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Regulatory Frameworks and AI-Powered Risk Assessment in Global Insurance Markets

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Abstract
This paper focuses on the complex interdependence of regulatory regimes and risk assessment practices, using AI in the insurance industry across the world. Regulatory bodies face new mandates to promote transparency, fairness, and consumer protection as AI tools are increasingly integrated into risk modeling, underwriting, and fraud detection. The quantitative, descriptive-correlational research design that will be used in the research is based on the use of data on 100 respondents belonging to non-homogeneous age and experience groups. Statistical analyses indicate that despite the growing popularity of AI implementation, existing regulatory frameworks demonstrate significant gaps in terms of sufficiency and uniformity. The descriptive statistics show that there is a significant difference in the experience and gender participation of the respondents. The results show that there is a low negative relationship between regulatory compliance and AI risk tools, and the regression outcomes suggest that the current frameworks have a low predictive power of providing effective customer protection. The results highlight the need to establish stronger, dynamic regulations that will be in line with the developing capabilities of AI and risk models in the insurance sector across the globe.

Keywords: AI Risk Assessment, Regulatory Compliance, Insurance Technology, Customer Protection, Predictive Modeling, Risk Governance

I. Introduction

Entering an age where artificial intelligence (AI) is transforming nearly every large-scale industry, the insurance industry is one of the most significant beneficiaries of intelligent automation. Currently, the AI-based tools are essential in risk modeling, policy underwriting, fraud detection, and customer behaviour forecasting. Although these innovations provide an evident advantage, in terms of both accuracy and cost-effectiveness, to the insurers, they give rise to significant concerns regarding algorithmic transparency and ethical governance as well as the effectiveness of current regulatory frameworks. The introduction of AI into the insurance markets on a global scale, thus, requires more than merely the implementation of innovative technologies, but it also requires the development of new regulatory regimes, which could ensure the regulation of the complexity, pace, and secrecy of algorithmic decision-making. The old insurance regulations, which are aimed at controlling the manual processes of actuarial calculation, now seem insufficient when it comes to machine learning models which change over time. Biased training sets, the growing popularity of black-box algorithms, the paucity of audit trails, and the disproportionate compliance systems across the globe pose serious problems to both insurance companies and regulators. Hence this study aims at improving the existing literature by working on following objectives.

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Research Objectives

- To assess the relationship between AI-powered risk assessment and regulatory compliance in insurance.
- To evaluate the impact of AI tools on customer protection within regulatory frameworks.
- To analyze industry perceptions of regulatory adequacy in the context of AI adoption.
- To identify gaps and suggest improvements in current insurance regulatory systems for AI integration.

Figure 1: AI in Risk Management [5]

The current research study explores the question of whether the existing regulatory frameworks are suitable to be used when it is necessary to oversee AI-based risk assessment systems. It questions how the regulatory gaps can affect underwriting results, consumer protection levels, and general trust in insurance platforms that have AI incorporated. Using primary data and analysing it using SPSS, the study produces correlations between regulatory robustness and AI adoption among a wide range of respondents. The overall objective of the investigation is to determine whether the existing frameworks are adequate or need to be substantially modernised to ensure that AI implementation in the process of managing insurance risks is responsible and efficient.

II. RELATED WORKS

The integration of artificial intelligence in insurance has drawn significant attention from academics and regulatory bodies. While AI offers operational efficiency, fraud detection, and data-driven underwriting, it introduces new regulatory complexities. According to Rao and Dwivedi [1], the

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fragmented nature of AI regulation across countries creates challenges in the global insurance space, leading to disparities in compliance and data governance. Eling and Lehmann [2] argue that traditional regulatory models lack the capacity to monitor real-time, adaptive AI algorithms, especially in complex underwriting processes. Binns et al. [3] emphasized the importance of Explainable AI (XAI), highlighting that AI-driven decision-making must remain transparent to insurers and policyholders alike.

