Techniques, Templates, and Toolkits In a Flash!

11th Annual AFERM ERM Summit – October 31, 2018

Tools and Tips for Facilitating Dynamic Risk Profile Leadership Discussions

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U.S. Department of Health & Human Services (HHS)

Presented at the AFERM 11th Annual Summit
October 31, 2018

Polling Question 1

In mobile app, go to:
Polling Questions > 20 - Session 1F (Wed @ 1315) - Question 1

Does your Agency's Risk Profile help your senior leaders understand the most important risks and opportunities to achieving the Agency's mission?

1. Yes
2. No
3. We have not developed a Risk Profile

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Overview

- Examine the **interactive facilitation approach** used with leadership for providing inputs for the AGENCY X Risk Profile

- Participate in a hands-on demonstration to see how the approach supports developing a **risk portfolio and risk profile** as AGENCY X internal management tools

Background: ERM Risk Portfolio & ERM Risk Profile

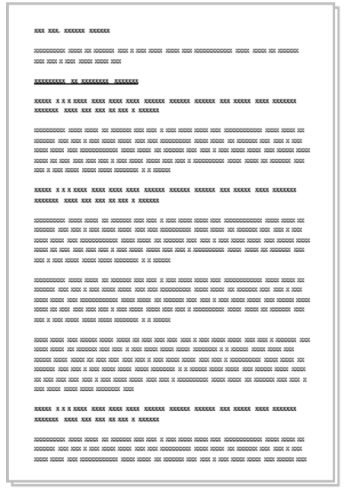
- Key requirement in OMB Circular A-123: *Management's Responsibility for ERM and Internal Control*

- OMB notes that a **risk profile** provides "a thoughtful analysis of the risks an Agency faces toward achieving its strategic objectives arising from its activities and operations"

- HHS develops two agency-internal management tools
  1. **Portfolio** – comprehensive (un-prioritized) set of risks and opportunities
  2. **Profile** - assessment and prioritization of the risks and opportunities in the portfolio

EXAMPLE Risk Portfolio Formats

A risk portfolio is generally a listing of the top 10-15 risks



Securities and Exchange Commission (SEC) Form 10-K Report Style

#	Risk	Category	Subcategory	Owner
1	IF... THEN...	Human Capital	Hiring	Human Resources
2	IF... THEN...	Information Technology	Systems	Chief Information Officer

Risk Register Format

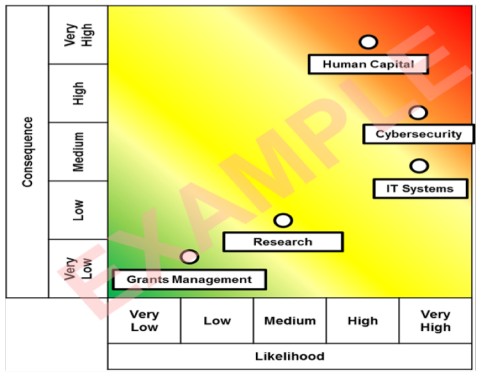
< Risk Type >	< Risk Type >	< Risk Type >
Definition • < Risk Sub-Type > • < Risk Sub-Type > • < Risk Sub-Type >	*Definition* • < Risk Sub-Type > • < Risk Sub-Type > • < Risk Sub-Type >	*Definition* • < Risk Sub-Type > • < Risk Sub-Type > • < Risk Sub-Type >

