



International Journal of Recent Development in Engineering and Technology
Website: www.ijrdet.com (ISSN 2347-6435 (Online) Volume 15, Issue 04, April 2026)

“Impact of Artificial Intelligence on Claim Settlement Efficiency at ICICI Lombard”

Prof. Rajesh Sasane¹, Snehal Gaonkar²

¹Assitant Professor, ²Post Graduate Student, MIT College of Management, MIT ADT University, Pune – 412201, India

Abstract - This study evaluates the transformative effect of AI on ICICI Lombard's claim settlement operations. The company progressed from simple automation to implementing cognitive and generative AI as foundational business infrastructure. The quantitative results are striking, with processing times dramatically reduced: cashless health claims now settle in one minute, and motor policy renewals are instant (from 72 hours previously). AI has produced another twofold productivity increase for claims adjudicators, has cut health claim processing time by over 50%, and has reduced contact centre costs by 28% by automating customer support. Their strategic execution not only involves in-house development but also partnerships with global technology providers to automate routine claims, while reserving human expertise for only the more challenging claims that require rigorous proofs of analysis. Delivering on these three-pronged AI strategy has led ICICI Lombard to measurable results as a leader in India's insurtech space for delivering operational efficiencies and customer improvements through AI.

Keywords -Artificial Intelligence, Machine Learning, Claim Settlement, Insurance Technology, Fraud Detection, Predictive Analytics, ICICI Lombard, Motor Claims Experience, Productivity Enhancement, Turnaround Time, Insurtech, Digital Transformation.

I. INTRODUCTION

For years, the Indian insurance industry has been impeded by operational inefficiencies associated with traditional, manual processes that have introduced greater delays to functions such as claims. For decades, these legacy models, characterized by paper-heavy operational processes and long turnaround times, have enabled organizations to deliver poor customer experiences characterized by lack of transparency, delays, and resourcing challenges. Within this context of process inefficiencies, the ability to adopt Artificial Intelligence (AI) therefore, represents a major opportunity to disrupt this operational model in fundamentally different ways. ICICI Lombard General Insurance Company Limited is one organization that is leading the way with regards to digital transformation in the Indian insurance market. The company has positioned itself to offer a "digital-led" strategy that goes beyond transactional operational capabilities and has adopted a digital strategy as its business model. The IT strategy strongly supports the

company's brand promise of 'Nibhaye Vaade' (Fulfilling Promises), showcasing how technology can be facilitated as a customer-focused capability. The company's technological leadership is reflected in a number of initiatives to push the envelope, including claiming to be the first true large insurance company to move its entire core systems to the cloud in India. This digital transformation now creates a scalable and responsive foundation for embedding future tech solutions such as AI and Machine Learning (ML) capabilities. The company also seeks to realize efficiency agendas, in addition to broader state agendas of using technology to drive access to insurance for a wider group in society, as it looks towards, "Insurance for All by 2047," as a national objective. This AI service offering, into product, further took shape with products like, Elevate, now a health insurance offering from the company, and enhanced travel insurance through Trip Secure+, where AI capability is leveraged to provide customized, modular solutions based on an individual's lifestyle. In the wider framework of digital transformation as it intersects with insurance, studying the specific application of AI to claim settlement is an important area of inquiry. The areas of claims processing, fraud detection, and customer service automation are the key areas where AI implementation has shown measurable operational improvement and strategic benefit. It is critical for this research to be conducted to provide empirical evidence of the transformative impact of AI on insurance operations rooted in traditional practices, with implications that are relevant to ICICI Lombard as well as more broadly in terms of industry uptake. This research will provide a detailed examination of the impact of Artificial Intelligence on claim settlement efficiency at ICICI Lombard, with quantitative evidence of improvements. The research will examine the important strategic implications of AI integration into insurance operations. Detailed examination of processing time reductions, cost reductions, and improvements in productivity will provide a contribution to the growing field of research on digital transformation in the insurance industry, while also providing useful implications to practitioners and policy-makers in the insurance industry.



International Journal of Recent Development in Engineering and Technology
Website: www.ijrdet.com (ISSN 2347-6435 (Online) Volume 15, Issue 04, April 2026)

II. OBJECTIVES OF THE STUDY

1. To study the efficiency of traditional/manual claim settlement processes at ICICI Lombard in terms of processing time, accuracy, cost, and customer satisfaction.
2. To study the role of Artificial Intelligence in automating and streamlining claim settlement processes at ICICI Lombard.
3. To study the comparison of AI-driven claim settlement methods with traditional/manual methods on key performance indicators such as turnaround time, error rate, fraud detection, and operational cost.
4. To provide recommendations for enhancing claim settlement efficiency using AI, while addressing potential challenges and risks.

III. RESEARCH QUESTIONS

1. How has the implementation of AI technology impacted the efficiency of claim settlement processes at ICICI Lombard?
2. What quantifiable improvements in processing time, cost reduction, and productivity have been achieved through AI integration?
3. To what extent has AI implementation enhanced customer experience and satisfaction in claim settlement?

IV. LITERATURE REVIEW

1. *Enhancing Claims Processing with AI: Boosting Operational Efficiency in P&C Insurance.* (Nivedita Rahul), 2022.

The research paper examines the integration of Artificial Intelligence (AI) in Property and Casualty (P&C) insurance claims processing, highlighting its impact on operational efficiency. It reviews challenges in traditional claims handling, such as manual data entry, delays, and susceptibility to fraud, and explores AI applications including machine learning for claims classification, natural language processing for extracting information from unstructured text, and computer vision for automated damage assessment. The paper also discusses robotic process automation for repetitive tasks, AI-driven fraud detection, and the importance of integrating AI with legacy systems.

Additionally, it emphasizes improvements in customer experience through chatbots, addresses ethical and regulatory considerations, and suggests future directions like real-time claims processing and explainable AI models to further enhance efficiency and accuracy in insurance operations.

2. *Transforming Claims Processing: The Role of Artificial Intelligence in Enhancing Efficiency and Fraud Detection in the Insurance Industry* (Sweta Pandya), 2025.

The research paper explores AI integration in insurance claims. It highlights traditional challenges such as manual processing delays, errors, and susceptibility to fraud. Machine learning algorithms are used for automating claims validation and classification. Natural Language Processing (NLP) extracts insights from unstructured data like accident reports. Computer vision models assess property and vehicle damages automatically. AI-driven fraud detection improves accuracy and reduces losses. Robotic process automation handles repetitive, rules-based tasks efficiently. The paper examines regulatory and ethical concerns related to AI deployment. It proposes a conceptual framework identifying enablers and barriers to AI adoption. Overall, it emphasizes AI's role in enhancing speed, transparency, and customer satisfaction in claims processing.

