Building a Risk Assessment Process from the Ground Up

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Session Objectives

- To walk through detailed steps for building a solid risk assessment process – from consideration for building the audit universe to audit execution
  - Risk assessments are the foundation to solid risk-based auditing
  - Not intended to tell you what to do, but, instead, how to start or what to consider
- For beginner, intermediate internal audit, senior, manager, director, VP interested in risk assessments and the annual audit planning process

About Me

- Director of Professional Practices at Bank of the West (BNP Paribas Group)
- CPA (inactive) and CISA
- Financial services experience (broker-dealer, asset management, banking, payment card, insurance)
- 17+ years external/internal audit experience
- 4+ years in vendor management
- 5+ years in accounting

About Bank of the West

- Founded in 1874
- $63.3 billion in assets
- Nearly 700 retail and commercial banking locations in 19 Western and Midwestern states
- Subsidiary of BNP Paribas, a top global financial institution
  - present in more than 85 countries
  - the company has more than 200,000 employees

A LITTLE ABOUT YOU

Why are You Here?

- Revisiting your current risk assessment process
- Preparing to start annual risk assessment process
- Wanting to learn about risk assessments
- Other reasons?

Your Interaction with Risk Assessments

- Preparer
- Reviewer
- User

Approximate Number of AEs at Your Organization

- 75 or less
- Between 76 and 150
- Over 150

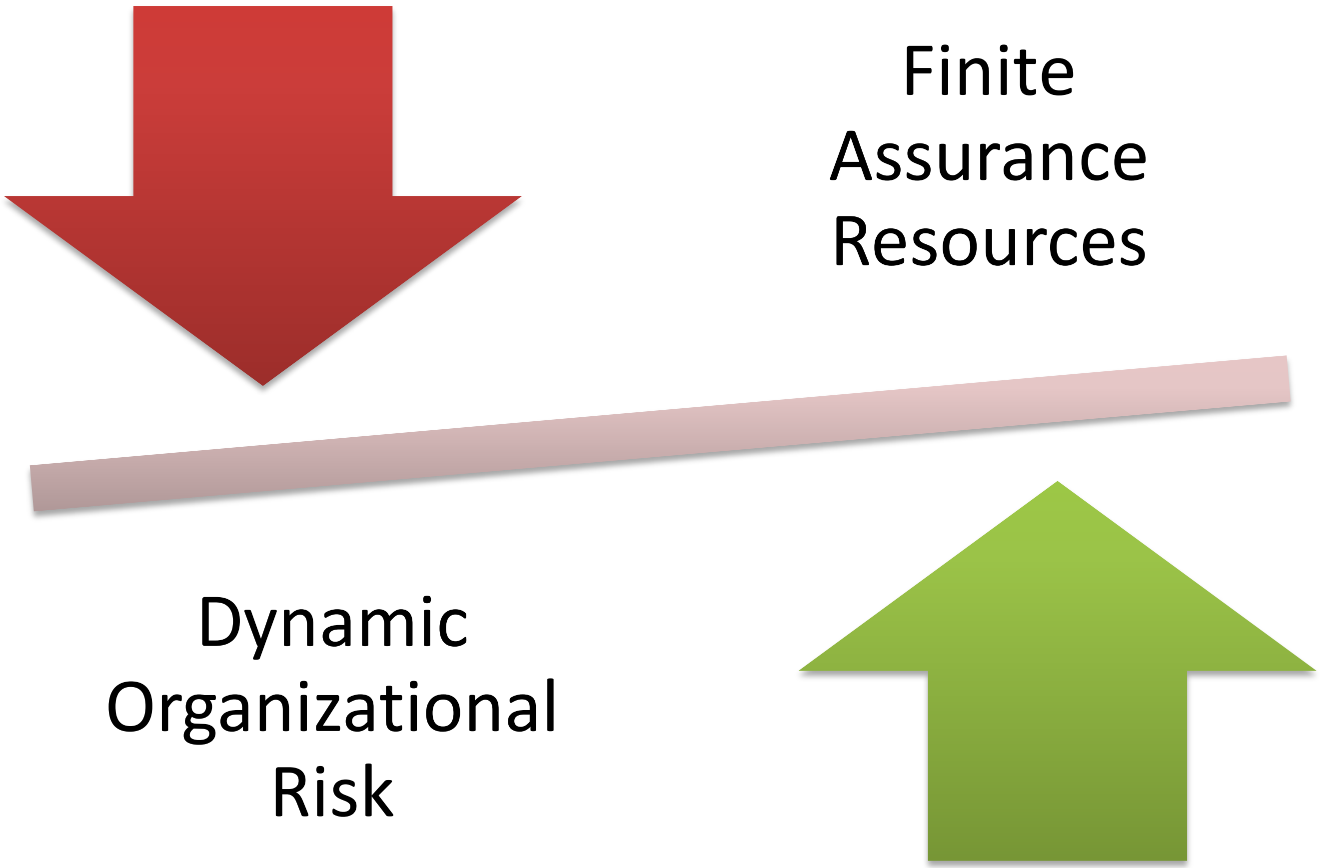
Audit Cycles used at Your Organization

- 1/2/3 year
- 1/3/5 year
- None
- Something else

PURPOSE OF RISK ASSESSMENTS

The Basic Building Blocks

Balance of Risk vs. Resources

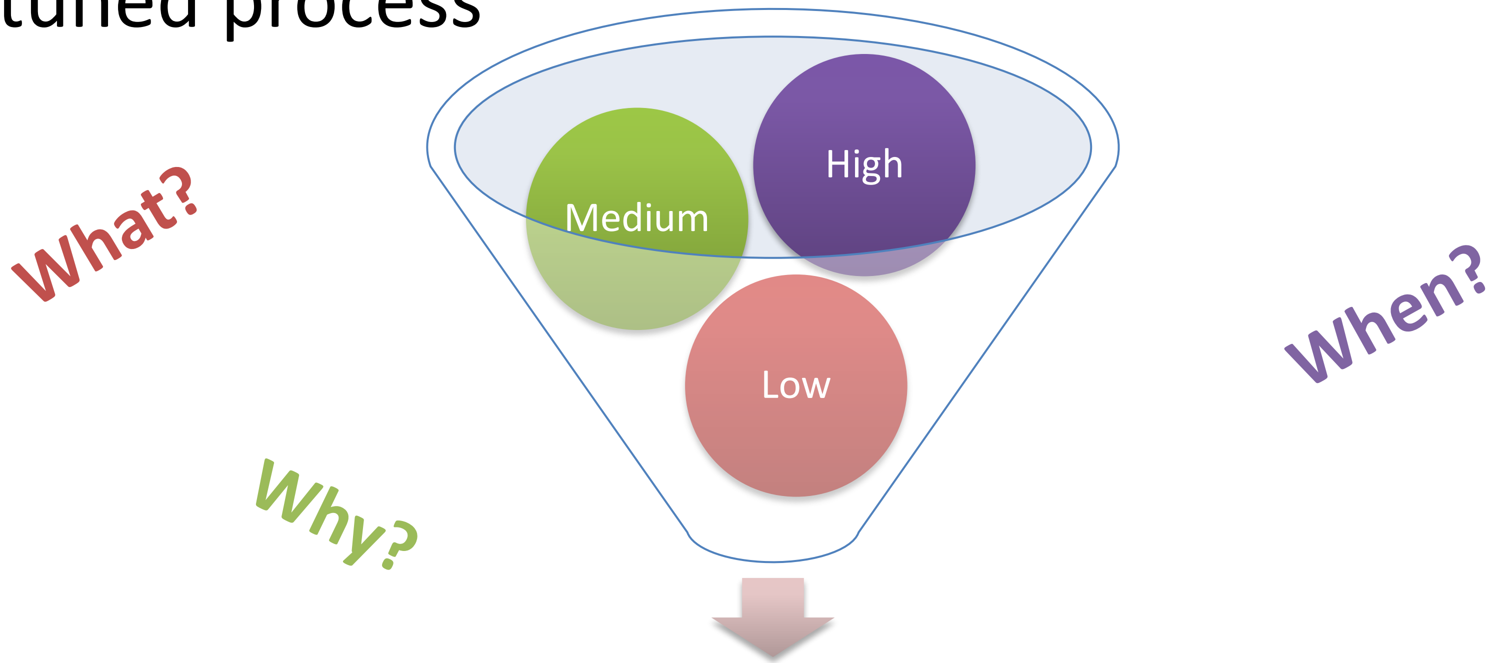


Why Risk Assessments?

- Helps an Internal Audit function allocate a finite set of assurance resources against a set of dynamic set of risks
- Determine the relative risk for an organization's long list of risks
- Plan multi-year assurance coverage based on that risk in order to determine resource needs
- Allocate assurance resources for audit planning
- Focus on higher areas of risk during an audit

Why Risk Assessments?

Using risk assessments to determine what to cover, when to cover, and why cover via a risk-attuned process



Higher risk entities

The Process

Auditable Entities
Audit Universe
Risk Assessment
Annual Audit Plan
Audit Execution

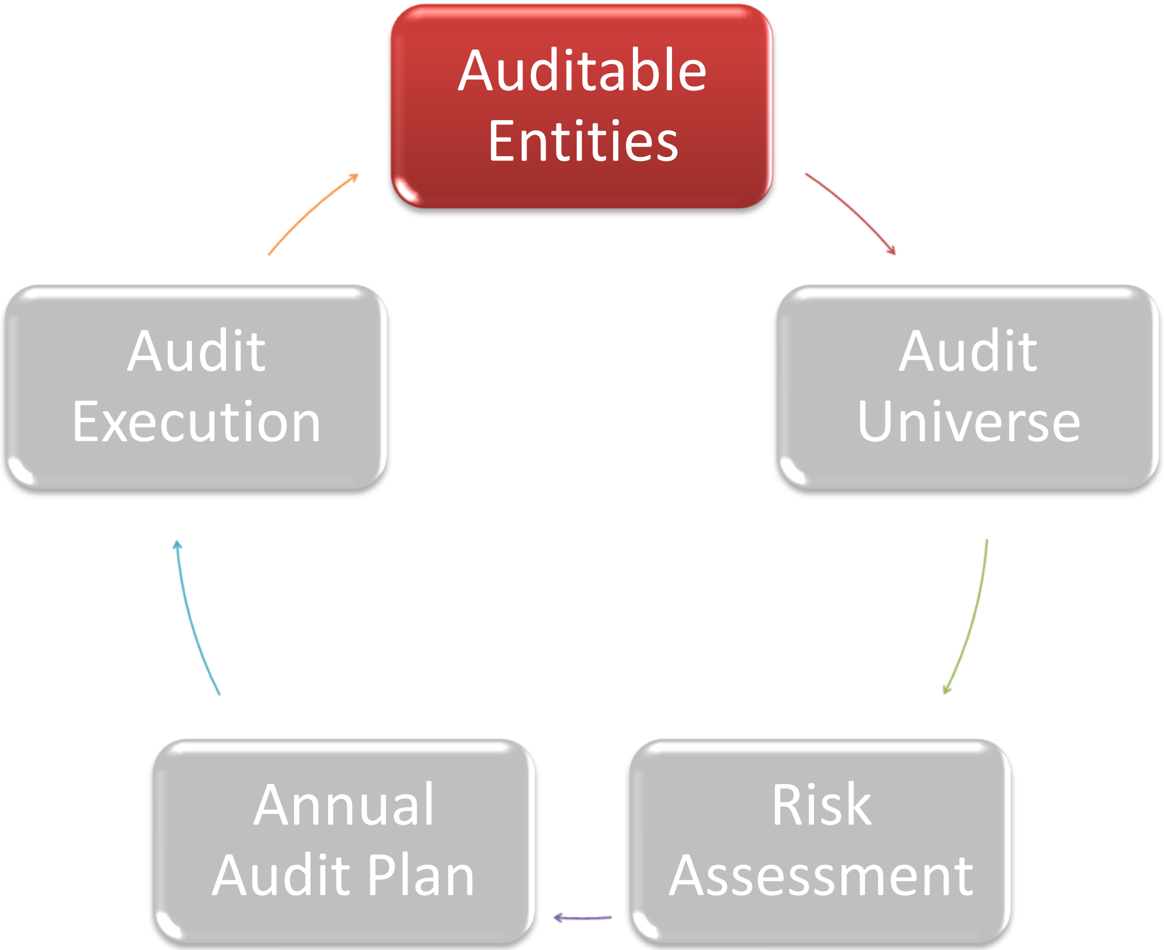
Decisions and Implications

- Before starting, key decisions must be made
- Use of Quantitative vs. Qualitative risk assessments
- What the auditable entity units will look like and the number of auditable entities in the universe
  – Granular vs. Non-granular
  – Organization vs. Functional vs. Thematic
- Rating levels and their respective definitions

Where to Start?