Table Format

Tip: Pick a risk portfolio format that would be most useful for your leadership

EXAMPLE Risk Profile Formats

Prioritization of the top 10-15 risks and opportunities

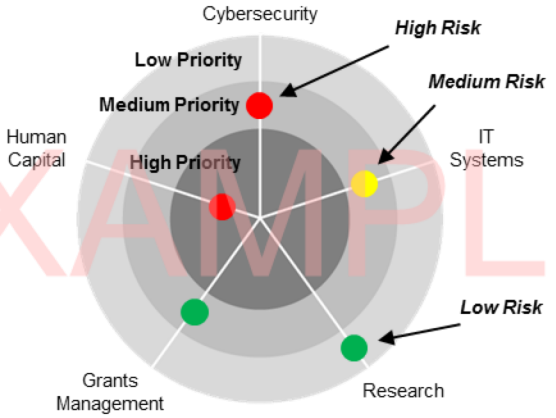


Risk Heat Map

Risk ID	Enterprise Risk Type	Risk Owner	Likelihood	Consequence	Risk Score ƒ (L, C)	Risk Response
A	Human Capital	CHCO	Very High (5)	High (4)	9	Accept
B	Cybersecurity	ISSO	Medium (3)	Very High (5)	8	Avoid
C	IT Systems	CIO	Medium (3)	High (4)	7	Reduce
D	Research	COO	Low (2)	Medium (3)	5	Avoid
E	Grants Management	GM Director	Very Low (1)	Low (2)	3	Transfer

Risk Register / Risk Matrix

Risk Bullseye / Dashboard



EXAMPLE

Tip: Pick a risk profile format that would be most useful for your leadership

Risk Profile Methodology Overview

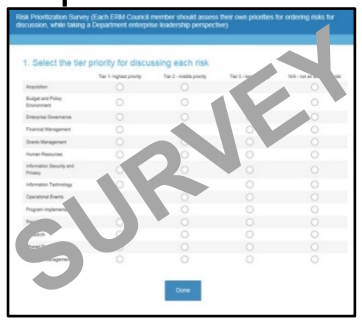
Step 1: Develop the AGENCY X Risk Portfolio

Risk Portfolio:
Listing of Agency X's Top 10-15 Risks

Step 2: Plan & Facilitate Discussions

Prioritization Pre-Work Survey to Sequence Discussions

Anonymous Judgments



Step 3: Write up the AGENCY X Risk Profile

Step 4: Leadership reviews and approves the AGENCY X Risk Profile

Risk Profile:
Agency X's Prioritized Top 10-15 Risks

“The Technical Details” for HHS’s Risk Profile Approach

1. Is actually a qualitative risk analysis since it includes
   - Likelihood = a combination of Velocity (speed to onset) and Exposure in “ARRIVES”
   - Consequences = Impacts in “ARRIVES”
   - Note: “ARRIVES” captures risk prioritization criteria (see slide 13)
2. Uses a probability distribution to characterize uncertainty in judgments for the level of risk for each risk in the portfolio
3. Deliberately moves away from a heat map and risk register (where leaders often re-litigate Likelihood, Consequence judgments) and uses a bullseye to focus management discussion
4. Methodology uses a Nominal Group Technique (NGT) where participants make judgments anonymously and results are aggregated in real-time
5. Uses Bayesian statistics, real-time data gathering and visual analytics where participants make initial judgments, see the distribution of judgments from their peers, then can update their own judgments as they hear more information

Tip: Use a Demo To Explain the Risk Profile Approach for Executives

- Audience participants will "role-play" as **Executives** from **AGENCY X** from among the following leadership roles:
  - ❑ *Chief Financial Officer (CFO)*
  - ❑ *Chief Grants Management / Acquisition Officer (CGMO)*
  - ❑ *Chief Human Capital Officer (CHCO)*
  - ❑ *Chief Information Officer (CIO)*
  - ❑ *Chief Information Security Officer (CISO)*
  - ❑ *Chief Risk Officer (CRO)*
  - ❑ *General Counsel*
  - ❑ *Etc.*

- Participants will consider **HUMAN RESOURCES**: *"Related to Federal oversight and management of recruiting, retention, realigning staff skills, and succession planning"*
- Participants will then use cell phone voting and see how the data-driven visual analytics approach stimulates leadership discussion

Tip: Set Expectations for the Discussion

What to Expect:

