



Stakeholder Perceptions of Anti-Fraud Mechanisms and Their Implications in the Nepalese Insurance Sector

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Abstract: Despite increasing instances of fraudulent activities within the Nepalese insurance sector being periodically revealed by government bodies, regulatory authorities, and investigative journalists, a systematic academic inquiry into this issue has remained notably absent. To address this gap, an exploratory cross-sectional quantitative investigation was conducted to examine stakeholder perceptions regarding the effectiveness of fraud control mechanisms and the primary repercussions of insurance fraud on insurers in Nepal. Data were collected through a structured questionnaire administered to 200 respondents including insurance employees, policyholders, agents, insurance technicians, surveyors, and domain experts within the Pokhara Valley, selected via convenience sampling. Analytical procedures included descriptive statistics, Mann–Whitney U tests, and Kruskal–Wallis H tests. It was identified that robust legal enforcement, particularly the enactment and strict implementation of anti-fraud legislation, was perceived as the most effective control strategy. Institutional reforms, such as the establishment of a dedicated Fraud Investigation Bureau and a centralized Insurance Information Centre, were also emphasized as critical to improving the detection and monitoring of fraudulent activities. Although technology-enabled solutions, including AI-driven digital claim management and anomaly detection systems, were acknowledged for their importance, they were ranked marginally lower in perceived efficacy compared to legal and institutional measures. Fraud was reported to exert significant detrimental effects on insurers, most prominently through the erosion of public trust and social credibility. Additional impacts included claim settlement delays, reduced profitability, destabilization of share prices, and increased insurance premiums, collectively threatening both the short-term financial performance and long-term sustainability of the sector. To safeguard stakeholder interests and ensure sectoral stability, a multi-pronged anti-fraud framework has been recommended. Main recommendations include strengthening the legal framework with stringent penalties, developing a centralised fraud registry for inter-insurer information sharing, enhancing underwriting and claims verification procedures, and investing in intelligent fraud detection technologies. These findings offer empirical insights that can guide policy reform and institutional development in emerging insurance markets.

Keywords: Insurance fraud; Fraud mitigation strategies; Stakeholder perceptions; Nepalese insurance industry; Legal enforcement; Institutional mechanisms; Technological interventions; Impact on insurers

1. Introduction

Throughout the history of insurance, there have been instances of criminal exploitation. These early forms of insurance crimes have persisted, and as the field of insurance has broadened, many new varieties of crimes have emerged. As a result, the area of insurance crime is just as broad and complex as the field of insurance itself (Manes, 1945). Insurance fraud is a deliberate deception perpetrated against or by an insurance company or agent for financial gain. Fraud may be committed at different points by applicants, policyholders, third-party claimants, or professionals who provide services to claimants. Insurance agents and company employees may also commit insurance fraud. Common fraud includes padding (inflating claims), misrepresenting facts on an insurance

application, submitting claims for injuries or damage that never occurred, and staging accidents.

There are several forms of insurance fraud, some might include providing false or incomplete information on an insurance application to obtain coverage under pretenses, inflating the extent of a legitimate claim, or fabricating a loss that did not occur to receive a larger insurance payout, deliberately causing accidents, injuries, or property damage to make a false claim. Agents or brokers also encourage policyholders to perform unethical practices such as frequently replacing insurance policies to generate additional commissions, often without providing any real benefits to the policyholders. Deception is not only practiced by outsiders, sometimes employees of insurance companies also play a part in fraudulent activities by falsifying documents, approving false claims, or other actions to benefit personally or assist others in committing fraud.

Insurance fraud can be "hard" or "soft". "Hard" fraud is often simple, as there is no real damage, and the claim made to the insurance company is entirely false. "Soft" fraud is more common than hard fraud and involves exaggerating certain aspects of an otherwise legitimate claim lying when applying for insurance or inflating the claim amount after a real loss (III, [n.d.](#)) ([www.iii.org](#)). These acts increase insurance costs and can lead to financial losses if left undetected (Kim & Jean Kwon, 2006). Fraud perpetrators face financial or non-financial pressures to engage in unethical behavior. Such pressure may be perceived rather than real, such as greed, living beyond means, large expenses or personal debt, family financial or health problems, drug addiction, and gambling (Abdullahi & Mansor, 2015).

Fraud committed against insurers by executives and employees is potentially one of the costliest issues facing the industry and attracts increasing attention from regulators, legislators, and the industry (Todd et al., 1999). Agent is another important stakeholder whose role is crucial to do or to stop moral hazards. Dishonest salespeople may sacrifice the interests of the insurer to satisfy customers and their interests (Tseng & Su, 2014). Picard (2013) depicted the collusion between policyholders and sales agents and argued that there is some scope for collusion between agents and policyholders which facilitates insurance fraud. The agent may know the customer tells lies or that he conceals relevant information, but he overlooks this violation in order not to miss an opportunity to sell one more insurance policy. Hence, in such a case, the defrauder is the policyholder-agent coalition itself.

Similarly, employees of insurers, especially underwriters who are usually the most knowledgeable individuals to interpret and provide information about the risk, are responsible for insurance fraud (Houser & Arthur, 1996). Sometimes, fictitious risk also is covered by insurers (Viaene & Dedene, 2004).