- Definitions, policies, and standards
  - Critical to have definitions, policies, and standards
  - Without them, the process WILL BE FLAWED
- Identify qualitative and quantitative risk factors relevant to your organization
- Risk assessments performed by other units will help validate your risk assessments

The Process


Auditable Entities
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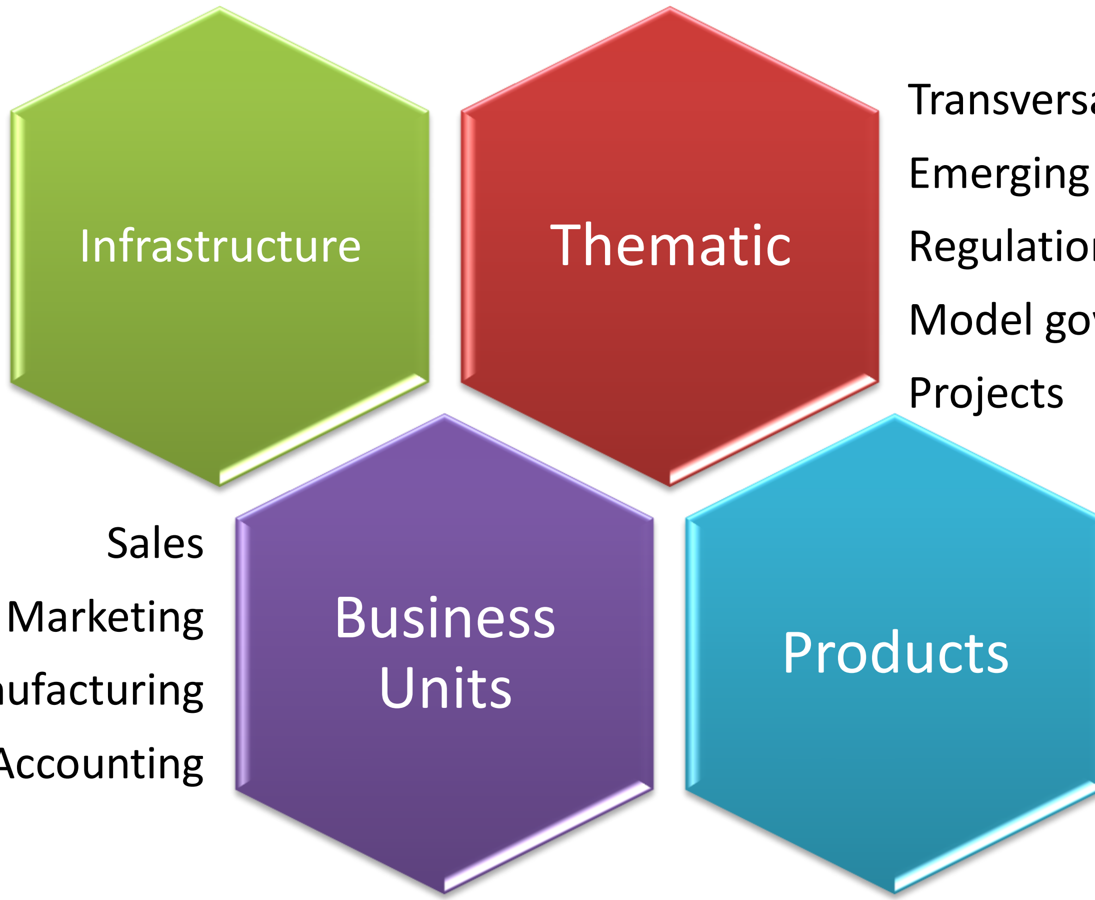
Auditable Entities

- Establishing related units of processes/businesses/products/investments/support infrastructure that is likely to be audited together
- Don’t be too high-level
  - Difficult to determine when the entity has been sufficiently audited for coverage purposes
- Don’t be too granular
  - Difficult to allocate resources and have meaningful results

Auditable Entity Types



Network
Databases
OS
Data Center

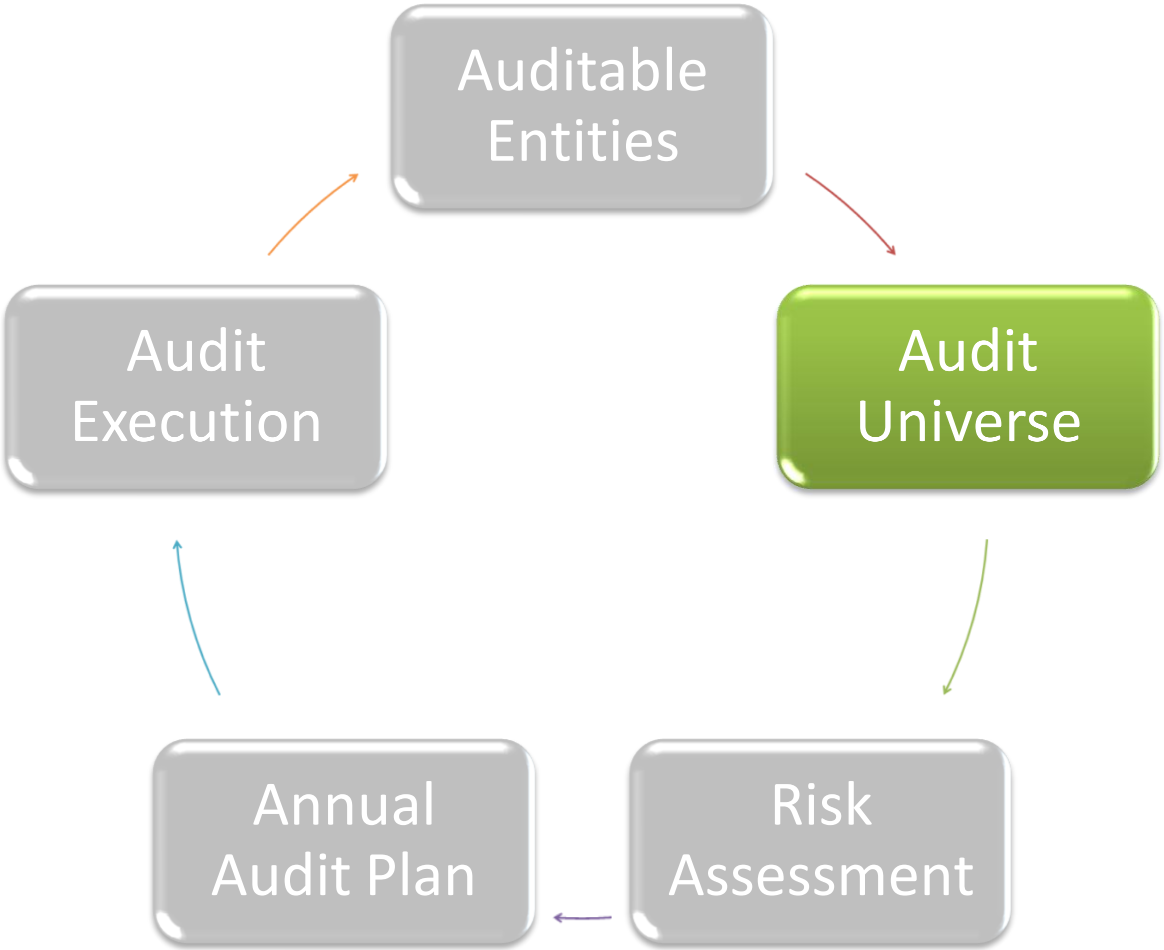
Transversal Risk
Emerging Risks
Regulations
Model governance
Projects

Sales
Marketing
Manufacturing
Accounting

Passenger Auto
Trucks
Marine
Consumer
Commercial

NOTE: Some thematic entities could be short-lived!