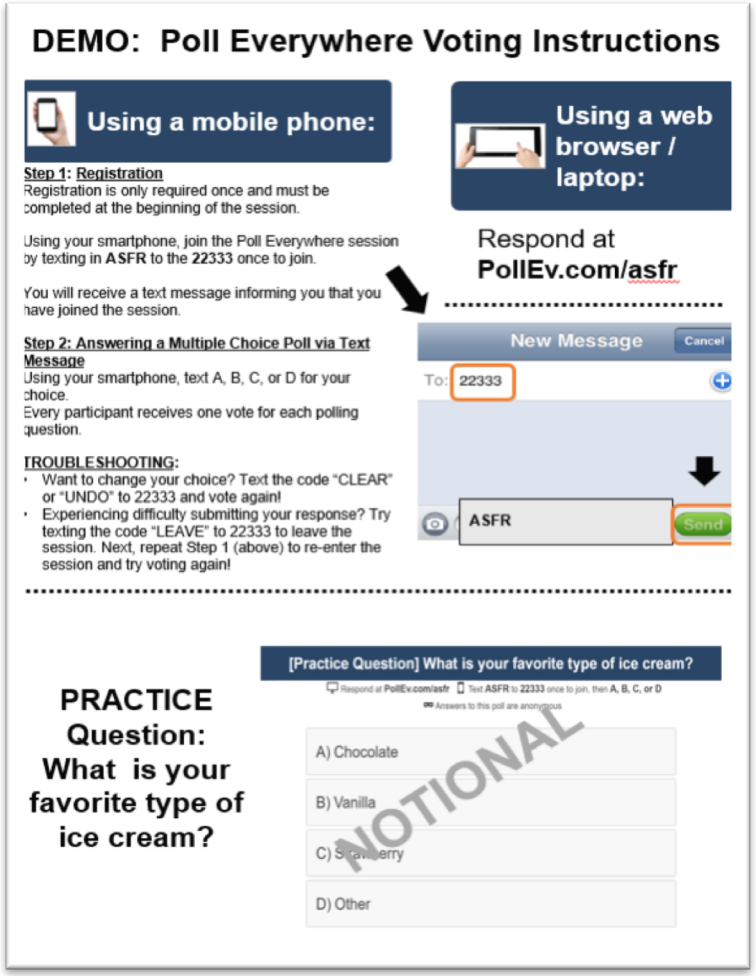
- All information can be shared freely and safely; results will be in aggregate without identifying individuals
- Each participant submits inputs **anonymously** and dynamically
- Inputs are also **voluntary** and **non-binding** (and can be changed during discussions)
- The group will see collective results in real-time and have time to discuss results for each risk type
- Participants are asked to wear their Agency / enterprise leadership "hats" and **assume an Agency-wide view when making judgments**

What NOT to Expect:

- The facilitated sessions will not focus on "solution space" or addressing specific risk concerns
- Participants do not need to have full, in-depth knowledge and expertise for each risk in order to make judgments

Tip: Provide Handouts and Use Technology for an Interactive Discussion

Participant Cell Phone Voting Instructions



DEMO: Poll Everywhere Voting Instructions

Using a mobile phone:

Step 1: Registration
Registration is only required once and must be completed at the beginning of the session.

Using your smartphone, join the Poll Everywhere session by texting in **ASFR** to the **22333** once to join.

You will receive a text message informing you that you have joined the session.

Step 2: Answering a Multiple Choice Poll via Text Message
Using your smartphone, text A, B, C, or D for your choice.
Every participant receives one vote for each polling question.

TROUBLESHOOTING:
- Want to change your choice? Text the code "CLEAR" or "UNDO" to 22333 and vote again!
- Experiencing difficulty submitting your response? Try texting the code "LEAVE" to 22333 to leave the session. Next, repeat Step 1 (above) to re-enter the session and try voting again!

Using a web browser / laptop:

Respond at **PollEv.com/asfr**

New Message Cancel
To: 22333
ASFR Send

PRACTICE Question: What is your favorite type of ice cream?