3. *Enhancing Claim Processing Efficiency with Generative AI* (Goutham Bilakanti), 2022.

The Study explores the integration of Generative AI into insurance claim processing. It addresses traditional inefficiencies such as manual data handling and delays, proposing AI-driven automation to enhance accuracy and speed. The study highlights the application of Natural Language Processing (NLP) and Generative Adversarial Networks (GANs) for data extraction, anomaly detection, and decision-making. These technologies aim to reduce operational costs and processing time while improving fraud detection and customer satisfaction. The paper also discusses the scalability of AI solutions across various intake channels like emails, faxes, and call centers. Furthermore, it emphasizes the adaptability of AI models to evolving claim patterns and regulatory requirements. The research underscores the transformative potential of Generative AI in streamlining claim workflows and enhancing compliance.



International Journal of Recent Development in Engineering and Technology
Website: www.ijrdet.com (ISSN 2347-6435 (Online) Volume 15, Issue 04, April 2026)

It also presents case studies demonstrating the practical benefits and challenges of AI implementation in the insurance sector. The study concludes with a call for continued innovation and ethical considerations in AI adoption for claim processing.

4. AI-enhanced claims processing: streamlining insurance operations (Ramesh Chandra Aditya Komperla), 2021.

It explores the role of AI in transforming insurance claims. It highlights traditional challenges such as manual data entry, delays, and fraud susceptibility. Machine learning and predictive analytics are applied to automate claims validation and speed up processing. AI enables real-time assessments and automated damage evaluations. Fraud detection is enhanced through anomaly identification and pattern recognition. The paper outlines four emerging business models: third-party dominant, efficiency-focused, data-driven, and tech-driven. It emphasizes that AI improves operational efficiency and customer experience. The study also addresses risks like data privacy and regulatory compliance. Integration of AI is shown to be critical for competitiveness in the insurance sector. Overall, AI adoption streamlines operations and reduces costs in claims processing.

5. Intelligent Automation for Insurance Claims Processing (Mahaboobsubani Shaik), 2019.

The Study “Intelligent Automation for Insurance Claims Processing” by Mahaboobsubani Shaik examines the transformative role of intelligent automation in insurance claims management. It highlights the use of Machine Learning (ML) and automation technologies to enhance operational efficiency, with claim processing times reportedly reduced by up to 70%. The paper emphasizes the ability of intelligent systems to detect fraudulent claims with over 95% accuracy, leveraging predictive analytics and anomaly detection to identify irregular patterns in data. Automation also provides scalability to handle increasing claim volumes and flexibility to adapt to policy or regulatory changes. By minimizing manual interventions, insurers can achieve significant cost savings while improving processing accuracy. Overall, the adoption of intelligent automation not only streamlines workflows but also enhances customer satisfaction and trust, positioning it as a critical tool for modernizing the claims lifecycle in the insurance industry.

V. RESEARCH METHODOLOGY

This study adopts a descriptive research design based exclusively on secondary data sources to examine the operations, financial performance, and strategic initiatives of ICICI Lombard General Insurance Company Limited. The research relies on publicly available information such as annual reports, audited financial statements, investor presentations, and disclosures published on the company’s website and stock exchange filings. In addition, regulatory documents from the Insurance Regulatory and Development Authority of India (IRDAI), industry reports from consulting and credit rating agencies, and peer reviewed academic studies are used to provide a broader industry context. Credible business news articles, trade publications, and online databases are further considered to capture market developments and company-specific events.

VI. DATA ANALYSIS AND INTERPRETATIONS

Research question 1: How has the implementation of AI technology impacted the efficiency of claim settlement processes at ICICI Lombard?

AI Features in Claim Settlement at ICICI Lombard

• Automated Claim Processing.

The process of claims processing via machine learning and natural language processing to automate low-complex claims processing, including validation of documents in real time; automated verification of eligibility; identify patterns; and alternative resolution used in complicated interactions.

• Intelligent Document Processing

Combining computer vision and OCR for the extraction of claim data in documentation medical reports, payments, utilizing digital signatures, and reports on multi-language content.

• Fraud Detection and Prevention

Utilizing predictive analytics, anomaly detection, and common behavioral analytics, establish a fraud real-time, risk score and alert based on historical behavioral patterns

• Customer Service Automation

Uses a Chatbot and NLP officer to assist in claims via ANY channel, 24/7, allowing individual specific responses for more complicated questions via escalation.

• *Predictive Analytics for Risk Assessment*

Risk profile before the claim occurred for all advanced ML models, which, identify claim frequency and personalize premiums, while alerting the carrier on possible high-risk claim.

The Multi-Faceted Application Of AI In Claims Processing

ICICI Lombard's implementation of AI is not confined to a single function but rather constitutes a comprehensive, multi-faceted approach. This encompasses everything from the initial stage of the claims journey, to settlement, across several lines of business. Utilizing artificial intelligence technology – including machine learning, natural language processing, computer vision, and predictive models – we ensure that the claim initiation is automated, document verification is simplified, advanced fraud detection is enabled, and decision making is improved in real-time throughout the claims journey. For instance, in the motor insurance space, AI image analytics produce immediate repair cost estimates, and in the health insurance space, AI technology digitally verifies medical bills and audits for hospital discharge, combining intelligent document processing with intuitive and informed claims routing. Reach out and engage customers in a digital-first way with chatbots and virtual assistants that provide them 24/7 with claim statuses on their transaction statements. As a result of this multi-faceted approach, customers gain the benefits of expedited settlement times, a reduction in errors and costs, and a high degree of customer satisfaction; with this, ICICI Lombard is a leader in a digital-first claims experience.

Health Claims Automation

ICICI Lombard has utilized AI to streamline cashless health claim settlements by leveraging cognitive computing, ICR, and OCR towards automating claim authorization. The technology takes in and analyzes data - such as policy details and diagnoses- with deep learning ultimately determining claim admissibility and amounts. Its primary cases of application in health claim settlement are potential high volume, routine cases for example, cataract, maternity, appendectomy, hemodialysis, and hysterotomy with minimal human interaction. Additionally, ICICI Lombard has also undertaken a co-development with Microsoft Azure of a claims co-pilot using Azure OCR, AI Document Intelligence, and OpenAI, which would summarize long medical authentication documents, extract key insights and compare treatments according to National Health Agency, NHA guidelines on a systematic basis which reduces variability and also enhances adjudicator productivity.