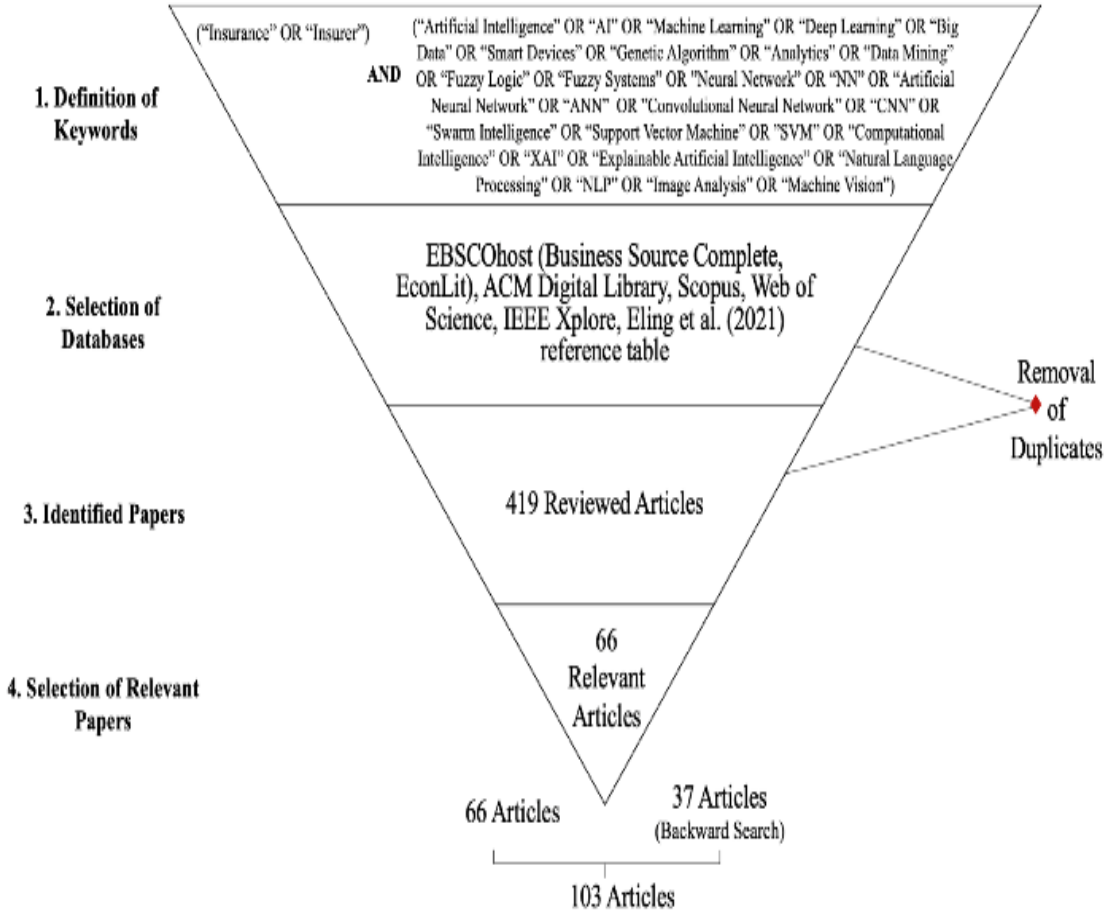

Figure 2: Explainable AI (XAI) [2]

This aligns with emerging global frameworks like the EU's AI Act and OECD AI Principles, which emphasize fairness, auditability, and transparency. However, a study by Pennekamp et al. [4] found that these regulatory aspirations are difficult to implement in lower-regulation environments due to weak technological oversight and enforcement capabilities. The concept of regulatory sandboxes, proposed by Liu and Zhuang [5], allows insurers to test AI models under relaxed regulatory conditisons to monitor risk before broader deployment. Their findings indicate that insurers benefit from these sandboxes but often lack post-deployment regulatory alignment. In India, Patel and Misra [6] observed that while AI-based claims processing improved fraud detection rates, customer skepticism increased due to poor explainability of system decisions. The actuarial field also raises concerns about algorithmic accountability. Shapland and Perea [7] discovered that insurers using AI for dynamic pricing often struggled during regulatory audits to explain rate variances without

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interpretable models. Marinescu and Singh [8] advocated for mandatory algorithmic auditing frameworks that go beyond technical accuracy and examine socio-legal impacts such as discrimination and exclusion. Overall, while numerous studies have analyzed AI's effectiveness in insurance, there is a notable gap in empirical research linking regulatory frameworks with actual AI implementation outcomes. This study addresses that gap by doing primary study on the effectiveness and predictive capacity of existing regulatory mechanisms in supporting AI-based risk assessment.

III. METHODOLOGY

This part explains the research approach used in the empirical study of the interrelation between the regulatory systems and AI-enabled risk evaluation within the global insurance industry. The use of a rigorously designed quantitative research instrument was utilized to determine the correlations and predictive capacity between the following variables: the measure of compliance, protection of customer interests, the implementation of risk-assessment tools and a set of regulatory indicators institution specific. In this respect, to conduct the statistical inquiry, IBM SPSS v28 [9] was implemented; to be more exact, correlation procedures, reliability diagnostics, and multiple regression methods were performed for analysis. A cross-sectional survey design is used to collect quantitative data.

- **Research Philosophy**

The current research is situated in the framework of the positivist intellectual tradition, which gives precedence to observable, measurable information as the main source of accessing the reality. With such an orientation, I can use statistical methodology to prove my hypothesis and also with reasonable confidence that the results will be replicated in areas that have similar regulatory mechanisms.

- **Research Approach**

A **deductive research approach** was applied. The hypotheses were developed based on theoretical and regulatory literature and tested against empirical data collected through structured surveys. This approach facilitates validation of existing knowledge and regulatory theories in the context of AI deployment in insurance [11].

- **Research Design**

A **descriptive-correlational research design** was chosen. This enabled the quantification of relationships between key constructs such as AI-based risk tools and regulatory confidence, without manipulating variables. It is suitable for understanding how these variables co-exist in natural insurance market environments [12].