[Practice Question] What is your favorite type of ice cream?
Respond at PollEv.com/asfr Text ASFR to 22333 once to join, then A, B, C, or D
Answers to this poll are anonymous

A) Chocolate
B) Vanilla
C) Strawberry
D) Other

NOTIONAL

Facilitator Discussion "Tracker" Guide

TRACKER	Risk 1	Risk 2	Risk 3	Risk 4	Risk 5	Risk 6	Risk 7	Risk 8	Risk 9	Risk 10
Priority Order	1	2	3	4	5	6	7	8	9	10
Question: Level of Risk										
Question: Risk Appetite										

	Question: LEVEL OF RISK FOR AGENCY X Taking an Agency X leadership perspective, what is the level of risk for…?	Question: RISK APPETITE FOR AGENCY X Taking an Agency X leadership perspective, what should Agency X's risk appetite be for…?
	POLLING	
1	Remind participants that this poll is meant to capture the **Agency X judgment** of the group for the level of residual risk for each risk type as described in the portfolio placemat. Level of risk assumes normal operations and risk management efforts are accounted for.	Remind participants that this poll is meant to capture the **Agency X judgment** of the group for risk appetite for each risk type as described in the portfolio placemat. Remind participants that **risk appetite reflects how you feel** about the current level of risk and Agency X's current ability to manage it.
2	Remind participants that responses and discussion comments will be recorded **anonymously**	
3	Voting for each poll is limited to **one vote per person**. Please take your time and verify your responses before submitting	
4	• Text messaging: Text **ASFR** to **22333** to join the session once, then text a letter response A-D for each question • If participants would like to change their response, tell them to text the code **"CLEAR" or "UNDO"** to **22333** to clear their polling response and vote again	• Or using a web browser, respond at: **PollEv.com/asfr**
Other	**Poll Everywhere Text Messaging Troubleshooting:** If participants are experiencing difficulties with submitting their polling responses, suggest that they: 1) Text the code "LEAVE" to 22333 (to leave the polling session) 2) Text the code "ASFR" to 22333 to re-enter the polling session 3) Try to submit their polling response again	

	Assessing and Discussing Polling Results - Facilitation Questions	
1	How comfortable do you feel with the results of this poll?	Are you surprised with the results of this poll?
2	Are you surprised with the results of this poll?	Do you feel the results of this poll accurately represent an Agency X perspective?
3	What results do you see that you did not expect?	What do you think about these results?
4	Do you feel the results of this poll accurately represent an Agency X perspective?	What kind of Agency X considerations did you include in assessing the Agency X risk appetite?
5	What do you think about these results?	What results do you see that you did not expect?
6	What kind of Agency X considerations did you include in assessing the level of risk for Agency X?	What did you think about to judge Agency X's risk appetite?

Tip: Use a Fun Question to Help Executives Practice with Cell Phone Voting

[Practice Question] What is your favorite type of ice cream?

Respond at **PollEv.com/asfr** Text **ASFR** to **22333** once to join, then **A, B, C, or D**