Insurance fraud has existed since the beginning of insurance as a commercial enterprise. The number of crimes attempted and successfully carried out is much higher than the number discovered and punished. It is not surprising that ignorance about insurance prevails not only among average people, but also among lawyers, judges, and legislators as well. One often finds loopholes for fraud. As soon as one has been eliminated, new tricks are invented to obtain unlawful profits (Manes, 1945). A prominent example is one of the largest motor insurance fraud cases in Singapore, involving an auto workshop owner orchestrating fraudulent claims amounting to \$1.6 million ([insuranceasia.com](#), 2023). This indicates that even advanced countries like Singapore are facing significant losses in the insurance industry due to fraudulent activities. Developing countries like Nepal are also grappling with similar issues, and the extent of losses caused by insurance crimes is challenging to analyze. It is possible that many fraudulent claims remain undetected, and the losses could be much higher than we can imagine. Even though it has become a burning issue in the insurance industry across the globe, the Nepalese insurance industry also is not far from such activities.

In Nepal, every year a significant number of insurance fraudulent events have been exposed by police, regulators and journalists, but there is a lack of systematic study on it. Major life insurance fraudulent activities are killing beneficiaries of policyholders: faking death, issuing policies to already dead persons and claiming death benefits, converting normal death to accidental death, and converting suspicious death to normal death. In non-life insurance business, arson, staged accidents, the fake death of animals and inflating the claims amounts are common events. Despite such activities, there is a lack of information about how much of a portion of claims is paid to fraudsters in different business portfolios every year. Even though moral hazard is widespread, none of the stakeholders have felt responsibility to control such activities seriously. In Section 154 of Insurance Act 2022 mentioned the formation of a technical team to identify the moral hazards related activities and to provide suggestions to control such activities. Till now, such a committee has not been formulated.

The Nepalese insurance industry is not fundamentally different from the foreign insurance industry regarding fraudulent activities. It is difficult to guess how much of the portion of the claims goes to the fraudsters' hands due to the lack of empirical evidence, but it is perceived that the fraud is a common phenomenon in Nepal. This is spread out in every portfolio, from agriculture to engineering and life to health insurance. Every week we hear some fraudulent activities occurring in the insurance sector from different sources, but still a systematic study is not done to explore the fraud perception, fraud amount or way of fraud mitigation and impact of fraud to insurers. Some of the cases of fraud during the last few years published in the newspapers are summarized:

- a) In 2017, a man in Rautahat district was arrested for murdering his daughter to claim double indemnity from a life insurance policy.
- b) In 2018, a government investigation uncovered a scheme involving trekking and mountaineering agencies

orchestrating fake helicopter rescues and unnecessary hospital treatments for tourists. This scam led to substantial fraudulent insurance claims, prompting the government to consider assigning all rescue operations to the Nepal Police to curb such activities.

c) In 2022, six individuals were arrested for the premeditated murder of Sarjan BK. The conspirators, including a woman who posed as BK's wife, had taken out a life insurance policy worth Rs 25 million in his name and then orchestrated his murder to claim the payout.

These events indicate that insurance fraud is widespread and common. Mitigation of insurance fraud is an urgent need of the industry, but still there is a lack of an effective controlling mechanism. The regulator's commitment and insurers' action are very crucial to prevent the fraud.

The objective of the study is to explore the perception of the employees and other stakeholders of the different ways of controlling fraud and the consequence of fraud against the insurers. The study will be useful to insurance companies, regulators and policymakers to formulate the appropriate fraud control mechanism and to identify the intensity of impact of the fraud to the insurance company. Similarly, regulators also will benefit from this report to formulate anti-fraud policies. In a similar fashion, agents and surveyors also will be more aware on this issue while selling the products and settling the claims, respectively. The findings of the study will help us to study the perception of respondents and will make it possible to identify potential areas of vulnerability in the insurance process. This knowledge will be crucial for imposing risk management strategies and developing robust underwriting practices to minimize the occurrence of fraud.

The rest of the paper is divided into four sections followed by methodology. The third and fourth sections discuss results and discussion, respectively. The final section concludes with suggestions and limitations.

2. Review of Literature

Fraud is a complex phenomenon with various facets, and scholars from different disciplines have developed theories to explain its occurrence. The "fraud triangle" concept was created by criminologist Donald R. Cressey and published in the 1970s. The three factors" motivation, opportunity, and rationalization contribute to an increased risk of occupational fraud are described by the fraud triangle (Cressey, 1953).

Wolfe & Hermanson (2004) proposed the Fraud Diamond theory, which included the variable of "capability" in the traditional fraud triangle that Cressey had established. In addition to addressing pressure, opportunity and rationalization, the researcher's four sides of the "fraud diamond" are considered as an individual's capability whereas position, intelligence, ego, coercion, deceit, and stress are the supporting elements of capability. The MICE (money, ideology, coercion, and ego) model goes beyond the financial pressure and provides an expanded set of motivations beyond non-shareable financial pressure that could drive fraud (Kranacher et al., 2011).

Ramamoorti (2008) made a study stating that the root cause of fraud is behavior. He observed fraud through sociological and psychological approaches. A year later he proposed an A-B-C model to analyze and categorize fraud. A-B-C means a bad Apple, a bad Bushel, and a bad Crop. The bad apple refers to an individual who commits fraud, the bad bushel refers to collusive fraud where collusion amongst management personnel allows the perpetration of fraud, and the bad crop refers to cultural and societal mechanisms that influence the propensity to commit fraud.

In 1984, Albrecht proposed the Fraud Scale, which explains that three things can cause fraud to occur: chance to commit fraud, situational pressures, and personal integrity. To make it more observable, Albrecht substituted personal integrity for the reasoning element. While rationalization is more ethereal and difficult for others to understand, a person's personal integrity can be inferred from their past actions. There are three ways that fraud can occur. First, unintentional mistakes and a lack of awareness could be the cause. Second, a person may intentionally conduct fraud and justify it to spare themselves unpleasant feelings or repercussions. Finally, a person can be aware of fraudulent behavior and weigh the pros and downsides before.

