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# ECONOMIC CHALLENGER

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# Unlocking financial inclusion: Indian banks' efficiency in Pradhan Mantri Jan-Dhan Yojana explored through DEA

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## Abstract

**Purpose** – Financial inclusion is a prerequisite for inclusive development. In 2014, the Indian Government introduced the Pradhan Mantri Jan-Dhan Yojana (PMJDY) with a similar objective. The study aims to analyse the effectiveness of banks in the implementation of financial inclusion policy, i.e. PMJDY.

**Design/methodology/approach** – To evaluate the effectiveness of Indian banks, the study used the data over a seven-year period, from 2014–2015 to 2020–2021. Data are analysed by using the data envelopment analysis technique.

**Findings** – The study discovered that public sector banks performed better than private sector banks (PVBs) in terms of boosting financial inclusion under the PMJDY scheme. In terms of implementing the PMJDY programme, the State Bank of India rated first.

**Practical implications** – Results recommended that policymakers set goals for banks. In order to encourage consumers to utilise their accounts, banks ought to introduce supplementary financial products and implement incentive programs.

**Originality/value** – The study is the first of its kind to measure the performance of Indian banks in the implementation of the PMJDY scheme.

**Keywords** PMJDY, Financial inclusion, Data envelopment analysis, Banks efficiency

**Paper type** Research paper

## 1. Introduction

Financial inclusion is described as easy and affordable access to basic banking facilities. However, a considerable segment of the world's population lacks access to such fundamental financial services, particularly in emerging nations plagued by poverty. For better economic growth, a large percentage of people's participation in the formal financial system is required (Maity, 2017). The banking sector has a primary role in the growth and economic development of a society (Joseph and Varghese, 2014). The banking sector plays a prime role in providing a formal financial platform to the common people (Maity and Sahu, 2018; Ravikumar, 2013). Banks promote a culture of savings among individuals and perform various other activities that contribute to financial inclusion (Rao, 2013). Some such activities provide easy and affordable access to services like savings and short-term credit for weaker social groups (Agarwala *et al.*, 2022). Such reasonably priced opportunities can help strengthen the standing of these groups in society and allow them to become more fully integrated into society.

Consequently, the Indian Government, the Reserve Bank of India (RBI) and the banking sector have collaborated to create inclusive growth. Nationalisation of banks, the formation of

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## Contribution of Reliance Industries Ltd. In Sustainable Development and Best Sustainable Practices Adopted In India

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### Abstract:

Sustainability means meeting our own needs without compromising the ability of future generations to meet their own needs. In addition to natural resources, we also need social and economic resources. Sustainability is not just environmentalism. The 17 SDGs and 169 targets are part of a transformative agenda - the 2030 Agenda for Sustainable Development adopted by 193 Member States at the UN General Assembly Summit in September 2015, and which came into effect on 1 January 2016. The Sustainable Development Goals (SDGs) in 2015 as a global initiative aimed at eradicating poverty, safeguarding the environment, and promoting peace and prosperity for all people by 2030. Corporations have the potential to adopt sustainable business practices that not only reduce their environmental footprint but also promote social and economic development. This encompasses reducing greenhouse gas emissions, promoting the use of renewable energy, enhancing resource efficiency, embracing circular economy practices, and investing in the well-being of their employees and local communities. The study is based on the Business Responsibility and Sustainability Report (BRSR) of RIL. And specially report of 2022-23. The objective of the study is to study the role of corporate sector in sustainable development and the Sustainable Practices adopted by the Reliance Industry Ltd. The Business Responsibility and Sustainability Report (BRSR) exemplifies this commitment, transparently communicating RIL's performance to stakeholders. As a responsible corporate citizen, RIL believes in inclusive growth. The Company strives to accelerate India's transition to a knowledge economy and create value for the nation by elevating the quality of life across the entire socio-economic spectrum. Sustainable Practices adopted by the Reliance Industry Ltd. After due consideration to Climate Change, Managing Environmental Impacts, Energy Efficiency of Operations, Waste Management and Circular Economy, Sustainable Supply Chain Management, Water and Effluent Management, Raw Material Security and many more areas regarding this. This report conforms to the Business Responsibility and Sustainability Report (BRSR) requirements of the Securities & Exchange Board of India (Listing Obligations and Disclosure Requirements) Regulations, 2015 (SEBI LODR) and the National Guidelines on Responsible Business Conduct (NGRBC) on Social, Environmental and Economic Responsibilities of Business released by the Ministry of Corporate Affairs (MCA), India.