Answers to this poll are anonymous

A) Chocolate

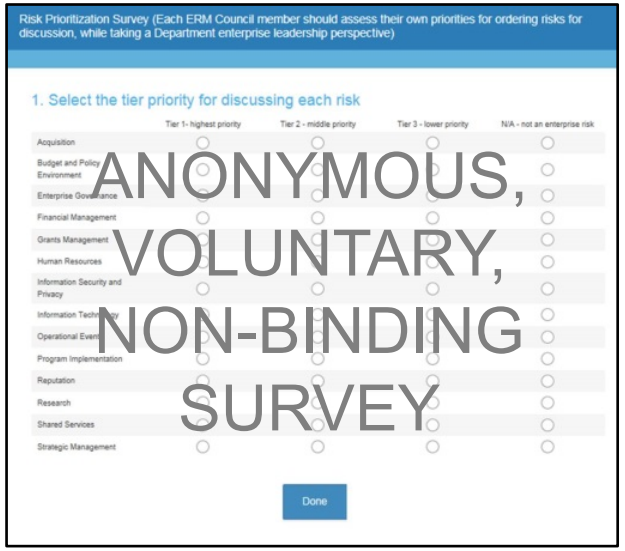
B) Vanilla

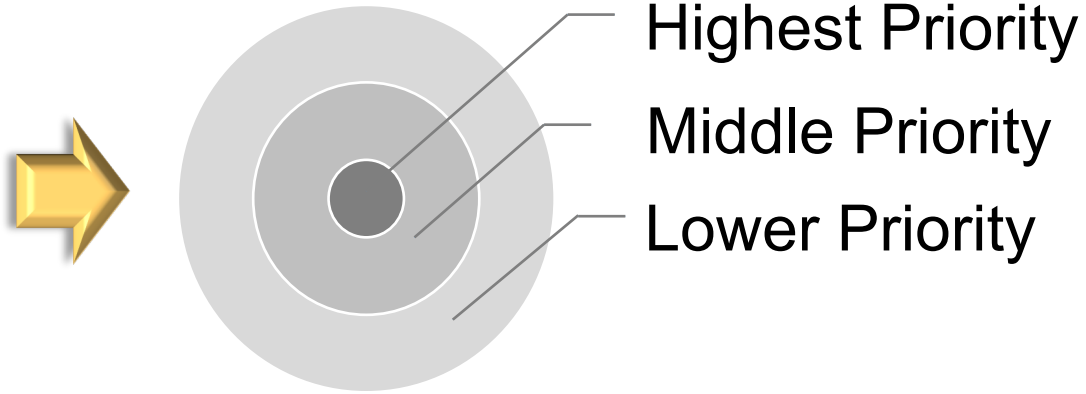
C) Strawberry

D) Other

Tip: Use a Prioritization Pre-Work Survey

Survey results sequence risks for facilitated discussions





Three Purposes of the Prioritization Survey

1. Participants provide individual inputs to sequence the facilitated judgment sessions
2. Assists participants with considering the collection of risks as a comprehensive portfolio
3. Also confirms if any of the risks are NOT enterprise risks

Tip: Have Executives Describe Risk Prioritization Criteria

"ARRIVES" Criteria	Considerations for Management Prioritization: (High / Medium / Low)
APPETITE	Risks are (well beyond / within or slightly beyond / well within) the organization's comfort level.
RISK **R**ESPONSE & MANAGEMENT MATURITY	(Limited and disjointed / Moderate and semi-coordinated / Strong and coordinated) risk management capabilities in place. (Unclear / Somewhat clear / Clear) roles and responsibilities for managing risks. (Limited / Moderate / Robust) ability to respond and manage.
IMPACTS	(Significant / Moderate / Limited) effect on the achievement of mission, goals, and objectives of the Agency Strategic Plan or plans that cascade from the Agency Strategic Plan.
VELOCITY	Risks manifest (rapidly / at a modest rate / slowly).
EXPOSURE	Affects (most / many / only a few or some) of the organization's business units (e.g., programs and management functions) and key stakeholders.
STRATEGIC ALIGNMENT	Risks and associated management efforts are (misaligned / moderately aligned / strongly aligned) strategically to support achieving leadership priorities and improving execution of programs and operations.

Tip: A Prioritization Survey Helps Executives Think About Risks Collectively Before the Facilitated Discussion

What priority would you recommend for AGENCY X leadership to discuss HUMAN RESOURCES?

Respond at **PollEv.com/asfr** Text **ASFR** to **22333** once to join, then **A, B, C, or D**

Answers to this poll are anonymous

(A) Tier 1 (highest priority) for discussion

(B) Tier 2 (2nd highest priority) for discussion

(C) Tier 3 (3rd highest priority) for discussion

(D) N/A (not an enterprise risk or opportunity)

Facilitation Questions: Level of (Residual) Risk and Risk Appetite

Taking an AGENCY X leadership perspective, what is the level of risk for…?

Using a web browser, respond at **PollEv.com/asfr**

Or text **ASFR** to **22333** once to join; then text **A,B,C or D** to respond.

Answers to this poll are anonymous.

(A) Low

(B) Medium

(C) High

(D) N/A - Not an Enterprise Risk

+

Taking an AGENCY X leadership perspective, what should the Agency's risk appetite be for…?

Using a web browser, respond at **PollEv.com/asfr**

Or text **ASFR** to **22333** once to join; then text **A,B,C or D** to respond.

Answers to this poll are anonymous.

(A) Higher Appetite for Risk 🙂

(B) Medium Appetite for Risk 😐

(C) Lower Appetite for Risk 😟

(D) Unsure 🤔

Tip: Executives Naturally Think About Risk Relative to the Current & Emerging Operating Environment

Taking an AGENCY X leadership perspective, what is the level of risk for HUMAN RESOURCES?

