means the long-term ability of women entrepreneurs to run their businesses in a long run. They survive, grow and contribute positively to society and country's economy. SWEP includes business continuity, financial stability, resilience and its ability to adapt and work in changing environments. Pakistan's work environment has many obstacles for women entrepreneur like restricted mobility, limited market access, and weak institutional support. These challenges contribute a lot in stopping women to achieve sustainable business outcomes. (Anum et al., 2022).

One of the most major barriers women entrepreneur's faces is financial inclusion. Many women entrepreneurs out there running their businesses does not have access to proper financial services. It is because they lack collateral, credit history and independence in making financial decisions for their businesses and for themselves. As mentioned in Global Findex Database 2021, women in developing countries are still less likely than men there to have access to bank account, loans, or digital services. (Demirgüç-Kunt et al., 2022). When entrepreneurs do not have access to formal finance system, it's hard to them to invest in their businesses or grow it. Managing cash flows effectively and taking opportunities that require more capital will become more difficult for them.

Another important factor effecting SWEP is social capital. Social Capital means networks, relationships based on trust and social connections that helps entrepreneurs to access information, mentorship, customer base and resources. In developing countries, especially in Pakistan it was observed that social capital helps women entrepreneurs. It influences entrepreneurial intentions, especially in rural areas of Pakistan. Ali and yousuf (2019) have found out that social networks increase confidence, self-efficacy and motivation to start a business. Simultaneously, women entrepreneurs face mobility restrictions in many areas. Social norms limit their ability to participate in professional networks, business associations or market gathering. These constraints hinder their progress. It weakens their capacity to build meaningful professional relationships.

Third factor that has been affecting SWEP is digital literacy. In this modern era, where everything has modernized and world is a global village, having digital literacy is a very essential skill. It is important for marketing, communication, having access to formal financial system, and reaching customers and building online customer base. As it is mentioned in UNCTAD (2022), by becoming digitally literate women entrepreneurs can overcome barriers related to mobility, time constraints and market access. Women entrepreneurs with strong understanding of digital skills can adopt e-commerce. They can use digital payment methods. Lastly, they can participate in digital economy. But still, many women entrepreneurs in Pakistan lack these essential skills because they have limited exposure inadequate trainings, and low access to digital devices. These factors contribute in reducing their chances to compete in modern markets that are fast and updated and sustaining their businesses. We can say that financial inclusion, social capital and digital literacy are very important resources. We cannot deny that too that having access to these resources alone is not enough. It doesn’t automatically translate all work and efforts into sustainable women entrepreneurs' business practices. The key factor that is responsible for connection these resources and translate all efforts into real outcomes is women’s empowerment. Empowerment includes women entrepreneur’s ability to take control over their decisions, control their resources and act independently in their businesses and personal life matters. When women entrepreneurs of a society are empowered, they can take advantage of financial services, they can use their social network strategically to run their businesses and can apply their digital skills to grow their businesses and to make them sustainable.

The idea presented here is quite consistent with Amartya’s Sen’s Capability Approach. It argues that access to resources only is not enough. People must have agency and freedom to use these resources to achieve their goals (Sen,1999). In context of Pakistan, we can see that gender norms are restrictive. In these situations, empowerment become even more essential. Without empowering of women entrepreneurs so much potential will go waste, many financial resources will remain unused, social networks will not be translating into successful opportunities, and many digital tools will remain unutilized. In a nutshell we can say that it's a loss of a big potential contribution to society. Thus, we can say that empowerment acts as a bridge that connects resources to sustainable women entrepreneur practices.

Existing studies provides evidence to these individual factors effecting SWEP but there is still a gap in literature. Most researchers have studied these variables social capital, financial inclusion and digital literacy separately but very few studied how these factors combinedly work towards a long Entrepreneurial performances. Even fewer studies consider the mediating role of women empowerment, especially in context of Pakistani women. A country where cultural constraints play a major role. Anum et al. (2022) have studied sustainable women entrepreneurial performances conceptually but there is a gap of limited integration of multiple enablers and empowerment studied together in a single framework. This creates an opportunity for us to understand more deeply that why some women sustain businesses while other with so much potential still fails.

This study addresses this gap by developing a conceptual model. It links financial inclusion, social capital and digital literacy to sustainable women entrepreneurs' performances with mediating effect of women empowerment. This model doesn't only define how these enabling factors are impacting SWEP, but it is also highlighting how empowerment strengthen this relationship. For example, if a woman is given access to finance but still, she is not empowered to make her own decisions, she may not be able to invest in her business effectively. At the same time if a woman has a social network but has low confidence or agency, she may hesitate to use those networks for her business benefits.Here, it is mentioned that empowerment enhances the possibility of transformation of resources into sustainable business results. The results of this theoretical research will be making a contribution both theory-wise and practically. To sum up we can conclude that when all enabling factors are combined, the sustainable women entrepreneurial performances are aroused but when the situation is coupled with the confidence and independence of the women in the society to utilize the factors, then the process becomes quite effective. This research by examining the mediating effect of women empowerment is giving a clear picture of how resources are translated into business achievements. In such countries as Pakistan where the gender disparity of the society is still evident (World Economic Forum 2023) such research fosters the inclusive economic growth of the country as well as support the part played by the women entrepreneurs in the national economy.

Literature Review

Sustainable women entrepreneur practices are the capacity of women-run ventures to survive in the long-term and attain economic success that will further translate into donation to social and economic development. Continuity, adaptability and resilience in business practices that will yield profit without undermining ethical and ecological principles is the big portion of sustainable women entrepreneur practices. Anum, Abdul Wahab, Abdul Hamid, and Kureshi (2002) define sustainable performance as sustaining competitive advantages through innovation and responsible practices of management. Brrachina-Fernandez, Garcia-Centeno and Calderon Patier(2021) defined it as a multidimensional construct incorporating numerous components such as financial stability, social inclusion, and environmental responsibility. Gender inclusivity and sustainable economic growth are associated with sustainable practices of women entrepreneurs. This association causes women businesspersons to be agents of social and economic transformation. Each day, most women entrepreneurs are characterized by numerous limitations, financial, and institutional, but their role in innovating, providing jobs, and developing communities is extremely significant (Bodia et.al., 2023). It makes sure that sustainability turns the short term into the long-term resilient businesses. The economic and social systems of these businesses will be enhanced. Recent research pointed to the fact that financial literacy, digital literacy, and empowerment have a significant and positive role in the entrepreneurial sustainability of women. Nawaz et al.(2024) discuss that the relationship between financial literacy and empowerment is mediated by financial inclusion. This interconnection improves performance and strength. It is possible to say that practices of sustainable women entrepreneurs are not only based on profitability, but are also about their availability of resources, as well as their innovative abilities to convert the resources into responsible usage. Economic (such as profitability, business growth, and business sustainability), social (such as job creations, involvement of the community, and well-being of employees), and environmental (such as adaptation of eco-friendly practices, and waste management) as well as strategic (such as innovation, adaptability, and ethical governance practices) indicators are the most common measures of sustainable women entrepreneur practices.(Anum et al., 2022; BarrachinaFernández et al., 2021; Bodai et al., 2023; Nawaz et al., 2024) .Women entrepreneur practices are very inclusive to the extent that sustainable practices of women entrepreneurs encompass the financial performance of women entrepreneurs in combination with social and environmental performance. It puts women entrepreneurs in a strategic position whereby women entrepreneurs are significant in terms of sustainable development due to inclusiveness and ethical work practices.

Financial inclusion refers to the process of providing businesses and individuals with affordable financial services and products including credits, savings, insurance, and digital payments, in this case, women. It is very crucial in securing the sustainability of women in the business in the long term as it facilitates access to capital. This enhances innovation and financial self-sufficiency. The empirical literature conducted by Mahwish, Nawaz and Khan (2024) demonstrates that financial inclusion decreases gender based financial barriers. It also provides the women with the tools which they could utilize in order to handle finances in a proper and effective manner. A comprehensive financial system will enable women entrepreneurs to transition into a formal financial system to formal financial structure. It aids in enhancing the general economic stability. Financial inclusion enhances financial literacy of women and their decision making ability. This will in effect facilitate sustainable operations of business. In a systematic review research, Dzulkepli (2024) examines the fact that financially and digitally literate women are more resilient and experience more growth in their businesses. Mahwish, Nawaz, and Khan (2024) show the mediating role of empowerment in the inclusion sustainability linkage. Recent studies have found that access to a formal bank account and digital literacy are positively affecting businesses' life span and adoption of sustainable practices. Financial inclusion is typically measured by access to banking services, use of credits, microfinance, insurance products, use of digital financial services (banking apps), and the quality of access provided to entrepreneurs (Mehwish et al., 2024; Dzulkepli,2024). We can say that financial inclusion acts as an important enabler of sustainable women entrepreneur practices. Mentioned research has shown us that without it, women-led ventures will be in survival mode instead of growing into sustainable ventures.

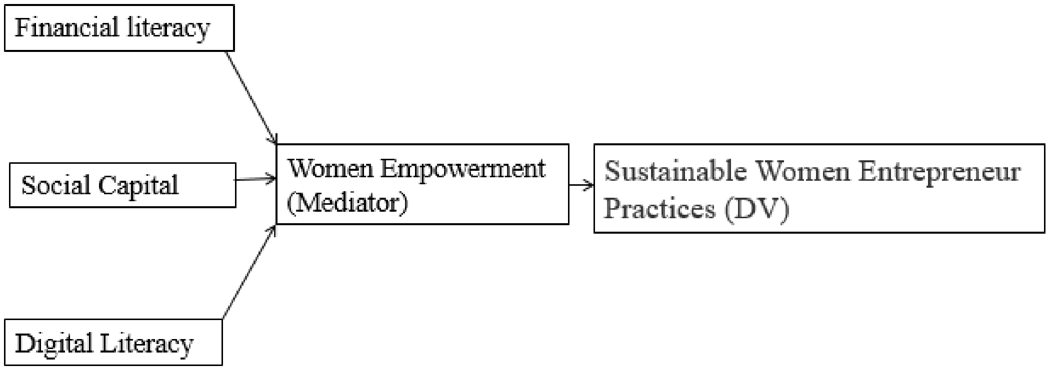
Social capital means the network, trust, and social relationships. It facilitates collaboration, resource exchange, and the sharing of information among people. It is very important for women entrepreneurs to have access to resources, mentorship, and opportunities in the market. Social network or social capital helps women to gain customer loyalty, legitimacy, and to adopt sustainable practices (Ogundana, Igwe, Simba, and Umoru, 2023). Rooted social capital increases confidence and enables entrepreneurs to take more calculated risks, taking opportunities. It overall supports growth-oriented entrepreneurship. Strong networks enable collaborations and innovations. This will, in turn, improve the adaptability and long-term performance of women entrepreneurs. Ogundana et al. (2023) explore that the entrepreneurial network and social capital of entrepreneurs positively impact women's business outcomes in a social feminist framework. Khan (2020) shows us that social capital acts as a bridge between the domestic and market spheres. This connection supports women entrepreneurs' stability in Pakistan. Common parameters to measure social capital are network size and diversity, level of trust within the network, participation in groups, forums, and associations, and access to mentorship, information, and support given by social capital. Social capital is one of the determinants and facilitators of sustainable women-led entrepreneurship. Women entrepreneurs are able to access resources via access to a network, trust and relations, which enables them to become innovative and build strong, sustainable businesses.

Digital literacy refers to the capacity of an individual to use digital technologies, platforms, and tools in a proper way. It provides them with access to information, assists them in communication and makes them manage their businesses more effectively. Digital literacy is extremely significant to women entrepreneurs. It assists them to operate their businesses, access wider markets and engage in sustainable business practices. Sustainability in women entrepreneur practice is more associated with digital literacy. It allows them to reach online customers, expanded market, and suppliers (Yanto et al., 2022). It enhances their operational efficiency and financial management by availing to them digital tools, mobile banking and e-commerce platforms (Javed, 2025). It gives women the strength to embrace new, radical, strong, and sustainable business strategies. It minimizes the use of conventional business channels (Alom et al, 2025). Based on the empirical research of Yanto et al. (2022), digital literacy enhances resilience and sustainable operations of micro, small, and medium enterprises in the time of crisis such as COVID-19. Javed (2019) examines how digital transformation has the direct effect of empowering women entrepreneurs economically and their viability in business in the long term in Pakistan. Alom et al. (2025) found that digital finance and literacy promote women-led entrepreneurship. It will empower them to adapt towards sustainable development and curb poverty in South Asia. The use of some parameters such as competence in using digital devices, digital business platform, competence in using digital financial tools, and the frequent and effective use of online digital tools in the day-to-day running of the business is what determines digital literacy. Digital literacy is a highly significant facilitator to sustainable women entrepreneur practices. It enables them to increase market and enhance their management and financial systems. It support innovations and resilience. This is all towards business sustainability in the long run.

Women empowerment refers to the process by which women are able to have their hands on resources, decision making and their self determination in both economic, social and individual fronts. Empowered women entrepreneurs are more certain, strategic, planning and managing, more strategic, and able to utilize financial, social, and digital resources to achieve sustainable business results. The middle variable in this study is the empowerment of women. It acts as an intermediary between enabling factors of this model (financial literacy, social capital and digital literacy) and sustainable women entrepreneur practices. It increases self-efficacy, confidence, and decision-making of women. It transpires to network access, finance and technology. This will boost the physical business outcomes. (Mushtaq et al., 2024). It is supportive of innovation, resilience and ethical business practices. This will add to the sustainability of businesses in the long run. The research by Musthaka et al. (2024) demonstrates that the effect of access to microfinance and entrepreneurship support on the sustainability of performance among women in Pakistan is mediated by women empowerment. It demonstrates that stronger women in business deal more resilience.

They make better decisions. They have sustainable growth outcomes. We can measure women's empowerment through economic empowerment, decision-making autonomy of the individual, self-efficacy and confidence, and participation in training and networking. Women's empowerment serves as a crucial mediating factor in sustainable women entrepreneur practices. It enables women to benefit from financial inclusion, social capital, and digital literacy effectively. It enhances business long-term viability, resilience, and ability to innovate.

Conceptual Model:



Methodology:

This study will adopt a qualitative methodology. Study shows a conceptual research paper model designed to develop a model derived from theoretical foundations. It explains how financial inclusion, social capital and digital literacy influence sustainable women entrepreneurial performances (SWEP). This study shows role of women empowerment as a mediating variable. This study depends on theoretical reasoning and study of existing literature in order to build new insights. For empirical research in future the target population will consist of women entrepreneurs leading small and medium enterprises in major urban areas and semi urban areas of Pakistan. Sampling sources will includes lists obtained from small and medium enterprises development authority (SMEDA), women chamber of Commerce and industry (WCCI), microfinance institutions and entrepreneurial incubation center. A sample size of 250 -400 women entrepreneurs should be taken for future qualitative validation in order to get adequate statistical proofs to support model. A purposive sampling technique is proposed for this study. It can be a stratified purposive sampling based on region, business scale and size, or digital access of targeted population. Furthermore, data collection can be structured surveys or semi structured interviews. This all should be documented properly in order to analyse women entrepreneurial experiences and their access to resources. For conceptual analysis study is totally dependent on secondary data study. This includes peer reviewed journals, policy reports, government publications and organizational documents study. The outcomes of study will be development of a holistic conceptual Framework and prepositions that explains how discussed enabling factors are contributing in sustainable women entrepreneurial performances through mediating role of empowerment.

Conclusion:

This study highlights that sustainable women entrepreneurial performances depend upon enabling factors. These enabling factors strengthen women's capabilities, their business opportunities and access to resources available to run a sustainable business. With the help of recent literature this study concludes that financial inclusion, social capital and digital literacy are important determinants. They enhance women ability to run a sustainable business. These determinants are not only participating in economic growth but also in ethical, social and environmental business outcomes. A pivotal finding of this study is mediating effect of women empowerment. It transforms available resources into valuable and insightful business outcomes. Empowered women of our society show high confidence, and better decision making. They show a greater capacity to translate financial, social and digital resources into sustainable performances. So, we can conclude that empowerment acts as a mechanism through which all enabling factors are leading to a long-term entrepreneurial success. This study theoretically contributes by developing an integrated theoretical framework. This framework contributes by explaining multiple enabling factors interaction to support SWEP in developing country 's context. It also identifies gaps for future research. It shows the need to empirically investigate the relationship to validate proposed relationship. Furthermore, practically this study is contributing by highlighting importance of development of policies and implementation of existing developed policies to expand women's access to finance, to strengthen their social networks and to improve digital skills. It will ultimately contribute to sustainable development and inclusive economic growth of the country.

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Exploring the Impact of Job Roles on Job Satisfaction: The Mediating Role of Mental Well-Being

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Abstract:

Job satisfaction in the workplace is the degree to which the employees are satisfied with their job role, workplace motivation and satisfied with their place of work and surroundings. Despite the fact that job satisfaction in workplaces is becoming more and more aware with time, most employees continue to be dissatisfied with their work because of lack of job roles, too many responsibilities and very little autonomy. This is a theoretical paper that will examine the relationship between job role and job satisfaction among employees, as well as examine the mediating effect of mental well-being in this connection. The study demonstrates that well defined and structured job roles are positively implicated in the mental well being of the employees and, in effect, the study will improve the overall job satisfaction of the workers. This paper is based on the role theory and the psychological well-being paradigm of staff. This study also shows the importance of role clarity, organizational support and task fit in creating psychological stability and job satisfaction. The methodology of this study is a literature-based review based on qualitative methodology. It will generalize past empirical results by researchers and make propositions on future empirical studies based on the conceptual study performed in this case. The objective of the study is to develop a correlation between occupation, psychological health, and job satisfaction. It provides useful lessons to organizational leaders, managers and the HR professionals. To improve the productivity and well-being of the employees.

Keywords: Job satisfaction, job role, mental well-being, employee motivation, organizational behavior.

Introduction

Job satisfaction is considered to be a key to the organizational success and as such, it directly affects the performance, productivity of employees, their turnover, and the quality of the services offered and, in the modern competitive business world, it is increasingly becoming a standard that organizations are starting to focus on the issue of sustainable human capital growth rather than only on profitability. Most of the employees remain dissatisfied with their jobs due to ambiguity in job description, workload, and lack of autonomy, which demoralize and compromise their mental health. Role ambiguity has risen as organizations grow and job designs get more complicated, eroding the sense of power, meaning and involvement in employees, eventually leading to reduced morale and turnover. Job satisfaction as said by Locke (1976), refers to a pleasant or positive emotional feeling as a result of evaluating the employment, shows how effectively the expectations of employees are fulfilled and affects performance, interpersonal relationship and organizational commitment. Job satisfaction is determined by a number of factors, yet the role clarity and structure have proven to be especially important as the clear definition of roles leads to less uncertainty and therefore increases fairness and autonomy and empowers employees with knowledge of how their efforts will support organizational objectives. In the case of vague or conflicting job roles, though, stress and discontent are more likely to occur, and the job structure can be identified as a significant predictor of employee well-being. Job satisfaction in this case is considered as dependent variable whereas job role as the independent variable which is a set of duties, expectations and clarity of employees position. Mental well-being, whether defined as a condition of positive psychological functioning by Ryff and Keyes (1995) as including personal development, autonomy and good relationships is a mediating variable, and people who are well psychologically are more engaged, creative and motivated, and poorly psychologically functioning show exhaustion and disengagement. Defined and rationalized job descriptions lead to a better psychological state as it decreases uncertainty and gives meaning to the job, and consequently increases job satisfaction. Nevertheless, role ambiguity, the lack of communication, and the lack of psychological support remain the problem of many organizations, and there is a gap in the literature about how job role clarity and mental health contribute to job satisfaction in a mutual relationship, especially in the developing context. This research hence tries to explore the role of job role clarity on job satisfaction, analyze the roles played by job roles on the mental well-being of employees, test the connection between mental well-being and job satisfaction, and determine how mental well-being mediates the job role-satisfaction relationship. What is important about the research is that it is theoretically based upon the role theory and psychological well-being models, and practically, it is valuable to provide the practical measures that the HR professionals and managers can implement to facilitate the satisfaction through suitable job design and mental health programs and positively affect employee productivity and the harmony in the organization.

Literature Review

Job satisfaction is generally accepted as one of the essential terms in the field of organizational behaviour, their evaluation of the work experiences expressed through emotional and cognitive assessment (Locke, 1976). It includes the feelings and attitudes towards the job one does, including the kind of work and work conditions to the rewards and recognition (Armstrong and Taylor, 2014; Statt, 2004). The studies always indicate that a high level of job satisfaction is related to such positive factors as a minimized level of absenteeism, a decrease in turnover intention, an increase in productivity, and a better state of mind, including a higher level of psychological well-being and self-esteem (Singh-Kumar et al., 2016; Mora et al., 2023). In this context, job satisfaction will be used as the dependent variable in the current research. The independent variable, job role is the structure, clarity, responsibilities, expectations and autonomy related to the position of an employee. Especially, the role clarity is important in defining the job experiences of employees, where ambivalence, stress, and dissatisfaction are experienced when job roles are not well defined or even conflicting with each other, whereas clarity of role brings confidence, autonomy and job satisfaction (Rizzo et al., 1970; Mohamed, 2020; Hegazy et al., 2025). Research also indicates that job role clarification enhances the impact of social support on satisfaction and is positively linked to a sense of organizational commitment and well-being of an employee (Brito et al., 2020). The functional of the relationship is mental well-being, which is the psychological functioning of people, and these aspects are autonomy, competence, positive relationships and purpose in life (Ryff and Keyes, 1995). Empirical evidence proves that the greater the mental wellness, the greater the job satisfaction and job performance, and the worse the mental health, the lower the job satisfaction and strain (Al-Anzi and Almutairi, 2023; Cao et al., 2022). In the context of the role theory, clear job descriptions lead to a feeling of autonomy and competence that positively contribute to psychological well-being and, therefore, job satisfaction (Deci and Ryan, 2000; Van den Broeck et al., 2019). Job role clarity and structure therefore serve as significant antecedents of mental well being which then defines satisfaction. Altogether, it can be seen that structural job design and psychological factors contribute equally to job satisfaction, and mental well-being becomes the mediating variable between job role and job satisfaction. It shows the importance of organizations focusing on role clarity as well as psychological support as an outcome of enhancing the level of employee satisfaction, and the empirical studies of the future should test these associations in a variety of organizational contexts.

Methodology

This research will be in the form of a quantitative research that will be based on primary data to establish the relationship existing between job role, mental well-being, and job satisfaction. The paper is conceptual in nature, but it outlines an empirical framework on how it should be tested in the future. The research will be descriptive and explanatory in nature in which an attempt will be made to measure the proposed relationships by using numerical data. Future empirical research will involve only the accounting and finance practitioners employed in the public listed companies since they exist within formalized job schemes and have standardized reporting procedures. The sample frame will incorporate validated lists of accounting and finance practitioners that will be acquired through the directories of employees in public listed companies, annual reports, or human resource databases. A sample of 200-300 respondents will be proposed to consider a sufficient sample to be used in quantitative analysis. The research suggests that the purposive sampling method will be appropriate, and the respondents that will be selected will have to be occupying the positions of relevant accounting and finance in specific positions. To collect primary data, an organized questionnaire will be conducted to measure the concept of job role clarity, mental health and job satisfaction on a pre-tested scale. Even though the current paper depends on secondary literature in shaping the conceptualization, the future empirical information gathered with the help of the questionnaire can be evaluated with the help of such statistical tools as descriptive statistics, correlation analysis, and mediation analysis. The anticipated methodology result is the creation of a testable theoretical model that illustrates how employment role moderates job satisfaction in the mediating variable of mental health.

Conclusion

Finally, job satisfaction is a crucial factor of organizational success influencing such aspects as motivation, performance and retention of employees. It is evident in the literature that job positions, especially their clarity, organization, and alignment to the abilities of employees, have a great impact on mental health and satisfaction. When employees feel clear expectations, autonomy, and meaningful work, their psychological health is enhanced and this enhances job satisfaction. On the contrary, role ambiguity, the existence of conflicting expectations, and insufficient support reduce mental health and result in dissatisfaction. This research enhances the realization of the employees on how their contribution to organizational objectives is. However, in the cases when the job roles lack clarity or are conflicting, stress and dissatisfaction rises, which is why job structure can be identified as a significant factor that can define employee well-being. Here, job satisfaction is considered the dependent variable whereas job role is considered the independent variable which is the responsibility, expectations, and clarity of position of the employees. The mediating variable is mental well-being, which according to Ryff and Keyes (1995) is a state of positive psychological functioning, which includes personal growth, autonomy, and strong relationship, and those with better psychological well-being, are more engaged, creative, and motivated, but those with poor mental health are exhausted and disengaged. Definite and hierarchical job positions make work life psychologically much better by lowering uncertainty and a feeling of purpose, hence, improving job satisfaction. Nonetheless, a lot of organizations are finding it difficult to deal with role ambiguity, poor communication, and lack of psychological support, which results in the gap in knowledge on how job role clarity and mental well-being contribute to job satisfaction in a joint manner especially in developing situations. This research will therefore focus on the effect of job role clarity on job satisfaction, the role played by job roles on the mental well-being of employees, the relationship between mental well-being and job satisfaction, and the mediating role of mental well-being in the job role-satisfaction relationship. This study is important because it theoretically combines role theory and the psychological well-being models, as well as provides the practical impact by providing practical ways HR professionals and managers can promote employee satisfaction as a result of improved job structure and mental health programs, which in turn leads to employee productivity and workplace harmony.

Model

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Human–AI Collaboration: How Perceived Usefulness Shapes the Impact of Technological Skills on Managerial Decision Quality

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Abstract:

Decision-making is the important part of managers' responsibilities with strong impact on organizational performance. The increasing adoption of Artificial Intelligence has shifted the focus from relying on complicated calculations to reducing managers' cognitive load in decision-making through AI engagement. The study formulates an individual-level framework that highlights the link between managers' technological adoptability and decision performance. The study uses 3 key factors: Data Literacy, Algorithm interpretation skills, and Technology self-efficacy. The Model also incorporates perceived usefulness of AI as a moderator because when manager thinks AI is effective in decision-making, the positive effect of technological skills on decision quality will be strengthened. The framework contributes to understanding the impact of psychological and cognitive factors on decision performance resulting from AI-human collaboration. Existing studies have worked on the firm performance due to AI adoption, and a few studies have been done on the impact of manager's AI adoption skill and usability in constructing decisions. Quantitative cross-sectional design using survey data from managers will be used to collect data. The results will help firm to organize trainings, skill enhancements and AI usability to improve managers' judgement.

Keywords: *Technological Adoptability, Data literacy, Artificial Intelligence, AI-Human Collaboration.*

1. Introduction

Artificial intelligence is becoming a vital source for helping managers to make decisions in this uncertain and rapidly changing era. It helps managers to better understand the new trends, quickly adapt and boost the quality & effectiveness of his decisions (Bannikov et al., 2024).

Hybrid decision-making models combine the capacity of AI with human reasoning and judgements. However, AI dominates in data analysis, forecasts, automation by enhancing the managers' reasoning skill and intuition(Al Masaeid et al., 2025). Human-A collaboration keeps the strength of human cognition and skills intact. AI work as a support to strengthen the managers' cognitive capacity and also improve the organizational performance. It will help manager to protect his energy and intelligence for high impact strategies and not to use his capacity for routine and low-value work (Çeri & Erhan, 2025).

The growing adoption of AI has intensified the need for strong data literacy across managers. Middle managers play a pivotal role, functioning as the connection between strategic leadership and operational teams. Their ability to comprehend data, encourage experimentation, and infusing data-driven practices into daily workflows is important for incorporating AI productively. As organizations navigate digital transformation, empowering middle managers with the right skills and authority becomes critical for fostering a sustainable data culture and achieving meaningful and practical use of AI tools (Koloski et al., 2025).

Modern organizations are now increasing their reliance on AI to help their managers' make better decisions. Research also shows that instead of advanced analytical insights of artificial intelligence, managers are still reluctant to use latest technology due to cognitive issue and limited trust on algorithm insights produced by AI. Marocco et al. (2024) study that AI adoption is not only technological constraint but also a human centralized one, shaped by managers' perception of technology, clarity of AI systems. Their study also highlight that AI adoption depends on perceived usefulness, trust, ease of use, organizational support and assumption that AI enhance-rather than replaces-human judgement. They also emphasize on the significance of human-AI collaboration from a psychological and managerial angle, rather than treating AI solely as a technical instrument.

Managerial decision has crucial impact on the organizational performance. In the rapidly evolving era of technology, use of artificial intelligence is increasingly penetrating into operational activities and report processing. Through a few clicks you can get better insight of the possible outcomes by using AI agents. Using those outputs, manager can give proper reasoning and make judgements about the AI insights. Through AI, the role of manager is switching from conventional to technology based decision-making. AI tools generate complex analytics and insights that are difficult for manager to produce manually. Dewhurst and Willmott (2014) noticed that with the advancement in the field of AI, human capabilities are still important for reasoning, algorithm interpretation of AI insights and ability to effectively use technology. Their study also emphasizes on the fact that powerful Human-AI collaboration not only depends on technological advancement but also on the managers' ability to interpret and fully understand the algorithms of latest technology. This paradigm also supports the increasing focus on technological expertise-such as data literacy, Algorithm interpretation skill, technology self-efficacy-as crucial drivers for managerial decision-making in AI-augmented domain.

Manager is the key figure in determining the reputation of the organization. Studies emphasize that effective middle management has a positive impact on the enhanced organizational and employee productivity. Effective managers can improve the decision processes through giving transparency and sustenance that is more of the strategic views of a firm. They reveal that the firms that invest in enhancing managerial capacity are good in financial terms and continues to be stable in the long-run. Also, the necessity to enhance managerial judgment and technological preparedness with adequate trainings in AI-assisted settings is mentioned in studies (Field et al., 2023).

Recent studies demonstrate that the frequent interaction with AI systems may contribute to the significant increase in the confidence of people to actively learn and embrace new technologies (Han et al., 2025). In the study, it is highlighted that the benefits of AI are not spontaneous but, rather, they should be determined by the capacity of the user to recognize the worthiness of AI-generated information. Those findings illustrate the human aspect of the AI adoption regardless of whether AI has a positive impact on human work outcomes or not.

Nevertheless, limited research exists on the direct relationship between the technological abilities of managers (data literacy, interpretative skills of algorithms and self-efficacy of technologies) and the quality of the obtained decision in case of utilization with AI. This develops a disconnect in the understanding of human-AI cooperation on an individual managerial level.

The proposed study will be at individual level targeting managers that work in AI-based conditions. The range involves data literacy, skills of deciphering algorithms as independent variables and perceived usefulness of AI as a mediator and quality of management decision-making as dependent variables. This study is not the purpose of organizational level factors like the performance of the organization, organizational decisions etc. The study is narrowed down to individual level primarily on manager.

Study will also contribute to academic literature by addressing a gap in individual-level analysis of Human–AI collaboration and advancing understanding of how technological and psychological factors shape managerial decision performance (Field et al., 2023; Han et al., 2025).

In the light of the identified problem, the purpose of this study is to address the influence of managers' psychological factors in adopting latest technology by developing a conceptual framework on the factors that would influence the managers' decision quality. Also, this study provides reviews on how managers' perception about usefulness of AI encourages manager to exercise latest AI implementation and to develop quality decisions.

2. Literature Review

The rapid evolution in the field of Artificial Intelligence has transformed the decision making systems of individuals and organizations. In this new era, Human AI collaboration is jointly being used to make decisions. Using the **Human–AI Collaboration Theory**, **Social Cognitive Theory**, and the **Technology Acceptance Model (TAM)**, this literature review will assess do the technological and interpretation skills influence managerial decision-making in AI-augmented environments? This section will provide previous knowledge related to managerial decision quality, data literacy, Algorithm interpretation skills, technology self-efficacy as well as moderating role of Perceived usefulness of AI in human-AI collaborated environment.

Managerial Decision Quality:

In todays advanced business world, artificial intelligence is penetrating deep into every aspect of operations and has shifted the world focus from human only to Hybrid Human-AI collaboration, both partners combine to provide a high-quality managerial decision. This highlights the need to study the human skills and perceptions that determine whether AI outputs are used effectively (Vaccaro et al., 2024). Decision results will be enhanced when Manger and AI collaborated judgement will be used (Vössing et al., 2022). It will enhance the quality and effectiveness of managerial decision system.

Data Literacy:

Data literacy refers to a manager's ability to read, understand, and derive meaning from AI provided data. This definition builds the base of using AI technology effectively. Managers with higher data literacy are good in transforming AI output into improved decision quality because they reduce interpretive errors and can better judge whether AI advice is appropriate or not (Pörtner et al., 2024).

Further evidence support the relationship of AI supported data literacy and decision-making. Basri (2024) analyze that how individual knowledge and understanding of artificial intelligence affect their behaviors, self-efficacy and technology learning ability. The study shows that If manager have proper AI knowledge, then it will impact his confidence and performance and it will contribute positively to his managerial decision quality. In line with Social Cognitive Theory (Bandura, 1986), data literacy contributes to improved cognitive mastery that strengthens self-efficacy and leads to improved outcome.

Algorithm Interpretation Skills:

Algorithm Interpretation Skill is defined as the ability to understand, analyze, and predict the behavior, efficiency of AI assisted results. Human-AI collaboration will be effective when manager can interpret and evaluate the AI insights effectively (Vössing et al., 2022). It is the ability of a manager to detect errors and provide reasoning and judgement to improve the decision outcome. The Algorithm interpretation skills of a manager plays a critical role in converting Ai generated raw output into a judgement (Pörtner et al., 2024). This skill will help manager build more trust on AI systems. It will also ensure that AI works as a supportive analytical tool than a replacement of human judgement.

Technology Self-Efficacy:

Technology Self-Efficacy refers to an individual belief in their ability to learn how to use modern technology tools successfully (Compeau & Higgins, 1995). Manager must have confidence in using AI tools for decisions and degree of relying on AI insights (Vössing et al., 2022).

Self-efficacy is the psychological mechanism that turns technological capability into consistent and confident use in managerial contexts (Basri, 2024). Manager with high self-efficacy and technological skills are more likely to use AI insights effectively into their decisions. Conversely, managers with low self-efficacy and technological skills are resistant to use AI insight effectively. Therefore, technology self-efficacy will enhance managerial adaptability and confidence in AI supported decision making.

Perceived Usefulness of Artificial Intelligence:

While technological skills enhance abilities, the **perceived usefulness of AI** determines whether these capabilities are fully utilized and to what degree it affect the quality of output. Defined as the degree to which individuals believe that using a system improves their performance (Venkatesh et al., 2012), perceived usefulness moderates the relationship between technological competence and decision outcomes. Even highly competent managers may have failed to fully leverage AI tools if they perceive them as unreliable or irrelevant. The more the AI is perceived useful, more it will boost the positive results of data literacy, algorithm interpretation, and self-efficacy on managerial decision quality (Han et al., 2025; Kim et al., 2025). It's not only useful but also enjoyable to use AI in decisions. The perceived usefulness of artificial intelligence strengthens the effect of managers' skills on his decision quality.

Basri (2024) emphasized that the quality of information sources—similar to perceived usefulness—Intensify the relationship between AI knowledge and self-efficacy. Similarly, it also emphasizes on how perceived usefulness in managerial settings shapes the technological skills into better decision outcomes. Therefore, organizations seeking to improve AI adoption should not only build technical skills but also foster perceptions of AI as a beneficial and credible source.

Previous studies have focused on the view that artificial intelligence do not replace the manager for decision making but it enhance the cognitive and analytical skills of manager to make better decision. argue that AI enhances decision accuracy, scenario evaluation, and data processing capabilities, allowing managers to overcome bounded rationality constraints. Meanwhile, author also says that managers' judgement is still critical in making decisions particularly for reasoning and interpreting AI-generated outputs. The study also suggest that the Human-AI collaboration help manager make better decision where manager is providing active algorithm advice and make AI insights using his experience, personal competencies and mindset. He further suggests that in AI Assisted decisions, managers' skills and cognition play central role. AI alone cannot guarantee better outcome rather, the managers' capability to interpret, analyze, trust and apply insights determines the final outcome.

The review of previous studies has shown that individually either human or AI cannot make better decision. The artificial intelligence provides analytical insights while the manager can provide the reasoning's and judgements. Working in AI supported environment will help manager make insights easily and provide effective suggestions to the top management. A balanced Human-AI collaboration will provide better decisions.

3. Conceptual Framework:

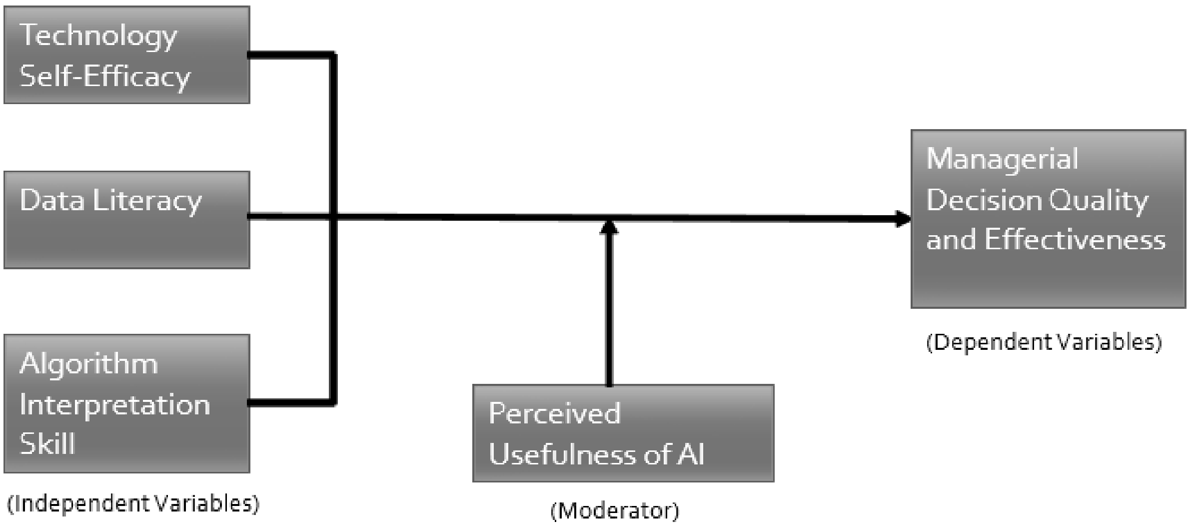

Figure 01. Conceptual Framework

Gap:

Previous studies have been done on:

- Effect of AI Adoption on Firm performance
- Is AI effective in making technical decisions?

There is limited research on the effect of managers' technological skills on decision quality in AI-supported environment and how perceived usefulness of artificial intelligence plays moderating role in managerial decision making.

Objective of Study:

To analyze the effect of managers' psychological and cognitive skills in using the latest technology and making effective decisions in AI-supported environment.

4. Research Methodology

The research will follow a quantitative, **cross-sectional design** to evaluate do managers' technological skill effect the decision quality in AI-Supported environment. A **structured questionnaire** will serve as the main data collection tool and will include established measurement scales relevant to the study's variables. Selecting through purposive sampling method, Questionnaires will be distributed to managers working actively in AI assisted firms. To accommodate respondents' language preferences and enhance comprehension, the questionnaire will be made available in **English and Urdu**, allowing managers to choose the version that best aligns with their daily communication. Measurement of data literacy, interpretation skill of algorithm, technological skill, perceived usefulness of AI, and quality of final decisions made by managers will be measured using it. The ethical considerations that will be strictly followed during study will include confidentiality, consent and voluntary participation of all participants.

5. Conclusion

In this research, a comprehensive insight into the impact of capabilities and perceptions of managers on the quality of decisions in the AI-augmented settings will be gathered. It is by this study that you will observe do the skills of the managers affect his quality of decisions. Moreover, it will also bring the information on the moderating role of the perceived usefulness of AI. Since perceived usefulness of AI rises and has a positive influence on the use of AI tools, as numerous studies demonstrate.

The study will be supported by the Human -AI Collaboration Theory, Social cognitive theory and Technology Acceptance Model(TAM) in explaining the technological and cognitive skills in human-AI collaborated environment effectively. The implications to the practice will be that the findings are practical in that organizations need to enhance the managerial capability to adopt AI, and the enhancement of the perception among managers about the usefulness of AI is as crucial as the technical training.

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Impact of Fintech Adoption on User Behavior of Gen Z and Millennials in Pakistan, A Conceptual Paper

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Abstract

People in developing countries like Pakistan have been using financial technology more extensively now. However, Fintech adoption varies by generation. The purpose of this study is to look into how various generations use financial technology. This model suggests that two important mediators payment convenience and perceived trust affect this relationship since users would be more inclined to rely on FinTech when transactions become safe and painless. The moderating variable of this study is financial literacy and it is recognized that those with higher levels of financial literacy may make more responsible and confident online financial decisions. The analysis of these interrelated factors will help the study better understand how and why the generational groups vary in their use of FinTech in Pakistan.

Keywords: Financial Technology, Users, Adoption, Gen Z, Millennials, Trust, Convenience

Introduction

IT industry has created digitized, user-friendly, secure, and smooth user experience resulting in paradigm change in financial sector. (Blankenette et al., 2024. Information technology contribute in value creation by the development of new financial segments (Bajunaied et al., 2023). New technologies i.e. financial technology and digital Finance has changed financial sector by creating great opportunities for users (Shaikh et al., 2020).

Mobile payments, Online banking, QR payments, wallet apps, and real-time payment systems like Raast have changed the way individuals handle their money and conduct their daily financial operations. This has come to be known as Financial Technology or FinTech that has brought a new dimension of financial accessibility, convenience and efficiency. With Pakistan approaching a digitally enabled economy, the topic of age group adoption and usage of FinTech services has turned into a subject of academic and practical concern. The use of FinTech is no longer restricted to city elites and technologically developed nations. As smart phones are widely spread, mobile data is relatively affordable, and people are becoming more digitally aware, FinTech services have become an inseparable part of the daily lives of people in Pakistan. It can be paying utility bills with a mobile application, sending money to a friend, accepting online payment on a small business, choosing online payment method for online shopping or even checking the accounts balance, nowadays users are deeply dependent upon digital financial ecosystems. Although overall growth trends are good, adoption and usage patterns differ significantly between demographic groups, particularly between Generation Z (born between 1997-2012) and Millennials (born between 1981-1996). These two generations are pillars of the digital consumer population in Pakistan, but their attitude to FinTech is determined by dramatically different experiences, attitudes, and trust. Being raised in a technologically orientated environment, Generation Z is likely to readily and confidently embrace digital solutions. FinTech is intrinsically attractive because they have access to mobile applications, social media, and instant online services. Mobile payments are a normal practice rather than new one for Gen Z . Financial behavior of Gen Z is focused on convenience, quickness and interconnected digital experiences. Large number of Gen Z like to use the new financial applications and do not like to carry much cash with them. On other hand, Millennials are more hesitant and care more about its financial implications. FinTech usage of them is determined by security issues, privacy issues and expected financial risks. Due to changes in economy and cyber risks Millennials value trust and consistency. They are interested in using FinTech but they seem to need greater trust, affirmation and transparency so they can fully start using online financial services. These opposite behaviors make generational comparison particularly significant. Considering these variations, the current study is aimed at the relationship between FinTech Adoption and User Behavior of Gen Z and Millennials in Pakistan. Instead of analyzing adoption only, the proposed research investigates the behavior of users following the adoption of FinTech services and their reasons. The user behavior here entails how often FinTech apps are used, whether they intend to use the digital payment systems in future, whether they are willing to experiment with the new features in FinTech applications and their level of comfort when performing financial transactions over the internet. In an attempt to comprehend the mechanism behind this behavior, two important psychological and experience mediators are included in the study namely Payment Convenience and Perceived Trust. The convenience of payment describes the convenience, speed and comfort that users undergo when they engage in transactions using FinTech devices. Whenever users find a service convenient, fast loading time, easy steps, and hassle-free payment, they are most likely to dependent on it and make it an aspect of their lives. Convenience can become a driving force among Gen Z though it is also a key factor to accelerating adoption in Millennials who appreciate time-saving and accessibility. Perceived Trust, in its turn, would cover emotional and cognitive safety that users have regarding FinTech systems. Under trust, there are confidence in information security, transaction integrity, system openness, and general reliability of the FinTech provider. Trust is highly vital in electronic financial situations where the users do not have human contact. Trust issues may become one of the critical obstacles of Millennials, and although Gen Z is more open, security assurance is necessary. Thus, the connection between FinTech adoption and user behavior is likely to be mediated with trust in each of the two generations. Financial Literacy acts as a moderator in the relationship of Fintech Adoption and User behavior of Gen Z and Millennials. Financial literacy constitutes the knowledge of the user, the confidence and capability to make effective financial choices. More financially literate people are in a better position to assess digital financial tools, comprehend risk, and utilize FinTech services in an effective way. This capability can enhance the influence of FinTech adoption on user behavior. To illustrate, a well-informed user can feel safer using payment applications, knowing the costs of transactions, recognizing safe websites, and digital finance at ease. On the contrary, the lack of financial literacy can cause some hesitation, confusion, or fear, even in case the user takes up FinTech in the first place. Hence, financial literacy is an important factor in the aspect of defining the quality of FinTech adoption-behavior relationship. Although the interest in digital financial services is increasing in Pakistan, there is significant gap in the available literature. The majority of researches have investigated the adoption of FinTech consumption in general without comparing generational differences in a behavioral framework. The study that directly compares Gen Z and Millennials is still very small, particularly in the Pakistani socio-economic and cultural background. Furthermore, the research has mostly been conducted on technology oriented factors like ease of use or perceived usefulness but has underestimated the role of Payment Convenience and Perceived Trust as joint mediators. Similarly, Financial Literacy is not a topic that is often researched as a modifying variable of the digital financial environment in Pakistan. This outcome has led to the incomplete understanding of the theoretical mechanisms of interaction between psychological, experiential, and knowledge-based factors in generating FinTech user behavior across generations. By providing comprehensive conceptual framework that consist of FinTech Adoption, Payment Convenience, Perceived Trust, Financial Literacy and User Behavior and generational comparison especially, this study fill these gaps. The analysis of these factors among Gen Z and Millennials would help the research to develop deeper understanding of patterns of user behavior, factors that effects their adoption and needs of generations regarding Fintech in Pakistan. In addition to contributing to academic literature, this theoretical framework may provide the FinTech companies, regulators and digital financial educators the practical recommendations to improve the acceptance, develop trust and produce generation specific solutions. In general, this introduction preconditions the fact that the present study will include a research model emphasizing the significance of convenience, trust, and financial knowledge in the context of how Pakistan two most crucial generations Gen z and Millennials adopt and use FinTech services. These dynamics are important to understand in order to improve digital financial inclusion and to make sure that the FinTech systems address the needs of the Pakistani population in their variety.

Literature Review

User Behavior

User Behavior is considered to be the behaviors, decisions, and interactions that users exhibit when using a product/service. It is related to the interaction of the users with interfaces as well as their decision-making processes. It also covers the underlying requirements and motives that influence their behavior. On the basis of Technology Acceptance Model (TAM) developed by Davis in 1989 and Diffusion of Innovation Theory (DOI) developed by Roger in 1962, it is demonstrated that adoption of financial technology is significantly influenced by user intentions. A comprehensive model increases the significance and accuracy of results because user intent to adopt new technology is a complicated process comprising multiple theories or models. The most widely used methodology for assessing user adoption of digital technology is TAM. Whereas, In order to explain why, and how new ideas and technologies propagate, Everett Rogers developed DOI theory in 1962. It implies that social transformation in a community is largely driven by communication. By taking into account two factors—relative advantage (RA) and trialability (TRI)—this paper employed DOI theory to predict one's acceptance of this innovation. However, in order to become a more effective tool for comprehending and forecasting innovation uptake, the DOI hypothesis must be expanded.

Financial Technology

Financial technology (Fintech) overrides traditional financial organizations by integrating technologies (such as the internet and mobile devices) to improve the efficiency and competence of financial services (Chuang et al., 2016). Accordingly, electronic tools including mobile wallets, electronic payments, and mobile payments are used in fintech payments, sometimes referred to as digital payments. FinTech has enhanced the quality and diversity of financial products and services offered by traditional banks, allowing customers to handle their finances more efficiently on smartphones (Osman et al., 2021). The emergence of FinTech has had a substantial impact on the financial services industry. It is undeniable that within the previous ten years, traditional financial technology have experienced substantial changes.

As the younger generation quickly recognizes the benefits and drawbacks of technology-enabled services, consumer preferences are shifting. (Koenig-Lewis and others, 2015). Gen Z is the generation born between 1997 and 2012 while Millennials are born betweeen 1981 and 1996. Gen Z and Millennials give preference to digital financial services over traditional financial services, which results in increased use of FinTech (Barbu et al., 2021). Young generations motivate banks and FinTech companies to digitalize their financial services for easy access on computers and smart phones (Daqar et al., 2020). Generation Z was grown up with the technology so, they are more comfortable with the technology and adapt fintech quickly. Whereas, Millennials are cautious about trust and security.

Perceived Trust

The belief that the company or individuals providing the good or service will live up to their expectations is known as perceived trust. New technologies require trust, and different studies have investigated the connection between perceived trust and the use of fintech. In a similar vein, a cross-sectional study conducted by Hu et al. (2019) discovered that people's actual use of online financial services and perceived usefulness were positively impacted by perceived trust (Elrehail et al., 2023).

Perceived Trust is a vital aspect in the digital financial transaction and it helps to deal with the concerns of the user with respect to fraud, breach of data and loss of money. The importance of perceived Trust in digital financial transactions cannot be emphasized. Perceived Trust is a psychological condition that lowers vulnerability and uncertainty during online transactions. It puts technology in line with what users expect. Mobile payment system users are likely to perform financial transactions through Platform which result in higher adoption rate and continued use.

Fintech adoption is effected by the user behavior through mediating role of Perceived Trust. The more the users have trust in Financial technology and financial services, the more they will adopt it. This variable may influence Millennials more as they are more trust and security conscious than Gen Z.

Payment Convenience

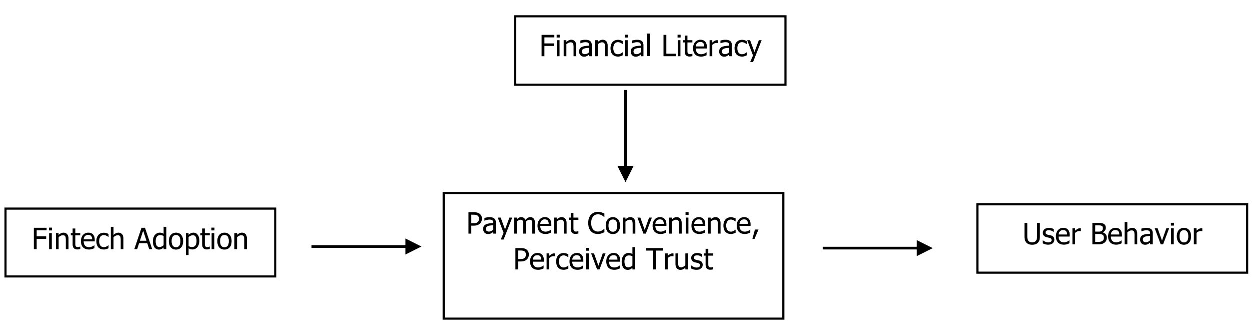
Consumers can process transactions on their smart phones in the blink of an eye due to today's financial technology" (Francis 2018). Mobile payments aim to save users time by providing a seamless and speedy transaction (Apanasevic et al., 2016). The concept of transaction convenience refers to the effort and time required to complete a transaction (Teo et al. 2015; Berry et al. 2002.). Payment Convenience is significant for mobile payments because Inconvenient transactions can drive consumers to seek alternate payment methods.

Payment Convenience also plays a mediating role in the relationship of Fintech adoption and User behavior of Gen Z and Millennial. When users find the digital payment process convenient than the Traditional payment procedure, they are more likely to adopt Fintech. Fintech Usage is positively influenced by the Payment Convenience.

Financial Literacy

Financial literacy refers to an individual's understanding and use of financial information to make informed decisions (Panos and Wilson, 2020). Several scholars such as Yang et al., 2023; Bongomin, 2016; Kammoun et al., 2020 noticed that financial literacy can influence decisions of individuals and play important part in making smart financial decisions. Financial Literacy acts as moderator and makes the relationship of the fintech adoption and user behavior strong. It makes users confident in using and adopting the fintech effectively. Users with Poor Financial Literacy can be hesitant in adopting fintech or using advance features and updated versions of Financial technology.

