Fraud Management Implementation Guide

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Notice

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Table of Contents

List of Figures

List of Tables

1. Introduction

This implementation guide is developed as a 'living' document to be used by operators as a practical guide to validate and enhance their current Fraud Management process and to help new operators implement their new FM process.

The current version is the first step to attaining this goal. This guide documents Corporate Roles and Responsibilities in the context of Fraud Management. A list of relevant metrics and performance indicators are also included in this document. They will be further enriched and detailed in future versions to become a framework of Fraud Management Business Metrics and Performance Indicators.

This guide's content is complemented by the Fraud Classification Guide (GB954), where the Fraud Classification Model and the Fraud glossary are presented, and the Fraud Operations Management Guide (GB947), where the Fraud Management Process and sub-processes are described. It is highly recommended that users read these documents also.

2. Corporate Roles and Responsibilities in the Context of Fraud Management

This section describes the Roles and Responsibilities involved with Fraud Management activities. These include both the Fraud Management team roles and the stakeholders at an enterprise-wide level. In order to clearly separate the enterprise-wide Roles & Responsibilities from the ones that are part of the Fraud Management team, two tables are presented below.

The first table focuses on the enterprise-wide perspective. This should be used in the corporate governance model, at the level of the Risk Management corporate policy, where a more strategic view of the Fraud Management process is required.

The second table has a more practical goal: to identify the roles and responsibilities that can exist within a Fraud Management team. It must be remembered that different organizational models exist and therefore other roles and responsibilities can exist that map to a different organization model.

2.1 Board of Directors /Senior Management

The Chief Executive Officer's (CxO) main responsibilities, and at a higher level, the Board's main responsibilities are:

- Understand fraud risks;
- Oversee the fraud risk assessment by ensuring that fraud risk is considered as part of the organization's risk assessment and strategic plans, and that an anti-fraud policy exists and is known and understood by the staff;
- Monitor management's reports on fraud risks, policies and control activities, and obtain assurance that the controls are effective;
- Establish mechanisms to ensure it is receiving accurate and timely information from management, employees, internal and external auditors, and other stakeholders regarding potential fraud occurrences;
- Oversee the internal controls established by management.
- Ensure firm and prompt investigations if fraud occurs. Also ensure that staff responsible for these investigations are properly trained;
- Take appropriate legal and/or disciplinary action against fraudsters.

2.2 Management

Management responsibilities are:

- Ensure that an adequate system of internal control exists within their areas of responsibility and that controls operate effectively;
- Prevent and detect fraud by working closely with the Fraud Management team to achieve this goal;
- Assess the types of risk involved in the operations for which they are responsible and work closely with the Fraud Management team in this process and in the definition of an effective fraud prevention plan;
- Review and test regularly the control systems for which they are responsible;
- Ensure that controls are complied with and their systems continue to operate effectively;
- Ensure that the head of department and the head of Fraud Management are informed when a fraud has occurred or is suspected;
- Implement new controls to reduce the risk of similar fraud occurring where frauds have taken place;
- Ensure that anti-fraud controls are incorporated at the design phase in all systems;
- Raise fraud awareness amongst staff including knowledge of the anti-fraud policy.

2.3 Fraud Management Team

Fraud Management Team responsibilities are:

- Establish the anti-fraud policy, procedures and a fraud response plan appropriate to the level of fraud risk identified, and develop appropriate anti-fraud targets;
- Design an effective control environment, aligned with the fraud risk assessment, to prevent fraud;
- Establish appropriate mechanisms for reporting fraud risk issues;
- Report relevant incidents of fraud to CxOs and at a higher level, the Board of Directors including and other departments and institutions, in accordance with the anti-fraud policy;
- Take the appropriate actions to ensure the effectiveness of anti-fraud policies;
- Work closely with the Audit, Risk and Revenue Assurance teams on fraud issues;

- Ensure that all staff are aware of the anti-fraud policy and know what their responsibilities are in this context;

- Develop appropriate skill and experience competency frameworks;

- Ensure that appropriate anti-fraud training and development opportunities are available to staff to meet the defined competency levels;

- Ensure that vigorous and prompt investigations are carried out if fraud occurs or is suspected;

- Seek appropriate legal and/or disciplinary action against perpetrators of fraud;

- Recommend appropriate disciplinary action against staff where supervisory failures have contributed to the occurrence of fraud, or where there has been a failure to report fraud;

- Ensure appropriate action is taken to recover assets;

- Ensure appropriate action is taken to minimize the risk of similar frauds occurring in the future.

2.4 Staff

Management responsibilities are:

- Understand and comply with the anti-fraud policy;

- Be alert to the possibility of fraud and vigilant where unusual events or transactions occur;

- Report details immediately through the appropriate channels when a fraud is thought to have been committed or suspicious acts or events are witnessed;

- Assist in any investigations by making available relevant information and by co-operating in interviews.

