



# ENTERPRISE RISK MANAGEMENT SEMINAR

**Theme: Transformational Risk management Practices  
for Professionals**

**Risk Analytics, Modelling and Automation**

**21<sup>st</sup> - 22<sup>nd</sup> Oct 2021**

**CIA, CPA Muonde Daniel,  
CFE, CISA**

Uphold public interest

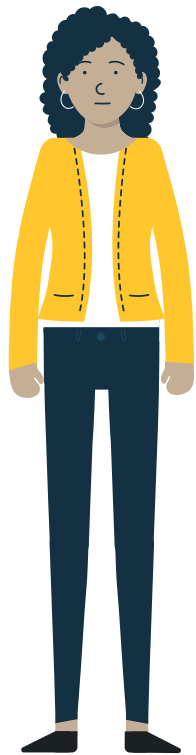
# Quote



All of life is the management of risk,  
not its elimination.

— Walterriston —

# Outcomes



1. Risk Assessment & Modelling Tools
2. Risk Automation

# Module 1



## Tools for Risk Assessment and Modelling



# Tools-Risk Identification

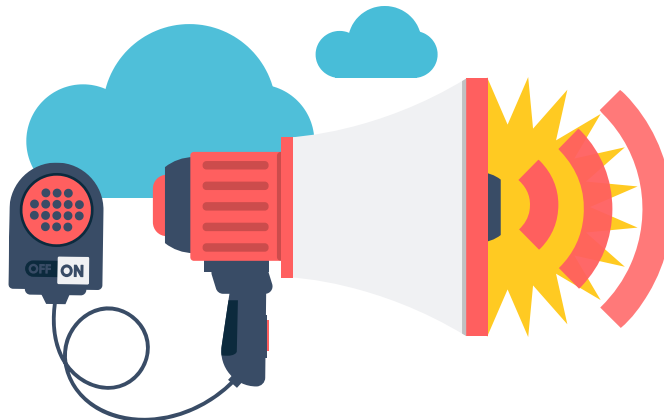


1. **Brain storming**—listing of possible risks (no wrong risks)

2. **Vulnerability assessment**—points of failure/opportunity arise.



3. **Scenario planning**—scenario modelling & possible outcomes/risks. What if analysis

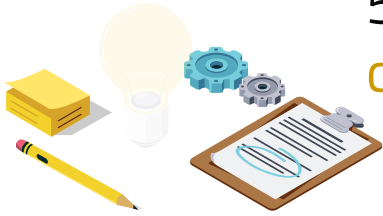


4. **Questionnaire/Survey**

# Tools-Risk Identification

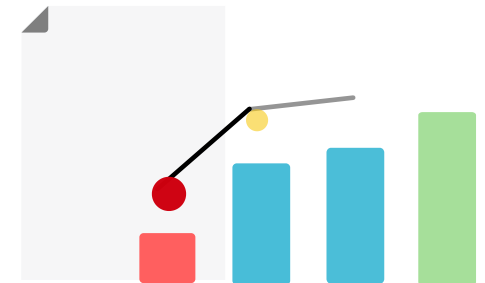


5. **Events/risk inventory**—example of risks to consider



6. **SWOT & PESTEL Analysis**—points of failure/opportunity arise

7. **Value Chain analysis**—  
process from input to output



8. **Benchmarking**—industry, similar organization

# Tools-Risk Assessment



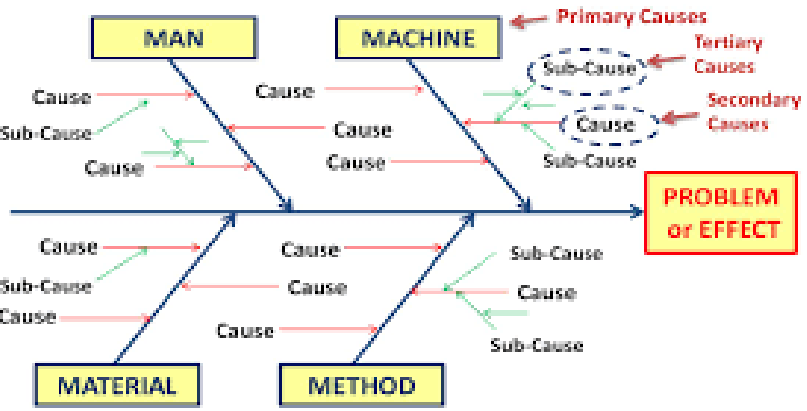
<b>Impact</b>	Catastrophic 5	5	10	15	20	25
	Significant 4	4	8	12	16	20
	Moderate 3	3	6	9	12	15
	low 2	2	4	6	8	10
	Negligible 1	1	2	3	4	5
		1 Improbable	2 Remote	3 Occasional	4 Probable	5 Frequent
		<b>Likelihood</b>				