This research tries to explore the generational differences in adopting the Financial Technology. This research also seek to investigate the mediating effect of Perceived Trust and Payment Convenience on the relationship of Fintech and User Behavior and the moderating role of Financial Literacy in their relationship.



Research Methodology

The research is based on a quantitative research design to evaluate how the use of FinTech affects User behavior among Generation Z and Millennials in Pakistan. Each variable, including FinTech adoption, payment convenience, the perceived trust, user behavior, and financial literacy, will be included in a structured questionnaire based on validated scales. The target audience would include active FinTech users between 18 and 45 years and the outcomes would be collected through online questionnaire which would be distributed through university networks, social media, and professional networks. The expected size of sample will be 300-400 respondents to ensure that the statistical power is adequate. To make sure that both generational groups take part, a non-probability purposive sampling method will be used.

Conclusion

The paper highlights how FinTech is changing financial behaviors in Pakistan particularly among younger generations. These findings show that while Gen Z is adopting FinTech quickly due to their digital background, Millennials are adopting these services more slowly due to concerns about financial stability and trust. The study also shows that user behavior is not only determined by adoption but also by convenience on how users feel while making online payments and level of trust that users have in online financial systems. Another key factor is financial literacy which will boost the confidence of users and help them in making better decisions about digital financial tools. Overall, the study emphasizes on how ethical and widespread FinTech use can be promoted by better convenience, trust and a greater focus on financial education. FinTech companies can use this knowledge to improve user experiences and help legislators make digital banking accessible to everyone.

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Impact of Corporate Governance on the Firm Value with Moderating Effect of CSR

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Abstract: The objective of the paper is to see the impact of corporate governance on the firm value with the moderating effect of CSR. Firm value is simply the perception of the company value by the shareholders and the investors. It is a very important measure of the organizational performance and sustainability, which shows profitability, potential growth and confidence on the part of the market. The firm value determinants are multidimensional with corporate governance (CG) having a critical role. CSR is able to serve as a moderating variable, which strengthens or dilutes the relationship. The primary objective of the research is to test the influence of corporate governance processes on the value of the firms and study the moderating role of CSR on the association between the two. In particular, the study determines whether the effect of CG on the value improvement of firms with more intensive CSR activity is higher in comparison with the increase in the value of firms whose participation in CSR activities is weaker. The research paper will be based on the quantitative research design in which the secondary information proposed is the annual report of the listed companies within a specified period. The indicators of corporate governance (board size, board independence, and ownership concentration), as well as CSR scores through annual report and the value of the firms is estimated by the Tobin's Q and the market-to-book value.

Keywords: Corporate governance, CSR disclosure, Firm Performance, Board attributes, Firm value, corporate reputation

Introduction

Firm value refers to the way an investor perceives a company that is usually linked to the market value of stocks (Hanen Ben Fatma, 2021). The core goal of the company is to maximize the firm value, which will define the extent of prosperity of the shareholders. Ibrahim (2020) believes that the market value of the company which can flourish the shareholder can be calculated as the share price, hence, the higher the share price of a company, the higher the welfare of its shareholders. In this regard, maximization of the company value is highly valued since it will also maximize the prosperity of shareholders, the ultimate aim of the firm. Investors have to look at companies with good performance and firm value in making investment decisions. In fact, a high stock price makes a company extremely valuable and influences the market confidence to the existing firm performance; therefore, firm value is regarded as a reference point of investors, in which the higher the company stock price, the higher the rate of returns to investors. Corporate governance is a control and supervision system the aim of which is to get maximum performance without burdening its stakeholders (Ida Bagus Anom, 2019). Corporate governance assists in establishing a friendly and responsible relationship between the board of directors and shareholders. Introduction of corporate governance to the company will dictate the management practices and decision-making at the company including the practice regarding disclosure of CSR. Sugosha and Artini (2020) define good corporate governance as the system that is implemented in the management of a company with the primary aim of enhancing the shareholder value over time and still put into consideration the interest of the stakeholders. As a result, good governance can enhance the business environment and the confidence of the stake holders to the company particularly the investors. Corporate social responsibility (hereafter, CSR) acquired an epic rise in substance and extent in the previous 20 years. Firms have started paying more attention to corporate and environmental responsibility as opposed to mostly concentrating on the financial facet of the business. Most companies today dedicate a part of their corporate websites and annual reports to indicate social initiatives as they attempt to attach themselves to social welfare. Businesses are trying to continuously achieve competitive advantage in the market so that they can secure their survival and development as well as win goodwill. (Alatawi et al., 2023) CSR has become a strategic necessity of the company and is considered a value-creation potential. It serves as a medium through which firms promote the image of the people. CSR is mostly linked with the west. (Muhammad Farooq, Imran Khan, Mariam Kainat and Adeel Mumtaz, 2024) All these economies are characterized by clear standards and rules, developed capital markets, CG practices and rights protection of shareholders, which are absent in developing economies of Asia. The main obstacles to CSR in Pakistan are poor regulation, concentrated ownership and poor CG system. Over the past years, CSR has received several conferences in Pakistan, and frequent media coverage however there is still much more that needs to be done practically. CSR is getting a lot of popularity with regulators and ordinary people. Since businesses get large profits at the expense of utilizing the resources of the society, they admit that commercial corporations should no longer be limited solely by economic and legal considerations, but be more involved in the overall advancement of society. They need to accomplish their duties and obligations in order to serve the society by producing quality products at affordable prices, creating environmentally friendly operating processes and reducing human rights abuse in the workplace.

(Mohd Shukor Harun, 2020) According to previous studies, one of the key elements in enhancing the firm value is good corporate governance. The board composition and ownership structure mechanisms of corporate governance might be significant factors that determine the firm value. (Hanen Ben Fatma, 2021) Based on previous studies, the board of directors can be regarded as a key internal control tool that will tend to check on the opportunism of managers. The board of directors is appointed to guarantee the coordination of the activities in a firm and its particular objectives. In this respect, the board must ensure that the top managers act in a manner that is most beneficial to shareholders. The other important issue of corporate governance that may be applied to alleviate agency conflicts in the company, particularly in distributing dividends to shareholders, is ownership structure. The agency conflicts tend to arise between the big shareholders and the small shareholders or between the shareholders and the managers of the company and may result in the decrease of the firm value (Sugosha and Artini, 2020). Consequently, ownership structure will aid in aligning the stake of the managers with that of the shareholders; hence, mitigating agency conflicts and enhancing firm value. The new phenomenon under the corporate social responsibility (CSR) has had an influence on the role of the business, and led to a transformation in accounting practice. (Aruoriwo Marian Chijoke-Mgbame and Chijoke Oscar Mgbame, 2019).

The CSR disclosure (CSRD) is an important part of the business which helps to promote corporate transparency and improve corporate image and information useful in making investment decisions. Academic research has also been responding to the increased significance of CSR (Liu and Lee, 2019). Within the last couple of years, companies are committed to practicing CSR in order to appeal to stakeholders and prospective investors since such activities assist companies in striving to achieve sustainability. To that end, companies are eager to please the stakeholders and declare the advancement of their CSR in yearly report. The CSR practices will result in an efficient governance structure. Such standards that result into social outcomes are maintained through effective corporate governance. The rise of the sustainable development trend has intensified the interests in how firms influence the development of social outcomes (Liu and Song, 2025). The relationship between social responsibility and corporate governance has become a widely-recognized fact in scholarly literature

(Nandi et al., 2024) as companies, which have high governance levels, are more dedicated to being socially responsible.

(Hunjra et al., 2024) Corporate governance is the actions and approaches to regulate the companies that result in a clear environment with the perspective of social performance. Against this backdrop, the aim of the present study is to assess the impact of corporate governance structure on firm value with a major concern on the moderating role of CSR. (Al Maeeni et al., 2022) With a robust corporate governance practice, social practices are promoted, and accountability as well as long-term sustainable objectives is facilitated within firms. (Hanen Ben Fatma, 2021) In the current business environment, firms can only survive long-term based on social and environmental issues as well as money. Moreover, corporate governance is associated with the control and management of firms whereas CSR activities are concerned with concentrating on social duties. In the contemporary intricate global business context and throughout the last ten years, companies are no longer just interested in their financial performance; rather, other domains of interest to them are sustainable and social performance such as CSR (Wang et al., 2024). With this in mind, companies are integrating CSR practices and reports into their corporate governance models (Mohammadi et al., 2021), which could lessen opportunistic actions of managers. A number of previous studies have concentrated on individual determinants and that of background factors that have contributed to the variation of firm value in emerging and developing markets.

Nevertheless, comparatively little studies have been done on the relationship between certain corporate governance characteristics and firm value with CSR as moderating factor. Hence, the current study tried to examine whether particular corporate governance mechanisms correlate with higher firm value and that CSR moderates the association between them. Little literature was devoted to the firm value and CSR as a moderator. Therefore, we sought to address this gap in literature. Our study was aimed at examining how the corporate governance mechanisms influence firm value through the moderating role of CSR in Pakistan. This research adds to the literature that is available in a number of significant aspects. It is the primary point that corporate governance mechanisms and the corporate social responsibility (CSR) should play a simultaneous role in increasing the firm value, which is situated in the framework of emergent markets, which in this case is Pakistan. Although these factors have been explored in the previous studies mainly in isolation, this study provides the holistic aspect as both dimensions are incorporated. Second, the research examines the fixed and dynamic relationships between governance systems, CSR activities, and firm value thus provides a more detailed explanation of how they are interdependent over time. Finally, the moderating position of CSR on the correlation between corporate governance and firm value will be investigated, which fills a gap in the literature on the extent to which socially responsible endeavors could strengthen or change this association. The rest of this paper follows the following structure: Section 2 reviews the available literature and theoretical frameworks. Section 3 includes the sources of data, definition of the variables and the method of research. Lastly, Section 4 provides the conclusions of the study based on its key findings, implications, and suggestions on how to conduct future research.

Literature Review

Firm value is the amount to which investors assign value to a company and it can be in the form of stock price in the market (Faiza Siddiqui, Kong YuSheng, Kayhan Tajeddini,2023). Increasing the firm value is the ultimate goal of any organization because it defines the degree of prosperity that the shareholders of any firm will experience. Ibrahim (2020) claims that the market worth of a firm, which is reported by its share price, directly affects the wealth of shareholders; therefore, when the firm increases its share price, it will increase the wealth of its shareholders. Hence, maximizing firm value is the same as the maximization of shareholder prosperity, which is the main objective of corporate entities. Ida Bagus Anom (2019) also claim that the firm value is a reflection of the perceptions of investors on firm success and is directly linked with the stock price movements.

Corporate governance mechanisms play an important role in determining firm value as it guarantees effective management, transparency, and accountability. Two of those mechanisms are board independence and CEO duality, which have been (and continue to be) most commonly discussed as they directly affect the management of the monitoring and the efficiency of decision-making.

Board independence is the percentage of directors on the board of a company that are external or non-executive and this aspect is a critical tool that reduces the agency conflicts between the managers and shareholders (Ida Bagus Anom, 2019). The independent directors are supposed to give an independent judgment and efficient monitoring which will boost the performance of the firms hence improve the firm value. In empirical evidence like Lin (2011) and Shahid (2014), which conducted studies to establish the relationship between non-executive directors and firm performance through ROA, ROE and the Q of the Tobin, the findings showed a strong positive relationship between them. Likewise, Ida Bagus Anom (2019) obtained consistent results within

Malaysian companies. On the contrary, other literature, including Jackling and Johl (2009) and Horvath and Spirollari (2012), claimed that overly high board independence can undermine efficiency in decision making and in particular where the independent directors have no relevant industry experience. In addition, Zabri et al. (2016), Azeez (2015), and Pham et al. (2021) did not find any significant correlation between board independence and firm performance, indicating that the contextual aspect of governance culture and regulatory enforcement may mediate such a correlation.

Another important element of governance that has an influence on the performance and value of firms is CEO duality or the situation when the same person occupies the CEO and chairman roles. There are two contrary points of view in the literature. According to the agency theory, CEO duality has a negative impact on the performance of firms because there are conflicts of interest and a lack of sufficient oversight (Duru et al., 2016; Farag et al., 2017; Adeabah et al., 2018). Conversely, the stewardship theory posits that duality could be beneficial in terms of performance because of integrated leadership and more definite strategic direction (Aslam and Haron, 2021; Noguera, 2020). Empirical evidence is still conflicting: Duru et al. (2016) and Farag et al. (2017) concluded that duality negatively affected the performance of firms in the U.S. and banking industry respectively, but Noguera (2020) and Aslam and Haron (2021) reported that duality in the position of the CEO benefited company performance in some setting. Investigations like Krause et al. (2014), Arora and Sharma (2016), and Detthamrong et al. (2017) reported an insignificant association, and that the impact of duality is industry- and governance-specific and might be different.

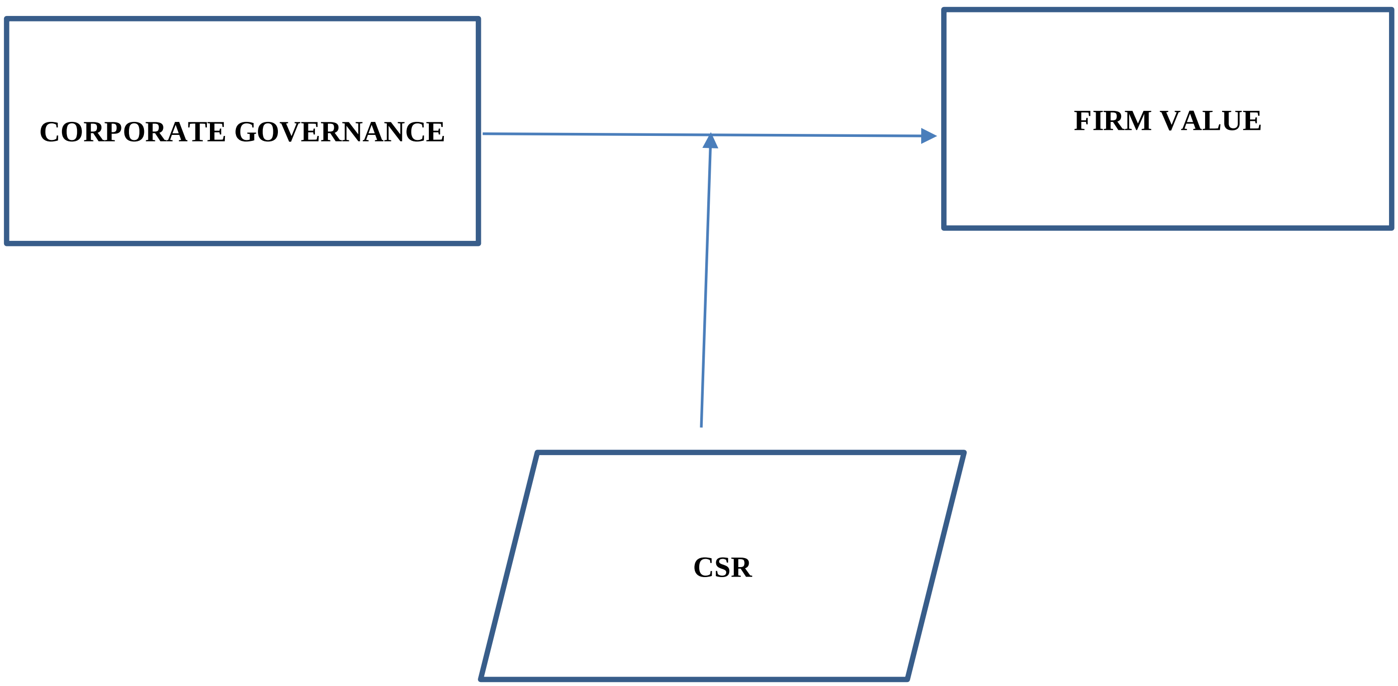
Corporate Social responsibility (CSR) has taken a fore-front role in improving the identity of a firm, trust of the stakeholders and future value. CSR disclosure (CSRD) is a form of communication of the social, environmental, and community-related operations of the firm (Putu et al., 2014). CSR may be either compulsory or optional whereby the level of disclosure depends on pressure by the society or voluntary strategic involvement by firms Ida Bagus Anom (2019). The stakeholder theory and the legitimacy theory are theoretical frameworks involved in explaining the CSR firm value linkage. According to the stakeholder theory, recognition of stakeholder interests can assist firms to evade conflict and increase support thus enhancing financial performance (Freeman, 1984; Schuler and Cording, 2006). According to the legitimacy theory, CSR enhances the social acceptance and reputation of a firm increasing the positive contribution of CSR to the firm performance. Servaes and Tamayo (2013) empirically discovered that U.S. firms positively correlated CSR and firm performance, which was mediated by consumer awareness, and that the same relationship was found in Taiwanese firms by Wang et al. (2015). Salehi and Bashirimanesh (2024) affirmed the argument that CSR also increases the firm value by improving stakeholder's relationship, decreasing financial risk and lowering the cost of capital. Other publications (Naseem et al., 2020; Rahman and Fang, 2019; Khuong and Anh, 2023) also established that CSR is associated with firm value through the alleviation of information asymmetry (Jensen and Meckling, 1976), positive reputation (Reverte, 2009), and long-term investor trust. Nonetheless, the opponents of CSR state that it could create extra expenses that can damage profitability and competitive position (Galant and Cadez, 2017; Becchetti et al., 2009). One possible solution is the enlightened shareholder value (ESV) approach proposed by Ida Bagus Anom (2019) which implies that CSR needs to be aligned with long-term strategic goals to enable firms to balance between the social and financial goals.

The outcome of decision making and policy of the management in relation to the efficient utilization of funds is known as profitability, which is one of the vital factors that determine the value of the firms and disclosure of CSR (Solimum and Adji Achmad Reinaldo). Increased profitability also increases the capacity and the readiness of firms to invest in CSR activities (Solimun Solimun and Adji Achmad Reinaldo). Investors also have a better perception of profitable firms, which is an indication of long-term growth and sustainability (Belkaoui and Karpik, 1989; Yuniasih and Wirakusuma, 2007). Anggraini (2006), Munawaroh (2014), and Pramana and Mustanda (2016) found that CSR disclosure is positively impacted by profitability, which contributes to the firm value.

It is established that the interaction of corporate governance mechanisms and CSR engagement will influence the firm value. Although board independence and CEO duality may have conflicting both positive and negative effects on the relationship between governance and value, CSR always acts as a direct contributor and a moderator in enhancing the relationship between governance and value. The dynamic will also be helped by governance as it gives the financial ability to practice socially responsible strategies, which eventually improves firm value and shareholder prosperity.

Theoretical Framework

 ISSN: 2709-8923



Methodology

The research design proposed in this study is a quantitative research design to discuss the moderation of corporate governance and its effect on firm value with the moderation of corporate social responsibility (CSR) based on the evidence of the Pakistani financial firms listed on the Pakistan Stock Exchange (PSX). All the financial institutions listed on PSX constantly throughout the period of study are included in the sample that was chosen because of data consistency and the representativeness of the financial sector. The secondary data is gathered through annual reports, corporate governance reports, sustainability reports, and PSX database. Measurement of corporate governance involves key governance qualities like board size, board independence, effectiveness of audit committee, ownership structure and duality of board composition and market value respectively, based on the market value (Tobin's Q and market-to-book ratio). The CSR has been captured in a CSR disclosure index that has been formulated based on the Global Reporting Initiative (GRI) and the practices of national reporting. The research approach is the panel data analysis of the connections between the variables. It begins with descriptive statistics and correlation analysis so as to get a clear idea of the way the data acts. In order to ensure that the findings are credible, multiple diagnostic examinations are conducted. The study uses a fixed-effects or random-effects model after ensuring that the data satisfy the required requirements. In order to establish the degree to which CSR mediates the relationship between corporate governance and firm value, an interaction term is included to the regression model and the study is able to explicitly see the moderating effect of CSR. Other robustness tests will be conducted with other indicators of firm value and other governance characteristics in order to confirm that the results proposed are consistent and robust.

Conclusion

Corporate governance forms the background of determining firm value as it determines systems, structures, and processes under which organizations are guided and managed. A high quality of governance, including independency of boards, clean separation of power, effective audit committee, and disclosure, mitigate agency problems, raise the accountability of managers and make sure that long-term shareholder interest is upheld by business strategic decisions. The literature repeatedly proves that the better the governance structure of a firm, the more they are in a position to manage the risk, enhance operational efficiency and develop investor confidence. The stated benefits will eventually result in better market perception, financial viability, and firm value. Nevertheless, governance is no longer a sufficient factor in generating a lasting value in the contemporary corporate setting. This is because stakeholders are progressive such that firms are expected to exhibit ethical behavior, social commitment, and environmental responsibility. It is at this point that the corporate social responsibility (CSR) becomes a critical aspect. CSR enhances stakeholder confidence, boosts corporate image and forms a key tool of conveying the interest of responsible and sustainable activities by a firm. The relations between corporate governance and CSR introduce a valuable dimension of the process of value creation. When CSR plays the role of moderating variable, it supports the effects of governance on the value of firms by establishing that the governance practices are not only affected in a procedural manner but also in a socially responsive manner. Properly managed companies that involve themselves in CSR are in a better position to match the stakeholder-linked expectations to organization goals and this enhances credibility and eliminates risks linked to environmental, social and ethical strains. Through this, CSR enhances the positive implications of the governance through increasing the legitimacy of the firm and enhancing the linkage of stake holders. On the contrary, companies that have low levels of CSR activity might not achieve full utilization of the governance system as a bad social performance might destroy the image and destroy investor trust at the expense of good internal controls. The paper fits in the body of literature in terms of the correlation that exists between corporate governance and the value of firms and introduces CSR as an intervening variable.

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Determinants of Going Concern Opinions: The Role of Financial Indicators, Auditor Type, and Performance Trends: A conceptual paper

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Abstract:

Auditors that come up with going concern opinion (GCO) indicate that a corporation cannot be sure of its ability to continue its operations in the near future. But very often the companies which are at the same financial state have another opinion with their auditors. This implies that there are additional considerations that bring about such inconsistencies in the judgment of the auditor. The proposed research seeks to test these variables that the interaction of the type of auditor between big four companies and non big four companies and the financial distress of the company in the process of issuing going concern opinion. Also, the study concentrates on the mediation effect of the performance trend of a company in shaping the judgment of auditors. The past literature has predominantly concentrated on the financials of companies as what influences this opinion more or even at all. The focus has been narrowed to the manner in which the type of auditor will have different perceptions of the operational viability of a company compared to the financial position with consideration to the past trends of performance of the company. This theoretical paper contributes to the already existing literature that the financial distress of the company and the type of auditor affect the going concern opinion. It also covers the way in which the trends in the performance of firms can alter this relationship, to provide a better picture of how auditors come up with their going concern opinions by establishing a linkage of all these.

Keywords: Going concern opinion, performance trends, big four – non big four firms, financial distress.

Introduction:

When auditors provide a going concern opinion (GCO), it indicates that a firm is unsure whether it can continue running in the nearest future. A GCO serves an early warning for stakeholders as it indicates the financial distress or operational uncertainty as this judgment can directly influence stakeholder confidence, and a company's overall reputation, auditors are expected to exercise significant professional skepticism when forming such opinions. But as material as this judgment is, evidence from the real world suggests that companies in similar financial positions are issued with different going concern opinions by their auditors. (Carson et al., 2013; Guo et al., 2020; Finnish study, 2006). This inconsistency begs the question: What really influences an auditor's judgment and are factors other than the company's fiscal health at play in determining a final opinion?

Conventionally, studies on going concern reporting have laid great emphasis on the financial performance, including liquidity, leverage, profitability, and other indicators of solvency as a predictive financial distress. Although these factors give sufficient evidence to the auditors to present an opinion and at times the factors may not give the full picture as firms with identical solvency and liquidity are not given identical opinion. This means that other variables other than basic financial performance could affect the ultimate audit opinion.

One such factor is the type of auditor, specifically whether a company is audited by a Big Four firm or a non Big Four firm. Big Four firms are generally perceived as more experienced, more conservative and more concerned about maintaining their global reputation and with that they may be more sensitive to risk signals and more willing to issue a GCO when an uncertainty is detected even if the financial evidence is enough for a opinion(DeFond et al., 2002; "Analysis of Engagement Risk Differences in Big Four and Non-Big Four Firms," 2019). On the other hand, the smaller audit firms may apply different levels of judgment; they may interpret financial signals differently. These differences in auditor characteristics can potentially moderate the relationship between financial performance and GCO issuance.

Moreover, there are distress prediction models like the Altman Z-Score through which the auditors gain a further perspective on the financial sustainability of a company in the long term. The Z-Score is a structured and evidence-based indicator of bankruptcy risk because it summarizes various financial indicators into one. (Jones & Hensher, 2020; Li et al., 2021). Simultaneously, the trend in the performance of a company can influence the attitude of auditors towards the existing financial outcomes. A company that has a low financial ratio but the trend is positive the performance may be considered different than a company with the same financial ratios and but negative trend. The two issues are significant intermediaries that influence the manner in which raw financial performance in turn determines the final audit opinion.

Although these factors matter, not much research has been conducted to investigate all of them in conjunction with each other, particularly in Pakistan. The majority of research works pay attention only to the financial performance or study auditor type independently. Very few papers attempt to make a synthesis of financial performance, auditor type, Altman Z -score, and performance trend of the firm into one framework. Additionally, the Pakistani auditing environment, regulating structure, and characteristics of the firm are very different compared with the Western markets, and therefore it is important to determine how these elements perform in the local markets.

This conceptual study thus suggests an integrated framework to support the relationship between financial performance and the going concern opinions in a study of the moderating impact of the auditor type and the mediating impact of Altman Z -Score and firm performance trend. The combination of these variables will help the study to offer a better and clearer picture of what influences the going concern judgments of the auditors.

Literature Review:

The Auditors, after reviewing a company's financials, have a range of different opinions, from which Going Concern is the most adverse, as it means that the company won't be able to continue its business operations due to the risk of bankruptcy. Getting such an opinion is the worst thing for an already financially struggling organization, as it will lead to further losses, as stakeholders will no longer trust the company. The most straightforward reason for auditors to give this opinion is the financials of the company as they show a picture of where the company stands, the auditors analyze that picture carefully and decide accordingly what opinion to give.

However, financials aren't the only reason a company gets this type of opinion. Yes, financial statements are the most straightforward but there are other factors that cause differences in opinions, as prior studies find that even firms in similar financial distress conditions sometimes do not receive a going-concern opinion (Carson et al., 2013; Guo et al., 2020; Finnish study, 2006), suggesting that auditor judgment plays a role. This judgment is shaped by other factors that lead to different opinions.

As it was stated above, financial performance is most direct related with the company being provided with a GCO by the auditors Low liquidity, decreasing profitability, and elevated leverage are the factors that are most likely to result in a company being provided with a GCO. Indicatively, in a single study the probability of GCO is greatly increased with high leverage but there was no significant impact of liquidity in their analysis (Riswanto et al., 2021). It is also indicated by other researchers that financial ratios tend to be weak in companies that are typically more likely to get an GCO (Arum et al., 2022; Swari et al., 2020). The financial dimension however, may not always provide a full picture of stability of a firm.

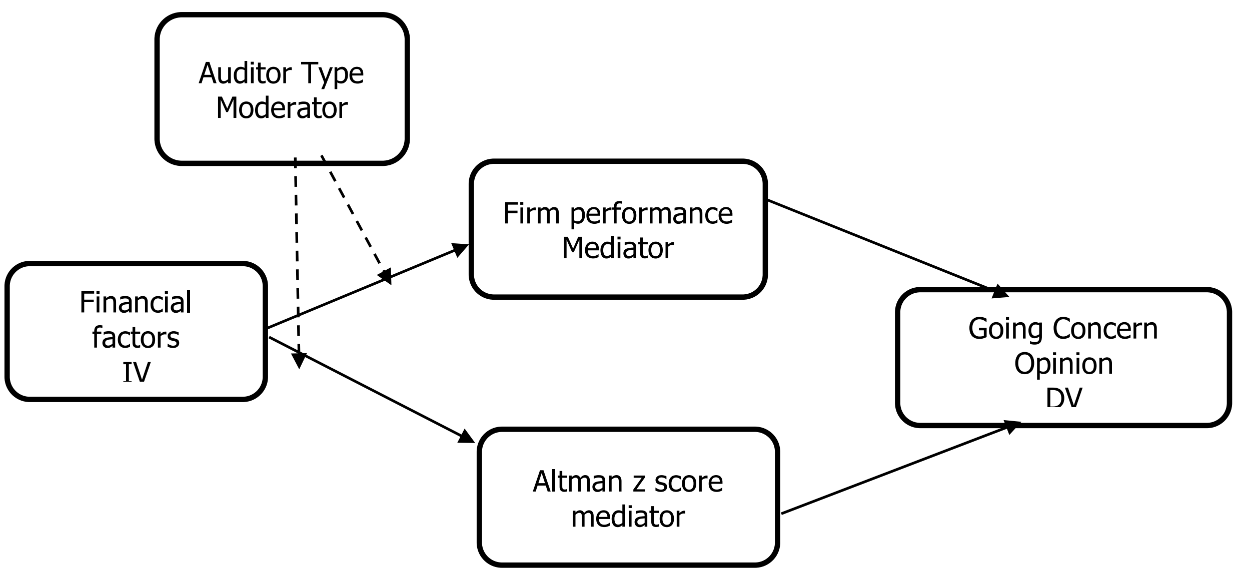
The financial indicators assist the auditors to evaluate the financial health of a company, and inform the auditors to make their choices regarding going-concern opinions (GCOs). The Altman Z-Score is an estimation of the risk of bankruptcy using a combination of the profitability, liquidity and leverage as well as activity ratios (Altman, 1968). Low Z score normally appears to auditors as an indicator of financial distress when making a decision on whether to issue GCO (Jones & Hensher, 2020; Li et al., 2021). Trends of performance such as the continuing losses or a rising profit are also a big factor in auditor judgment. In cases where a company is experiencing a poor performance that is apparently short-term and its general trend is showing improvement, then it may not be awarded a GCO. It demonstrates that the trend analysis can influence the correlation between financial indicators and the audit opinion (Carson et al., 2013; Masruri et al., 2022). Although these indicators provide objective methods of quantifying financial risk, the interpretation of the same by the auditors may differ depending on the background and orientation.

The type of auditor may affect the conversion of financial risk signals to going concern opinions (GCOs). Being in higher opinion risk and more skilled, Big Four auditors are more likely to be cautious about bad financial signs and hence give a GCO than non-Big Four ones (DeFond et al., 2002; Analysis of Engagement Risk Differences in Big Four and non-Big Four Firms, 2019). Smaller firms, conversely, can be more judgmental and less formal, and the GCO issuance rates can be lower than appropriate even of firms in distress.

Despite the existence of previous research that has explored the factors that affect the going-concern opinions (GCOs), the majority of the studies have concentrated either on the financial indicators or auditor characteristics separately. Not many studies have incorporated the financial performance, the pattern of the firm performance and the type of auditor in one framework. This leaves a knowledge gap in the interaction between these factors to determine GCO issuance particularly in emerging markets. In order to fill this gap, the present work suggests a conceptual model where financial performance has both direct and indirect impacts on GCOs via mediating variables like firm performance trends and Altman Z -Score. Moreover, the correlation between the financial performance and the GCOs is mediated by the type of auditor (Big Four and non-Big Four auditors). The combined experiment of all these factors through this research offers a more detailed insight into the determinants of going-concern opinions in situations like Pakistan.

Methodology:

The study is a theoretical study that will utilize existing literature to come up with a theoretical model that establishes the connection between financial performance and issuance of going concern opinions. To determine the similarities in theoretical trends, the previous researches on the financial distress models, auditor characteristics, bankruptcy prediction tools, and audit reporting behavior have been reviewed. These were taken to formulate a model as demonstrated in figure below where financial performance is taken as the independent variable, type of auditor is a moderator, Altman Z-Score and firm performance trend are mediators and going concern opinion is a dependent variable.



This paper is not an empirical test, but it proposes ways in which this framework can be operationalized in future studies. An empirical design would probably be based on logistic regression because the GCO is binary, either a company receives such opinion or not, and mediation and moderation tests to determine the role played by Altman Z-Score, performance trends and the type of auditors. These relationships could be investigated with firm-level panel data of publicly traded organizations over time. The given proposal is a clear guidance of how the conceptual model can be validated in the future empirically.

Conclusion:

In this study, the authors construct a conceptual model in an attempt to explain how auditors make going concern opinions using a combination of financial indicators and auditor characteristics as well as distress signals unique to firms. Although financial performance is the major source of evidence to determine the stability of a company, this framework implies that other aspects determine the ultimate verdict. Both auditor type and the Big Four versus non-Big Four status might affect the interpretation of risk risk because of the difference in expertise, conservativeness and sensitivity to reputations. Similarly, such indicators as Altman Z-Score and the trend of the performance of a firm can be used to explain how financial information is converted into perceptions of financial distress. Combining these variables into a single model, the study emphasizes that going concern judgments are caused by a blend of quantifiable financial performances and the involvement of an opinion of the auditors. In spite of the conceptual framework, a structured research basis on future empirical work is offered. Regression-based models and mediation-moderation analysis can be used by researchers to test this relationship and gain a better understanding of the mechanisms of this relationship in practice. In general, the given paper adds a better and more structured understanding of the factors that influence the going concern decisions made by auditors.

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The Impact of Carbon Offset Quality on Firm Value: The Mediating role of Risk, Cost of Capital & ESG Reputation.

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Abstract- The current conceptual paper investigates how quality of carbon offsets (OQI) affects the quality of firm value via series of market and stakeholder process. Based on the Signaling Theory, the paper states that the high-quality offsets can be credible indicators of environmental soundness, and low-quality ones can evoke the feeling of greenwash. The model suggests three mediating mechanisms: the risk perception, which is how the investors assess the exposure of the firm to environmental and regulatory uncertainties; the cost of capital, which is how credibility influences the financing terms; and ESG reputation, which is the greater social legitimacy the firm receives at sustainability markets. The model also adds the aspect of digital disclosure as the moderator which reinforces or weakens the perceived visibility and credibility of the signals of offset. The positive effects of high-quality offsets are augmented by clear, verifiable disclosure and such effects may be diluted or overturned by ambiguous disclosure. The article brings sustainability accounting and finance sources literature together in understanding the concept of offset quality, disclosure practices, and capital market reactions. Future empirical work that will test the hypothesis in regard to whether carbon offsets generate actual economic value or symbolic value-generating, the viewpoints of this framework can serve as a guide. The paper can also provide advice to regulators, investors, and companies that want to operate in the changing environment of the carbon accountability revolution.

Keywords: Carbon Offset Quality, Sustainability, Firm value, Greenwashing, Signaling Theory

Introduction

The fast growth of carbon markets has opened new opportunities to companies to use greenhouse gas emissions by buying carbon offsets. Carbon offsets currently feature in the discourse of manufacturing companies aiming to simultaneously project environmental concern and business flexibility in the context of increased demands on global value chains to become more climate committed. Nevertheless, this growth has been followed by anxieties on the quality and credibility of offsets, and the questions of whether offsets generate actual environmental value or are rather cheap empty symbols gaining popularity among scholars and practitioners (Gibson et al., 2022; Green and Stodolkiewicz, 2024). These discussions premise a significant unanswered question: Does the existence of carbon offsets boost firm value through the creation of positive investor-perception, or does the artificiality of green value, created through carbon offsetting but unworthy of scrutiny?

To answer this question, the current paper elaborates a conceptual model on Signaling Theory (Spence, 1973). As signaling logic suggests, the efforts by firms to minimize information asymmetry include providing signals regarding their underlying quality being posited. To be effective, a signal should be expensive, visible and hard to be imitated by low quality companies (Connelly et al., 2011). With carbon offsets, the quality of the offset, e.g. certified (e.g. Gold Standard, Verra), strong permanence and additionality acts as a marker of genuine commitment to climate. On the other hand, low quality offsets act as poor or even negative indicators which may lead to mistrust.

These signals are determined by their interpretation by the stakeholders. The investors could consider interpreting that the high-quality offsets decrease the transition risk in the long term, but the poor-quality offsets could provoke the greenwashing and regulatory fines. On the same note, capital providers can vary financing terms as they hold perception on environmental credibility. Outside capital markets stakeholders, including customers, employees, and NGOs, understand the offset strategies through the medium of firm ESG reputation, with loyalty, advocacy, and scrutiny affected. Most significantly, these relations are determined by the visibility and disclosure of the information associated with the offsets. The level of digital disclosure, i.e. how companies portray transparent and verifiable data about offsets on websites, sustainability reports, websites such as CDP and digital certificates, is a moderating variable that either increases or reduces the effect of offset quality on stakeholder decisions. The fuller and more transparent the disclosure, the better the positive impact of high-quality offsets is enhanced; the less transparent and complete disclosure is provided, the weaker the plausibility of offset claims becomes.

In the foregoing paper, a conceptual model developed, linking these mechanisms, building upon the idea that carbon offset quality influences the firm value in the presence of three mediators in terms of risk perception, cost of capital, and ESG reputation that are mediated by digital disclosure. The model adds to the new body of knowledge on sustainability accounting by shedding light into the interaction between carbon offsets practices and financial markets and the stakeholder ecosystems. It also lays the basis of future empirical study and directions of the companies aiming to be responsible and integrated in terms of offsets in their climate policies.

Literature Review

Corporate Strategy of Climate and Offsets of Carbon: Carbon offsets have emerged as the key to firms seeking to attain carbon neutrality and continue with operations. The offsets enable companies to offset the emissions by funding preventive lines (renewable energy, planting at other locations, and capturing carbon), which are located elsewhere (Calel and Dechezleprêtre, 2016). Nevertheless, offsets are often legitimized differently based on the criteria of additionality, permanence, leakage, and verification (Schneider et al., 2020). Quality offsets prove to have a real application of environmental gains, and low-quality offsets do not necessarily decrease global emissions, which is why some opponents criticize and accuse them of greenwashing (Kollmuss et al., 2008).

Compensatory Quality and Corporate Credibility Perceptions: The quality of the offset is very important in influencing the perception of the stakeholders. Once offsets have been certified with recognized standards, stakeholders believe that they reflect a serious environmental responsibility (Gatti et al., 2019). On the other hand, ambiguous legality of offsets will harm trust and can subject firms to reputational and regulatory risks. Previous literature indicates that stakeholders are becoming more and more discriminating as to whether the sustainability activities are symbolic or substantive (Walker & Wan, 2012), and the quality of the offset signal depends on the type of signal that is transmitted. Risk Perception as a Mediating Process. Climate-related risks are also becoming part of the investment valuation process of investors. The companies that depend on low-quality offsets are exposed to greater transition risk because the credits may be invalidated in the future, or the policies will restrict the use of weak offsets (Krueger et al., 2020). The availability of high-quality offsets is an indicator of strategic preparedness and less uncertainty, leading to the decrease in the perceived environmental risk (Ilhan et al., 2021). Therefore, the perception of risk is a mediating process by which the quality of offsets moderates the results of the market.

The Signaling of Cost of Capital and Sustainability: There is an impact of corporate sustainability practices on financing conditions in the sense that capital providers will give an incentive to firms with lower long-run risk profiles (Goss and Roberts, 2011). Credibly reported high-quality offsets have a potential to enhance the financing terms by indicating ambitious risk management and persistence over the long run. On the other hand, so-called suspected greenwashing intensifies the risk of information and could raise the cost of capital (Kim et al., 2014). This is in line with the form of argument that the financial market reacts a lot to plausible environmental cues.

ESG Reputation and Stakeholder Evaluation: Financial markets are only one aspect of the larger judgments of customers, employees, non-governmental organizations, and regulators. Sustainability behaviors better sustainability legitimacy (Bitektine, 2011) and those that worsen lawfulness are symbolic ones. Companies that employ validated offsets build better reputations on ESR, which boost loyalty of their stakeholders, as well as minimizing the negative reputational consequences (Aguinis & Glavas, 2012). Poor quality offsets can build some form of skepticism, and may lead to external examination or criticism by the media and civil society.

Digital Disclosure in the role of a moderator: The digital disclosure enhances or dilutes the exposure of carbon offsets practices. A clear digital communication- like publication of retirement certificates, project ID, methodologies and audit reports- helps lower the level of information asymmetry and enhances the believability of environmental signals (Lock & Seele, 2017). By contrast, the uncertainty and partial disclosure breed ambiguity and can invert the virtues of high-quality offsets. The previous literature indicates that quality of disclosure plays a central role in the development of favorable reactions of the market and stakeholders to sustainability proclamation (Michelon et al., 2015).

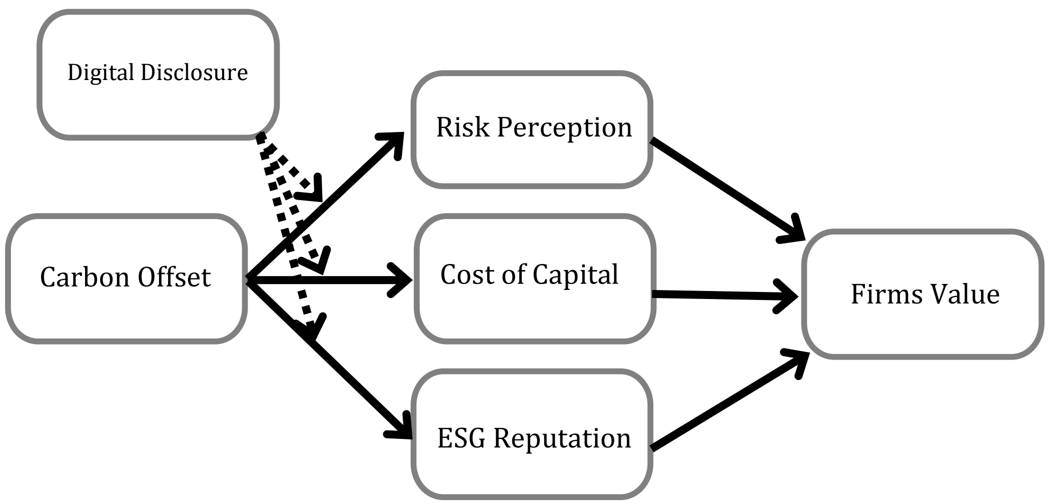
Sustainability Performance and Firm Value: The Firm value demonstrates market perception of the long-term prospects of the firm. It is alleged that believable ESG practices, such as climate strategies, add value by reducing risk, bettering partnerships among the stakeholders and indicating strategic vision (Friede et al., 2015). Nevertheless, appended or false sustainability representations can lead to the destruction of values, once revealed (Delmas & Burbano, 2011). Making the decision as to whether carbon offsets help in the actual or pretense sense is an important gap in the literature.

Methodology

This paper is a conceptual one and thus empirical testing is not used. Rather, it adopts an integrative and theoretical approach in coming up with a conceptual framework. The approach will include the review of the existing literature related to sustainability accounting, carbon markets, signaling theory, and corporate finance to determine the important relations between quality of carbon offset, perception of stakeholders, and firm value. The paper summarizes the theoretical arguments to predict that the quality of carbon offsets affects the firm value by mediate these mechanisms:

perceived risk, cost of capital, and ESG reputation, and digital disclosure mediates these mechanisms.

Figure 1: Conceptual Framework: Impact of Carbon offset quality on firm's value with the mediating effect of Risk perception, Cost of capital and ESG reputation



The approach is suitable since conceptual articles are supposed to elucidate constructs, define relationships, and suggest mechanisms in which future empirical studies will be developed. The article finds gaps and problems with previous research, especially the absence of combined models covering the relationship between offset quality and financial performance, and formulates propositions based on Signaling Theory. The mapping of the signal transmission, strengthening, or weakening, builds a logical framework of the methodology that develops the theory and can inform empirical researchers of the potential locales of the value creation/destruction. The ensuing model can provide an organized basis into the analysis of whether carbon offsets create substantive or symbolic economic proportion of advantage.

Conclusion

The types of issues that are seldom adequately addressed in research papers are those that evaluates the question of carbon offsets creating legitimate financial value or just does it symbolically? The study also uses Signaling Theory to postulate that offset quality is a decisive factor to the interpretation of offset use by stakeholders. Quality-assured offsets lead to reliable indicators that lessen the risk perception in order to alleviate financing terms, as well as enhance the ESG reputation, which eventually leads to the increase of firm value. Comparatively, low-quality could elevate the perceived risk which may be damaging to reputation leading to little or even negative value.

The paper also contends that digital disclosure is a moderating factor in the sense that it influences the particular manner in which offset signals are easily and authoritatively received by the stakeholders. Transparency in disclosure enhances the effects of high-quality offsets and communication obscurity blunts or turns them in the opposite direction. The lessons learnt can be applied in sustainability accounting and corporate finance as they provide a holistic mechanism of how a carbon offset practice affects the firm value.

The model can assist the future empirical research by providing clear directions and variables to explore. It also offers some implications; it can be applied in practice firms should invest not in high quality offsets only, but also in transparent reporting to make their actions to be treated as acceptable. The framework can also help regulators and investors determine whether the use of the offset is substantive action on climate or a symbolic action.

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The Impact of Digital Transformation, Organizational Culture, and Work Competencies on Work Motivation and Performance of University Teachers: The Mediating Role of Work Environment

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Abstract

In this new era, institutions drawing on digital innovation, a strong organizational culture and skilled workforce in order to enhance institutional performance. This research paper examines the influence of Digital Transformation, Organizational Culture and Work Competencies on the Work Motivation and Performance of university teachers using Work Environment as mediating veriable. It also seeks to discorver how all these factors are interacting with each other in context of digitally transforming academic institirirtions with respect to the teacher's professional effectivness and motivation. Quantitative research design was used in the research, where university teachers from both public and private universities were participants. The study employed a stratified random sampling technique in which responses were collected from representative samples of faculty members across different disciplines. Data analysis was done through the SEM method using SPSS and AMOS to test direct, indirect, and mediating relationships that exist among the study variables. Digital Transformation, Organizational Culture, and Work Competencies are found to have a positive impact on both Work Motivation and Work Performance. The Work Environment has been found to partially mediate these relationships, this means that a supportive, resourceful, and collaborative atmosphere at work will enhance the institutional and individual factors, effect on motivational and performance outcomes. Creating a desirable work environment allows teachers to apply digital tools effectively, comply with organizational culture, and exercise professional competencies. This study helps contribute to the evidence base of managing higher education from an integrated model through the association of human, cultural, and technological variables to motivation and performance. The results provide a significant insight for university administrators in how to support faculty engagement, digital readiness and institutional productivity.

Keywords: Digital Transformation, Organizational Culture, Work Competencies, Work Environment, Work Motivation, Work Performance, University Teachers, Higher Education

Introduction

The world of higher education is currently undergoing shifts that we have seen happen in other fields. Now we have to deal with these developments as a factor of our world. Universities in our current era can no longer be plain educational entities offering a degree. They have become ecosystem entities that must synthesize top-tiered technologies and education. Digital transformation is no longer software deployment. It is a movement of strategy. Recent researched predicted that digital transformation of work will have an effect on how faculty schema, curriculum, instructional design, and professional communication. This will have a correlation with sustainable institutional development (Li et al., 2025; Sun & Yoon, 2025). However, having CDWs does not translate to having learned a great deal. This gap is what is referred to as the human and social dimension of the technologically driven change in education. One such factor that has a great bearing on the modern educational organizational system that has been digitally transformed is organizational culture. The institution's culture, being the collective values and beliefs and the degree of behavioral support to change, determine the locus of the faculty, is culture an organizational system positive. Studies have shown the positive relationship between work motivation and the culture of an organization that is adaptive. Teachers' ability to master new digital pedagogies is shaped both by the organizational structures of the institution (psychological safety to experiment within teaching practices) and the adaptive culture within the institution. This is because the culture of the institution is likely to enhance faculty engagement, retention, and overall performance (Siddiqi & Jamal, 2024); (Yusnita et al., 2025) and stagnation results when there is a lack of culture. Also, there is no doubt the institution's high technological advancements will be underutilized (as students will be the ones to suffer from digitalized pedagogy) when there is a lack of a teaching culture. At the same time, the evolution of teaching competencies in higher education, as Xue et al. (2023) explain, shows that content knowledge is no longer enough. Modern education must embrace emotional and pedagogical competencies and digital literacy. Of course, a strong pedagogy for teaching in digitized environments is fundamental (Khanal et al., 2024) and so is digital literacy. Without strong competencies, there will be a gap between expectations and performance outcomes. Although there are several deficiencies in digital transformation, organizational culture, and competencies, work outcomes are more convoluted. The developing studies suggest that the work environment has a significant [yet often overlooked] role in this. The work environment includes the overall structure and psychosocial factors of the workplace. Tagalog et al. (2024) demonstrate that +/- work environment (work/job environment) mediates the internal drivers (self-determination) and job satisfaction. Profoundly Raime et al. (2024) acknowledge work environment as the medium between a supervisor and employee (leadership and organizational strategies) at work, which in actual job performance, is significant. It is reasonable to assume that the digital transformation and organizational culture impact performance not directly in a vacuum; rather, they shape the work environment which, in turn, facilitates or hampers teacher performance. Digital transformation, for instance, changes the "virtual" work environment while culture sets the "social" work environment. If these factors create a positive, rich, and resourceful environment, faculty motivation and performance are likely to thrive. Thus, this study seeks to fill the current research void and empirically investigates how DT, OC, and work competencies affect the work motivation and its performance of university teachers by focusing on the intermediary role played by work environment.

Literature Review

The advancement of technology and the ensuing digital transformation have affected many sectors of the economy including education. University professors have had changes in work related motivations and work performances opportunities and challenges. This body of work sees the relationships between digital transformation, organizational culture, work competencies, work environment, work motivation and teacher performance and draws from contemporary literature. In general, digital transformation refers to the integration of digital technology into all areas of an organization so that the very fundamental ways of conducting and delivering value are changed. In higher education this applies to online learning platforms, digital tools for research and administration, and data analytics for institutional management. More recent literature addresses this very well. In a study published in 2024, Chen et al. established that the effective utilization of tools for digital learning had an increase in student participation and related to motivation of teaching staff. Universities that incorporate digital technologies have improved the research outputs of their faculty, although this could simply mean that the performance of faculty has improved due to the greater accessibility and collaborative structures. However, the mere presence of technological resources has not been the main issue. Organizational culture is predominantly the most impactful factor that determines the success of digital transformation initiatives. What is most salient is the positive and flexible environment that supports innovation, continuous learning, and adaptability. There is a solid foundation on what Li and Wang (2024) stated that, “the more hierarchical and more rigid the organizational culture is, the more university teachers will resist the adoption of new technologies and the less motivated they will be. On the other hand, cultural approaches that embed open communication and collaborative learning environments significantly enhance teachers' motivations toward the integration of digital tools within pedagogies. Furthermore, Al-Hashimi et al. (2023) have demonstrated how a culture supportive of continuous professional development and providing sufficient training in regard to digital competencies contributes directly to teacher performance in an online environment. Core competencies at work for university teachers are increasingly critical, focusing on digital literacy and pedagogic innovation. In other words, it would no longer be an optional skill but rather a basic one to be aware of how digital tools can serve their performance in university teaching, research, and administrative tasks. According to Kim and Park (2023), digital competencies were strongly positively related to job satisfaction among university faculty, and further influenced their motivational beliefs to teach innovatively. Gupta and Sharma (2024) have again identified that the greater the digital competence of teachers, the more capable they are of responding resiliently to unexpected shocks, such as the sudden transition to remote learning during global crises. This complex interplay is mediated by the physical and psychosocial work environment. A supportive, enabling work environment could strengthen the potential positive impacts of digital transformation, organizational culture, and work competencies on teacher motivation and performance. In their 2024 study, Jansen and Van der Velden predicated that an employee’s approach to technological novices and their self-efficacy, and motivation, was enhanced by teachers’ perceptions that they were expertly assisted, and they had a high-quality technical infrastructure work, while employee peer collaboration learned through a technological support workplace culture. Meanwhile, Connell and Murphy also noted that 2023 no psychologically safe workspace, where an individual is free to explore and experiment with unknown technological tools, without the apprehension of error-tenure, was a direct psychosocial factor influencing one’s innovative pedagogy, and one’s work performance, and overall pedagogical output. Hence, psychologically safe workspaces condition every factor/work motivation performance. Digitally transformed, adaptive organizational culture, uniquely manifests/self-reinforces a positive feedback loop. The study of Rahman and Khan 2024, noted that university teachers had an intrinsic motivation to teach and produced and published research work supported by university digitally progressive institutions, and positively perceived for progressive/professional development. The work environment, however, is where the mediating factor occurs. As Davis and Peterson 2023 havediscussed, a well-resourced and psychologically supportive work environment directly transates into higher levels of teacher engagement and commitment despite continuous digital disruptions. If there is no such environment, then positive benefits from digital tools and a culture of progress may well not appear, with possible burnout and decreased performance. Anenvironment that favors digital change, working competence, and teacher well-being thereforebecomes indispensable for optimizing work motivation and performance in changing landscapes.