The Process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Audit Universe

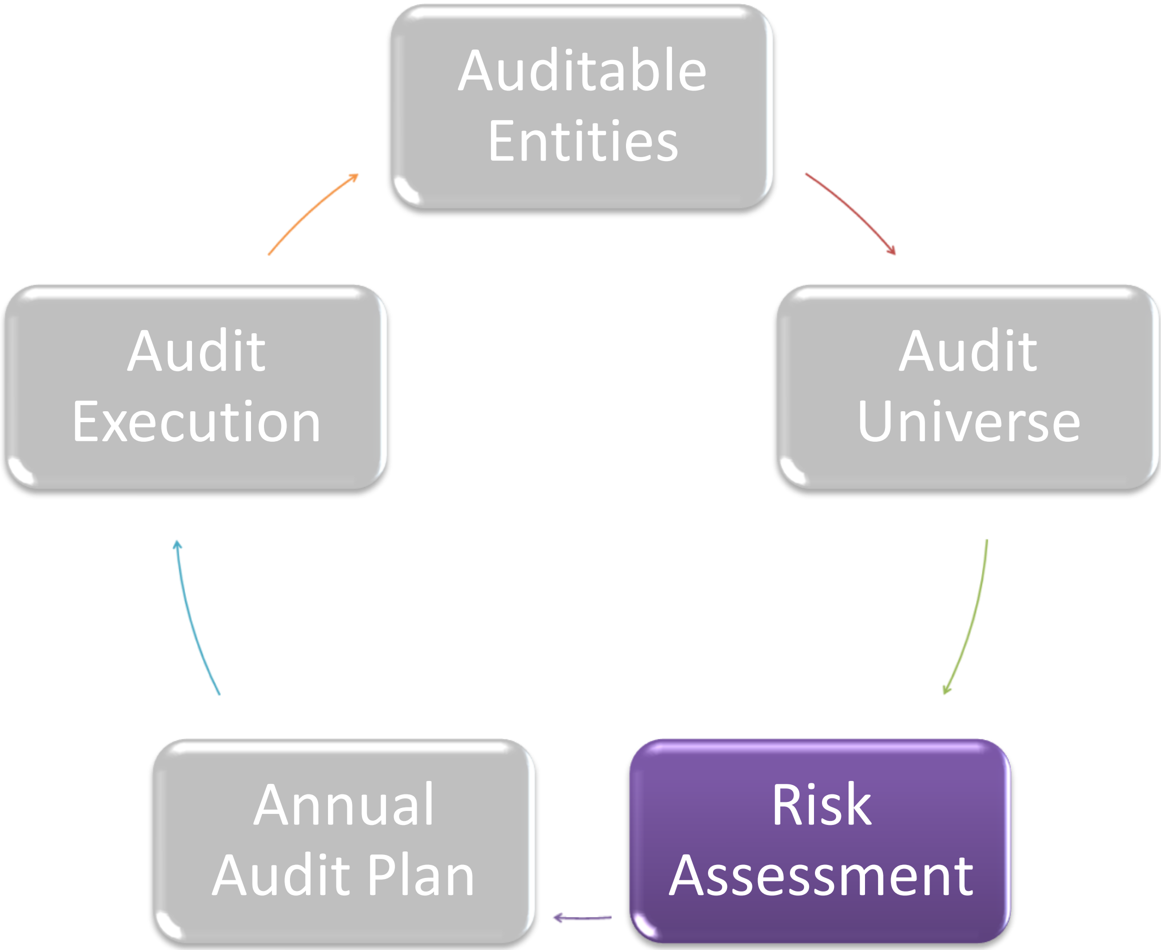
- Complete listing of everything that could be and should be audited over a period of time

$$\text{Audit Universe} = \sum \text{Auditable Entities}$$

Validate Audit Universe/Entities

- Validate the completeness of the audit universe/entities against
  - Organization charts
  - Management/Board view of the organization
  - Human Resource records
  - Legal Entities from Legal
  - Management Self-Assessments
  - Emerging risks

The Process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Purpose and Objective

- Risk Assessments (RA) provide the basis for the formulation of the annual audit plan and risk-based allocation of assurance resources

Timing of Risk Assessments

Basic Components

- Background information
  - Provides useful context information to determine which factors have the most impact for the entity and may need to be considered during next audit
- Risk assessment results
  - The assessment based on the applicable definitions
- Supporting rationale
  - The reason why a rating was chosen
  - Provides transparency so that others understand the drivers to the entity's risk assessment

Some Different Approaches

- Scorecard
  - Assigning numeric scores to various factors
  - Using both quantitative and qualitative elements to assign scores
- Quantitative
  - Using objective measures
- Qualitative
  - Using subjective measures
- Hybrid
  - A combination of some or all of the above ← **IDEAL**

Risk Assessment Scorecard

Application Development Team

Risk Factor	Score (1-10)	Weight	Weighted Score	Comments
Significance	10	25%	2.50	
Complexity	9	10%	0.90	
Management	2	25%	0.50	Stable management team
:	2	5%	0.10	
Date of last review	-	15%	-	in 2012
Prior audit findings	7	20%	1.40	Number of areas had findings
	Total	100%	5.40	

Simple Risk Assessment Summary

Auditable Entity	Inherent Risk	Control Risk	Residual Risk
Business Line A	H	M	H
Business Line B	M	H	M
.			
Marketing	L	M	L
Accounting	L	L	L
Human Resources	M	M	M
.			
.			
Operating Systems	H	M	H
Networks	H	L	M
User Access Management	M	H	M
Databases	M	L	M
SDLC	L	L	L
Change & Problem Management	H	M	H
.			
Thematic-Privacy	M	M	M

Simple Risk Assessment Summary (2)

- Adding numerical elements for impact and likelihood

Auditable Entity	Impact (1-5)	Likelihood (1-5)	Score	Inherent Risk	Control Risk	Residual Risk
Business Line A	5	5	25	H	M	H
Business Line B	4	3	12	M	H	M
.						
Marketing	2	3	6	L	M	L
Accounting	2	4	8	L	L	L
Human Resources	3	4	12	M	M	M
.						
Operating Systems	4	5	20	H	M	H
Networks	5	4	20	H	L	M
User Access Management	3	5	15	M	H	M
Databases	3	5	15	M	L	M
SDLC	3	3	9	L	L	L
Change & Problem Management	4	5	20	H	M	H
.						
Thematic-Privacy	5	3	15	M	M	M

Where to Divide the Audit Universe?

