Motor Insurance Frauds in India: Detection and Control Mechanisms

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Abstract

Insurance fraud is constantly raising concerns among insurance companies and regulators, due to huge losses caused to business every year. For every Rs. 100 premium earned by the insurance companies, they would be paying Rs. 213 as claims. Motor insurance which contributes almost one third to the non-life insurance in India is highly affected by fraud. Many insurance companies are showing loss due to high claim ratio in motor sector. The motor insurance market in India is growing at respectable rate, and this provides greater opportunity for insurance companies to tap this growing market. Nonetheless, the insurance companies face greater challenges in terms of reducing claim processing cost, and detection and control of fraud. Hence, the purpose of this paper is to explore the magnitude of the problem and methods to prevent and control fraud in motor insurance. And also study highlights ways to reduce claim processing cost. The paper reveals the scarcity of research of such a topical issue in developing economies such as India and suggests the urgent need to discuss among insurance companies about the effects of insurance fraud on the industry, with a view to tackle the problem. This should also be complimented with the establishment of "Insurance Fraud Bureau" that would promote public awareness campaign on the evil effect of fraud on the economy.

Keywords: Fraud,Claim handlers, Key performance indicators.

Introduction

Whatever is practiced in west easily find its way to India. Motor insurance and health insurance are more susceptible to insurance frauds, followed by life insurance and property insurance. A recent survey has shown that more than 50% of the third party (TP) claims in India are bogus. There are several claims that are based on bogus accidents carried out with the support of legal professionals. The Motor Insurance is the largest portfolio in the Indian non-life insurance market, which almost constitutes 40% of the non-life insurance premium. In Japan it is estimated to be 62%, in the USA 46% and in Malaysia 48.6 %. According to India Forensic Research, every year, a loss of Rs 15,171 crore is incurred due to insurance fraud (life and non-life) in India.

In the year 2010-11, incurred claims ratio of motor insurance was 102.69% compared to 84.51% for the year 2009-10. The loss ratio is 213% for the current year for insurance companies, which means, for every Rs. 100 premium earned by the insurance companies, they would be paying Rs. 213 as claims. The losses of the state-run general insurance companies was Rs. 87, 604 crore for the year 2010-11 as compared to Rs. 85, 501 for the year 2009-10. Globally motor insurance fraud is major cause of loss to insurance companies, and India is no exception to this. The most common motor insurance fraud activity and one that contributes a significant portion of losses is the practice of padding claim amounts in the event of a loss. One of the largest issues insurance companies face is that policyholders often do not perceive insurance claim padding as an unethical behavior.

The main aim of this paper is to explore the approaches which can prevent and control motor insurance frauds in India. This paper is organised into five sections. The paper begins with an overview of insurance fraud and its types, reasons for committing fraud, and effects of fraud. This section is followed by the motor insurance growth in India, claim ratio and loss to companies in India. The next section discusses approaches in detecting motor insurance fraud. The fourth section deals with motor fraud

control management system. The last section presents conclusion and recommendations.

Insurance Fraud

Insurance fraud is a criminal act, provable beyond a reasonable doubt that violates statutes, making the willful act of obtaining money or value from an insurer under false pretences or material misrepresentations a crime (Derrig, 2002). Duffield and Grabosky (2001) posited that, fraud means obtaining something of value or avoiding an obligation by means of deception. According to the International Association of Insurance Supervisors (IAIS), fraud in insurance is defined as "an act or omission intended to gain dishonest advantage for the fraudster or for the purpose of other parties". This embraces many and varied forms of conduct, ranging from false claims against an insurance policy to some corporate frauds that are meticulously planned and intricate in their execution.

Typology of Motor Insurance Fraud

Insurance fraud is categorized into the following types:

Internal and external fraud

Fraud against the insurer by an employee, a manager or a board member on his/her own or in collusion with others who are either internal or external to the insurer. External fraud is fraud against insurer by outsiders of the insurance company such as applicants, policyholders and claimants, sometimes perpetrated in collusion with insiders such as agents or brokers, or third-party service providers. This type of fraud is common and these include, providing false statements and submitting bogus claims.