Methodology

Data will be collected through a self-administered questionnaire, which will be distributed among university teachers from different higher education faculties and departments. This is a cross-sectional type of enquiry, meaning a study in which data is collected at one point in time in an uncontrolled setting. The structured questionnaire will be the measuring instrument. To make sure of accurate comprehension, questionnaires will be designed in two languages: English and the national language. Respondents will be invited to respond to the questionnaire in the language they are most comfortable with and that they commonly use in their everyday academic work life. Initial interviews will be conducted before conducted the qualitative data collection for getting the new perspective about how digital transformation, organizational culture and work competencies affect work environment, motivation and performance.

Conclusion

To sum up, the present research confirms that Digital Transformation, Organizational Culture, and Work Competencies are core predictors of Work Motivation and Performance among university teachers. Most importantly, the results emphasise the critical mediating importance of the Work Environment. The analysis has shown that although technical ability and digital incorporation is an important requirement, its full potential can be achieved only under the condition of a favorable physical and psychological environment. The positive work environment serves as an impetus, which turns the organizational values and digital capabilities into the long-term teacher motivation and high academic performance.

Therefore, institutions of higher learning have to utilize the integrative approach of management. Investment in technological infrastructure, competency training is not enough, administrators also need to foster an organizational culture that supports and a dynamic work climate. When these factors are addressed with the highest priority, universities can develop a system in which teachers would feel empowered and appreciated. Finally, it is this synergy that will not only promote the performance of the individual teacher, but will provide a higher level of the overall standard of the higher education, and will guarantee the institutional strength and the quality of the academic life in the more digital age.

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Exploring the Moderating Impact of Environment Policy Stringency on Green Investment Disclosure And ESG Outcomes: A Conceptual Model

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Abstract:

This conceptual paper main goal is to investigate the relationship between ESG performance and Corporate Green Investment Disclosure (CGID), or the volume and caliber of reporting on investments with an environmental focus .The Environmental, Social and Governance (ESG) performance as the dependent variable which is the versatile measure for capturing firm's overall sustainability across environmental guardianship. The social responsibility and governance practices determine by ESG score. Using moderating factor of Environmental Policy Stringency(EPS) .This model is developed based on existing theoretical and empirical literature from emerging economies, such as Pakistan. The where previous researchers indicates a lack of understanding of the relationship between CGID, EPS, and ESG outcomes. It does this by drawing on fundamental theories like Stakeholder Theory, Institutional Theory, and Legitimacy Theory. Although earlier research has shown a positive relationship between disclosure and ESG metrics, little is known about the contingent influence of regulatory rigor on these associations. By suggesting EPS as a moderator it enhances the beneficial effects of CGID on ESG performance under strict policy conditions, this conceptual framework fills that gap and offers firms and policymakers nuanced guidance. This model helps in future empirical endorsement and offers practical implications for strengthening sustainability strategies in developing markets.

INTRODUCTION:

The global business framework has indeed changed by not only focusing on singular financial profitability but to an overall corporate success. It has placed ESG as priority measure for a firm's long term sustainability,risk management capabilities and contribution to sustainable development(Yu, Luu & Chen, 2022).

In recent years,sustainability has moved to center stage due to growing concerns of environment,expectations of society and global governance requirements.ESG performance emerged as embedded framework in order to assure the long term value creation, it portrays as how well a business manage their social duties, environmental impact and governance structure.The "E" in ESG stand for a company's environmental impact which includes its resource efficiency and efforts to reduce pollution, the "S" covers its interaction with customers, employees and communities and "G" examine internal controls, ethical behaviour and leadership(Pham & Dao, 2021).For developing countries like Pakistan, which stand as the threshold between the immediate economic growth and strong environmental concerns, understanding and improving ESG performance is not merely about adhering to global trends.

For a company,a key mechanism through which firms shows sustainability story is a Corporate Green Investment Disclosure (CGID) which is defined as the transparency of business on both how much money is spent and how well its activities support environmental sustainability support(Al-Shaer & Hussain, 2017; Tauseef & Khurshid, 2023).It involves detail communication about investment in areas like green technology adoption, efficiency of project in energy and environmental control strategies. CGID helps as the instrument of internal accountability and as for the signals to the stakeholders on company's sustainable position .

This act of transparency must be empirically linked with ESG performance.Pakistani firms that report on green investment in detail are more likely to get higher ESG score(Tauseef & Khurshid, 2023). Transparent and thorough disclosure enhanced the interest of investors, ease access to green finance and lesson information asymmetry(Hussain & Mia; 2021). This is usually accompanied by the complementary use of green finance instruments, like green bonds and sustainability-linked loans, and can also favorably influence the business case by resulting in favorable economic outcomes in the form of reduced capital costs and increased market valuations.

However, even CGID is important for ESG, but its influence on ESG outcomes varies on its intensity and direction depends on situation.The strictness and enforcement of environmental law known as environmental policy stringency (EPS) become important in this context. EPS is defined as the degree of rigor and the effectiveness of enforcement associated with a country's environmental rules and regulations(Xie et al., 2020).Companies are pressurized to match their disclosure with real environmental performance rather than just reporting by the external institution. The regulatory framework in countries with strict EPS is helpful in companies for more thorough and transparent disclosure, which can successfully converts CGID into higher ESG performance(Xie et al., 2020; Salman & Wang, 2025). Without strong environmental policies companies in Pakistan which claims to be green may the are not real and mislead the reports which is known as green washing.In developing countries like Pakistan need strict environmental policies to make sure companies take real actions not just talk about sustainability and green.

Researchers focuses on environmental policy stringency shows that it has positive and direct impact on both CGID and ESG performance of company.They do this by making strict rules and law and give reward and punishment accordingly.Through this, it will make it possible for businesses to make their faux environmental footprints less deceptive and more defensible(Salman & Wang, 2025).

Pakistan and other developing economies provide valuable, albeit limited, insights. This is particularly relevant for examining the interrelationships among EPS, CGID, and EPS. Such economies tend to be characterized by rapid industrialization, shifting regulatory environments, and emerging financial systems. This is the situation where the processes for sustainability reporting and the mechanisms for policy implementation are still in their infancy. Therefore, under such conditions, it is likely to be more complicated to understand the extent to which CGID might determine the ESG outcomes of varying degrees of EPS, particularly in relation to the advancement of sustainability(Xie et al., 2020; Tauseef & Khurshid, 2023). Unfortunately, the research is rather thin regarding the moderation of this relation by EPS, especially in emerging economies where the institutional framework is vastly different from that of more advanced economies.

There is no question that CGID and EPS are each importance in their own right, and no question that each of rather independent importance, but there is more than one question and more than one independent importance that leads to rather independent importance in each part of the world, particularly in the developing world in the granular taxonomy of the social and economic institutions of Pakistan, and there is a rather profound and obvious gap in the social and economic institutions of Pakistan within the granular taxonomy of the social and economic institutions of Pakistan. One way or another, the literature has to define the rather clear interconnections, what it has done is construct independent relationships, for instance, how CGID might enhance ESG scores or how EPS might alter corporate behavior. The literature has yet to posit.

This conceptual paper offers a holistic frameworks that suggest that environmental policy stringency moderates the direct and positive impact of CGID on ESG performance.This framework explains the mechanism that manage the sustainable business conduct in emerging markets environment by Stakeholders theory;which is defined as the significance of open communication with interest groups,Institutional theory;which highlights the regulatory and direct pressure shaping corporate conduct(Pham & Dao; 2021).This study focuses on emerging markets like Pakistan to know how the environmental rules and corporate green investment disclosure are becoming more important in the face of development and institutional obstacles. This study improves the discipline by explaining the institutional context required for green investment disclosures to convert into successful ESG performance, taking into account the moderating impact of EPS.

The main objective is to formulate the existing literature to construct a model that not only affirms the direct positive link between CGID and ESG performance but also explain how this relationship is strengthened under conditions of high regulatory stringency. Specifically, this paper helps to know if;

Pakistani firms achieve better ESG performance through clear green investment reporting because it provides them with enhanced transparency and accountability.

This level of enforcement organizations must comply with environmental standards strengthens which impact greatly. Having strict rules compel corporate actors to submit more in-depth and more responsible disclosures, and act more responsible and disclosure more properly.

Given that specific attention and focus is placed on the Pakistan corporate sector, particularly the publicly listed organizations spearheading ESG equity to be more ESG compliant are the most relevant, if not the only, public organizations engaging in ESG equity conceptualization. The paper goes on to hold immense value to multitude actors.

Moreover, more attention to the impact of corporate green investment disclosure on ESG performance for the purpose of disclosure framework across emerging markets. Previous studies have already examined the other end of disclosure to performance nexus, i.e. broader disclosure types or performance metrics that are more limited in scope(Al Shaer & Hussain; 2017). which is the context in which this paper addresses the literature gap.

Both the depth and breadth of the research are outstanding. An emerging context that is multifaceted. A new integrated and adaptable framework of ESG interconnected in a single domain.

This focus on sustainability that is more precisely directed designed to back and complement provided investors and managers focus on enhancing the sustainability value of their investment and sustainable plans, such that green investments with supporting disclosures are more than mere legislative acts are planned disclosed.

Literature Review:

In today's world, companies are integrating sustainability into their operations as a sign for the importance of Environment, Social and Governance (ESG) performance as a strategic metric. The ability to understand ESG performance may assist Pakistani firms in identifying ways to optimize their actions to meet the requirements of the International Sustainability Standard while increasing their ambition. This framework includes Corporate Green Investment Disclosure (CGID) as a fundamental component. Which we defined as the firm's public reporting of their environmentally sustainable spending and transparency.(Al-Shaer & Hussain, 2017; Tauseef & Khurshid, 2023).

ESG Performance:

ESG is critical metrics which reflect the firm's dedication to social responsibility, environmental sustainability and effective governance.According to (Pham & dao, 2021) and (yu, luu and chen, 2022),these characteristics include efforts like resource use efficiency, reduction of pollution, stakeholders involvement, inclusion and ethical corporate governance.Studies focusing on Pakistani's firms reveal that higher ESG scores serves as indicator company's overall improved access to capital markets, improved risk management which increases the investors trust and reputation of firm (Tauseef & khurshid,2023). This indicates a growing understanding that long term financial stability and wealth creation are highly influenced by sustainability performance.

Relationship between dependant & independent variable:

Corporate green investment disclosure (CGID) plays an important role in improving ESG performance. Companies shows their dedication and transparency to the stakeholders by signaling (Hussain & Mia,2021;Liu & wu,2023). Pakistani firms that thoroughly reports about their investment in Green technologies, Energy efficiency and pollution control can be able to achieve higher ESG score (Tauseef & Khurshid, 2023).

These reports reduces asymmetric of information , enhancing stakeholders trust and initiating better environmental management practices within organization (Al-shaer & Hussain, 2017). Additionally, the use of Green finance instruments, such as green bonds and loans can strengthen this effect, which leads to favourable economic results such as reduced costs of capital and enhanced market valuations.

Enviromental policy stringency as moderator:

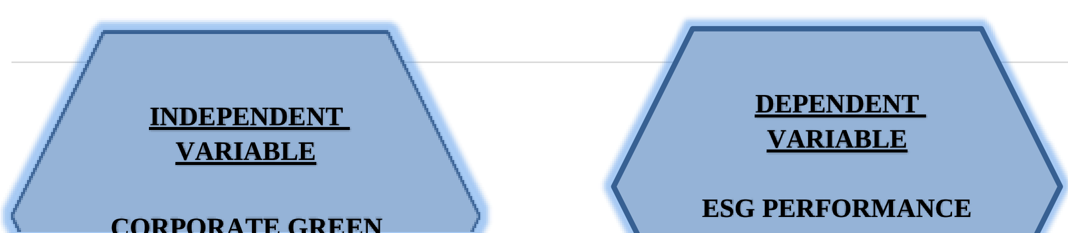
Environmental policy stringency (EPS) defined that corporate behaviour due to strict and effectively enforced environmental rules are shaped by either stimulated sustainability efforts or compelled firms to adopt green practices and enhanced their reporting standard.However, the extent to which the green investment disclosure translate into better ESG performance is influenced by scrutiny of environmental policy stringency (Ahmad et al, 2023; Salman & Wang, 2025; Pham & Dao, 2021; Shahbaz et al, 2023). Studies from Pakistan shows that stringency environmental policies can have direct & positive impact on CGID and ESG performance by creating a regulatory environment that rewards transparency and applies corrective actions for non- compliance (Salman & Wang, 2025) because regulatory organizations actively monitor and sanctions green-washing, that's why transparent green investment disclosure are less likely to be symbolic and more likely to reflect real improvements (Al-Shaer & Hussain, 2017; Ahmad et al, 2023).Research from developing countries shows that EPS can significantly moderates green behaviors contribute to sustainable economic growth, highlighting its rule as the active driver for corporate environmental responsibility.As a result, strict regulations not only force businesses to fulfilled environmental standards, but they also face great pressure to disclose green investment thoroughly and rewarding compliance companies with better ESG evaluations and better market positioning (Ahmad et al, 2023; Degirmenci et al, 2025).

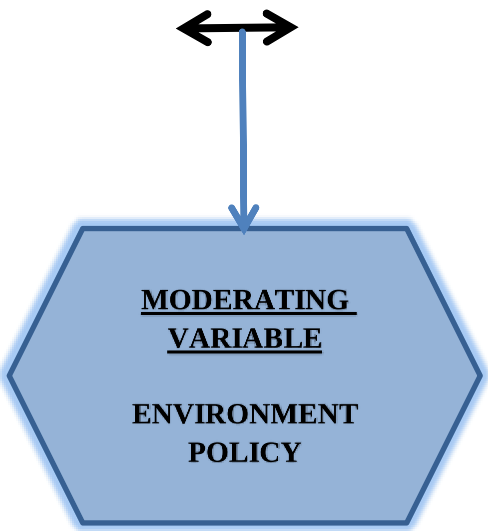
Framework Development:

In Pakistan,enhancing the environmental policy stringency t with thorough transparency in green investment can helpful for development of more resilient and responsible corporate sectors. Policymakers must concentrate on strengthening regulatory enforcement and offers incentive's for responsible corporate behaviour. The firms should prioritize credible sustainability reporting (Pham & Dao, 2021; Salman & Wang, 2025). These actions can supports the development of a business sector that goes with the ESG standards, draws ethical investors and promotes economical sustainability growth.

As Pakistan progresses toward stronger environmental governance,the interaction between regulatory framework and corporate disclosure practices will become increasingly more crucial in shaping sustainable business practices.Future research should focus on more sector-specific and firm-level strategies and policies that further promote sustainability in corporate landscape.

CONCEPTUAL MODEL:





METHODOLOGY:

This conceptual paper propose a theoretical framework through the systematic integration of existing literature that explore the relationship between Corporate Green Investment Disclosure, ESG Performance and Environmental Policy Stringency. The defined population for future empirical investigation would be identified within public listed firms in emerging markets, such as Pakistan, where sustainability disclosure and regulatory framework are evolving.Firms for sampling would include those where sustainability and financial data items are available over multiple years in order to carry out longitudinal or panel analysis.Measurement specification would follow established indices;ESG performance,consisting of third party composite score,CGID as disclosure and quality extent, and EPS, regarding as country level policy stringency indices.Sources of secondary data will include sustainability reports, regulatory publications and financial data base.This study highlights the use of stakeholders, institutional and legitimacy theories to guide conceptual integration and model development for empirical verification, while its scope for research is positioned to target emerging markets in a way that expands relatively.This will help to explain complex relationships between firm-level transparency and macro-level regulatory factors that affects the corporate sustainability in the context of Pakistan.

CONCLUSION:

This study develops a conceptual framework that links Corporate Green Investment Disclosure (CGID), to improve ESG performance, underlining the moderating role of EPS, especially in emerging markets, such as Pakistan.Engaging with stakeholders and with institution and legitimacy theories, the framework reviews theories and empirical evidence pertaining to the importance of transparency when green investment is disclosed, policy rules are at place, and improvements in performance sustainability are achieved . The design of this research shows very well the potential of pathways for empirical work via secondary research in public companies. They are analyzed through harmonized disclosure and scoring metrics and environmental policy instruments. This research shows that while the disclosure of green investment is a prerequisite to ESG performance disclosure growing, a well-developed environmental policy framework moderates this relationship. The framework's scholarship is a tool to informed the policy and corporate community of the ways to achieve ESG performance through disclosure of transparency and regulatory compliance. This promotes the development of the economy in harmony in the environment.

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The Impact of ESG Practices on Financial Distress: The Moderating Role of Government Policy

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ABSTRACT:

This study demonstrates a financially troubled company has a hard time servicing its debts and continues running a normal business. The main concept of the experiment will be to determine whether ESG score that has been used over the years to establish the goodness of a company in issues such as environment, social responsibility and governance can identify how susceptible the company is to financial distress. Relationship of government policy stringency, i.e. the degree to which government rules and regulations are stringent or strong and how this may influence this relationship is also a study subject in this research. In a certain example, financial pressure may be managed better by companies with higher ESG scores in the event that the government is highly regulated on environmental or other social policies. This study aims to develop an explanation model of the ESG performance and government policy based on a simple theory that can be used to explain the impact of both factors towards the financial health of a company. The research does not collect its data. Rather it goes beyond research to construct its concepts. This is aimed at benefiting the future research and to demonstrate to companies and the leaders of the government that the sustainable approach can ensure that businesses can withstand the issues of financial difficulties.

KEYWORDS:

ESG performance, financial distress, sustainability, government policy stringency, conceptual framework

INTRODUCTION:

Over the past decade, the corporate practices of Environmental, Social and Governance (ESG) have evolved into small-scale social responsibility into a significant aspect of company management.

Generally, the ESG performance shows how well a firm addresses environmental concerns (e.g. carbon emissions, pollution and wise use of resources), social issues (e.g. labor practices, employee treatment etc) and governance issues (e.g. leadership, fairness and ethical behavior). The recent studies on Managerial Direction have indicated that robust ESG activities may have a direct impact on the value of a firm, namely when the company is experiencing financial difficulties. To take a case in point, there is the study, financial distress, ESG practices and firm valuation. Companies that had higher ESG score appear to retain value even when they fall on a day of financial hardships. It is not magic but it is noticeable. Financial distress is extremely vital to corporate risk management. In essence, there is a financial distress whereby a company has difficulties in settling its financial obligations such as bills or daily operating expenses, which jeopardize its existence. The article by Giraldez-Puig et al ESG controversies and insolvency risk takes a deeper look into how the controversy surrounding ESG such as an environmental scandal or a governance crisis can lead to an increase in the risk of insolvency. It literally demonstrates that the financial health and ESG are tightly interrelated. The same is exhibited in another study, firm value and risk: how relevant ESG factors and ESG-related corporate misconduct are. Companies that engage in ESG malpractice that they find themselves in an even more dangerous situation, and that tends to drop their value. No surprise but it makes the point driven home. To make matters even worse, ESG does not only measure risk that can happen to the organization, but it also can be used to forecast financial distress. In the paper ESG: a window into financial health and sustainable goals it has been determined that ESG disclosure really assists in foreshadowing financial trouble, particularly when it is combined with the normal company specific data. This demonstrates the fact that ESG does not concern appearance and doing the right thing, but rather it is about staying afloat as a firm. Nevertheless, the extent of effectiveness of the practices of ESG can actually be determined by the regulatory climate. The tightness of government policy is where the tightness of government policy essentially comes into play in terms of the strictness, breadth and enforceability of regulatory rules particularly on the environment, labor, governance regulation, and sustainability reporting. There is limited direct research concerning the impact of policy stringency on the ESG financial distress relationship but studies conducted on the relationship provide some hints. As an illustration, the article, shifting the balance: how ESG changed corporate debt, demonstrates that the performance of ESG affected pre- and post-Paris Agreement corporate debt decisions. This implies that rules and policy obligations such as international climate accords can influence the way businesses apply ESG in their financial approaches. Combined, these results indicate a significant issue in research. We are aware that ESG performance could be used to mitigate risk and safeguard the value of firms in stressful situations. However, we have no idea what impact the strict policies of the government have on this relationship. Is ESG more effective in locations with more difficult regulations? Or might the policies become more costly and complex with ESG investments? This paper is an attempt to close this gap by developing a conceptual framework. It examines two issues: one is the potential to use ESG performance to alleviate financial distress, and the other is the role of stringency of government policy in mediating this connection. The study does not involve the gathering of new data but rather amalgamates the existing studies particularly those found in the e Emerald Insight to generate ideas that can be verified in the upcoming research. Getting this research is not only theoretical, but it has real world implications as well. To firms, it demonstrates that ESG must not be a box to be filled in risk management but rather a component of risk management. To policymakers, it points out the fact that the designing of ESG regulations does matter, since the strictness or laxity of ESG regulations can either enhance or diminish the capacity of ESG to stabilize the value of a company. The convergence of these ideas in this paper prepares the future research and provides practical insights to business leaders and regulators that attempt to control financial risk in an ever-changing world.

LITERATURE REVIEW:

- **ESG Score:**

ESG performance demonstrates the extent to which a company has dealt with non-financial risks and introduced sustainability in its daily operations. Numerous researches underscore the fact that ESG can even increase the strength and resilience of companies. In the article how ESG performance affects corporate financial performance by Shan (2024) notes that companies with superior ESG tendencies have better financial capabilities such as increased operational efficiency, more consistent investor confidence, and reduced risk management. This demonstrates that ESG is not merely a show but also positively influences financial performance through the reduction of risks associated with environmental, social, and governance risks.

This is supported by other studies in Emerald that indicated that ESG can cushion companies whenever things become unpredictable or in times of economic shocks. In the article financial distress, ESG practices and firm valuation (2024), scholars discovered that those companies that had a higher ESG score maintain a stronger valuation, despite being in financial distress. ESG has served as a buffer whereby it assists firms to retain investor confidence as well as minimizing on value losses in adverse periods.

Another observation of the study is that good governance leads to a decrease in information gaps and agency conflicts, and high environmental and social practices reinforce the relationships between stakeholders contributing to financial resilience. Equally, the article ESG performance and financial distress during COVID-19, in the Asia-Pacific Journal of Business Administration concluded that ESG oriented companies coped with the financial disturbances of the pandemic significantly better. The liquidity strain had reduced, and they experienced more stable reactions in the market, and were better suited to the abrupt operational issues. These results help to strengthen the notion that ESG is not merely a matter of ethics it is a practical instrument to use in risk management when the economy becomes unstable.

- **FINANCIAL DISTRESS:**

Financial distress occurs when the financial wellbeing of a business begins to deteriorate drop in profits, cash is constrained, and debts increase. According to recent studies, a clear disclosure of ESG can be used to predict and even avoid financial distress. As an example, the Emerald research,ESG: a window into financial health and sustainable goals, concludes that ESG disclosures can be more effective in predicting financial distress using only standard financial information. The disclosures provide the stakeholders with a more accurate notion of how the company functions and an indication of responsible risk management, which leads to less uncertainty and higher financial credibility.

In the article, Do environmental disclosures act as a safety belt? by Arora (2004), it is also stated that mitigation of financial distress is reduced by being open on environmental practices. Firms that report good environmental news are perceived to be responsible and progressive. This simplifies their ability to finance and reduces the distress cost. In general, these results imply that the ESG disclosure is a cheap but effective method to minimize financial risks and enhance trust among investors and regulators.

- **GOVERNMENT POLICY STRINGENCY:**

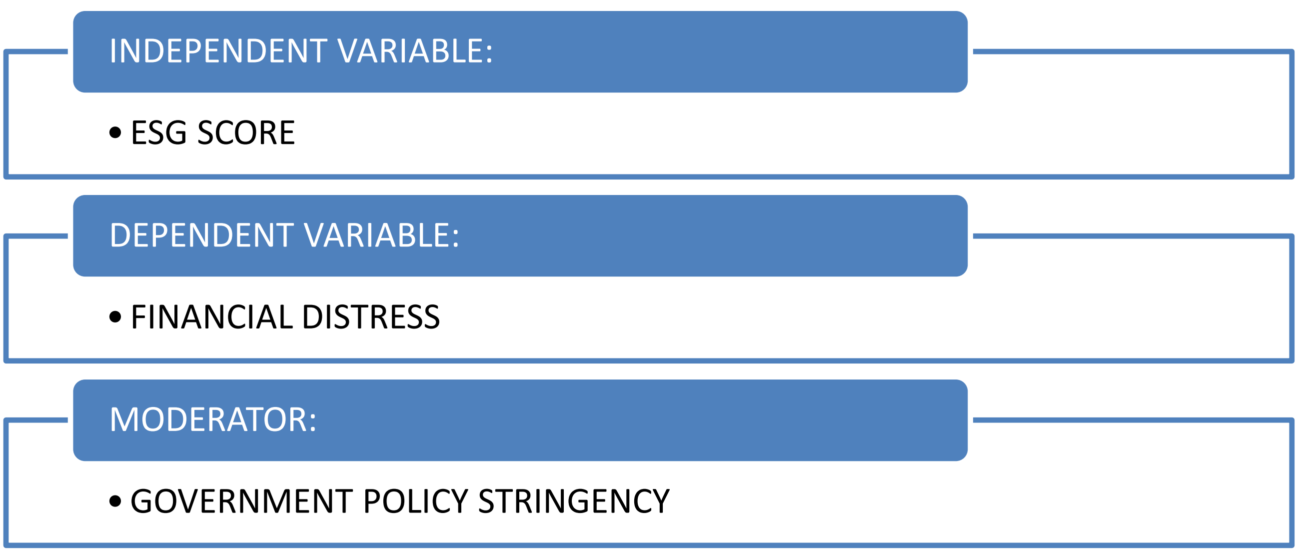
Government policy stringency is simply the extent of the stringency of rules such as environmental regulations, reporting, or even social responsibility. Although the direct studies by Emerald focusing on policy stringency as correlation between ESG and financial distress are deficient, the research on the topic provides useful information. Indicatively, Pain (2024) in Shifting the balance: how ESG

 ISSN: 2709-8923

changed corporate debt before and after the Pairs Agreement, demonstrates that major regulatory engagements such as the Pairs Agreement made real difference in the way firms carried out debt management. Prior to the accord, ESG did not have a significant impact on the financing decisions. However, since the change of rules, companies began to take ESG into more serious consideration during debt planning.

This implies that through government policies, it is possible to increase the significance and efficacy of the ESG because it makes companies consider long-term sustainability risks. This is also supported by other studies on environmental disclosure in regulated environments. ESG initiatives when firms are asked to disclose environmental practices are more credible, quantifiable, and comparable. It makes them more investor friendly and stabilize financial performance.

CONCEPTUAL MODEL:



METHODOLOGY:

The qualitative and primarily conceptual research design is the approach that will be used in this study since it is not necessary to test the numbers immediately but to learn the macro picture of how ESG practices might decrease financial distress and how the stringency of government policy may alter the relationship. The work is conceptual and does not gather any new information; on the contrary, it relies on the secondary sources entirely. Such items as policy documents, regulatory policies, corporate sustainability reports, and reports by international organizations.

All these assists in developing the outline. The explanations are based on popular theories stakeholder theory, the legitimacy theory, resource-based view, and institutional theory to demonstrate why ESG could assist companies to avoid or dilute financial difficulties. And of course, the study is conceptual, but still clearly reveals what can be actually tested by the future researchers. As an illustration, a subsequent quantitative investigation may focus on Pakistani publicly listed companies. Researchers might extract ESG and financial information on PSX reports, Bloomberg or Refinitiv ESG databases, or even SECP governance fillings, probably, those working in environmentally sensitive industries. The purposive sampling method will be appropriate in this case, perhaps stratified by industry or company size to ensure that the data is not everywhere.

Majority of the data would be obtained via secondary source anyway annual reports, sustainability databases, structured datasets. Ultimately, the entire methodology is that of establishing a sound conceptual framework. One of them elaborates how the ESG practices could assist in alleviating financial distress and that the government policies should be more rigorous to strengthen such a relationship. It simply prepares the future research work to grind the ideas with actual figures in the future.

CONCLUSION:

This research draws together a synthesized, panoramic view of how ESG practices can be used as a tool of strategic, financial distress reduction and how the stringency of government policy can either form or reinforce such a relationship. Environmental, social, and governance issues have increasingly become relevant to companies in the modern chaotic and uncertain global world. They are not only sustainability report related; they are directly linked with financial long-term resilience. Having studied a lot of literature and theoretical concepts, the research proposes that high ESG performance enhances corporate image, reduces business risks, develops stakeholder confidence, and facilitates improved governance.

All this combined reduces the likelihood of a company going into a state of financial turmoil and naturally the government policy is a significant external influence. Tighter regulations can move or even coerce companies to be more responsible in their practices that eventually can assist them in securing their financial position. The study contributes to the area of sustainability and corporate finance studies by creating this conceptual framework. It has theoretical information that scholars, policymakers, and business executives can consider when reflecting on the relationship between ESG responsibilities and financial wellbeing. One of them is evident that responsible business behavior is no longer a moral thing.

It's a strategic need. And although this paper is theoretical, it provides a firm base in the further empirical research. Future research may focus on particular sectors, cross-country comparisons, or attempt to establish causal relationships over time between ESG investments, regulatory frameworks, and financial risk. Ultimately, the research supports the notion that incorporating ESG and being in line with robust regulatory frameworks can enable firms to develop resilience, remain solvent, and achieve sustainable competitive advantages in the long run.

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Financial distress, ESG practices and firm valuation — directly examines interplay between financial distress and ESG on firm value.

How ESG performance impacts corporate financial performance (full PDF) — extended version / full text useful for methods and measures.

ESG: a window into financial health and sustainable goals — focuses on ESG's role in predicting financial distress and health.

Climate-related financial policies and bank risks — examines government/climate policy effects on financial risk (useful for government policy moderator).

Listing on environmental, social and governance (ESG) index and … — studies how ESG indexing relates to reduced financial distress.

The impact of green credit on ESG performance of Chinese … — shows how government policy/credit shapes ESG and stakeholder evaluation.

ESG scores and cost of capital: evidence from the UK — shows how ESG affects financing costs, relevant to distress likelihood.

THE GOVERNANCE INTEGRATED VALUE CREATION MODEL: CSR AND FINANCIAL LEVERAGE IN PAKISTAN'S EMERGING MARKET

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Abstract

This paper suggests a conceptual research on the determinants of the firm value through the use of corporate social responsibility (CSR) and financial leverage as the independent variables and corporate governance as the moderating variable. The dependent variable is the firm value which represents the perception and the financial health of the organizations in the market. The research addresses an increasing alarm in the emerging economy about the inconsistent governance practices and incomplete knowledge of how CSR projects and decisions on capital structure combined have simultaneous effects on corporate valuation. The conceptual and explanatory research design is used to establish subsequent theoretical framework of the study that explains how corporate governance mediates the relationships among CSR, financial leverage, and firm value. This study defines a major gap in conceptual frameworks that can be used to describe these interactions in developing market situations by synthesizing modern literature and theoretical views. The prospective framework will provide a contribution in terms of the theoretical level since it will explain governance-based processes, which result in the implementation of sustainable practices and financial policies that impact the performance and valuation of firms. The research not only forms a basis of further empirical validation, but also gives strategic value to the managers and policy makers who need to improve the value of firms by using balanced leverage decisions and responsible corporate action that is buttressed by sound governance systems.

Keywords: CSR, Corporate Governance, Financial Leverage, Firm Performance

INTRODUCTION

The firm value has become one of the most important measures of organizational success in the modern corporate finance studies. The trend in the global markets with high level of technological change, economic uncertainty and more demanding stakeholders is putting firms at high pressure to maintain and develop their value as time goes by. Firm value is a value that indicates the overall evaluation of the current performance of a firm by the market and its prospects of growth in future, and thus firm value plays a key role in investment decisions, capital allocation and strategic planning. Recent researches indicate a significant level of volatility in the valuation of firms in various sectors, indicating that the conventional determinants, including profitability, size, or sales growth, cannot be used to explain changes in the value of firms anymore (Hong, X., 2025). This has caused researchers to consider other variables that can affect issues of market perceptions and predict the performance of firms over the long term.

The trend of a more holistic perspective on firm value has been driven by an increasing recognition of investors and stakeholders towards the issue of social responsibility, ethical behavior, risk management, and quality of governance. Cases of corporate malpractices, accounting fraud, and sustainability have increased the fear of the long-term viability and reliability of firms. Such aspects undermine investor confidence, heighten information asymmetry, and within the end, pressure the values of the firm (Akbar et al., 2022). The issue is even more significant in the emerging markets with possibly a weak system of governance and insufficiently strict regulatory enforcement. Companies that work in such settings normally find it very difficult to ensure steady valuations due to increased risk levels, uneven disclosures and less transparency.

Hence, knowing the motivators of firm value in this complicated and changing environment has turned into a significant theoretical and practical issue.

Corporate Social Responsibility (CSR) is one of the most popular determinants of firm value (Ali, A. 2025) discussed in the recent literature. As the world expects sustainable and ethical business practices, CSR has assumed a position as a strategic instrument in companies that want to improve corporate legitimacy and trust among stakeholders. It is thought that firms that have good CSR practices are an indication of their sustainability in the long term, ethical behaviors, and social welfare. This generates a favorable image on the side of the investors, less risk, and increased access to capital, increasing value in firms (Nguyen and Pham, 2024). The involvement of CSR has been also linked to the enhancement of the brand name, reduction of cost of equity, operational disruptions, and customer loyalty. The combination of these mechanisms can only imply that CSR has a positive effect on the firm value.

With these arguments, the empirical evidence is not clear. Some of the studies indicate positive CSR firm value relationship, whereas others have indicated neutral or even negative relationship as a result of costs involved in implementation of CSR. According to Chettri et al. (2025), CSR initiatives can be excessive in resources and decrease the short term profitability, thus generating the uncertainty whether CSR investments are beneficial or not. Furthermore, CSR is not always substantively applied, but its use is symbolic; consequently, greenwashing takes place, thus making it even more difficult to understand the actual effect of CSR on firm value. The above contradictory results point to the high level of gap in the current literature and may imply that the connection between CSR and firm value (Choi, A.,2025) could be preconditioned by some other internal or external factors that should be investigated further.

Financial leverage is another important factor that determines firm value especially under the capital structure theory. Leverage has the potential to bring tax advantages, increase the payoff to equity, as well as to exercise financial discipline on managers, all of which can add positive value to firm value. Nevertheless, in its excess, leverage may raise the risk of financial distress, interest risk, and the risk of bankruptcy, both of which harm firm valuation (Bibi ,M.,2024). Recent developments like the COVID-19 pandemic and international economic imbalances have heightened the argument over the level of leverage that firms with high leverage have been found much more susceptible to external shocks. Odhiambo, J. D.,(2025) point out that leverage changes the firm value to a greater degree in the context of economic uncertainty and imply that market conditions should be considered in the estimation of the leverage value relationship. These intricacies show that the leverage impact on firm value is not linear but can change with industry, time and institutional structures.

The leverage research is also inconclusive. Other studies report a negative correlation, which implies that shareholders and investors tend to punish highly debted firms due to the higher risk. Some claim that moderate leverage would increase the value of the firm by indicating the belief in future earnings (Shao and Wang, 2025). Having such diverse conclusions, the literature is not unanimous, and more studies are needed to quell the circumstances when leverage boosts or slows down the value of the firms. This gap posed an essential inspiration to consider leverage in the background of emerging markets whereby the companies tend to depend on debts largely because they cannot access the equity markets.

Corporate Governance (CG) comes in the theoretical model as a facilitating variable that determines the relationship between CSR and leverage with firm value. Governing systems make sure that there is accountability, transparency, as well as efficient monitoring of managerial decisions. Good governance systems have the ability to strengthen the benefits of CSR by making sure that the undertaken CSR initiatives are not fake but are in line with long-term strategic objectives and that people get to know about them. According to Zhu, w, (2025), the quality of governance is critical in transforming the CSR activities into quantifiable changes in value of firms. In the same way, governance can diminish the managerial opportunism that exists when the company uses debt capital by setting up a system that oversees the company to avoid taking unnecessary risk or misappropriating the borrowed funds (Tran, et al., 2025). Consequently, companies that possess good governance mechanisms might be in a better position to handle leverage in a strategic manner that will reduce the negative impacts on the value of the firms.

Although there is an increased interest and awareness of CG as a moderating factor, there is limited empirical research in this field. Most of the studies that have been done specify only direct relationships and ignore the potential possibility that the governance can influence the scale or the direction of the CSR firm value and leverage firm value relationship. Moreover, the majority of the research studies on the CG moderation have focused on the developed economies, and there is still a gap in knowledge on how governance works in the emerging markets, in which institutional setting is quite different. This is a significant gap of the research and it is possible that the governance practices and their effectiveness diffuse significantly across the cultural, legal, and economic landscapes.

There is also a gap in methodology in the available literature. The existing literature focuses on CSR, leverage and governance either separately or in half-baked combinations, without attempting to combine these three variables into a unified model of firm value. These determinants are increasingly important as the business environments around the world become more complex and it is now more important to study them jointly in order to comprehend how firms can maintain their value amidst uncertain markets. In addition, the measurement methods are not consistent, especially on CSR and governance, which also restricts the comparability and generalizability of the available results. These loopholes give us a good ground to have a combined study on the joint effects of CSR and leverage on firm value, as well as to empirically test the moderating effects of corporate governance.

The current research has a number of contributions to make. To begin with, it enhances theoretical knowledge because it incorporates the stakeholder theory, the signaling theory, and the capital structure theory into a unified theory. This integration is in response to the piecemeal nature of the current research and offers a more analytical picture of the combination of internal choice and external perception to affect firm value. Second, the study enhances the comprehension of the impact of organizational structures on effectiveness of CSR and leverage decisions by concentrating on the moderating position of governance. Third, the focus on an emerging market situation facilitates the development of global research by observing the variables in the environment that are typified by institutional weaknesses, unstable regulatory frameworks, and distinctive governance issues. Lastly, the research has practical implications on managers, investors and policymakers who are trying to find ways of improving firm value and adjust to dynamic expectations of sustainability, transparency and financial prudence.

Due to the growing role of firm value in contemporary corporate strategy and the rising role of CSR, leverage, and governance, there is an urgent necessity of an in depth empirical study of these associations. This paper fills significant gaps in the theoretical and empirical literature by examining the role of CSR and leverage in determining firm value and how corporate governance could enhance or diminish these relationships. In this manner, the research offers innovative information, which can significantly add value to the body of knowledge and the business.

Literature Review:

Dependent Variable: Firm Value

Firm value is the overall worth of a business and it shows the value that a business is presently worth and its potential of growing in future. In the past, shareholder wealth maximization was the prevailing goal of companies, as it was based on the classical shareholder value perspective (Jensen, 2021). Throughout the years, the notion of firm value has expanded to the interests of stakeholders, corporate social responsibility (CSR), environmental sustainability, and the quality of the governance (Lee and Park, 2022; Wang et al., 2023). In the contemporary business setting worldwide, where regulatory pressures have escalated, stakeholder pressure and corporate transparency, the value of a firm is no longer considered exclusively in monetary terms but must be addressed considering sustainability and governance (Chen et al., 2021).

Value of firms is of paramount importance to managers, investors and policymakers who can determine the allocation of capital, financing, strategic alliances, and positioning, among others (Zhang and Li, 2022; Kim et al., 2023). An increase in the value of the firm creates an indication of increased confidence of the firm in the market that it will grow and be able to manage risks and get returns. Therefore, the research on corporate finance and strategic management revolves around understanding its determinants.

Tobins Q (Tobin, 1969) is the most widespread measure of firm value in empirical research (Nguyen et al., 2021). This is calculated as:

Tobins Q = {Market Capitalization + Total Assets – Equity} / Total Assets

In which market capitalization becomes the market price per share x the number of outstanding shares, total assets are current and fixed assets, and equity is shareholder equity (Nguyen et al., 2021). Tobin Q reflects the market value of a company compared to the replacement value of the company assets and the value represents the perceptions of investors regarding the growth opportunities and risk of a firm (Liu et al., 2022).

Independent Variable 1: Corporate Social Responsibility (CSR)

Definition and Measurement

Corporate Social Responsibility (CSR) is the voluntary way of integrating social, environmental and ethical issues in business and stakeholders' relationships by a firm (Carroll, 1999, as updated). To be more precise, CSR is a set of strategies that are implemented by companies in response to the societal issues regarding their business operations, the impact on the environment, the development of the community, and the wellbeing and responsibility of the workers (Gul, 2022). CSR is quantified in empirical studies in different forms: disclosure indices (e.g., the content of CSR reports), binary strengths vs concerns scores (e.g., KLD Stats), or consolidated ESG ratings (Nguyen, 2025). In the example, CSR performance tends to be operationalised in different dimensions, including environment, employee relations, community, diversity and product responsibility (Jo & Harjoto, 2020).

With the context of the current study, CSR is the performance and reporting of socially responsible actions of the firm based on the stakeholder-dimensions (product/environment/employee/diversity/community). The variable to be measured will be a composite index calculated as total CSR strengths-total CSR concerns as is consistent with the existing literature.

Theoretical Rationale & Relationship to Firm Value

The CSR relationship with the firm value can be justified in a number of theoretical perspectives. In the stakeholder theory, companies that succeed in dealing well with their employees, communities, customers and suppliers generate value in relation to minimizing stakeholder risk, decreasing monitoring and agency expenses and increasing reputation (Freeman, 1984). CSP postulates that participation in CSR conveys affirmative news to the market place - signalling that the company is prospective, ethical and concerned about the environment - which in turn may positively respond to investor expectation and, as such, lead to a rise in market value (Spence, 1973; Jo and Harjoto, 2020). Also, reputation insurance theory holds that CSR assists companies to accumulate a reservoir of goodwill to cushion them against adverse occurrences (Godfrey, 2005).

Since 2021, the empirical studies provide an increased amount of evidence on the positive relationship between CSR and firm value. To illustrate, the authors note that companies with better CSR engagement record high Tobin values (Q) (Chen et al., 2024). According to Nguyen (2025) disclosure of CSR has a positive impact on the value of firms in global samples. Farooq (25) also determines that CSR has a significant contribution to firm value when risks and governance are considered. Nevertheless, the outcomes do not always turn out to be optimistic: there is a set of studies stating a non-linear or even negative correlation, such as excessive investment in CSR can be perceived as the cost burden (Xu et al., 2022) or can create the effect of greenwashing (Rosyid et al., 2022). Indonese Dewi et al. (2021) reported that CSR disclosure had a positive impact on firm value, but only in the low leverage case (i.e., leverage weakened the CSR firm-value relationship) was found.

H1: CSR has a positive association with firm value.

Independent Variable 2: Financial Leverage

Definition and Measurement

The financial leverage refers to the extent of using the debt financing rather than equity to finance its assets and operations. It quantifies the level of fixed cost obligations (interest and principal) incurred by the company, which increases the potential returns and risk (Ross et al., 2019). The most frequently used empirical proxies are: debt-to-equity ratio (Total Debt ÷ Total Equity), debt-to-assets ratio (Total Debt ÷ Total Assets) or long-term debt to equity/assets. Such ratios are indicative of the extent to which the firm relies on external creditors as compared to the shareholders in terms of financing (Yasmin and Hassan, 2021).

The Debt-to-Equity ratio is used to calculate financial leverage in this research.

Theoretical Rationale & Relationship to Firm Value

Significant capital structure theories present the connection between financial leverage and firm value:

- Modigliani and Miller (1963) theory, debt is a tax shield, it adds to the firm value.
- Trade-off theory: business organizations trade tax shield advantages of debt against financial distress, bankruptcy risks, agency costs and asymmetric information (Kraus and Litzenberger, 1973).
- Pecking order theory: companies use the internal resources, followed by debt, and only issue equity as a final resort.
- Agency cost theory Excessive debt can result in risk-shifting, underinvestment, managerial entrenchment or creditor takeover, which will negatively affect value.

It has been empirically indicated in rising markets that there is an inverse relationship between risk, market inefficiency as well as agency problems when they are high. According to Putri et al. (2025), financial leverage does not have a direct influence on indonese food and beverage firms.

H2: Financial leverage has a negative association with firm value.

Moderating Variable: Corporate Governance (CG)

Definition and Measurement

Corporate Governance (CG) is the system, procedures and practices, through which a company is managed and governed, to ensure accountability, transparency and safeguarding of the stakeholder interests (Mallin, 2022). The most important ones are board structure (independence, size, diversity), audit and compensation, ownership concentration, shareholder rights, and disclosure practices (Iqbal et al., 2021). CG quality is calculated through composite indices that sum up 20-30 governance provisions.

Moderating Role & Theoretical Rationale

Corporate governance holds the correlation between the independent variables (CSR, financial leverage) and firm value:

- CSR → Firm Value: CSR initiatives are genuine, strategically aligned, and transparently disclosed by well governed firms (Rashid et al., 2022).
- Leverage → Firm Value: The negative effects of high leverage via monitoring, risk management, disclosure and stakeholder protection mitigate by the good governance. (Yen et al., 2024).

H3a: the relationship between CSR and firm value positively moderate by corporate governance.
H3b: the relationship between financial leverage and firm value negatively moderate by corporate governance.

Integrative Argument and Summary

- H1: CSR has a positive association with firm value.
- H2: Financial leverage has a negative association with firm value.
- H3a & H3b: Both relationships, enhancing positive effects of CSR and mitigating negative effects of leverage moderate by corporate governance.

This framework provides a theoretically grounded, empirically supported basis for examining the interplay of CSR, financial leverage, governance, and firm value in emerging markets.

Proposed Research Methodology

In the current study, the conceptual and explanatory research methodology will be applied with the assistance of theoretical arguments and organized academic synthesis. The research design shall be theoretical and conceptual in nature, to come up with a combined framework in explaining the relationship between corporate governance, CSR, leverage and the value of the firm. It will be an analytical and exploratory form of study, that is, theory will be developed, and no empirical testing will be done.

The target population that will be proposed will be publicly listed non-financial firms that have operations in emerging markets. The sampling frame will hypothetically comprise of the firms that are listed in major stock markets like PSX and other similar emerging market exchanges. The proposed sample size will include 150 to 200 firms, which will be adequate in terms of representational validity. The sampling method will be stratified purposive sampling, which will have sectoral balance.

Structured questionnaires, archival financial reports, and ESG disclosures are some of the proposed methods that will hypothetically be used to collect data. The analysis will be based on the integration of secondary data to develop concepts and hypothetical illustrations of the primary data to verify the model. Thematic synthesis, comparative theoretical interpretation and structural relationship mapping will serve as conceptual tools of data analysis. The proposed deliverable will be the creation of an all-embracing conceptual framework of demonstrating the pathways of value creation through governance.

Conclusion

This paper has analytically discussed the conceptual foundation of firm value as the main dependent variable in the wider framework of the corporate governance practices, corporate social responsibility practices and financial leverage practices. The synthesis of recent literature by the research has not only given prominence to the interaction of these variables in determining the valuation of organizations, but it has also revealed a significant gap in integrative frameworks that comprehensively explain this correlation in new market settings. This conceptual and analytical based methodology also supports the aim of the study in developing theory and not testing the existing models empirically. By creating a coherent conceptual framework, this study will have a contribution to the theoretical level by providing a single perspective where quality of governance, CSR activities, and capital structure relationships may be perceived as strategic determinants of sustainable firm value. The paper also highlights the scholarly and real-world importance of researching these interdependencies, especially in a setting where regulatory frameworks and stakeholder demands are transforming at a very high rate. In the end, this study offers a basis on which future empirical studies can be supported and it also challenges the researchers and policymakers to be more integrated and governance oriented to increase the firm value and long-term corporate sustainability.

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The Impact of Green Accounting Practices on Firm Performance: Mediating Role of Green Innovation– A Firm-Level Data Study

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ABSTRACT:

The objective of this study that how green accounting practices effect firm performance with the mediating role of green innovation capability. Firm performance shows a company's ability to achieve its financial growth and maintaining operation sustainability, which has become a major concern due to rising environmental challenges. The main problem discuss in this research is that many firms still lack proper adoption of green accounting system that leads to weak environmental accountability and also that can reduce competition. The main aim of this study is to understand that by using green accounting practices can improve performance of firm and how green innovation capability help the firms by encouraging eco friendly plans and ideas to achieve better performance. This study follows a conceptual framework based on existing theories and a past study to explain the relationships between the variables. The link of these three variables provides a foundation for future empirical research.

KEYWORDS:

Green accounting, firm performance, green innovation, accounting quality, sustainability, conceptual framework

INTRODUCTION:

Today, companies facing more pressure than past because of environmental issues, new global rules, and rising ratio of expectations from customers, investors, and society. Businesses are now expected not only to make high profit but also to take seriously responsible on the reducing effect on the environment. Because of this reason, green accounting has become an important tool for improving environmental challenges and helping firms to make even more better and more reliable decisions.

According to Khan and Gupta (2024) explain that green accounting means that addition of environmental costs, resource use, and environmental effects into normal accounting systems. This helps companies show the real environmental impact on of their activities in their financial reports. When environmental information is added into financial analysis, managers get more concern and responsible of their doing activities. This leads to get better planning and stronger long-term competitiveness. This means that green accounting has a positive impact on firms by improving sustainability performance and increasing accountability by the study of Khan and Gupta (2024).

Firm performance today is no longer only about the increase in profits, sales or return on assets. It also includes environmental and operational factors that show that how a company can handle environmental risks and meet sustainability expectations more efficiently. Kalyar et al. (2020) note that firm performance in a sustainability context includes both financial results and environmental outcomes, such as how much the company reduces environmental damage.

The advantages of sustainability reporting and green accounting are becoming more famous. Many firms especially in developing countries still do not fully adopt these practices. The slow adoption is often due to weak regulations, limited awareness, lack of training. The difficulty faced by developing countries is of adding environmental data into traditional accounting systems. Due to this reason many firms fail to see the hidden environmental costs, which result into poor decision-making, weak accountability, and lower competition in the market. This discussion results into an important research question: Does green accounting actually improve firm performance and if yes, then explain the internal factors of this improvement?

One internal factor that may strengthen this relationship is green innovation capability. Firstly, green innovation includes developing eco-friendly products, using cleaner technologies, and improving processes to reduce environmental harm. Maldonado-Guzmán et al. (2023) describe green innovation as efforts that reduce environmental impact while improving operations and financial performance. Their results show that green innovation helps firms by improving sustainability practices and using resources more efficiently.

Another step is green innovation **capability**. It refers to a company’s ability to use knowledge, skills, and innovation to support sustainability in their favour. Kumar and Singh (2025) explain that green innovation capability is a part of firm’s green intellectual capital by playing a mediating role between green accounting and firm performance. Their study shows that firms with stronger green knowledge, unique ideas and the innovative resources have resulted into sustainability efforts into competitive and financial profit.

Based on these ideas studying green accounting without including green innovation capability would be an important part of the story. Green accounting provides the environmental information firms need to identify problems and areas for improvement. Green innovation capability helps turn that information into sustainable products, improved processes, and better performance. In this way, green innovation capability strengthens the link between green accounting and firm performance.

The purpose of this study is to explore how green accounting practices affect firm performance and to examine how green innovation capability mediates this relationship. By using established theories and past research, this study adds to sustainability accounting literature and offers useful insights for business owners, managers, directors, policymakers, and other stakeholders working to promote sustainable corporate growth.

LITERATURE REVIEW:

1. GREEN ACCOUNTING PRACTICES:

Green accounting is now a significant trend because companies are now under pressure to be more environmental and sustainable. According to the Khan and Gupta (2025), green accounting implies that through incorporating more environmental costs, responsibilities, and resources use into the common accounting system. This would enable companies to make more decisions and keep themselves responsible towards their environmental activities. Their research indicates also that the financial reports published under green accounting are more valid since they have the effect that the actual environmental impact of business operations, which enables firms to manage risks better than under green accounting. Sustainability is also promoted using green accounting. The meta-analysis by Khan and Gupta (2024) revealed that there is a strong positive relationship between green accounting and various indices of sustainability performance. Their study indicates that green accounting is capable of establishing confidence among their customers through assisting firms to generate mor cashflow and enhancing efficiency. Nevertheless, green accounting is not being used properly by many companies particularly in the developing countries. These are primarily due to ignorance, ineffective regulation, and adaptability of new systems. Due to these difficulties, several companies do not assess their environmental impact in the right way, which in turn causes ineffective resource exploitation and low competitiveness. These concerns render the research of the effects of green accounting on the performance of firms and the internal variables can reinforce the correlation.