3. Fraud Management Business Metrics and Performance Indicators

Measuring is essential to ensure both the efficiency and effectiveness of the implemented Fraud Management process. This section defines a set of measures and performance indicators that can be used by Communication Service Providers (CSPs) as a reference for measuring their processes.

In telecom fraud management, a multi-level measurement system should be implemented to fulfill the needs of the different roles involved in the process. As a first step, the current version of the FM Implementation Guide aims to list a set of the most relevant metrics and performance indicators that should be considered in any measurement system.

As a second step, a detailed description of each indicator should be provided, as well as an unambiguous calculation formula and a set of suggested dimensions of analysis to be used together with each indicator.

Special attention should be given to the importance of having a sound, well defined and actionable Fraud Classification Model. In fact, a good Classification Model is the foundation for a Telco Fraud Management metrics system. Poor classification can lead to double counting or the incorrect interpretation of aggregate data. Also, if the right attributes are not identified, categorized and recorded, it is impossible to drill-down to a greater level of detail. This is essential to fully understand the real causes and impact of Fraud and to identify, design and implement the appropriate prevention strategies.

For a detailed view of a proposed Fraud Classification Model, please refer to the Fraud Classification Guidebook v1.2 (GB954).
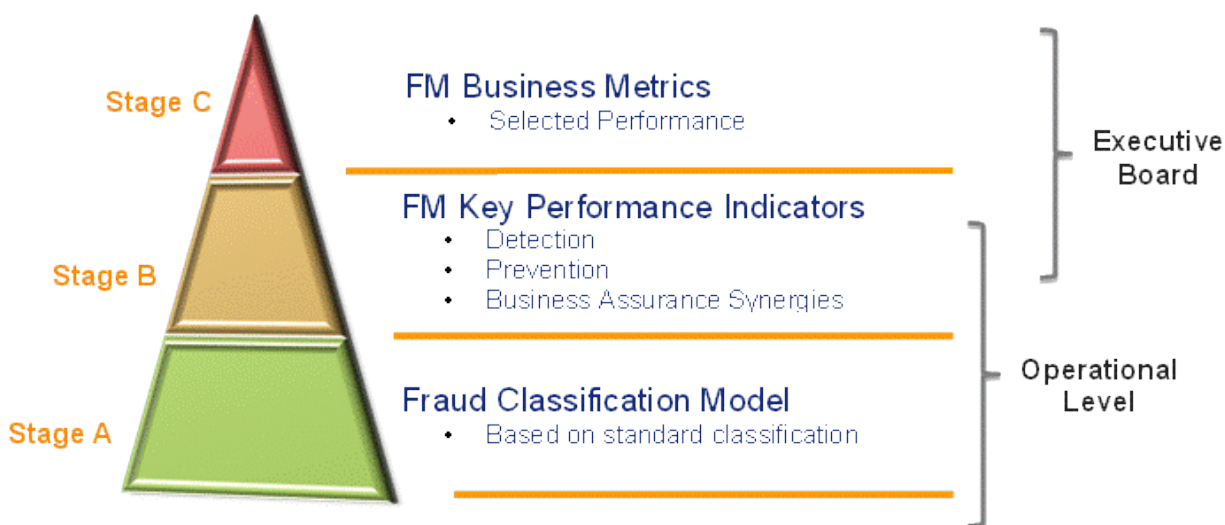
Figure 1: Stages for a good measurement framework implementation

Once developed and implemented, the Fraud Management measurement system will be used by Fraud Teams to:

- Understand the fraud environment;

- Measure and evaluate fraud cases;

- Develop mitigation strategies;

- Share and create internal visibility;

- Take investment decisions on Technical, Human, Operational and Financial resources;

- Collaborate and compare with Fraud benchmarking systems and Industry Surveys.

The tables below list and classify a set of identified measures. As stated before in this section, this is a first step for the creation of a Fraud Management Measurement System. The following phases will enrich and detail the present list, describing each measure. The naming convention and organization should be also revised.

3.1 Measures category: Loss Analysis

This category includes metrics and indicators that measure the Fraud loss and impact on the business.

Category	Metric / Indicator	Description
Loss Analysis	Fraud Loss	Total Fraud Loss amount in the period
	Prevented Loss	Total Prevented Loss amount in the period
	Fraud Loss trend	Variance from previous months in terms of value and number of incidents
	Average loss per entity	Average loss amount per account/MSISDN/dealer/…
	Average loss per Fraud cases closed	Average loss amount per Fraud cases confirmed and closed
	Fraud Loss as % of revenues	Ratio between the amount lost due to fraudulent activity and the revenues generated in a given period of time

Table 1: Measures category: Loss Analysis

3.2 Measures category: Process Effectiveness

This category includes metrics and indicators related with implementing the Process Effectiveness category.