Underwriting and claim fraud

Underwriting fraud, which includes fraudulent acts perpetrated at renewal of the insurance contract, covers, for example, dissimulation of information during application (application fraud) to obtain coverage or a lower premium (premium fraud), the deliberate concealment of existing insurance contracts and underwriting coverage for fictitious risks. Since the principle of utmost good faith obliges the policyholder to report any new information that comes to his attention during the course of the contract and is likely to affect the insured risk. Claim fraud is most prevalent fraud in India which refers to deliberately inflated, false or fictitious claims.

Soft and hard fraud

The soft fraud refers to claimants seizing an opportunity to inflate the damages of an otherwise legitimate claim (claim padding or build-up). The hard fraud refers to a carefully premeditated and minutely executed scams to rip off insurance. The soft fraud is opportunistic fraud however, hard fraud is planned one. The terminology "hard fraud'' is often reserved for criminal offences (see e.g. Derrig and Krauss, 1994; Derrig and Zicko, 2002; Sparrow, 1998, 2000). Examples of hard insurance fraud include, filing claims for bogus or staged injuries, accidents, burglaries, fires; conspiracies involving medical doctors, lawyers and patients defrauding workers' compensation insurance; dishonest insurance agents intentionally failing to remit premiums to the insurance company; and insurers negotiating contracts or claims in bad faith.

Who are affected by Insurance Fraud?

Motor insurance fraud affects both individuals and the insuring companies. The following are examples of the effects of insurance fraud to individuals:

- The average household pays higher insurance premiums to cover the cost of fraud.
- The prices of consumer goods rise as businesses are paying higher premiums due to increased cost of insurance claims.
- Cost of motor insurance rises due to fraudulent accident claims.
- Innocent insured's are scrutinized more carefully and may incur longer periods to settle claims while under investigation

Even though insurance companies typically pass the costs of insurance fraud on to the consumer in order to operate at a profit, insurance companies are directly impacted by insurance fraud. The following are examples of the costs of fraud to insurance companies:

- Every dollar that is spent on insurance fraud directly impacts the profitability for the company as claim costs rise.
- Insurance companies incur increased human resource costs by employing fraud units to Investigate claims.
- Insurance companies that do not effectively prevent fraud may lose.
- Insurance companies also lose investment income when a fraudulent claim is filed, as they need to make reserves for the filed claims.

Growth of Motor Insurance in India

Insurance in motor segment in India is poised to grow in tandem with the growth in automobile industry with newer, faster models hitting the Indian roads and better and larger road surface as a result of infrastructure development such as the golden quadrilateral and the north-south and east-west corridors. In short, what we are going to witness is an unprecedented growth in the number of vehicles and inevitably more accidents causing injury and damage. The cumulative effect of increase in road surface and the growth in automobile population will directly impact the growth of motor portfolio of the non-life insurance industry.Unlike own damage insurance, which is optional, third-party (TP) motor insurance is mandatory for all car owners - be it private or commercial. The idea behind TP motor insurance is to settle the claims of victims, other than car owners. The own damage insurance covers the car and the owner/driver. The loss ratio in motor TP ranges between 120% and 200%, which implies for every Rs. 100 premium collected payment ranges between Rs 120 and Rs 200.

Table 1: Segment Wise Premium Underwritten by Non-Life Insurers in India

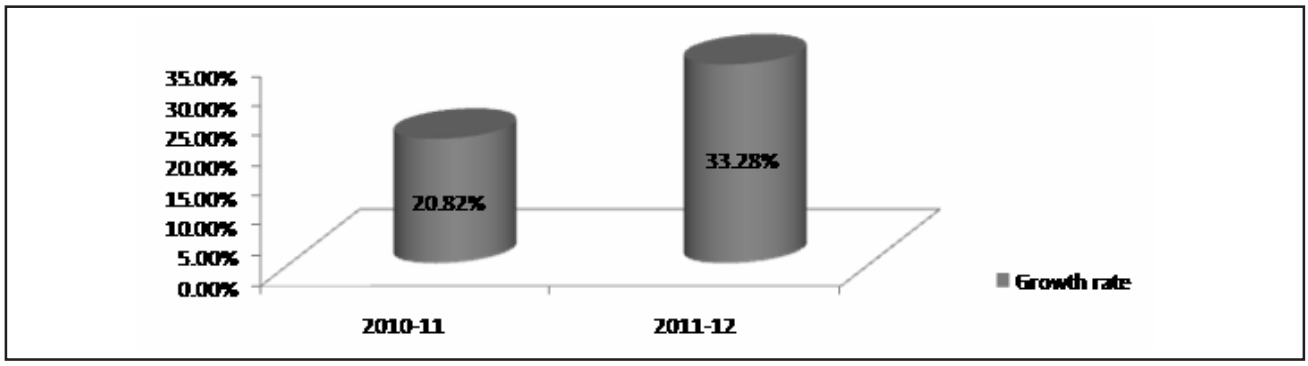
(Figures in crore)