2. FIRM PERFORMANCE:

In recent studies, firm performance can no longer be measured by financial performance alone. It has reached to financial prosperity, operational effectiveness, and environmentally consciousness. According to Kalyar et al. (2020), firm performance is a mix of environmental outcomes and profit results. Their research indicated that environmentally responsible companies achieve success in their performance, both financial and operational, which confirms that sustainability may bring numerous competitive advantages. Similarly, the stakeholder theory, which states that those firms that must comply with the demands of the shareholders, customers, regulators, and communities in order to succeed in the long term. Green accounting will assist in this idea since it assists firms to demonstrate that they are responsible to the environment. This can usually result into improved image, increased customer loyalty and easy running of operations. Research also indicates that companies that have an increased level of environmental disclosure have better financial performances due to reduction of wastes, proper utilization of resources and have a greater investor support.

3. GREEN INNOVATION CAPABILITY:

Green innovation was concerned with the use of products, processes or technologies that minimize environmental damage. According to Maldonado-Guzmán et al. (2023), it is defined as innovation that is beneficial to the environment and the firm. They find that green innovation enhances the performance of firms by helping them to make their operations more efficient, reduce risks, and enhance sustainability. The capability of green innovation is based on whether or not a firm can support and continually generate these green innovations. It is relying on the knowledge of the environment, technical skills and administrative assistance. On the connection between the sustainability practices and the performance of the firm, Kumar and Singh (2025) claim that green innovation ability of the green intellectual capital of a firm acts to mediate between the sustainability practices and performance of the firm. In their investigation, they imply that sustainable practices can be transformed into tangible financial and competitive advantages by companies that have high green innovation capability. Research also indicates that organizations that have good environmental knowledge and technology are in a better position to manage environmental challenges, embrace cleaner procedures and come up with green products. This implies that green innovation capability is not merely an operational endeavour, it is a strategic strength that assists businesses in transforming environmental information into valuable innovation.

4. LINKING GREEN ACCOUNTING PRACTICES, GREEN INNOVATION CAPABILITY AND FIRM PERFORMANCE:

According to the previous studies, green accounting, as well as green innovation, is beneficial to the firm performance separately. Yet a glance at them both gives a better understanding. Green accounting provides businesses with valuable information on the environment such as waste rates, carbon dioxide emissions, and ecological costs that can be used to indicate where improvements are required. With good ability to innovate green, the company can also utilize this knowledge to develop cleaner technologies, environmentally friendly products, and cleaner processes. Through this, green innovation capability mediates between green accounting and firm performance. It assists in transforming the environmental data in to relevant innovation and enhancements. Dynamic capability theory supports this notion, saying that companies have to ensure that resources and skills are changed according to the shifting conditions. In this case, the information is offered by green accounting and the capability that transforms the information into strategic action and improved performance is green innovation capability. Although this theoretical evidence has strong support, there is little empirical evidence, and particularly, of the emerging markets, on the role of green innovation capability mediating the relationship between green accounting and firm performance. This gap demonstrates why the given study is significant and timely.

CONCEPTUAL MODEL:

IV INDEPENDENT VARIABLE

- GREEN ACCOUNTING PRACTICES

M MEDIATOR

- GREEN INNOVATION CAPABILITY

DV DEPENDENT VARIABLE

- FIRM PERFORMANCE

METHODOLOGY:

The type of research in this study uses a qualitative and conceptual research method. The paper constructs a conceptual framework on the bases of theories and already existing academic studies. The purpose of this method is to be explaining a relationship that how Green Accounting Practices, Green Innovation Capability and Firm Performance are interconnected. And also, how green innovation capability acts as a linking factor between them. This approach depends on theory, reviewing past literature review and comparing of various models to create new ideas or concepts in future studies.

Since this is a conceptual study, it is done uses only secondary data. The objective is to develop a model that shows that benefits of green accounting practices to enhances firm performance. In a directly way by increasing transparency and efficiency and indirectly through the enhancement of the capacity of a firm to innovate in an environmentally by friendly manner.

For considered it for future empirical work, this study targeting focusing on industries in Pakistan that have high environmental impact or highly populated, such as manufacturing, energy, chemicals, textiles, and cement. The researchers were able to gather information from companies listed on the Pakistan Stock Exchange (PSX). A sample size of around 250–400 firms would be appropriate to conduct future quantitative testing of the model.

This literature is reviewed to identify common ideas, relationships, links and explanations on green accounting. And the way it increases environmental awareness, how green innovation capability helps firms to use environmental information effectively, and how both contribute to better firm performance. This method allows the study to develop clear propositions and a logical conceptual model.

CONCLUSION:

This study shows that green accounting practices can help improve transparency, compliance and most importantly environmental responsibility. However, these practices may not lead to stronger performance at their own. Unless a firm also can innovate in more environmentally friendly ways. Green innovation capability is the variable that turns environmental information into new ideas, technologies and sustainable business processes. The conceptual framework in this study highlights a step-by-step process that states that green accounting improves environmental knowledge, this knowledge not only strengthens innovation capability. They also improve financial, operational and environmental performance of a firm.

This research also points out gaps in past studies. Earlier work on these factors separately instead of putting them together. This study fills that gap by creating a combined model that adds to academic understanding and gives a strong base for future research.

Since this study is conceptual, it would urge other researchers to come up with a test of this model through real data of various industries and countries. Quantitative or mixed method can be applied in future studies in order to quantify the strength of each relationship in the model. This kind of research will assist in perfecting the framework and also provide viable evidence of how the concept of green accounting and innovation can collaborate to enhance the performance of firms. In short, the study contributes to sustainability and business performance discussion by introducing a clear theory-related model which links the green accounting practices, the ability to innovate green, and the firm performance. It urges companies to integrate both the environmental knowledge and innovation capabilities to ensure success and competitive edges in the long-term. The model that is developed in this case can be effectively used by the researchers and organizations that seek to implement sustainable business practices and enhance their future performance.

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How Environmentally responsible financial and Innovation practices contribute to a firm's Sustainable performance

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Abstract

Sustainable performance reflects the organizations ability to achieve long-term growth by balancing economic profitability along with environmental and social responsibility. It is focused on the integration of sustainability perspectives into business strategies, which guarantees operational efficiency, stakeholder value creation and resource conservation. This paper will suggest a secondary-data-based model to investigate the role of green finance and green innovation in achieving sustainable performance of the oil and gas industry in Pakistan with environmental regulation mediating the relationships. Based on a quantitative, deductive, longitudinal research design, the study will use data found at the firm-level through the annual reports, sustainability disclosures, SECP filings, PSX databases, State Bank of Pakistan green finance reports, and national environmental regulatory documents. The model is based on Resource-Based View, Institutional Theory, and the Porter Hypothesis, and it states that environmental oriented financing and eco-innovative practices are the major drivers of the enhanced environmental, social and economical performance. The impact of these elements is likely to be enhanced with the help of the environmental regulation which could guarantee the adherence and provide assistance to the resource-efficient practices. The suggested framework fills the voids in the existing body of literature by combining three aspects of sustainability, namely financial, technological, and regulatory dimensions of sustainability in one model. The research under consideration gives ground to further empirical tests and has indicators to be used by policy makers and business leaders who are interested in making the energy sector of Pakistan more sustainable.

Key Words: Green Finance, Green Innovation, Environmental Regulation, Sustainable Performance

1. Introduction

The issue of sustainable performance has become a critical issue to modern organizations particularly those companies in the carbon based industries like oil and gas. It can be defined as the possibility of a firm to reconcile economic, environmental, and social goals and at the same time guarantee long-term sustainability (Wang et al., 2023). The globalization to low-carbon economies has increased the pressure on companies to embrace sustainable practices that limit environmental degradation and improve competitiveness. Nevertheless, in an underdeveloped economy such as Pakistan where fossil fuels play a major role in industrialization, the concept of sustainable performance is still a challenge in nature on the basis of institutional shortfall, insufficient funding of sustainability projects, and technology innovation (Tang et al., 2024). Having been the backbone of the national energy supply, and a major contributor to GDP, the oil and gas sector in Pakistan is also among the major contributors of carbon emission and pollution and degradation of the environment. Although sustainability reporting and environmental management have taken Centre stage in the world, oil and gas companies in Pakistan still focus on the short term profitability as opposed to the long term sustainability goals. The lack of green financing policies, the deficiency of innovation systems, and poor application of environmental policies are all elements that deter sustainable industry performance. This highlights the existence of an acute research issue: gaining insight into how green finance and green innovation could positively influence sustainable performance when environmental regulation is involved.

Sustainable performance concept is entrenched in the theory of corporate sustainability where the concept focuses on the incorporation of environmental, social and economic aspects in business practices (Hart, 1995). Sustainable performance will help firms to achieve not only financial targets, but also reduce environmental damage and social welfare. The concept of sustainable performance is essential in the oil and gas industry to remain operationally legitimate and address environmental demands in the world (Wang et al., 2023). However, as demonstrated by many developing economies, such as Pakistan, an imbalanced system of sustainability has not been reached because of poor resource use, high carbon reliance, and low institutional support (Tang et al., 2024). According to the Resource-Based View (RBV) and the Natural Resource-Based View (NRBV) (Hart, 1995), resource-based view indicates that the high-performance of firms could be realized by valuable, rare, and inimitable resources like environmentally-friendly capabilities and green technologies. The sustainable execution of oil and gas sector in Pakistan is heavily reliant on mobilizing financial and technological resources that are in accordance to the nature of environmental objectives. Unluckily, the available evidence suggests that the majority of companies do not have adequate green investment and innovation capabilities to act in a way that will allow them to become sustainable in the long term (Abbas et al., 2024).

Green finance, comprising of financial instruments, i.e., green bonds, sustainability-linked loans, climate investment funds, etc., is a significant activity that facilitates sustainable performance by directing the capital towards environmental-friendly projects (Chengbo Fu et al., 2022). Green funding would allow the companies to implement energy-efficient operations, minimize carbon footprint, and create clean production (Khan et al., 2023). Nevertheless, in emerging markets, such as Pakistan, because of the insufficient infrastructure of green finance and low levels of financial literacy, the implementation of these funds cannot be realized (Tang et al., 2024). Recent reports point at the fact that green finance is not only beneficial in terms of environmental performance of firms but also their long-term competitiveness and reputation (Wang et al., 2023). Green finance is capable of offering the funds needed to switch to low-carbon technologies, which have a direct effect on the sustainable performance of a firm. However, little is understood on the connection between green finance and sustainability outcomes in the oil and gas industry of Pakistan where financial institutions have not yet developed green financing frameworks. Therefore, having insight about the financial aspects of sustainability is crucial towards changing the performance of the industry and aligning it with the global sustainability goals.

Green innovation is the formation and enforcement of technologies and activities that reduce the environmental effects and encourage effective use of resources (Biggi et al., 2023). The Porter Hypothesis suggests that proactive environmental policies, including innovation of cleaner production or energy efficiency, can enhance the competitiveness whilst promoting the sustainability agenda (Porter and van der Linde, 1995). Green innovation increases the sustainability performance through better environmental performance and operational efficiency, enabling the firm to achieve legitimacy and strategic advantage (Shaban et al., 2024). Nevertheless, utilization of green innovation in the oil and gas sector of Pakistan is minimal. Companies encounter financial and technical challenges, incompetence of personnel, and a low level of institutional motivation towards sustainable innovation (Abbas et al., 2024). This is further worsened by the lack of organized research and development policies and use of old technologies that increase the sustainability gap. This paper thus highlights the role of green innovation as a key variable of improving sustainable performance in this industry.

The quality of green finance and green innovation is highly reliant on the severity and implementation of the environmental regulations. The regulation of the environment is an institutional tool to encourage firms to use greener technologies and environmentally friendly practices (Jing and Liu, 2024). In the Institutional Theory, organizational behavior is influenced by formal rules, regulations and expectations of the society (DiMaggio and Powell, 1983). Strong environmental regulation does not only guarantee compliance but it also fosters sustainability-based innovation and investment (Tang et al., 2024). In Pakistan, environmental regulations are also laxly followed, and thus there is inconsistency in the environmental regulations in different industries. Lack of proper policy structures and control mechanisms means that companies can get away with engaging in activities that pollute the environment with impunity. Increasing regulatory intensity would hence complement the beneficial effect of green finance and green innovation on sustainability performance, which can be acted as a moderating force to harmonize corporate performance with national sustainability goals (Jing and Liu, 2024).

Even though previous studies have discussed sustainability, finance and innovation alone, little has been done to understand their interactive impact on sustainable performance especially in emerging economies like Pakistan. As an example, Tang et al. (2024) examined the role of market and environmental regulations in the efficiency of resources but did not consider the oil and gas industry. In the same way, Abbas et al. (2024) investigated the connection between financial inclusion and green innovation but failed to consider the moderating role of environmental regulation. A considerable gap still exists in the knowledge of the joint contribution of green finance and green innovation to sustainable performance with the existence of environmental regulation in a high-carbon industry. This research addresses this gap by combining the financial, technological and regulatory views in a single holistic framework. It contributes to the theory by employing the Resource-Based View (Barney, 1991), the Institution Theory (DiMaggio and Powell, 1983) and Porter Hypothesis (Porter and van der Linde, 1995) to describe why the interaction between internal resources and external institutions affect firms-level sustainable performance.

Although the oil and gas industry is becoming aware of sustainability, low sustainable performance is still observed in the industry because of poor green finance and limited green innovation, as well as inadequate environmental regulation. Previous research has mainly concentrated on the developed economies and has dealt with the variables individually. The empirical evidence that supports the effect of green finance and green innovation on sustainable performance is missing under different degrees of environmental regulation in the energy industry in Pakistan. Thus, the purpose of the research is to examine the direct impact of green finance and green innovation on the sustainable performance and how environmental regulation can enhance these relations.

To test the research questions: what is the impact of green finance and green innovation on sustainable performance in the Pakistan oil and gas industry, and what is the role of environmental regulation in mediating the relationship between the two variables (Tang et al., 2024; Wang et al., 2023).

To determine the impact of green finance on sustainable performance of oil and gas companies in Pakistan. (Chengbo Fu et al., 2022; Khan et al., 2023)
In order to determine the impact of green innovation on sustainable performance in the Pakistan oil and gas industry. (Biggi et al., 2023; Shaban et al., 2024)
To examine whether the moderating role of environmental regulation exists between the relationship between green finance and sustainable performance. (Jing & Liu, 2024; Tang et al., 2024)

In theory, the work has an input by combining the Natural Resource-Based View, the Institutional Theory, and the Porter Hypothesis into a coherent model with explanations on sustainable performance in an emerging market. It shows that green finance and green innovation are internal resources that bring about sustainability, and environmental regulation is an external institutional factor that amplifies or narrows the impact of these factors. In practice, the research offers information to policy makers, regulators and financial institutions on the ways to develop integrated strategies that can facilitate sustainability in the oil and gas sector in Pakistan.
This model can be expanded by future research through mediating factors like green organizational

culture or environmental awareness and also implementing it on other carbon-intensive sectors in South Asia.

Literature Review

Sustainable performance (SP) is an organizational capacity to realize long-term objectives in terms of combining the environment, social, and economic aspects into its operations (Khan et al., 2023). Historically, the idea was developed as a result of the Elkingtons (1998) concept of the triple bottom line, which highlights that companies must not just focus on profit, but equally on their effects on people and the world. Sustainable performance has emerged as a key measure of organizational performance in the past ten years due to the impacts of climate change and the expectations of stakeholders (Wang et al., 2023).

The empirical research always considers SP to be a multidimensional construct that includes environmental (e.g., energy efficiency, waste reduction), social (e.g., employee welfare, community engagement), and economic (e.g., profitability and cost savings due to sustainability efforts) performance (Tang et al., 2024). Sustainable performance may be measured in terms of environmental indicators (e.g., reduction of CO2), ESG scores, or indices, including Yale Environmental Performance Index (Khan et al., 2023).

Sustainable performance is especially critical in developing economies where environmental destruction and resource wastage is eminent. Due to the increasing pressure all over the world on firms to shift their operations towards green, sustainable performance emerges as the final outcome variable- the extent to which firms transform green investments and innovations into actual sustainability performance (Abbas et al., 2024).

Green finance (GF) is a type of financial flow, investment, credit, or instrument allocated to the projects that bring environmental benefits and promote sustainable development (Goel et al., 2022). The idea became widely spread in 2015, at the time when the governments and other financial bodies started to support the use of green bonds, sustainable banking, and climate funds (Wang et al., 2023).

In theory, green finance is consistent with the Resource-Based View (RBV) which holds that firms that have access to specialized financial resources can attain sustainable competitive advantages (Hart, 1995). Green finance directs capital to cleaner technologies, renewable energy and low-carbon operations which directly help firms achieve their sustainable performance objectives (Tang et al., 2024).

Green finance and the sustainability of firms have a positive correlation that is supported using empirical evidence. As an example, Tang et al. (2024) established that green finance can play a significant role in enhancing efficiency of resources in resource-abundant economies under the regulatory framework. In line with this, Abbas et al. (2024) provided evidence that the combination of financial inclusion and green innovation promotes the growth of green economy development in the developing countries.

Some of the most common measurement indicators of green finance are the share of green loans or investments in total assets, the issuance of green bonds (Mishra et al., 2023).Therefore, companies with solid green financing practices adopt sustainability practices, and attain greater sustainable practices.

Green innovation (GI) is the development of new products, processes, and practices that minimize environmental degradation and enrich ecological efficiency (Biggi et al., 2023). Imbedded in the innovation diffusion theory, GI promotes cleaner production, energy efficiency, and resource optimization vital drivers for sustainable performance (Shaban et al., 2024).

Green innovation is regularly abstracted as technological (e.g., renewable energy technology), organizational (e.g., green management practices), or process-based (e.g., waste minimization) (Wang et al., 2023). Firms engaging in GI often experience reduced operational costs, enhanced reputation, and improved compliance with environmental standards.

Empirical findings show that GI directly enhances sustainable performance by establishment firms' environmental and financial results (Shaban et al., 2024). Biggi et al. (2023) found that green innovation leads to performance improvements in energy-intensive industries. GI is typically measured through R&D expenditure on green technologies, number of green patents, or innovation indices reflecting eco-efficiency improvements (Tang et al., 2024).

Thus, GI serves as a strategic resource that enables organizations to translate financial support (from green finance) into tangible sustainability results, reinforcing the pathway to improved sustainable performance..

Environmental regulation (ER) refers to regulations that governments put in place to regulate pollution and promote sustainable operations. It is based in theory on the Institutional Theory and the Porter Hypothesis that propose that strict environmental controls may spur innovation and enhance competitiveness (Porter and van der Linde, 1995).

Recent developments can show the complicated moderating role of environmental regulation in sustainability models. Jing and Liu (2024) have shown that environmental regulation enhances the positive effect of green finance on green innovation, and Tang et al. (2024) have discovered that the extreme regulation may sometimes negatively affect the efficiency of resources.

Environmental policy is usually indicated by gauging the levels of regulatory stringency, policy tools (e.g. carbon pricing or subsidies) or the quantity of enacted environmental legislation (Wang et al., 2023). Being a moderating factor, ER defines the ability of firms to transform their green finance- and innovation-based input into sustainable performance outputs.

Within the framework of this paper, the hypothesis would propose that environmental regulation elevates the linkage between both green finance and green innovation and sustainable performance- through establishment of compliance incentives, accountability and minimization of environmental externalities.

Companies that focus on green financing operations can better attain high sustainable performance (Goel et al., 2022). Green capital flow enables the implementation of eco-innovations and enables the necessity to meet the environmental standards (Tang et al., 2024).

Green innovation helps companies to create products or services more productively and minimizes the negative impact on the environment, which improves sustainability results (Shaban et al., 2024).

Green finance and innovation are effective as they are supported by environmental regulation. With an increased environmental regulation, the impact of green finance and innovation on sustainable performance is likely to become positive (Jing and Liu, 2024).

2.6 Measurement of Variables

Variable	Operational Definition	Typical Measurement Indicators	Supporting Studies
Sustainable Performance (DV)	Globalization of the environmental, social and economical objectives of firms	ESG scores, CO_2 reduction, Environmental Performance Index	Khan et al. (2023); Wang et al. (2023)
Green Finance (IV1)	Environmental sustainability financial instruments.	Ratio of green loans, green bond issuance, % green investment	Tang et al. (2024); Mishra et al. (2023)
Green Innovation (IV2)	Implementation/ adoption of environmentally friendly technology or practices	R&D expenditure, green patent count, eco-efficiency index	Biggi et al. (2023); Shaban et al. (2024)
Environmental Regulation (MV)	Rules and policies of the government which make the environment responsible	Regulatory stringency index, policy count, enforcement measures	Jing & Liu (2024); Tang et al. (2024)

2.7 Theoretical Foundation

This paper is mainly based on 3 theoretical perspectives:

1. **Resource-Based View (RBV):** Companies having a good green resource (finance and innovation) that is valuable, rare, and cannot bse substituted have a better sustainable performance (Hart, 1995).
2. **Institutional Theory:** Green financing, an institutional Theory, and pressures are regulatory and normative forces that require organizations to engage in green practices that include green financing and green innovation to remain legitimate (DiMaggio and Powell, 1983).

3. **Porter Hypothesis:** The great environmental regulations can create green innovation, replace the compliance costs, and become more competitive (Porter and van der Linde, 1995).

Methodology

The proposed research will be quantitative, deductive, and based on secondary data to investigate the relationship between green finance and green innovation, and sustainable performance, where the moderating variable is the environmental regulation, in the oil and gas industry in Pakistan. The longitudinal panel design will be offered to examine the firm-level data across several years so that a more precise evaluation of the sustainability results could be provided. The target population will consist of all SECP-registered Pakistani oil and gas companies and the sampling frame will be constituted by publicly available reports at the firm level. Secondary data is to be gathered using annual report, sustainability/ESG reports, financial reports, SECP filing reports, Pakistan Stock Exchange (PSX) datasets, Secretary of Bank of Pakistan (SBP) green financing reporting, and Ministry of Climate change regulatory reports. The indicators to operationalize variables will be in accordance with previous literature sustainable performance (Wang et al., 2023; Khan et al., 2023), green finance (Chengbo Fu et al., 2022; Tang et al., 2024), green innovation (Biggi et al., 2023; Shaban et al., 2024), and environmental regulation (Jing and Liu, 2024; Tang et al., 2024). The analysis proposed will consist of panel regression, fixed/random effects estimation, and moderation analysis in terms of interaction. It is anticipated that the result of the research will be a confirmed second-data model which shows how the financial and innovation-related variables influence sustainability in the oil and gas sector in Pakistan.

Conclusion

The paper examined the role of green finance and green innovation in sustainable performance in the oil and gas industry of Pakistan through a conceptual approach based on secondary data, and environmental regulation was set as a moderating variable. Using the examples of firm-level disclosures, sustainability reports, and regulatory documents, the paper has highlighted how environmentally oriented financing and green innovative practices are critical towards enhancing the environmental, social, and economic performance of a firm. These effects are further boosted by the fact that the environmental regulation ensures that it complies and promotes the responsible behavior of its operations. The suggested secondary-data framework is a reaction to the gaps in the literature that combine financial, technological, and regulatory aspects into a single sustainability model. The above conceptual framework can be used to offer insights to the policymakers and industry players who are aiming at enhancing the energy transition in Pakistan. Empirical validation of this framework is possible in future research to long-term panel data and apply the framework to other high-impact sectors.

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Green Investment and ESG Performance: Unveiling The role of Climate Risk Disclosure in Mitigating Financial Risks.

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Abstract

Escalation in financial risks and statutory stress have pushed corporate bodies worldwide to blend eco-friendly initiatives with their financial and strategic plannings. In Pakistan, climate driven fluctuations for instance heatwaves, floods and water deficiency are surging, making green investment and environmental, social and governance (ESG) performance crucial for firm resilience in the long run. However, inadequate transparency in climate-related statistics is giving investors a hard time to measure risk sensitivity efficiently. This study analyses how climate risk disclosure can intensify relation between ESG performance and green investment to decrease financial risks by Pakistani Firms. Transparent disclosure leads to strengthen beneficiaries' keenness, boost corporate image and facilitates effective capital allocation. Environment related reporting may alleviate financial uncertainties by refining risk evaluation and assisting compliance in advancing sustainability legislations. By relating disclosure factor with f inancial possibilities, this study focuses on the significance of liable governance and responsibility. The conceptual findings are anticipated to play crucial role for policymakers, administrators, and compliance bodies targeting for sustainable progression in Pakistan's advancing capital market landscape, while giving evidence of investor`s interest with climate driven variabilities.

Introduction

The problem of financial risk has assumed one of the most fundamental threats facing contemporary companies because the world markets are facing a condition of increased uncertainty, climate-related risks and sudden changes in customers' expectations. The financial risk, which is usually represented by stock-return volatility, credit risk, liquidity risk and cost of capital directly define how firms endure in the long term and where they position themselves (Dhaliwal et al., 2011). With the world economic systems becoming more exposed to climate shocks, regulatory tighter and stakeholder analysis, companies are now under more than ever before, exposure to the adverse financial outcomes. The escalating vulnerability has compelled academics and policy makers to explore the factors capable of working efficiently to mitigate financial risk and help a corporation to withstand (Vestrelli et al., 2024).

Therefore, the entire essence of the issue is more understandable when we consider the fact that, nowadays money risks are not about fluctuations in stock markets or credit anymore. Climate stuff- weather ills in real life and long-term transition to green stuff- has been the key factor that makes companies trembling. The physical side includes such issues as freak storms, production hiccups, and supply chain hiccups, whereas the transition side is covered by new rules, carbon taxes, the shift to green tech, and the perception of sustainability by investors (Liu, 2024). The traditional approaches to risk management fail miserably hence companies require new strategies that will make them remain robust even in the long-term. Determining what exactly buffs a firm against risk has now become a large part of corporate finance and sustainability research.

Scientia sexualis and prudentia socially responsible Two competencies have been subject to call, which are electing well in ESG and investing in green stuff as strategic instruments to reduce financial risk. The theory that supports this is known as stakeholder theory, the resource-based view and info -asymmetry theory. According to the stakeholder theory, the more firms act responsibly on issues concerning the environment, social, and governance, the fewer shocks of backlash, fines, and hiccups in operations, so the swings of the money are smaller (Khanchel & Lassoued, 2022). The resource perspective maintains that ESG abilities and green technologies are rare firm resources that aid in the spur of innovation, reduction in expenditures, and flexibility, which is essential in reducing instability (Liu, 2024). Regarding the aspect of information, ESG and green investment also convey the message that the managers are credible, therefore, investors become less doubtful and experience lower costs in financing. Although it appears that everybody can envision the positive aspects, the outcome of the research is random. Others mention that great ESG has a lower cost of capital and reduced market volatility (Wang et al., 2023), and others claim that the benefits of the ESG can be related to country, sector, or quality of governance. The same happens with green investment: it can decrease the risk in the long run whereas it can create pressure on the short-term finances due to its capital intensity (Indriastuti and Chariri, 2021). All of these ambivalent signs indicate that we should take another closer examination of how and why the ESG performance and green investment have an impact on the financial risk. One such missing lump in what we already know is the contribution of these two factors towards the financial risk. It is not much discussed by any studies that the issue of transparency and discussion about sustainability is not enough, but Climate Risk Disclosure in the middle is a necessary step. It makes the climate risk disclosures provide investors with strong information about shortcomings, the approach taken by the firm to handle climate concerns, and its management. Good disclosure reduces information asymmetry, develops investor trust, and reduces valuation volatility (Dhaliwal et al., 2011). Although it is obvious, the research seldom considers climate risks disclosure as a linkage between the sustainability initiative of a firm and its risk performance. Only recent articles also note that disclosure has an effect on firm value, but the mechanisms by which it contributes to the ESG-risk and the green investment-risk connections remain largely unknown (Vestrelli et al., 2024).

When it comes to developing economies such as Pakistan, environmental threats are enormous, the change in regulations is unpredictable, and investors tend to become anxious. Their financial means are typically tight, regulations are less enforced and the weather pressures are larger, which leaves the companies there with larger risk. However, most of the literature considers developed nations, and thus we do not have actual information as to how risk is reduced in emerging markets through sustainable activities. Because Pakistan is undergoing increased threats of climate and its sustainability reporting is evolving, studying these issues at this point is not only right but also contributes to theory. Accordingly, this paper investigates whether or not the ESG score and green wins of a company can reduce its financial risk, and whether the financial risk can be explained by discussing climate risk. We believe that the work holds significance in the fact that (1) it contributes to literature on sustainability-finance through uniting a model of integrating ESG, green investment, climate risk reporting, and financial risk something that has not been previously attempted. (2) it dwells on the role of transparency as a transitional stage, which rectifies a loophole in the actual impacts of sustainable actions on figures. By focusing on an up-and-coming market, (3) introduces new information to a body of a predominantly Western-country literature that better regards the world at large on ways that sustainability might reduce risk.

The study dives into this subject because it reads more than timely to whoever is attempting to execute actual transformations, that is, policymakers, investors, and the massive executives lamenting about climate hazards constantly. Amid the world where businesses are increasingly under pressure to climb at the front of the global sustainability tracks, obtaining a clear image of how the ESG movement and commitment to climate disclosure, in fact, set financial stability is a necessity in strategic decision-making. The findings of the research can actually assist the regulators to tighten their disclosure regulation, have the firms with a legitimate playbook of how to slice through the risk-adjusted performance, and provide investors with a better scale of scrutinizing the adjustment of risk-adjusted performance which have received so much buzz in my financial courses. And, in prospect, the study unleashes a multiplicity of next-step notions: we need to begin to bring in broader sustainability information, apply longitudinal causal techniques, and even establish a cross-country analysis of regulations to get deeper into the manner in which sustainability can deleverage risk. Like focusing on ESG performance, green investments, and climate risk reporting, I believe that this study provides us with a good theoretical and empirical ground to, in fact, handle financial risk over our climate-driven age.

Literature Review

Financial risk is currently among the hot scenes in the world of finance and accounting research, since the inception of the modern capital-market theory. Initially, people had viewed it primarily as solvency and the default risk of the firm (you can find that in early corporate finance and bankruptcy practice). This idea also became market based and informational, as financial market became more mature and corporate disclosure and governance gained ample focus (Dhaliwal, Li, Tsang & Yang, 2011). Today we tend to define financial risk as the exposure of a firm to bad financial events in a breakdown of these closely linked components: market risk (price fluctuations and systematic exposure), credit/default risk (probability of going to bankruptcy and sensitivity to credit-spreads), and liquidity/funding risk (the capability to finance itself without colossal losses). Financial risk tends to be quantified in empirical studies using variables such as realized stock-return volatility, beta, value-at-risk, cost of equity (or implied cost of capital), Altman Z -score, and credit spreads

(Dhaliwal et al., 2011; Khanchel and Lassoued, 2022). The financial risk in theory and practice is a big thing. In practice, an increased risk increases the cost of capital and reduces the investment capacity of a firm, in addition to increasing the probability of distress, and this is even more crucial considering climate change and sustainability shocks that result in abrupt physical losses and transition losses (Dhaliwal et al., 2011; Vestrelli, Fronzetti Colladon and Pisello, 2024). Since sustainability activities (such as green investments or disclosure policies) do not only alter the expectations and information flow of the stakeholders, we are now carefully considering how these processes may transform financial risk. That is why this problem lies directly at the border between the study of corporate strategy and financial stability.

The study is supported by three major theories that explain why being better in the ESG fronts will reduce financial risk. Firstly, there is stakeholder and legitimacy theory: high ESG ratings will help maintain a strong relationship with customers, suppliers, regulators and the local communities thus reducing the risk of reputational or regulatory shock that may deal a blow to the bottom line. Second is agency and information-asymmetry theory - the more committed a firm is to ESG through higher governance, higher transparency, the less information rents its investors will extract, hence the higher the risk premium decreases. Third, the resource-based perspective: ESG-related capabilities and resources (such as processes, relationships, technology) transform into company-specific resources which help the firm to be less vulnerable to shocks and maintain a more stable cash flow (Dhaliwal et al., 2011; Khanchel and Lassoued, 2022).

Most of the studies, when you look at the research, identify a negative correlation between ESG scores and financial risk, the magnitude and time of the effect varies depending on which measure of it you consider and industry environment. Increased ESG performance is associated with reduced stock-price fragility (or downside volatility) and believe that this implies that ESG is mitigating investor sensitivity and price-smoothing (Wang et al,2023). According to meta-analyses and cross-country comparisons, superior ESG measures are also frequently associated with reduced capital and downside exposure, notably where governance is good and environmental and social increment is made (Khanchel and Lassoued, 2022). Nevertheless, due to the large variation in ESG measures and the potential of reverse causality (i.e. risky firms may be less capable of investing in ESG) scholars should take care of approaches they employ- lags, fixed effects, and instrumental variables help to isolate causality (Dhaliwal et al finale, 2011; Wang et al., 2023).

Green investment essentially refers to firms investing in low-carbon technology, energy-saving improvements, and pollution control, renewable resource investments, and the like. The associated theoretical reasoning can be broken down into three major points: (a) physical-risk aversion; green assets can help decrease operational hiccups related to climate events; (b) transition-risk hedging, low-carbon investments can help lessen the exposure of a firm to regulatory volatility, or stranded-asset risk in case of stricter climate policy; (c) efficiency benefits, some green projects actually stabilize the hiccups in the input cost, and lower marginal costs and decrease default risk. Also, plausible green work may bring in long-term institutional investors, which facilitates the preservation of stock values and reduces volatility based on liquidity.

According to the recent firm-level research, green innovation and targeted green capex have a lower volatility and lower credit risks in the medium-term (Liu, 2024). In the same direction, it can be noted that in all sectors and nations, green investment would tend to positively impact valuation and risk profile, but the benefits will tend to approximate being materialized over time, as the investment will increase the capital intensity and leverage in the short-term (Indriastuti & Chariri, 2021). Then, you should model explicitly the lagged effects of green investment on financial risk when testing the effect of green investment.

Climate risk disclosure is simply the primary channel of information, which allows both ESG performance and green investment to influence the financial risk. When a company has a good ESG history or apparent green initiatives, then it is more probable and plausible to discuss climate risks and risk mitigation in an open and candid manner. The good disclosure reduces the information asymmetries; this means that investors can infer future cash flows more effectively and also price risks more effectively. In the agency perspective, disclosure is also a means of governance that demonstrates that managers are in board with the interests of the stakeholders. Finally, it is an extrinsic legitimacy cue, which can reduce reputational and regulatory ambiguities. Mediation support through empirical means. Research indicates that disclosure itself may reduce the cost of equity and is associated with high-firm value in the cases of high-quality disclosure (Dhaliwal et al., 2011; Khanchel and Lassoued, 2022). Although climate-risk disclosure typically increases market value, this effect can be smaller or even negative in case investors are overly attentive to climate issues - indicating that the quality of disclosure and the context that it is reported into mediate the relationship (Vestrelli et al,2024). Thus, formal mediation tests should have cautious disclosure quality measures (e.g. TCFD scores or validated text-analysis indices), suitable lag structure, and endogeneity (e.g. regulatory shock, fixed effect, instrumental strategy) controls. Combined statement argument and hypothesis. All this adds up to create this combined argument in that a higher level of ESG performance and deliberate green investment reduces firm financial risk since both develop the ability and the credibility to create high-quality climate risk disclosure, which lowers information asymmetry, smooths investor expectations, and decreases the required returns and downside volatility.

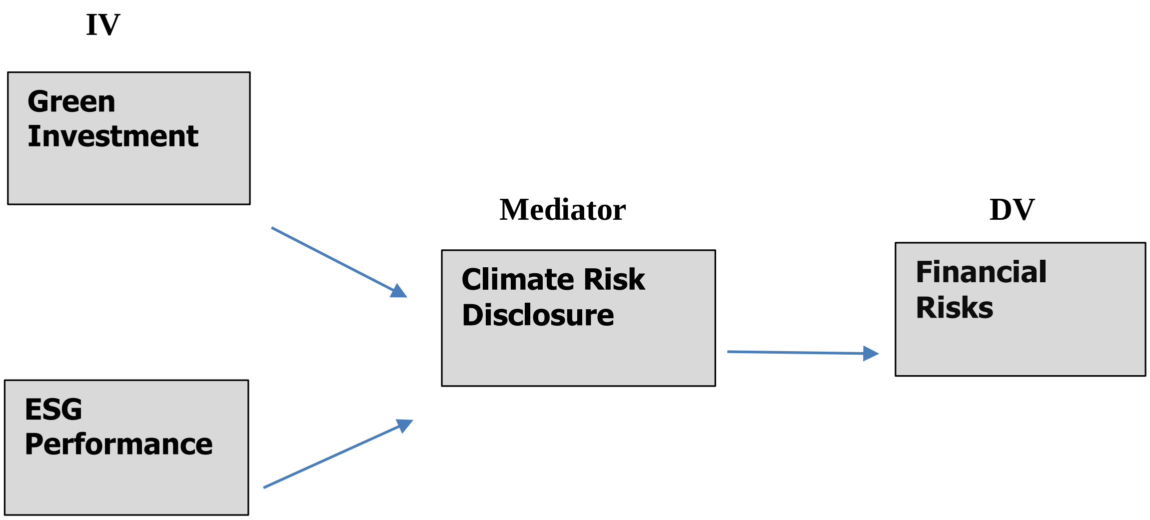
This then gives the following 3 testable hypotheses empirically:

- H1: ESG performance of firms is positively related to lower financial risk (i.e. reduced realized volatility and cost of equity).
- H2: The more intense the green investment, the more financial risk is reduced in the medium term, and its structure is based on the lag structure.
- H3: Climate risk disclosure mediates the relationships in H1 and H2 by allowing the ESG performance and green investment to reduce financial risk by improving the quality/quantity of disclosure.

The empirical identification should be robust (proxies (market and credit channels) of DVs), alternative ESG providers, lagged IV specification of green investment, disclosure policy change specifications should be explicit, and endogeneity strategies should be considered (fixed effects, difference-in-differences, or valid instruments).

Research methodology

The method use in this study is qualitative and conceptual therefore developing a framework to demonstrate the impact of ESG performance and green investment on financial risk through the lens of climate risk disclosure. The purpose of the study is explanatory and theory-building in nature, and hence will be relying on the available scholarly literature as opposed to gathering new primary data. In case of allowance of data enemies in then the sample can be publicly visible companies in climate sensitive sectors; companies which are featured in sustainability indexes and data platforms like Bloomberg, Refinitiv, GRI, and CDP would constitute the sampling frame. With 100-150 firms, and selection will be done using purposive and stratified sampling in order to maintain the sample as relevant. To collect the data, primarily, exploring the secondaries (annual reports, ESG reports, and sustainability databases) will take place, but an open mind to include primary data (interviews and surveys) in the future will also be included. Institutional reports, peer-reviewed articles, and global sustainability frameworks would be the main support of conceptual component, and study the content on a thematic and conceptual level and identify patterns, develop arguments, and integrate theories. The ultimate destined point of this methodology is to develop an all-encompassing conceptual framework that conceptually and graphically charts out the connections between ESG performance, green investment, climate risk disclosure and financial risk.



The study indicates that the ESG performance and green investment will assist to minimize financial risk and climate risk disclosure is a key mediating condition. The combination of insights on sustainability reporting frameworks, literature on climate finance and theories on risk management can be used to demonstrate that businesses that integrate environmental responsibility in their operations and strategy are best placed to forecast, implement and reduce climate-related financial risks. Secondly, it also indicates a huge gap that little research has concurrently examined these variables within one conceptual framework- particularly in emerging markets whereby climate vulnerabilities are accumulating. Through its construction of a theoretically based framework, this study will contribute to the literature by providing a systematic expounding on the role played by sustainability-oriented practices on the financial risk outcome. Besides, it gives future empirical research an opportunity to confirm these suggested relationships with firm-level data, the ESG measurements, and climate disclosure regulations. All in all, the paper highlights an increased relevance of sustainable investment conduct and clear reporting of the climate in determining the financial durability and the strategic decision-making of firms over the long run.

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CEO Duality and its Impact on Firm Financial Performance

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Abstract:

This paper examines how duality of CEO occurs in the context of the relationship between the performance of a company and the CEO duality of the company as well as the duality of the CEO and the chair of the board. It particularly examines the potential effect of this dual role on the main performance indicators such as profitability and stock returns, which are a way of measuring the capacity of an organization to generate value to shareholders. In spite of the considerable amount of literature to discuss this issue, the consequences of CEO duality are not clear. A number of researches have indicated that the integration of these functions may result in reduced control and perhaps elevated agency expenses- concerns such as a decrease in effective monitoring and decisions that are more beneficial to the CEO than to shareholders, which eventually may cause negative financial performance. Other people believe that the single leadership can introduce more transparent direction and more unified decision-making, which could be beneficial to the company. In order to comprehend this debate more, the research proposes a conceptual framework explaining how CEO duality might augment agency costs, which will translate to financial performance. The framework is based on the existing theories concerning agency issues and corporate governance. Another factor that is taken into account in the study is board independence that can affect this relationship either increasing or reducing the effect of CEO duality on the success of a company. In general, the objective of the study can be described as improving the knowledge of the impact of leadership structure in corporations on financial results. It will illuminate the subtle and contradictory impacts of CEO duality on business governance by offering insights that are useful to both academicians and business executives.

Introduction:

Strong corporate governance is critical in ensuring accountability of the organization, strategic decision making and realization of eventual financial success. The role of top executives, and, in particular, the so-called CEO duality that is the position of one and the same individual who acts as the CEO and the chair of the board, is one such feature of governance structure. Although such an arrangement may facilitate cohesive leadership and more expedited decision making, it has the drawbacks of conflicts of interests, less control and more expense to the firm. Even though the topic of CEO duality and company performance is researched, the interdependence between the two is ambiguous and in many cases, inconsistent and quite determined by the setting of the particular case. The ability of any company to generate value to shareholders is normally measured by the financial performance of the company which is determined by such indicators as profitability, return on assets, and stock returns. Theoretically, CEO duality may also impact the agency costs (costs incurred because of manager-shareholder conflicts) with promoting managerial entrenchment and weakening control and promoting self-serving actions. The infringement of the checks and balances of good governance by the concentration of power in a single individual may also enhance the agency costs and affect performance of the firms adversely. However, there are scholars who say that under some circumstances, CEO duality can make leadership more cohesive, make strategic choices faster, and more effective. This leadership structure also depends on the degree of independence of the board to further affect the actual impact of such a structure. The independent directors are important in oversight and their efficacy in reducing the risks of the duality of roles is applicable in some cases and some are limited by the same concentration of power, which is the moderating effect of the board independence. The paper will present a broad framework in explaining the effects of CEO duality in financial performance, taking into consideration the mediating effect of agency cost, and the moderating effect of the board independence. The aim is to make a contribution to the existing debate concerning the best type of governance structures that can be used to improve the performance of companies, basing it on the existing theories and the findings of past researchers.

Literature Review:

The interaction between CEO duality and economic performance as corporate governance has been the research topic of many studies that have investigated the impact of concentrating power in one man or woman on business performance. It is assumed that CEO duality that is characterized by board chair and leader executive officer positions simultaneously has serious implications on accountability and effectiveness of organizations. The most common examples of metrics that are used to operationalize the structured variable monetary overall performance are profitability return on assets and inventory returns. These measures are used as measures of the ability of a company to create value among the shareholders. The effects of CEO duality on overall financial performance are mediated by conceptually organization prices, which contain more managerial entrenchment reduced monitoring effectiveness and self-serving decisions. The combination of these factors may result in inefficiencies and low firm value. The weakened checks and balances between managers and boards of directors under the organization principle that the CEO is also the boards chair would result in the likelihood of growing costs in the company. Its impacts are not unilateral even though some argue that CEO duality can help achieve a unified leadership and faster decision-making that boosts performance in certain conditions. The degree of board independence represented by a larger proportion of independent directors can either reinforce control and reduce the harmful impact of CEO duality or vice versa, given the passivity of the board. Although broad empirical evidence has been conducted, there is conceptual gap on complex relationship between these variables particularly in most organizational contexts. The moderating role of board independence in this courting is outlined in this conceptual review and emphasis has been placed on the need to understand how the corporation fees can be used as a channel through which the CEO duality can affect the overall performance of the monetary aspect. Such lessons would be invaluable in the development of more effective governance systems that will ensure the company is operating at its best potential.

Conceptual Model:

Methodology:

This theoretical research design focuses on synthesis of available literature and the development of a sound framework as opposed to the acquisition of new empirical data by means of this conceptual analysis. This study is based on the organization concept and the principles of corporate governance that helps to analyze the primary-agent conflicts in the organizations. The conceptual model has been shown to identify the following key variables as CEO Duality as the independent variable, financial performance as the based variable, agency charges as the mediating variable and Board Independence as the moderating variable. The theoretical population of this analysis is publicly traded companies although it is admitted that any definite empirical sampling method can be referred to in the further studies. This conceptual version will in the future be required to be empirically tested records could be based on economic databases reliable agency filings and specialist corporate governance databases. To deductively come up with proposed relationships among variables, the analytical method applied on this conceptual work is usually theoretical and deductive with an essential review and synthesis of existing theories and empirical evidence. Theoretical hypotheses are later worked out in order to support the future empirical research. These theses demonstrate the expected associations among the notified variables and a clear direction is given on how to test the theoretical framework.

Conclusion:

The hard courting between CEO duality and enterprise financial performance is cleansed with the help of the overall conceptual framework of this take a look act. It emphasizes the role of organization costs as intermediaries which would decrease organizational effectiveness in case the role of the CEO and the board chair position are combined. In addition, moderating role of the board independence is brought into the focus as a key component that might either enhance or prevent the undesirable impact of CEO duality. This framework points to the need to have balanced leadership systems that maximize oversight and strategic decision-making with the assistance of the integration of the existing theoretical and empirical evidence. The other significant implication of it on the practices of corporate governance is also present. More empirical researches are required to confirm such relationships and inform practitioners and policymakers of the effective governance practices to make organizations performance beautiful.

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Digital Pathways to Market Transformation: The Synergistic Impact of Mobile Money and Inclusive Innovation on Financial Inclusion in Developing Economies

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Abstract

Millions of small enterprises and poor individuals in the developing Asian and African countries. they are not able to resort to the formal banking system and must therefore conform to the Shadow economy. Cell phones are in vogue, but technology can never be the answer to this issue. The research article imparts a gap. hole in the existing body of knowledge by exploring the impact of bringing about an inclusive Innovation (financial). products that target the poor particularly) and Mobile Money Diffusion (spreading digital). payments) collaborate to enhance "Financial Inclusion." The paper also examines "Regulatory. Quality" as a moderating variable, the point is that the success of digital finance is highly reliant on how. well a government is a maker and enforcer of laws. We believe that there is a relationship between innovation and mobile money. larger positive impact in case they are supported by good rules. Small businesses are depicted in this study. how one can transition to carrying out business on cash basis to carrying out business on a formal basis. The findings indicate that to achieve real growth, policy-makers should do not just support technology. They have to establish a credible regulatory framework that will promote new financial concepts.

Keywords: Mobile Money; Inclusive Innovation; Financial Inclusion; Regulatory Quality; Fintech; Developing Economy.

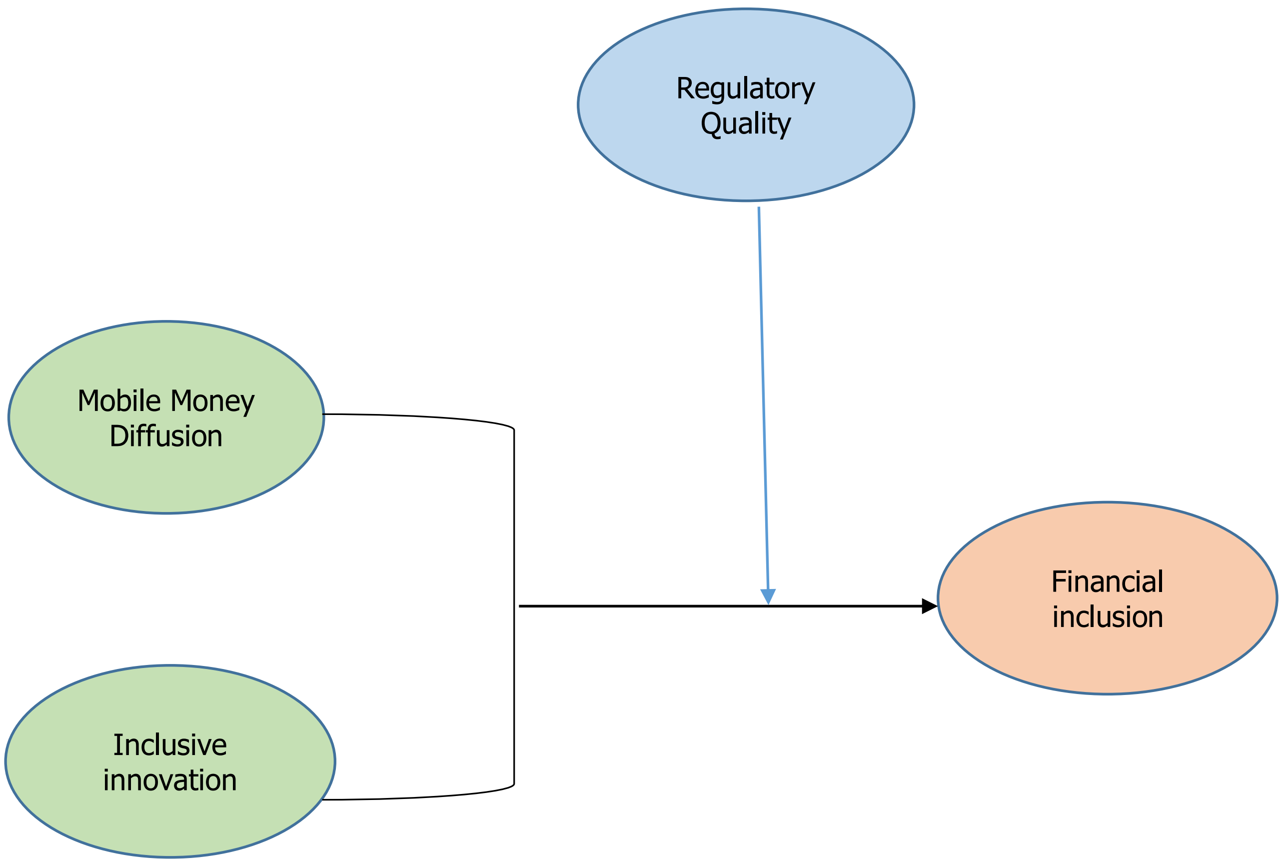
Introduction:

The issue of financial exclusion continues to play a major role in ensuring that a holistic economic outcome is reached. growth (Mishra & Bisht, 2013). Financial services that have been traditionally structured have been criticized. in failing to provide the special needs of the disadvantaged groups (Neaime & Gaysset, 2018). Mobile Financial Services (MOFIS) are now a significant. response. Through, money transfers, savings accounts and credit services can be accessed. MOFIS via cell phones, with no bank account or a conventional branch. (GSMA, 2018). MOFIS has a massive potential to spur growth that can be beneficial given the high dependency on cash. the rest of the developing economies. Most of the agricultural income is still in cash, as shown by the Global Findex database (2021). The use of mobile money as a is common. method of payment in such locations as Sub-Saharan Africa, where payment in agriculture is below 25 percent. directly deposited into accounts. Further, a proportion of 40 percent of the households of developing countries. pay their utility bills by using formal accounts, and this implies that they will still be dependent upon. cash or any other informal form (Demirgüç-Kunt et al., 2022). This reliance on cash makes the shadow economy continue. The "shadow economy" is made up of lawful enterprises that do not obey the principles of government or regulators (Hart, 2008; Ihrig & Moe, 2004). MOFIS proposes a channel of formalizing these activities. However, technology It cannot do without diffusion; it should be combined with Inclusive Innovation. As defined by Foster and Heeks (2013), inclusive innovation suggests the development of personalized products, including nano-loans, micro-insurance, and pay-as-you-go models that is to deal with uncertain cash flows of small. enterprises and occupations and low income families. Digital platforms would lack such specific innovations. as often do not transform passive users into active participants of the economy (Lalle, 2019). As developed countries have saturated the mobile technology, developing countries have done so. keep seeing a high rate of mobile adoption. This generates a great opportunity in positive developmental externality (Sy, 2019; Gosavi, 2018). Nevertheless, the literature on the subject matter is limited. New mobile money is mostly concerned with the rate of adoption and more fundamental benefits (Munyegera & Matsumoto,). 2016; Mothobi and Grzybowski, 2017; Geng et al., 2018. The lack of studies dealing with the policy structures and the stakeholder tradeoffs needed to optimise the benefits of the is quite pronounced. None of the pyramids: bottom-of-the-pyramid (Prahalad and Hart, 2002; Tchamyou et al., 2019). In order to fill this gap, this research project will examine the role of digital payment platforms in financial. presence in emerging markets. It looks at the access facilitated by these technologies, empowerment. micro-businesses, and bring about economic development. Secondly, the article explores. the barriers that prevent complete inclusion and suggests the measures that can be used to eliminate them (Aderomo et). al., 2024; Chukwuneke et al., 2024; Katas et al., 2023; Olanrewaju et al., 2024). By identifying as a digital payment, this research intends to outline the digital payment as the best practices and policy recommendations. drivers of fair and positive economic development. Financial inclusion continues to be acknowledged as one of the pillars of economic development and poverty reduction especially in the emerging markets where large population sections of the population exist. remain unbanked. The world bank Global Findex database (2021) notes that around In the world, 1.4 billion adults do not have access to any formal bank account and more than 60 percent of them are within. Third world countries (Agu et al., 2024; Daramola et al., 2024; Kelvin-Agwu et al., 2024; Olatunji). et al., 2024). This marginalization is disproportionately so to the disadvantaged groups such as women. poor individuals, and rural communities, denying them the resources to be a part of the official system of finance. It is essential to deal with this persistence because financial. inclusion goes hand in hand with better economic stability, increased productivity, and. enhanced quality of life. In order to fill this gap, the World Bank identifies Digital Financial Inclusion (DFI) as the deployment. of affordable online platforms to deliver responsible, sustainable, and low cost formal financial services. DFI has 4 key elements: (1) Digital. Digital (2) Transactional Platforms that facilitate the collection and transfer of electronic value; Devices (e.g. mobile phones or POS terminals) that are the user interface; (3) Retail Facilitating agents of the "cash-in" and "cash-out" services, which transform physical money into. electronic value; (4) Additional Financial Services -such as credit, savings and insurance- through these platforms pushed to risk management and livelihoods of the sidelined. The influence of digital finance has two perspectives in literature. At the macrolevel, mobile banking stimulates economic growth, conventional financial growth, and fairness. distribution of wealth between urban and rural areas.