**Keywords:** Sustainable Development, Best Practices, Corporate Sector, BRSR

### Introduction:

Sustainability is a social goal for people to co-exist on Earth over a long time. Sustainability is understood as a form of intergenerational ethics in which the environmental and economic actions taken by present persons do not diminish the opportunities of future persons to enjoy similar levels of wealth, utility, or welfare<sup>1</sup>. Sustainability means meeting our own needs without compromising the ability of future generations to meet their own needs. In addition to natural resources, we also need social and economic resources. Sustainability is not just environmentalism. Embedded in most definitions of sustainability we also find concerns for social equity and economic development<sup>2</sup>.

The 17 SDGs and 169 targets are part of a transformative agenda - the 2030 Agenda for

Sustainable Development adopted by 193 Member States at the UN General Assembly Summit in September 2015, and which came into effect on 1 January 2016. At the core of this global agenda for 2030 is the principle of universality: 'Leave No One Behind'. Development in all its dimensions must include all people, everywhere, and should be built through the participation of everyone, especially the most vulnerable and marginalised. This comprehensive agenda recognises that it is no longer sufficient just to focus on economic growth, but on fairer and more equal societies, and a safer and more prosperous planet<sup>3</sup>.

### 17 Goals Under Sustainable Development and Aims at:

1. No Poverty
2. Zero Hunger
3. Good Health and Well-Being





## Impact of Social Media Marketing On Consumer Buying Behaviour: A Case Study of Distt. Una, Himachal Pradesh

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### Abstract:

Marketing is the process of identifying, anticipating, and satisfying customer needs and wants through the creation, communication and delivery of value. The essence of marketing lies in its ability to connect businesses with consumers in meaningful ways. It involves crafting messages that effectively convey the benefits of a product or service, persuading potential customers of its value. In essence, marketing is the bridge between businesses and consumers, enabling companies to communicate value, inspire loyalty, and achieve sustainable growth. Social media marketing is a strategic approach to promoting products, services, or brands using social media platforms. It involves creating and sharing content that resonates with target audiences to achieve marketing and branding goals. This type of marketing leverages the vast reach and influence of platforms like Facebook, Instagram, Twitter, LinkedIn, TikTok, and others to engage users, increase brand awareness, drive website traffic, and generate leads or sales. Social media marketing is a dynamic and powerful tool for businesses to engage with their audience, build brand identity, and drive growth. Both Primary and Secondary Data were used in this study. Primary Source for data collection was used through a Structured Questionnaire to gather original data directly from the source. Secondary Data includes online journals, websites & review of literature from published research papers. It is purely based on Descriptive Research, a method of gathering information about a population and to identify characteristics of population and patterns, themes, or trends in data about how different groups respond to a particular concept.

The sample size includes 95 respondents. The respondents were from Una District( From Various Tehsils Like- Una, Bangana & Haroli) and the Age Group was between 18-40+ Years. The objective of the study is to analyse the social media platform mostly used ,purpose of using Social media and influence of social media platforms on consumer buying behavior, examine the role of social media influencers in shaping consumer purchasing decisions, assess the impact of online reviews and User Generated Content on consumer behavior, evaluate the effectiveness of Brand Advertising/Engagement on Social Media in driving consumer purchases. Demographic analysis showed that age, gender, and income level significantly impact how consumers respond to social media marketing. The study also highlighted the importance of trust and transparency in social media marketing .Consumers are becoming increasingly aware of paid promotion sand sponsored content, leading to skepticism if the influencer or brand lacks authenticity. Brands that maintain transparency about their partnerships and engage in ethical marketing practices are more likely to build long-term relationships with consumers. This findings emphasizes the need for marketers to prioritize honesty and authenticity to establish credibility and foster brand loyalty. While social media marketing offers numerous benefits, the study also identified challenges that marketers and consumers face, including spam notifications and data privacy concerns.