Respond at **PollEv.com/asfr** Text **ASFR** to **22333** once to join, then **A, B, C, or D**

Answers to this poll are anonymous

(A) Low

(B) Medium

(C) High

(D) N/A - Not an Enterprise Risk

Tip: Use Emoji's to Facilitate Risk Appetite Discussions

Risk appetite is the amount of risk that AGENCY X should accept in pursuit of mission, goals and objectives

(A)	(B)	(C)	(D)
Higher Appetite for Risk	Risk Neutral	Lower Appetite for Risk	Unsure
Willing to accept MORE risk	Currently accepting about the right amount of risk	Would like to accept LESS risk	Really don't know about accepting more or less risk

Tip: Emoji's Help Executives Express Feelings About the Amount of Risk Taken

Taking an AGENCY X leadership perspective, what should AGENCY X's risk appetite be for HUMAN RESOURCES?

Respond at **PollEv.com/asfr** Text **ASFR** to **22333** once to join, then **A, B, C, or D**

Answers to this poll are anonymous

	A
	B
	C
	D

Tip: Design Risk Portfolio & Profile Documentation as Simple Mgmt. Tools

Level of Risk

Taking an AGENCY X leadership perspective, what is the level of risk for…?

Using a web browser, respond at **PollEv.com/asfr**

Or text **ASFR** to **22333** once to join; then text **A,B,C or D** to respond.

Answers to this poll are anonymous.

- (A) Low
- (B) Medium
- (C) High
- (D) N/A - Not an Enterprise Risk

+

Risk Appetite

Taking an AGENCY X leadership perspective, what should HHS's risk appetite be for…?

Using a web browser, respond at **PollEv.com/asfr**

Or text **ASFR** to **22333** once to join; then text **A,B,C or D** to respond.

Answers to this poll are anonymous.

- (A) Higher Appetite for Risk
- (B) Medium Appetite for Risk
- (C) Lower Appetite for Risk
- (D) Unsure

DRAFT 2-Page Summary

Risk Portfolio – front
Risk Profile – back

Facilitated Discussions of Risks in the Portfolio

Prioritization survey results define ring levels

- High Risk
- Medium Risk
- Low Risk

Level of Residual Risk

Key Takeaways are synthesized narratives to characterize each risk

Tip: Think Creatively About Validating the Risk Portfolio & Profile

Is it possible to validate AGENCY X's Risk Profile?

Respond at **PollEv.com/asfr** Text **ASFR** to **22333** once to join, then **A, B, or C**