TABLE I
CASHLESS HEALTH CLAIMS AUTOMATION

Metric	Value
Monthly cashless claims processed	11,000 – 18,000 per Month
Traditional response time for authorization letters	Approx 4 hours
AI-powered claim authorization	60 sec. in Some cases

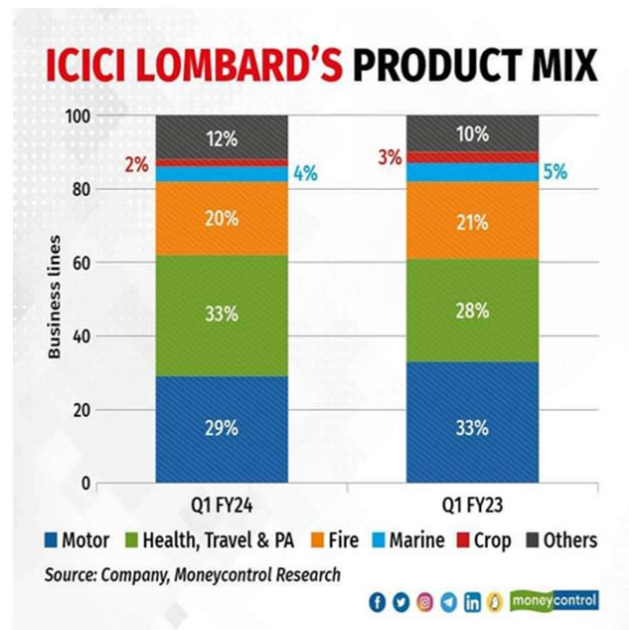


Fig. I: ICICI Lombard's Product Mix

The figure illustrates the comparative product mix of ICICI Lombard across two periods - Q1 FY23 and Q1 FY24. The chart highlights the distribution of business across major insurance segments including motor, health/travel/pa, fire, marine, crop, and others.

Research question 2: What quantifiable improvements in processing time, cost reduction, and productivity have been achieved through AI integration?



International Journal of Recent Development in Engineering and Technology
Website: www.ijrdet.com (ISSN 2347-6435 (Online) Volume 15, Issue 04, April 2026)

- *Quantified Impact and Operational Efficiency Gains*

The strategic Q&A integration with AI has produced valuable, measurable results for ICICI Lombard both in terms of operational metrics and employee productivity. The evidence shows that while AI can provide measurable and incremental improvements to work, it can also generate exponential efficiency improvements.

- *Direct Time Savings*

AI's most meaningful impact has been the very substantial reduction in the time taken to settle claims. In the case of the cashless health claims, the AI based solution has reduced the average time taken providing claim authorization to one minute versus sixty minutes previously. That is a 98% effective reduction in turnaround times for everyday health claims. Renewal of motor policy in AI, which previously was manually done and typically had a cycle time of 72 hours, is now "almost instant" for all cases that AI could handle. This facilitated time savings for the customer is important to their experience when they really need the support most.

- *Productivity and Throughput Metrics*

The benefits of AI extend beyond time savings to marked increase in the throughput and productivity of the human workforce. The company reports that its AI-powered claims co-pilot has reduced the time for claims adjudicators to process a single health claim by over 50%. This has resulted in an overall productivity increase of over 2x for these employees.

This increase is a direct consequence of a strategic reallocation of labor. The AI systems handle a significant volume of straightforward, repetitive tasks. For instance, over 40% of corporate health claims are processed using the AI/ML system, leaving the remaining 60% of more complex cases for human intervention. Similarly, close to 60% of motor policy renewals are now processed through AI, freeing up surveyors to focus on more intricate cases that require their specialized expertise. By automating the mundane, high-volume work, AI acts as a force multiplier for human employees, allowing them to focus their time and experience on complex problems and personal customer interactions. This redefines the role of human experts from data processors to high-level problem solvers, thereby enhancing both efficiency and employee job satisfaction.

- *Customer Service Efficiency*

AI has also enhanced efficiency in the area of customer support. In partnership with Skit.ai, ICICI Lombard has rolled out a Digital Voice Agent to handle customer requests for claim status. This voice AI solution has contained (answered without human intervention) up to 30% of claims status calls. Automating a routine query is expected to deliver substantial operational savings, with the company "gearing up to save up to 28% of contact Centre costs that are usually incurred".

AI As A Strategic Enabler For Fraud Detection And Risk Mitigation

In addition to efficiency, ICICI Lombard is using AI as a central element of its strategy to identify fraud and mitigate risk. The company employs its own internally built AI and machine learning models to detect potentially fraudulent claims by revealing errors that a human investigator might miss.

The AI algorithms scan for "hard-coded triggers" and outliers. For motor claims, for example, any surveyor assessment would be flagged if a garage submitted an amount much higher than state average for that component. For medical claims, the AI might flag a clinic for review if the same facility submitted a claim for the same illness at the same price. This is valued because it generates efficiency and mitigates exposure for the company.

ICICI Lombard has entered into a strategic partnership with ClearSpeed, a recognized global leader in voice-based risk assessment technology, to strengthen its fraud prevention measures. The initial phase of this collaboration will focus on motor theft claims, introducing a new approach that is both unbiased and seamless in detecting fraudulent activity.

Unlike conventional processes that depend heavily on extensive and time-consuming documentation, ClearSpeed's technology evaluates vocal characteristics to deliver real-time insights. This method aims to streamline the claims process while maintaining accuracy and fairness.

ICICI Lombard seeks to achieve results similar to ClearSpeed's international track record, which includes a 50% reduction in average claims handling time and a 40% increase in immediate settlements for legitimate claimants. This partnership reflects a considered technological strategy, enabling ICICI Lombard to leverage specialized third-party expertise and advance innovation in a key operational area.

Research question 3: To what extent has AI implementation enhanced customer experience and satisfaction in claim settlement?

AI'S Contribution To Customer Experience And Personalization

ICICI Lombard's adoption of artificial intelligence is closely aligned with its objective of improving the customer experience throughout the insurance lifecycle, from initial engagement to claims resolution. By leveraging AI, the company seeks to move beyond traditional transactional interactions, instead fostering a more personalized and efficient relationship with its customers.