**Keywords:** Social Media Marketing, Consumer Behaviour, Purchasing Decision, Consumer Engagement

### Introduction:

Marketing is the process of identifying, anticipating, and satisfying customer needs and wants through the creation, communication and delivery of value. It is a dynamic field that involves understanding consumer behavior, conducting market research, and strategically positioning products or services to resonate with target audiences. At its core, marketing is about building and maintaining relationships with customers, fostering loyalty, and ensuring long-term

engagement. The essence of marketing lies in its ability to connect businesses with consumers in meaningful ways. It involves crafting messages that effectively convey the benefits of a product or service, persuading potential customers of its value. This requires a deep understanding of consumer psychology, motivations, and decision-making processes. By effectively communicating value, marketing not only influences purchasing decisions but also enhances brand awareness and credibility. Marketing is also about creating experiences that



## RESULTS ON PICARD'S SOLUTION DEPENDENCE ON THE INITIAL CONDITIONS OF FRACTIONAL ORDER SYSTEMS

JAG MOHAN<sup>✉</sup>, ANJU SOOD and AJAY KUMAR

### Abstract

Fractional differential equations find widespread application in engineering domains, including control engineering, electronic system development, electronic circuit design, and speech modeling. Due to the analytical intractability of many such equations, numerical methods have been developed to obtain solutions. This study explores the sensitivity of solutions obtained through Picard's method for a fractional order system represented as  ${}^C_{x_0}D_x^\alpha y(x) = f(x, y)$ , subject to the initial condition  $y(x_0) = y_0$ , in which derivative has been taken in caputo sense. The research investigates how slight variations in the initial condition and the function  $f(x, y)$  affect the solutions. This analysis provides valuable insights into the stability and robustness of solutions for fractional differential equations, enhancing their practical applicability in diverse engineering applications.

**2010 Mathematics subject classification:** primary 26A33; secondary 34A08.

**Keywords and phrases:** Caputo Fractional Order Differential Equations, Picard's Iterative Method, Initial Value Problem, Existence and Uniqueness Theorem.

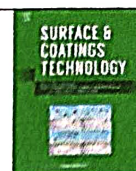
### 1. Introduction

Fractional order differential equations have gained significant importance recently, owing to their versatile applications across various scientific and engineering domains. These equations find practical use in control theory, signal processing, electric circuits, and modeling viscoelastic materials. Additionally, they offer valuable insights in population modeling, particularly in situations like epidemics or wars, where traditional integer-order models fall short [1–11]. In various real-life scenarios, integer order differential equations fall short in accurately representing the complexities of the problems. In such cases, fractional order models emerge as valuable alternatives, offering improved results. However, similar to their integer counterparts, many fractional order differential equations lack analytic solutions, necessitating the use of numerical methods for finding solutions. Given the challenges and importance of fractional order differential equations, our focus has been on developing numerical techniques to tackle these complexities effectively. As a result, in recent times, a diverse range of

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Full Length Article

# Computational and experimental investigation of anticorrosive potential of Panthenol for mild steel in 1 M hydrochloric acid solution

Shveta Sharma <sup>a</sup>, Sourav Kr. Saha <sup>b</sup>, Namhyun Kang <sup>b</sup>, Richika Ganjoo <sup>c</sup>, Abhinay Thakur <sup>c</sup>, Humira Assad <sup>c</sup>, Ashish Kumar <sup>d</sup>  



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# Assessing the newly synthesized bio-based amylase-chitosan/cellulose nanocrystals- ZnO composite for enhanced corrosion protection of carbon steel in acidic medium

Femiana Gapsari<sup>a</sup>, Shveta Sharma<sup>b</sup>, Saprizal Hadisaputra<sup>c</sup>, Chin Wei Lai<sup>d</sup>, Abdul M. Sulaiman<sup>a</sup>, Djarot B. Darmadi<sup>a</sup>, Ashish Kumar<sup>a e</sup>  