- Organizations can divide the auditable entities based on:
  - Relative risk scores (e.g., top X% are high)
  - Absolute risk scores (e.g., @ >59 then high)
  - Natural breaks

Auditable Entity	Risk Score	Rating
Business Line A	80	High
.	70	
Thematic-Privacy	62	
User Access Management	60	
Business Line B	55	Medium
.	55	
Change & Problem Mgmt	49	
Networks	45	
Databases	45	
Accounting	40	
Human Resources	35	
Operating Systems	35	
.	29	Low
SDLC	20	
Marketing	19	
.	15	

INHERENT RISK

Inherent Risk

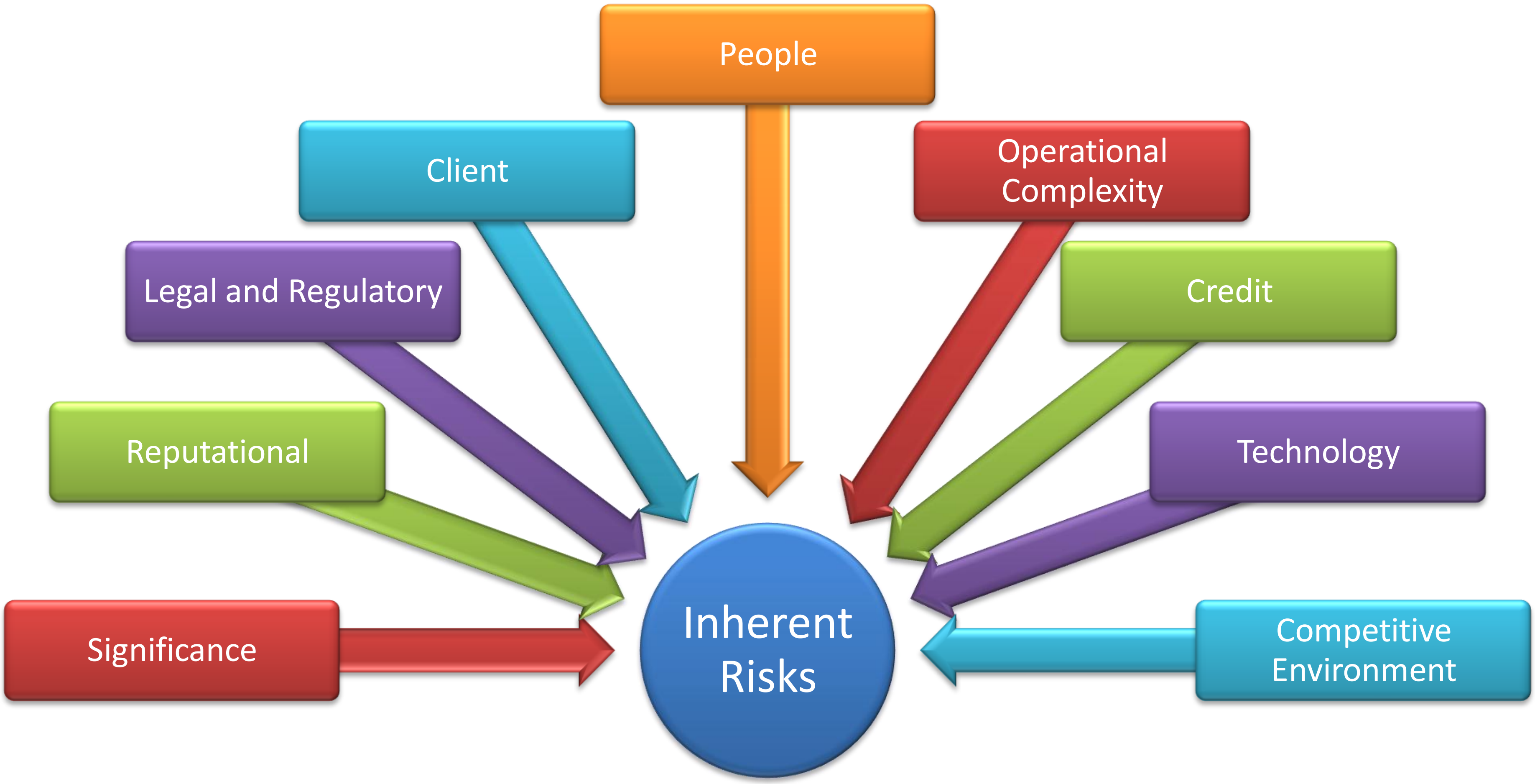
- As defined by the IIA, **Inherent Risk** is:
  - the status of risk (measured through impact and likelihood) without taking account of any risk management activities (i.e., controls) that the organization may already have in place
- When assessing inherent risk, consider what could/has happened for the auditable entity or other similar institutions
  - "*It could not happen here because we are better controlled*" should never be part of the evaluation of inherent risk!

Another to Think About Inherent Risk

- Think of what happens when a bomb explodes (impact)

- Think of how often this is likely to happen (likelihood)

Inherent Risk Factors



Inherent Risk – Impact

- Each risk should be rated (e.g., High, Medium, Low) where relevant for the auditable entity
- When deemed not relevant, a rationale should be provided
  - Not all factors apply to all auditable entities, which should be explained within the risk assessment

Impact Criteria

High

Impact is considered severe, which adversely effects the auditable entity's ability to meet its core objectives. Impact could be mid- to long-term

Medium

Impact is considered moderate, which may have some effect on the auditable entity's ability to meet its core objectives. Impact is short-term

Low

Impact is minimal with little or no effect on the auditable entity's core objectives

Start here…

Inherent Risk – Likelihood

- Each risk factor should be assessed for the likelihood of materializing (e.g., Likely, Probable, Remote) for the auditable entity
- When considering likelihood, consider experience at the entity/industry over the course of the last 5-7 years
- Remember that the quality of controls should not be considered at this point!

Inherent Risk - Likelihood

Likely[1]

Has[2] or likely to occur at least once a year

Probable[1]

Has[2] or likely to occur within a 1 to 7 year period

Remote

Has[2] not occurred and unlikely to occur within the next 7 years

Start here…

[1] When determining whether a recent occurrence indicates a likely vs. probable likelihood, look back at the last 7 years to determine the frequency of occurrence

[2] Based on experience within the organization or within the industry

Determining Inherent Risks

Inherent Risk is a product of:

Results are depicted as follows:

Inherent Risk		Likelihood		
		Likely	Probable	Remote
Impact	High	High	High	Medium
	Medium	High	Medium	Low
	Low	Medium	Low	Low

Overview

BEFORE STARTING…

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Not all Risk Factors are Alike!

Every auditable entity will have different drivers and sources of risk!

Risk factors with significant influence the overall inherent risk

Risk factors with immaterial influence on the overall inherent risk

Drivers of Primary Risk Factors

Every auditable entity will have different drivers and sources of risk!

