

UNECE - Risk Management Workshop

Instituto Nacional de Estadística y Geografía

INEGI

México

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INSTITUTO NACIONAL
DE ESTADÍSTICA Y GEOGRAFÍA

Mexico's National Institute of Statistics and Geography (INEGI) is an autonomous public institution responsible for the production of statistic data regarding demographic, social, environmental and economic phenomena as well as information on government, public security, victimization and justice. INEGI is also responsible for the production of geographic and environmental information.





Demographic and social information



Economic information



Geographic and environmental information



Government, Public Security & Justice information



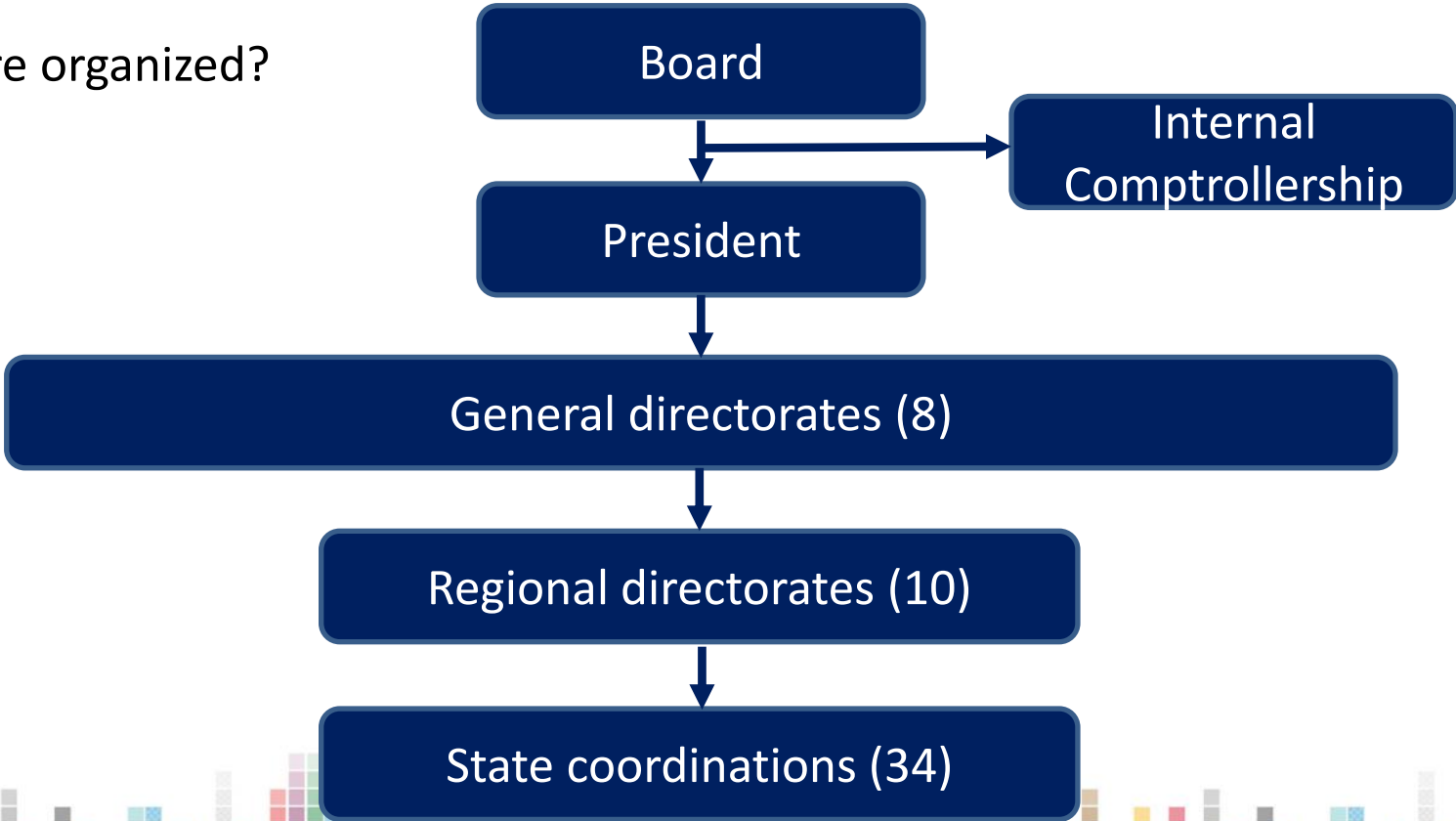
Geostatistical Framework



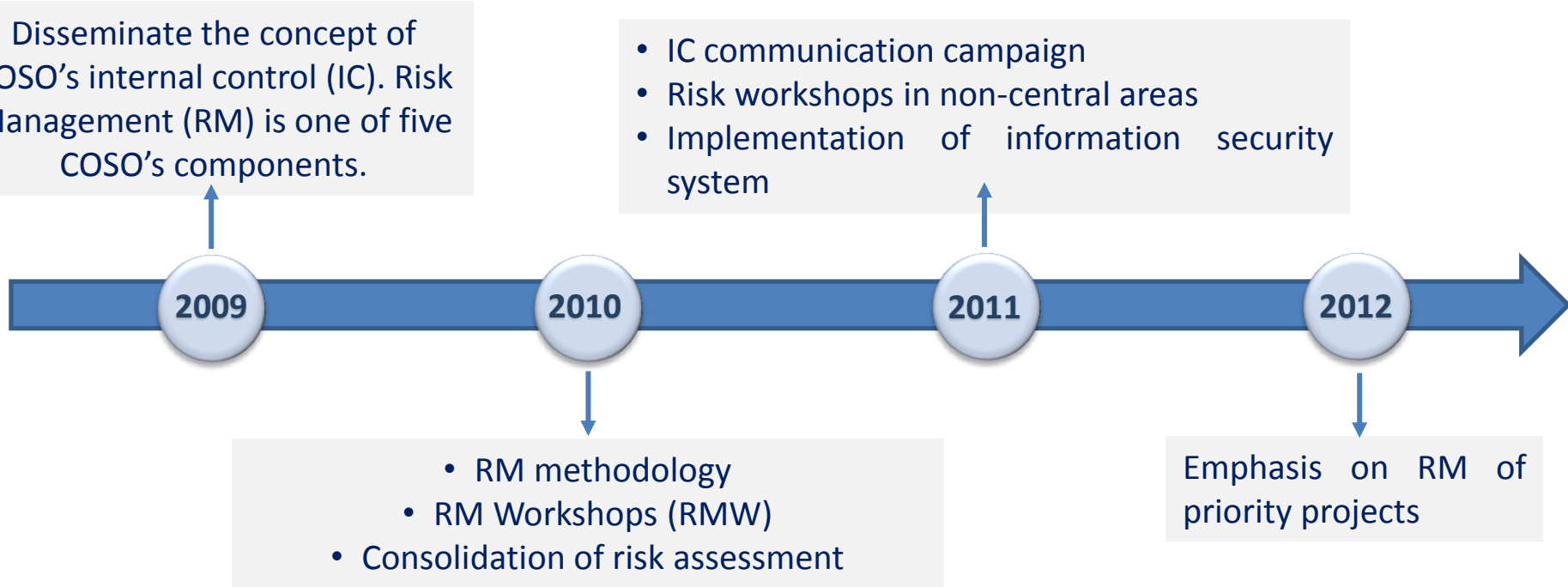
As mandated by law, INEGI also regulates and coordinates the Mexico's National System of Statistical and Geographic Information. The information it provides contributes to national development as it allows public authorities and representatives of various sectors to have a better understanding of its environment, evaluate the results of their performance, as well as the efficiency of selected public policies.



How we are organized?



Risk management: How we evolved



Risk management: How we evolved

2013

RM Matrix of census

- Share the methodology with other public institutions.
- Publication of the Internal Control Standards for INEGI.
- Creation of the Audit and Risks Committee, and Ethics Committee.

2014

RM methodology based on:

- COSO
- ISO 31000
- ISO 27000

2015

- IC Institutional self-assessment
- RMW in central and non-central areas.

- Mandatory use of the RM methodology.

➤ Risk management characteristics



Every person in daily life usually manages risks, consciously or unconsciously, although not always systematically.

Therefore, risk management is not really an additional workload. It is just a better way to perform a daily task.



Risk management is to act preventively and be prepared to face eventualities.