Segment	2009-10	2010-11	2011-12
Fire	3869.27	4555	5430
Marine	2167.59	2519	2875
Motor	**15047.00**	**18173**	**24239**
Health	7311.37	9943.93	11777
Others	6225.22	7386	8556

Source: IRDA Annual Reports

As shown in **Table 1,** the motor insurance is the greatest contibutor to the premium growth of non-life insurers. The motor insurance premiums underwritten has shown a growth of 61% (Rs. 9,192 crore) over last two years, which is highest comapred to any other non-life insurance. As shown in the **Figure 2,** the grwoth in motor insurance for year 2010-11 stood at 20.82% and for year 2011-12 growth reached 33.28%. This exponential growth in motor insurance in last few years has been co-terminus with deteriorating claims experience. This falling claims expeience has mainly been caused by factors like increase in frequency and severity of claims.Increase in Health motor fraud is a significant causative factor in continuing losses in this insurance segment.

Fig.-1: Motor Insurance growth rate in India

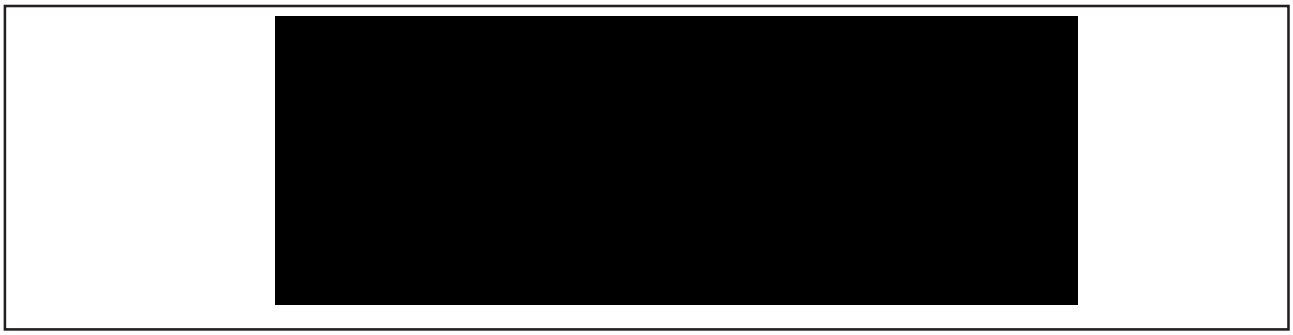


Source: IRDA Annual Reports

Motor Insurance Claims Ratio in India

There has been an increase in fake third party claims in the last few years. These fake claims cost insurance companies 10-15% of the premium incomes.In the year 2010-11, incurred claims ratio of motor insurance was 102.69% compared to 84.51% for the year 2009-10. The loss ratio will be 213% for the current year, meaning thereby, for every Rs. 100 premium earned by the insurance companies, they would be paying Rs. 213 as claims.Therefore, a fresh look is needed in devising strategies to control the motor fraud in India, so as to make insurance companies profitable