According to Festinger (1957), Cognitive Dissonance theory, people feel uncomfortable (dissonance) when their behaviors or beliefs contradict one another. Cognitive dissonance can occur when people believe in the integrity and fairness of the insurance system yet are aware of fraudulent practices in the industry. People may alter their opinions or defend their actions (such as by disputing the existence of fraud) to allay this unease and conform to their preexisting worldview. Social Norms theory (Cialdini & Trost, 1998) posits that individuals are influenced by the behaviors, beliefs, and attitudes prevalent in the society or community around them. People often align their views and behaviors with the norms of the groups they belong to. In the case of insurance fraud, societal attitudes toward fraud may shape how individuals perceive its prevalence or acceptability.

Framing theory (Tversky & Kahneman, 1981) explains that how information is presented (framed) significantly influences people's perceptions and decision-making processes. In the context of insurance fraud, how fraud is framed in media, advertising, or public discourse can influence whether individuals acknowledge or deny its existence.

The Theory of Planned Behavior (Ajzen, 1991) suggests that individual behavior is driven by intentions, which are influenced by attitudes, subjective norms, and perceived behavioral control. In the case of insurance fraud,

individuals' intentions to commit fraud or acknowledge its existence are influenced by their attitudes toward the behavior, the social norms around them, and their perceived control over fraud-related activities.

Social Identity Theory (Tajfel & Turner, 1979) posits that individuals define themselves based on the social groups they belong to, and they derive part of their self-esteem from these groups. In case of insurance fraud, individuals may be more likely to acknowledge or deny fraud based on their identification with the insurance industry or the public. People who identify with the insurance industry or who benefit from the system may be more likely to deny the existence of fraud, as acknowledging it would threaten their group's image or their own self-interest.

The Institutional Theory of Insurance Fraud posits that institutions, which are the combination of regulatory frameworks, organizational practices, cultural expectations, and professional norms, shape the actions of individuals and groups. Insurance fraud may arise not simply due to deviant individuals but as a response to institutional pressures, such as performance demands, bureaucratic inefficiencies, or ambiguous ethical standards within the system (Zelizer, 1979; Scott, 2013). Over time, practices that bend or violate rules can become institutionalized, leading to a "normalization of deviance" within organizations (Vaughan, 1996).

The reasons behind the differing perceptions of insurance fraud can be explained through various psychological, social, and cognitive theories. People who acknowledge the existence of fraud are likely influenced by their awareness of the issue, social norms, and ethical beliefs. On the other hand, those who deny fraud may do so to reduce cognitive dissonance, maintain social group cohesion, or because of biases like framing or social identity alignment. These theories provide a comprehensive understanding of why people may hold conflicting views on the presence of fraud in the insurance sector.

In the global context we found a plethora of studies on insurance fraud, but there is a drought of such studies in the Nepalese context. Among the abundant fraud-related studies, some relevant studies on the issues of the percentage of fraud on claims paid, the most possible stakeholders likely to be fraudsters, the causes of fraud, and the controlling mechanism of fraud have been reviewed in this section.

Every valid insurance contract requires the presence of insurable interest, and without this requisite, unethical persons and entities could use the insurance mechanism to support gambling activities rather than to protect their wealth against future losses; furthermore, insurers would face extreme difficulty in estimating their contractual liabilities to policyholders (Kim & Jean Kwon, 2006).

In this context, fraudulent insurance claims can occur intentionally or accidentally, and they may involve completely fabricated losses or minor exaggerations. These claims can be motivated by a desire for financial gain, a feeling of entitlement, desperation, or resentment, and they can also arise due to disagreements regarding contractual terms or what qualifies as an insured event (Tennyson, 2008).

Moreover, Tseng & Kuo (2014) argue that deductible-premium ratios in comparative situations may significantly impact the decision-making behavior of respondents when engaging in fraudulent activities.

Due to the diversity of insurance contracts and markets, insurance fraud has increased in recent years, which is partially attributed to economic hardship and the growing use of detection systems by insurers (Dehghanpour & Rezvani, 2015).

In 2009, a study in Nigeria by Olalekan and Rasheed suggests that the regulatory body and the insurance sector are either not taking the matter seriously or are adopting a tepid approach in understanding the current and future extent of the problem. In line with this, Bera & Pauch (2022) examine the level of awareness on insurance crime among university-level students in Poland, and although the study population was from the university level, they were found to have only an average level of awareness of insurance crime, with 29 percent of respondents having no knowledge of insurance fraud.

Dean (2004) found no significant effect of policyholder, agent, or company roles on the perception of ethicality in insurance claim padding; however, a gender-based difference was observed, where females demonstrated greater awareness of ethical and moral values when filing claims. Additionally, unethical customers are generally considered to be those who report either exaggerated or fabricated insurance claims (Dehghanpour & Rezvani, 2015).

In the Russian context, a study by Timofeyev & Busalaeva (2021) revealed that gaps in legislation and difficulties in cooperating with the police are major sources of inefficiency in fraud prevention strategies used by Russian insurance companies. Respondents agreed that both insurers and fraudsters actively leverage new technologies. Although fraudulent claims in compulsory third-party liability motor insurance remain the most common activity among Russian criminals, their tactics are quickly expanding into health and property insurance. Typically, an insurance fraudster is a 34-year-old male with a college or university degree who collaborates with an insurance broker in 42 percent of cases. Based on these insights, a set of recommendations was proposed to increase the effectiveness of insurance fraud prevention.