Literature Review

Financial inclusion is being gradually established to be one of the pillars of economic development. reduction of poverty especially in the developing markets where large population groups. remain unbanked. Some 250 million people worldwide, according to the Global Findex database of the World Bank (2021), live in such countries. There are 1.4 billion adults in the world who do not have a formal bank account with more than 60 percent living in. They are developing countries (Agu et al., 2024; Daramola et al., 2024; Kelvin-Agwu et al., 2024; Olatunji). et al., 2024). Instead, marginalized groups such as women are marginalized by this exclusion. poor towns, and poor families, that of the means to do so. be a part of the system of formal financiality. It is important to tackle this persistence with the help of financial. inclusion will be connected to better economic stability, more productivity, and. enhanced quality of life. In an attempt to fill this gap, the World Bank establishes Digital Financial Inclusion (DFI) as the deployment. of cost-efficient digital platforms to make responsible and sustainable to underserved groups. and low cost formal financial services. DFI is a mixture of four fundamental elements: (1) Digital. Transactional Platforms upon which electronic value may be stored and transferred; (2) Digital. The user interface (such as mobile phones or POS terminals); (3) Retail. Facilitating agents of "cash-in" and "cash-out" services, i.e. physical currency to. electronic value; and (4) Additional Financial Services- such as credit, savings and insurance- transmitted through these channels to take care of risk and sustain the lives of the excluded. In literature, the effect of digital finance was divided into two perspectives. At the macrolevel, mobile banking leads to economic growth, conventional financial growth and equality. distribution of wealth between the rural and urban areas. On the micro-level, digital finance enables. consumers long-tail consumers that is, individuals and SMEs, by fulfilling household financial. demand, smoothing consumption, and the activation of grassroots entrepreneurship. The key to this change is the proliferation of mobile phones. As Evans (2018) notes, mobile technology will help to cut costs and increase the accessibility of services, which will positively support inclusion. According to Aron (2017), mobile money is a leapfrog technology that helps the developing countries. to avoid the necessary physical banking infrastructure through offering a more flexible and affordable, mobile money is much more efficient than the old practice of using cash transfers, as it saves time on traveling, and it is also safer (Munyegera and Matsumoto, 2016; Jack & Suri, 2014). In addition, the innovations play a key role in modernizing the. vast informal or shadow economy of the developing world, therefore. leading to sustainable inclusive development (Foster and Heeks, 2013a). Nonetheless, this technological spread is carried out in a regulatory environment that is aimed at sustaining. financial system integrity. The connection between Shadow Economy (SE) and financial. regulation is also disputed. Although regulations are necessary in terms of stability, their effects there is a variance in on the financial inclusion of the informal sector. Other academics believe that strong banking. policies have a positive effect on the capacity of the institutions to encourage inclusion (Chortareas et al., 2013;). Laeven & Levine, 2009). On the other hand, some people argue that excessive regulations are capable of doing so. take control of credit extension and unintentionally discriminate against people with low income. (Kodongo, 2018; Levine, 2012). When these opinions are combined, Anarfo et al. (2020) propose that banking regulations should eventually have a positive effect on inclusive finance, as long as they are. imposed when there is financial stability.

Conceptual Framework:



Methodology:

This paper is based on a quantitative research design made use of secondary panel data to conduct empirical research. explore the synergies between Mobile Money Diffusion and Inclusive Innovation on Financial Inclusion, although investigating the moderating position of Regulatory Quality in detail. The research targets a sample of emerging economies in Africa and Asia, regions. characterized in the literature as being characterized by high mobile penetration but unchecked shadow economies. Data will be combined with the credible international databases that refer to the period between 2011 and 2023. to help in recording the dynamic fintech. Financial Inclusion will be the dependent variable. measured in terms of multidimensional indices based on the Global Findex of the world bank. Database, which has been proxied by ownership of accounts, use of financial services and access to. digital payments. Mobile Money Diffusion will be taken as the independent variables. measured through GSMA and World Development indicators (WDI) (e.g. mobile). cellular connections per 100 individuals and ratio of online payment sales, and Inclusive Innovation, which is proxied by the measures of the presence of customized financial products. (including domestic lending to the domestic market). To test the main hypothesis of the study on The moderating variable will be governance, which will be obtained at the World Bank. Worldwide Governance Indicators (WGI). nteraction terms are going to be brought into the. How the high-quality regulation increases the effect of the |human|>econometric model to mathematically describe the effect of the high level of regulation. correlation of digital technology and financial inclusion, and hence offering a strong one. policy recommendations of the study will have a statistical underpinning. To sum up, this paper highlights the revolutionary nature of the use of Mobile Money. Inclusive Innovation as the main tool of de-financial exclusion: Diffusion. in developing economies. Comparing the shift between the "shadow economy" and formal. financial involvement, the study notes that although access to technology is a problem, it is not the primary one. condition, it is not sufficient in itself to pressurize sustainable economic development.

Conclusion:

The conclusions drawn find that veritable financial inclusion can only be realized when digital platforms are coupled with purpose-specific financial products, including a micro-insurance and nano-loans, that meet. the instability of poor lives. The analysis shows that the synergistic effect of innovation and mobile money is highly enhanced in a strong regulatory environment. that balances between financial and consumer protection. Therefore, the plan of action toward policymakers is not just in promotion of digital infrastructure but it needs the. development of an effective institutional climate that helps to formalize micro enterprises. Eventually, an optimal blend of technology, product evolution and good governance can be achieved. developing countries can embrace all the opportunities that their digital environments can provide to make them more equitable. income distribution and sustainable economic growth. The study makes three major add to the pool of literature of innovation systems and the diffusion of inclusive (appropriate). innovations.

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Impact of financial attitude, financial knowledge, financial spending control, and financial self-efficacy on financial well-being with the moderator financial literacy

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Abstract

The concept of financial well-being has enhanced beyond traditional assumptions of monetary accumulation prudent decision-making and individual's gratification. In today's intricate financial environment, achieving financially strengths requires more income or wealth, and it depends markedly upon individual's behavior and intellectual abilities. The paper addresses a remarkable gap in the literature presenting a conceptual framework that synthesizes the Theory of planned behavior and social cognitive theory.

Precisely, the study argue that financial attitude (being optimistic about money), financial knowledge (making informed decisions about saving), financial spending control (avoiding unnecessary expenses), and financial self-efficacy (confidence in managing finances) have a positive impact on financial wellbeing (being satisfied with financial situation), strengthened by financial literacy (knowledge and understanding of how money works). Differencing from previous research that inspect these antecedent in separate. This paper introduce financial literacy as a moderator. Financial literacy is define as functional understanding crucial for effective personal finance management.

Despite extensive scholar work on financial wellbeing, many crucial gaps remain. Previous literature often examine psychological and behavioral factors include Attitude, knowledge, control and self-efficacy separately or in combination of twos and focusing on spending control and emplacing self-efficacy (Du Plessis L. J., 2025) (Priya Gupta, 2025), there isn't a comprehensive model yet that shows which things matters most for financial wellbeing in today's economy. Moreover, financial

wellbeing often considered as a crucial contributor to financial life satisfaction. However, new studies find that it might act as supporter, shaping how other traits Effect money related outcomes. For instant one studied examine digital literacy as moderator, but there is still limited research who specifically examine how financial literacy influence the impact of psychological traits on financial security. This leaves the practical gap that revealing why many people with optimistic mindset and impulsive control still don't attain high financial satisfaction.

By consolidating, previous scattered behavioral factors into comprehensive conceptual model. This study assist to the literature both theoretically and practically, this study provides systematic understanding of financial wellbeing and shaping strategies to amplify financial education and stable financial position.

Keywords: Financial attitude, financial knowledge, financial spending control, financial self-efficacy, financial wellbeing, financial literacy

Introduction

In today's economy, financial success is not just having income or wealth. It now embrace wider concept financial welling which include security, control over money and satisfaction about financial health. Financial wellbeing is refer as the ability to handle current financial need, feeling safe about financial future and having chances to make decisions that improves financial life satisfaction. Although, even having multiple financial resources, many people still face financial instability. Thus now researchers shifting their focus on behavioral factors and way of thinking rather than just external economic factor (Khatun, 2025).

To Comprehend, what influences Financial wellbeing, this conceptual paper uses behavioral theories including Theory of Planned behavior proposed by (Ajzen, (1991)), social cognitive theory (Bandura). These theories indicate that financial decision are not random but depend on "capabilities chain" consists of 4 key factors are financial attitude, knowledge, spending control and self-efficacy.

First, Financial attitude the thinking about money, serves as the behavioral base. Positive attitude is a basic requirement for greater financial behavior, even individuals with resources may fail to save without it (Utami, 2025). Second financial knowledge provides the important understanding of main financial concepts inflations and interest rates (Phelps, 2025). Third financial spending control is defined as the behavioral "brakes" significant for avoiding unnecessary buying and sticking to budgeting (Du Plessis L. J., 2024). Finally, financial self-efficacy means the confident in one's ability to make sound financial choices. Self-efficacy is differ from skill, it is self-confidence that transform capability into action highlighted by (Priya Gupta, 2025)

To explain this gap, this conceptual paper introduces financial literacy as a unique moderator variable. This paper is align with recent researcher studies, where financial literacy is define as functional application of skill (Greene, 2025); (Han, 2025). We present financial literacy as moderator that strengthen the relationship between independent variables and dependent variable. For example, high self-efficacy may give the confidence to act but high financial literacy ensures that action taken is accurate (Napu, 2025)

Even though the recognition of these variables, major gaps remain in the literature. Many existing studies explore that these factors analyzed separately and limited combination (Sabri, 2020); (Du Plessis L. J., 2025). There isn't a detailed model that cover all four variable to predict financial wellbeing. Furthermore, prior research often assume that knowledge directly links to the wellbeing but neglect the knowledge – action gap. An individual may have a good knowledge, control in money and self-efficacy yet still face struggle to use it if they haven't functional proficiency.

The main object of this study is to proposed an integrated model that explain how behavioral factor influences financial wellbeing. Specifically, it determined how financial attitude and knowledge help attain financial security and evaluate the role of spending control and self-efficacy in sustain long term financial strength and reliability. Moreover, the study demonstrate how financial literacy strengthen these relationship, intimate that functional literacy is needed to make good habit into real life financial success.

This is conceptual paper and we don't collect any empirical data. This paper provide important theoretical and practical intuition for numerous stakeholders, for policymakers and regulators. This model offer a guide for planning financial education programs and rise above teach facts, also focusing on hand on skill and confidence. For financial institutes include banks and advisors the framework help them to understand client mindset and spending control is important as income. For academic researchers, paper bridge the gap by combining social cognitive theory with financial education model. And providing a new prospective on the knowledge action gap. For individuals, it give a self-assessment tool to help understand that attain financial security demands Positive mindset, knowledge, self-control and confidence.

Literature Review

In today's economic landscape, Financial Well Being (FWB) has become a crucial indicator of quality of life, surpassing conventional income based matric or financial growth. FWB is defined as state where person can fully meet present and ongoing monetary obligations, can feel safe in their future financial stability, and is able to make decisions that allow them to attain life satisfactions. Even though there are many financial products (saving, investment, income), still many people face financial problems.

The digital era has added more complexity to this ever changing environment, the growth of buy now pay later provide the smooth process of spending, and making behavioral self-disciplined more critical than ever. Thus researchers redirecting their focus from external economic factors to internal cognitive and behavioral (Khatun, 2025)

Theory of the Planned Behavior proposed by the **(TPB)** (Ajzen, (1991)), the study argue that FWB does not happen by itself, instead it results from a "capability chain" independent variables, Financial Attitude(mindset toward the money), Financial Knowledge(Money now-How), Financial spending control(avoiding unnecessary expenses) and financial self-efficacy(confident on financial decisions). Furthermore this study explain financial literacy not just as a prior factors but as a significant moderator that strengthen of the relationships. By combining recent studies from (Sabri, 2020), (Priya Gupta, 2025), and (Du Plessis L. J., 2025)this conceptual paper tries to provide a, model that help people can keep their finance stable over the long term.

This paper integrates literature to make the theoretical link between the independent variables IVs to the dependent variables DVs, and explain the role of FWB as moderator.

Financial Attitude refers to individual mindset, thinking or approach toward money including how they view its value and manage it. When individual demonstrate a positive and long term attitude toward money, they are less likely engage instant pleasure and more likely to save.

Most recent researcher shows that financial attitude mediate the relationship between social influence and investment intention in Generation Z (Utami, 2025). This study indicate that only having knowledge is insufficient, one must have appropriate mindset to use that knowledge in daily life practice. If an individual has greater financial knowledge, but a negative or pessimistic mindset attitude toward money (e.g., "I will never get out of debt"), their financial life remains unchanged. Therefore, a positive financial attitude is mandatory for wellbeing

Financial knowledge is define as the understanding of important financial concepts includes interest rate, inflation, risk diversification and credit operation. The one study distinguish between objective knowledge (What one actually knows) and subjective knowledge (What one thinks they know) (Phelps, 2025). Both types play a critical role in financial wellbeing.

Nevertheless, the relationship is not always linear. While prerequisite knowledge is essential to maintain the financial system. The knowledge provide practical skill argue by (Phelps, 2025). Without knowledge, consumers are vulnerable to fraud and poor financial choices. Yet Knowledge without action quiescent. Financial knowledge improve the personal finance awareness. This is the initial step in attaining FWB (Khatun, 2025). The consensus in the literature the knowledge is an important predictor, it perform best with behavioral control and self-efficacy.

The most foundational behavior factor to FWB is spending control. This variable refers to the ability to avoid impulsive and unnecessary buying and stick to a budget. The study highlight that consumer spending self-control is vital in satisfying psychological need, which is relate to financial wellbeing (Du Plessis L. J., 2024).

In a subsequent study demonstrated that, the moderating effect of subjective deprivation on this relationship (Du Plessis L. J., 2025). The study found that even when individual feel Curtail compared to others, high spending self-control secure their financial life satisfaction. Inversely low self-control leads to the spontaneous use of financial product "buy now pay later" BNPL services, as observed by (Mappadang, 2025) and (Novarianty, 2024). These study previously reported that impulsive spending behavior caused by the lack of spending control, directly ablate financial wellbeing by aggregate debt and increases financial stress (Hernandez-Perez, 2025). So, spending control act as protector of financial resources.

Financial self-efficacy originate from Bandura's social cognitive theory and corresponds to an individual's confident on their ability to maintain finance effectively and make great financial decisions. It is discrete from actual skill, its belief that one can use their ability to face the financial challenges.

One researcher provide a compelling testimony that self-efficacy transform capability into financial life satisfaction particularly for working women (Priya Gupta, 2025). They studied that confidence allow person to remain consist in financial planning even when facing unforeseen challenges. Similarly one studied also explore that financial self-efficacy mediates the impact of literacy on financial behavior (Moazezi Khah Tehran, 2025). If person is literate but low confident (Low FSE) they fail to act on their knowledge. Further other researcher support this, showing that in university students and small agribusiness owner, those with higher self-efficacy frequently report higher level of FWB because they are actively engaged rather than anticipatory to financial struggle.

While financial knowledge and financial literacy can be substituted. This conceptual paper distinguish them. Here financial knowledge represent of command of facts and financial literacy act as extensive proficiency and functional application of those in dynamic environment. The proposed model persist that financial literacy moderates the relationship between IVs and FWB

How financial literacy moderates timing compromises in digital financial services (Han, 2025). Similar other researcher explore digital literacy as moderator, but logic applies to financial literacy as well, it strength the relationship of other variables. (Tulcanaza-Prieto, 2025)**. L**ike people may have positive attitude (intending to save) but without good financial literacy they may use poor saving methods (collecting cash in accounts Vs investing). High literacy strengthen the impact of positive attitude on financial life (Greene, 2025).

Similar person with high self-control but low literacy might just amass funds; a person with high literacy and control invest that excessive amount, profoundly increases financial satisfaction. Likewise self-efficacy provide a confidence to act, literacy provide an aptitude to act correctly. High self-efficacy consoled with low literacy actually be dangerous. High literacy ensure that confident derived from self-efficacy is well placed, hence strengthen the relationship with FWB (García-Santillán, 2025)

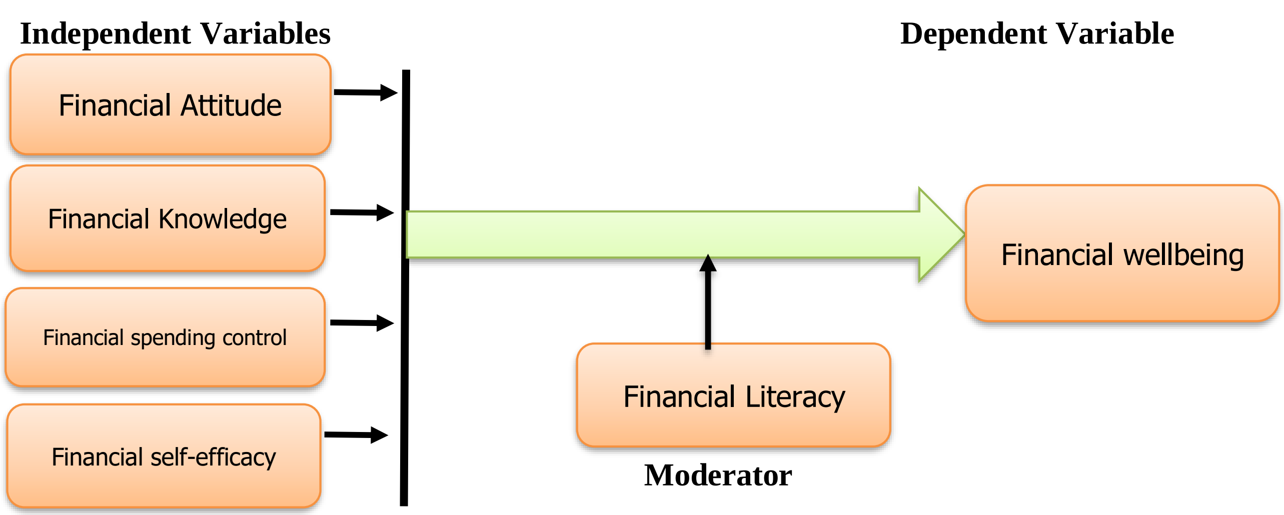
In this context, Gen Z face new obstacles with digital financial services like buy now, pay later. Yet researcher hasn't completely studied how traditional values effect these new digital challenges how financial literacy can assist to reduce their effects. In addition, distinguish between what individual think they know and what they really know. Especially, researcher hasn't shows that how self-efficacy and knowledge interact each other or if financial literacy might help fill the gap between being aware what needs to be done and feeling able to do it. This study attempts to fill these gap by exploring key behavioral factors and examine how financial literacy affect them. This provide a clear understanding of financial wellbeing in current era.

This study examine how behavioral factors influences Financial wellbeing. It investigate that weather positive financial attitude and high financial knowledge improve better financial health and feeling safe about finance. It also assess the financial spending control and confident in their financial decisions, studying how control over spending habit and self-assured effect financial life security. Finally, it investigate the influenceing role of financial literacy. The main goal is to find if understanding of money boost smatter financial choices and better financial habits.

Methodology

This study adopts conceptual research design, attention on behavioral factors with financial wellbeing. Dissimilar empirical study. It uses a previous literature review relying on the theory of planned behavioral theory and social cognitive theory to identify a gap. Priority will be given to recent studies to address modern world challenges. The conceptual model will be developed logically. Financial wellbeing will be identified as the dependent variables, attitude and spending control is key visionary and self-efficacy will be presented confident. A gap investigate that having knowledge alone inadequate to take action. That's way financial literacy look as moderator which strengthen these relationship. Based on this analysis, theoretical assumption will be developed connecting the independent variable to financial wellbeing and revealing how literacy influence outcomes. This proposal provide an analytical model for future empirical testing.

Conceptual Framework:



Conclusion:

This conceptual paper combine the Theory of Planned behavior and social cognitive Theory to build a new framework for comprehend FWB. This study explain that in present time challenging financial environment, secure financial stability is not just about having more money, real FWB is shaped by how an individual behaves, thinks and uses financial skills.

This paper highlight four key factors that influence FWB, FA how individual thinks about money, FK what they know, FSC how better they control their spending and FSE how much confident they feel in handling money. These factor work together, to make a “Capability Chain” that assist an individual toward financial satisfaction.

One of the main theoretical contribution of this study is act as a moderator that strengthens other relationship, instead of being direct cause. Previous studies mixed financial knowledge and financial literacy, but this paper clearly explain the difference. FK is the information or facts an individual know and Financial Literacy is the ability to use that information in real life situation.

This model shows that having a positive attitude, control over spending and confidence provide a strong base. But if an individual can not use financial skills in daily life decisions, they still struggles to attain financial stability. This describe the “Knowledge action gap” where people individual understand financial concepts but don’t act them.

This study has practical insight. This explain that FL programs should not only teach concepts like inflation or interest rates, they should also build skills like self-control and confidence. For financial institutions, model shows that customers spending habit matter as much as their income level, which can lead to better advisory services.

Because this is conceptual study, it encourages future researchers to test the model using real data. They could look at how modern financial services, such as BNPL, change the way people spend and save.

The study concludes that, achieving long term FWB requires right mind set, disciplined behavior and practical skills to make smart financial decisions.

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THE IMPACT OF DIGITIZATION ON TRANSPARENCY, AND EFFICIENCY IN PUBLIC FINANCE: EVIDENCE FROM THE PUNJAB LAND RECORDS AUTHORITY (PLRA) – A CONCEPTUAL PAPER.

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Abstract:

Digitization has been recognized as one of the core foundation pillars of a modern system of governance. It is also an inevitable asset in enhancing transparency, accountability, and efficiency within the management of public finances. The theme of the current paper is the impact of digitization on financial transparency and cost-effectiveness in the case of the Punjab Land Records Authority (PLRA), Punjab, Pakistan. Using a qualitative descriptive research design; the study will utilize secondary data sources; which are official reports, policy documents and expert opinions, to evaluate, the extent to which the digital transformation has transformed the way administrative, financial processes and activities in the public sector operations. It will also explain how the digitization process has contributed to the efficiency in public sector, reduce corruption, increase data reliability, and satisfaction of citizens. However, factors like poor infrastructure, insufficient digital literacy and poor technical capacity persist in impeding the full potential of digitization. The study will be summarized that how digitization makes transparency and efficiency even stronger, which is a pillar of sustainable public financial reform. It suggests broadening digital governance efforts by establishing institutional capacity, changes in regulations, and inclusive digital literacy to make them effective in the long run in Pakistan and other developing economies.

Keywords: Digitization, Transparency, Accountability, Efficiency, Public Finance.

1. Introduction:

Over the past two decades, digitization has gone through revolution on how the governments conduct business, surveillance and make services available to community. As the global economies move to use the digital technologies, the digitalization of the general financial administration has proven irreplaceable in terms of the efficiency, transparency, and accountability (Hood 1991, Heeks 2018). As the world is shifting towards the era of the information and communication technology (ICT), consequently, the governments are drifting towards the digital innovations, with an attempt to computerize its bureaucracy, with an effort of reducing the magnitude of the number of manual errors and in an effort of regaining the trust of the citizens of the government institutes (Janssen 2013).

This has been the immoral in the new economies such as Pakistan, where the inefficiency of the financial system of the people had traditionally added by corruption and lack of accountability (Bank 2021). In the case of administration systems such as land revenue and administration of the public registry system, the manual system of administration was encouraged to wastage of time, and misinformation as well as the possibility of bribery (Punjab Land Records Authority 2025). Not only were such restrictions keeping the performance at an institutional level, it was also eroding the trust of the people on government agencies. It is opposite to the fact that digitization is not simply an action in technology, but it is perhaps a cultural change, a structural change of the bureaucracy (Shah 2020).

Land administration comprising the identification, recording, registration, and management of land rights and land-related services are foundational element of economic development, public finance and social stability (Bennett 2012). Secure property rights help investor, collateralize and trade in the market; on the other hand, insecure or ill documented land rights, inhibit economic activity and encourage conflicts (De Soto 2000), (Besley 1995). Historically, the traditional land administration systems in most developing nations have been based on paper-based, fragmented processes with a high cost of transacting with problems over service delivery of long service delays, rent-seeking, and low levels of transparency (Djankov 2002).

Digitization through geographic information systems (GIS), digital cadastres, electronic registries and integrated Land Information Systems (LIS), offers the promise of transforming land administration by improving data quality, speeding transactions, increasing transparency, and reducing conflicts (Rajabifard 2001); (Bennett 2012). When countries have invested in digital land systems, they report efficiency gains and revenue collections as well as decrease in the time of processing and the incidence of conflicts (Bank 2018); (UN-Habitat 2019). Yet, the evidence also shows mixed outcomes: successful digitization depends on institutional, political and technical conditions rather than technology alone (Heeks 2002); (Burns 2008). This paper develops a conceptual framework that explicates how enabling conditions like political will, institutional capacity, administrative / regulatory readiness, digital infrastructure and system design quality, shape digitization outcomes and, through those outcomes, influence public trust, land market reliability and ultimately broader economic development.

Punjab Land Records Authority (PLRA), may be considered as one of the most promising cases of digital reforms in the Pakistani government. The PLRA was initiated in the year 2017 by the Government of Punjab and the intention of the PLRA was to not only computerize land hold records of the Punjab government, but also to replace decades old patwari system where property registers were still being maintained by a local record keeper. A lot of space would be lost in the manual methodology as data could be distorted. This has been since exported into a platform of the PLRA that has rendered it achievable to tie into land records in real time and has furthermore enabled the standardization of the transactions of the property on the electronic tools which has not required utilization of intermediaries (Punjab Land Records Authority 2025). This is much more crucial than mismanagement of land. Land sales constitute much provincial revenue and thus, the national finances on the one hand, depend upon efficiency and integrity of this branch. That way, the following paper will focus on how digitization can be utilized to promote the scale of transparency and effectiveness in the PLRA and thus, a broader picture of the Punjab population financial landscape.

The study is related to three major objectives. The first one is the determination of the increased transparency of the operations of the PLRA through digitization. The second one is the analysis based on the formulation of an argument on how far digitization has overstepped the performance of the management of national finances. The third goal is based on the desire to identify the hurdles that are present and set out the guidelines in the planes of sustainable introduction of the digital efforts of the government in Pakistan. Despite clear improvement, there are a number of challenges like digital divide, interoperability gaps, cybersecurity vulnerabilities, culture resistance and sustainability issues etc. These institutional and behavioral barriers are key issues to address in order to achieve inclusive, resilient, and sustainable digital transformation.

Despite the overall increase in research on the digital governance, there is a still a lack of empirical evidences regarding to the linkage between the land record digitization and fiscal outcomes in the Pakistan. Most of the studies focus on the technological or administrative dimensions of this linkage, without the considering how transparency may mediate the impact of the digitization on improving the fiscal efficiency. The only few have elaborated on case-based analysis linking specific digitization programs, such as PLRA to overall public finance performance. This study will be filling this crucial gap by analyzing the how digitization contributes in enhancement of the transparency, and efficiency in the operations & management of public finances through a detailed case study of the PLRA. By situating the research within the both of the global theoretical frameworks and regional policy realities to the findings provide context in specific insights relevant to Pakistan and other comparable emerging economies.

2. Literature Review:

2.1 Theoretical Background: -

Digitization in public finance is mainly based on the New Public Management (NPM), and E-Government theories, which highlight the blending of the private sector efficiency principles into the public sector operations & management, and provided the theoretical grounds for the rollout of digitization across the public sector (Hood 1991); (Heeks 2018). NPM promotes decentralization, performance measurement, customer-oriented service delivery, E-Government underscores the application of information, the communication technologies (ICTs.), promote transparency, accountability, and hands-on governance (Janssen 2013). In unison, these two paradigms frame digitization as a dual change of technology and culture which turns up bureaucratic structures of the past into the human-like organizations that are agile, interactive, and data-driven (Mergel 2019).

Public Value Theory is also another useful view point, saying that digital transformation increases the level of public trust and legitimacy since the outcomes of service delivery are more aligned with the expectations of the citizens (Moore 1995). Digital technology makes it possible for instant data collection, public online access, and processes to be automated, thereby, contributing to the generation of tangible benefits in the areas of transparency and financial efficiency (OECD 2020). Additionally, theories of Institutional Isomorphism argue that the digital adoptions in the public sectors of developing countries are the result of the global governance mechanisms and that the countries in question are copying the most successful cases like Estonia or Singapore in order to increase their credibility and get foreign investments (DiMaggio 1983); (Bank 2023).

All the above-mentioned theoretical frameworks come together with one main idea: the implementation of digitalization in public sector is a step towards institutional modernization. It does this by transferring the whole of the traditional bureaucratic systems based on manual work that are corruptible and slow to, interactive, and digital systems that are traceable, auditable, and transparent (Heeks 2018). Hence. the adoption of the digital system within financial management is not only a matter of efficiency, it signifies the structural reconfiguration to the public governance paradigm toward accountability and the openness. Digitization on a global scale has revolutionized the entire financial administration process making it more effective and transparent. The case of Estonia is a perfect case to illustrate just how a good e-governance framework can assist a country in saving its nation's GDP by 2% annually through administrative reliability (OECD 2020). Likewise, the use of cutting-edge blockchain technologies under Singapore's Smart Nation program has made public finance tools more secure hence promoting both fiscal and digital trust as the systems are inseparable (IMF 2022).

The European Union's of Digital Economy Society Index (DESI.), brings to light a strong relationship between the digital maturity and good governance particularly in the areas of procurement and taxation efficiency (Commission 2023). Rwanda's Irembo platform in the developing world provides more than one hundred digital public services cutting down on the red tape and increasing the fiscal transparency which has been achieved due to automation of the fee collection and records tracking (Bank 2021). The Indian Government has introduced the Digital

India Land Records Modernization Programme (DILRMP), which has also been able to yield similar results by getting rid of issues related to land disputes and loss of government revenue through system interoperability (Kumar 2019). The IFMIS and eCitizen platforms in Kenya have also been able to enhance procurement accountability which in turn has led to the reduction of losses resulting from corruption up to 30% (UNDP 2022). These cases from different parts of the world all point to the conclusion that digitalization is a tool that not only makes the public sector more efficient and quicker in delivering services but also increases the confidence of the citizens in the government institutions, which is a vital aspect of the sustainability of fiscal governance (OECD 2023).

H1: Digitization improves operational efficiency in public finance and service delivery.

2.2 Regional and National Studies: -

The Digital governance initiatives in the South Asia (SA) have predominantly majorly over land administration and the financial management as areas for reforms. According to Ali and Ahmad (Ali 2022), in Bangladesh and India where land systems were digitized, the incidents of rent-seeking behavior were reduced and the process of acquiring property rights became easier especially for the underprivileged communities. The researchers, Khan, Riaz and Baig, (Khan 2021), mentioned that the reforms in PLRA (Punjab Land Records Authority) of Pakistan made the services faster and less fraudulent by the biometric cloud and online payment systems which were integrated. Shah and Raza (Shah 2020), however, sounded a note of caution about the digital tools as the technology could still inherit the old inefficiencies of the manual process without proper staff training and institutional alignment.

Further empirical studies have confirmed these claims recently. The Mahmood and Javed (Mahmood 2023), looked at Pakistan's National Financial Inclusion Strategies and could see that digitized payment eco-systems not only the increased fiscal transparency but also decreased the leakages in social protection funds. In the case of Sri Lanka, Fernando et al., In 2022, (Fernando 2022) reports that public in finance management automation led to the higher data reliability and user satisfactions but necessitated constant policy coherence. In Afghanistan and Nepal, e-revenue collection systems have enhanced the administration of taxes but still were hampered by the low ICT infrastructure and security threats (ADB 2022). The general indication of the evidence in the region is that even though digitization enhances the integrity of the financial system, its effectiveness is conditional on the era of institutional preparedness, the scale of digital literacy, and the persistence of policy.

H2: Administrative and regulatory readiness positively affects digitization effectiveness.

2.3 Key Themes in Literature: -

An overview of the international and regional literature indicates that there exist three basic themes that are essential to the successful digitization of public finance: transparency and accountability, operational efficiency, and institutional preparedness. The Digital systems enhance visibility, to control and access to the public information, thereby reducing discretionary power and opportunities for the corruption. The data through the public portals and the auditing trails, and the real-time monitoring enables governments not only the perform their financial duties for more effectively but also the demonstrate accountability to citizens (Janssen 2013); (OECD 2020). The Digitization eliminates and the administrative bottlenecks, minimizes redundancies, and the accelerates service delivery. In the introduction of electronic payments and automated document management systems reduces the human error, shortens transaction times, and the decreases of the costs associated with public service provision (Heeks 2018); (IMF 2022). The effective digital transformation is requires adequate infrastructure and the skilled workforce, seamless inter-departmental communication and in the absence of these, technology is often underutilized or applied inconsistently (Shah 2020); (UNDP 2022); (Bank 2023).

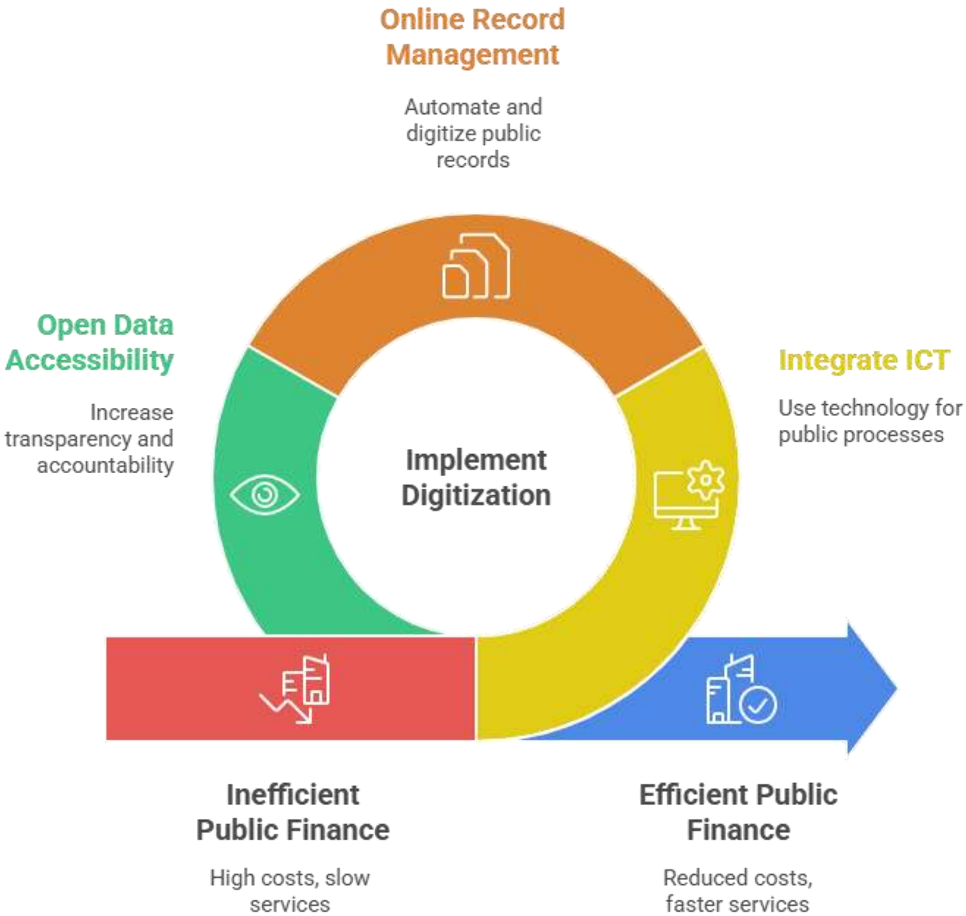
H3: Transparency and efficiency achieved through e-governance, increase public trust and satisfaction.

2.4 Experiential Understandings and New Data.

The amount of governance dividends of digital fiscal reforms has been quantified in recent studies. According to the Digital Governance Index (2023) by World Bank (Bank 2023), states that have a complete system of digital finance enjoy up to 40 percent of transparency in government spending. On the same note, (UNDP. 2023) determines that digitization has the potential to save 25 to 30 percent of procurement and service delivery losses, whereas (OECD 2022) assumes that e-procurement systems can increase competition in the market and save governments 10 to 15 percent of money. The Punjab Land Records Authority (PLRA) is also one of the most successful regional examples that have shown that the accuracy of financial reports increased significantly, the processing time dropped to a minimum of a single day (previously more than 30 days), and citizens started to trust it more (Punjab Land Records Authority 2025). Nevertheless, such issues as low levels of digital literacy, cyber threats, and a lack of interoperability of systems remain (Khan 2021). Similar comparative studies in Ghana and Nigeria also suggest that although digitization lowers levels of corruption the scale of its effect is largely influenced by the level of legal and institutional institutions (Adams 2022).

H4: Digitization positively contributes to long-term economic development.

3. Conceptual Framework:



4. Research Methodology:

The present research is **qualitative descriptive with the case study technique** to address the digital transformation of the PLRA. Qualitative approach is specifically applicable to investigating difficult institutional transformation, the understanding of stakeholders, and the performance results of digitalization efforts. The research will utilize solely secondary data, such as **annual performance reports** of PLRA (2018 to 2025), its policy documents, and audit reports. It is as well based on **publications of the World Bank** and **OECD** associated with digital governance, peer reviewed **journal articles** on the field of public finance, and other valid media sources that talk about digital transformation works put in place in Pakistan. No primary data collection (e.g., surveys and interviews) will be taken.

A thematic analysis using will be done and findings will be organized in four broad themes namely transparency, efficiency, institutional readiness and challenges. Descriptive statistics will be applied, where relevant to compare the performance indicators that were used before and after digitization. **Triangulation** will be used to ensure data reliability by cross checks of several secondary sources. Ethical considerations will be maintained using the publicly available data only and using all the references in accordance with **APA 7th-edition** norms.

5. Conclusion:

The outcomes will validate a substantial empirical evidence of the theoretical relationship between **digitization, transparency, and efficiency**, which is anticipated by **New Public Management (Hood 1991),** and **e-governess models (Janssen 2013)**. The PLRA experience will shows that digitization is not just a technological intervention but also a reform of the institutions to transform the culture of governance with automation, accountability, and the standardization of the services. The mediating process of technological innovation is transparency, transforming it into efficiency results. This observation confirms (Heeks 2018), who suggests that information systems instantiate the concept of integrity since they incorporate traceability and documentation.

This mechanism will be observed how much **decrease in corruption,** complaints and the **increase** in the speed of services delivery. This principle is supported by similar practices in the rest of the world. Data sharing with blockchain data transparency as used in Estonia has brought about the e-governance model making sure that transparency in data is tamper proof whereas Indian land digitization as part of the Digital India initiative has resulted in the reduction of manipulation and increased revenues. These instances validate the general perception of digital transparency as efficiency, which reduces discretion of humans and strengthens accountability.

However, PLRA case study, will shows that how technological reforms are not solution that cannot be achieved without changes in the institution. In accordance to (Shah 2020) the technology should be supported with workforce training, clear policies, and citizen engagement. The persistent problems like limited interoperability and lack of digital literacy suggest that the phased transformational process needs an ecosystem that integrates technology, people, processes, and policy. Finally, the effectiveness of the PLRA will highlights the idea of incorporating the digitization in the institutional practices of governance into the government sector. The holistic, adaptive and inclusive strategy will make digital transformation not be a reform case study but an ongoing change of refinement and accountability.

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FinTech, Green Financial Practices and Sustainable Performance: A framework for Pakistan's Banking Sector

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Abstract:

Technology and environmentally friendly finance are changing the global banking industry of the world and particularly in the developing economies like Pakistan. Although it is a well-known fact that FinTech and green financial practices contribute to the enhancement of operational efficiency and development of eco-friendly behaviour, their joint impact on the sustainability performance is under-researched. The conceptual paper will be a synthesis of relevant literature to analyze the role played by financial technology and green finance in the sustainability outcome in the Banking Sector in Pakistan. The framework introduces financial inclusion as a mediating process and digital literacy as a moderating aspect on these relationships. The study through the conceptual and thematic analysis picks significant gaps in the previous research studies and sets out a holistic framework to connect the digital innovation and green finance to the inclusive financial development and sustainability performance. The results are relevant to the sustainability theory and literature on financial innovations as well as strategic implications to policy makers, regulators and banking institutions that seek to enhance sustainable development by digital and environmental transformation.

Keywords:

Financial Inclusion, Sustainability Performance, Green Financial Practices, and FinTech.

Introduction:

Sustainability has emerged as a new priority in twenty one century financial institutions are under financial pressure to deal with environmental degradation, social inequality, and economic instability, In the banking sector sustainability performance is considered as one of the most important indicators of long term resilience and responsible governance **(Elkington, 1998; Schaltegger and Wagner, 2017;)**. It is a fundamental change towards developing economies such as Pakistan, where climate risks, resource depletion and financial marginalization struggle to sustain the financial system **(Khan and Khan, 2017;).**

With the emergence of FinTech, the conventional process of banking has been changed with the possibility to make digital payments, automated transactions, and make finance more accessible. FinTech makes the operations efficient in addition to furthering its sustainability by cutting the use of paper, enhancing transparency and promoting inclusive finance **(Vives, 2019; Gomber at al., 2017).** In the emerging economies these innovations enhance financial inclusion and decrease financial structural obstacles to financial access, hence complying with the sustainability objectives **(Ozili, 2023; Alam at al., 2021).**

Meanwhile, world environmental issues have seen the banks gravitate towards specific financial activities like sustainable lending, renewable energy financing, and resource efficient internal operations. Green finance aims at investing in a responsible manner by prioritizing the environment and assisting banks to reduce ecological footprints, as well as to promote environmental stewardship **(Weber, 2017; Zhao at al., 2023).** Green financial programs are important in Pakistan where climate sensitive industries are the mainstay of the economy to enhance performance on long-term sustainable performance **(Khan and Khan, 2022; Liu et al., 2021).**

It is also true that in spite of the recognition of FinTech and green financial practices as individual tools to enhance the operational efficiency and the environmental performance, the literature has lacked adequate analysis on the joint effects on the sustainability performance. Current literature is inclined to study these areas individually and fails to consider the interaction of digital transformation and green finance to affect the sustainable banking performance, particularly in the emerging economies **(Ozili, 2023; Zhao et al., 2023).** This loophole restricts the knowledge on how combined digital-environmental plans can foster sustainability in the financial institutions of Pakistan.

Financial inclusion introduces a new dimension to this relationship since it dictates the extent to which FinTech and green financial innovations can deliver their services to underserved communities. An increased accessibility to financial services positively influences equal distribution of resources allowing a greater involvement in sustainable financial systems **(Demirguc-Kunt et al.,**

2022; Park and Mercado, 2018). As such, it is important to understand its mediating effect in the process of clarifying how FinTech and green finance can be converted into meaningful social and environmental changes.

Also, the element of digital literacy is a key factor in determining the success of FinTech and green finance. People need to have proper digital skills to use digital financial tools and act in an environmentally responsible way in relation to finances. In economies with low digital literacy, the benefits of digital transformation are undermined as a significant obstacle **(UNESCO, 2021; van Deursen and van Dijk, 2014).** Increased digital literacy, in its turn, increases responsible financial use and helps to effectively adopt digital and green finance **(Rahayu and Day, 2022).**

The moderating role of digital literacy is examined scarcely with the concepts of FinTech, green finance, and sustainability performance, although it is quite an important issue. Consequently, there is a gap in the current literature in the comprehension of the impact that digital capabilities have on the achievement of sustainable banking in Pakistan. This gap highlights the need for an integrated framework that combines technological innovation, environmental financial practices, inclusive finance, and digital skills to evaluate sustainability performance holistically.

To close these gaps, this conceptual paper will develop a framework based on the incorporation of FinTech adoption, green financial practices, financial inclusion, and digital literacy to describe their joint impact on the sustainability performance of the banking sector in Pakistan. The paper makes a contribution to the sustainability theory, innovation diffusion theory, and digital finance literature because it proposes an integrated model to further the theoretical knowledge and can offer practical information to policymakers and practitioners.

Literature Review:

Accessibility and innovation in financial services or FinTech have totally changed the global banking industry by increasing efficiency in operations. As **Vives (2019)** FinTech promotes innovation within the financial sector, which involves combining digital platforms and conventional banking services, which enhance efficiency and contribute to sustainable finance. Likewise, **Gomber, Koch, and Siring (2017)** assume that the adoption of FinTech allows banks to digitalize, decrease the usage of papers, and decrease operational costs, which are all elements of sustainability performance. Under the framework of the developing world like Pakistan, **Ozili (2023)** highlights that the use of FinTech enhances Financial transparency, accessibility and inclusion aspects which are important in attaining long term goals of sustainability. Therefore, FinTech does not only assist in the technological development process, but also leads to the end results of environmental and social sustainability.

On the other hand, green financial practices incorporate environmental and social responsibility in the banking processes and investment. **Weber (2017)** states that green finance pushes financial institutions to promote environmentally friendly projects and implement resource efficient operations thereby minimizing their ecological footprint. **Khan and Khan (2022)** have identified that in developing countries, the introduction of the green banking project has a significant positive impact on the sustainability performance of a firm, as it promotes environmentally friendly behaviour. Similarly, **Zhao,Wang and Li (2023)** posit that green financial products including green bonds and sustainable lending are capable of helping the banks to realize the long-term environmental and social goals. As a result, green financial practices can be considered as helping in strategic instruments of enhancing sustainability performance within the banking industry.

Connected to the uptake of FinTech and green finance, inclusive economic growth has turned out to be one of the key facilitators of sustainable development. Financial inclusion as an intervening variable in association.

Green financial and FinTech projects to sustainability performance. Studies have shown that inclusive growth in the Pakistani banking industry occurs through the broadening of the access to digital financial services with the use of FinTech solutions **(Khan et al., 2025). Park and Mercado (2018)** also state that financial inclusion facilitates economic equality and builds social cohesion. This paper has put forward financial inclusion as a mediating variable implying that FinTech and green financial work have better sustainability performance as more individuals become part of the financial ecosystem.

Digital literacy is also significant in ensuring more successful FinTech and green finance projects. Digital literacy, which is the ability to engage digital technology effectively determines the level of interaction between individuals and organizations towards the use of digital financial tools. In a similar note, **Alam, Gupta, Zomeni (2021) and UNESCO (2021)** point out that the presence of low digital literacy among economies that are developing may undermine the beneficial impacts of digital transformation in the financial sector. According to **Rahayu and Day(2022),** people with a higher level of digital literacy are more effective in the use of the financial application, resulting in responsible financial behaviour and increased financial inclusion. Thus, digital literacy is theorized as a mediating concept in this paper, reinforcing the connection between the use of

FinTech and sustainability performance.

Sustainability performance, which comes out as the dependent variable under this model, is the capability of a bank in attaining a balance between economic likelihood, social equity and the environment. **Elkington (1998)** coined the term Triple Bottom Line that focuses on embedding economical, social and environmental aspects in the measurement of organizational performance. This perspective was further advanced by **Schaltegger and Wagner (2017)**, who argued that banking sustainability should also take into consideration the role of institutions in promoting social inclusion and environmental protection. The empirical research by **Khan and Khan (2022) and Zhao et al. (2023)** proves that the combination of FinTech innovation and green finance enhances the sustainability performance of a bank through the alignment of its financial strategies with the objectives of sustainable development.

Although the literature on FinTech, green finance, and sustainability is increasing, no studies have been conducted that combine all these dimensions into a single framework. In the banking sector of Pakistan especially, little research has been conducted to understand the mediating role of financial inclusion and moderating effect of digital literacy in the determination of sustainability performance. This paper fills
that divide with the suggestion of a framework that links digital innovation, green financial practices, and inclusive development as the measures of sustainable banking in Pakistan.

Methodology:

In this research, the qualitative, conceptual research approach is followed to create an integrated framework to explain the relationship between FinTech adoption and the green financial practice and sustainability performance in the banking industry of Pakistan where financial inclusion is a mediating variable and digital literacy is a moderating variable. Since this is a conceptual research, no empirical data will be collected in this paper but rather a systematic synthesis of the available theories, scholarly literature and secondary data in the form of peer reviewed journals reports by the State Bank of Pakistan, reports by World Bank and academic databases such as Scopus and ScienceDirect will be relied upon.

The research designs are theoretical and are aimed at the synthesis of the existing findings and their correlation with the sustainability theory, the theory of innovation diffusion, and literature on financial inclusion. A research structure is proposed to inform the future empirical studies. In case of a primary data collection, the target population would consist of the employees of the banking sector in Pakistan, specifically those employed in the digital banking, sustainability units, and FinTech operations. The suggested sampling system would be based on employee lists and bank networks. To determine educated respondents a purposive sampling method would be appropriate and to represent all the departments a stratified sampling approach would be appropriate. A hypothetical sample of 300-400 respondents would be recommended to do the quantitative testing in the future.

The possible data collection measures may be structured questionnaires and semi-structured interviews. To fulfill the conceptual aspect of this research, the data analysis is conducted using the conceptual and thematic analysis in which the researcher can identify recurring patterns, theoretical relationships, and gaps throughout the literature. The main result of such a methodology is that it will result in the creation of a theoretically built conceptual framework that will be able to inform future empirical research and be used by policymakers, regulating institutions, and banking professionals interested in promoting sustainable development in the Pakistan financial sector.

Conclusion:

The paper represents a conceptual framework that combines FinTech adoption, green financial practice, financial inclusion, and digital literacy to describe how they work together to affect sustainability performance in the banking industry in Pakistan. The synthesis of existing theories and empirical knowledge allows the paper to show that FinTech and green financial efforts could play a drastic role in improving environmental responsibility, operational efficiency, and inclusive economic growth. The framework also indicates that financial inclusion is a key mediating factor as it guarantees that digital and green financial solutions are accessed by underserved groups, whereas, digital literacy is an important driver of the change since it will allow users to access and utilize digital financial solutions. By filling some of the critical voids in the previous literature, the proposed study can offer a comprehensive model that can lead to the development of sustainable finance literature and offer feasible implications to policy makers, regulators, and banking establishments aiming at meeting the long-term sustainability objectives. Further future empirical research can confirm and expand this framework in order to gain deeper insight into sustainable banking transformation in emerging markets.