Answers to this poll are anonymous

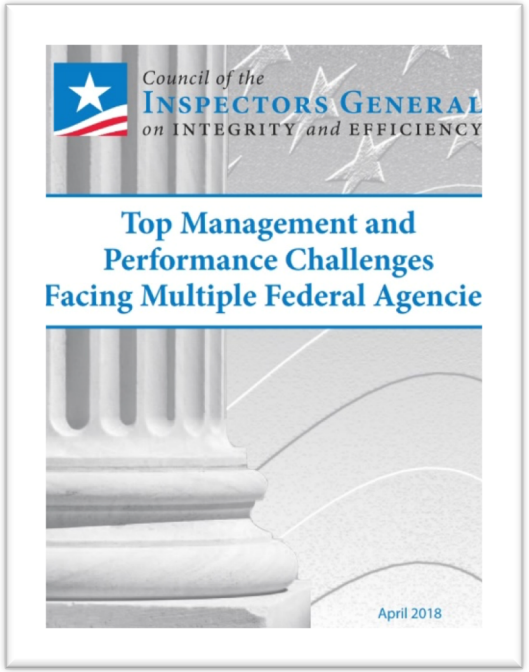
(A) Yes

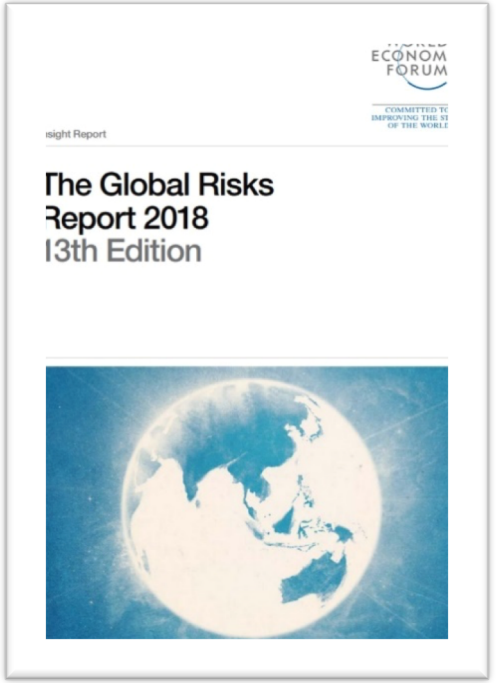
(B) No

(C) Don't Need To

Validating an Agency Risk Profile

YES! You can validate Agency risk profiles versus other public and private sector collections of “top risks”





Tip: Typically, risk profiles have most of the top risks and opportunities identified by other organizations

Questions?

Techniques, Templates, and Toolkits in a Flash!

Doug Clift

U.S. Census Bureau

October 31, 2018

Polling Question 2

In mobile app, go to:
Polling Questions > 20 - Session 1F (Wed @ 1315) - Question 2

Has your Agency shared/communicated its ERM Framework with all staff?

1. Yes
2. No
3. I'm not sure

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ERM Program Objective

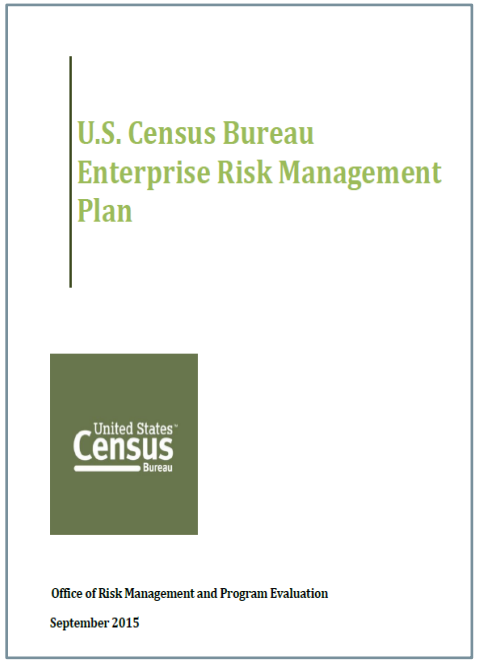
- To create a risk management framework that enables identification and management of risks within the enterprise, thereby increasing the likelihood of achieving Census Bureau goals and objectives.

Census ERM Framework

The Census ERM framework includes:

- Executive sponsorship
- ERM plan
- ERM standards, guidance & training
- ERM policy
- Governing bodies
- ERM tools