Furthermore, Dean (2004) estimated that insurance fraud accounts for approximately 10 percent of annual paid claims and losses. According to the Coalition Against Insurance Fraud (2022), the estimated cost of insurance fraud in the United States is \$308.6 billion annually. In Europe, detected and undetected fraud is estimated to represent up to 10 percent of all claim expenditure, and in the UK alone, it is estimated that around £1.9 billion

(€2.2 billion) of fraud goes undetected each year (Insurance Europe., 2013).

2.1 Recent Studies on Insurance Fraud

Insurance fraud remains a significant challenge, influenced by various factors such as moral intensity, fairness perception, and operational controls. Tseng (2019) indicates that both moral intensity and fairness perception significantly affect customers' acceptance of fraudulent activities, with variations observed between opportunistic and planned fraud scenarios. These psychological and ethical considerations play a crucial role in shaping fraud-related behaviors in the insurance sector.

Operational aspects also contribute to fraud perceptions. Pathmanathan & Aseh (2021) emphasized that claim procedures and business operation management are key predictors of how fraudulent claims are perceived. This underscores the necessity of robust operational controls in mitigating fraud perceptions and strengthening insurance integrity. Similarly, fraudulent claims exhibit distinct patterns, as observed in the healthcare sector. Li et al. (2022) find that fraudulent claims are characterized by a greater frequency of hospital visits, higher medical bills, and increased medical expenses compared to legitimate claims. However, an intriguing finding is that the price per bill for fraudulent cases does not statistically differ from normal cases, suggesting that fraudsters exploit frequency rather than individual transaction amounts to commit fraud.

Naib et al. (2024) explore fraud within India's public health insurance scheme and highlight the effectiveness of proactive state actions, such as timely reimbursements and the adoption of electronic health records, over reactive disciplinary measures in preventing fraudulent activities.

The growing reliance on technology further aids in fraud detection and prevention. Off late we understand that the technology, particularly artificial intelligence (AI) is adding immense value in areas of underwriting, claims processing, and risk management within the global insurance sector. AI technologies not only improve operational efficiency but also significantly reduce fraudulent activities. Machine learning algorithms, particularly support vector machines, enhance fraud detection in the auto insurance industry. They identify fault, base policy, and policyholder age as key influential factors in fraud prediction.

Collectively, these studies underscore the multifaceted nature of insurance fraud, where psychological, operational, technological, and behavioral factors play an essential role. Strengthening fraud prevention strategies through ethical enforcement, operational controls, AI-driven detection, and proactive state policies can significantly mitigate fraudulent activities across different insurance domains.

2.2 Studies of Developing Countries

An examination of insurance fraud in developing and emerging economies reveals a multifaceted problem, influenced by technological, organizational, and behavioral factors. In Zimbabwe, Chinjova & Mujakaji (2021) emphasized the transformative role of advanced technologies such as blockchain and artificial intelligence in enhancing the detection and prevention of insurance fraud. These technological interventions, while innovative, must be complemented by institutional and structural reforms to yield effective results.

Supporting this, Kasoga & Tegambwage (2023), in their study of the Tanzanian insurance sector, identify a wide array of fraudulent practices spanning policyholders, intermediaries, and internal staff which collectively harm insurers' financial performance. Their findings align with those of Akomea-Frimpong et al. (2016) in Ghana, who observed that weak internal controls, poor employee remuneration, and falsified documentation are major contributors to insurance fraud, with significant negative consequences for financial returns. Both studies underscore the necessity of implementing stringent internal fraud policies, improving the quality of claim evaluations, and offering adequate training to insurance personnel.

The role of governance in curbing fraudulent activity is further explored in the context of Takaful insurance companies in Saudi Arabia. In 2024, Hemrit and Belgacem demonstrate that corporate governance mechanisms, particularly the presence of independent board members and active audit committees, positively influence fraud disclosure. This insight complements the suggestions from the Tanzanian and Ghanaian studies, highlighting that internal reforms and robust oversight are central to combating fraud.

A study from Lagos State, Nigeria by Shoyemi (2024) reveals a concerning level of public indifference toward insurance fraud and widespread distrust of insurers, with 60 percent of respondents expressing skepticism toward claim transparency. Notably, 17.1 percent of participants refrained from filing claims despite experiencing losses.

This reflects the findings of Yusuf & Babalola (2009), who point to an absence of strong regulatory commitment and weak enforcement mechanisms as significant enablers of fraud. They advocate for stakeholder engagement through summits and the establishment of a dedicated fraud bureau to enhance public awareness and institutional accountability.

Taken together, these studies illustrate a consistent narrative: insurance fraud in developing contexts is driven by both systemic weaknesses and perceptual challenges. Solutions require a combination of technological adoption, organizational reform, governance improvements, and public trust-building initiatives to ensure sustainable fraud

mitigation.

2.3 Conceptual Framework

The study conceptualized establishing the association between the demographic and socio-economic characteristics (sex, age, marital status, education, profession and self-reported economic status) of respondents with their views on fraud-controlling methods and impacts of fraud on the company, which is presented in Figure 1.

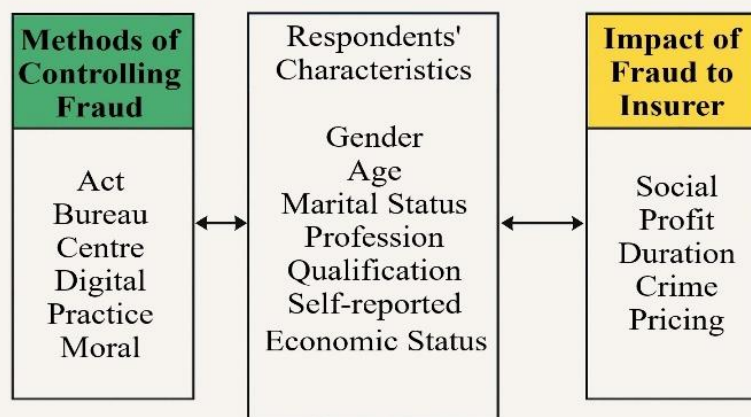


Figure 1. Conceptual framework: Controlling mechanism and impact on insurer

The construct, variables in full form and their operational definition are presented in Table 1.