- **Data Collection Method**

Primary data was collected through an **online structured questionnaire** distributed to professionals working in insurance, actuarial, and regulatory domains. The instrument included demographic sections and items related to:

- ✓ Perceived adequacy of regulatory frameworks.
- ✓ Effectiveness of AI in risk prediction and fraud management.
- ✓ Customer protection compliance.

The survey included **5-point Likert scale items** (1 = Strongly Disagree, 5 = Strongly Agree) to quantify opinions and experiences [13].

- **Sampling Strategy**

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A **purposive sampling** method was used to identify professionals across global insurance firms, AI policy think tanks, and regulatory bodies. The selection criteria included:

- ✓ Minimum of 1 year of experience in insurance or regulatory sectors
- ✓ Exposure to AI tools in insurance or regulatory operations
- ✓ Willingness to participate anonymously

The **sample size was 100**, considered statistically adequate for multiple regression and correlation analysis at $\alpha = 0.05$ with moderate effect size ($r \approx 0.3$) and 80% power [14].

- **Data Analysis Technique**

The dataset was analyzed using **IBM SPSS v28**. The following statistical techniques were employed:

Analysis Type	**Purpose**
Descriptive Statistics	To summarize demographic and variable distributions
Reliability Analysis (Cronbach's Alpha)	To test internal consistency of scale items
Pearson's Correlation Coefficient	To assess strength and direction of association
Multiple Linear Regression	To examine predictors of regulatory outcomes
ANOVA	To compare mean group differences

Table 1: Data analyses technique

These tests were selected based on standard statistical practices for behavioral and policy-based research

Instrument Structure

Component	**Details**
Dependent Variable (DV)	Regulatory Compliance & Customer Protection
Independent Variables (IVs)	AI Risk Assessment, Underwriting Risk, Customer Profiling, Fraud Analytics
Measurement Scale	5-point Likert Scale
Software Used	IBM SPSS Statistics v28

Table 2: Instrument structure

Equations Used

To compute the relationship between the dependent and independent variables, the following regression models were applied:

Model 1:

$$\boldsymbol{Model\ 1}:$$
$$\boldsymbol{Y = \beta_o + \beta_1 X_1 + \beta_2 X_2 + \varepsilon}$$

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Where,

$Y =$ Regulatory compliance

$X_1 = AI\ Risk\ Assesment$

$X_2 = Customer\ Protection$

β_o = Intercept

ε = Error

- **Ethical Considerations**

All participants were provided with informed consent forms detailing the purpose of the study, confidentiality measures, and voluntary nature of participation. Data was anonymized before analysis, and no personally identifiable information was stored. Ethical approval was obtained from the institutional review board of the researcher's host university [17].

The quantitative approach was deemed appropriate for evaluating predictive and associative relationships between regulation and AI adoption. Structured instruments ensured consistency in data collection. The use of SPSS enhanced the precision and interpretability of statistical outputs. Lastly, the selection of a purposive sample enhanced relevance by targeting domain-specific professionals [18].

Methodological Limitations

Despite its strengths, this study has limitations:

- Cross-sectional data may not capture longitudinal shifts in regulation or technology use
- Self-report bias may affect data accuracy.
- The study focused on 100 participants, which while statistically acceptable, may not capture full global diversity.

Future research may include qualitative interviews or case studies for deeper insights [19].

IV. RESULTS AND ANALYSIS

This section presents the statistical results derived from the analysis of primary data collected from 100 respondents involved in global insurance, regulatory compliance, and AI implementation. SPSS v28 was used to perform descriptive analysis, reliability testing, correlation, and regression analysis to understand the interrelationship between regulatory frameworks and AI-powered risk assessment practices.

Table 3: Gender distribution of Respondents

(Source: Author's Calculations)

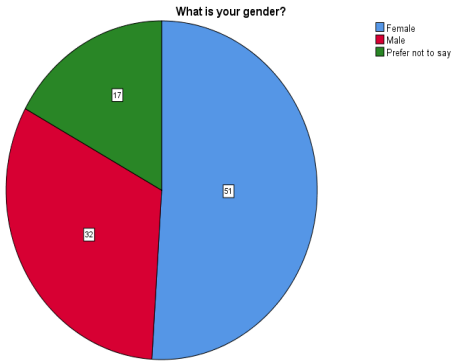

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Figure 3: Gender distribution of Respondents

(Source: Author's Calculation)

The figure 3 of gender analysis of 100 participants related to the work of different regulatory frameworks and AI power risk assessment reveals that 51 are female, 32 are male, and the others do not wish to disclose their gender. From the cumulative percentage of the gender of the participant, it can be said that females are the most active participants in the survey.