Fig.- 2: Motor Insurance growth rate in India



Source: IRDA Annual Reports

Case Study 1

Claiming in India Living in US

In the history of Indian non-life insurance the single biggest third party claim was filed for compensation of 54cr., for the kin of an Indian-born American doctor Suresh K Mahajan who was killed in Rajasthan in a road accident on the way from Delhi to Jaipur, exactly eighteen years ago on 03.02.1995.The compensation claimed in Delhi was for 54 cr., the single biggest third party claim ever made in the history of India. While the single judge calculated the compensation at 10.38 cr. The division Bench comprising Justice D P Mohapatra and Justice Brijesh Kumar enhanced it to 16.12 cr. Though the Supreme Court subsequently asked the Motor Accidents Claim Tribunal (MACT) to recalculate the amount, the insurance company felt that after recalculation, it might have to pay between 6 cr. to 8 cr. to Patricia Jean Mahajan, wife of Dr Mahajan with an interest payment @ 9% (instead of 12% as awarded by lower court) per annum from the date of accident. It is understood that the claim was finally settled for **10.84 cr.** (Exchange @ $=Rs.30) including 3.92 cr. towards interest and 13.80 lakh towards legal expenses. Had the said Mahajan been killed in a similar road accident in Michigan, his survivors would have hardly received an amount of 6 lakh plus interest as compensation by calculating with the same factors, exchange rate and multipliers because, in Michigan the compulsory third party insurance has a capping, but in India there is no cap on TP claims.

Adapted from Choudhary, J. (2013), IRDA Journal, Vol.XI No.2, pp.21-25.

Challenges in Settling Motor Insurance Claims

The insurance industry has many challenges, when it comes to the processing of motor insurance claim. Motor insurance being single largest contributor to non-life insurance premiums, also see largest number of claims being filed in non-life insurance. Following are the major challenges in settling motor insurance claims.

- Reducing claim processing time.
- Detecting fraudulent claims.
- Controlling fraud.
- Managing excessive cost for investigating fraudulent claims.
- Satisfying Customers.
- Claim investigation by experienced and trained claim handlers.
- Handling claims in professional manner.
- Prompt settlement of genuine claims.
- Use of technolgy in claim processing.

Approaches to Detect Fraud Claims in Motor Insurance

Despite the problems inherent in dealing with fraud, fraudulent claims can be, and indeed are, detected. Fraud detection typically occurs through the discovery of anomalies or inconsistencies in the information surrounding the claim (e.g. when the circumstances of the claim do not match the account given by the claimant), identification of patterns of claiming behaviour (e.g. repeated claims for similar losses), or recognition of inappropriate claimant characteristics (e.g. aggressive manner, uncertainty and hesitance in supplying information). Following are the important approaches which can help in detecting potential fraud:

(a). Predictive Modelling to Detect Fraud and Control Claim Cost

This is the latest technique to detect fraudulent patterns. This technique uses advances in analytics to detect fraudulent patterns in large volumes of data residing in databases, claims management systems and third party data sources. The predictive analytics when applied to insurance can considerably reduce the number and amount of claims paid out each year and hence can save millions of rupees. The advantage of using predictive modelling is that it not only detects claims that have easily identifiable fraud characteristics but also detects previously un identifiable fraud variables much earlier in the claim process than is possible in manual processes. The predictive analytics is currently used in detecting fraud in medical insurance and has shown good results. Therefore, this technique can prove very useful in motor insurance to detect fraud and hence prevent to prevent loss.

For instance, a company has both data and expertise from past claims that can be used by predictive modelling to intelligently identify fraudulent claims early and often. Structured and unstructured data from existing and past claims, such as notes from adjustors, claims information policies, customer data and industry resources to immediately decrease fraudulent claims pay-outs. To increase the overall productivity of claims processing even more, predictive modelling can help improve underwriting, subrogation, recovery and reserve-estimating functions through greater timeliness, accuracy and efficiency. In combination with sophisticated data and text mining techniques, predictive modelling tools can also help discover previously undetected patterns and trends. This helps identify claims with the highest propensity for fraud and uncover new types of fraud that would have been never discovered through a manual or linear process.

A predictive analytics and reporting solution for motor insurance companies can help reduce loss ratios and improve bottom-line profitability. **Figure 3** shows the predictive claiming processing life cycle. Predictive Claims processing incorporates predictive modelling at every stage of an insurance claim. This closed loop system has a unique scoring system that rates each claim at its inception on its propensity for fraud and then continually rescores the claim as it goes through each

step of a claim's lifecycle. At different phases in claim life cycle the letter a letter 'M' is shown, which refers to calculating a score for the claim and hence based on this score propensity for the fraud is evaluated, and the same claim is rescored as it goes through the next step of the claim life cycle, where again the a score is assigned and propensity for fraud is estimated and the process goes on in cyclic manner.