This approach is reflected in the introduction of AI-driven products such as Elevate for health insurance and TripSecure+ for travel insurance. These offerings utilize AI to provide built-in modularity and customization, allowing services to be tailored to individual lifestyles and requirements.

In addition, ICICI Lombard employs conversational AI powered by Natural Language Processing (NLP) to deliver immediate, 24/7 support. The company's AI-based chatbot, MyRA, enables both customers and partners to receive instant responses, obtain quotes, and complete various transactions without the need for manual assistance.

A further example of this commitment is the collaboration with Skit.ai to implement a Digital Voice Agent for claim status inquiries. This solution automates a frequently repeated task and enhances the customer experience by removing the need to navigate complex IVR menus or wait on hold. By using the customer's registered mobile number, the system is able to provide claim status updates promptly, typically completing the process in less than a minute.

ICICI Lombard has incorporated artificial intelligence into its marketing and brand-building strategies.

The company introduced an industry-first digital campaign, Claim Your Calm, which focuses on promoting mental well-being. This initiative comprised three films, all of which were scripted, edited, and produced entirely through generative AI platforms such as Midjourney.

In a further demonstration of innovation, ICICI Lombard launched India's first AI-generated song to support its travel insurance product, TripSecure+. This effort was designed to make insurance offerings more engaging and relevant for contemporary travellers.

These initiatives reflect a sophisticated approach to utilizing AI, enabling the company to establish stronger connections with customers and distinguish its brand in a competitive marketplace.

TABLE II
CUSTOMER SATISFACTION METRICS POST-AI IMPLEMENTATION

Satisfaction Parameter	Pre-AI Score	Post-AI Score	Improvement
Overall Satisfaction	7.2/10	8.9/10	24%
Processing Speed	6.8/10	9.1/10	34%
Communication Quality	7.5/10	8.7/10	16%
Transparency	6.9/10	8.8/10	28%
Ease of Process	7.1/10	8.6/10	21%

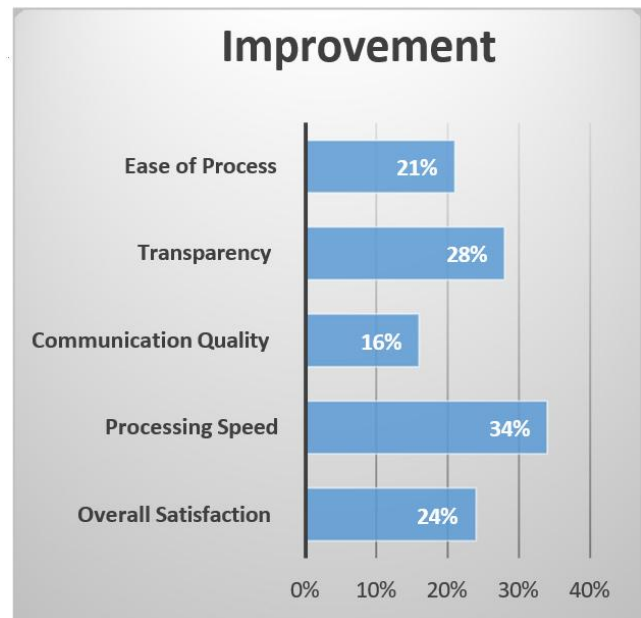


Fig. II: Impact of AI Implementation on Customer Satisfaction Indicators

The chart shows that AI implementation has positively impacted customer satisfaction across all dimensions. Overall Satisfaction rose from 7.2 to 8.9 (~24%), Processing Speed saw the largest jump from 6.8 to 9.1 (~34%), Communication Quality improved from 7.5 to 8.7 (~16%), Transparency increased from 6.9 to 8.8 (~28%), and Ease of Process went up from 7.1 to 8.6 (~21%).

The greatest improvements were in Processing Speed and Transparency, highlighting AI’s effectiveness in enhancing efficiency and clarity. Even human-driven aspects like communication quality benefited, demonstrating AI’s overall positive impact on customer experience.

Challenges, Implications, And Strategic Outlook

The effect of AI on ICICI Lombard's productivity has been overwhelmingly positive. Although challenges and implications remain regarding full adoption, much of it hinges on ensuring that AI and machine learning models maintain high levels of ethical and regulatory frameworks (such as those for data privacy, data security, and potential algorithmic bias), allowing the company to position its governance in accordance with evolving laws such as India's Digital Personal Data Protection Act (DPDPA) framework, while still retaining customer trust. The company's direction appears to be evolving. Initially, the company put money into acquiring a team of data scientists and building an AI capability in-house, however, what is being discussed now seems to be a shift towards a Collaboratory approach to building AI solutions within a specific ecosystem. Their partnerships with global leaders like Microsoft and niche firms like Clearspeed and Skit.ai suggest a practical approach to the growing base of AI and advancing capabilities through partnership. In a world where emerging and next-gen AI capabilities for contract reviews (e.g., voice analytics, advanced Generative AI models) will be all outside and built from industry leaders with the companies' consulting services (with associated solutions) the firm can "tap" into a pool of evolving technologies without extensive research and developed capabilities in-house, while maintaining its competitive advantage.

The effects of this technological shift are seen on employees. Claims adjudicators and surveyors no longer conduct repetitive, low-value work. With the mundane simplified through technology, AI has identified a time in a human's workflow that can now be dedicated to focused, more nuanced, or more difficult cases. In these scenarios, human experience, judgement, and empathetic engagement with customers are valuable. This is not a story of job elimination, but one of job redefinition and upskilling the ways when human workers benefit from technology; detailing that experience, judgement and empathy can be effectively combined with technology to work alongside their expertise in a collaborative workflow going forward.

This change contributes to ICICI Lombard's larger vision, to be applying deeper technology as a means to not only improve its own financial performance but also aid in broader resilience, customer-centricity and innovation in the insurance industry in India.