RISK FACTORS

Risk Factors

SIGNIFICANCE

Significance

- Measures the relative financial significance of the entity to the organization as a whole. Depending on the nature of the entity, different financial benchmarks may be used
- Benchmarks to consider include: deposits, loans, revenues, expenses, net income, and/or expected losses
- When choosing the benchmark(s), careful consideration must be taken to understand why a chosen benchmark was the most suitable financial factor to use
- Answers the question of "why is this auditable entity financially significant for the organization?"

Significance: Impact Considerations

High

Revenue, deposits, loans, net income, expenses, and/or expected losses are material (>20%) for the Bank

Medium

Revenue, deposits, loans, net income, expenses, and/or expected losses are material (between 10-20%) of the Bank

Low

Revenue, deposits, loans, net income, expenses, and/or expected losses are material (<10%) of the Bank

Risk Factors

CLIENT

Client

- Measures the relative impact to the organization’s ability serve its clients
- Consider the number, type of clients, and nature services that could be affected from a realized risk event for the entity
- Severe impact to client and services may also have an reputational impact as well
- The larger the client base that is served through an auditable entity the greater the potential impact. As such, key operating functions, core systems, and infrastructure will likely have a largest potential impact to clients

Client: Impact Considerations

High

Severe service failure to all customers* or service types

Medium

Major service failure across a major customer* group or service type

Low

Operational failure impacts a number of clients* but is isolated

* Clients only and not employees

Risk Factors

REPUTATIONAL

Reputational

- Measures potential reputational impact from activities of the entity
- Consider the nature of the entity and the customers/activities that could give rise to reputational damage. The customers/geographies/business for the entity activities could affect the speed and dispersion of negative publicity
- Would the reputational damage be covered by national, regional, or local media?
- Who would care? Would the general public, regulators, or only a small group of interested parties care?

Reputational: Impact Considerations

High

Negative impact is nationwide and is widely public

Medium

Negative impact is regional with widespread publicity, but confined to a limited number of parties

Low

Negative impact is isolated with little or no publicity

Risk Factors

LEGAL AND REGULATORY

Legal and Regulatory

- Measures the severity of regulatory and legal risks for the entity
- Consideration should be given to the number, types, and complexity of regulations/contracts that the entity is subjected to and the nature/range penalties for non-compliance. This is sometimes tied to the reputational impact as well.
- Regulatory issues from other financial institutions may also provide a barometer to measure potential outcomes for similar breaches.

Legal and Regulatory: Impact Considerations

High

Public regulatory fines/censure or major litigation. Significant breach of rules, regulations, or contracts

Medium

Regulatory censure or action. Breach of rules, regulations, or contracts

Low

Isolated breach of regulatory or contractual obligations

Risk Factors

PEOPLE

People

Measures the impact that people (i.e., employees) have on the entities' ability to achieve its business objectives (i.e., serve its clients, meet regulatory requirement, fulfill critical business functions)

Consider the nature of the tasks, required skillsets, transferability of skills, stability of the workforce, and ease of recruiting for the entity

People: Impact Considerations

High

Key person risk. Specialized skillset that is not easily replaceable. Significant staff turnover >15%

Medium

Specialized skills are used, but can be replaced with some effort and time, or with existing resources from other areas. Staff turnover <15%

Low

Skillset is readily available in the market. Stable team environment

Risk Factors

OPERATIONAL COMPLEXITY

Operational Complexity

- Measures the complexity of operations and its impact on the entities' ability to achieve its business objectives (i.e., serve its clients, meet regulatory requirement, fulfill critical business functions)
- Consider the number of interdependencies (i.e., mutual reliance on processing between this entity and other entities) and handoffs (i.e., passing processing control to/from this entity and other entities)
- Also, consider the effect and ability for the business processes to be handed-off in the event of a business disruption
- The greater the number of interdependencies and handoffs the greater the impact

Operational Complexity: Impact Considerations

High

High-degree of interdependencies and hand-offs with many different areas. Key processes cannot be easily performed at alternate locations

Medium

High-degree of interdependencies **or** hand-offs with a few different areas. High degree of automation of key processes

Low

Limited hand-offs and interdependencies. Processing not constrained to a single location

Risk Factors

CREDIT

Credit

Measures the impact of credit exposure relative to the organization as a whole

Consideration is given to:

- the significance of the auditable entity's Risk Based Capital, calculated as a percentage of Total Bank Risk based Capital
- the significance of the year over year change in the amount of Risk Based Capital of the auditable entity

Credit: Impact Considerations

High

Risk based capital (RBC) >20% of total RBC or annual change of >20% in amount of RBC

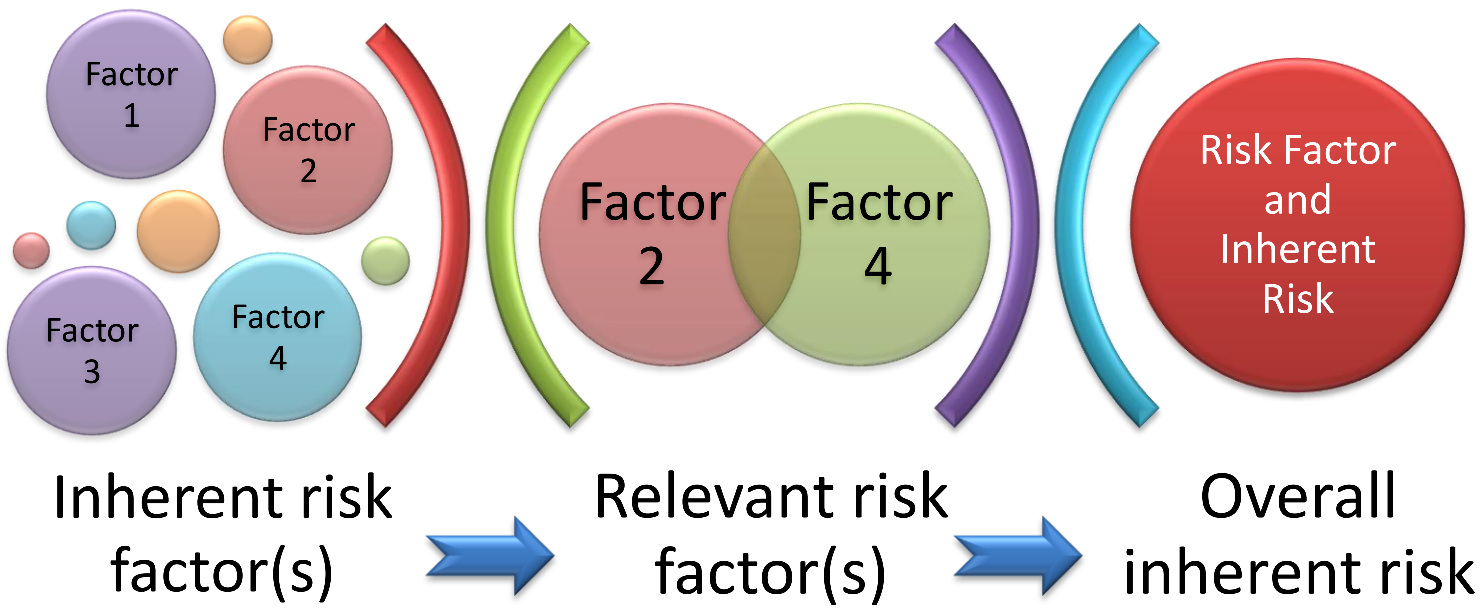
Medium

Risk based capital (RBC) between 10-20% of total RBC or annual change between 15-20% in amount of RBC