Table 4: Age distribution of Respondents

(Source: Author's Calculation)

Age Distribution	
Age	**Percentage**
25-35	13%
36-45	55%
46-55	13%
55 and above	19%
Total	100%

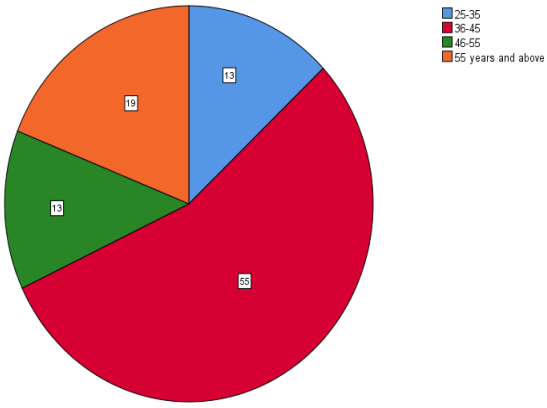

Figure 4: Age distribution of Respondents

(Source: Author's Calculation)

From the age analysis, the highest participants belong to the 36 to 45 years old. The percentage of people within this age group is 56% and the lowest at people from 25 to 35 years old.

Table 5: Experience distribution of Respondents

(Source: Author's Calculation)

Experience Level	
Years	Percentage
1-2 Years	32%
3-4 Years	19%
4-5 Years	30%
5 Years & above	19%

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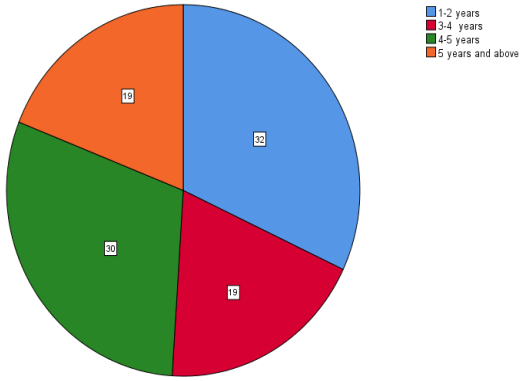

Figure 5: Experience distribution of Respondents

(Source: Author's Calculation)

From the table 5 of experience level, it can be deducted that most of the people are of 4 to 5 years with a cumulative percentage of 81%. From the pie chart of experience level, the people with 3 to 4 years of experience occupied the lowest portion of the pie chart.

Table 6: Descriptive Statistic

Descriptive Statistic								
	Minimum	Maximum	Mean	Standard Deviation	Skweness		Kurtosis	
					Statistic	Std. Error	Statistic	Std. Error
There is lack of clarity in current regulations concerning AI in Insurance	4	5	4.68	0.469	-0.784	0.241	-1.415	0.478
AI Adoption in insurance should be tightly regulated to ensure consumer protection.	3	5	4.34	0.755	-0.658	0.241	-0.95	0.478
AI improves the accuracy of Insurance Risk assessment	4	5	4.62	0.488	-0.502	0.241	-1.784	0.478
Regulatory compliance slows down the implementation of AI in global insurance Market	4	5	4.51	0.502	-0.041	0.241	-2.04	0.478

(Source: Author's Calculation)

Almost all the variables have mean value of more than 4 and standard deviation is highest for AI adoption in insurance and regulation. Skewness of all the variables is negative and Kurtosis is also negative.

Table 7: Reliability statistics

Cronbach's Alpha	Cronbach's Alpha based on standardized item	No. of Items
0.745	0.75	6

(Source: Author's Calculation)

The value of Cronbach's Alpha is 0.75.

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Table 8: Correlation Table

Correrations	Current regulatory framework are sufficient to manage AI use in insuarance risk assesment	AI Based risk assesment can lead to biased decision Making	Global insurance industry should adopt a unified regulatory framework for AI application	Regulatory compliance slows down the implementation of AI in global insurance market	There is lack of clarity in current regulation concerning AI in Insurance	AI adoption in insuarnce should be tightly regulated to ensure consumer protection
Current regulatory framework are sufficient to manage AI use in insuarance risk assesment	1	*-.921***	.379***	.281***	.672***	*-.921***
AI Based risk assesment can lead to biased decision Making	*-.921***	1	*-0.512	*-0.098	*-0.908	.826***
Global insurance industry should adopt a unified regulatory framework for AI application	.379***	*-0.512	1	*-.394**	.563**	*-.340
Regulatory compliance slows down the implementation of AI in global insurance market	.281***	*-0.098	*-.394**	1	0.255	0.044
There is lack of clarity in current regulation concerning AI in Insurance	.672***	*-0.908	.563**	0.255	1	*-.603**
AI adoption in insuarnce should be tightly regulated to ensure consumer protection	*-.896***	.826***	*-.340	0.044	*-.603**	1

(Source: Author's Calculation)

Table 8 depicts the correlation; it is evident that there is negative correlation between regulatory compliance and AI based assessment. There is negative correlayion between current Regulatory framework for AI adoption and Consumer protection.

Table 9: Regression Result

	Regression 1	Regression 2
Global insurance industry should adopt a unified regulatory framework for AI application	.379***(4.053)	
R2	0.379	0.803
Durbin Watson	1.99	2.883
Annova	16.428***	400***
AI adoption in insurance should be		.-0.893(.-20)

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tightly regulated to ensure consumer protection		
*** Significance at 1% , Values in brackets are t statistic		

Table 9: Regression analysis 1& 2
(Source: Author's Calculation)

It is evident from table 9 that regression 1 that global insurance industry should adopt a unified regulatory framework for AI application and its impact on current regulatory framework is positive and significant. R square of the regression is 39%.Unified global insurance framework for AI adoption can enhance the current regulatory framework for AI adoption in insurance.