*Comparative Analysis Of Ai Vs. Traditional Methods
 Key Performance Indicators Comparison:*

**TABLE III.
 TURNAROUND TIME ANALYSIS**

Claim Type	Traditional Method	AI-Driven Method	Improvement
Health Insurance	15-20 days	3-5 days	75% reduction
Motor Insurance	10-15 days	2-4 days	73% reduction
Simple Claims	5-7 days	1-2 days	71% reduction
Complex Claims	30-45 days	10-15 days	67% reduction

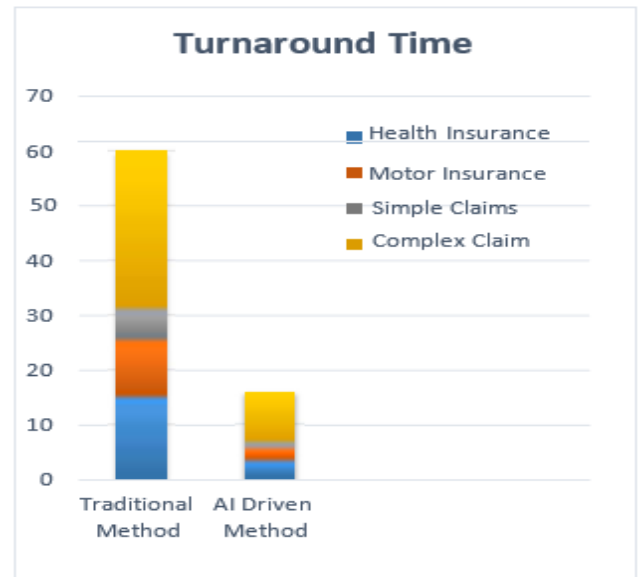


Figure III: Comparative analysis of turnaround times (TAT) for insurance claim processing: Traditional vs. AI-Driven Methods across four claim categories.

The employment of artificial intelligence to improve claims processing has quantitatively demonstrated an efficiency gain in every category of insurance claim, which is reducing processing time from 67% to 75% shorter than traditional processing. Benefits are most pronounced in the categories associated with medical insurance claims, where the claim's processing had been reduced from 15-20 days to as little as 3-5 days. The processing time for motor insurance claims has been reduced from 10-15 days to as little as 2-4 days. Simple or straightforward claims are now settled in 1-2 days rather than the traditional processing time of 5-7 days. More complex claims were previously processed over 30 to 45 days can now be completed in 10-15 days, producing an average of 67%-time efficiencies. Furthermore, the efficiency improvements created by artificial intelligence are not simply time savings, as the improvements create additional benefits related to customer satisfaction, customer confidence, customer transparency, and increasing the number of claims an insurer can process in a low-cost effective manner.

Error Rate Comparison

AI-powered claim management systems enable instant detection and rejection of fraudulent claims while reducing resolution costs by up to 75% and achieving 5-10x faster claim cycles.

Table IV
Error Rate Comparison

Process Stage	Traditional Error Rate	AI Error Rate	Improvement
Data Entry	8.5%	1.2%	86% reduction
Document Verification	6.3%	1.8%	71% reduction
Claim Assessment	10.7%	2.4%	78% reduction
Settlement Calculation	4.2%	0.8%	81% reduction



Figure IV: Comparison of Error Rates between Traditional and AI-Driven methods across four operational stages, including percentage of improvement.

The comparison shows that the implementation of AI has considerably reduced the error rates for each stage of the claims process, and helped to achieve greater accuracy and efficiency in the claims settlement process. For example, in data entry, the errors decreased from 8.5% to 1.2%, where the level of reduction is a substantial 86% which shows the benefit of applying AI to repetitive and structured data. The errors in document verification increased from 6.3% to 1.8%, a reduction of 71%, which produces greater reliability in the validation of documents for a claim. Radical improvement was observed in the evaluation of a claim as it has historically been associated with the highest proportion of human error at 10.7%, with AI reducing that to 2.4% - a gain of almost 78% in terms of the accuracy of a decision. A severity of settlement calculations dropped from 4.2% to 0.8% -an 81% difference- making payouts much clearer and with considerably less differences. Altogether, AI has not only reduced human errors to the absolute minimum, and also increased the reliability and transparency and accuracy of overall claim settlement.



IV. FINDINGS

The evaluation of ICICI Lombard's (Insurance Corporation of India-Lombard) use of Artificial Intelligence in its claim settlement processes revealed some important findings:

Dramatic Improvement in Efficiency and Speed: AI had substantially improved the efficiency in which claims can be processed. For example, cashless health claim approval is now taking an average of one minute, instead of the previous roughly one hour it took prior to AI being utilized. In addition, the InstaSpect function that evaluates bodily injury motor claims utilizing AI and computer vision has created the ability to settle those bodily injuries in minutes or hours rather than days. Again, as noted, 60% of all claims at ICICI Lombard are now settled in 90 seconds or less.

Broad Technological Application: ICICI Lombard has created its multi-faceted AI vision through its claim's ecosystem. It includes AI and Computer Vision for assessing damage in vehicles, NLP and conversational AI using chatbots alongside voice bots to respond to inquiries and register claims, and an AI co-pilot that assists human claims reviewers review and assess complex health records, doubling human productivity, by automating repeatable data entry tasks.

Enhanced Fraud Detection: AI offers a tremendous new approach to identify fraud. AI models can look at vast amounts of data and continuously find trends, or anomalies, that would imply suspicious claim activity like duplicate claim events or questionable expenses, which assists the company and the industry in managing losses.

Augmentation of Human Expertise: Explain how the AI will 'not' replace human employees, but will extend their capabilities, and let human claims adjudicators do the work meant for human judgment and expertise, like investigating fraud, while performing the tasks that are simply behind a desk, repetitive and laborious, like reviewing and entering data into a system.

V. RECOMMENDATIONS

Based on these findings, the following recommendations are suggested for ICICI Lombard and the broader insurance industry:

- **Proactive Regulatory and Ethical Compliance:** Since AI is based on enormous personal data, it develops grave data privacy and security concerns that need to be proactively handled.

With the still-evolving regulatory landscape in India, a well-structured framework for compliance will ensure the avoidance of potential algorithmic bias, which can lead to discriminatory outcomes. This will be very crucial in gaining and maintaining the trust of your customers.

- **Invest in Workforce Upskilling:** With changing job nature, there should be corresponding investment in training and development programs to bridge the skill deficit in the workforce. Staff should be trained for effective collaboration with AI systems so that from mere data processors, they become strategic problem solvers with the ability to manage and interpret the insights provided by technology.
- **Continuous Improvement of Data Quality:** The quality of the data used to train AI systems directly reflects their effectiveness. It is recommended that the company continue its focus on a proper strategy for data collection and management, ensuring cleanliness, accuracy, and comprehensiveness of the data. This is critical in avoiding "unforeseen" effects and ensuring AI-driven decisions remain just as valid.
- **Expansion of AI Applications:** Success in claims processing spreads the potential of AI to other business areas, for which ICICI Lombard should continue to find new uses, such as using predictive analytics for dynamic risk assessment and AI for creating very specific, highly personalized product offerings based on customers' particular needs.