Table 1. Variables, construct and operational definition

Full Form of Variables	Construct	Operational Definition
Formulation of Act against fraud	Act	A separate act needs to be formulated to address insurance fraud.
Establishing Fraud Investigation Bureau	Bureau	A dedicated institution should be established to investigate insurance fraud.
Establishing Insurance Information Centre	Centre	The centre will collect complete information of policyholders related to insurance and their creditworthiness.
Introducing digital claim management system	Digital	A system that allows online claim submission, real-time tracking, and automated document verification.
Rigor underwriting and claim settlement practice	Practice	Scrutinize proposals and claim documents to prevent fraud and illegal actions.
Providing moral education to stakeholders	Moral	Stakeholders should be educated that fraud is antisocial, immoral, and illegal, and must be rejected.
Social image of company	Social	The company's reputation and standing in society.
Profitability of company	Profit	The company's ability to earn income and generate net profit.
Claim settlement duration	Duration	Time taken from claim notification to settlement decision and action.
Activities of criminal attempt	Crime	Illegal acts or attempts that violate laws.
Market price of company	Market	The share value of the company is listed on the stock exchange.
Pricing of insurance	Pricing	The premium amount payable by the insured to transfer risk to the insurer.

The study aims to test the following hypotheses.

H₁: There is a significant association between stakeholders' perception of the effectiveness of insurance fraud-controlling mechanisms and their demographic and socio-economic status.

H₂: There is a significant association between stakeholders' perception towards the insurance company's performance due to the fraud and their demographic and socio-economic status.

3. Methods

An insurance fraud perception-related study is conducted in Nepal for the first time so that an exploratory study is the best fit to satisfy the curiosity and desire for better understanding in this sector (Botes, 1996). The study

obtained cross-sectional quantitative data through a structured questionnaire survey. The questionnaire was developed after many rounds of consultation with concerned experts and a pilot study. The set of questions comprises several sections, including an introductory section (Salutation, Purpose of the Survey, Confidentiality Statement, Voluntary Participation Instructions for Completion, Contact Information and Thank You Note), a general information of participants section, and a main section that includes two sections, viz. (i) Methods of Controlling Fraud, and (ii) Impact of Fraud to Insurer. The perception of respondents has been obtained on an ordinary scale of three options. A total of twelve constructs were developed (see Table 1). The effectiveness of six different fraud control methods was assessed on three rating scale: "very effective", "somewhat effective", and "entirely ineffective". Similarly, six potential impacts of fraud on insurers were assessed using a scale: "most impact," "somewhat impact," and "no impact." Three-option scales are widely used in specific research contexts and are considered sufficient for capturing meaningful responses (Jacoby & Matell, 1971). The questionnaire's validity is assured by consulting with experts.

The study was conducted in Pokhara Valley, Nepal's second-largest urban area after the capital. Given the absence of a defined sampling frame and the sensitivity of the topic, non-probability sampling is necessary. A convenience sampling method was adopted, as recommended in exploratory quantitative research, specifically when targeting individuals with specific knowledge and willingness to discuss sensitive issues such as insurance fraud (Etikan et al., 2016). Participants were selected based on their availability, interest, and expertise in the subject matter.

Since the population is infinite, there is no option of applying a non-probability sampling method. As a study follows a quantitative strategy, respondents need to select using the convenient method (Etikan et al., 2016). Only those who showed willingness to share opinions regarding fraud, spending sufficient time, and knowledge about insurance fraud. Other than convenience methods, they are not suitable for this study, as hardly anyone is ready to put forth their idea on insurance fraud. Methods like probability sampling may result in low response rates or refusals, as individuals are more likely to ignore or decline participation in studies involving potentially controversial or illegal behavior.

The size of the sample is determined to be 200, which is deemed sufficient based on two logics. First, the primary objective of exploratory research is to gain preliminary insights rather than to generalize findings to a larger population. Second, the subject of study, "insurance fraud", is sensitive; most people are unwilling to openly discuss or share their views or experiences. The entire group of respondents included in the survey are divided into two broad categories: internal stakeholders (employees of insurers) and external (policyholders, life insurance agents, agriculture insurance technicians, surveyors and insurance experts). Most of the dependent variables are measured on the ordinal scales and do not fulfil the assumption of normality, and the variances across groups are not equal, so nonparametric tests viz. the Mann-Whitney U test and Kruskal-Wallis H test are used to test the hypotheses (Ghasemi & Zahediasl, 2012). The parametric test is not possible to apply since the data are not normally distributed and variance has not equal difference. Mann-Whitney is used in two categories (sex, age group, marital status, education, and qualification), and Kruskal-Wallis is used for three categories (self-reported economic class).

4. Results

4.1 Demographic and Socio-Economic Profile of Respondent

Among the 200 respondents, the majority (67%) are male. The median age of respondents is reported as 33, majority (52%) are up to the age of 33, and almost three-fourths (73%) are married. Entire respondents (also known as stakeholders) are categorized in two categories as employees, and other than employees (policyholders, agents, surveyors, agriculture technicians, and insurance experts). It is reported that slightly higher than half (56%) are other than employees. More than three-fourths of respondents (78%) have academic qualifications for a bachelor's degree or higher. Self-reported middle-class respondents are more than four-fifths (86%). The composition of respondents looks like a relatively educated, working-age population with a higher representation of males and married individuals. The entire description of demographic and socio-economic profile of respondents is presented in Table 2.