➤ Some common errors at identifying risks



Lack of objectivity



Underestimate the risk

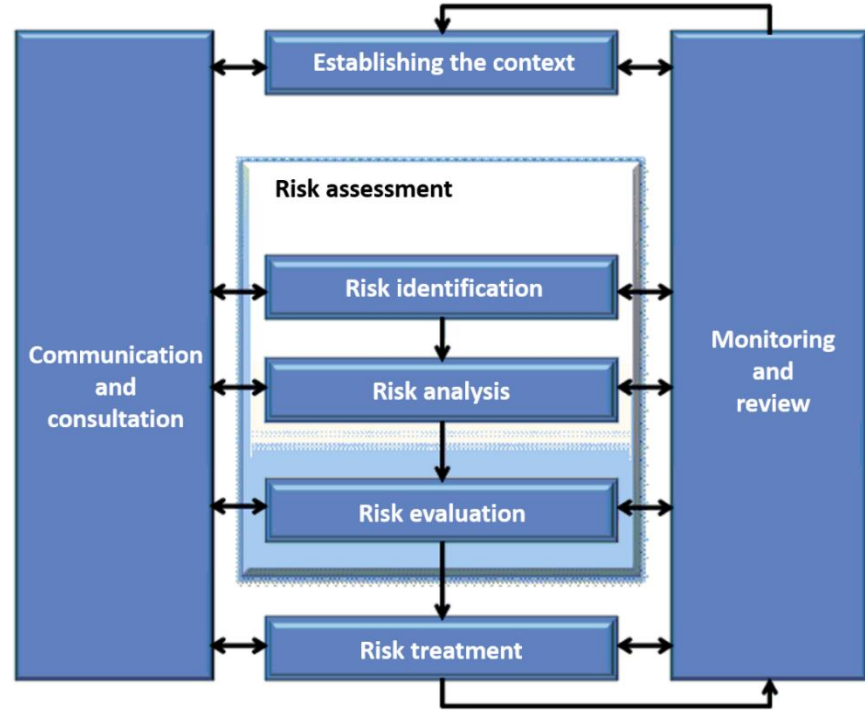


Overconfidence

"I cannot imagine any condition which would cause a ship to founder. I cannot conceive of any vital disaster happening to this vessel. Modern shipbuilding has gone beyond that."

Edward John Smith on the maiden voyage of the Adriatic in New York, 1907 (On 1912 he became the captain of the RMS Titanic).

Risk Management process



➤ Establish the context

Recognize and identify both internal and external environment in which the institution operates.



➤ Risk identification

It involves searching, recognition and registration of potential risks.

- Identify risks that may arise at each stage of the process or project.
- Classify risks in specific groups.



Current practice – Risk Matrix components

Risk analysis						
Num.	Stage	Group	Description	Risk	Cause	Effect



- Technological resources
- Financial resources
- Instruments collection
- Informants
- Social environment
- Users - Client
- Regulatory framework
- Fraud



- Human resources
- Material resources
- Technological resources
- Financial resources
- Instruments collection
- Informants
- Social environment
- Users - Clients
- Regulatory framework
- Fraud
- Goal achievement
- Information
- Information security



➤ Risk analysis

Develop an appropriate understanding of risks, determine its respective causes and the possible effects if they materialize.



Current practice – Risk Matrix components

Risk analysis

Risk analysis					
Risk	Cause	Effect	Effect classification	Present controls	
				Preventive	Corrective



- Institutional image
- Staff security
- Operational
- Economic
- Operational / Economic
- Operational / Institutional image



➤ Risk evaluation

The risks are assessed based on each of its causes and effects.

Risk assessment can be carried out at different levels of detail, depending on the information and resources available:

- Quantitative
- Semi - Quantitative
- Qualitative



Current practice – Risk Matrix components

➤ Risk evaluation

Possibility of occurrence

1	Low	Between 1% and 9%
2	Medium Low	Between 10% and 32%
3	Medium	Between 33% and 67%
4	Medium High	Between 68% and 90%
5	High	Between 91% and 100%

Impact

1	Insignificant	Risk whose materialization might have no effect or almost a null effect on the objectives achievement.
2	Low	Risk whose materialization would have little effect on the objectives achievement.
3	Moderate	Risk whose materialization might affect moderately the objectives achievement.
4	High	Risk whose materialization might affect significantly the objectives achievement.
5	Catastrophic	Risk whose materialization might affect severely the objectives achievement.

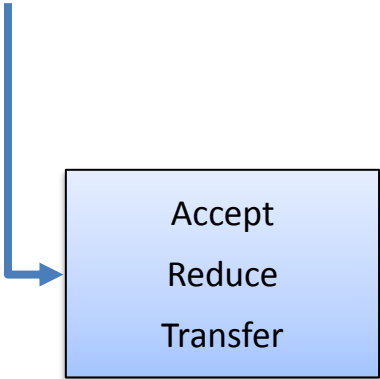


Current practice – Risk Matrix components

Risk evaluation / Risk treatment

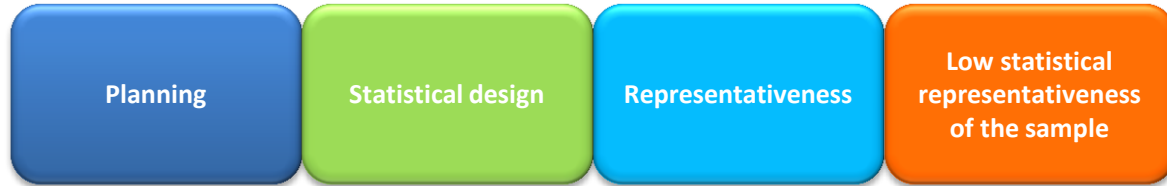
Risk evaluation			Risk treatment			
Possibility of occurrence	Impact		Risk level	Risk response	Determine control activities	
					Preventive / Responsible	Corrective / Responsible