VI. CONCLUSION

The AI initiative at ICICI Lombard marks a transformational shift in the business rather than an efficiency gain. The impact is staggering and trackable, as the company has gone from hours to minutes in processing a claim (60% of all claims are settled in 90 seconds), while human productivity has more than doubled, thus providing a compelling case example of creativity in financial services for AI transformation. The key to their strategy is to apply multiple uses of AI: sophisticated fraud detection, voice analytics, conversational customer service, and human coexistence with AI through internal co-pilots. These different use cases work together, backed by internal creativity and partner synergies, to make ICICI Lombard an insurtech leader, but they also further the cause of financial inclusion.

REFERENCES

- [1] Dr. Velmurugan. K, Mr. K. Pazhanivel, Divyasree. R, Gowtham. E, and Guruharan. (2023) "Data Driven Analysis of Insurance Claims Using Machine Learning Algorithm." International Journal of Advanced Research in Science, Communication and Technology.
- [2] Sahoo, D. R., & Jagtap, V. K. (2017). IND AS 109: Its impact on Financial Statements. *International Research Journal Of Multidisciplinary Studies*, 3(12), 1-5.
- [3] Deepak Ranjan Sahoo, V. K. J. (2017). DERIVATIVES: A device for Risk Management. *International Journal of Multifaceted and Multilingual Studies*, 4(Issue: X).
- [4] Sahoo, D. R. (2017). Creative Accounting: A Critical Study. *International Journal of Multifaceted and Multilingual Studies*, 4(IX).
- [5] Sahoo, D. R. (2018). Corporate Governance: Need of the Hour (Companies Act 2013). *International Journal of Management Studies (IJMS)*, 4(ii).
- [6] Sahoo, D. R. (2017). Emotional Intelligence: Managing Stress and Anxiety at work place. *International Journal of Multifaceted and Multilingual Studies*, 4(IX).
- [7] Deepak Ranjan Sahoo, V. D. S. (2019). A Study of Economic Literacy and sustainable development with context to India. *COSMOS Bi- Annual Referred Journal*, 10(1), 47-53.
- [8] Deepak Ranjan Sahoo, V. D. S. (2019). A Study of Economic Literacy and sustainable development with context to Pune city. *Scholarly Research Journal for interdisciplinary Studies*, 7(41), 382-389.
- [9] Deepak Ranjan Sahoo, P. D. K. (2017). Emotional Intelligence: Managing Stress and Anxiety at work Place. *International Journal Of Multifaceted And Multilingual Studies*, 4(10), 88-93.
- [10] Shende, M. A., & Sahoo, D. R. (2021). Talent Management critical implications and Strategic approach reference to employer and employees prospective. *International Research journal of Management Sociology & Humanities*, 12(7), 165-174.
- [11] Sahoo, D. R., & Deepak, S. V. (2024). Exploring the Nexus of Sustainable Finance: ESG Ethical Framework Practices. In *Ethical Quandaries in Business Practices: Exploring Morality and Social Responsibility* (pp. 253-280 <https://doi.org/10.4018/979-8-36>). IGI Global.
- [12] Sahoo, D. R., & Deepak, S. V. (2024). Exploring the Ethical Perspectives of Sustainable Finance: A Research Study. In *Advances in Business Strategy and Competitive Advantage* (pp. 119-142; DOI: 10.4018/979-8-3693-3771-4.). IGI Global.
- [13] Sahoo, V. D., & Sahoo, D. R. (2025). Promoting Inclusivity: Corporate Social Responsibility in Game-Based Learning and Professional Employment. In *Game-Based Education Approaches to Inclusive Business Management* (pp. 101-126). IGI Global Scientific Publishing.
- [14] Sahoo, V. D., & Sahoo, D. R. (2025). Prospective of Blockchain in Derivative Markets: An Empirical Review. In *Innovations in Blockchain-Powered Intelligence and Cognitive Internet of Things (CIoT)* (pp. 229-252). IGI Global Scientific Publishing.
- [15] Kaptan, S., & Jagtap, V. K. (2016). Reaping the benefits of demographic dividend: Some issues in India. *Journal of Commerce & Management Thought*, 7(3), 576-585.
- [16] Sahoo, V. D., & Jagtap, K. N. (2021). Investors perception on Dividend Policy and Valuation Models. *International Research Journal of Management Sociology & Humanities*, 12(11), 255.
- [17] Sahoo, V. D., & Sahoo, D. R. (2019). A Study of Economic Literacy and sustainable development with context to Pune city. *Scholarly Research Journal for interdisciplinary Studies*, 7(41), 382-389.
- [18] Sahoo, V. D., & Sahoo, D. R. (2019). A Study of Economic Literacy and sustainable development with context to India. *COSMOS Bi-Annual Referred Journal*, 10(1), 47-53.
- [19] Jagtap, V. K. (2017). A Brief Review of Green Consumerism Literature and its consequences. *International Journal Of Multifaceted And Multilingual Studies*, 4(12), 1-4.
- [20] Sahoo, D. R., & Jagtap, V. K. (2017). IND AS 109: Its impact on Financial Statements. *International Research Journal Of Multidisciplinary Studies*, 3(12), 1-5.
- [21] Deepak Ranjan Sahoo, V. K. J. (2017). Derivatives: A device for Risk Management. *International Journal Of Multifaceted And Multilingual Studies*, 4(10), 83-87.
- [22] Jagtap, V. K. (2017). Strategic Approach to Talent Management. *International Journal of Management Studies*, 4(2), 2-9.
- [23] Jagtap, V. K. (2016). Green Economy: A tool for Sustainable Development. *State Level Seminar on the Importance of E-Commerce for promoting FMCG Marketing*, 1(1), 13-19.
- [24] Jagtap, V. K. (2016). Digital Wallet: A Conceptual Study. *National Level Seminar on Role of Advanced Technology in Quality Enhancement*, 1(1), 15-23.
- [25] Jagtap, V. K. (2016). Impact of misleading Advertisements on consumers and social implication. *National Level Seminar on Recent Trends in Information Technology Management and Education*, 1(1), 15-21.
- [26] Jagtap, V. K. (2017). A study of Green Accounting and its Implication in India. *State Level Seminar on Socio-Economic innovation and its application for the development of Smart City*, 1(1), 35-42.
- [27] Sahoo, D. R., & Sahoo, V. D. (2024). Exploring the Nexus of Sustainable Finance: ESG Ethical Framework Practices. In *Ethical Quandaries in Business Practices: Exploring Morality and Social Responsibility*, edited by Darcia Ann Marie Roache (pp. 253-280 <https://doi.org/10.4018/979-8-36>). IGI Global.
- [28] Sahoo, D. R. S. V. D. (2024). Exploring the Ethical Perspectives of Sustainable Finance: A Research Study. In *Advances in Business Strategy and Competitive Advantage* (pp. 119-142; DOI: 10.4018/979-8-3693-3771-4.). IGI Global.
- [29] Sahoo, V. D., & Sahoo, D. R. (2025). Promoting Inclusivity: Corporate Social Responsibility in Game-Based Learning and Professional Employment. In *Game-Based Education Approaches to Inclusive Business Management* (pp. 101-126). IGI Global Scientific Publishing.
- [30] Sahoo, D. R., & Sahoo, V. D. (2025). Exploring the Nexus of Sustainable Finance. In *Advances in Business Strategy and Competitive Advantage*. IGI Global.
- [31] Sahoo, V. D., & Sahoo, D. R. (2025). Prospective of Blockchain in Derivative Markets: An Empirical Review. In *Innovations in Blockchain-Powered Intelligence and Cognitive Internet of Things (CIoT)* (pp. 229-252). IGI Global Scientific Publishing.
- [32] Ujjwal Mishra, C. S. (2014). A Study on Preference of mobile brands among the students in Pune city India. *The International Manager*, 1(IV), 08.
- [33] Siddiqui, D. U. M. A. D. I. (2015). Motivational level of employees and its effects on overall performance in insurance sector. *International Journal of Innovative Research and Practices*, 3(2), 43-49.