Low

Risk based capital (RBC) between 0-10% of total RBC or annual change between 0-15% in amount of RBC

Overall Inherent Risk



Overall Inherent Risk

- From the various risk factors rated, identify those factor(s) which should drive the overall rating
- The rating should not be an average or simply based on the most severe rating
- Based on your assessment of the inherent risk factors, select the most relevant drivers and based

QUALITY OF CONTROLS

Quality of Control Indicators

Start here...

Assessment	Control Indicators
Do Not Know	➢ New entity (rather than an entity separated out from an existing entity) ➢ No recent assessments with the last 4 year ➢ Used in very limited situations
Unsatisfactory	➢ Recent internal reviews or external examinations rated as "Unsatisfactory" with a number of critical rated findings still unresolved ➢ High error rate (>10%) or significant (>$1MM) actual losses ➢ Known, significant control gaps exist ➢ General management disregard over risks/controls
Marginally Satisfactory	➢ Recent internal reviews or external examinations rated as "Marginally Satisfactory" or worse with a number of critical findings still unresolved ➢ Moderate error rate (<10%) or moderate (between $500K and $1MM) actual losses ➢ Number of refused recommendations ➢ Known control gaps exist, but does not significantly impact the entities ability to achieve its objectives ➢ Lack of proactivity over management of risk/control
Generally Satisfactory	➢ Recent internal reviews or external examinations rated as "Generally Satisfactory" or worse with most critical findings resolved ➢ Negligible error rate (<5%) or insignificant (<$500K) actual losses ➢ Findings show general proactivity in the management of risk/controls ➢ No known control gaps exist
Satisfactory	➢ Recent internal reviews and external examinations rated as "Satisfactory" ➢ Findings from all previous internal reviews and external examinations have been remediated ➢ Proactive management of risk/controls. ➢ No known control gaps and minimal actual operating losses

Overview

RESIDUAL RISK

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Residual Risk

- As defined by the IIA, **Residual Risk** is
  - "the *remaining* risks after management takes action to reduce the impact and adverse event, including control activities in responding to a risk."

$$\therefore IR \geq RR$$

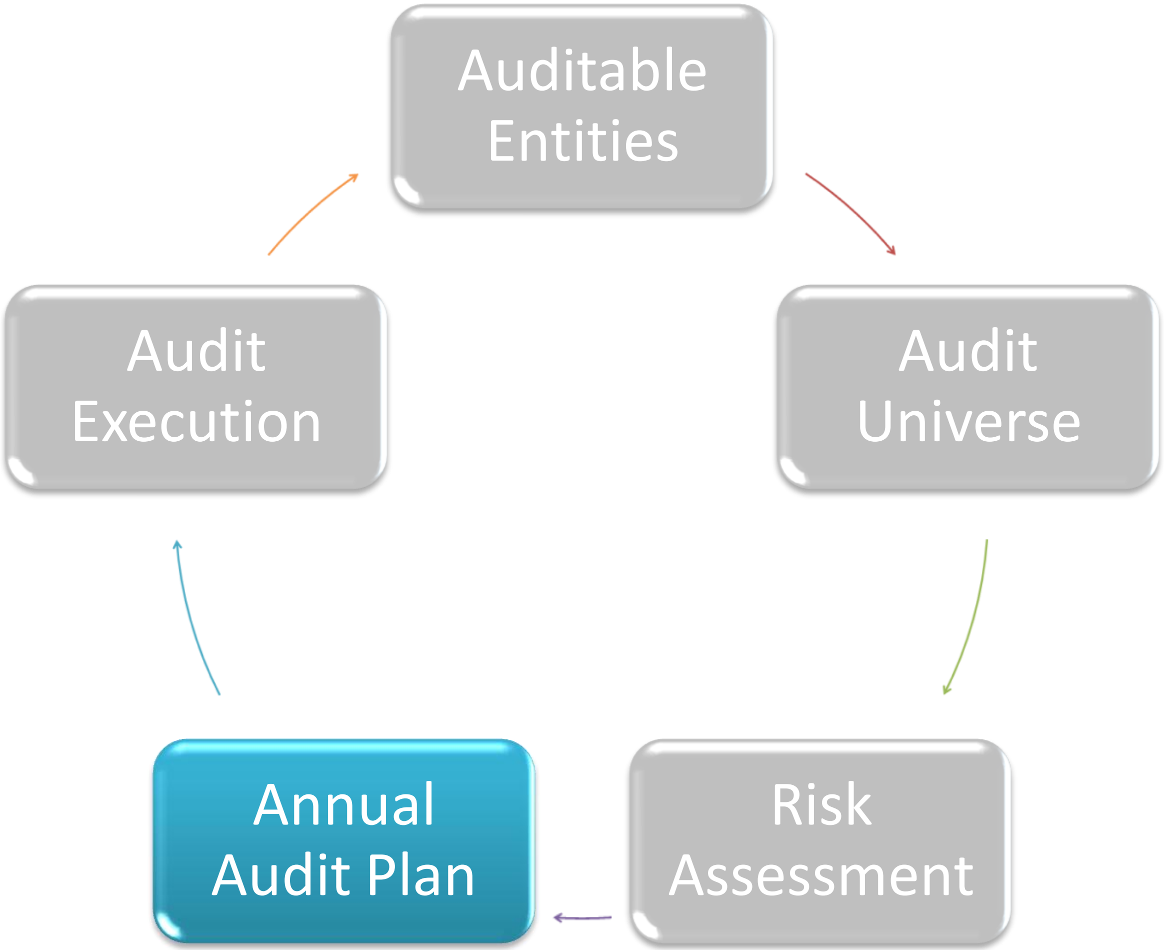
Residual Risk

Residual Risk		Quality of Controls				
		DNK	Unsat	MargSat	GenSat	Sat
Inherent Risks	High	High	High	High	Medium	Medium
	Medium	Medium	Medium	Medium	Low	Low
	Low	Low	Low	Low	Low	Low

Validation of Results

- Review the distribution of the residual risk ratings for reasonableness
  - Lack of distribution may result in inefficient allocation of assurance resources
- Compare internal audit RAs with results from other assessments
  - Identify any differences
  - Understand driver for these differences
- Discuss with executive management to affirm the results