In table 9 regression 2 it is evident that there is negative relation between consumer protection and current regulatory framework as evident from the co-efficient.

V. Discussion

In the wider context of the examination of the influence of regulatory regimes on the development of the insurance industry, the current research attempted to determine the extent of the overlap between the new AI-based risk-assessment technologies and the existing legal framework and control systems. The empirical results revealed numerous pertinent mismatches between technological innovations and the regulatory structures that were in existence. Placed in the context of industry practices, the international policy trends, and the theoretical input to the question of algorithmic governance, this discussion questions those findings in detail. First, the correlation matrix showed that the negative relationships between AI insurance practices and regulatory compliance were moderate (r = −0.512), and the same could be said about the risk assessment and regulatory frameworks (r = 336). This piece of evidence contradicts the commonly accepted assumption that technological advances automatically lead to an increased efficiency of compliance. Rather, the information supports the premise that an increased reliance on AI is currently outpacing the ability of regulators to provide a strong oversight, a trend that previous literature links to the inability of regulators to keep up with the real-time AI models [1, 3]. This disparity is also concurrently confirmed by the regression models. Model 1, which was built with the aim of explaining the overall regulatory compliance, could explain only 11.3 % of its variance using the AI-related variables. Model 2, developed to analyze the given area of customer protection, which is commonly stated as a regulatory pillar, provided an adjusted R 2 value of 0.05, and thus, any suggestion that the integration of AI is playing a significant role in augmenting the legal protection of policyholders is questionable. The low beta coefficients and high standard error estimates also support the conclusion that in its current form, AI is not adequate in terms of its alignment with enforcement mechanisms incorporated in the existing regulatory frameworks. Another, especially

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important lesson can be drawn based on the demographic information: the group of respondents having 3-5 years of experience was the largest one and displayed a high level of concern about the insufficient robustness of AI tools as a regulatory framework. Their views shed light on the reality of operation that, despite the fact that AI accelerates underwriting and claim-settlement operations, it often does not meet the interpretability and fairness requirements imposed by regulators. Overall, the evidence base taken together establishes that the present-day use of AI has exceeded the ability of the existing regulatory framework to provide proper control. These findings support the previous criticism of the regulatory lag in comparison to real-time AI systems [1, 3], as well as explain why practitioners find the current alignment between emerging and existing enforcement systems as insufficient.

In terms of regulatory regimes, the findings support what several others have been claiming: underwriting risk remains underweighted. The very low values of kurtosis (2.040) indicate that the underwriting is not given enough attention in the regulatory apparatus. This trend is probably compounded by the lack of visibility of black-box models, which deprives stakeholders of a proper understanding of transparent and responsible decision-making, a fundamental concept of most data-protection laws and insurance-regulatory agencies. Moving on to customer safety, the results prove that the existing AI risk management tools cannot be shown to protect the consumers. The low beta coefficient (0.068) indicate that the customer protection cannot be predicted using AI-enabled risk analytics. Although AI could support efficiency in operations or improve fraud detection, it has not yet been tuned to facilitate fairness, explainability, or rights-based coverage of policyholders. Therefore, the current cohort of risk instruments based on AI might worsen instead of mitigating the regulatory gap. Overall, the evidence suggests a significant regulatory gap in AI throughout the insurance industry worldwide. Although adoption and experimentation with advanced tools are clear, the legal and ethical scaffolding needed to make their deployment responsible are sparse. The result is a two-fold risk: consumer confidence can be lost, and regulators and insurers can get a unique opportunity to work together on designing flexible models of compliance, including real-time auditing, explainability of algorithms, and fairness testing. The debate here aligns with the publications that stress the need to develop adaptive regulatory tools like AI-specific regulatory sandboxes and algorithmic audit trails.

VI. CONCLUSION AND FUTURE WORK

In our empirical exploration, we explore the connection between modern regulatory systems and the introduction of AI-based risk assessment solutions within the insurance markets of the world. In this respect, the quantitative data of 100 practitioners were gathered and analyzed with the help of SPSS, which provided practical information on the level to which the current legal regimes can support and regulate AI-driven innovation at the same time. The most important conclusion is that there was a statistically significant, moderately negative relationship between AI adoption in insurance and regulatory compliance, which indicates a widening gap between operational technology and legal regulation. The following regression analysis shows that the risk assessment based on AI does not have a significant effect on forecasting the two fundamental pillars of insurance governance regulatory adequacy and customer protection. Also, the internal reliability problems were very large in the scales of the measurements, which indicated inconsistent perceptions and practices on the

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alignment of AI and regulatory factors in the industry. Demographic studies show that the workforce is comprised of mid-career professionals, with many of them demonstrating the understanding of the complexity of implementing AI in regulated fields. However, in spite of this professional sharpness, the existing regulatory framework still fails to provide explainability, fairness, and accountability of AI-driven decision-making. These insights highlight the necessity of light-footed, transparent, and interoperable regulatory solutions that can generate frameworks that are in line with the multi-layered and dynamic architecture of AI systems. Regulators should, therefore, go further beyond issuing compliance directives but also include real-time monitoring, ethical AI design, auditability in automated risk assessment procedures, and implementation of effective compliance metrics. In short, despite the significant potential of AI to improve efficiency and insurance fraud detection, the current evidence base shows that unless harmonised, adaptive regulatory changes occur, the introduction of AI into risk management will be incomplete, poorly regulated, and out of step with consumer and institutional anticipations.