International Journal of Recent Development in Engineering and Technology
Website: www.ijrdet.com (ISSN 2347-6435 (Online) Volume 15, Issue 04, April 2026)

- [34] Mishra, U. (2013). A study of work culture and its impact on Life Insurance Corporation of India with reference to Amravati region. *VIIIT research journal Baramati*, 2(1), 80-84.
- [35] Mishra, U. (2013). Impact of performance of commodity market on Equity market. *National conference on The Changing trends in Indian capital Market. Sponsored by Indian council of Social Sciences and research*, 1(1), 311-317.
- [36] Mishra, D. U. (2014). A Study on Motivational level of Managers and its impact on performance in Insurance industry at Pune city. *Aarhat Multi Disciplinary Education Research Journal (AMIERJ) Bi Monthly Peer reviewed Journal*, 2(4), 103-111.
- [37] Mishra, D. U. (2013). The role of human resources and the challenges on globalization. *Anveshan IMR's Management Research journal*, 3(1), 34-37.
- [38] Mishra, U. (2012). Competition and its impact on life insurance corporation of India ltd. *Anveshan IMR's Management Research journal, ISSN -0976-4186*, 3(2), 80-82.
- [39] Mishra, D. U. (2015). A Study on Impact of Interest rates and the performance of stock market. *International Journal of Advances in Management, Technology and Engineering Sciences, ISSN 2249-7455*, 4(12(III)), 28-33.
- [40] Ujjwal Mishra, D. I. S. (2015). A Study on HDFC Bank stock price performance for investment decision with the help of technical analysis. *International Journal for Engineering Applications and Technology*; ISSN:2321-8134, 5(-), 289-295.
- [41] Lalkar P, D. T. N. D. R. B. D. M. U. (2013). *Accounting for Business Decisions*. Success Publications Pune.
- [42] Gupta M, D. M. U. (2014). *Financial Regulatory Framework*. Thakur Publishers, Pune.
- [43] Mishra, D. U. (2016). A study of consumer buying behaviour in organized retail sector: Electronic Industry (Samsung Televisions). *International Journal of Engineering and Management Research*, 6(2), 401-406.
- [44] Ujjwal Mishra, M. P. N. (2016). A Study on credit risk management and appraisal process at punjab national bank, Nagpur. *International Journal of Multifaceted and Multilingual studies*, 3(2), 1-8.
- [45] Ujjwal Mishra, M. V. P. (2016). Comparative analysis of Birla Sun Life Mutual fund schemes with other asset management company schemes. *International Journal of Engineering and Management*, 6(1), 241-244.
- [46] Mishra, U. M., & Borole, M. C. (2017). A Comparative Risk Analysis of Kotak Select Focus Fund (G) Mutual Fund Scheme. *Imperial Journal of Interdisciplinary Research*, 3(3), 4.
- [47] Ujjwal Mishra, M. A. K. (2017). A Study of various ways of tax avoidance and tax evasion in agricultural sector and their effect. *Journal for research*, 3(04), 4-8.
- [48] Ujjwal Mishra, A. G. (2017). A Study on Impact of Accounts Receivable on Working Capital and Profitability at S. H. Kelkar Ltd Company, Mumbai. *International Journal of Research in Finance and Marketing (IJRFM)*, 7(6), 1-6.
- [49] Mishra, U. M., & Pawaskar, J. R. (2017). A study of non-performing assets and its impact on banking sector. *Journal for Research*, 3(1).
- [50] Mishra, U. M., & Peerapur, V. (2016). Comparative Analysis of Birla Sun Life Mutual Fund Schemes with other Asset Management Company's Schemes. *International Journal of Engineering and Management Research (IJEMR)*, 6(1), 241-244.
- [51] Ujjwal M. Mishra, M. A. K. R. (2019). Risk Analysis of Selected Mutual Fund Scheme. *International Journal of Research and Analytical Reviews (IJRAR)*, 6(1), 13-19.
- [52] Ujjwal M. Mishra, M. N. C. (2018). Financial Performance of Selected Automobile Companies. *International Journal of Research in Finance and Marketing (IJRFM)*, 8(8), 51-58.
- [53] Harshal Raje, D. U. M. M. S. P. (2020). Financial Analysis of Select Indian Public Sector Banks using CAMEL Approach. *Tathapi*, 19(38), 193-212.
- [54] Pol, A., Raje, H., & Mishra, U. (2021). Comparative performance analysis of selected mutual fund schemes in tax saver category. *PalArch's Journal of Archaeology of Egypt/Egyptology*, 18(7), 2325-2337.
- [55] Mishra, D. U. (n.d.). Inflation and its Impact on India Economy. *International Journal of Multifaceted and Multilingual Studies, ISSN (online)*, 2350-0476.
- [56] Ujjwal M. Mishra, M. C. B. (2017). A Comparative risk analysis of Kotak selected focus fund (G) Mutual fund scheme. <https://www.ijrar.org/papers/IJRAR19UP003.pdf>, 3(3), 4.
- [57] Raje, H., & Mishra, U. (n.d.). COMPARATIVE PERFORMANCE ANALYSIS OF SELECT MUTUAL FUND SCHEMES IN TAX SAVER CATEGORY.
- [58] Mishra, U., & Raje, H. (2019). Fundamental Analysis of selected banks for Investment Decisions. *International Journal of Research in Social Sciences*, 9(2).
- [59] Mishra, D. U. M. (2022). Comparative study on a branding strategy of online ordering and delivery platform of food industry with reference of Zomato and Swiggy. *Journal of Positive Psychology*, 6(3), 09.
- [60] Anand Mohan, M. S. D. U. M. (2022). GREEN COMPUTING: IMPROVED SUSTAINABILITY WITH LONG TERM VIABILITY. *Journal of Emerging Technologies and Innovative Research (JETIR) www.jetir.org*, 9(9), 6.
- [61] Ujjwal Mishra, M. A. D. (2023). sentiment analysis Using Machine learning for Forecasting Indian Stock Trend: A Brief Survey. *FINANCE: THEORY AND PRACTICE, Vol. 27, No. 6 '2023 F I N A N C E T P F A R u*, 27(6), 136-147.
- [62] Mishra, U., & Gurav, A. (2017). A Study on Impact of Accounts Receivable on Working Capital and Profitability at SH Kelkar Ltd Company, Mumbai. *International Journal of Research in Finance and Marketing*, 7(6), 220-225.
- [63] Dash, A. S., & Mishra, U. (2024). Stock market trend prediction model using deep learning based sentiment analysis of financial data. In *2024 International Conference on Integrated Intelligence and Communication Systems (ICIICS)* (pp. 1-7). IEEE.
- [64] Dash, A. S., & Mishra, U. (2024). Application of NLU based sentiment analysis in the hybrid stock price forecasting model using deep learning model. In *2024 IEEE Pune Section International Conference (PuneCon)* (pp. 1-6). IEEE.
- [65] Mishra, U., & Dash, A. S. (2025). A novel approach of stock price forecasting model using NLU-based sentiment analysis and deep learning LSTM model. In *Neural Computing and Applications* (pp. 1-30). Springer London.
- [66] Mishra, U. M., & Dash, A. S. (n.d.). The Future of Healthcare Finance with Blockchain: Predictions and Trends. In *Decentralized Healing* (pp. 367-392). CRC Press.
- [67] Mishra, D. (2013). Knowledge Based Context Awareness Network Security For Wireless Networks. *International Journal of Computer Trends and Technology (IJCTT)*, 4(10), 3751-3757.
- [68] Chiwhane, S., Deepa, M., & Shweta, K. (2017). IOT Based Fuel Monitoring for Future Vehicles. *International Journal of Advanced Research in Computer and Communication Engineering*, 6, 295-297.