- Catastrophic ■ Stop
- Unacceptable ■ Urgent Action
- Undesirable ■ Action
- Acceptable ■ Monitor
- Desirable ■ No Action

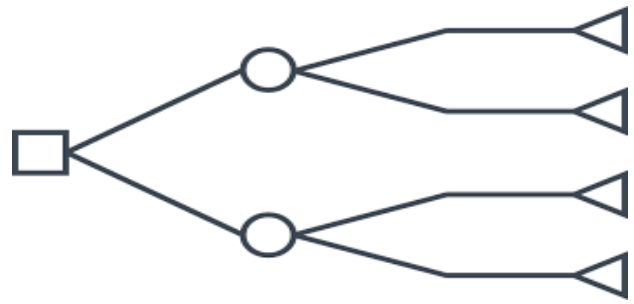
# Tools-Risk Assessment (cont'd)



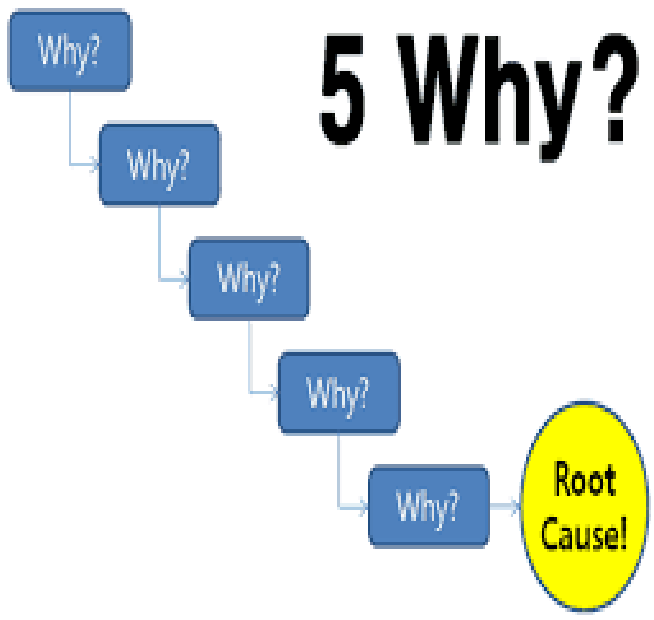
## CAUSE AND EFFECT DIAGRAM



## Fishbone Analysis

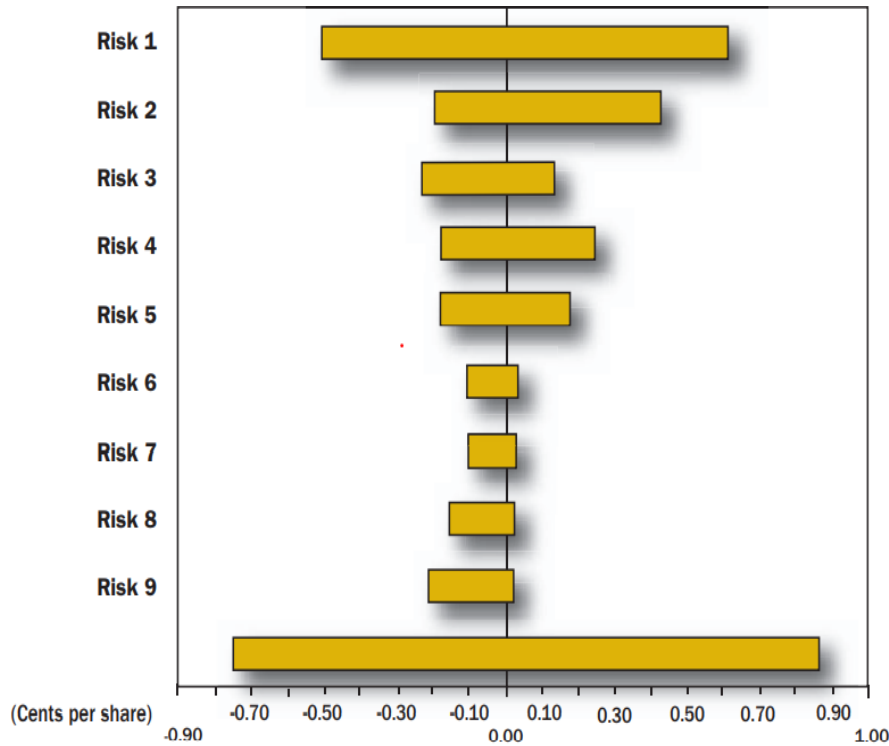


## Logic Tree/ Fault Tree



## 5 Why?

# Tools-Risk Assessment (Cont'd)



Tornado Chart: assess impact of each risk to specific objective



**Failure Mode Effects Analysis**-- potential undesired outcomes & their causes (similar to vulnerability analysis)

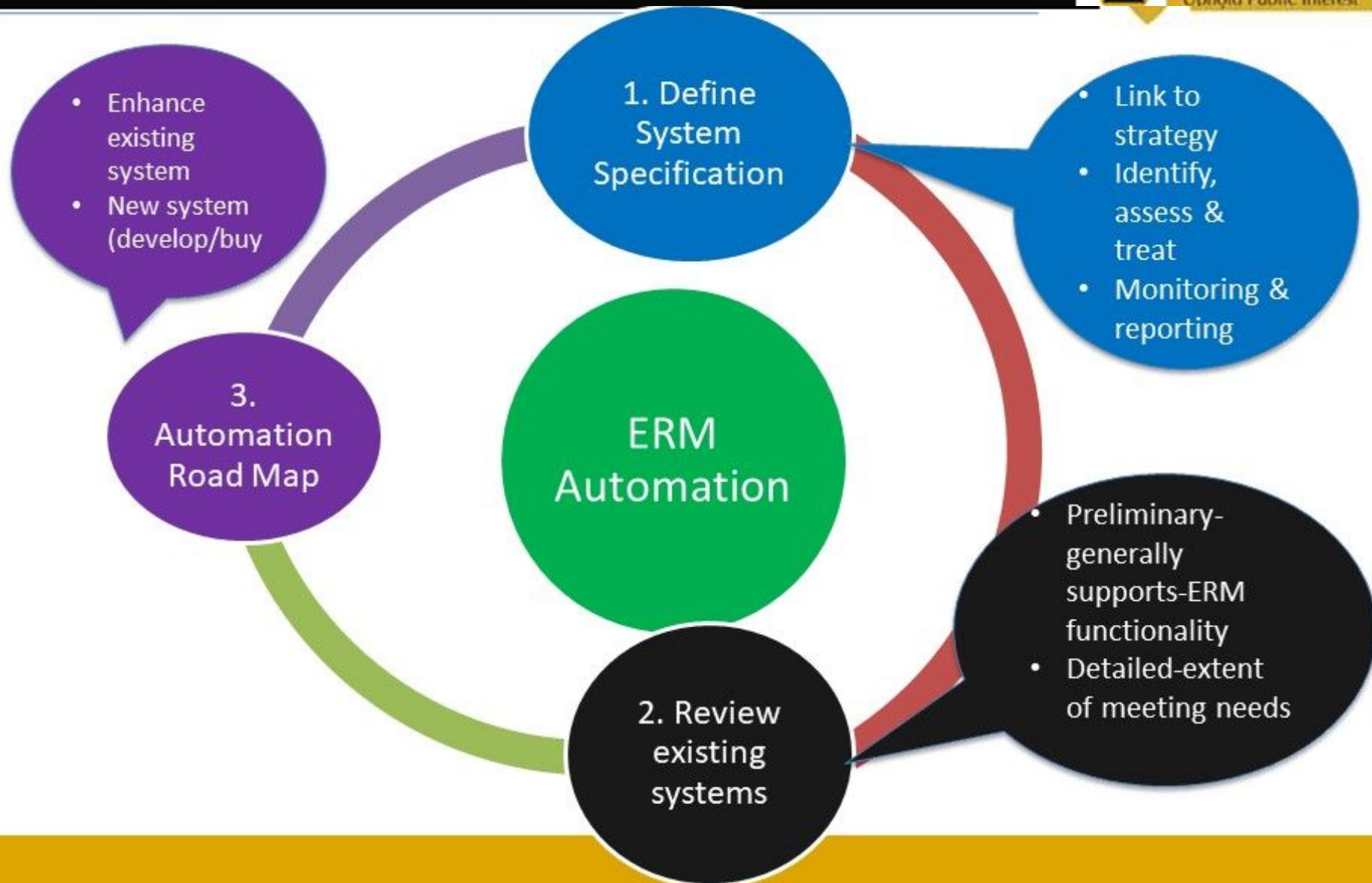
# Module 2



## The Journey Towards Effective Risk Automation



# Automation Approach



# Specifications



## 1. Level

Corporate  
Directorate  
Department  
Project  
Event

## 3. Objectives

Objective Reference  
Objective Description  
KPI Description  
KPI Target  
Tolerance per KPI

## 5. Risks

Risk Reference  
Risk Description  
Drivers/Cause  
KRI Description  
KRI Limit  
Date / Period

## 7. Risk Assessment

Likelihood score  
Impact Score  
Overall score  
Effect of Risk  
Impact of Risk  
Date / Period

## 9. Risk Treatment

Treatment strategy  
Treatment Action  
Responsible Person  
Due date  
Budget  
Date / Period

## 11. Incidents

Incident Reference  
Incident Type  
Related KRI  