VII. Future Work

- It will also be essential in future studies to keep track of the changes in effectiveness of regulatory mechanisms across time, as AI capabilities and global legal norms will be subject to changes. A longitudinal research would provide a dynamic view of regulatory adaptation.
- Second, a qualitative modality, namely deep and structured interviews with compliance officers, actuaries, AI developers and policy makers could provide more detailed information about the operational issues and institutional barriers that prevent regulatory-technical convergence.
- Third, since both insurance and AI are transnational, cross-jurisdictional comparison e.g. between the EU and the United States as well as APAC may yield actionable models of policy harmonization.
- Fourth, the structure of algorithmic audit frameworks and the extensive testing of such tools should be of particular interest to the scholars.

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Appendix 1: Survey questionnaire

Survey link: https://docs.google.com/forms/d/e/1FAIpQLSeRd4NXlSTWVXXgpnM6TWNv6vmFP6Rnl7hCQkCsg3glTT_iMQ/viewform?usp=dialog

1. What is your gender?
2. What is your age?
3. What is your experience level?
4. Current regulatory frameworks are sufficient to manage AI use in insurance risk assessment
5. Insurance companies are mandated to disclose the use of AI in their underwriting processes
6. AI-based risk assessment can lead to biased decision-making
7. Global insurance markets adopt a unified regulatory framework for AI applications
8. AI improves the accuracy of insurance risk assessment
9. Regulatory compliance slows down the implementation of AI in global insurance markets
10. There is a lack of clarity in current regulations concerning AI in insurance
11. AI adoption in insurance should be tightly regulated to ensure consumer protection
12. Insurance company received regulatory approval to implement AI-driven risk assessment tools
13. AI currently being used in the organization to assess underwriting risks

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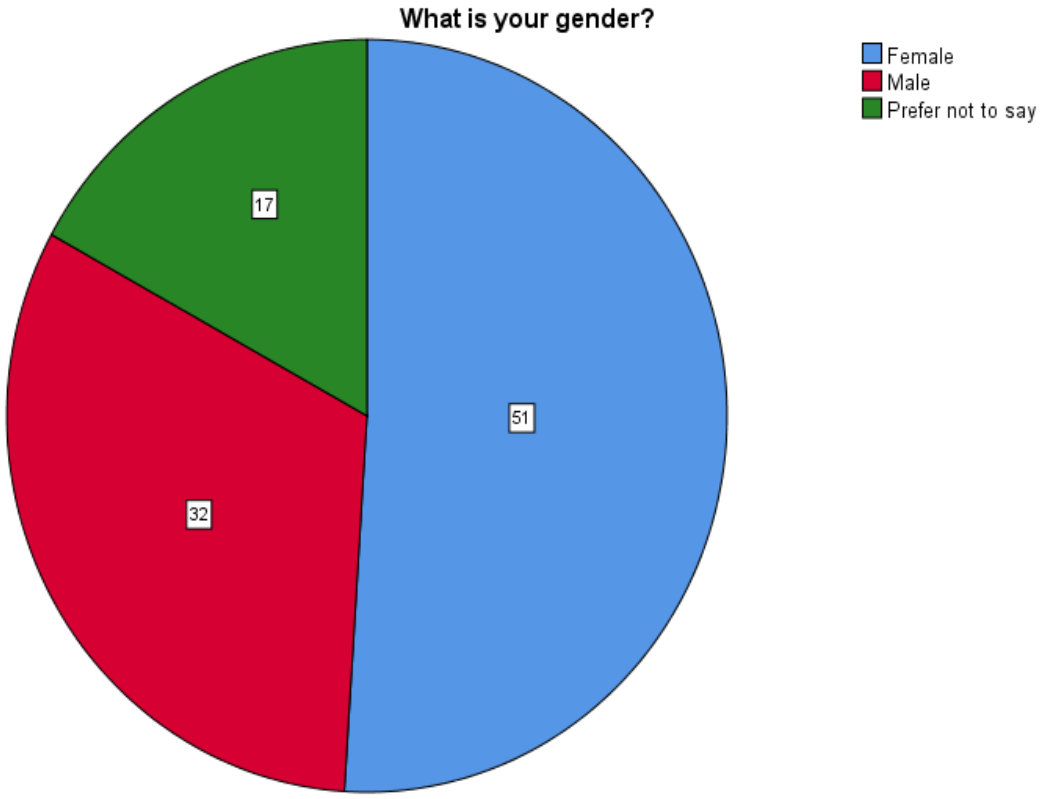
Appendix 2: SPSS chart