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ESG Reporting and Green Bond Issuance: Their Relationship with Green Innovation and the Moderating Effect of Firm Size : A Conceptual Paper

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ABSTRACT :

Green Innovation reflects commitment to the environmental transformation of the firm and can be seen as a measurable outcome of sustainability-oriented strategies. It is defined as the extent to which firms adopt eco-friendly technologies, processes, or practices. Green Bond Issuance and ESG Reporting Quality/Disclosure Score. Green bond issuance reflects financial alignment with environmental goals by capturing a firm's ability to raise capital for green projects. ESG reporting quality refers to the depth, transparency, and credibility of a firm's nonfinancial disclosures concerning environmental, social, and governance dimensions. Firm size reflects the overall scale of the company. This research investigates how sustainable finance mechanisms-green bonds and ESG disclosures-fuel green innovation and whether firm size acts as an enhancer or moderator of these relationships. This paper addresses how sustainable finance and ESG investing drive companies' green innovation. The main goal of this study is to develop a theoretical framework that shows how green bonds and ESG reporting might lead firms to green innovation but at the same time consider the fact that the size of the company might strengthen or weaken the effects. The methodology has relied on reviewing previous academic literature to propose this framework**.**

Keywords: Green bond issuance, ESG reporting quality, Green Innovation.

INTRODUCTION:

Under increasing pressure from escalating climate challenges and rising stakeholder expectations , there is an emerging need for firms to integrate environmental sustainability into their financial strategies. As shown by **(Elkington, 1998; Schaltegger & Wagner, 2017)**, responsible investment, a global trend, focuses on sustainable finance instruments such as green bonds and ESG reporting as signals of corporate commitment to sustainability.

According to **(Weber, 2017; Zhao et al., 2023),** such tools reflect external environmental pledges while acting as internal catalysts for innovation. Green innovation has emerged as a strategic firm response to eco-friendly technologies and practices. **(Vives, 2019).**

Even though green finance is widely recognized for promoting environmental sustainability, urgent gaps still remain both theoretically and practically regarding how green bonds and ESG reporting collectively drive green innovation, and how firm attributes, such as size, moderate these dynamics **(Khan & Khan, 2022; Ozili, 2023).** Green innovation is defined as the extent to which a firm has strategically implemented environmentally friendly technologies, procedures, and practices, reflecting its commitment to environmental transformation **(Xie et al., 2019).** According to **(Dangelico and Pujari),** green innovation meets stakeholder and legal expectations, improving both environmental performance and business advantages.

Green Innovation is the adoption of energy efficient technology , eco design, sustainable supply chains and waste reduction methods by a company that reflects its environmental transformation. Dangelico and Pujari emphasized that through meeting expectations and legal requirements , green innovation improves both environmental performance and business advantages , **(Xie et al., 2019).**

Green Bonds represents an important innovation in sustainable finance , designed specifically to rise capital for projects with environmental benefits such as renewable energy, pollution control. This study define green bond issuance as the process through which firms mobilize financial resources committed to supporting ecological projects and technologies. **(Wang, 2022).** Points out that the issuance of green bonds sends signals about a firms proactive attitude towards sustainability , facilitating funding and signaling mechanisms that build corporate environmental credibility. Similarly **(Chen et al. ,2023).** emphasize that funds raised through green bonds directly linked to investment in eco- friendly innovation, making it one of the most critical enablers for green technological advancements.

ESG Reporting Quality describes the accuracy , openness and thoroughness of company's disclosures concerning environmental, social , governance activities. It is a strategic reporting mechanism to create pressure to uphold sustainability standards. As Claimed by **(Eccles and Krzus ,2018).** Strong ESG Disclosures build stakeholders confidence and encourage better strategic decision making. According **to (Fatemi et al., 2018),** companies with better ESG performance are usually more inventive since the need of transparency encourage businesses to actively seek out sustainability driven innovations.

Firm Size can be describe as the scope of the business typically measured by metrics such as market capitalization and total assets.it represents the ability and resources of the company in pursuing strategic initiatives , such as those whose related to sustainability and innovation. On the basis of various studies, it can be said that size of the company determine how successfully it pursue green innovation. While Smaller firms can usually act as more flexible in adopting new technology , larger firms have broader resources and better regulatory visibility to support them in sustainable development**. (Wagner, 2007)** discover that because of their access to resources and increased regulatory, larger firms are more likely to adopt environmental policies**. (Lee & Min, 2015)** observe that firm size effects green technology adoption, large firms having great institutional support while small firms may be more adaptable.

The Main purpose of green bonds is to give business the money they need for investment in environmentally friendly activities and technologies. At the same time, ESG Reporting would push businesses toward more transparency and sustainable innovation through generating external pressures related to regulatory requirements. These Factors together work as complementary drivers; where as financial capital from an investment perspectives make green innovation possible, disclosure quality, through openness and stakeholders involvement , encourages, such efforts. Firm Size further moderate this effect, since it would influence the relevant strategic priorities and resources availability that impact how these process functions within the organizations **(Chen et al.,2023).**

Despite the strong global mandate for corporate sustainability, a major problem is understanding the exact mechanisms by which sustainable finance instruments translate into observable quantifiable environmental benefits, such as green Innovation. It is also still conceptually difficult to understand how internal firm characteristics specifically company size effect such external mechanisms. Based on this, the aim of this conceptual paper is to fill this gap by creating a framework mapping the impact of green bond issuance and ESG Reporting Quality on Green Innovation, while including the moderating effect of Firm Size.

This study significantly advances the literature on sustainable finance. By clearly connecting financial instruments and disclosure standards to green innovation. Understanding these connections gives businesses useful opportunities to create responsibly and sustainably when global issues like Climate Change require quicker ecological responses. This study addresses a critical gap in sustainable finance literature by considering green bond issuance and the quality of ESG reporting together as joint driver of green innovation. By emphasizing the combination of financial and information mechanisms, this contribution helps in developing a sustainable financial environment necessary to reach both internal climate and sustainability objectives. The proposed model supports firms to consider financing and transparency. Helping Firms react to raising stakeholders expectations and regulatory framework changes. Consequently, this research contributes to long term sustainability.

Literature Review:

Green Innovation refers to the development and adoption of eco-friendly processes , practices and technologies. That helps to reduce environmental harm , and reflect the commitment to environmental transformation and promote sustainability. According to **(Xie et al.,2019),** green innovation as a measurable result of a firms commitment to environmental transformation, including waste reduction system, sustainable supply chain, eco-design and energy efficient technologies**. (Dangelico and pujari)** emphasize the fact that green innovation improves not only the environmental performance but also enhance the competitive advantage through the fulfilment of stakeholders expectations and regulatory standards.

Green Bond are fixed – income instruments intended to finance environmentally beneficial projects. Green Bonds have emerged as a key component of sustainable finance. The issuance of Green bond indicates a company's financial dedications to sustainability. It lets investor knows that a company is actively funding sustainable infrastructure, pollution prevention and renewable energy **(Wang &Wang, 2022)**. **(Chen et al., 2023)**, argue that by designating funds for environmentally friendly R&D and technological advancements ,the issuance of green bond can stimulate internal innovation.

ESG (Environmental, Social and Governance) Reporting refers to the release of non- financial data that illustrate a company's sustainability initiatives. Transparency , depth and creditability are the traits of excellent ESG Reporting. According to **(Eccles and Krzus ,2018),** companies can enhance strategic decision making and foster stakeholder trust by implementing integrated ESG Disclosures. Business with strong ESG Reporting typically have better financial results and more likely to innovate, According to **(Fatemi et al.,2018).** ESG Reporting Serve as both signal and driver in the context of green innovation.

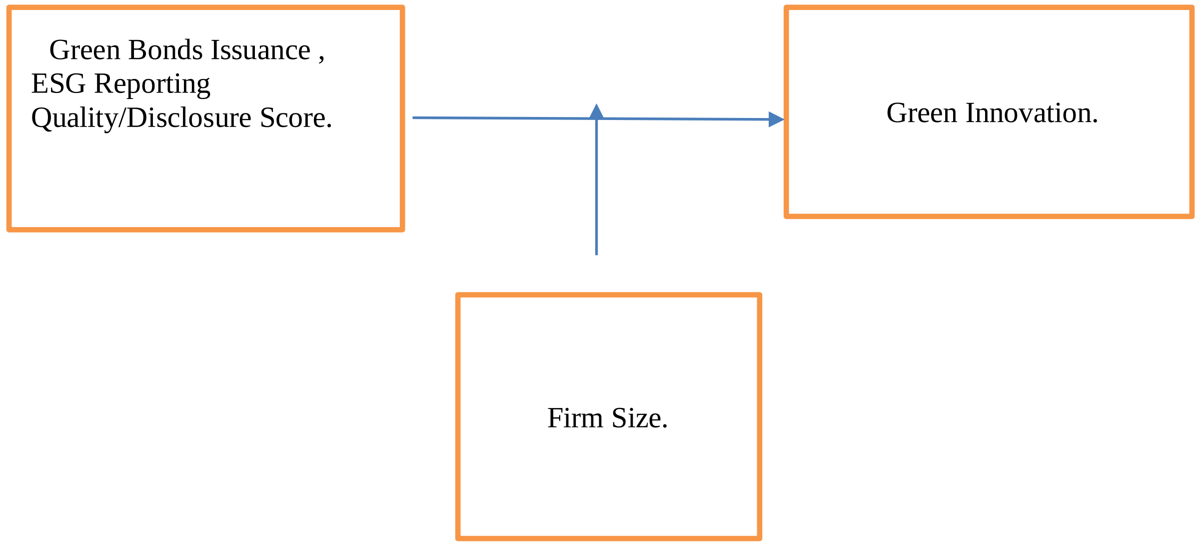
Firms Size typically measured by total assets , market capitalization or number of employees.it affects the company's ability to carry out strategic goals such as innovation and sustainability**. (Wagner ,2007)** discovered that because of resources availability and regulatory visibility, larger companies are more likely to implement environmental strategies. According to **(Lee & Min ,2015),** the adoption of green technologies is influenced by firm size, with small firms exhibiting greater agility and large firms having more institutional support.

Green Bond issuance act as a financial mechanism fostering green innovation. Business demonstrate their commitment to sustainability by raising funds exclusively for environmental projects, which encourages the adoption of green technologies and procedures**.(Chen et al.,2023).** ESG Disclosure generates strategic pressure and accountability, while green bonds supply the funding. When combined , they serve as externally visible sustainable finance. These Relationship are significantly shaped by the size of firm. Because of their size and visibility, large companies may be better able to use green bond and ESG frameworks. ESG Reporting and the issuing of green bonds together constitute external facing sustainable financing tools. They offer financial and reputational incentives to innovate and demonstrate a company's dedication to sustainability. Green Innovation is an internal response that takes the form of environmentally friendly behaviours and technologies. Large Firms may take advantage of their resources and visibility., while small firms may take advantage of their flexibility. However, Firm size has a significant role in how these mechanisms are transformed into Innovation.

Stakeholders Theory and Resource Based theory, Which highlights the internal capabilities and external expectations as two forces behind innovation , are consistent with this viewpoint.

Theoretical Framework :

ESG reporting quality/disclosure and green bond issuance are independent variables, while firm size acts as the moderator in determining green innovation. ESG reporting quality refers to the comprehensiveness, credibility, and transparency of firms' information on environmental, social, and governance practices that are considered essential for further building stakeholders trust in and increasing their investment into such sustainable activities. Green bond issuance implies a firm's ability to mobilize dedicated financing for environmentally friendly projects, signaling a strong commitment to sustainability. These two independent variables are theorized to drive green innovation, which encompasses the adoption of eco-friendly technologies, processes, and products that reduce environmental impact and create long-term value. However, the strength of these relationships is influenced by firm size, as larger firms typically have greater resources, visibility, and regulatory pressure, enabling them to translate ESG disclosure and green financing into more substantial innovation outcomes compared to smaller firms.



METHODOLOGY:

In order to examine the relationship between green bond issuance and ESG reporting quality, this study will employ a quantitative research methodology. A cross-sectional design will be used to analyze the relationship between the variables. The goal of this correlational study will be to determine the direction and strength of the relationship between green bond issuance and ESG reporting quality.

Data will be collected from publicly available financial and ESG databases covering listed companies. A purposive sampling method will be applied to select firms that meet the study criteria. Secondary data will be extracted from reliable sources such as financial statements and corporate sustainability reports. Standardized ESG disclosure scores will be utilized to measure both the amount of green bonds issuance and the quality of ESG reporting.

CONCLUSION:

This proposed study conclude that improved financial performance in business is strongly correlated with the both the issuance of green bonds and high quality ESG reporting. This suggests that corporate value and investors confidence are positively impacted by sustainable finance initiatives and clear, ESG disclosures. The findings support the growing significance of incorporating sustainability into fundamental financial strategies , demonstrating the ethical and financial benefits of society and environmentally conscious behaviour.

Overall, the proposed framework highlights how sustainable finance mechanisms can quicken the shift to ecologically conscious business practices. It contributes to the expanding field of sustainable finance and innovation by providing a basis for future empirical research.

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Green Finance, Green Investment and Environmental Sustainability:Mediating Role Of Green Innovation.

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Abstract

The quest of environmental sustainability has become an important strategic priority for the manufacturing sector, particularly in developing countries like Pakistan to adopt sustainable business practices. The study seeks to explore the mediating role of green innovation on green finance, green investments and environmental sustainability nexus in the manufacturing sector of Pakistan. Guided by Resource based-view and Institutional theory, the study assert that green finance and green investment serve as critical enablers that offer firms with the financial and strategic resources necessary to develop innovative, green technologies and practices. Subsequently, Green innovation integrating green product, process and technological innovation act as an operational mechanism that transforms financial and investments into enhanced environmental performance outcomes. This model assumes that, although both green finance and green investment have a singular role in the sustainability, the effect is achieved when the two firms channel or broker such resources to creative practices that minimize pollution, increase resource efficiency and environmental compliance. The conceptual paradigm takes a step forward to theoretical knowledge on the how the financial mechanisms and investment behavior can sustainability based on innovation-led-pathways. Furthermore, it provides valuable insights for policymakers, investors and professional experts in Pakistan on leveraging green financial mechanism to boost up innovation led-pathways towards a sustainable industrial future.

Keywords: Green investment, Green Finance, Green Innovation, Environmental sustainability.

Introduction:

Carbon emission, depletion of resources, destruction of biodiversity, and unprecedented environmental degradation have elevated environmental sustainability to the list of the most pressing global concerns of the 21st century. The concept of environmental sustainability refers to the balanced use of natural resources, the minimization of pollution and the adoption of practices that preserve ecological systems for future generations (Ruggerio 2021). The concept of environmental sustainability has today become a measurable policy, corporate performance objective that is often measured through such measures as waste reduction, energy efficiency, carbon intensity, and sustainable use of resources (Tennakoon, Jandari & Wattuhewa, 2024). The fact that academic sources argue that green finance and green investment, in theory, are associated with environmental sustainability is also a patchy and uneven area, as the empirical evidence is far from consistent, and in fact, financial instruments alone cannot generate ecological performance of great magnitude (Khan H. H. A. et al., 2024; Ye, 2023).In order to comprehend the context of this issue, it is necessary to acknowledge that sustainability results rely not only on financial accessibility but also on businesses' and economies' internal capacity to transform financial resources into creative, environmentally friendly practices.

Because they direct financial resources toward eco-friendly projects, low-carbon processes, and renewable technologies, green finance and green investment are being examined in the literature as significant factors that determine environmental sustainability (Khan S 2022; Le & Ferasso, 2022). The results of such studies, however, are often conflicting or ambiguous. Some of them report strong positive environmental effects, whereas others report weak or neutral results due to organizational unpreparedness, policy inconsistencies, or technological constraints (Woode, 2024; Ye, 2023. These discrepancies indicate that the link between environmental sustainability and financial resources is complex and their relationship may not be improved to any extent unless the businesses are prepared to engage in green innovation. A growing body of research therefore suggests that green innovation serves as the strategic mechanism that enables firms to utilize green finance and green investment effectively. Green innovation is an internal aptitude that transforms the financial inputs into sustainable environmental outcomes using eco-designs, waste-cutting innovations, technologies to prevent pollution and cleaner production techniques. It is supported by the Natural Resource Based View (NRBV) (Khanra et al., 2022; Dai et al., 2022). Without the ability to conduct green innovation, financial resources might go to waste in cases when businesses are unable to improve the environmental performance in any form or fashion. Despite this theoretical knowledge, the majority of earlier research looks at these factors independently rather than combining them into a single mediation-based framework. Existing studies typically discuss the relationships in isolated steps. For instance, innovation improves environmental performance, green finance influences environmental outcomes, and green investment increases sustainability. However, these components are rarely combined into a comprehensive model that explains how and why financial resources result in environmental sustainability such haphazard treatment forms a blaring theoretical and empirical gap. There is insufficient understanding of whether environmental sustainability improves because of financial support alone, or because financial resources stimulate green innovation, which then drives sustainability improvements. Often, the businesses could not have the capacity to innovate greenly, and consequently, there could be no or minimal improvement in environmental performance (Woode, 2024).

The study's variables were specifically selected because they reflect the key processes that lead to sustainability outcomes. The green innovation presents the strategy to turn financial resources into noticeable environmental effects, green finance provides the financial resources, and green investment makes choices to allocate funds to projects that are environmentally conscious, which, as of now, are still in their infancy (Khan R. U. et al., 2022). When taken as a whole, these factors provide a logical explanation for why certain financial interventions result in sustainability while others do not. The article is relevant to the area of the topic because it is consistent with theoretical perspectives highlighting the importance of internal innovative capabilities in turning external resources into strategic outcomes. This study therefore addresses a critical research problem: the deficiency of an integrated understanding of how green finance and green investment influence environmental sustainability through the mediating role of green innovation. The research makes a substantial theoretical contribution by developing a cohesive conceptual model. By providing empirical evidence that innovation is a key mechanism that determines the efficacy of green financing instruments rather than just an extra factor, it expands on the NRBV. The study also closes a significant gap by offering a more thorough and lucid explanation of the connection between financial inputs, innovation capacity, and environmental sustainability. The relevance of the article to the area of study and policy implications is that it became one of the key choices in the field. Despite significant investments made by governments, businesses, and financial institutions in green financial systems, environmental results are still not always consistent.

Knowledge of the relationship between financial resources and sustainability and the mechanism by which this relationship is achieved can help in better policy formulation, strategic planning, and resource distribution. The current study will serve these purposes by enlightening the mechanisms by which environmental sustainability may be successfully promoted as well as giving the research a practical basis on future research in sustainability, green finance and environmental management.

Literature Review

Environmental sustainability Practices, policies and results that conserve the environmental stability and natural resources such that ecological systems and human well-being may be sustained on a long-term basis (i.e. reducing pollution, protecting biodiversity, shedding light resource efficiency). (Ruggerio, 2021; Tennakoon et al.,2024).

The term itself has deep historical origins in the considerations of sustainable development (UN/1970s - Brundtland era) but the studies under stressing have changed in the 2010s-2020s on the aspect of acquiescence and controlled pollution to cohesive solutions: green finance, innovation, circular economy and ESG reporting. According to recent systematic reviews, there is a rapid increase in the collected works on the linking between finance, novelty and policy and environmental outcomes (Ruggerio, 2021; Khan et al., 2024; Tennakoon et al., 2024).

Sustainable environment is fundamental to attaining SDGs and to evading long-term economic, health and social expenditures (Ekins, 2021). For institutes and policy makers Improving environment also reduces regulatory risk and can reveal green finance and markets. For firms and policymakers, it is a consequence variable that alarms performance of carbon emissions, resource use efficiency, and amenableness with developing principles (Tennakoon et al., 2024; Khan et al., 2024).

Green Finance → Sustainability of Environment

Green finance: Financing tools and flows (green bonds, green loans/credit, preferred finance of renewable energy, funds to develop R&D of low-carbon technology) publicly targeted environmental welfares Green finance networks Capitals into renewable energy, energy efficiency and emission-cutting projects and works directly to cut the emissions. Inferior cost of green projects or privileged lending facilities moves forward the financial attractiveness of the environmental investment. Green finance usually accompanies policy impacts and principles (green bond activities), growing size and prominence of eco-friendly undertakings.

Multi-region panel investigations and systematic assessments identify a favorable association among green finance and sustainable development (quantified by renewable investment, green credit, PPPs) reduces CO2 and improves environmental guides (Khan et al 2022; Ahmad Khan et al., 2024; Woode, 2024).Green finance is an emerging, successful station to sustainability--however, the impacts vary depending on quality of the instruments and approach to the tool (Khan et al 2022; Ahmad Khan et al 20 Khan et al (2022) demonstrate that the development of green finance reduces CO2 by renewable energy and investment in R&D; logical appraisals (Ahmad Khan et al., 2022; Woode, 2024) include global indication and are aware of the boundary conditions.

Green Investment - Environmental Sustainability

Green investment is the power to create market incentives for more environmentally friendly practice and reform stakeholder expectations. Carbon Emissions are reduced by direct investment for the sustainable environment. Investments allow process reform, enhancing resource efficiency.

Institutional and sectoral researches (e.g., SMEs, manufacturing, food workstations) find green investment is positively linked with sustainable business performance and environmental consequences; mediated through managerial performance (Corporate social responsibility, Green governance) is mutual (Le & Ferasso, 2022; Ye, 2023). The evidence shows green investments are effective especially when reinforced by organizational skills and control. Green investment is positively correlated with maintainable business capability and environmental consequences, according to firmlevel and sectoral researh (SMEs, manufacturing, food processors, etc.); mediation through managerial performance (CSR, green management) is reg ular (Le & Ferasso, 2022; Ye, 2023).

Le&Ferasso(2022)finds that Sustainability outcomes has been positively affected by green investment

especially in chemical firms, mediated by CSR; Le & Ferasso (2022) exhibit that green investment i mproves sustainable business performance (SMEs) with insignificant mediation by green innovation/ CSR. Green innovation as a mediator (Green Innovation-Environmental Sustainability-Green Finance/Green Investment) from investment and finance to innovation for businesses to start ecoinnovation (R&D, process reform), green finance and green investment off

 ISSN: 2709-8923

er resources (funding, capital) and incentives (grant, reduced cost of capital).

This gives businesses the ability to develop new low-

emission procedures (Khan et al., 2022; Dai et al., 2022).

Finance/investment to innovation: Green finance, investment provides resources (funding, capital) and incentives (reduced cost of capital, grant) to firms to start eco-innovation (R&D, process reform).This enables firms to develop new processes that would be low-emission (Khan et al., 2022; Dai et al., 2022).Innovation (new technologies, green rights, eco-processes) directly lessens pollution and resource concentration and establishes sustainability in production -- thus enlightening environmental performance (Khanra et al., 2022; Dai et al., 2022)

Several researches find green innovation partially or fully mediates the link between financial contributions and environmental performance. E.g. Khan et al. (2021/2022) and Dai et al. (2022) states that financial resources or green finance affect environmental outcomes significantly through green innovation or green practices; RU Khan (2022) shows green innovation mediates financial resources effects in manufacturing. Le & Ferasso (2022) and Ye (2023) provide firm-level evidence where green innovation mediate the green investment - sustainability relation.

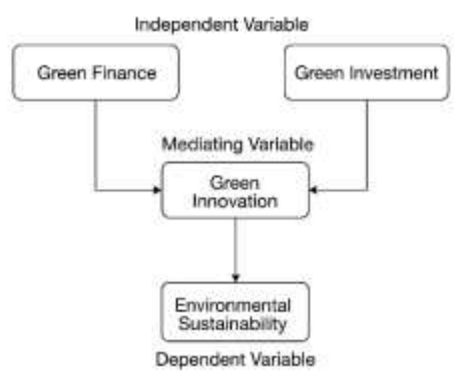
Mediation prone to be limited where firms do not exist: finance unassisted: when firm nonexistent lacks all the constant skills (human capital, managerial performance, sustainable governance) to initiate eco-innovation (R&D, process reform), mediation is more effective when managerial incentives and R&D bionetworks are present (Ahmad Khan et al., 2024; Woode, 2024).Firms practice financial resources and investments to construct green capabilities (green R&D, patents) that are valued and tough to replicate -- green innovation turn out to be the capability that drives enhanced ecological enactment (Khanra et al 2022; Alkaraan et al 2024).

Stakeholder stress is addressed by green finance, investment (investors, regulators, customers); the firms are investing in green innovation to secure legitimacy and market access, raising improvements in the environment. (Ye, 2023; Le & Ferasso, 2022).

Beset investments and financial instruments are followed to propel to low-carbon technology faster; innovation is the process where capital is turned into lower emission (Khan et al., 2022; Ahmad Khan et al., 2024). Green finance, investment provide the resources and inducements; green innovation is the transformative proficiency that converts those resources into methodological and development reforms; those changes are what particularly reduces emissions and develop environmental sustainability. Empirical studies from 2021-2024 reliably show positive relationship and mediation through innovation but the magnitude is dependent on firm quality and firm capacity (Khan et al 2022; Dai et al 2022; Le & Ferasso, 2022; Khanra et al 2022; Ahmad Khan et al 2024).

Methodology:

The proposed study employs a conceptual and qualitative research methodology of coming up with a conceptually based framework that connects green finance and green investment with environmental sustainability using the green innovation. As no empirical information is gathered, the methodology is based on secondary sources, theoretical arguments and conceptual discussion of the already existing research, models, and sustainability frameworks. The study design is explanatory, descriptive, and conceptual and involves determining the major themes, synthesizing previous results and developing the theoretical connections. Whereas the current research is purely conceptual, the hypothetical implementation of the study would be based on an extension of the present research to the organizations that are currently involved in green financing, green investment, or green innovation, with the purpose of purposive sampling and the possible data collection sources would include sustainability reports and regulatory databases. Future mechanisms that are proposed are structured surveys, interviews, and document analysis. In the conceptual part, the analysis takes the form of thematic analysis of academic articles and international reports in order to come up with recurrent patterns, contrast theoretical views, and develop a coherent model. The overall result is a conceptual framework that is integrated in how green finance and green investment can help in order to achieve environmental sustainability, where green innovation is a mediating variable.



Conclusion:

The current paper provides an overall conceptualized awareness of how green finance and green investment help in the environmental sustainability with green innovation as a critical mediating factor. Through the combination of ideas on available theories, existing empirical evidence, and frameworks of sustainability, the study points out that the financial flows on environmentally responsible activities can have a full effect only when they are supplemented by new technologies, processes, and green capabilities. The conceptual model that was created as part of this study is the systematic explanation of all these interconnected relationships and the necessity of focusing on financial, technological, and strategic operations to ensure long-term ecological results. The study is conceptual in nature but provides a solid theoretical ground on the next wave of empirical studies, as it provides clear guidelines on how to explore the role of green financing instruments, investment behavior, and innovation practices in the different industries. Finally, this study is added to the increasing debate on sustainability by formulating a logical framework that can be guided by policymakers, firms, and financial institutions to develop strategies to promote environmental protection and sustainable development.

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Factors Affecting the Intention to Adopt Islamic Finance

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Abstract

The intention to adopt Islamic Finance reveals an individual's behavioral willingness to use Islamic finance products and services. It reflects the motivation on the part of customers to choose ethical, interest-free, and religiously compliant financial systems instead of conventional banking. This paper will discuss the variables which affect consumer intention to adopt IF, which is the low behaviour despite the ethical and religious attractiveness of the Shariah-compliant financial systems. The model is based on the Theory of Planned Behavior and suggests that the Compliance of the Shariah Board, Customer Satisfaction, Accessibility of Product, Religious Preference and Service Quality will affect the adoption intention. The paper also hypothesizes that these relations will be mediated by Awareness of Islamic Finance that will either enhance or dilute the effect of these determinants. The research will incorporate a quantitative research design and primary data-based research design, which will require a purposive sampling of a structured questionnaire of customers of Islamic banking in Pakistan. The anticipated results and outcomes are that the proposed model would be validated and that more insights would be gained regarding the drivers of behaviour of Islamic finance adoption. The research is expected to have a theoretical provision of incorporating important institutional, behavioural, and religious provisions and a practical provision to Islamic banks on how to enhance governance, service provision, accessibility, and awareness efforts.

Key Words: Sharia Board, Religious Preference, Customer Satisfaction, Intention to Adopt Islamic Finance

Introduction

The prospect of Islamic Finance adoption has become a primary behavioural issue in the context of Islamic banking studies given that clients in the Muslim majority nations have recorded relatively low adoption irrespective of their expressed ethical and religious orientation towards Shariah-compliant financial practices. Theory of Planned Behavior (TPB) emphasizes on intention, which is the best foreteller of whether people are likely to engage in a behaviour (Ajzen, 1991). Considering the Islamic finance, intent becomes critical since Islamic banking products are clearly targeted to fulfill religious, ethical and socio economic expectation, but in reality, the will to embrace the products is not yet consistent and well developed (Maryam et al., 2019). This continued disparity between belief and behaviour compels a significant research issue and necessitates a thorough enquiry in the behavioural, institutional and service-related factors that can be used to determine the willingness of consumers to adopt Islamic financial services. Despite impressive institutional growth in particular in Pakistan, Malaysia, and Indonesia, there is still a low adoption rate of Islamic finance among consumers (Sudarsono et al., 2022). In Pakistan, the fract ion of Islamic banking assets in all banking assets is below 25 per cent, although the majority of the population (more than 97 per cent) is Muslim (State Bank of Pakistan, 2024).

To explain the background of this issue, it is vital to recognize that Islamic finance was set up to bring equity, justice as well as the inclusion of risks at no interest by using interest-free and risk sharing (Mirakhor and Iqbal, 2012). Regardless of these peculiarities, a large number of consumers are reluctant as they are not sure whether Islamic banking products belong to the Shariah principles or they imitate conventional financial tools (Amin, 2024). This indecisiveness undermines the consumer confidence and consequently diminishes the intention to adopt IF. Furthermore, the research on Muslims and non Muslims areas has shown that people tend to be poorly aware of the Islamic banking workings, leading to their insufficient understanding, misunderstanding, and lateness in embracing it (Soha et al., 2023; Bananuka et al., 2019). Such behavioural gaps indicate to the circumstance that the intention of adopting Islamic finance is not merely influenced by religious motives, but also institutional trust, accessibility of products and experience of service.

One of the most important aspects, which determine the trust and credibility in Islamic finance is the Compliance of the Shariah Board (CSB) (Devi et al., 2022, Thoib & Bibi, 2025). Financial products and operations must be conducted according to the principles of Islam and this is the role of Shariah boards to make sure that they are link with the Islamic principles. The consumers develop a level of confidence and want to utilize such services when they feel that the Islamic banks are managed by qualified Shariah scholars (Amin, 2024). On the other hand, mistrust and low adoption may be caused by any perceived inadequacy of Shariah governance or lack of transparency (Ahmed et al., 2022).

Customers satisfaction is one of the important issues that influence attitudes and intentions towards Islamic finance. Satisfaction serves as an intermediary in the reletionship between SQ and service loyalty in Islamic banking Ashraf (2014) and Ali and Raza (2017). Customers who are satisfied will have higher credits to recommend Islamic banks, stay loyal, and increase their level of financial involvement. The level of satisfaction is achieved due to regular service provision, code of ethics and effective handling of customer complaints all of which contribute to positive behavioural intention (Aisyah, 2018).

Another important antecedent of adoption intention is the Accessibility of Product (AP) such as convenience, technological comfort and physical presence of branches. In countries such as Pakistan and Indonesia, adoption hindrances include accessibility challenges that are based on the limited branch networks, low digital adoption, and unavailability of Islamic products (Sudarsono et al., 2022). The promotion of accessibility, expressed by the means of fintech innovations, mobile banking, and low-cost products makes perceived behavioural control higher and, thus, intention (Ajzen, 1991).

Religious Preference (RP) describes the moral and spiritual interest in the participation in Shariah compliant finance. It is established by many studies that religiosity and faith-based commitment have a strong impact on consumer intention (Al Hunnayan and Al Mutairi, 2016, Alzadjal et al., 2022). Religious guided consumers view Islamic finance not as a choice, but as an ethical responsibility. Nonetheless, it turns out that religiosity is not necessarily enough and customers need to be aware and confident in the genuineness of Islamic products (Maryam et al., 2019).

Service Quality is also one of the best predictors of attitude and intention. With reference to SERVQUAL model, SQ entails reliability, responsiveness, assurance, empathy and tangibles (Parasuraman et al., 1988). The high quality service is a sign of professionalism, ethical behavior, and customer interaction that increase satisfaction and confidence to Islamic banks (Aisyah, 2018). Islamic banking also goes beyond service quality to include honesty, fairness, and Shariah compliance (Ali and Raza, 2017). Excellent service leads to improved customer satisfaction and confidence and consequently, positive attitudes and intentions to embrace Islamic finance (Ahmed et al., 2022; Ashraf, 2014).

Although these have a direct consequence on intention, the contribution of Awareness of Islamic Finance is critical as a moderator. The perception builds the relationship between the perception (e.g., service quality or Shariah compliance) and behavioural intention because it allows the customer to judge the information (Ali et al., 2025). Religious motivation and the real financial decision-making are also connected by the awareness (Mahadi et al., 2024). Indicatively, customers who are highly aware of Shariah compliant principles are in a better position to know what is genuine Islamic products and how to tell the difference between the products and the traditional products. Low awareness on the other hand can undermine the perceived significance of religiosity and quality of service and decrease intention to adopt.

Even though many research works have been conducted on the adoption of Islamic banking (Latip et al., 2017, Bananuka et al., 2019, Maryam et al., 2019), not many studies have been done to discuss these five determinants in a single integrated framework. The majority of the previous studies concentrated on particular variables such as religiosity or satisfaction or considered awareness as an independent variable but not as a moderator (Ahmed et al., 2022). Furthermore, not much has been done regarding the joint influence of Shariah governance and service experience on customer intention in growing economies such as Pakistan where structural accessibility and awareness are limited (Chenguel, 2019, Soha et al., 2023). This paper can thus make a contribution by testing the moderating role of awareness between the hypotheses of Shariah Board Compliance and Customer Satisfaction and Product Accessibility and Religous Preference and SQ on the Intention to Adopt IF.

In theory, the given study applies TPB (Ajzen, 1991) by introducing religious and institutional governance factors, which are context-specific to Islamic finance. The research is important to the consumer and Islamic financial institutions. It assists the Islamic banks to devise measures to enhance the quality of services, the transparency of Shariah, and the accessibility by identifying the behavioural and institutional forces behind the adoption intention. To regulators, the results can be used to reinforce the policies strengthening the Shariah governance systems and consumer awareness campaigns. On the scholarly front, the research provides a unified look on the various factors of adoption intention which is a new addition to the literature on Islamic finance. This paper combines these three aspects; behavioural, institutional and religious, and thus forms a more comprehensive insight into the customer behaviour in the field of IF which remains under research despite its increasing significance in the world today.

Literature Review

Intention to adopt an IF is the voluntary willingness or readiness of the individuals to utilize Shariah-compliant financial products or services. It is based on the Theory of Planned Behaviour (Ajzen,

1991) that recognises intention as the closest outcome predictor of real behaviour. In Islamic Finance, intentions are an important proxy of adoption since most consumers might be conscious of Islamic banking but they are yet to make real transactions because of barriers to access or internal institutional reason. Previous research has highlighted that intention is a behavioural motivation of the customers and a strong predictor of future Islamic banking services usage (Mahmood et al., 2019). The intention construct is also important in that it mediates the attitudinal factors with real decision-making including religiosity, trust, and satisfaction. The Islamic financial institutions base their reliance on religious credibility and service quality in order to develop such intentions. In this way, the analysis of intention as the dependent variable offers information about the consumer psychology and the institutional performance through the developing Islamic finance industry (Soha et al, 2025)

Compliance of Shariah Board (CSB) is perceived strength, credibility as well as independence of the board that makes Islamic financial institutions to comply with the Shariah principles. Shariah boards are governance mechanisms that improve transparency, issue fatwas and audits and reviews on Shariah compliance. The presence of strong Shariah systems of governance generates consumer confidence by creating an indication of religious authenticity (Hasimi et al., 2022). As per signaling theory, effective Shariah supervision should mean to customers a plausible guarantee that the products are riba-free (no-interest), gharar-free (uncertainties), and maysir-free (gambles), and in doing so perceived religious risk decreases and trust is formed. To be more precise, the perception that an institution is appropriately managed by a Sharia board will increase normative pressure (community expectations) and attitudinal power, thus, increasing intention to adopt, among those customers who are concerned with Islamic compliance (Mohamed Isa et al., 2025).

Empirical results suggest that the presence of good Shariah board supervision has a positive impact on the attitude and intentions of customers to adopt Islamic finance (Muhammad Thoib et al., 2025). When the consumers feel that the bank is strictly enforcing Islamic decisions, their confidence level goes high and hence the behavioral intention to use Islamic products goes high. On the other hand, poor governance or lack of coherence in Shariah disclosure may ruin customer confidence and put off uptake. Thus, Shariah board compliance is an important decisive factor of intent not to mention the devout Muslims but also ethically mindful consumers with transparent and moral financial conduct.

Customer satisfaction refers to the overall judgment of the consumers in regard to the performance of a service relative to what they thought initially about it (Ashraf, M. G, 2014). The dimension of satisfaction in the Islamic finance sphere combines both functional (service performance) and symbolic (Sharia legitimacy) aspects of satisfaction, thus being particularly powerful in the intention prediction (Ali et al., 2017). Customers who are satisfied would become more emotionally attached and loyal to their financial institutions, which, in its turn, would increase their willingness to use them (Ahmed et al., 2022).

It is empirically shown that the more pleased customers of Islamic banks show a desire to continue or even use more products (Ali et al., 2017). Studies have demonstrated that customer satisfaction mediates the customer satisfaction-behavioral intention connection between service quality and behavioral intention (Ali et al., 2017). This connection is also applied to the perceptions of spiritual satisfaction in the Islamic finance: when services are satisfactory in the economic and religious aspect, the level of trust and desire to recommend or adopt Islamic banking products increases. Therefore, customer retention is not only important, but customer satisfaction must be taken to the maximum to promote new adoption, particularly, when dual-banking markets are competitive.

The term accessibility of Islamic financial products can be defined as how customers can gain access to Islamic financial products, avail them, and comprehend them. Some of the factors associated with accessibility are the proximity of the branches, digital-banking, cost-effectiveness, and the simplicity of the product (Latip, 2017). In the Theory of Planned Behavior, it is more clearly stated that accessibility is related closely to the perceived behavioral control where people are more willing to make intentions to adopt where they perceive that the barriers to access are smaller (Ajzen, 1991).

Empirical research reveals that the intention to adopt the Islamic financial products can be increased when there is digital availability and their eligibility is inclusive (particularly among the younger, technologically advanced generations) (Sudarsono et al., 2022). (Yusoff et al.,2024) have discovered that Indonesian small business proprietors were more disposed to embrace Islamic finance where services are offered on the convenient digital platforms and cost arrangements are adaptable. Equally, the lack of awareness and access has been identified in Pakistan and Malaysia as the main impediments to adoption. Thus, the improvement of physical and digital access is directly related to the reinforced behavioral intentions, because structural impediments are lessened as a consequence of reinforcing the nature of the positive attitude and actual adoption relationship.

Religiosity is defined as the level of religious commitment, internalisation of the religious values and the inclination towards religious fit actions (Iqbal and Mirakhor, 2012). Religiosity has become a conceptualised reason that makes people choose to use Islamic over conventional financial services in the context of Islamic finance (Bananuka, 2019). The TPB suggests that religiosity has an effect on attitude (through individual values) and subjective norm (through religious group expectations) (Ajzen, 1991). In addition, religiosity has always been proven to be one of the most effective predictors of adoption intention (Alzadjal et al., 2022). Strong religious people do not see the Islamic banking as just a financial option but their moral and spiritual duty. Religious value system influences Muslims not to have riba and carry out transactions that are in line with the Islamic law.

Empirical studies have indicated that there are always positive correlations between religiosity and intention to adopt Islamic finance (Bananuka, 2019). Few previous studies show that increased levels of religiosity are valid in boosting customer intention to embrace Islamic finance (Mohamed Bechir Chenguel, 2019). The connection works in the cognitive and affective directions: when religious knowledge affects beliefs on the permissibility of financial products, and commitment influences compliance emotionally. Religiousness, therefore, offers a normative basis, on which the consumer attitudes towards Shariah compliant services are based.

Service quality refers to the perception of customers in regard to the performance of financial institutions in their respective dimensions that include reliability, responsiveness, assurance, empathy, and tangibility of service delivery (Parasuraman et al., 1988). Service quality in the financial services industry, and especially in Islamic banking has more than just functional characteristics such as speed, accuracy, and reliability but also an ethical and Shariah compliant area (Moez Ltifi et al., 2016). Other areas including ethical behavior and Shariah transparency are very vital in Islamic banking (Muniaty Aisyah 2018). Existence of trust and satisfaction due to high service quality affects customer behavioral intention positively.

This is backed by empirical data that has asserted that, on top of enhancing satisfaction, high quality service positively correlates with strengthening customer willingness to use Islamic financial services (Al-Hunnayan et al., 2016). The quality of service is therefore an indirect and direct motivation to intention. With the Islamic banking institutions being in the competition with the mainstream counterparts, upholding high standards of service is crucial towards the consolidation of the positive perceptions and long term customer loyalty.

Awareness of IF simply means the amount of knowledge and understanding that individuals have about Islamic financial principles, products and institutions. Product awareness would empower consumers to decode product features and signals of governance the right way to facilitate informed decision making (Amin, 2024). Within the TPB model, awareness leads to the increase of perceived behavioural control and more rational and diagnostic attitude judgment (Ajzen, 1991). In this research, the concept of awareness is described to be a moderator, it reinforces or dilutes the influence of the independent variables on the intention to adopt IF.

As an example, awareness has the potential to increase the effect of Shariah board compliance on intention. Well informed customers have more chances to understand the credibility of the Islamic financial principles in their full extent, and therefore, compliance is a stronger influencer of their intention. On the other hand, when there is low awareness among customers, the governance signals can be ignored meaning that they do not have that power. Likewise, the impact of service quality and satisfaction may be reinforced with the help of awareness people are able to perceive the special ethical and operational advantages of Islamic banking better when they are informed about it.

Empirical research carried out in Malaysia and Pakistan affirms the moderating role of awareness that its existence enhances the correlation between religiosity, perceived service quality, and intention. At the theoretical level, it is consistent with knowledge based view, which implies that awareness should increase the processing of information in the mind, and also enable customers to match product features with their value systems. Thus, the awareness should be viewed as an enabling factor, which defines the impact of the attitudinal and behavioral associations in adopting Islamic finance.

Methodology

This research project is going to use a quantitative research approach since it will empirically test the hypothesized conceptual relationships that affect the intention to adopt IF. The research design will take an explanatory and cross sectional approach that will test the impact of Compliance of Shariah Board, Customer Satisfaction, Accessibility of Product, Religious Preference and Service Quality on adoption intention with Awareness of Islamic Finance being a moderating variable. The study will be primary data based, with reliance on first hand information which will be obtained directly through respondents. The research population will be the potential and existing Islamic banking customers in Pakistan. The sampling frame will consist of the customers to all Islamic financial institutions and Islamic branches of conventional banks. It will suggest a sample of about 300-400 respondents to make sure that there will be sufficient representation and statistical validity. The research will use a purposive method of sampling whereby individuals that have experience with banking services will be selected and be able to respond appropriately. The primary data will be gathered using a validated measurement scale based on a structured self-administered questionnaire that will include validated measurement scales regarding service quality, service satisfaction, perception of Shariah compliance, accessibility, religiousness, awareness, and intention to adopt. The questionnaire will be filled out by the respondents physically or using online distribution channels. The suggested data analysis approach will involve quantitative statistical measures like the regression analysis or the structural equation modeling to test direct or moderating effects. It is anticipated that the proposed conceptual model will be empirically validated and improved as a result of the proposed methodology, which will help the development of theories and practical knowledge of Islamic finance adoption behaviour.

Conclusion

The study will contribute to the current literature on the adoption of IF by providing a theoretically based description of the reasons why consumers remain to show low intention to use Islamic financial products. The institutional, behavioural and religious determinants will be combined in the Theory of Planned Behavior, and this will help the research to go beyond the piece meal study of determinants which have been conducted separately in the past. It will be proposed that the Model will claim that Compliance of the Shariah Board, Customer Satisfaction, Accessibility of Product, Religious Preference, and Service Quality all influence the adoption intention, with Awareness of Islamic Finance possibly reinforced the relationships by increasing consumer knowledge and confidence. By administering a quantitative and primary data approach, the research will aim at offering empirical data which can be used to develop the adoption theory in the context of Islamic finance. It is hoped that the findings would make significant contributions to the field of knowledge because they would explain the ways in which institutional credibility and service experience would be converted into behavioural intention. Moreover, the research is believed to direct Islamic financial institutions to enhance governance transparency, service delivery, product accessibility and awareness strategies, which will translate to an increase in the adoption levels. The suggested study will thus form the basis of the future empirical literature and comparative studies, promoting further theoretical advancement in the studies of the adoption of Islamic finance.

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Impact of FinTech Adoption on Sustainable Performance in the Banking Industry: Mediating Role of Digital Modernization and Moderating Role of Digital Financial Literacy-A Conceptual Paper

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Abstract

Sustainable performance in the banking industry represents bank's efficiency to continue long term economic well-being by integrating social and environmental practices in their frameworks. It indicates banks efficiency to administrate e-resources, lower operational risk, increase transparency and back sustainable economic development. Attaining sustainable performance in modern era of the banking industry needs integrating innovational tools with deliberated digital competences. This study aims to explore how **FinTech Adoption** impacts **Sustainable Performance** in banks, with **Digital Modernization** as mediating tool and **Digital Financial Literacy** moderating the relationship. The purpose is to focus the digital revolution corridor through which FinTech mechanism push the operational effectiveness, efficient services, and long term sustainability within banking sectors. The developing methodology of this conceptual model is grounded with in-depth analysis of existing literature in FinTech, sustainability, digital transformation and innovation in banking. Using this review approach visible gap was identified, while FinTech Adoption is far and wide examined, but partial studies conduct the combine structure of digital modernization and digital financial literacy influence on bank's sustainable performance. This study investigate that gap by offering an integrated model based on digital modernization and competency based assessments. Drawing upon the synthesis of previous studies, this work proposed a conceptual framework for understanding how FinTech enabled modernization can assist to sustainable banking. Therefore suggested that future research can do empirically test and more refine this model with different angle in banking prospective.

Keywords: Sustainable Performance, Digital Modernization, FinTech Adoption, Banking Innovation, Digital Financial Literacy

1-Introduction

In the modern era, sustainable performance has become an essential part for organizational achievements and business plan. The idea of sustainable performance (SP) is not just about to enhance the financial growth and short term success of probability. Its highlight the need to combine the environmental and social aspects for organizational achievement, and that integrated dimensions should implemented into their operational processes for long term stability. Sustainability indicates the effectiveness of an organization to manage the continuous growth with the satisfaction of stakeholders while reducing the effects on community and environment (Mohsin et al., 2024). In the framework of banking industry sustainable performance (SP) includes managing operational work, client's confidence, and risk control and compliance activities with the regulatory requirements related to sustainability. Meanwhile by investing in green finance initiatives, inclusion of digital platforms and promote ethical business activities.

In recent times, banks are under pressure to fulfill the commitment towards sustainability that is not only from stakeholders but also the form the legislators, banking regulators and business community. Now sustainability parameters are not about take voluntarily initiatives it has become strategic obligations that directly effects the client's devotion and repute of the banks. Although, it's multifarious task to get higher sustainable performance (SP) in banking industry. It's involve novelty, digital modernization, and adaptive approach according to the market dynamics, while considering the environmental and social aspects for banks. Banks are likely to contribute by investing more in green financing and digital lending. These objectives of the banks cannot accomplish with outdated banking tools, it's require integrated dimensions of financial tools and digital competencies (Khan et al., 2025; Aslam et al., 2025).

During the previous decade, FinTech adoption (FA) has restructure the world dynamics of financial industry. FinTech indicates the use of modern tools and technologies, for instance, digital mobile banking app, digital payment, digital lending, blockchain, and AI risk assessment tools to provide the efficient, reachable and crystal clear financial services. In the context of banking, FinTech adoption (FA) plays vital role to increase working productivity, develop customer loyalty and contribute to sustainable performance (SP) by reducing tangible resources and minimizing the business costs. For example, use of digital podiums contribute in green banking that leads to use of paperless transactions which is ultimately reduce the energy intake and support environmental responsive processes (Aslam et al., 2025). Endorsing the financial inclusion, FinTech role is very important in terms of social aspect of sustainability. It's provide the facilities to rural areas where most of the community is unserved. This broader tactic contributes into social aspect by confirming that digital modernization reach to all divisions of community (Sam-Abugu et al., 2025). With relation of economic aspect FinTech adoption reinforce a bank's economical position and productivity through modern systematic process and data driven decision making. While the positive effect of FinTech adoption (FA) on working operations and financial results is broadly accepted, but the connection with sustainable performance (SP) still need more findings, especially within developing markets such as Pakistan.

FinTech adoption (FA) cannot bring the sustainability outcomes alone, to contribute in sustainability, banks need integration within departments and elevate its framework with high-tech tools and technologies. This basically comes up with the argument towards the idea of digital modernization (DM), which is the connection between Fintech adoption (FA) and sustainable performance (SP). Digital modernization (DM) is the process through organizations are elevate its technological set-up by implementing automation and bring the advance technology for efficient operations and it's indicate the organization internal ability to adapt according the market needs. As per the Dynamic Capabilities Theory (DCT), organizations just not only to bring the new technologies but also have capacities to convert these new resources into positive outcomes according to market changing dynamics (Saeed et al., 2025). In the banking framework, digital modernization (DM) facilitate FinTech innovations to perform efficiently by connecting banks scope of work. For instance, services of digital lending, automatic risk assessment and systematic compliance management. Digital modernization work as the mediating tool between FinTech adoption and sustainable performance. FinTech bring the new technology according to the need but in relation to digital modernization (DM), that make sure these new technologies are implemented into day to day work activities. By this transformation into digital doors, banks improve efficiency, lower the risk of operations and advance the sustainable digital practices which contribute in social and environmental aspects. For instance, digital work operations promote green banking by reducing carbon foot prints, artificial intelligence system work more efficiently which lead toward less consumption of energy and systematic compliance management make sure the accuracy and reduce the change of human error in financial work activities. (Khan et al., 2025; Aslam et al., 2025).

Adding on, digital modernization (DM) increases the impact of FinTech adoption (FA) on sustainable performance (SP), but on the other hand, its achievement is purely based upon Digital Financial Literacy (DFL) of organization personnel and stakeholders. Digital Financial Literacy (DFL) means the information and abilities needed to know, use and cope the digital financial services effectively. Without sufficient knowledge FinTech technologies may not be work properly, and lead to ineffectiveness and security risks (Sam-Abugu et al., 2025). In the banking framework, Digital Financial Literacy (DFL) act as moderator that reinforce the connection between FinTech adoption (FA) and digital modernization (DM), when banks staff digitally well-educated about newly implemented technologies they can perform and manage new technology with superiority. In contrast consumers with better knowledge level can use digital applications, E-wallets and Raast payments safely and positively. In developing countries like Pakistan where fewer people are associated with digital working environment because of digital awareness and their trust is still growing to accept the digital environment. In addition to this educating about Digital Financial Literacy (DFL) is very important for accomplishing the sustainable and technological objectives. According to the Literature view, FinTech adoption without improving the, Digital Financial Literacy (DFL) commonly leads to irregular benefits and operating risks (Mohsin et al., 2024). Therefore, improving literacy confirms that the full potential of digital modernization is recognize.