Description  
Unit of measure  
Incident Date  
Value of incident

## 2. User Management

User groups  
Group rights  
Users

## 4. Objective Performance

Period  
KPI value (actual performance)  
Performance Variance Analysis

## 6. KRI Performance

Period  
KRI Value (actual at the reporting time)

## 8. Risk Assessment Criteria

Risk rating factors  
Likelihood rating criteria  
Impact rating criteria

## 10. Implementation Status

Date  
Treatment action implementation level

## Reporting

12. Performance reporting\*

13. Risk reporting\*

14. Performance versus Risk reporting\*

# Existing Systems Analysis



1. Level	3. Objectives	5. Risks	7. Risk Assessment	9. Risk Treatment	11. Incidents
Corporate	Objective Reference	Risk Reference	Likelihood score	Date / Period	Incident Reference
Directorate	Objective Description	Risk Description	Impact Score	Treatment Action	Incident Type
Department		Drivers/Causes	Overall score	Responsible Person	Related KRI
Project				Due date	Description
Event				Budget	Unit of measure
	KPI Description	KRI Description	Date / Period	Treatment strategy	Incident Date
	KPI Target	KRI Limit	Effect of Risk		Value of incident
	Tolerance per KPI	Date / Period	Impact of Risk		
2. User Management	4. Objective Performance	6. KRI Performance	8. Risk Assessment Criteria	10. Implementation Status	
User groups	Period	Period	Risk rating factors	Date	
Group rights	KPI value (actual performance)	KRI Value (actual at the reporting time)	Likelihood rating criteria	Treatment action implementation level	
Users	Performance Variance Analysis		Impact rating criteria		

Not available/can't configure

Available/can be configured without re-designing the system

# Existing Systems Analysis (cont'd)



## Reporting

### 12. Performance Reporting

- i. KPI values and variance across periods against performance tolerance

### 13. Risk Reporting

- i. Risk register extract
- ii. Trend analysis of top risks
- iii. KRI values and variance across periods against threshold
- iv. Risk rating across periods
- v. Risk ranking across periods
- vi. Risk heat map
- vii. Treatment action status and success rate
- viii. Risks per risk owner or person responsible for treatment action
- ix. Incidents report

### 14. Performance vs Risk reporting

- i. Objectives vs risks matrix
- ii. KPIs and KRIs per Objective
- iii. Trends and values of KPIs, KRIs and incidents across periods

# Automation Road Map



System	Score	Assessment Outcome	Decision	Resources (Kes)	Responsible
A	70%	To be considered	vendor and see if modifications	X	C
B	40%	Partially meets	can be developed	Y	D
C	20%	Lacks key functionality	Drop		

END



*Thank  
you*





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