4.2 Perception of Respondents on Method of Fraud Control

Six different ways of controlling insurance fraud are listed out from different sources. Respondents were asked to rate the effectiveness of each. Table 3 presents the effectiveness of different fraud control measures in the insurance sector, ranked by the percentage of respondents who consider each measure important. It shows that the majority of respondents strongly agree on the method of risk control, while none of the respondents agree that the methods are entirely ineffective.

The most effective fraud control measure, as perceived by respondents, is the formulation of an act against fraud

(80%), which indicates that there is a strong need for legal frameworks and strict regulatory enforcement to prevent and mitigate fraud. The answer is considered relevant in the context of no separate Anti-Insurance Fraud Act existing.

Table 2. Demographic and socio-economic profile of respondents

Variables	Attribute	Frequency	Percent
Gender	Male	133	67
	Female	67	34
Age Groups	Up to 33 years	104	52
	34 years and above	96	48
Marital Status	Unmarried	55	27
	Married	145	73
Types of Stakeholders	Employees	89	45
	Others than employees	111	56
Qualification	Below bachelor's Level	45	23
	Bachelor's and above	155	78
Self-reported Economic Status	Lower Class	19	10
	Middle Class	171	86
	Upper Class	10	5

Table 3. Respondents' perception towards the methods of fraud control

Method of Fraud Control	Rank	Very Effective		Somewhat Effective	
		N	%	N	%
Formulation of Act against fraud	1	160	80	40	20
Establishing Fraud Investigation Bureau	2	136	68	64	32
Establishing Insurance Information Centre	3	131	66	69	35
Introducing digital claim management system	4	124	62	76	38
Rigor underwriting and claim settlement practice	5	108	54	92	46
Providing moral education to stakeholders	5	108	54	92	46

Source: Field Survey, 2024

The second significant measure to detect and prosecute fraudulent activities is establishing a Fraud Investigation Bureau (FIB) (68%), which highlights the need for specialized investigative agencies that are crucial for maintaining integrity in the insurance industry. The Bureau also was not in existence to date. The third effective way of controlling fraud is establishing an Insurance Information Centre (66%), which is a centralized database to track fraudulent claims and share information among insurers. This is an effective international practice which is equally fit for data-sharing mechanisms to prevent repeat offenders but has still not been established in Nepal.

The fourth effective way of controlling fraud, as per the respondent's opinion, is establishing a Digital Claim Management System (62%), which means that modernizing claims processing is essential to reduce manual errors and fraud opportunities. It is in practice in developed countries but still has not been practiced in Nepal.

Table 4. Association between profile and opinion of respondents towards the method of fraud control

Method of Fraud Control	Sex	Age	MS	Profession	Edu	Eco Status&
Establishing Fraud Investigation Bureau	0.002*	0.028*	.379	0.652	0.218	0.248
Establishing Insurance Information Centre	0.327	0.529	0.993	0.419	0.852	0.577
Act against fraud	0.204	0.944	0.236	0.943	0.398	0.530
Proposal and claims documents investigation	0.585	0.812	0.924	0.763	0.919	0.582
Providing moral education to stakeholder	0.957	0.144	0.136	0.986	0.565	0.382
Establishing a digital claim management system	0.653	0.311	0.313	0.222	0.281	0.477

&p value of KW test, rest of the variables p value of MW test

Among the six options given to the respondents, chosen by more than 50 percent of respondents, are reviewing proposal and claims documents rigorously and providing moral education to stakeholders (54%). It shows that still there is a necessity of scrutinizing documents to detect fraudulent intentions. Similarly, the same number of stakeholders (54%) agree that ethical awareness programs for employees, agents, and policyholders are essential. It concludes that promoting integrity and responsible behavior is equally as important as technological or legal solutions.

The descriptive analysis has been further examined to ensure whether the demographic and socio-economic variables are significantly associated with the opinion. Hypotheses are examined with help of the Mann-Whitney and Kruskal-Wallis tests (Table 4).

The p-value obtained from the Mann–Whitney U test indicates that respondents' opinions regarding the establishment of a Fraud Investigation Bureau (FIB) are significantly associated with sex and age ($p < 0.05$). Specifically, it was found that 82% of male respondents and 61% of female respondents, as well as 75% of those aged 33 years or below and 60% of those above 33 years, perceived the FIB to be highly effective in fraud control and mitigation. In contrast, no statistically significant associations ($p > 0.05$) were observed between other proposed fraud control measures and the socio-economic and demographic characteristics of respondents. This suggests a generally uniform and highly positive perception among stakeholders regarding the effectiveness of various fraud mitigation strategies.

4.3 Perception of Respondents on the Impact of Fraud on Insurance Companies

The perceived impact of respondents to insurance companies is presented in Table 5.

Table 5. Perception of respondents on the impact of fraud to insurance companies

Impact of Fraud on	Rank	Most Impact		Somewhat Impact	
		N	%	N	%
Social image of company	1	153	77	47	24
Profitability of company	2	143	72	57	29
Claim settlement duration	3	143	71	57	29
Activities of criminal attempt	4	133	66	67	34
Market price of company	5	107	53	93	47
Pricing of insurance	6	96	48	104	52

Table 4 ranks the impacts of fraudulent activities on insurance companies based on the percentage of respondents' frequency of opinion. Except for the pricing of insurance, the rest of all opinions have been found to have the "most impact", according to most of the respondents, and none of the respondents said that there is "no impact" from the fraudulent activities on the insurer. The most significant impact of fraudulent activities on insurance companies is social image (77%); fraudulent activities severely damage the reputation and credibility of insurance companies. The reason behind the opinion is that negative publicity from fraudulent claims erodes public trust, making it difficult for companies to attract new customers and retain existing ones. Reputation loss can have long-term consequences for the company's survival and growth.