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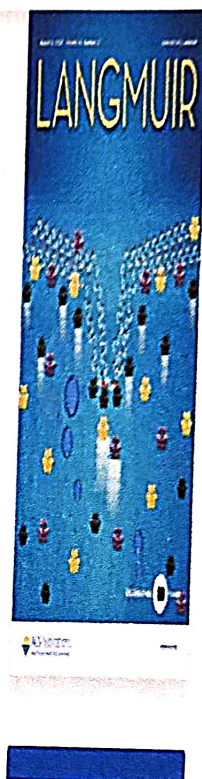



  
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ARTICLE | July 26, 2024

# Assessment of the Inhibitory Efficacy of a Thiazole Derivative as an Efficient Corrosion Inhibitor for Augmenting the Resistance of MS in Acidic Environments

Humira Assad, Sourav Kr. Saha, Namhyun Kang, Suresh Kumar, Hariom Dahiya, Priyabrata Banerjee, Abhinav Thakur, Shveta Sharma, Richika Garijoo, and Ashish Kumar\*





9

# Experimental accompanied with computational (atomic/electronic)-level simulation investigations of *Polygonum cuspidatum* root extract as sustainable corrosion inhibitor for mild steel in aggressive corrosive media

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# The Role of Artificial Intelligence in a New Paradigm: Redefining the Banking Landscape

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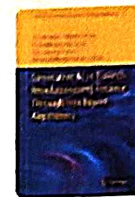
[Shamli Sharma](#), [Kamal Preet](#) & [Neema Gupta](#)

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## Abstract

In the context of India, the banking sector stands as a major contributor to economic growth, driving various financial activities and investments. Artificial intelligence is increasingly affecting the lives of everyone. Present study is focused on exploring the different usage and applications of Artificial Intelligence in the Indian Banking Sector. The findings of the study show that AI plays an influential role in the functioning of the Indian banking sector. Indian banking sector is opting for AI-supporting solutions like Chatbots, virtual assistants, smart wallets, automated services, ATMs, CCTV, robots' advisors, and many more. The study has highlighted how AI-supported technologies are implemented by Indian Banks. As the landscape of banking transforms with innovations such as digitalization and Artificial Intelligence, banks must stay agile and responsive to maintain their pivotal role in sustaining economic stability and fostering growth. Through effective operation and strategic adaptation, banks continue to be instrumental in driving economic progress and prosperity, ensuring that financial services remain accessible and efficient for all segments of society. Future research, preferably descriptive research, should be carried out in the banking sector to explore more.



**Generative AI in FinTech:  
Revolutionizing Finance Through  
Intelligent Algorithms**

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## Global Perspectives on Determinants Influencing the Adoption of AI-Driven Sustainable Fintech Solutions

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### Abstract

Using a mixed methods approach that combines qualitative and quantitative research, this study investigates new developments in artificial intelligence (AI) applications in sustainable Fintech and empirically validates a conceptual research model. It examines important factors impacting the adoption of AI technologies in sustainable Fintech from a cross-national standpoint, highlighting the crucial aspects of advantages, costs, and sustainability characteristics that influence user adoption intentions. To provide a thorough evaluation of scholarly literature on AI, Fintech, and sustainability practices, a bibliometric keyword analysis is carried out using Web of Science and VOSviewer. Sustainability components like transparency and perceived accountability are added to this framework, which has its roots in the Value-Based Adoption Model (VAM) and the Technology Acceptance Model (TAM). The results highlight AI's dual function of promoting sustainable growth and increasing Fintech efficiency. To further the integration of AI in sustainable Fintech management, the study emphasizes the necessity of



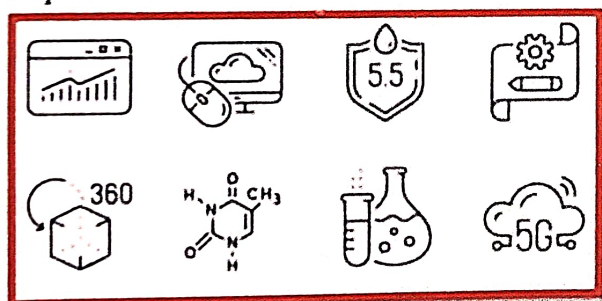
## Role of Cloud Computing in Chemistry

Ravinder Dogra<sup>1</sup>, Diwaker<sup>2</sup>, Praveen Kumar<sup>3</sup>, Samjeet Singh Thakur<sup>4\*</sup>