Even though, growing research attention on digital transformation and sustainability, there is still inadequate understanding of how FinTech adoption, digital financial literacy and digital modernization, jointly effect sustainable performance in the banking sector. Prior research has dedicated primarily on the direct effect of FinTech on operational efficiency or financial inclusion, overlooking the mediating and moderating dimension that form sustainability results (Saeed et al., 2025; Khan et al., 2025). Likewise, most experimental studies have been conducted in developed economies, where digital infrastructure and regulatory environments are more advanced. To address this gap, the present conceptual study develops a new structure that assimilates FinTech Adoption (IV), Digital Modernization (Mediator), and Digital Financial Literacy (Moderator) to clarify Sustainable Performance (DV) within the banking sector. The structure is base in the Resource-Based View (RBV), which points FinTech and digital literacy as strategic resources, and the Dynamic Capabilities Theory (DCT), which provide opinion that modernization as the capability that converts these resources into sustainable results. This conceptual structure backs to theory by extending the understanding of how digital resources and capabilities interact to drive sustainability. Practically, it suggests valuable perceptions for banks and policymakers to plan strategies that combine FinTech revolution with modernization and literacy initiatives to accomplish long-term sustainability goals. The proposed conceptual model thus offers a foundation for future empirical research and policy initiatives intended at strengthening digital sustainability in the banking sector.

2-Literature Review

Sustainable Performance

Sustainable Performance is the indication through which firms attain continuous achievements whereas major considerations on environment for the benefit of society (Imdadullah et al., 2024). This idea exceeds the outdated focus to maximize by combining the sustainable approaches in organization operations, for the purpose of increasing sustainable abilities and adding value for stakeholders and society (Busch et al., 2024). The three pillars of sustainability social, economic, and environmental are stating that sustainability means that one is able to secure the security over long periods of time. It is pertinent to mention that sustainability performance and environmental performance are not same, sustain able performance is more border in organizational context (de Almeida Barbosa Franco et al., 2024). Environmental focus related work operations can contribute to sustainable performance. This contains tumbling their carbon footprint, efficiently managing resources, by practicing environmentally friendly projects. In the context of banking sector sustainable performance also keeping high standards of governance and ethical conduct. This comprises of transparency and responsible risk management (Imdadullah et al., 2024)

FinTech Adoption and Sustainability Performance

In the banking sector FinTech adoption appeared as strong tool for achieving sustainable performance. Sustainability performance consist of two parts, financial and non-financial that shows an organization's ability to track its operations in well-organized method which also includes the broader needs of the society. FinTech mean the use of innovative tools in financial services that aims to enhance the organizational output, financial access, and green finance initiative, all of them contribute to sustainability (Hidayat-ur-Rehman & Hossain, 2024). This connection is grounded on the Resource Based View (RBV) theory because it classifies technology as the strategic organizational asset. Block chain, AI, and mobile banking are instances of FinTech resources that act as strategic resources to achieve competitive advantage for banks (Imran Khan, 2025). Adding on to the profit-based view, FinTech supports sustainable development goals by allowing change in finance and developing the initiatives of green technologies, connecting the gap between the use of technology and sustainable outcomes (Alsadoun and Alrobai, 2024). Numerous researches have been presented so far, to determine the relationship between technological innovation and environmental performance, but little emphasis has been given to the correlation between FA and SP regarding banking institutions like in Pakistan. Consequently, the gap is intended to be bridged by this study which will examine how FA affects the SP of banking institutions.

H1: FinTech Adoption has a positive and key impact on SP.

FinTech Adoption and Digital Financial Literacy (Moderator)

In the time of digital development, every business is shifting from the outdated system to the upgraded digitalized system and to make sure for outcome financial literacy is the key factor to apply digitalization DFL is compulsory to enhance the sustainable performance of the organization (Mohsin Raza et al., 2024). Similarly, the FinTech tool entails instructions that transform an existing business model into a new business model through the development, the modification, and the upgrading of an existing business model. To have safe operations and uses of digital products and services such as FinTech, play a significant role and act in the best interest of the individuals in the financial sector (Mohsin Raza et al., 2024). Unlike this paper, very few previous studies noted that digital financial literacy is in a better position to take advantage of technological platforms, such as FinTech. To illustrate, Islam and Khan (2024), indicate that digital financial literacy helps the organization in the implementation of Fintech. The author also said that digital financial literacy and FinTech Adoption are strongly correlated. Experimental study from Pakistan indicates that higher level of DFL is created value for adopting Fintech Hidayat-ur-Rehman and Alsolamy (2023), Equally, Majid et al. (2022) have found out that the more a person is financially educated the more they are likely to use digital banking services, which translates to increased financial security and improved financial decision making. Currently, the digital financial literacy research is limited, and accordingly, this research is guided by the desire to establish the correlation between the adoption of FinTech and digital financial literacy.

H2: Digital Financial Literacy positively moderates the connection between FA and DM.

Digital Modernization and Sustainable Performance

DM supports banks to computerize processes, modernize their operations of work for reducing carbon footprints. For purpose of improving operational competence, banks can cut extra resources, by reducing their carbon footprint and reduce waste, and this all leads to contribute in sustainability performance (Zhang et al., 2023). Similarly, this change helps for execution of green banking projects. For instance, banks can offer digital podiums for consumers to choose for e-statements, by enhancing digital platform and participate in green financing projects (Kaondera et al., 2023). Fintech adoption as a part of DM also helps financial inclusion by providing digital platforms to underserved communities (Zhang et al., 2023). These steps to enabling of sidelined communities can back to social sustainability (Imdadullah et al., 2024). To conclude, as environmental concerns importance, large numbers of people support those businesses that play roles for sustainable practices. Banks that promotes digital modernization their sustainable performance reach at high level and may fascinate and hold environmentally aware consumers (Park et al., 2023).

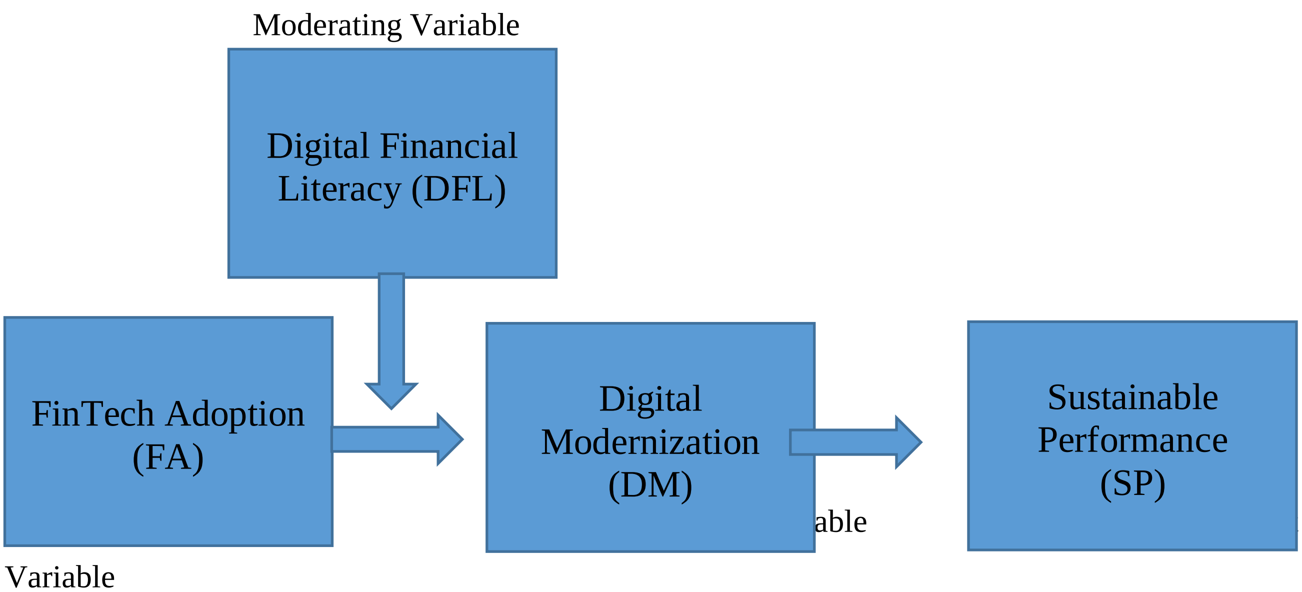
H3: Digital Modernization has a positive influence on SP.

Mediating role of Digital Modernization

Digital Modernization perform as an arbitrator that helps the combinations of Fintech solutions to determined sustainable outcomes. It provides banks with the essential financial instruments, such as green bonds or sustainable investment funds (Imdadullah et al., 2024). Fintech adoption enables banks to modernize their scope of work with automatic assessments (Yun et al., 2023). Digital modernization, in this context, mediates the connection by enabling the Fintech-driven investment decisions with sustainable goals, eventually contributing to enhance sustainability performance in the banking sector. Existing study shows that sustainable advancing is also mediated by Digital Modernization activities in Fintech adoption. Similarly, this provides guidelines for participating environmental considerations into lending decisions (Akomea-Frimpong et al., 2022). By developing the link between Fintech capabilities with digital modernization ideologies, banks can boost their ability to recognize and invest in the environment friendly projects and promote sustainability in their advances portfolios (Imran Khan, 2025). Study shows that Fintech adoption allows banks with innovative tools of risk management, such as AI, machine learning and big data analytics (Dubey et al., 2022). These technologies facilitate banks to operate efficiently with their advances portfolio by considering environmental risk. By this mediation, DM helps banks leverage Fintech adoption to recognize and alleviate environmental risks, by focusing on their sustainability performance (Imdadullah et al., 2024). Adoption of financial technology allows banks to access and explore data. By merging Fintech capabilities with digital modernization frameworks, banks can positively assess and integrate SP factors into their decision-making processes. This mediation improves the incorporation of sustainability concerns into banks' operations and contributes to their overall sustainability performance.

H4: Digital Modernization mediates the connection between FA and SP.

3-Conceptual Framework



4-Research Methodology

This research adopts a **conceptual research design**, exclusively depends on prevailing literature to develop a theoretic model connecting FinTech Adoption, Digital Modernization, DFL, and SP within the banking sector. Significant sources were identified using keywords such as FinTech adoption, digital transformation, digital financial literacy, and sustainability. A significant concepts were well-defined, theoretical connections were established using the Resource-Based View and Dynamic Capabilities Theory, and a new conceptual framework was established. No primary data were collected, as the tenacity is to combine existing information and suggest a model for future testing. While this work is conceptual, it also plans the **future empirical approach** that scholars might use to authenticate the proposed model. An organized questionnaire can be disseminated to banking professionals, and the data analyzed using **SmartPLS 4**, which is appropriate for multifarious models linking mediation and moderation. This conceptual procedure ensures theoretical accuracy, combines uneven knowledge, and offers a clear pathway for future empirical research, that how digital skills drive sustainable performance in the banking industry.

5-Conclusion

This conceptual paper offer a combined context presenting how FinTech Adoption can increase Sustainable Performance in the banking industry, reinforced by the mediating role of Digital Modernization and the moderating influence of Digital Financial Literacy. The assessment tells even though FinTech is extensively recognized for improving productivity and innovation, its connection to sustainability is still underexplored in emerging countries like Pakistan. By integrating the Resource-Based View and Dynamic Capabilities Theory, the study claims that FinTech only is insufficient without strong digital structures and digitally well-educated users. The proposed model support to current literature by linking technological novelty, digital competency building, and sustainability outcomes. Essentially, it monitors banks to strengthen sustainability by investing in FinTech, elevation of digital infrastructure, and educating digital financial literacy. The paper also summaries a direction for future empirical studies using methods such as PLS-SEM to test these relationships. Inclusively, this research highlights that sustainable performance depends on the combined effect of technology adoption, modernization, and human aptitude, providing a solid groundwork for future research and deliberate banking practices

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Impact of Audit Quality on Firm Performance Measured by Return on Equity (ROE)

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Abstract

In this study, Firm Performance is considered to be the dependent variable and is measured by Return on Equity. ROE reflects a firm's ability to generate profit from shareholder's equity and reflects the management's efficiency in utilizing the equity capital to further enhance profitability. It hence becomes a very important measure of financial efficiency as well as of the general success of business and therefore suitable for testing the influence of audit characteristics on performance. The specific aim of this conceptual study is to investigate how audit quality, audit firm size, auditor tenure, and audit fee affect the performance of firms. Based on agency theory, signaling theory, and stewardship theory, the paper discusses the theoretical linkage between audit attributes and financial performance. This work consequently aims at highlighting the gaps in existing literature and also proposes testable propositions that can be used in subsequent empirical validations. It will make use of a conceptual research design by systematically reviewing peer-reviewed journals and professional reports. This is intended to synthesize findings into a conceptual framework that explains how audit characteristics may influence firm performance as proxied by ROE, and thus sets the ground for future empirical studies along with policy development.

Key words: Audit Quality, Firm Performance, Return on Equity

Introduction

The issue of firm performance is very crucial in accounting and finance studies since it is the determinant of the sustainability of organizations, their profitability, and the value creation in the long run. Return on Equity (ROE) is one of the best-known accounting-based metrics of firm performance due to its ability to be one of the most predictive indicators given that it represents the efficiency of the managers in using the funds belonging to shareholders to obtain net income. ROE is also an indicator of organizational profitability, as well as, the efficiency of the internal governance, financial reporting, and operational control systems (Alkhatib and Marji, 2022). Firm performance, in terms of ROE is further emphasized in the developing and emerging markets where companies face structural risks such as poor governance, low investor protection, and high reporting risk. The reason behind this is the fact that financial instability, and irregularities in reporting, may greatly decrease profitability, compromise investor trust, and jeopardise long-term sustainability. Thus, determining the determinants that affect ROE has become one of the research subjects.

Over the past few years, there has been a growing academic focus on the issue of audit quality as a core mechanism that can affect the performance outcomes of firms. High quality of audit increases credibility of financial reporting, effectiveness of monitoring, information asymmetry and investor confidence. On the other hand, poor or weakened quality of audit may result in earnings manipulation, financial misstatements, and poor corporate governance structure, which eventually damages the firm performance (Hussien et al., 2024). Many cases of corporate collapse and earnings scandals around the world have highlighted the significance of the functions of auditors in the provision of transparent and reliable financial reporting. Since the quality of reporting has a direct relationship with the managerial decision-making and perceptions of the investors, the audit quality has become a significant factor in determining ROE.

The quality of the audit is influenced by the type of audit features, such as the size of an audit firm, audit fee, and experience or tenure of the auditors that determine the degree of assurance that is given in the auditing process. The Big Four Bigger audit firms are also reputed to provide better audit quality through better expertise, reputational incentives and independence. The empirical results indicate that Big Four auditors perform by far better than non-Big Four auditors in terms of quality of audit, where auditors minimize the impacts of misstatements and earnings management (Pham et al., 2025; Tran et al., 2025). Such high-level audit practices increase the financial reporting credibility and thus affect the performance of the firm and raise ROE. Besides, a previous study in Pakistan has identified that big four auditors have high knowledge-sharing behavior and resource capacity to facilitate audit effectiveness (Munir et al., 2019). This fact helps to prove the thesis that the size of the audit firm is one of the key factors of the audit quality and, consequently, firm performance.

Audit fee is another major dimension of audit quality because it reflects the amount of audit effort and engagement of an auditor in the audit process. Audit fee shows the allocation of auditor resources and intensity of audit procedures. An increased fee tends to point towards greater scope of audit work, but this also may lead to issues of economic dependency, which in turn may undermine auditor independence. According to Wang and Zhou (2022), normal audit fee is positively related to audit quality, but abnormal or excessive audit fee entails a greater risk of compromised auditor independence. Hussain and Al-Absy (2024) also reported that audit related reasons such as fee structures play significant roles in creating differences in quality of audits in emerging economies. Thus, the role of audit fees in the quality of audit is necessary to analyse the ultimate impact of audit fees on the company performance.

Similarly, the experience or the tenure of the auditor is also important in determining the quality of an audit. Prolonged auditor-client relationships may enhance the efficiency of the audit process because of the experience gained with regard to the operation of the client. Nevertheless, a very long tenure may also affect auditor independence because of familiarity threats (Hussain et al., 2024). Recent researchers also found out that the quality of audit has a substantial decline in the practice of earnings management, which proves that experienced audit is more efficient in terms of identifying the misstatements and integrity of the reporting (Hussien et al., 2024). In that aspect, auditor experience has a positive impact on firm performance because it enhances the reliability of reporting and thus leads to increased ROE.

Although there is increasing interest in audit quality and performance of firms, there exists a number of gaps in the literature. First, the existing literature in the emerging markets focuses on financial reporting quality, earnings management, or fraud, whereas the number of studies that investigate the effect of audit quality determinants on the performance of a firm through ROE is very small (Hassan et al., 2025; Yousefi Nejad et al., 2024). Second, studies like Hussain and Al-Absy (2024) and Hussien et al. (2024) have applied the specific audit quality drivers, but few have concurrently tested the impact of audit firm size, audit fee, and auditor experience on the firm performance. Moreover, the current literature is skewed in terms of carrying out research in industrial or banking industries, where there are few studies that incorporate all the audit quality determinants in wider market. Third, due to recent findings, the Big Four and non-Big Four firms differ in the quality of audits (Pham et al., 2025), but not much empirical evidence relates the differences to the performance of firms.

These gaps warrant the necessity of an indepth research on the impact of the size of audit firms, audit fee and auditor experience on the performance of firms in terms of ROE. With the growing trend of the adoption of the global audit standards and improvement in the mechanism of governance by the emerging economies, the connection between the nature of audit and the profitability of firms is a necessary understanding. This paper aims to play a role in this current debate and examine whether increased quality of audit due to these determinants will result in enhanced performance in the firm. The issue was selected because of the growing concerns about financial transparency, independence of audits and a diminishing investor trust on the emerging markets and especially in Pakistan. Enhancing audit processes and comprehension of its effect on performance can help policymakers, practitioners, and stakeholders to enhance the general financial governance.

This study is relevant to the body of existing knowledge as it incorporates the aspects of audit firm size, audit fee and experience of the auditor into a single framework in order to determine their combined effects on the performance of the firm. Although these variables are individually studied in earlier research, a holistic approach is incompletely studied. In addition, the research increases the theoretical knowledge of how audit quality enhances ROE, based on agency theory and signaling theory. According to agency theory, the external auditing minimizes the management opportunism and hence enhances the performance of a firm. Signaling theory argues that greater quality in audit is a strong credibility information to the stakeholders, and the resultant outcome is increased investor confidence and better financial performance. Moreover, this paper covers empirical gaps through reliance on recent literature (2022-2025) and offering the analysis of the untapped markets.

Literature Review

One of the most popular accounting-based ratios of firm performance is the Return on Equity (ROE). ROE is a measure of how an organization utilizes equity financing to make a profit and is calculated by dividing net income by average stockholders' equity. ROE shows efficiency in management and is a factor that investors mostly use to determine profitability (Hassan et al., 2025). The scholars still stress the importance of ROE as a sound indicator of the performance of firms due to its ability to include financial discipline and profitability (Alkhatib and Marji, 2022). ROE is also commonly employed in empirical research due to its objective nature, auditors, and other forms of valuation-based metrics that are more susceptible to market fluctuations (Tran & Pham, 2025).

The significance of ROE in auditing studies lies in the fact that good financial reporting levels enhance firm performance, and ROE shows the result of the enhancement of better governance systems (Jamil and Munir, 2019). High quality auditing of financial statements makes the investors feel that they are more credible, which leads to increased willingness to fund the business, which enhances profitability and increases ROE (Yousaf et al., 2024). Elewa and El-Haddad (2019) established that there is a positive correlation between audit quality and ROE, and current research affirms that the correlation exists in other markets. Indeed, such as Ahmad, Rashid, and Khan (2023) found that companies audited by superior quality auditors have an improved profitability in terms of ROE as asymmetry of information reduces. Therefore, ROE is a suitable dependent variable as it reflects the financial performance of the enhancement of the audit checks and audit reporting transparency and quality of governance.

Audit quality is the degree of the detecting and reporting material misstatements in financial statements as a result of an audit. Recent literature illustrates that audit quality refers to the capability of the auditors to generate precise, impartial and dependable financial reports that portray economic reality (Wang and Zhou, 2022). The quality of the audit has a significant role to play as a governance process. Managers have a monitoring pressure that deters earnings manipulation and an opportunistic attitude when audit quality is high (Hussain, L, 2024). In terms of signaling theory, high quality of audit means that financial statements are credible and that the company has good governance (Pham and Do, 2021).

According to recent evidence, the quality of the audit positively affects the performance of firms. The study by (Al Absy et al. 2020) established that the quality of audit contributes to profitability significantly due to increased investor trust and minimized agency problems. Recent studies affirm that good audit quality enhances access to financing, cost of capital and eventually ROE to firms (Hoang & Pham, 2024). The quality of the auditing is thus a mechanism that enhances value which reinforces the performance of the firms. Audit size, audit fees, and experience of the auditor or auditor tenure are often used to proxy audit quality since these measures define the extent of expertise and independence and effort applied to the audit process (Wang and Zhou, 2022).

The size of the audit firm is a form of classification that determines whether the audit is performed by a large audit firm, which is the Big Four (EY, Deloitte, PwC, KPMG) or a non-Big Four audit firm. It is assumed that bigger audit firms offer a higher quality of work due to a higher number of more experienced employees, more technical capabilities, and financial independence of a specific client (Al-Absy et al., 2024). Reputational costs of big audit firms are also greater in case of audit failure, and this is the reason why they strive to keep the quality of audits as high as possible (Aobdia, 2021).

Recent research findings indicate that Big Four audited companies are more profitable and have good ROE. Hoang and Pham (2024) established that Big Four auditors have a significant enhancement of financial performance due to the reduction of information asymmetry and enhancement of earnings reliability. According to Jamil and Munir (2019), companies audited by bigger audit firms have better ROE because it makes them more credible to investors and creditworthy. In the same manner, Ali et al. (2024) also found that Big Four auditors increase the credibility of the reporting and, consequently, fund-raising opportunities and profitability. Therefore, ROE has a positive correlation with the audit firm size since when firms have a good quality audit, they make more effective financial decisions, risk reduction, and profitability increases.

Audit fee is the sum spent on engaging auditors to perform audit tasks. Two opposite points of view are demonstrated in recent literature The increase in higher (normal) audit fees implies that more efforts, resources, and audit procedures are being used by the auditors and this elevates audit quality (Wang and Zhou, 2022).

In case of abnormally high audit fees, the auditors might not want to challenge the management to maintain that client and audit independence and audit quality would be compromised (Hussain, L 2022).

According to the recent researches, normal audit fee enhances ROE in comparison to abnormal audit fees that lower ROE. Normal audit fee was discovered to lead to a better ROE because of a better monitoring mechanism and risk of disclosure is also less (Tran and Pham, 2025). Hussain, L 2022 has also validated the fact that the abnormal fees enhance profit manipulation and decline firm performance.

Therefore, audit fee will affect ROE when it is a representation of actual audit work or dependence of auditors.

Auditor tenure: This is defined as the period of years that an audit firm or partner has been auditing a particular client. Recent studies indicate nonlinear effect. Short-to-moderate auditor tenure enhances audit quality since the auditors get learning and acquaintance with the client, which improves audit efficiency (Pham & Do, 2021). Nevertheless, very long tenure can lead to the loss of independence because of over-familiarity with management (Ali et al., 2024). A research by Hassan et al. (2025) proves that moderate tenure is the most efficient to improve the performance and ROE as auditors may be more effective in unearthing irregularities and transparent reporting. On the other hand, Ali et al. (2024) also discovered that too much tenure diminishes audit skepticism to allow opportunistic earnings management. Thus, the auditor tenure has the effect of moderating ROE via the trade off on knowledge acquisition and independence.

Methodology

The present research will take quantitative research design to investigate hypothesized relationships between audit quality determinants and firm performance in Pakistani firms. The research paradigm to be used will be a positivist paradigm since it is oriented towards objective measurable and observable financial variables. The study will use the conceptual and explanatory research design, which intends to clarify the effects of audit firm size, audit fee, and auditor experience on the performance of firms in terms of ROE. Despite the fact that the study is conceptual, secondary data framework will be proposed to show how the model can be tested through empirical research in future. The proposed empirical context target population will include all the nonfinancial firms listed on the Pakistan stock exchange (PSX). The sampling frame will be using the publicly available audited annual reports, financial statements and audit reports retrieved in the PSX database, company websites and regulatory filings. In case empirical testing is carried out, a suggested sample size of about 50 firms will be deemed to be adequate in order to carry out panel data analysis. It will suggest a purposive method of sampling since only companies with full secondary audit and financial information will be considered.

The secondary sources will be used to gather data and include annual financial reports, audit reports, published databases and regulatory documents. Document analysis will be used to extract the quantitative variables (ROE, audit fees, auditor tenure and auditor classification). The hypothesized relationships will be investigated using the proposed method of data analysis which consists of quantitative statistical analysis, descriptive statistics, correlation analysis and panel regression. In the conceptual part, the research will be based on the conceptual analysis and synthesis of the existing literature to justify the theoretical model. The anticipated result of this methodology is that a detailed conceptual framework will be developed on how the size of the audit firm, the amount of the audit fee and the experience of the auditors together affect the performance of a Pakistani firm.

Conclusion

This paper aimed at investigating the effects of audit quality determinants, that is, audit firm size, audit fees and auditor experience on firm performance in terms of Return on Equity (ROE). Based on the theoretical explanations of the agency theory and signaling theory, the research emphasized the primary position of the audit mechanisms in improving the reliability of financial reporting and investor confidence. The literature review indicated that audit quality is a highly important governance tool which directly influences firms profitability especially in the emerging markets where reporting environments are more unstable and transparency issues are more significant. The synthesis of the current studies revealed that there were considerable gaps in the modern literature, particularly less empirical interest in the ROE as a dependent variable when considered in the framework of audit characteristics in Pakistan. The given quantitative research design, which is based on secondary data of publicly traded companies, suggests a systematic way of empirically confirming these relations and making contributions to the existing sphere of knowledge. The introduction of archival financial and audit-related data makes the research design rigorous and reproducible and able to yield objective information. The proposed framework would make contributions to theory and practice through the provision of expected findings that define the relationship between various dimensions of audit quality and the performance of firms. All in all, the research highlights the need to improve audit quality in order to boost financial performance and its results would serve to inform policy makers, regulators and corporate stakeholders interested in increasing policies governance effectiveness and corporate profitability in Pakistan.

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Influence of Green Finance and Green Innovation on Firm Financial Performance: The Mediating Role of Environmental Performance

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Abstract:

The study examines how green finance and green innovation influence firm financial performance through the mediating role of environmental performance. Although sustainability is becoming more and more popular worldwide, many firms in developing countries like Pakistan still face challenges in including green and, socially responsible practices in their business and financial activities. The main problem addressed in this study is the limited understanding of how green finance and innovation collectively improve firm performance through better environmental results. The main objective is to build a conceptual framework that explains both the direct effects of green finance and green innovation on firm performance and the mediating role of environmental performance. This paper provides a synthesis of the empirical findings that have been made recently to come up with a model of how green initiatives generate value to firms by reviewing the recent empirical and theoretical work. The research applies the conceptual approach in order to identify gaps in the research and propose future study areas .The paper makes a contribution to the literature by establishing a theoretical background of understanding the strategic role of green finance and innovation in promoting sustainable firm performance.

Keywords: Green Finance, Green Innovation, Environmental Performance, Firm Financial Performance.

Introduction:

In recent years, the topic of sustainability has ceased to belong to the peripheral issues of business but has become a major theme, with which corporations are organized and investors convinced. The increasing environmental pressure like global warming, poisonous emissions, industrial pollution and wasteful use of resources made companies reconsider the old business models. Profitability is no longer enough; organizations are more and more rated by the way responsibly they act and how efficiently they control their environmental footprint. The shift in expectation does not just exist in the multinational corporations. To them, now they require undergoing small and medium enterprises to comply with the environmental standards and adhere to the tendencies of world sustainability. In developing countries such as Pakistan, this process is going on at a slower but steady pace. A large number of companies continue to work with outdated equipment, their investment potential is too small and exposure to the environmentally friendly methods. Besides this, regulatory pressures are rather unstructured, and environmental awareness in the firms is usually rather uneven. These difficulties lead to the belief by firms that sustainability-driven decisions are expensive, complicated or dangerous. Consequently, green technologies or the use of environmentally friendly practices can be avoided by businesses which would otherwise be advantageous in the long term. Nevertheless, the experience of the whole world indicates that the implementation of sustainability in business activities leads to various benefits. Companies that implement cleaner processes also tend to have a lower cost because they can use resources more effectively, less regulatory risks, more trust to the stakeholders and better access to green investments. Nevertheless, recent efforts in the area suggest that such financial measures are being influenced more and more by the ability of a company to handle sustainability-related obligations (Farag, 2024; Yao, 2023). Investors in most instances are finding more comfort in investing in companies that have a high environmental and social score because they are stable and not prone to long-term risks. This change has created a growing demand in such mechanisms as green finance, which offers funding of green projects. Green bonds, loans, environmental funds are included in Green Finance These tools will motivate companies to engage in energy saving technologies, use clean production, and meet environmental requirements. Historians like Zhang (2024) believe that green finance does not only assist companies to switch to cleaner technologies but also makes them more credible in the minds of investors. Research also demonstrates that the companies, which get green financing, gain in terms of lowering borrowing rates and increasing the market value (Xu & Li, 2023). In the case of developing countries, green finance presents a good chance of overcoming the financial limitations that make firms unable to upgrade technologies or move to sustainable business models. Similarly, green innovation is also instrumental in defining sustainable business operations. It is the creation of more or enhanced products, processes and technologies that have less negative environmental effects. Green innovation does not only aid companies in minimizing emissions and wastes but also competitiveness through increased efficiency in operations and overall minimization of costs in the long run. New companies tend to be better placed to represent the international environmental demands, enter international markets and appeal to investors who are interested in environmentally friendly business. Jinping et al. (2024) suggest that companies investing in green innovation post better competitiveness and performance. Green innovation can also assist companies in a more efficient compliance with environmental requirements and in differentiation in the competitive markets (Liu, 2023).The connection between green finance, green innovation, and financial success lies in the environmental performance. It shows the effectiveness of a company in the area of emissions, pollution control, energy conservation, and environmental regulations. Operational stability can be enhanced through efficient environmental performance by reducing the risks of penalties, reputation loss, and disruption of operations through environmental issues. A number of studies indicate that companies that have good environmental performance have a higher financial performance as they are more likely to attract investors earn the confidence of their customers and have a more efficient operation. The connection between green finance, green innovation and financial performance is not well studied in nations such as Pakistan despite the global advancements. Although the theoretical interconnections are quite strong, few empirical studies have been made, and companies tend to be unaware of the role of sustainability practices in their financial success in the long term. This theoretical paper attempts to address this gap by synthesizing and integrating existing literature insights and an attempt to give a conceptual framework of understanding such relationships in the Pakistani business environment.

Literature review:

Strong financial performance indicates the degree to which a firm can make profit, be stable and generate sustainable value to the shareholders. Over time, financial metrics like Return on Assets (ROA), Return on Equity (ROE), and the Q of Tobin had been the primary metrics used by analysts to assess performance (Farag, 2024). Despite the fact that these indicators still remain significant, recent literature demonstrates that there is a slow change in the understanding of performance. Scholars have come to believe that the financial health of a company in the long term is also based on its effectiveness in incorporating sustainability, innovation, and environmental responsibility into the larger strategy (Yao, 2023). Farag (2024) noted that companies that embrace responsible behavior towards the environment have better financial performance and less risky experiences in the long-term. Similarly, Hu (2024) observed that such companies as those that engage in green .activities tend to have a more positive reputation and can find it easier to access financing opportunities. In the lower-income countries like Pakistan where numerous companies are just starting to integrate sustainability .the analysis of financial performance in terms of environmental responsibility has become timely and an issue of concern.

The general meaning of green finance encompasses financial instruments and policies involved in investments in the projects that are beneficial to the environment, such as renewable energy, waste treatment, and pollution reduction (Zhang, 2024). These tools keep companies to use cleaner technologies by providing incentives, cheap loans, and favorable regulatory environments. According to Zhang (2024), companies that have been exposed to green-financing mechanisms tend to be more improved in their ESG performance, which subsequently boosts the growth prospects in terms of sustainability. According to the findings of Ordoniz Borrallo et al. (2024), green bond issuers could enhance efficiency regarding the environment and increase investor confidence. On the same note, Xu and Li (2023) emphasized that green finance assists in lowering the cost of borrowing by environmentally friendly companies, which eventually enhance their profitability and market worth. In Pakistan, where the idea of green finance is still developing, its further adoption may prompt companies as well to change to sustainability-oriented work and be financially and environmentally advantageous. Green innovation is concerned with the invention or the enhancement of products, process, and technologies that reduce environmental harm and enhance effective utilization of resources (Jinping et al., 2024). It enables the companies to achieve economic development without causing much harm to the environment. Liu (2023) underlined that not only can environmentally innovative firms comply much easier with the regulations, but also gain competitive advantages associated with making a difference on the market. Jinping et al. (2024) also observed that having a green innovation along with a good environmental performance, the firms are likely to witness increased profitability and enhanced competitiveness. Stumphius (2024) further noted that cleane technologies investments can be used to decrease greenhouse gas emissions and increase productivity. In the case of other countries such as Pakistan where conventional forms of production are primarily used, an increase in green innovation can help industries to move to a sustainable model that produces economic and environmental benefits. Environmental performance shows the effectiveness of a firm in controlling pollution, wastes and efficiency in using of energy. It is a common variable that serves to mediate the relationships between green finance, green innovation, and firm performance since environmentally responsible practices convert the sustainability efforts into measurable terms (Zhang, 2024). Companies that are green-financed or implement green-innovative technologies tend to have a better environmental performance, which enhances their legitimacy to governments, investors as well as communities. According to Song (2024), green credit policies make firms internalize environmental externalities by making them responsible of their environmental effect. As pointed out by Qian and Yu (2024), good environmental performance generates a positive reputation of a firm, decreases the operational risk, and leads to the financial stability in the long-term. The positive correlation between the emergence of green-finance system and corporate ESG improvements was also affirmed by Wu and Liew (2024) in the context of the business environment in Pakistan, where the improvement of environmental performance may assist the companies in attracting sustainability-conscious investors and experience more stable financial performance.

In general, green finance and green innovation have crucial roles to play in the sustainability of a given firm. Green finance provides the funding needed to fund environmental friendly projects and green innovation makes sure that the funding is converted into cleaner more efficient technologies. The combination of them can establish the base of a sustainability-oriented business model that can provide financial success in the long term. Green Finance and Firm Financial Performance: The less cost of financing and the high level of interest of investors enable firms to enhance profitability (Yao, 2023; Hu, 2024). Green Innovation and Firm Financial Performance: Cleaner technologies aid in decreasing the wastes, gaining efficiency and improving the reputation, which, in their turn, leads to the improvement of the financial performance (Jinping et al., 2024).Environmental Performance as a Mediator: Due to the reduction of risks, the enhancement of legitimacy, and alignment with the expectations of stakeholders, the environmental performance bridges the gap between the green practices and better financial performance (Wu & Liew, 2024).

Methodology:

The quantitative type of research design is used in this study to examine the impact of green finance, green innovation on the financial performance of a firm, in addition to environmental performance as a moderating factor. Information will be gathered with the help of the questionnaire, and the secondary data will be gathered with the help of annual and sustainability annual reports of companies. A simple random sampling method will be employed to make it possible to provide all the possible respondents with an equal opportunity to participate, which can help to reduce selection bias. Structural Equation Modeling (SEM) will have been used to test the relationships between the variables. The use of SEM in this research is appropriate since the researcher will be capable of testing both the direct and indirect effects in the same framework. The reliability and validity of the measurement scales would be evaluated before going to the main analysis. Internal consistency will be examined with the assistance of Cronbachs alpha, whereas the factor loading will assist in establishing whether the items are a reasonable reflection of each construct. Statistical procedures that will be undertaken will all be done in SPSS and Smart PLS because both programs offer the tools required in reliability testing, data screening and analysis of SEM. The research will be conducted with ethical considerations being taken. This will be voluntary participation and the information supplied by the respondents will be kept confidential in order to protect their privacy.

Conclusion:

This paper indicates that green finance and green innovation is significant to the enhancement of the financial performance of the firm. The two practices assist business to embrace cleaner, more efficient operations and reap resources required to engage in environmental friendly operations. Environmental performance as a linking variable between these variables is the bridge between sustainable business practices and financial rewards. As companies enhance their performance with regard to environmental issues, they are able to eliminate risks as well as build their reputation and stability in the long-term. In the case of developing nations such as Pakistan, with sustainable business practices yet to be fully adopted, green finance and innovation is one way of extending economic growth in the long term. The theoretical framework offered in the paper gives a framework through which empirical studies can be conducted in future and firms get to be informed of the strategic significance of sustainability in the current competitive world. Green innovation and green finance play a major role in enhancing the financial performance of firms. Environmental performance is an important mediating variable, which increases firm stability, reputation, and compliance. Pakistan can use green finance systems and investment in novel and environmentally friendly practices to achieve sustainable development and ensure long-term competitiveness. The presented study offers a theoretical basis of the comprehension of the impact of sustainability-focused approaches on the financial performance to provide recommendations to managers and policymakers.

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Bridging Faith and Finance: How Religious Values, Cognitive Attitudes, and Financial Literacy Interact in Shaping the Investment Intentions and Behaviour of Muslim Investors.

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Abstract:
This study addresses the motivational factors behind the decision to invest by Muslim investors and assumes that their financial decision making is not purely economic decisions which are based on economic rationality and profit. maximization motives. It can be argued that investment is a trade-off between this worldly gain and spiritual. obligations, the paper has determined the interaction between faith, morality, and financial logic in investment among the Muslims. behavior. This is based on the Theory of Planned Behavior and the principles topped off with the Behavioral Finance. paper elaborates a framework, which defines internalized ethical beliefs that indicate the moral of the investor. an analytical attitude, which is a conscious financial reasoning, and Shariah compliance competencies. including practical knowledge on the Islamic principles as the most important conductors of intention to invest. The study also places intention to invest as a motivation and cognitive ability-based function. hedonistic consumer behaviour as the moderating variable that translates intention to behaviour and conceives. financial literacy as the holism competency because it has the ability of empowering investors to comprehend complexities. financial data and religious adherence. Evidence reveals that financial literacy is low and could be the cause of low results. undercut the intention-behavior relationship in highly motivated investors just like in highly motivated investors. The paper adds to a deeper alternative interpretation of standard financial paradigms and helps in a valuable emerging body of knowledge on Islamic behavioral finance through synthesizing the religious values with cognitive values. and competence-based factors. The research has practical implications on the polity of financial. Teachers, and Islamic financial institutions in their interventions to close the intention behavior gap and create ethically responsible investors in the Muslim communities.

The keywords will include: Islamic finance, investment behaviour, Theory of Planned Behavior, financial literacy, Shariah. compliance, behavioural finance, intention-behavior gap.

Literature Review: Bridging Faith and Finance

Introduction and Context of the Research:

The investment practice within Islamic finance is closely connected with the observance of religious and ethical imperatives to profit-seeking, beyond and above the ordinary economic rationality. For a Muslim investor, as in the case of a traditional investor, makes investment at once a duty upon the earth, and a moral duty. Nevertheless, all these theories of behavioral finance concentrate on cognitive biases and religious motives are part of the foundation of the ethical decision-making process in the economy. Islamic contexts. It thus requires a system that incorporates religious values, intellectual logic and financial literacy in the way intention is converted into ethical investment behavior.

Dependent variable: Investment Behaviour:

Investment behavior merely refers to the apparent financial actions of the investors shaped by their intentions, attitudes and knowledge at hand. According to the Islamic view, this will be dictated not only through anticipations of gain but also foundations of Shariah on the division of risk, avoidance of riba, and investment into socially useful enterprises. Some of the studies include Abdullah et al. (2020) and Alam and Seifzadeh (2021), have recorded that there is ethical awareness and moral compliance of the Shariah principles. a beneficial impact on the choice of portfolios and the division of assets by Muslim investors. These studies treat behavior, however, as a stationary result, and not the way of how the internal beliefs and mental constructions explain behavior. Such ethical financial conduct is comprised of evaluations.

Independent Variables: Religious and Cognitive Determinants:

a. **Internalized Normative Beliefs**

These reflect the moral and religious values that govern the decision-making process for the investor. As indicated by Mollah & Zaman, 2022, faith-based beliefs instill an intrinsic motivation for ethical compliance, hence inspiring investors to pursue a profit with no violation of religious norms. In the Theory of Planned Behaviour, Ajzen (1991) describes such beliefs as subjective norms; that is, perceived moral expectations controlling behavioural intentions. Hence, great, internalized faith promotes the match between moral obligation and financial behaviour.

b. **Analytical Attitude**

Analytical attitude refers to the ability of investors to think rationally and make informed decisions on financial opportunities. Kahneman and Tversky (1979) postulated that decision-making processes are usually instigated by intuition and emotion but that rational reasoning-analytical-can moderate impulsive tendencies. In an Islamic context, analytical reasoning helps the investors to validate whether the options they have for investment are Shariah-compliant, aside from being profitable. These balance emotional faith with disciplined cognition, reinforcing intention through informed judgment.

c. **Shariah compliance competence**

Competence in Shariah compliance represents the knowledge of Islamic principles applied to finance. It is beyond belief and reflects an ability to interpret the financial instruments with an assessment of their compliance status in accordance with Islamic law. According to Hassan et al. (2021), investors who are more Shariah competent display stronger ethical screening with less exposure to prohibited financial activities. Competence therefore turns moral intention into actual investment decisions.

Modulating Variable: Financial Literacy:

It makes a balance between the intention and the behavior as the financial literacy of an individual triggers the optimum appropriate result. Lusardi and Mitchell (2014) interpreted the financial literacy as the ability to read construe and decide upon financial information. Wahhabi finance is also another branch in Islamic finance understanding of zakat, sukuk and profit-sharing instruments. Other surveys included Rahim and Rashid et al, It is observed that even serious investors are not able to exercise ethically, because they do not have the financial demands, capability to convert the plan to action. Financial literacy is therefore what ensures moral motivation easily transformed into financial behavior compliance.

Argument Development and Theoretical Foundation:

The theory on Planned behavior embraced by the current research is the Theory of Planned Behavior by extending it to the scope of behavior, Ajzen (1991) brought in the context of the Islamic ethical perspectives. According to this theory:

Subjective norms are internalized. Cognitive appraisal is displayed through an analytic attitude, and Shariah competence is equivalent to perceived behavioral control. All these, and financial literacy, are the reasons explaining why the Muslims participate in investing in a multidimensional manner way. Existing literature has talked about fragments of these aspects, therefore creating a disheartened perception of faith-based investment. Now it is this framework that brings them all into one consistent system making that possible a combined knowledge of the intersection of ethics and intellect to control decision making in finance.

Synthesis and Research Gap:

The residual literature that validates faith and thinking does not consist of a unified perspective in the linking of the conviction, logical, skilfulness and literacy. Behavioral finance focuses on the psychological and cognitive aspects of decision-making, Islamic finance deals with ethical compliance; the contact between these two is not well defined. The current research paper addresses that gap by creating a conceptual model on how moral conviction and analysis of the mind go together, and financial wisdom, are corporate prognostics of responsible investment among Muslims.

Methodology

This research uses a conceptual design created by thoroughly reviewing existing literature instead of gathering data. The study constructs a theoretical model that combines ideas from Behavioral Finance and the Theory of Planned Behavior (TPB). This model explains the ethical and cognitive factors that influence Muslim investment behavior.

1. Research Approach

The paper is written using a qualitative, deductive reasoning mode in which concepts and theories found in other studies are used. The past scholarship is also critically evaluated in order to build a coherent framework based on logic. The TPB serves as the foundation, which connects the attitude, norms, and perceptions of behavioral control to intention and behavior [1]. The faith values, rational thinking, and Shariah competence are considered to be important as they are incorporated into model precursors, in which financial literacy is a moderating measure.

2. Data Source and Procedure

The data are being drawn solely on the basis of the secondary source peer-reviewed journals, conference papers, etc and academic reports in the fields of Islamic finance, behavioral economics and ethical investment. The selection process entailed finding out theoretical and empirical literature that was published during 2010 and 2025 that deals with decision-making, financial literacy, and religious investment behaviour.

3. Model Development

The variables were conceptualized and logically related using the reviewed literature:
Internalized Normative Beliefs.

* Analytical Attitude → indicates the presence of rational and cognitive thinking.
* Shariah Compliance Competence → is applied ethical knowledge.
* Financial Literacy modulates the intention behavior relationship.

The correlations between these constructs were determined by logical inference and comparative not statistical testing, to generate a conceptual framework which could be used at a later stage in empirical validation.

4. Rationalization of Modus operandi.

This mode of thought does not lack rationale since Islamic behavioral finance is an infantile direction has sparse integrative theory. In this case, conceptual establishment comes first before quantitative confirmation. Empirical application of the structural equation modeling (SEM) or regression methods can be used by future researchers test the proposed associations [2].

Conclusion:

This paper adds to the discussion on Islamic Behavioral Finance by merging faith-based ethics, cognitive reasoning, and financial skills into one model. It argues that Muslim investors' decisions are shaped by spiritual beliefs and logical thinking. Financial literacy acts as the key link that turns intention into action.

The study builds on the Theory of Planned Behavior by embedding it in Islamic principles. It introduces Shariah competence and financial literacy as key factors for ethical investing. This framework provides insights for Islamic financial institutions, educators, and policymakers to develop programs that boost literacy and compliance awareness. It also encourages future research on how faith and reasoning combine to foster ethical, informed, and responsible financial choices. In summary, linking faith and finance goes beyond moral alignment; it represents a change in behavior that integrates belief, knowledge, and logic in the pursuit of sustainable and ethical economic growth.

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Effectiveness of Corporate Social Responsibility on Sustainable business Performance: The mediating role of Green Innovation

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Abstract

One of the aims of organizations has been to achieve sustainable business performance in order to remain economically stable and at the same time be able to fulfill their social and environmental obligations. This study examines the way that Corporate Social Responsibility could enhance sustainable business performance using the role of green innovation that encompass both green products and green process. It also focus on the effect of green intellectual capital consisting of green human,social,technological and spiritual capital to the relationship between CSR and green innovation. The study will seek to learn how CSR established, together with green innovation and intellectual capital, can lead to sustainable longevity and a ruthless edge on business organizations. An approach of quantitative research was applied and questionnaires that were sent to the companies operating in the environmentally sensitive industries. To test the hypotheses and to analyze the proposed model, statistical tests were conducted total, this work contributes to the literature on sustainability by demonstrating a set of interactions between CSR, innovation, and intellectual capital in promoting long-term success of the organization.

Keywords: Corporate Social Responsibility, Green Innovation, Sustainable Business Performance, Green Intellectual Capital.

Introduction

Sustainability is an international issue that has gained popularity because of the environmental problems like climate change and exhaustion of resources. They subject the organizations to pressure to re-strategize their traditional ways of doing business and implement responsible practices. Since stakeholders require companies to do positive service to society and reduce environmental damage, sustainability performance is turning into a strategic needs.At this point, the companies are obliged to demonstrate responsible behavior to remain competitive and guarantee their survival in the long term (Garcia Martin and Herrero, 2020). This is a worldwide trend towards sustainable development that urges the businesses to put social, environmental and economic aspects in their performance analysis. Sustainable business performance in this changing environment has emerged as a key indicator of long term organizational success. It extends to the environmental performance and social accountability besides financial performance. This idea is very related to the idea of sustainability framework that emphasizes profitability,social equity and environmental protection (Elkington, 1997). Leading companies in these dimensions can better suit the demands of the stakeholders, and improve their image. According to research, many firms that have emphasized sustainability tend to be more operationally efficient with a greater competitive advantage (Brunel, 2019).but, despite the widespread agreement on the significance of sustainability, the variables that may lead to sustainable business performance are not clear, and thus, the issue needs to be explored. CSR is a voluntary activity that firms engage in to be ethical, save the environment, and give back into the society. Past studies indicate that CSR enhances trust among stakeholders, corporate image, and long-term thinking of the organizations (Cha et al., 2019). Community development investment, and employee welfare are considered as CSR initiatives to enhance resilience and long-term performance of organizations (Garcia Martin and Herrero, 2020), although the direct impact of CSR on sustainable business performance is not yet clear. Strong positive influences of studies are present, but other studies state that the outcomes of green innovation are insignificant without other measures in the organization that should support CSR (Ubeda-Garcia et al., 2021). GI entails the development of technologies, products and process that are ecologically friendly and reduce the damage to the ecology as well as enhance efficiency.examples of such are green energy system, waste reduction strategies and products that are ecologically friendly. The research shows that green innovation contributes to the enhancement of resource efficiency, increased environmental performance, and increased customer loyalty (Para-Gonzalez et al., 2018). Various researches come to the conclusion that CSR may lead to green innovation by making firms invest in environmentally sound technologies and establishing a culture that advances creativity and sustainability-oriented decision making (Orazalin, 2020). The practice of CSR also increases the probability of organizations developing long-term plans, investing in environmental studies, and meeting the demands of stakeholders (Hernandez et al., 2020). This means that green innovation can be the bridge that establishes the relationship between CSR and sustainable business performance. The implementation of green innovations also contributes to the firms to reduce their waste, enhance environmental output, and increase their competitive edge that is based on sustainability (Brunel, 2019). Thus, the study of the contribution of green innovation is crucial to the realization of the entire relevance of CSR to sustainability. Irrespective of the growing popularity of CSR, green innovation, and sustainable business performance, there are still eminent gaps in the literature. The existing literature is likely to examine the immediate relationship which is present between CSR and performance, but not detailing the mediating variable of innovation. The lack of results is also in the developing countries, where sustainability practices are still in the process of development, and the role of environmental concerns is more urgent.Many of the previous studies demonstrate inconsistent findings, and further factors such as green innovation need to be incorporated to explain the relationship between CSR and performance in the long term (Partalidou et al., 2020). It is anticipated that the proposed study will examine the effectiveness of corporate social responsibility in relation to sustainable business performance and examine an intermediate role played by green innovation. The research provides an insight of how responsible corporate behaviors and innovation strategies can help increase the sustainability of organizations in the long run, through these relationships. The study is also an effective guide to the companies, which are seeking to improve their performance in the environment (both environmentally and economically) using combined CSR and innovation strategies.

Literature Review

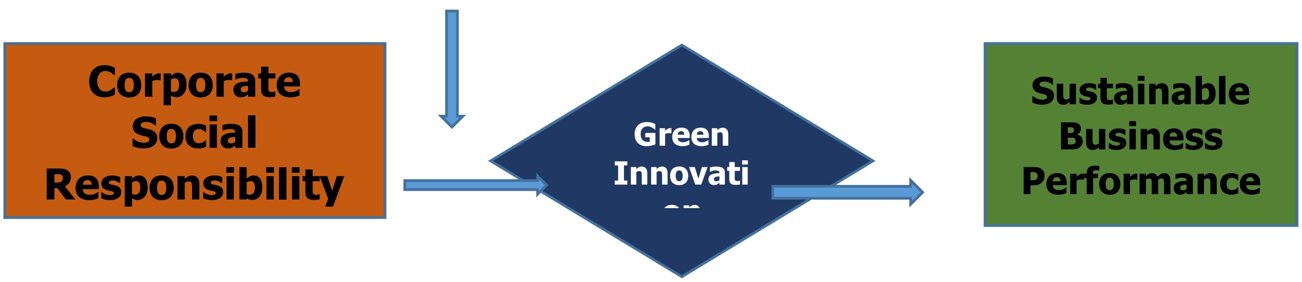
Small and medium-sized manufacturing firms are also moving towards sustainable business performance indicators as opposed to the traditional performance measures due to the growing ecological and regulatory pressures. As (Khushbakht Hina, Muhammad Khalique, Shazali Abu Manzor, and Sundas Kashmeeri,2023) state, manufacturing SMEs are urgently required to incorporate green-oriented knowledge and practices in their processes as a way of delivering long-term benefits and enhancing sustainability of the business. Recent literature on environmental management demonstrates that the issue of sustainable business performance has been given considerable attention within the context of the SME

The typical definition of sustainable development is one that observes the requirements of the current without the unwillingness to diminish the capability of the future generation to satisfy their needs (Khushbakht Hina et al., 2023). This definition points to three key dimensions economic, social, and environmental that together form the basis of the "triple bottom line." All these dimensions influence the contemporary business behaviours and the impact of the same in the present and future needs of the society. In this study, these three aspects economic, environmental, and social--are used to assess the sustainable business performance of manufacturing SMEs. These components have been previously employed by (Khushbakht Hina et al,2023) and this confirms that these indicators are generally accepted and valid in measuring sustainability results in SMEs. (Ying Qu, Abaid Ullah Zafar, Saif Ur Rehman, and Tahir Islam,2020) described green innovation as advancements in hardware or software that lead to environmentally sustainable products or processes.This could include developments in pollution control, energy efficiency, eco-friendly product design, waste recycling, or environmental management systems. They noted that green innovation helps reduce environmental damage while also strengthening market position, financial performance, and organizational knowledge. Green innovation focuses on technological advancements, pollution reduction, eco-friendly product design, reusability and effective environmental management (Ying Qu et al., 2020). It plays an important role in value creation, competitive differentiation and long-term company performance. Several studies have identified factors that strongly influence green innovation efforts, such as stakeholder pressure, customer expectations, market trends,ethical responsibilities and firms' environmental knowledge capabilities (Ying Qu et al., 2020).briefly, innovation in the form of new products, materials, systems and business processes allows firms to gain a competitive advantage through ongoing improvement (Mohsin Shahzad, Ying Qu, Abaid Ullah Zafar, Saif Ur Rehman, and Tahir Islam, 2020).