Fig.- 3: Predictive Analytics to reduce claim costs at many points across the claim lifecycle

Source: http://www.statsoft.com/portals/0/solutions/StatSoft_InsuranceFraud_Brochurev.pdf

(b) Preliminary Investigation by Experienced and Efficient Front Office Claims Handlers

The process [illegible]vestigation generally involves seeking further information either from the claimant or from third [illegible] sources [illegible] up a cl[illegible] [illegible]es and [illegible] in the cl[illegible] potential motives of the claimant. The responsibility for detecting fraudulent claims in motor insurance companies rests heavily with staff at the front line of the claims-handling process. Claims handlers are often inexperienced, with typical company lifetimes of less than one ye[illegible] they often lack sufficient or appropriate training in fraud [illegible] *t al.*, 1[illegible] observed that t[illegible] fraud [illegible] detected are a[illegible] sugge[illegible] numbers of fraudulent cases remain undetected. [illegible]rs [illegible]st [illegible] a great responsibility to detect anomalies and inconsistencies while processing claims at the nascent stage. Motor insurance companies have to ensure that the life of experienced front office claim handlers should be increased. Company should arrange special training for front claim handler in detecting fraudulent claims.

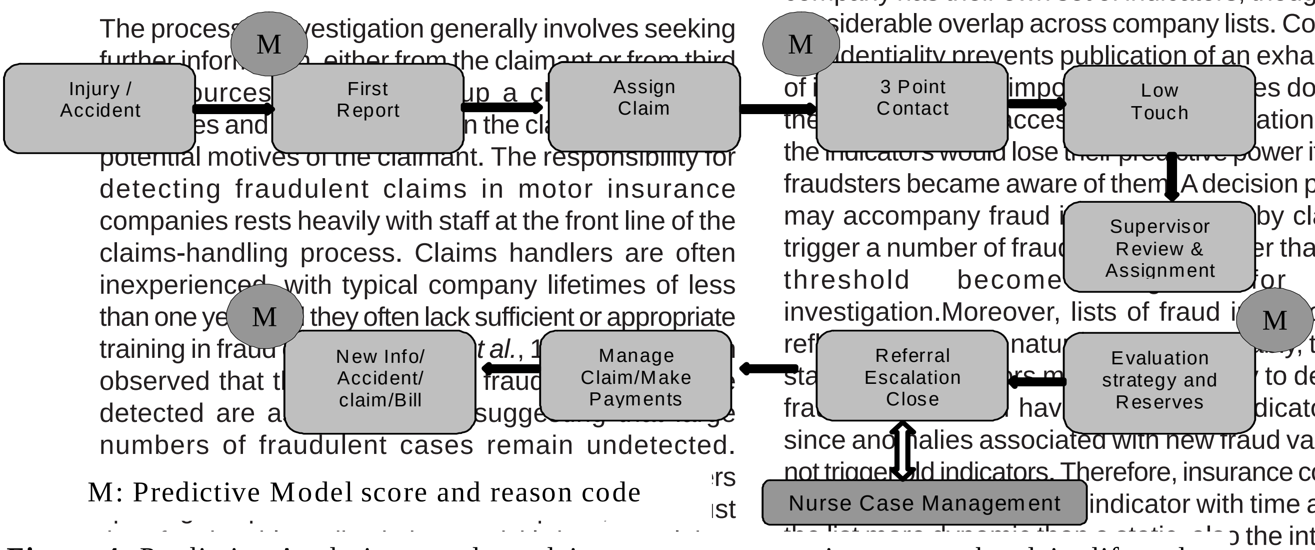


Figure 4: Predictive Analytics to reduce claim costs at many points across the claim lifecycle
Source: *http://www.statsoft.com/portals/0/solutions/StatSoft_InsuranceFraud_Brochurev.pdf*