The Process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Audit Execution

Annual Audit Planning

- Once the RAs have been updated for all entities in the universe, compare the date of last audit to the results from the risk assessment
- Audit those entities requiring audits based on risk and the associated cycle
- Actual time allocated should be correlated to the residual risk
  - Spending 1,200 hours on a low risk entity vs. 400 hours on a high risk entity may need some explanation

Annual Audit Planning: Step 1

- Start with the risk assessment results

Auditable Entity	Inherent Risk	Control Risk	Residual Risk
Business Line A	H	M	H
Business Line B	M	H	M
.			
Marketing	L	M	L
Accounting	L	L	L
Human Resources	M	M	M
.			
.			
Operating Systems	H	M	H
Networks	H	L	M
User Access Management	M	H	M
Databases	M	L	M
SDLC	L	L	L
Change & Problem Management	H	M	H
.			
Thematic-Privacy	M	M	M

Annual Audit Planning: Step 2

- Determine the date of the last audit

Auditable Entity	Inherent Risk	Control Risk	Residual Risk	Date of Last Audit
Business Line A	H	M	H	Oct-2011
Business Line B	M	H	M	Sep-2011
.				
Marketing	L	M	L	Sep-2011
Accounting	L	L	L	Sep-2011
Human Resources	M	M	M	Feb-2012
.				
.				
Operating Systems	H	M	H	Jun-2010
Networks	H	L	M	Sep-2011
User Access Management	M	H	M	Mar-2012
Databases	M	L	M	Jun-2010
SDLC	L	L	L	May-2012
Change & Problem Management	H	M	H	Jul-2012
.				
Thematic-Privacy	M	M	M	Aug-2012

Annual Audit Planning: Step 3

- Based on target audit cycle and date of last audit, determine which entities to audit

Auditable Entity	Inherent Risk	Control Risk	Residual Risk	Date of Last Audit
Business Line A	H	M	H	Oct-2011
Business Line B	M	H	M	Sep-2011
.				
Marketing	L	M	L	Sep-2011
Accounting	L	L	L	Sep-2011
Human Resources	M	M	M	Feb-2012
.				
.				
Operating Systems	H	M	H	Jun-2010
Networks	H	L	M	Sep-2011
User Access Management	M	H	M	Mar-2012
Databases	M	L	M	Jun-2010
SDLC	L	L	L	May-2012
Change & Problem Management	H	M	H	Jul-2012
.				
Thematic-Privacy	M	M	M	Aug-2012

- The targeted audit cycle assumes 1/2/3 year for H/M/L , respectively

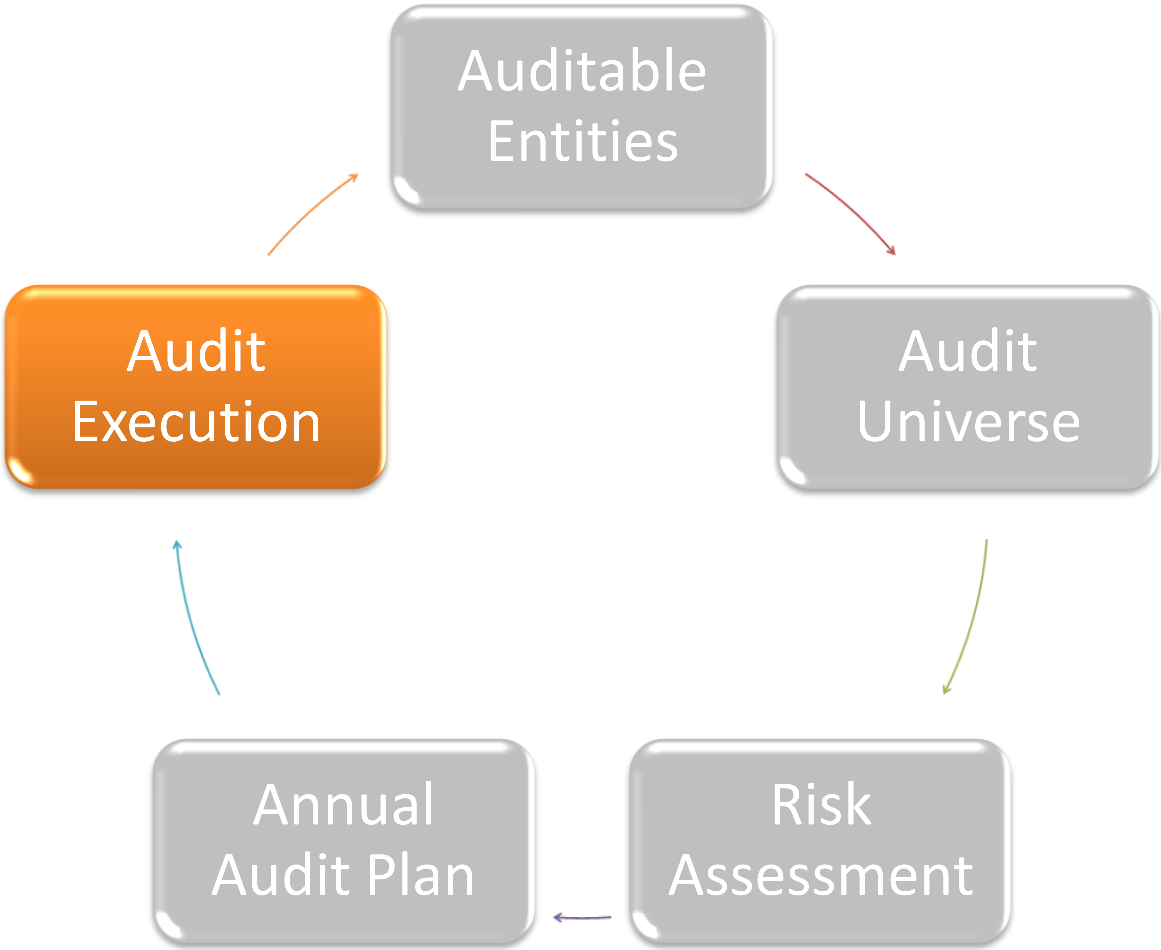
Resource Allocation

Assuming that the risk assessments were prepared accurately

Risk assessments should drive depth and breadth of audit coverage

Higher the risk, the greater the focus and effort!

The Process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Audit Execution

Review RAs
Understand the risk drivers for the entity

Confirm
Risk drivers and the previous assessments

Focus
Areas of higher risks

Update RAs
Reflect updated understanding

Summary

- A quality risk assessment process needed to balance and allocate finite assurance resources against dynamic risks
- Quality of the process requires
  - Definitions and standards
  - Meaningful auditable entities
  - Understanding risk drivers
  - Sensible coverage cycle of the risks

QUESTIONS?