According to (Khushbakht Hina et al,2023), GIC was described as the cumulative pond of intangible properties, knowledge, skills, as well as relationship capabilities on environmental protection and green innovation at individual as well as organizational levels. Research by (Muhammad Hamid Shahbaz and Shahab Alam Malik,2025) shows that firms with well-developed GIC particularly in human, social,technological, and spiritual capital are more likely to adopt and implement green innovation strategies. GIC promotes the creation of environmentally friendly production lines and sustainable business management by increasing the ability of firms to utilize their environmental resources and other types of environmental knowledge.

Green human capital (GHC) is one of the assets that GIC possesses which characterizes the innovativeness and sustainability of the employees in terms of skills, knowledge and competencies. GHC is a strategic resource that falls under the Resource Based View (RBV) that helps the firms in the creation of green products and green processes as well as the maintenance of sustainable performance (Muhammad Hamid Shahbaz and Shahab Alam Malik, 2025). The employees with environmental competence play a central role in the environmental setting in addressing issues to do with sustainability, integrating the green activities in the business operations and carrying out innovative environmental activities. Through this, GHC enhances interest of the organization to face ecological dilemma and contributes to the long-term competitive advantage. Green social capital can be understood as the positive perks of social relations and networks, which promote environmental control and corporate success. GSC is composed of resources that are brought about as a result of interaction between the employees, the customers and the community (Khushbakht Hina et al,2023). These social networks represent the foundation of collaboration, exchange of resources and value congruence as it relates to the environmental goals. Firms that support proper green social capital can achieve such benefits as social acceptance and positive image on the environment, thereby providing them with a competitive edge. Green technological capital, however, has something to do with the implementation of technology capable of assisting in the functioning of environmentally-friendly business environment (Green technology, 2023). Technological capitals are normally industrial property right, digital knowledge and innovation infrastructure. The investors in green technological capital have been found to support innovation, improve business performance, and help firms to address global climatic issues. As a result of the growth in climate problems, some companies are gearing up to spend more on green research and development to ensure that their business operations on the environmental sustainability are customer friendly. The new feature of green intellectual capital is green spiritual capital. It represents the moral, ethical and spiritual beliefs that guide the environmental behaviors(Prakasa,2018) which it calls a collection of spiritual and psychological values on the basis of religious teachings. Such principles urge people and companies to conserve the environment. Ethical decision making and environmental responsibility may also be initiated by spiritual capital as the world is still losing biodiversity and ecological health (Kennedy, 2017). Green spiritual capital encourages peace, respect, and concern in the members of an organization. It also helps them manage complex and uncertain business environments. The research performed by previous scholars demonstrates that spiritual capital has a positive influence on the performance of SMEs (Khushbakht Hina et al., 2023), although other researchers have found contradictory results. Thus, this study further examines the role of green spiritual capital in SMEs.

The framework of CSR has been discussed for many years and still misses a globally accepted definition (Guru Ashish singh and Sajith Narayanan). This friction mainly arises because CSR has been studied in various fields, industries, leading to different analysis (Sajith Narayanan and Guru Ashish Singh). Regardless of these differences, the main idea of CSR is generally observed as a company's responsibility to all its stakeholders, not just its shareholders (Sajith Narayanan and Guru Ashish Singh).We can break down CSR to understand it better: “corporate” refers to businesses of any size, "social" includes all stakeholders such as people, the environment, animals, and communities impacted by business actions, and "responsibility" means the accountability firms have due to their power and influence (Sajith Narayanan and Guru Ashish Singh). For this study, CSR means the socially responsible policies and voluntary initiatives that a company adopts to benefit society, the environment, and its stakeholders (Sajith Narayanan and Guru Ashish Singh). It shows how a firm can regulate itself and act responsibly towards the public, customers, and stakeholders (Sajith Narayanan and Guru Ashish Singh).CSR is often represented by a pyramid model that includes legal, ethical, and philanthropic duties of firms (Sajith Narayanan and Guru Ashish Singh). Previous studies also indicate that most CSR definitions typically cover three main areas: society, environment, and stakeholders (Sajith Narayanan and Guru Ashish Singh).



Research Methodology

This study will gather data using self-administered questionnaires sent to managers and owners of manufacturing firms across Pakistan. The research uses a cross-sectional design, which means data will be collected at one point in time in a natural, uncontrolled setting. A questionnaire in both English and Urdu will be developed to make the questionnaires straightforward and comfortable to all people Prior to the major survey, short pre-test interviews will be carried out on ten respondents. These interviews are intended to get an insight into how CSR, green innovation as well as green intellectual capital are applied within their organizations. The reliability and clarity of the instrument will then be tested through a preliminary study. After cleaning up the questionnaire, the ultimate questionnaire will be distributed to more manufacturing companies. The data collected shall be analyzed through statistical means and the study shall seek to examine the mediating role of the green innovation and moderating effect of green intellectual capital with regards to sustainable business performance.

Conclusion

As noted in this study, corporate social responsibility is becoming more vital in enhancing sustainable business performance in manufacturing industry. The results indicate that CSR makes companies embrace green innovation that is fundamental in improving environmental and operational performance. The results also show that the green intellectual capital improves these relations by providing the knowledge and skills needed to become an effective participant in the sustainable practice. all these aspects help enlighten the reader with the fact that, sustainability is a responsible attitude to the organizational practice and the environmental skills. Altogether, the research provides practical insights into how companies may enhance long-term performance by means of CSR-driven green innovation facilitated by the green intellectual capital.

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HAILEY RESEARCH WEEK
CONFERENCE PROCEEDINGS ISSN: 2709-8923

Green Banking and Bank Performance in Pakistan

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Abstract.

Profitability & sustainability refer to the financial and long-term performance of the bank, demonstrating its ability to generate returns consistently while maintaining responsible and eco-friendly operations. These outcomes can be measured by key financial indicators such as return on assets (ROA), return on equity (ROE) and the other profitability ratios that reflect on how optimal usage of available resources is undertaken for sustainable and steady growth. The conceptual study will be analyze how green banking practices, including green finance, environmental - risk analyses, energy-efficient operations, and firms' green investments, contribute to improving the profitability & sustainability of banks in the Pakistan. The framework investigates the moderating role played by Digital Transformation, which is foreseen to enhance the relationship between green banking initiatives and financial performance through operational efficiency, technological innovation, and greener financial solutions. This study will, therefore, adopt a conceptual methodology through the development of a theoretical framework that guides future empirical studies using existing literature. The proposed model will provide valuable insights to policymakers, researchers, and banking institutions that target an integrated system encapsulating environmental sustainability and financial performance in the banking industry of Pakistan.
Keywords: Green Financing Practices, Environmental Risk Assessment, Return on Assets, Return on Equity, Firm's Green Investment.

Introduction.

Background of the Problem: Profitability and Sustainability Challenges in Banking

In modern banking institutions, profitability and sustainability have emerged as the core challenges that have an impact on the performance of these institutions. While, in the modern day scenario, the performance of banking institutions is not only judged exclusively on their conventional financial performance but also on how well they can conduct their business responsibly, manage environmental risk, and ensure the sustainability of the institution in the long run. Considering the current prevalent scenario of Pakistan achieving profitability with sustainability has become increasingly complex due multiple factors including climate-related risks, higher operations costs, energy in-efficiencies, outdated technologies and increased regulatory expectations. These risks weaken the institutional ability of the banks to maintain strong financial returns like *ROA & ROE, Tobin's Q* while failing to the address sustainability goals like environmental compliance, resource conservation, and stakeholder trust.

The dependent variable "Profitability and Sustainability" of the study which measures the bank's performance, is deeply influenced by operational in-efficiencies, environmental disruption, and the lack of adaption of green practices that naturally causes a continued disconnect between financial outcomes versus ecological responsibilities. How the banks can improve their profitability & sustainability simultaneously will be the essential factor to understand the path of long-term resilience in Pakistan's financial system. The key identified problem in the research is the poor integration of green banking practices within the banking system of Pakistan while the evidence shows that the environmentally conscious operations strengthen the bank's performance indicators. Although, after the introduction of Green Banking Guidelines by the State Bank of Pakistan (SBP), these initiatives have been rolled out for implementation but their adoption has been slow and inconsistent, and the mostly symbolic rather than strategic.

This incomplete implementation is the part of the larger issues: It is observed that the banks in Pakistan are unable to fully convert green banking practices into measurable improvements in profitability and sustainability (ROA & ROE). Given the weakness of the Pakistan climate change measures and the impact of frequent floods, pollution and energy shortages, banks are significantly exposed to operational, and market risks. Contrary to the adoption of green banking practices, the banks are more likely to continue to face a significant decline in profitability and environmental stability. Therefore, this calls for examination of how green strategies affect long-term performance outcomes.

The theoretical Contributions and Foundations. Stakeholder Theory **:** The Stakeholder Theory suggests that the organizations can enhance the long-term performance by meeting the social and environmental expectations of the customers, communities, and investors. The Green banking components like environmentally responsible lending, green financing, and eco-friendly operations improve stakeholder trust and reduce reputational and risk-based costs. Resource-Based View (RBV) the RBV considers that sources of competitive advantage are valuable and green capabilities consisting of digitalized green financing systems, energy-efficient operations, and comprehensive environmental risk assessment can be considered the strategic assets in enhancing profitability and sustainability (ROA & ROE) as a result of cost savings and efficiency enhancement, and risk mitigation.

Together, these theories justify the why adopting green banking initiatives is not only the regulatory requirement but rather strategic investment that can strengthen the long-term performance.The Green Financing Practices, Environmental Risk Assessment, Energy-Efficient Operations, and the Firm's Green Investment within the context of this study are chosen because of their direct theoretical influences on profitability and sustainability (ROA & ROE).Green Financing → Profitability & Sustainability: - The Green finance prompts lending towards ecologically safe projects, decreases credit risk, and improves bank's reputation, thereby increasing profitability.

Other the other hand, energy-efficient operations lead to cost efficiency and long-term viability. Green technologies lower the energy expenses, reduce paper usage, and streamline operations contributing directly to the profit margins and sustainable resource use.

The Firm-Level Green Investment:- The Financial and Environmental Performance Investing in green technologies and human capital improves both the operational efficiency and stakeholder confidence, leading to the better sustainability outcomes / Returns. *The reason for choosing these are all variables is that they represent core dimensions of green banking comprehensively and are strongly related to performance indicators.*

The Research Gap of this thesis.

The major gaps that persist in these existing literatures are:

- No unified conceptual model connecting all the green banking dimensions with profitability and sustainability (ROA & ROE).
- No study incorporates digital transformation as moderator in Pakistan.
- Most studies examine isolated green practices.
- Sustainability remains significantly understudied.
- Lack of conceptual, theory-based Pakistan-specific models.

The rationale for selecting this topic is

- Significant climate-related challenges and adverse dynamics.
- Regulatory need under State bank of Pakistan - SBP Green Banking Guidelines.
- Academic contribution through integration of RBV and the Stakeholder Theory, and digital transformation.

The Researcher's interest is sustainable finance and banking innovation.

Literature Review.

The increase in global emphases on the environmental sustainability have encouraged financial institutions to the adopt practices that align profitability like ROA and ROE with the environmental responsibility. This evolution has led to the concept of Green Banking where banks integrate sustainable and friendly policies in their operations and financing activities. In Pakistan the central bank of Pakistan i.e., SBP has introduced guidelines encouraging financial institutions to adopt green banking practices, and the level of adoption, and its impact on financial performance remain underexplored. This literature review examines prior studies on green banking system and its relationship with the bank performance and the moderating role of digital transformation.

In this study, Profitability & Sustainability constitutes the DV, captured the micro level financial performance and the long-term viability of banks through three central indicators below:

- Return on Assets (ROA)
- Return on Equity (ROE)
- Profitability ratios.

ROA - reflects how efficiently a bank uses the total assets to generate net income.

Return on equity measures how effectively a bank utilizes shareholder equity to generate the profits, indicating the returns provided to investors and the strength or sustainability of its capital base.

Formula of ROE is Net income divided by shareholders equity.

Profitability ratios include Net profit margin ratio and Gross profit margin ratio thus complementing Return of Assets and Return on equity in assessing internal financial health. When considered together, these indicators allow the assessment of a bank's micro level profitability and whether its performance supports sustainable growth and the example of this, generating adequate returns from assets and equity over time, while maintaining operational efficiency and resilience.

In the context of sustainable finance, this measure of profitability and sustainability becomes especially salient, and the banks not only need to generate the returns but also integrate sustainability-oriented practices that may affect profitability and thus their long-term viability.

Green Banking in Pakistan- The published literature suggests that green banking has significant impact on sustainability and the dimensions explored are usually at the initial stage. The issuance of green banking guidelines by central bank of Pakistan ensures the responsibility of banks to support the initiative policy that transform the economy of the country towards climate resilient and low carbon economy**.**

Jafar et al. (2021) explicitly state that many green-banking dimensions are still early/initial in Pakistan. And Adil et al. (2024) confirmed a significant positive association between green banking and financial performance (ROA and Tobin's Q) in the Pakistani banking sector.

This gets credence from studies across the globe, where green banking has been found to contribute towards enhanced financial and environmental performance. Bukhari and Zahra (2025) have developed a higher-order construct of green banking, namely environmental risk management, green operations, and investment, establishing its strong connection with profitability and sustainability. In Pakistan, Aslam and Jawaid (2022) show that the Green Banking Adoption Practices significantly enhance the profitability, operational efficiency, and corporate reputation of banks. Also, Adil et al. (2024) reported that implementation of green banking

practices has a positive influence on profitability and asset efficiency. ***Mohammad and Khan (2022) showed that profitability effects may vary in the short run due to greater costs associated with investment in green technology.***
The history of Profitability and sustainability in banking sector specially in Pakistan reflect in the financial industry and risk management.
In the traditional era -mid 20th century, sole focus was on profitability for decades with the primary objective of a bank was essentially ROA and ROE. The shareholder theory dominated, which held that a corporation's main responsibility was to maximize profits for its owners. In final the D.V journey is the story of banking evolution from a narrow focus on short – term returns for a more sustainable long-term strategic return. The digital transformation in the banking sector is to enhance efficiency, improve customer experience, and responsible environmental outcomes. Digital transformation, therefore, allows paperless transactions, online banking, and monitoring green initiatives automatically. Although the literature on the moderating effect of the Digital transformation between the green banking and the performance is rare, studies such as Azzabi and Lahrichi (2023) have highlighted that digital innovation amplifies financial performance by enhancing cost efficiency and operational agility. The integration of DT as a moderator within the Pakistani context will, therefore, explain how technology enhances the impact of green banking on profitability and sustainability.
The Findings is :- The empirical study of the banking sector in Bangladesh, found that green financing had significant relationship with Return on Asset and asset utilization for many banks though ROE was not always significantly related. In China study of Green Credit shows how the ratio of green credit influences bank ROA in commercial banks. Another recent paper – 2025 looked at emerging economies and found that green banking initiatives have an insignificant favorable influence on profitability in certain cases, though positive.
Research Gaps Identified: - Although there is evidence that supports the positive impact of green banking on bank performance, there are several gaps that exist:
1) limited empirical research in the context of Pakistan,
2) underexplored the micro-level green banking techniques,
3) minimum focus on the moderating role of digital transformation, and
4) lack of the integrated models combining profitability and sustainability dimensions.
Filling these research gaps will add value to theory and practice by explaining how digital advancement enhances the effectiveness of green banking initiatives in developing better financial outcomes.

Methodology.

Quantitative research design will be adopted for this study because it intends to explore the relationships that exist between green banking practices, digital transformation, and bank performance expressed as ROA and ROE. This is deemed appropriate, with quantitative research, the variables could be measured using structured items and can be statistically evaluated. This study investigates how independent variables influence the dependent variable of profitability & sustainability (ROA & ROE) and how this relation is moderated by digital transformation. The population of study consists of employees working in Pakistani commercial banks including Branch managers, Credit officers, Risk management staff, Operations managers, Sustainability/CSR officers, IT and digital transformation teams. All these are directly / indirectly involved in green banking, environmental compliance, and technological adoption within the banking sector of Pakistan.

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i) *Aslam & Jawaid: 2022 in Green banking adoption improves the operational, financial, and the environmental performance. The limitation is that no moderating technological factors were considered.*
ii) *Adil et al. (2024): There is a positive association between the green banking and the profitability (ROA & ROE). And the Limitation: Sustainability outcomes not analyzed.*
iii) *Mohammad & Khan (2022): Green project screening improves lending but declines profits in the short-run. And the Limitation is: In this articles there was focus is one-dimensional.*
iv) *Bukhari & Zahra (2025): A holistic green banking is construct the improves profitability and sustainability (ROA & ROE). In this paper, not test the moderating variables.*
v) *Jafar et al. (2021): Green practices in an early adoption stage in Pakistan. And the Limitation of this article is : A lack of empirical evidence on profitability impact.*

HAILEY RESEARCH WEEK
CONFERENCE PROCEEDINGS ISSN: 2709-8923

The Impact of Cyber accounting and Forensic accounting on Firm Performance

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Abstract:
This study investigates the impact of cyber accounting and forensic accounting on firm performance in the age of digital transformation. In this study we explore the use of modern digital accounting and fraud detection tools to make the firm more productive and financially strong. It highlight that companies adopt digital operation so their accounting system must also become digital, secure and based on real time data. The primary goal of this study to explore way to analyze the forensic accounting through financial investigation and fraud deduction and cyber accounting through cyber security and real time based data to improve the performance of firm. Additionally, this study seeks to provide a conceptual framework link with advance accounting practice with better financial and operational results. Since most of the studies have looked at forensic accounting and cyber accounting separately rather than combining both to check the affect company performance together, this research fills a significant gap in the literature. Through the combination of these viewpoint this study provide the fresh theoretical framework for understanding how investigative and digital accounting practice work together to improve governance, financial reporting quality and risk management. The results will be useful for academics, policy makers and practitioners looking to improve transparency and long term performance in the modern accounting environment

Introduction:
The growing era of digitalization of accounting information and financial reporting systems has changed the methods with how organization document their data, analyze, store and promote financial information, creating new possibilities for productivity but also introduced cyber related risks. Cloud based financial information, automated data processing technologies, and consolidated information of accounting systems are crucial for modern businesses. Improvement like these not only increase accuracy in operation and reporting speed but also put businesses in risk for cyber fraud, and illegal data manipulation. (Muravskyi, V., Pochynok, N., Farion, V., 2021) Categorized cyber risks related to accounting like illegal access to ledgers, manipulation in digital journal entries, and hacking of financial systems are serious issues that threaten the safety and reliability of accounting data. Similarly (Haapamäki E, Sihvonen J, 2019) claim that cybersecurity has become recognized as an important subject in accounting research because flaws in digital accounting controls directly impact the credibility of financial reporting, decision making, and internal audits quality. The term "Cyber accounting" refers to the collection of digital control, management procedures of cyber risk, and technological measures to include in accounting systems to ensure the accuracy of financial data.
Despite increasing awareness of cyber related risks in accounting, the academic research shows the significant gap in recognizing how cyber accounting practices impact on overall organizational outcomes. (Cram, Wang & Yuan (2023)) there is a lot of work that has been categorized, the cybersecurity threats and estimate control in system of accounting information, researcher have rarely explored how these practices affect the performance metrics on firm level. According to their research, the impact of AIS related cyber protection on efficiency, profitability and marked value still remain unexplored. (Boritz, Ge & Patterson , 2024) Indicate that weakness in accounting systems may affect the information of financial quality and reduce its reliability. This research suggests that cyber accounting is not just a protective mechanism but it also affect strategies of financial outcomes. This problem presents an important question that. Does cyber accounting requires significant resources, can it be deliver measureable benefits to corporate performance?

Response to digitalization, forensic accounting developed as well as cyber accounting, becoming more advanced in data analytics because accountants more dependent on this. Digital forensics and electronic evidence is there to identify and stop the fraud in financial statements. Practices of Forensic work on digital trails, system logs, and detection methods. According to the earlier research forensic accounting is an useful tool for showing financial losses and preserves organizational performance because of its strength in internal control. It enhances the structure of governance and improves fraud detection. The practices of forensic accounting with cyber accounting system suggest the wider consequences despite the fact that forensic accounting has been viewed through fraud prevention. When organization face cyber fraud, technological financial crimes and manipulation in digital data, forensic accounting, become necessary for detecting financial trends.

These findings highlight the gap of lacking actual data investigate cyber and forensic accounting on business performance. Existing research treat them separately, forensic accounting deals with fraud detection and cyber accounting deals with technological security in accounting systems. That is why understand their impact on firms are necessary, especially when firm financial performance based on security, accuracy and trustworthiness. Organizations have invested significantly in cyber and forensic accounting, but still it’s uncertain that these instrument improve organization performance. In current era of digitalization environment this confusion lead to ineffective resource allocation and poor governance choices.

This research explains the cyber and forensic accounting are becoming important aspect of modern financial systems, but their impact firm performance still questionable. These conclusion help managers to make better decision related investment in accounting technology and make strong governance framework

Literature review

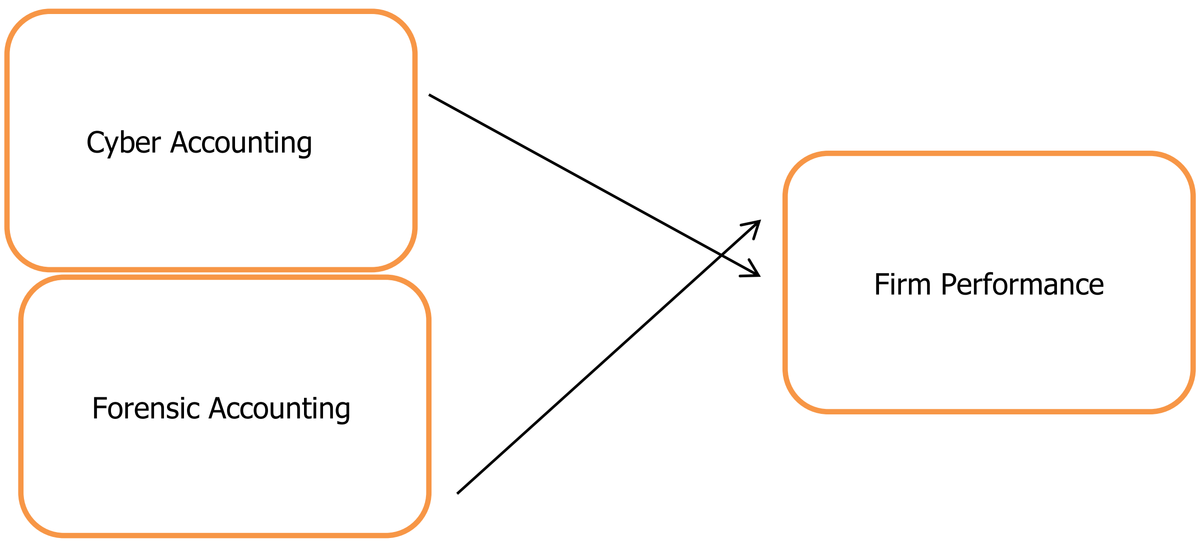
Cyber accounting:

Numerous studies shows cybersecurity’s effects on business performance and their advantages, including this study focused on the positive result with cyber accounting practices and business performance by using the data from their respondents. cyber accounting helps banks to achieve their organizational goals by improving data security, productivity and their overall performance, for better options they suggest ongoing cyber risk management and training for employees (Nidal Alramahi, Zaid Ammar, Tareq Hammad Almubaydeen ,, 2024). Showed that how cybersecurity measures like privacy and reinforcement improve workers competitive advantage at Jeddah international airport and it also shows the importance of cybersecurity to organizational and operational success (Al-Ghamdi, O., Al-Mustadidi, W.A., 2021). this study conclude that adopting of cloud accounting system affects decrease the financial fraud in Jordanian companies he also found out that this system mostly prefer in small companies rather than large firms (Alkabbji, Omar Fareed Shaqqour and Riham Fathi, 2021). They combined 39 studies to make comprehensive framework of cybersecurity in academic research. Their combined work shows a diverse academic viewpoint including practical and theoretical concepts of how cybersecurity has developed into an essential part of accounting, auditing practices and risk management (Haapamäki, Elina, 2019).

Forensic accounting:

This study refer to how forensic accounting improve the performance of business and how can organization prevent the fraud. They use the forensic techniques like fraud detection, legal support and internal control assessment to increases the effectiveness of organization and financial transparency. The study results show positive when companies apply forensic methods (Alshurafat, Hashem, 2025). He says forensic accounting help to fill the gap between financial analysis, auditing

and law to find the fraud. This study show how forensic accounting increase corporate governance and financial transparency to improve the result of fraud based financial cases. According to him forensic accounting in only about legal investigation but it also improve the performance of firm and gain investor trust (Honigsberg, Colleen, 2020). This study is evolved the role of forensic accounting to prevent and deduct the frauds it highlight the helping tools like digital forensics and data analytics to strength the fraud detection process. According to him organizations have to train their employees professionally to enhance firm transparency (Ogburie, Adetunji Paul Adejumo and Chinonso Peter, 2025).
Firm performance:
This study discovers the positive correlation between blockchain and the use of corporate performance with cybersecurity risk management. Firms who have a control on high cyber risk can achieve high profitability and efficiency (Author, Nguyen, Nguyen, Tran, & Dao, 2025). According to the author forensic technique improves the fraud detection process in Pakistani firms, author also advised to increase staff training courses regarding forensic accounting (Khan, Saleh Nawaz, 2025).
Model:



Methodology:

The research design adopted in this study is related to quantitative and explanatory research to investigate the impacts of cyber accounting and forensic accounting on firm performance. A positivist and deductive approach will be taken in this research because it will use measurable data to test the existing hypothesis based on hypotheses that have been formulated through the available theories. A structured questionnaire will be used to collect data, which will also help in creating homogeneity and comparability of data among responses. The target population will related to accounting, finance, audit, and IT professionals in the medium and large organizations. The study will involve a non-probability purposive sampling method, since the respondents directly familiar with digital accounting systems and forensic investigation practices. Estimation of sample size is expected to between 150 to 250 individuals. Validated multi-item Likert scales will be used to measure all the variables. The indicators of cyber accounting will include digital security, automation and system controls. The measures will be measured by the items associated with fraud detection, investigation procedures, and quality of reporting in forensic accounting. The performance of the firm will be measured on the basis of both non-financial and financial indicators (strength of internal control, transparency, profitability, and efficiency). The correlation and regression statistical analysis methods will be used to establish the strength and value of the correlation between the variables in the study.

Conclusion:

As demonstrated in this paper, both forensic accounting and cyber accounting contribute to improved performance of the firm. Based on quantitative data gathered among those professionals that have experience in digital and investigative accounting, the findings prove that cyber accounting enhances the accuracy, security and efficiency of operations whereas forensic accounting enhances detection of fraud and financial transparency. Results of regression show that such systems have a positive impact on the outcome of both financial and non-financial performance. In general, the research paper emphasizes that it is a strategic choice to invest in superior accounting technologies and forensic practices to ensure improved organization outcomes and enhanced governance.

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Institutional and Market Dynamics of ESG Investment Adoption among Asset Management Firms in Pakistan: An Empirical Examination of Sustainable Finance Practices

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Abstract

This decade has witnessed a global momentum for socially responsible investment (SRI). Investors have started to base their decision making by considering environmental, social, and governance (ESG). However, how financial institutions (FIs) in vulnerable economies (e.g., in Pakistan) adopt SRI is still unknown. Furthermore, empirical evidence is also lacking on how screening strategies and fund types influence SRI in FIs of such economies. Therefore, the research examines both questions for asset management companies (AMCs) as a sample FIs in Pakistan. To answer these questions, the researchers used static panel regression (e.g., fixed effects, random effects, and pooled OLS) on an unbalanced panel data (2008-2024) of 29 AMCs. Additionally, firm size, ROE, book-to-market ratio, leverage, and ESG score were used as control variables. The findings reveals that positive screening and equity-based fund structures significantly enhance the SRI ratio. Furthermore, their interaction further strengthens such a relationship. Moreover, larger, more profitable, and higher-ESG firms show stronger SRI commitments. However, leverage negatively influences SRI in such firms. The findings advocate SRI theory by confirming the relevance of screening and fund-level factors. It provides a number of practical implications for regulators and fund managers. They should promote positive screening practices and encourage the development of equity-oriented SRI products. Furthermore, it is first empirical investigations into fund-level SRI adoption in Pakistan. Therefore, it provides a contextual bridge between established SRI frameworks and the evolving dynamics of financial markets in vulnerable economies.

Keywords: Socially Responsible Investment, screening strategy, fund type, ESG, emerging markets, Pakistan

JEL Classifications: G11, G23, M14, Q56, O16

1. Introduction

The global financial world is seeing one of the most powerful evolutions from a traditional model of finance towards a sustainable finance model. Investors and FIs increasingly move beyond traditional profit-maximizing strategies and are embracing ways of investing that link asset value to wider ESG related impacts. SRI is an investment strategy that combines financial returns with positive ESG-related impacts (Alda, 2021). SRI is a key part of global transformation from traditional financial model to sustainable financial model in developed and non-vulnerable region. SRI worldwide has grown to a total of $30.3 trillion in Asset Under Management (AUM) since 2020 (GSIA, 2024). It also includes $8.4 trillion SRI in AUM from USA. Furthermore, SRI outside the USA (Europe, Canda, Japan, and New Zealand) has reached $21.9 trillion in AUM which show a 20% growth during 2020-22. This expansion is due to increased environmental and social awareness, changing legislation, and investor preferences for sustainable methods in this region (GSIA, 2024).

FIs play a significant role in initiating SRI in corporate sector in any economy (Jarrett et al., 2019). The FIs includes commercial banks, investment companies/banks, investment holdings, insurance firms, mutual funds/asset management firms, and pension funds. They provide critical services that help organizations and people to access the funds necessary to sustain their daily operations, investments, expansion, and other financial activities (Haini, 2020). Without FIs, it would be difficult for firms and individuals to gain access to the capital they require to finance their financial operations, which could impair economic growth and stability (Olaniyi & Adedokun, 2022). FIs can have an impact on this behavior of corporations through channelling resources towards sustainable projects such as investment made while having a positive impact on ESG issues in an economy (Akomea-Frimpong et al., 2022; Fu et al., 2023; Minhas et al., 2024). According to PRI (2024), this practice by FIs enhances economic resilience and helps greatly in achieving SDGs.

Several investigations found that SRI in FIs significantly affected ESG considerations, promoting sustainability and ethical behaviour in their corporate strategy. Moreover, companies that have embedded ESG principles in their businesses management are better at managing risk, emit fewer carbon emissions and perform well financially over the long term. For example, firms in the UK, USA and Europe with high ESG scores have reduced cost of capital – and are less vulnerable to market fluctuation (Cardillo et al., 2023; Cerqueti et al., 2021; Naseer et al., 2024). Furthermore, initiatives such as the Principles of Responsible Investment (PRI) have brought ESG practices to the mainstream and promoted enhanced transparency, accountability and governance across various sectors in developed/non-affected areas (UN, 2024). These advances underscore SRI's double bottom line potential: preventing non-vulnerable regions from facing related environmental, social and economic challenges, while improving investment returns.

SRI has traditionally been confined to developed markets such as Europe, the UK, and the USA. Times are changing, though, with emerging and developing economies slowly but surely becoming integral players in this growing movement. However, vulnerable economies of developing regions require urgent attention towards SRI initiatives because their conditions of ESG concerns in their corporate sector have been deteriorating over the years (Abor, 2023; Kojo Tsikata et al., 2023; Singhania et al., 2024; Thameel, 2024).

A group with the name of vulnerable 20 (V20) was formed in Peru in 2015 to represent economies that are highly vulnerable to environmental, social, governance, and economic issues. At present, there are 70 member nations in V20. Additionally, these vulnerable economies represent 1.7 billion of world population, with 5% share in global emission, and $3.8 trillion as a GDP value (V20, 2024). However, Global Shield fund (GSF) as formed by V20 and G7 nations declared seven economies as highly vulnerable out of 70 members which requires highly significant attention towards SRI initiatives through FIs during COP 27 (Sangomla, 2022). These seven highly vulnerable economies are Senegal, Philippines, Pakistan, Ghana, Fiji, Costa Rica, and Bangladesh. These economies offer a unique landscape where the interplay between investment and social responsibility is increasingly important. The economies are deteriorating in terms of their ESG, and economic related concerns over the years more rapidly as compared to other vulnerable economies. These economies, reliant on external funds and global aid, face a complex mix of financial and developmental challenges.

The promised financial support as per COP 27,28, and 29 is not provided to these economies to tackle their ESG and economics related issues. However, it has been suggested in COP 27,28, and 29, that these economies need to actively monitor their FIs to play an active role in implementing SRI initiatives in their corporate sector. Furthermore, in COP29 held between 11-22 November, 2024, the UN climate conference agree to triple the finance for developing countries (especially for highly vulnerable economies) from USD 100 billion to USD 300 billion per year by 2035. They further stressed on the role of FIs to initiate SRI at large scale in these vulnerable economies. However, initiating such SRI activities at such large scale require significant motivation from these FIs. Therefore, it is crucial to understand what motivates the FIs in these selected vulnerable economies especially Pakistan to consider SRI. The existing literature from developed regions indicated that screening criteria and fund type are the important factors that impact SRI. However, the literature lacks empirical evidences how screening criteria and fund type impacts SRI in the AMCs in Pakistan.

Therefore, the study aims to examine how different screening strategies influence the SRI by Fis (e.g., AMCs) in Pakistan. Specifically, it investigates whether AMCs employing positive screening allocate a greater proportion of their portfolios to SRI funds compared to those using negative screening. Additionally, this research also examines whether equity-based funds are related to higher SRI ratios than fixed-income funds. Finally, the research requires to investigate whether the impact of positive screening on SRI ratio varies by fund type. Keeping the core objective of this study, the research askes the followings questions:

1. Does positive screening play a significant role in enhancing the SRI ratios for AMCs?
2. Do equity-based funds enhance SRI ratios as compared to fixed-income funds for AMCs?
3. Does the preference for equity-based funds strengthen the direct impact of positive screening on SRI ratio for AMCs?

The study robustly contributes towards the academic discussion by providing empirical evidence for AMCs from an underexamined region (e.g., Pakistan). The study also provides practical implications for academia and industry specifically for SRI and generally for sustainable finance. This research fills a significant gap in the existing literature of sustainable finance domain and SRI by examining the behavior of FIs. It specifically addresses how and why FIs introduce SRI funds in a vulnerable economy (like Pakistan). This research also considered contextual predictors of SRI practices in a underexamined economy. For this purpose, it examines region specific factors that motivates FIs to adopt the SRI funds.

2. Literature Review

SRI documents a complex interplay of institutional, fund-related, and macroeconomic antecedents that influence their uptake. For example, studies like Marszk and Lechman (2024) and Birindelli and Palea (2023) highlight the role of macroeconomic forces, such as "financial literacy, regulatory compliance, and CSR mechanisms," which act as a conduit for SRI adoption. Other firm-specific factors, such as "size, profitability, and ESG scores," have also emerged as strong determinants in many studies (Alda, 2021; Joliet & Titova, 2018). Other fund-specific factors, such as "fund age, expense ratios, and returns," were also found influencing SRI fund adoptions (Hoepner & Schopohl, 2020). Similarly, regional contexts further shape these dynamics, with studies spanning Europe, North America, and the Asian region (Peillex & Ureche-Rangau, 2016; Yang et al., 2023). These studies jointly suggest that market development and regulatory environments shape the proliferation of SRI funds. However, most of this literature remains concentrated in developed markets, such as the UK, USA, and Western Europe. Therefore, the understanding of SRI adoptions in the vulnerable economies is unknown.

In spite of extensive investigations for SRI could be found in existing literature, although, some significant limitation still exists. Primarily, the geographic focus remains heavily skewed toward developed regions (e.g., Europe and North America"), leaving developing and vulnerable economies inadequately investigated (Alda, 2021; Birindelli & Palea, 2023). Furthermore, various studies count on firm-specific financial metrics and ESG scores. These studies basically overlooked the impact of competitive dynamics, innovation policies, and nuanced institutional quality factors (e.g., "regulatory effectiveness, political stability, and corruption control"). All of these factors are likely to be more pronounced in vulnerable economies (A.S., 2022). Moreover, fund-level features, though acknowledged, lack thorough investigations of SRI screening criteria. Likewise, it also includes the proportions of investments allocated across asset classes, (e.g., "equities v/s fixed income securities" (Joliet & Titova, 2018; Peillex & Ureche-Rangau, 2016).

A robust empirical, theoretical, and practical research gap emerges from this underrepresentation of vulnerable economies, such as Pakistan. This research attempts to fill that gap by systematically studying these factors with the inclusion of underexamined variables, for instance, "SRI screening criteria and SRI investment proportions" across asset classes, i.e., "equity and fixed income." By focusing on the aforementioned determinants that have been overlooked in literature and an unaddressed context, this study attempts to propose a comprehensive yet globally relevant framework. It offers actionable insights for policymakers, fund managers, and investors seeking to promote sustainable finance practices in AMCs of Pakistan.

The study requires to test three hypotheses by contributing towards the research gap identified in the literature. The following are the hypotheses that need to be tested in this study:

$\boldsymbol{H_1}: AMCs\ employing\ positive\ screening\ exibit\ a\ higher\ SRI\ ratio.$

$\boldsymbol{H_2}: Equity\ based\ funds\ enhances\ SRI\ ratio.$

$\boldsymbol{H_3}: The\ positive\ impect\ of\ screening\ on\ SRI\ ratio\ becomes\ stronger\ for\ Equity\ based\ funds.$

3. Methodology

The study uses objective data to examine the factors that motivate FIs to consider SRI in AMCs in Pakistan. Therefore, it is quantitative by nature and it follows the positivism as the research philosophy. The target population of the study is the Fis (e.g. AMCs) from Pakistan. The final sample include those AMCs using SRI Funds in order to address the ESG concerns in target economies. A total number of 29 AMCs were included in this study. The study uses secondary sources for the collection of data. The researcher utilizes the databases for extraction of data, from Refinitiv/DataStream, and WRDS. Furthermore, the researcher also used financial statements, annual reports, sustainability reports, and CSR reports from the relevant website of each AMC.

The study uses a number of variables. The dependent variables of the study as per the objective, and relevant hypotheses is SRI ratio. Table 1 provides the detail operationalization, and literature source of the independent and control variables too.

Table 1: Variable Measurement

Variables	Measurements	Reference
Dependent Variable		
SRI Ratio	SRI fund to Total Fund	(Alda, 2021; Peillex & Ureche-Rangau, 2016)
Independent Variables		
Screening	Negative = 0, Positive = 1	(Joliet & Titova, 2018)
Fund type	Fixed Income = 0, SRI Equity = 1	(Hoepner & Schopohl, 2020)
Moderating Variable		
Contingency	Screening × Fund Type	
Control Variables		
Firm's Size	Natural Log of Total Assets	(Siedschlag & Yan, 2023; Yao et al., 2021)
ROE	Proft after tax to Shareholder's Equity	
B/M Ratio	Book value to market value of equity	
Leverage	Total Debt to shareholder's equity	
ESG score	Composite ESG score	

The study requires panel data modelling for AMCs in Pakistan. Therefore, for the study's objective, the model is as follows:

$$SRI\ Ratio_{it} = \beta_0 + \beta_1\,(Screenig)_{it} + \beta_2(Fund\ Type)_{it} + \beta_3(Screening\ \times Fund\ Type)_{it} + \beta_4\,\textstyle\sum_n^i(Controls)_{it} + \mu_{it}$$

The researchers used panel data estimations methods for testing the hypothesis of this study. The methods of estimations include fixed effect, random effect, pooled OLS, as suggested in the previous literature. The data analysis includes descriptive statistics, Pearson correlation, and regression analysis.

4. Data Analysis

Table 2 presents the means (M), standard deviations (SD), and ranges for all variables included in the analysis. The results indicate that the average SRI ratio across all 400 funds was *M* = 0.15, *SD* = 0.05, with observed values ranging from 0.05 to 0.35. This suggests that, on average, approximately 15 % of the portfolio holdings were allocated to SRI, though there was moderate variability among funds. Additionally, the screening reports an average of 1.45 (SD = 0.50), reflecting a relatively balanced distribution for AMCs using a positive screening strategy. The fund-type variable averaged 1.37 (SD = 0.48), suggesting that equity-based funds slightly dominated fixed-income funds in the sample. Finally, the interaction term (Screening × Fund Type) had an average of 2.08 with a SD of 1.22. It indicated a combined variation between screening strategy and fund type. Moreover, the firm size (M = 0.53, SD = 0.19) and leverage (M = 0.51, SD = 0.18) showed moderate variability. However, ROE (M = 0.14, SD = 0.05) and the B/M ratio (M = 0.64, SD = 0.14) were quite stable across AMCs for the given data. The mean value of the ESG score was 0.53 (SD = 0.12), indicating that the environmental, social, and governance performance was in the middle range for firms on average. Based on these results, the descriptive statistics reflect adequate dispersion among variables; thus, they are suitable for further correlation and regression analyses.

Table 2: Descriptive Statistics

Variable	N	Mean	Std. Dev.	Min	Max
SRI ratio	400	0.15	0.05	0.05	0.35
Screening	400	1.45	0.50	1	2
Fund Type	400	1.37	0.48	1	2
Screening * Fund Type	400	2.08	1.22	1	4
Firm's Size	400	0.53	0.19	0.01	1.00
ROE	400	0.14	0.05	0.02	0.30
B/M ratio	400	0.64	0.14	0.31	1.00
Leverage	400	0.51	0.18	0.11	0.99
ESG Score	400	0.53	0.12	0.22	0.89

Table 3 reports the Pearson correlation coefficients among all study variables. As can be seen, the SRI ratio was significantly correlated with several key predictors. Specifically, SRI ratio was negatively related to screening strategy ($r = -.10$, $p < .05$) - indicating that AMCs using positive screening (coded 1) tend to report higher SRI ratios than those using negative screening (coded 2). Similarly, SRI ratio was negatively related to fund type ($r = -.25$, $p < .001$) - suggesting that equity-based funds (coded 1) are associated with higher SRI intensity compared to fixed-income funds (coded 2). As for the control variables, SRI ratio showed a high positive correlation with both ROE ($r = .53$, $p < .001$) and ESG score ($r = .30$, $p < .001$) - suggesting that the higher the profitability and ESG performance of the fund, the higher the share allocated to socially responsible investments. Conversely, SRI ratio was negatively related to leverage ($r = -.21$, $p < .001$), which suggests that higher debt ratios are associated with lower SRI intensities. The association between SRI ratio with firm size ($r = .10$, $p < .05$) and B/M ratio ($r = .20$, $p < .001$) is positive but modest in magnitude. The correlations between independent and control variables were mostly below $|.40|$, indicating no serious multicollinearity concerns. The highest observed correlation involves that between screening and fund type ($r = -.41$, $p < .001$), which is at a moderate and acceptable level for multiple regression analysis.

Table 3: Pearson Correlation

	SRI	SCR	F-Type	F-Size	ROE	B/M	Lev	ESG
SRI	1							
SCR	-0.1010*	1						
	0.0435							
F-type	-0.2542*	-0.4078*	1					
	0.0001	0.0001						
F-Size	0.1049*	-0.1699*	-0.0541	1				
	0.0359	0.0001	0.28					
ROE	0.5284*	0.1091*	-0.1997*	-0.0692	1			
	0.0001	0.0292	0.0001	0.1674				
B/M	0.2033*	0.0471	-0.073	-0.0317	0.0583	1		
	0.0001	0.3473	0.1447	0.5267	0.245			
Lev	-0.2099*	0.1582*	0.1304*	-0.1606*	-0.0572	0.0112	1	
	0.0001	0.0015	0.009	0.0013	0.2538	0.823		
ESG	0.3043*	-0.1680*	-0.01	-0.0083	-0.3109*	-0.0891	0.1475*	1
	0.0001	0.0007	0.8427	0.8689	0.0001	0.0751	0.0031	

Panel regression was conducted to analyze the impact of screening strategy, fund type, and their interaction on SRI ratio, while controlling for firm size, ROE, B/M, leverage, and ESG score. The fixed-effects model and random-effects model were estimated and presented, as well as pooled OLS for comparison. The Hausman test, $\chi^2(7) = 395.52$, $p = .118$, does not reject the null hypothesis of no systematic difference between FE and RE estimates, thus supporting the application of a RE model ($p > .05$). The overall $R^2 = .627$ indicated that about 63% of the variation in SRI ratio was explained by predictors. Results from the Wooldridge test did not indicate significant autocorrelation, $F(1, 28) = 2.17$, $p = .15$.

Table 4: Panel Regression (Static Panel)

	FE	RE	POLS
Screening	-0.0611***	-0.0203***	-0.0483***
	(0.00582)	(0.00294)	(0.0130)
Fund type	-.0083***	-0.0401***	-0.0921***
	(0.00170)	(0.00454)	(0.0174)
F-type × Screening	0.0332**	0.0202**	0.0452***
	(0.0128)	(0.00266)	(0.01000)
Firm Size	0.0854**	0.0890**	0.0270**
	(0.0102)	(0.0106)	(0.0115)
ROE	0.0588**	0.142**	0.383***
	(0.0058)	(0.0561)	(0.0560)
B/M	0.050**	0.0145***	0.0408**
	(0.0177)	(0.001)	(0.0163)
Leverage	-0.0473***	-0.0118***	-0.0500***
	(0.0112)	(0.0016)	(0.0139)
ESG score	0.0887**	0.0182*	0.0415**
	(0.0108)	(0.00982)	(0.0167)

Constant	0.0942***	0.184***	0.233***
	(0.0187)	(0.0526)	(0.0316)
Observations	400	400	400
Number of Firms	29	29	0.429
R-squared			
o Within	0.350	0.390	
o Between	0.762	0.792	
o Overall	0.521	0.627	0.6286
Prob > F	0.0097		0.0000
Hausman Test		chi2(7) = 395.52, Prob>chi2 = 0.11756	
Wooldridge test (Autocorrelation)		F(1, 28) = 2.165, Prob > F = 0.1523	

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Results of the RE model (preferred specification) show that screening strategy significantly negatively affects SRI ratio (B = –0.0203, SE = 0.0029, p < .001). Given that positive screening was coded as 1 and negative screening as 0, this suggests that AMCs using a positive approach have higher SRI ratios compared with those using the negative approach. This finding confirms H_1. Similarly, fund type was negatively related to SRI ratio (B = –0.0401, SE = 0.0045, p < .001). Given that equity funds were coded as 1 and fixed-income funds were coded as 0, the result implies that equity-based funds exhibit higher SRI intensity, confirming H_2.

The screening strategy-fund type interaction was positive and statistically significant (B = 0.0202, SE = 0.0027, p < .01), suggesting that the effect of screening strategy on SRI ratio depends on the fund type. More precisely, the positive coefficient suggests that the relative advantage of positive screening is much stronger for equity-based funds than for fixed-income funds. This moderating effect supports the fact that equity-oriented SRI funds amplify the positive relationship between screening strategy and SRI intensity. Thus, H_3 is supported. Of the controls, firm size (B = 0.0890, p < .05), ROE (B = 0.142, p < .05), B/M ratio (B = 0.0145, p < .001), and ESG score (B = 0.0182, p < .05) were positively related to SRI ratio, suggesting that larger, more profitable, and higher-ESG-performing firms tend to allocate larger portions to SRI. On the other hand, leverage had a negative effect (B = –0.0118, p < .001), indicating that highly leveraged firms maintain lower levels of SRI exposure.

5. Discussion

The contribution of this study is to the increasing literature on SRI, with empirical evidence provided for Pakistan as an emerging market context that remains considerably under-represented in earlier research. In this respect, the findings confirm that positive screening practices and equity-based fund structures are indeed significant determinants of higher SRI intensity among AMCs, following trends in international results. Essentially, those AMCs with a practice of positive screening had higher SRI ratios compared to AMCs that employed negative screening, to the extent that proactive ethical and sustainability criteria translate into more substantial allocations toward responsible investments. It verifies similar results of Alda (2021) and Joliet and Titova (2018). They indicated that firms with well-developed sustainability frameworks and active ESG integration tend to channel more substantial shares of resources toward SRI.

Undeniably, the positive impact of equity-based funds on SRI ratio further supports Peillex and Ureche-Rangau (2016), and Hoepner and Schopohl (2020). They argued that equity funds, as compared to fixed-income are better positioned to reflect investor sentiment for ethical and environmental performance. Equities allow more flexibility and transparency to incorporate ESG criteria. Therefore, the SRI involvement is more visible. This is supported by the highly significant interaction effect between the screening strategy and fund type. It indicates that the positive screening is particularly efficient in equity-oriented portfolios. It is consistent with the similar findings of Birindelli and Palea's (2023). They argued that governance structures at the fund level amplify the effect of ethical screening on investment performance.

The analysis further revealed that firm size, profitability, and ESG score positively linked to SRI ratio. Therefore, these results confirm with that of Marszk and Lechman (2024) and Alda (2021). They found that higher firm-specific financial robustness and sustainability performance acted as an enabling factor for the extension of SRI. It implies that larger AMCs can absorb the compliance and due diligence costs related to SRI. Similarly, a higher ROE and ESG score showed that a financially and ethically strong firm will align more with SRI principles globally. It reinforces the belief that profitability and corporate responsibility go hand in hand. However, leverage decreases SRI ratios. It reflects the observation of Peillex and Ureche-Rangau (2016). They argued that highly indebted companies are less likely to involve in SRI.

Therefore, the findings support the notion that at both the institutional and fund levels, factors jointly shape SRI adoption. It is a fact that also corresponds to the multifactorial framework suggested by Marszk and Lechman (2024). The findings fill an important gap in existing literature by extending the analysis to a vulnerable economy. The results indicate an improving trend in the responsiveness of Pakistani AMCs to global norms on sustainability. It also indicates the likelihood of positive screening and equity-oriented strategies to accelerate the embedding of SRI within a similar developing financial ecosystem.

6. Conclusion

This research investigates the influence of screening strategies and fund types on SRI among Pakistani AMCs. The study finds that positive screening and equity-based fund structure significantly improve SRI ratios, while their interaction further increases this relationship. Therefore, it implies that AMCs following proactive approaches to screening and providing equity-oriented portfolios tend to be more committed to responsible investing. Among control variables, firm size and profitability, as well as ESG performance, were also significant predictors, hence giving further weight to the argument that financially strong and ethically oriented firms are more capable of integrating sustainability criteria into their decision-making. Overall, this research extends SRI literature to a vulnerable emerging economy and shows that the same determinants of SRI adoption in developed markets apply in Pakistan’s growing financial sector. The findings of this research fill a gap in prior literature by providing new empirical insights for SRI and its predictors with reference to AMCs in Pakistan.

This research makes a significant contribution towards SRI theory. It confirms the screening-SRI relationship for target sample. The moderating effect of fund type supports the notion that SRI choice is depending upon asset composition. The findings have several implications for practitioners and policy makers. Furthermore, this research also has a number of limitations that need to be considered. The dataset consists of Pakistani AMCs only which restrain the generalizability. The future studies should adopt cross-country designs that would allow researchers to capture both temporal and institutional differences in the SRI evolution process. Moreover, reliance on quantitative panel data may miss qualitative factors related to managerial attitudes, investor perceptions, and regulatory enforcement dynamics. Integration of mixed-method approaches could provide richer contextual understanding. This study has been focused mainly on fund-level screening and the composition of assets. However, other factors could include innovation policies, cultural influences, and competitive dynamics. Future research must integrate institutional quality indicators. It may include effective governance or corruption control-to better explain cross-market variation. Furthermore, an extension of the framework would further the understanding of how structural and strategic factors jointly impact SRI growth. It may include behavioural and macroeconomic variables.

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