Category	Metric / Indicator	Description
Process Effectiveness	Fraud Prevention Coverage	Fraud Prevention Coverage – as a percentage applicable to a revenue stream or Fraud Group. A 100% value should indicate that all revenue streams have active controls so that a fraud attack would not go undetected.
	Disconnected Fraudsters as % of active subscribers	Ratio between the number of disconnected fraudulent accounts and the number of active accounts
	Detection accuracy rate	Ratio between the number of positive fraud cases and the total number of cases closed during the period of analysis

Table 2: Measures category: Process Effectiveness

3.3 Measures category: Top / Bottom Analysis

This category includes a set of analyses to identify the major contributors or edges of a distribution.

Category	Metric / Indicator	Description
Top / Bottom analysis	Top N dealers in terms of Fraud Value	Top N dealers with higher accumulated fraud loss in a given period
	Top N dealers in terms of Positive Fraud Cases	Top N dealers with higher accumulated number of positive fraud cases in a given period
	Top N "Fraud Types" in terms of Fraud Value	Top N Fraud Types with higher accumulated fraud loss in a given period
	Top N "Fraud Types" in terms of Positive Fraud Cases	Top N Fraud Types with higher accumulated number of positive fraud cases in a given period
	Top N "Fraud Enablers" in terms of Fraud Value	Top N Fraud Enablers with higher accumulated fraud loss in a given period
	Top N "Fraud Enablers" in terms of Positive Fraud Cases	Top N Fraud Enablers with higher accumulated number of positive fraud cases in a given period
	Top N "Fraud Enablers" used in a given Fraud Type (value and number)	Top N Fraud Enablers with higher accumulated number of positive fraud cases (or loss value, depending on the analysis) used in a given Fraud Type in a given period
	Top N "Fraud Types" perpetrated using a given Fraud Enabler (value and number)	Top N Fraud Types with higher accumulated number of positive fraud cases (or loss value, depending on the analysis) perpetrated used in a given Fraud Enabler in a given period

Table 3: Measures category: Top/Bottom Analysis

3.4 Measures category: Process Efficiency

This category includes metrics and indicators related with implementing the Process Efficiency category.

Category	Metric / Indicator	Description
Process Efficiency	Fraud cases trend	Variance from previous months in terms of value and # of incidents
	Speed of detection	Average time a Fraudster (fraudulent subscriber) was actively perpetrating fraud on the network before being detected
	Speed of resolving	Average time between when the case was opened and when it was closed
	Cost of resolving	Average investigation costs during a specified period
	Cost of detecting	Average detection costs during a specified period

Table 4: Measures category: Process Efficiency

3.5 Measures category: Volume Analysis

This category includes metrics and indicators related with the amount of fraud cases registered

Category	Metric / Indicator	Description
Volume analysis	Fraud Cases	Number of Fraud Cases in a specific moment. Should be used together with case descriptive dimensions like Fraud Type, case status, etc.
	Opened Cases	Number of Fraud Cases opened in a specified period or moment
	Pending Cases	Number of cases pending in a specific moment
	Closed Cases	Number of cases closed in a specific period or moment
	Positive Fraud Cases	Number of cases confirmed as Fraud
	Negative Fraud Cases	Number of cases confirmed as not being Fraud

Table 5: Measures category: Volume Analysis

4. Future Work

To fully accomplish its goal of being a practical implementation guidebook that can be used by CSPs to validate their current FM processes or to implement a new process, the document should evolve in the direction of translating the processes described in the Fraud Operations Management Guide (GB947) in a practical manner by describing the chain of processes and sub-processes, the roles involved in each process, the interfaces with external processes, metrics and indicators, deliverables, etc.

In formal terms, naming conventions revision and cross-document consistency validation needs to be done. In addition, a continuous revision and content enriching will be needed in order to keep it an updated and valid tool.

5. Administrative Appendix

This Appendix provides additional background material about the TM Forum and this document.

5.1 About this document

This is a TM Forum Guidebook. The guidebook format is used when:

- o The document lays out a 'core' part of TM Forum's approach to automating business processes. Such guidebooks include the Telecom Operations Map and the Technology Integration Map, but not the detailed specifications that are developed in support of the approach.
- o Information about TM Forum policy, or goals or programs is provided, such as the Strategic Plan or Operating Plan.
- o Information about the marketplace is provided, as in the report on the size of the OSS market.

5.2 Document History

5.2.1 Version History

Version Number	Date Modified	Modified by:	Description of changes
0.1	28-SEP-2012	Raul Azevedo	Charter team and Forum submission
1.0	14-OCT-2012	Raul Azevedo	Final version after Forum review
1.1	7-NOV-2012	Alicja Kawecki	Minor style, formatting edits prior to posting and Member Evaluation
1.2	18-MAR-2013	Raul Azevedo	Comments incorporated from Member Evaluation

5.2.2 Release History

Release Number	Date Modified	Modified by:	Description of changes
0.1	28-SEP-2012	Raul Azevedo	Release to team review
1.0	14-OCT-2012	Raul Azevedo	Release after team review

5.3 Acknowledgments

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Version 1.0
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