### Abstract

Cloud computing has emerged as a transformative technology in the field of chemistry, offering unprecedented computational power, data storage, collaborative capabilities, and enhancing the performance of spectroscopic techniques. The integration of cloud-based platforms in chemical research facilitates complex molecular simulations, big data analysis, and real-time collaboration among researchers worldwide. By leveraging cloud infrastructure, chemists can perform high-throughput virtual screenings, predict molecular behaviors, and model chemical reactions with greater efficiency and scalability than traditional computing resources allow. This democratization of computational resources has accelerated drug discovery, materials science, and environmental chemistry, enabling even smaller research teams to access cutting-edge tools and datasets. Additionally, cloud computing enhances the reproducibility of experiments by standardizing data management and computational workflows. We expect the role of cloud computing in chemistry to grow as the field continues to evolve, driving innovations and fostering a more collaborative, data-driven approach to chemical research.

### Graphical Abstract



**Keywords:** Cloud-computing, high-throughput screening, computational chemistry, automation, big data, artificial intelligence, machine learning

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### INTRODUCTION

A model for providing computer services online is called cloud computing. Instead of needing to buy or maintain actual hardware, it enables customers to pay-as-they-go access and control computing resources, including servers, storage, databases, networking, software, and analytics [1–2], as shown in Figure 1.

### Cloud Computing: Key Concepts

Everyday advertisements for products, books, whitepapers, seminars, workshops, market forecasts, etc. are cloud computing-related deluge us. However, upon closer examination, it becomes

# Digital Competence Among Secondary School Teachers in Relation to Gender, Locale and Type of Institution

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## Abstract

The study examined the digital competence in relation to gender, locale and type of institution of 500 teachers in secondary schools. The data was collected using the Digital Competence Scale by Shipra Shrivastva and Kiran Lata Dangwal. The result of the study showed a significant difference in digital competence of (i) male and female teachers in secondary school with male teachers being more digitally competent; (ii) between urban and rural secondary school teachers with urban teachers having higher digital competence; and (iii) between secondary school teachers from government and private schools with private school teachers having higher digital competence.

**Keywords:** Digital Competence, Gender, Locale, Secondary School Teachers, Type of Institution

## 1. Introduction

In today's digital age, education has profoundly evolved, embracing a new era shaped by the widespread impact of digital technologies<sup>1</sup>. From computers to the internet, these tools have changed how we access, share, and learn information, not only in schools and universities but also across various digital platforms, expanding education's horizons beyond traditional boundaries<sup>2</sup>.

The digital age presents education with opportunities and challenges, fundamentally altering how we learn and teach. It reshapes our interaction with knowledge, prompting adaptation to new learning paradigms<sup>3</sup>. From teaching methods to student engagement, digital tools are altering various educational aspects, prompting teachers to shift from traditional roles to facilitators of digital learning<sup>4</sup>. As technology evolves and integrates further into our lives, teachers must continually enhance their digital competence, emphasizing the growing importance of digital skills in modern education<sup>5</sup>.

Digital literacy is accentuated as an essential life skill for everyone in the twenty-first century. It has been referred to as 'survival skills in the digital era' by Esher<sup>6</sup> and 'essential assets in the information society' by van Deursen<sup>7</sup>. According to the digital agenda for Europe 2020 as per the European commission<sup>8</sup>, digital competence is one of the fundamental skills that every person in a knowledge-based society should possess. It is a complex and dynamic notion that encompasses various sectors and literacies, continuously growing with the emergence of new technologies.

Digital competence is not merely a skill set, it's a profound necessity for educators in our digitally saturated world. It demands not only technical proficiency but also the ability to navigate and critically evaluate information, essential for thriving in a knowledge-driven society<sup>9</sup>. Beyond empowering educators to enrich learning experiences, it enables them to transcend limitations across multiple spheres, fostering collaboration and

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