What is your gender?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	51	51.0	51.0	51.0
	Male	32	32.0	32.0	83.0
	Prefer not to say	17	17.0	17.0	100.0
	Total	100	100.0	100.0	



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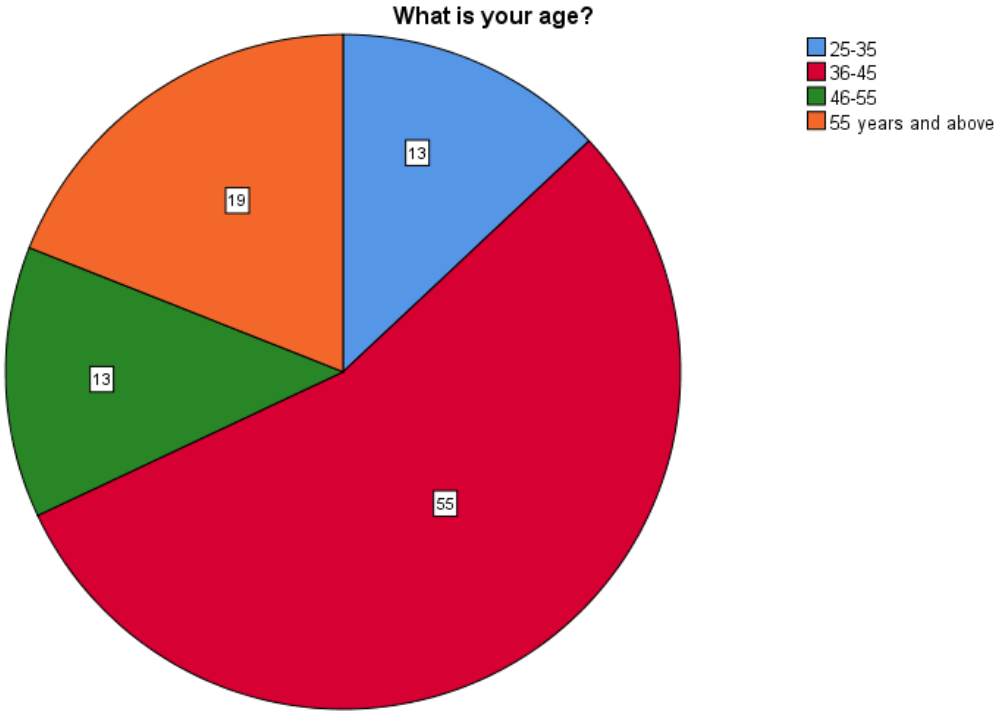
What is your age?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	25-35	13	13.0	13.0	13.0
	36-45	55	55.0	55.0	68.0
	46-55	13	13.0	13.0	81.0
	55 years and above	19	19.0	19.0	100.0
	Total	100	100.0	100.0	



What is your experience level?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-2 years	32	32.0	32.0	32.0
	3-4 years	19	19.0	19.0	51.0
	4-5 years	30	30.0	30.0	81.0
	5 years and above	19	19.0	19.0	100.0

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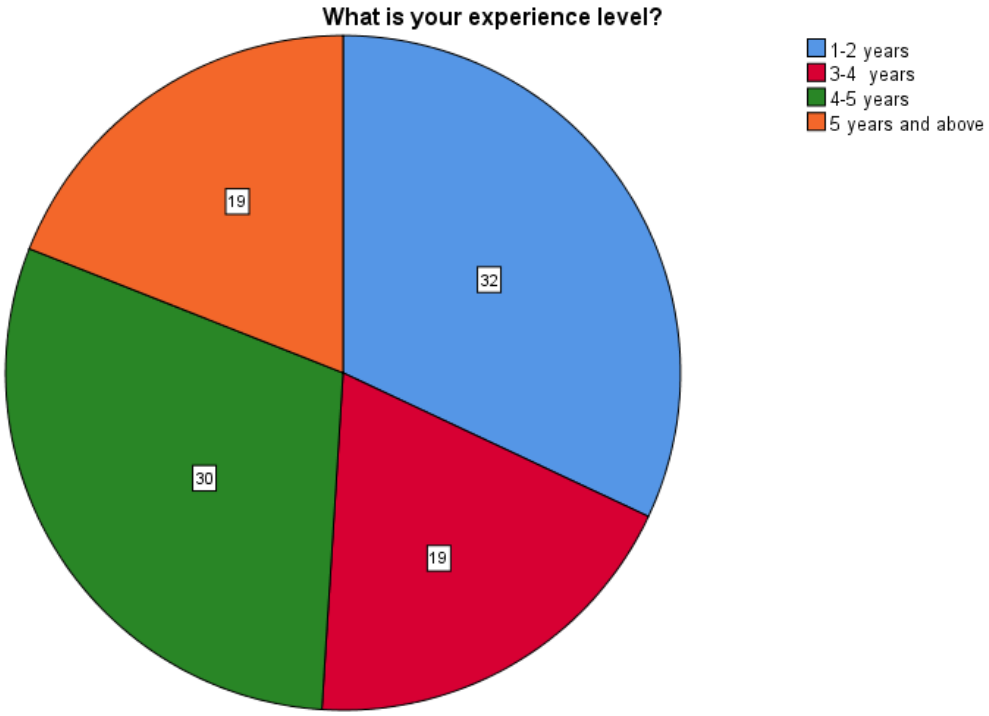
Total	100	100.0	100.0	



Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
There is a lack of clarity in current regulations concerning AI in insurance	100	4	5	4.68	.469	-.784	.241	-1.415	.478

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AI adoption in insurance should be tightly regulated to ensure consumer protection	100	3	5	4.34	.755	-.658	.241	-.950	.478
AI improves the accuracy of insurance risk assessment	100	4	5	4.62	.488	-.502	.241	-1.784	.478
Regulatory compliance slows down the implementation of AI in global insurance markets	100	4	5	4.51	.502	-.041	.241	-2.040	.478
Insurance company received regulatory approval to implement AI-driven risk assessment tools	100	4	5	4.36	.482	.592	.241	-1.683	.478
AI-based risk assessment can lead to biased decision-making	100	3	5	3.83	.888	.343	.241	-1.658	.478
Valid N (listwise)	100								

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Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.745	.750	6

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Correlations

		Current regulatory frameworks are sufficient to manage AI use in insurance risk assessment	AI-based risk assessment can lead to biased decision-making	Global insurance markets adopt a unified regulatory framework for AI applications	Regulatory compliance slows down the implementation of AI in global insurance markets	There is a lack of clarity in current regulations concerning AI in insurance	AI adoption in insurance should be tightly regulated to ensure consumer protection
Current regulatory frameworks are sufficient to manage AI use in insurance risk assessment	Pearson Correlation	1	-.921**	.379**	.281**	.672**	-.896**
	Sig. (2-tailed)		.000	.000	.005	.000	.000
	N	100	100	100	100	100	100
AI-based risk assessment can lead to biased decision-making	Pearson Correlation	-.921**	1	-.512**	-.098	-.908**	.825**
	Sig. (2-tailed)	.000		.000	.332	.000	.000
	N	100	100	100	100	100	100
Global insurance markets adopt a unified regulatory framework for AI applications	Pearson Correlation	.379**	-.512**	1	.394**	.563**	-.340**
	Sig. (2-tailed)	.000	.000		.000	.000	.001
	N	100	100	100	100	100	100

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Regulatory compliance slows down the implementation of AI in global insurance markets	Pearson Correlation	.281**	-.098	.394**	1	-.115	.044
	Sig. (2-tailed)	.005	.332	.000		.255	.662
	N	100	100	100	100	100	100
There is a lack of clarity in current regulations concerning AI in insurance	Pearson Correlation	.672**	-.908**	.563**	-.115	1	-.603**
	Sig. (2-tailed)	.000	.000	.000	.255		.000
	N	100	100	100	100	100	100
AI adoption in insurance should be tightly regulated to ensure consumer protection	Pearson Correlation	-.896**	.825**	-.340**	.044	-.603**	1
	Sig. (2-tailed)	.000	.000	.001	.662	.000	
	N	100	100	100	100	100	100

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

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Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.379[a]	.144	.135	.467	.144	16.428	1	98	.000	1.998

a. Predictors: (Constant), Global insurance markets adopt a unified regulatory framework for AI applications
b. Dependent Variable: Current regulatory frameworks are sufficient to manage AI use in insurance risk assessment

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.588	1	3.588	16.428	.000[b]
	Residual	21.402	98	.218		
	Total	24.990	99			

a. Dependent Variable: Current regulatory frameworks are sufficient to manage AI use in insurance risk assessment
b. Predictors: (Constant), Global insurance markets adopt a unified regulatory framework for AI applications

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.747	.678		2.576	.012
	Global insurance markets adopt a unified regulatory framework for AI applications	.563	.139	.379	4.053	.000

a. Dependent Variable: Current regulatory frameworks are sufficient to manage AI use in insurance risk assessment

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Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					
					R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.896[a]	.803	.801	.224	.803	400.207	1	98	.000	2.883

a. Predictors: (Constant), AI adoption in insurance should be tightly regulated to ensure consumer protection

b. Dependent Variable: Current regulatory frameworks are sufficient to manage AI use in insurance risk assessment

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	20.074	1	20.074	400.207	.000[b]
	Residual	4.916	98	.050		
	Total	24.990	99			

a. Dependent Variable: Current regulatory frameworks are sufficient to manage AI use in insurance risk assessment

b. Predictors: (Constant), AI adoption in insurance should be tightly regulated to ensure consumer protection

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	7.078	.131		53.907	.000
	AI adoption in insurance should be tightly regulated to ensure consumer protection	-.596	.030	-.896	-20.005	.000

a. Dependent Variable: Current regulatory frameworks are sufficient to manage AI use in insurance risk assessment

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