The second impact to the company is that fraud directly erodes the profit of the company (72%); fraudulent claims inflate operational costs, increase payouts, and drain resources. Another impact of fraud is that it increases the claim settlement duration (71%) since companies need to thoroughly scrutinize suspicious claims, which causes delays for honest policyholders. This prolonged process leads to customer dissatisfaction and poor service perception.

The third consequence of fraud is that it attracts criminal elements into the insurance sector (66%). When fraud schemes succeed, it encourages organized crime groups and individuals to exploit insurance companies. The fraudulent activities mar the market price of the company (53%) due to the decrease in profitability on one hand, and on the other hand, investors' perceived risk impacts the company's valuation in the stock market. Less than half of the respondents (48%) agree that the price of the insurance hampers (increases) due to the fraudulent activities. Fraud leads to higher claims payouts, which forces companies to raise premium for all policyholders. This increases the cost of insurance, making it less affordable and attractive to potential customers.

Table 6. Association between profile and opinion of respondents towards the impact of fraud on insurers

Impact of Fraud to Insurer	Sex	Age	MS	Profession	Edu	Eco Status&
Profitability of company	0.092	0.078	0.909	0.253	0.290	0.097
Social Image of company	0.043*	0.129	0.252	0.190	0.819	0.927
On premium	0.148	0.587	0.899	0.625	0.417	0.362
Market price of company	0.122	0.072	0.016*	0.189	0.184	0.600
Activities of criminal attempt	0.275	0.345	0.598	0.251	0.145	0.726
Claim settlement duration	0.717	0.460	0.643	0.290	0.152	0.334

&p value of KW test, rest of the variables p value of MW test

The descriptive result of the impact of fraud on insurers has been examined to see whether there is an association with the demographic and socio-economic variables employing the MW and KW tests. The p-value of the test has been presented in Table 6.

The p-value of the MW test and KW test suggests that sex and marital status are significantly associated with the social image of the company and the market price of the company respectively ($p < 0.05$). The frequency of the opinion is reported that 72 per cent male and 85 per cent female agree that the social image of the company is

impacted and 75 per cent of unmarried and 48 per cent of married agree that the market price of the company is highly influenced by the fraudulent activities. The rest of all the associations have been found insignificant since the p-value of both tests is more than 5 per cent. The data infer that all segments of the respondents unanimously agree that the impact of fraudulent activities is negative to the company. There is no conflicting opinion based on the characteristics of the respondents.

5. Discussion

The present study explored the perception of respondents regarding methods of fraud control and the impact of insurance fraud on companies. The findings align with several previous studies, highlighting both convergence and divergence in the understanding of effective fraud control mechanisms and the consequences of fraud in the insurance industry.

In many countries, insurance fraud is considered a serious economic crime and is dealt with under separate, specialized laws or acts. These laws are supported by dedicated investigative bodies or fraud bureaus. For example, in the United States, there is an Insurance Fraud Prevention Act (IFPA); in the United Kingdom, the Insurance Fraud Enforcement Department (IFED) under the Fraud Act 2006; and in India, the Insurance Fraud Monitoring Framework Guidelines, 2013, are enforced. Nepal's approach is unique in that it combines insurance fraud control, insurance business and authority oversight within a single consolidated act, unlike many other countries, which indicates that the Nepalese fraud control regulatory mechanism is very weak. Most respondents perceived legal frameworks and regulatory measures, such as the formulation of an act against fraud and the establishment of a Fraud Investigation Bureau (FIB), as the most effective ways to control fraud. This finding is consistent with the work of Derrig (2002), who emphasized that legal and institutional measures are essential to combat insurance fraud effectively.

Similarly, Boyer & Peter (2020) highlighted that creating specialized investigative units helps improve detection and prosecution rates for fraudulent claims, ultimately deterring fraudulent behavior. Such bureaus are established in different countries, viz., the United States (National Insurance Crime Bureau), the United Kingdom (Insurance Fraud Bureau), India (Insurance Information Bureau of India), and South Africa (Insurance Crime Bureau). In Nepal there is a lack of a centralized information hub to share all relevant information among the regulator and insurance companies. The preference for a centralized Insurance Information Centre is also supported by Viaene et al. (2004), who stressed the importance of shared databases and collaboration among insurers for early fraud detection. Such centralized data-sharing systems have proven effective in countries like the United States and the United Kingdom, where insurers contribute to and access comprehensive fraud databases (Insurance Fraud Bureau, 2018).

The perceived importance of digital claim management systems is in line with Brockett et al. (1998), who noted that automation and digital processing significantly reduce opportunities for manual manipulation and human error in claim handling. Digitalization helps in establishing audit trails, cross-verification, and faster detection of irregular claim patterns using machine learning and AI tools (Sharan et al., 2024).

All the preventive and control measures, along with the respondents' opinions, align with the institutional theory of insurance fraud. According to their suggestions, an institutional transformation is necessary to reshape the way insurance organizations think, behave, and operate. Both formal and informal structures play a crucial role in cultivating a culture of integrity within the industry, making insurance fraud not only legally discouraged but also socially and procedurally unacceptable (Zelizer, 1979).