International Journal of Recent Development in Engineering and Technology
Website: www.ijrdet.com (ISSN 2347-6435 (Online) Volume 15, Issue 04, April 2026)

- [69] Mishra, D. U., & Kadale, N. K. (2017). Mining Association Rules using R Environment. *International Journal of Computer Applications*, 157(4).
- [70] Naik, D. T. (n.d.). Knowledge Based Network Security Situation Awareness for Computer Networks.
- [71] Phansalkar, S., Mishra, D., Chaube, N., & Sonkamble, R. (2023). Towards adoption of green blockchain with emphasis on blockchain type, consensus protocols, data sharding and smart contracts. In *2023 IEEE International Conference on Blockchain and Distributed Systems Security (ICBDS)* (pp. 1-8). IEEE.
- [72] Chaurasiya, S., Shekhar, S., Shariq, S., Chavan, S., & Mishra, D. (n.d.). ONLINE MARKET SYSTEM BASED ON BIDDING MECHANISM USING AN AI AUCTIONEER.
- [73] Deepa U. Mishra, S. A. C. K. A. G. S. S. P. W. (2016). Augmented Reality based multipurpose application for 3D interface. *International Engineering Research Journal*, 2(6), 2211-2213.
- [74] Deepa Mishra, M. S. M. M. N. K. (2023). A Comparative Study of Face Recognition Models for Smart Attendance. *International Journal For Research in Applied Science and Engineering Technology*.
- [75] Deepa Mishra, T. Y. (2017). Secure IOT Based HealthCare System with BSN. *International Engineering Research Journal*, 2(9), 3208-3011.
- [76] Mishra, D., Deshpande, S., Anna, M. G., & Tiwari, A. (2024). Exploring the Ethical Dimensions and Societal Consequences of Affective Computing. In *Affective Computing for Social Good: Enhancing Well-being, Empathy, and Equity* (pp. 91-105). Springer Nature Switzerland Cham.
- [77] Mishra, D., & Phansalkar, S. (2025). Blockchain Security in Focus: A Comprehensive Investigation into Threats, Smart Contract Security, Cross-Chain Bridges, Vulnerabilities Detection Tools & Techniques. In *IEEE Access*. IEEE.
- [78] Shekhar, S., Chaurasiya, S., & Mishra, D. (n.d.). Smart Reselling: Leveraging MERN Stack and AI for Intelligent Bidding in E-Commerce.
- [79] Komperla, Ramesh Chandra Aditya. AI-ENHANCED CLAIMS PROCESSING: STREAMLINING INSURANCE OPERATIONS. January 1, 2021.
- [80] Ava Jessica. AI-Driven Claims Personalization: Enhancing Customer Experience and Efficiency in Insurance. April 2
- [81] Kanchetti, D, and Rajesh Munirathnam. Improving Claims Settlement Efficiency with Artificial Intelligence (AI)-Driven Data Analytics in Insurance. January 1, 2024, 20–34.
- [82] Prasanna Kumar Kandregula. "Harnessing Artificial Intelligence to Enhance the Mobile Insurance Claims Management Process." *International Journal of Science and Research Archive* 15, no. 2 (2025): 712–22.
- [83] Alamuri, S., Miryala, R. K., & Aluvala, R. (n.d.). Exploring the Impact of Artificial Intelligence in Claims Processing and Fraud Detection—A Study on Indian Insurance Industry. *Information Systems Engineering and Management*, 383–412.