(c) Dynamic List of Fraud Indicators to Detect Fraud

In order to increase the chances of detecting fraudulent claims by inexperienced staff, companies have traditionally provided claims handlers with lists of fraud indicators against which to check incoming claims. Every company has their own set of indicators, though there is [illegible]siderable overlap across company lists. Commercial [illegible]identiality prevents publication of an exhaustive list of i[illegible] impo[illegible] es do not want the[illegible] acces[illegible] ation because the indicators would lose their predictive power if potential fraudsters became aware of them. A decision procedure may accompany fraud i[illegible] by claims that trigger a number of frau[illegible] er than a given threshold become[illegible] for further investigation. Moreover, lists of fraud i[illegible]ors fail to ref[illegible] natu[illegible], the use of sta[illegible] to detect new fra[illegible] hav[illegible] dicators at all, since ano[illegible]alies associated with new fraud variants will not trigge[illegible] old indicators. Therefore, insurance companies [illegible] indicator with time and make the list more dynamic than a static, al[illegible] the interactivity [illegible] the same time it [illegible] to provide high quality service, by reducing the claim handling time.

(d) Sophisticated Databases to Detect Fraud

Insurance companies should further take proactive steps to improve fraud detection during the claims handling process. Industry should develop several databases to assist in the detection of anomalous information at the claim stage. For example a database should be developed which verify information provided by claimants. Second the data base should assess if claimants have a history of suspicious or similar claims. Last, it should provide repositories for sharing information about claim

histories across companies and with other parties. These databases could be restricted for use of specialist investigators. However, this system also suffers from some drawbacks such as opportunities to introduce noise into record sets, such as misspellings, missing items, duplicate data, and out-dated information. Consequently, searching database systems can lead to problems, both with the failure to find expected records, and the generation of false positives through erroneous matches.

(e) Using Technology to Detect and Control Fraud

The recent technologies and processes have tried to address some of the problems inherent in inexperienced staff and noise in databases by using advanced intelligent software coupled with a detailed understanding of the nature of fraud and fraudsters. One approach is to capitalize upon existing databases while overcoming problems of noise in the data using data. Data mining techniques can detect anomalies between client-supplied data and existing datasets while remaining sensitive to minor mismatches that are likely to generate false positives, and allow the detection of patterns of fraudulent activity (e.g. patterns of repeated claim activity) among complex data sets. Other new technologies draw upon profiling approaches used in criminology and forensic investigations, borrowing techniques such as cognitive interviewing Kebbell et al., (1998) and voice stress analysis Hovarth, (1982). The fraud-detection process relies heavily on accurate and comprehensive communication of claims information and suspicions, especially in situations where there is no case ownership. The technological approaches show promise but are largely unproven. One concern is that the current wave of technological and process fixes seems to have been developed without a full understanding of their users, that is, the claims handling and investigation staff within the insurance industry. The systems focus upon detecting anomalies, the corollary being that claims-handling staffs are not themselves good at spotting anomalies in claims data.

Fraud Management Control System

The fraud management control system comprises of three components (see **Figure 4**). The three components are key performance indicators (KPI), activity, and fraud management system (FMS) component. KPIs are used to measure performance of a certain activity or activities, which is supported by a certain FMS component.

The method comprises of components that are depicted in **Figure 4**. From top side, a company uses KPIs to measure performance of a certain activity (or activities), which is/are supported by a certain FMS component (or components). From bottom side, a FMS component is used to support a certain activity (or activities) which boosts the performance, which can be measured by a specific KPI (or KPIs). To be able to connect KPIs with activities and FMS components, there is need to introduce two matrices, namely a KPI/activity matrix and an activity/FMS component matrix.