However, the relatively lower ranking of moral education for stakeholders' contrasts with findings by Tennyson (2008), who argued that enhancing ethical awareness among employees, agents, and policyholders play a crucial preventive role. This discrepancy may be attributable to the perception that ethical training alone is insufficient without strong regulatory and technological frameworks, particularly in contexts where institutional weaknesses exist.

The significant association between sex and perception of establishing a Fraud Investigation Bureau (FIB) indicates that gender may shape how respondents perceive institutional mechanisms for fraud control. Some studies, such as Miyazaki & Fernandez (2001), found that women tend to have higher risk aversion and greater concern about institutional integrity than men, which may explain this gender-based difference. However, the absence of significant associations for other fraud control measures suggests broad consensus across socio-economic and demographic groups, indicating widespread awareness and agreement on the need for strong anti-fraud measures.

The perceived adverse impact of fraud on social image and profitability is strongly supported by previous studies. Tennyson & Salsas-Forn (2002) emphasized that fraud directly affects public trust and insurer reputation, leading to long-term reputational damage and difficulty in attracting new customers. Similarly, Mills (2009) demonstrated that fraudulent claims increase operational costs, reducing profit margins and creating long-term financial strain.

The finding that fraud extends claim settlement duration echoes the findings of Artís et al. (2002), who noted that thorough claim scrutiny increases processing time, which contributes to policyholder dissatisfaction and

weakened customer loyalty. This delay also increases administrative costs, further eroding profitability. The perception that fraud attracts criminal elements into the insurance sector aligns with Button et al. (2007), who observed that insurance fraud is often linked to organized crime networks which can be counter by the professional Fraud Specialist.

6. Conclusions

The study has two main objectives: to identify the perception of respondents regarding which controlling measure for fraud is more effective and what is the major impact on insurers. Based on the analysis, the following conclusions are drawn.

The study arrives at some major conclusions about methods of controlling fraud. Legal enforcement (Act Against Fraud) is the preferred method for combating fraud; specialized institutions (Fraud Investigation Bureau and Insurance Information Centre) may play a significant role in tracking and investigating fraud. Technology-based solutions (Digital Claim Management Systems) play an important role but are slightly less prioritized. Traditional methods like document verification and moral education are still relevant but perceived as less impactful.

Regarding the impact of fraud on insurance companies, the most critical impact is social image and public trust, followed closely by delays in claim settlement and reduced profitability.

Insurance fraud not only impacts short-term financial performance but also undermines long-term sustainability by encouraging criminal activities, destabilizing market prices, and driving up premium rates. Therefore, comprehensive fraud prevention strategies are crucial to safeguarding the reputation, financial stability, and operational efficiency of insurance companies.

The study found that respondents' demographic and socioeconomic characteristics generally had no significant influence on their perceptions of fraud control methods and the impact of fraud on insurers. Overall, responses were largely consistent across groups, with only three instances of differing opinions linked to two specific respondent characteristics.

The study offers some policy recommendations to concerned authorities. People perceive soft fraud as common and not a criminal wrongdoing; it requires carrying out an awareness campaign and ethical training programs for all insurance stakeholders, including the Board of Directors, management team, employees, surveyors, loss assessors, agents, policyholders, lawyers, and members of the consumer protection societies, that insurance fraud is criminal activity.

It should strengthen legal frameworks by enforcing strict penalties for fraudulent activities, establish a centralized database related to fraudsters and suspected claims to facilitate information sharing among insurers, invest in digital fraud detection tools such as AI-based claim processing and anomaly detection and enhance underwriting and claim verification processes to identify inconsistencies early. Nepal Insurance Authority can investigate the fraudulent activities and sue the culprit so that insurance fraud can be controlled to some extent. The institutional capacities of the regulator and insurers need to enhance detection and control of the fraud.

As the study is exploratory in nature and conducted for the first time in Nepal, the findings are highly context specific. Therefore, they may not be fully generalized to the entire Nepalese insurance industry or applicable to different institutional settings. Respondents were selected based on convenience rather than through a random or systematic sampling method. This may introduce a selection bias and limit the representativeness of the sample across all relevant stakeholder groups in the insurance sector. Certain highly relevant expert groups, such as forensic auditors, regulatory investigators, and employees from reinsurance companies, were not included in the sample. Their absence may have restricted the depth and diversity of insights on insurance fraud control. As with most survey-based studies, the findings are subject to self-reported response bias, including risks of social desirability bias, misreporting or varied interpretations of fraud control mechanisms and their implications. The study employs a cross-sectional design, capturing opinions at a specific point in time. This restricts the ability to analyze trends, changes in perceptions, or long-term impacts of insurance fraud and control measures. The study primarily assesses associations between variables and lacks the application of more robust data analysis techniques, which may limit the statistical depth and inferential strength of the findings. Due to the use of quantitative data and absence of in-depth interviews or qualitative methods, the study could not explore the nuanced perspectives and complex dynamics of fraud control mechanisms.

Author Contributions

Conceptualization, R.G. and A.G.; methodology, R.G. and V.W.; software, R.G., A.G. and V.W.; validation, R.G. and V.W.; formal analysis, R.G., A.G. and V.W.; investigation, R.G. and V.W.; resources, R.G. and V.W.; data curation, R.G. and A.G.; writing: original draft preparation, R.G., A.G. and V.W.; writing, review and editing, R.G., A.G. and V.W.; visualization, R.G., A.G. and V.W.; supervision, R.G. and V.W. All authors have read and agreed to the published version of the manuscript.

Informed Consent Statement

Informed consent was obtained from all subjects involved in the study.

Data Availability

The data used to support the research findings are available from the corresponding author upon request.

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Conflicts of Interest

The authors declare no conflict of interest.

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