	Catastrophic	High	Moderate	Low	Insignificant
High	Extreme	Extreme	Extreme	High	High
Medium High	Extreme	Extreme	High	High	Moderate
Medium	Extreme	Extreme	High	Moderate	Low
Medium Low	Extreme	High	Moderate	Low	Low
Low	Extreme	High	Moderate	Low	Low



Current practice – An example of 2015 Intercensal Survey

Stage / Group / Description / Risk



Risk level:  Medium-High	Preventive actions: <ul style="list-style-type: none">• Test the sample design.• Get minimum proportions per municipality to improve estimates.• Update the sampling framework to include the number of private homes.
Cause: Inadequate sample characteristics to meet statistical significance.	
Effect: Insufficient information to generate results with the scope defined for the survey.	Corrective actions: <ul style="list-style-type: none">• Adjust sample design.

Current practice – An example of 2015 Intercensal Survey

Stage / Group / Description / Risk

Information processing

Conceptual framework

Automatic validation criteria

Alteration of information

Risk level:  Medium

Cause: Poor quality in capturing information due from questionnaire design or by social phenomena.

Effect: Alteration of a high percentage of records through the validation criteria.

Preventive actions:

- Testing instruments collection.
- Perform monitoring of non-response rates for each variable.

Corrective actions:

- Perform evaluation of the implementation process of imputation using statistical techniques and if necessary make adjustments as appropriate.

Stakeholders engagement

**Working group
(responsible and key
personnel involved
in the process)**

Risk identification

Risk analysis

Risk assessment

Risk treatment

**Personnel involved
in the process**

Implementation of
controls

Internal Control

Review / Feedback

**Audit and Risk
Committee**

Presentation of risk
management
matrix



Governance / approval processes




- Guidelines
 - Design, implementation, evaluation and monitoring of institutional internal control;
 - Institutional culture of analysis and risk management;
 - Training and upgrading of public servers on internal control and risk management;
- Make recommendations and proposals on management and risk assessment; and
- Coordinate self-assessment status of the internal control of administrative units and strengthen the institutional report.

A relevant reference: 2015 Report on the Current State of Enterprise Risk Oversight * – selected key findings

1,093 surveys sent to members of the AICPA's Business and Industry group who serve in CFO or equivalent senior executive positions.

“The rapid pace of change and unanticipated disruptions in the global marketplace trigger a seemingly endless barrage of risks that can erode, or even destroy, an organization’s business model and brand. Boards of directors and executives face a tremendous challenge in identifying, assessing, and managing risks that may affect – both positively and negatively – the organization’s strategic success.”

*Research Conducted by the ERM Initiative at North Carolina State University on behalf of the American Institute of CPAs Business, Industry & Government Team.



A relevant reference: 2015 Report on the Current State of Enterprise Risk Oversight – selected key findings (continue).

- **65%** admit they **were caught off guard** by an operational surprise in the last five years.
- **25%** believe their organization has a “complete formal ERM process in place” and that finding does not differ from the prior year.
- **52%** indicate that their organization’s RM process is “not at all” or “minimally” viewed as a proprietary **strategic tool** that provides unique competitive advantage.
- **45%** have a management-level **risk committee**.
- **48%** of the largest organizations provide **explicit guidelines** for management to assess an individual risk’s probability and impact.
- **70%** of the boards of directors of the largest organizations have formally assigned **risk oversight responsibilities to a board committee**.
- **33%** of the organizations have “mostly” or “extensively” **articulated** its appetite for or **tolerance of risks in the context of strategic planning**.
- **60%** have **not provided** or only minimally provided **training** and guidance on risk management.

- Not an easy task. It requires full support from the high administrative levels and persistency.
- Institutional strengthening of internal control.
- Implementation of ISO 22301 – regarding business continuity plan, besides review / update operational continuity plans for main projects.
- Strengthen strategic planning. Improvement of risk management methodology.
- Online training courses about risk management.



I appreciate your attention and feedback!

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