Fig.- 4: Fraud Control Method

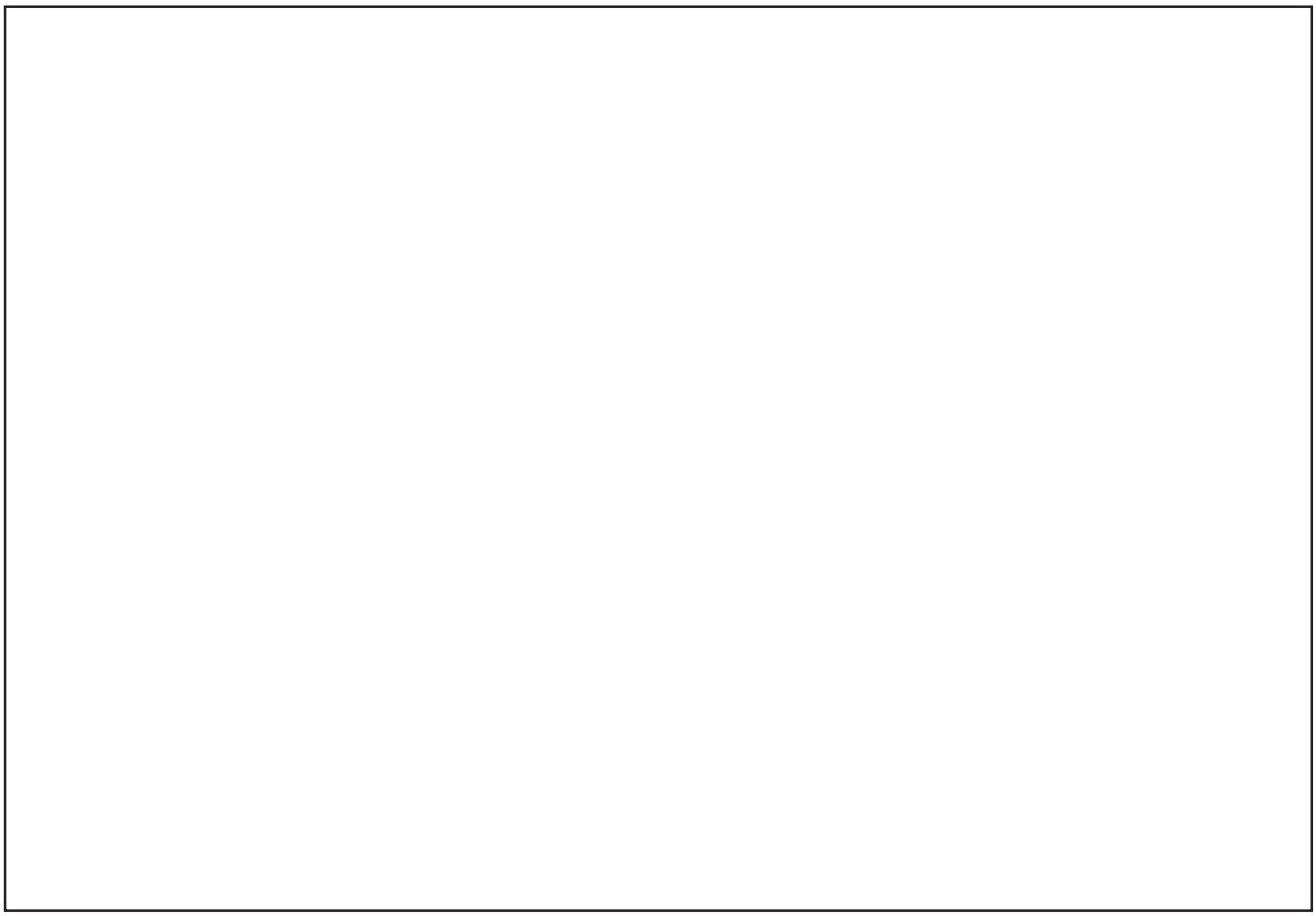


Table 2: Simplified Set of KPIs with Measurement Unit and Calculation Formula

KPI	Unit	Formula
Percentage of claims investigated	Percentage	Number of investigated claims / Number of all claims
Detected potential fraud	Percentage	Cost of detected potential fraud / Total claims paid
Average investigated claim value	Currency	Cost of all investigated claims / Number of investigated claims
Number of claims per investigator	Number	Number of investigated claims / Number of investigators
Average cost of investigation	Currency	Total cost of investigation / Number of investigated claims
Percentage of claims in redress	Percentage	Successful claim redress / Number of all claims
Success rate	Percentage	Total savings (currency) / Value of investigated claims
Total savings	Percentage	Total savings (currency) / Total claims paid
Percentage of claims in sanctioning	Percentage	Number of claims in sanctioning / Number of all claims
Sanctioning success rate	Percentage	Number of investigated claims / Number of all claims
Profitability	Percentage	Total savings / Total cost of fraud management

Method Components

From literature review 11 key performance indicators (see **Table 2**) are identified that can be used to measure fraud management performance. These performance indicators can be easily calculated by any insurance company. In Table 2, KPIs that are based on monetary values, such as “Average cost of investigation”, are presented in a general form. As mentioned before, the main activities are fraud detection, prioritization, investigation, redress, mitigation and sanctioning. Each of the activities has one or more goals, which can be measured with KPIs. List of activities and their goals are givan in the **Table 3**. A number of different software and information system components obtained from the literature, are used to support fraud management activities. All FMS components are listed in **Table 3**.

Table 3: Activities and Goals of Activities

Activity	Goal
Detection	G1.1 Detect fraudulent activities as early as possible
	G1.2 Detect all fraud
	G1.3 Detect enough potential fraud for investigators
	G1.4 Minimize false positives
Prioritization	G2.1 Select the most perspective claims from detected potential
Investigation	G3.1 Eliminate false positives early
	G3.2 Investigate cases efficiently
	G3.3 Collect enough evidence to prove fraud
	G3.4 Employ effective techniques to collect evidence
Redress/mitigation	G4.1 Successfully recover the money / withhold the payment
	G4.2 Employ efficient and effective mitigation techniques
Sanctioning	G5.1 Prepare and submit effective criminal indictments
	G5.2 Help police/prosecution to achieve desired outcome

Conclusion and Recommendations

Motor insurance contributes to one third of the premium income for the non-life industry. Also, it has been experiencing losses and has a high ratio of claims payment. But shifting its failures to the shoulders of the policyholders by charging them with an increased premium and restricting them is not the way to boost itself. Insurance companies should work towards enhancing and improving their underwriting standards and research methods rather than putting the burden of their losses on the innocent customer, who already pays high premium rates. Since India is a leading IT and software provider it is easy for insurance industry to collaborate

with software giants like Infosys and Wipro to create sophisticated software to detect and control fraud. The Indian insurance regulator should propose formation of fraud fighting organization and creation of fraud special investigation units to battle the motor insurance fraud.Public perception and attitude towards motor insurance fraud is one of the main obstacles to reducing fraud activities, hence insurance companies need to change the public perceptions towards motor insurance fraud. Extensive research has shown that situational factors do indeed influence policyholders' perceptions of whether a fraudulent behaviour is ethical.

Motor insurance fraud is currently a very significant problem, and there is no reason whatever to suppose that its costs, level or significance will diminish naturally over time. Hence, all insurers should join hands to create strong centrally administered mechanism to tackle the problem of fraud. It is important to develop a very strong mechanism so that all vehicles are acquired under insurance, as more than 40% vehicles in India are not covered, and these uninsured vehicles are mostly the cases of fraud. Therefore, it is required that all the vehicles need to be covered and renewed under compulsory insurance. This will help reduce possibilities of frauds and it will help insurance companies to enrich their premium pool with a comfort of paying genuine claims. This practice is mostly used by developed nations. India should adopt mechanism from these countries.

The insurance industy should create consolidated industry level database of all the insurers issuing motor policies in order to identify duplicate claims and possible fraudulent claims. Also there is need to create and maintain a centralised database of motor claims at the main/head office, (categorising the claims into death, grievous injury, minor injury and property)for monitoring of the claims.Further to ensure efficiency and profitability, a need arises to develop system for review of the performance of advocates and investigators to ensure that only those rendering satisfactory services, are retained, and hence uncessary costs are saved.

Let us not forget that the business of insurers is to settle claims, impartially and quickly; and the key to business reputation and growth lies in claims management process and philosophy. Therefore, it is important that while detecting and controlling fraudulent claims, the valid claims are not affected and also empathy with the claimant must not be lost even on claims which are not valid. Industry co-operation for controlling fraud and close watch on claims fraud are key factors towards growth of mortor insurance at impreseive rates and to reach unexplored market.

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