Foundational Framework for Tool

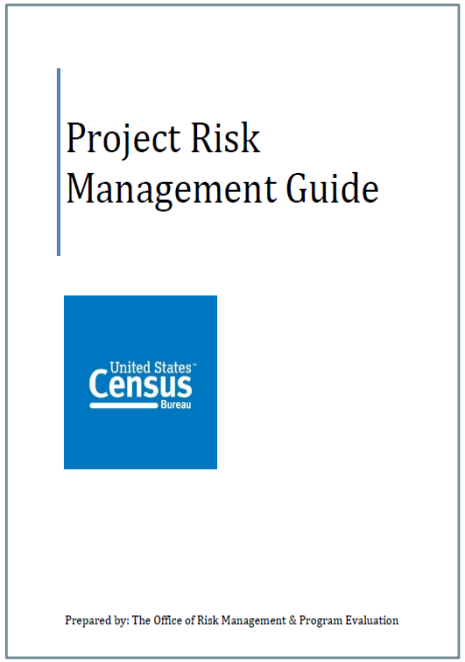


U.S. Census Bureau
Enterprise Risk Management Plan

United States Census Bureau

Office of Risk Management and Program Evaluation

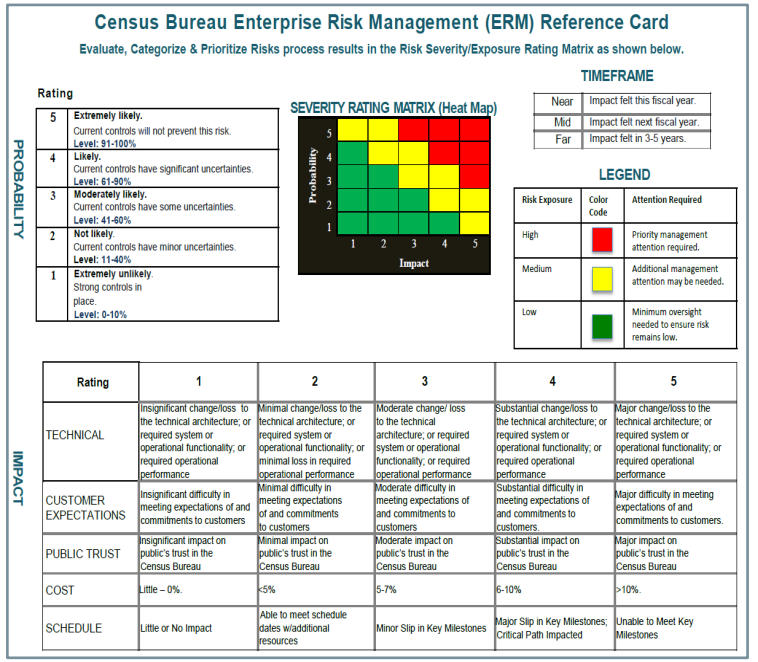
September 2015



Project Risk Management Guide

United States Census Bureau

Prepared by: The Office of Risk Management & Program Evaluation



Census Bureau Enterprise Risk Management (ERM) Reference Card

Evaluate, Categorize & Prioritize Risks process results in the Risk Severity/Exposure Rating Matrix as shown below.

Rating

5	**Extremely likely.** Current controls will not prevent this risk. **Level: 91-100%**
4	**Likely.** Current controls have significant uncertainties. **Level: 61-90%**
3	**Moderately likely.** Current controls have some uncertainties. **Level: 41-60%**
2	**Not likely.** Current controls have minor uncertainties. **Level: 11-40%**
1	**Extremely unlikely.** Strong controls in place. **Level: 0-10%**

SEVERITY RATING MATRIX (Heat Map)

PROBABILITY (5, 4, 3, 2, 1) / Impact (1, 2, 3, 4, 5)

TIMEFRAME

Near	Impact felt this fiscal year.
Mid	Impact felt next fiscal year.
Far	Impact felt in 3-5 years.

LEGEND

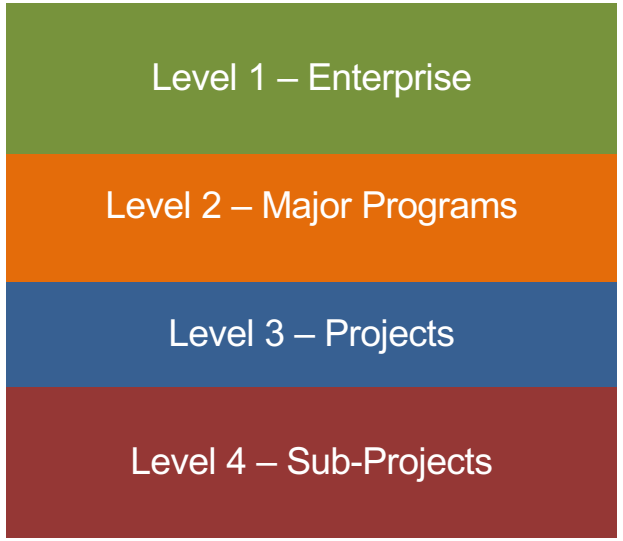
Risk Exposure	Color Code	Attention Required
High		Priority management attention required.
Medium		Additional management attention may be needed.
Low		Minimum oversight needed to ensure risk remains low.

IMPACT

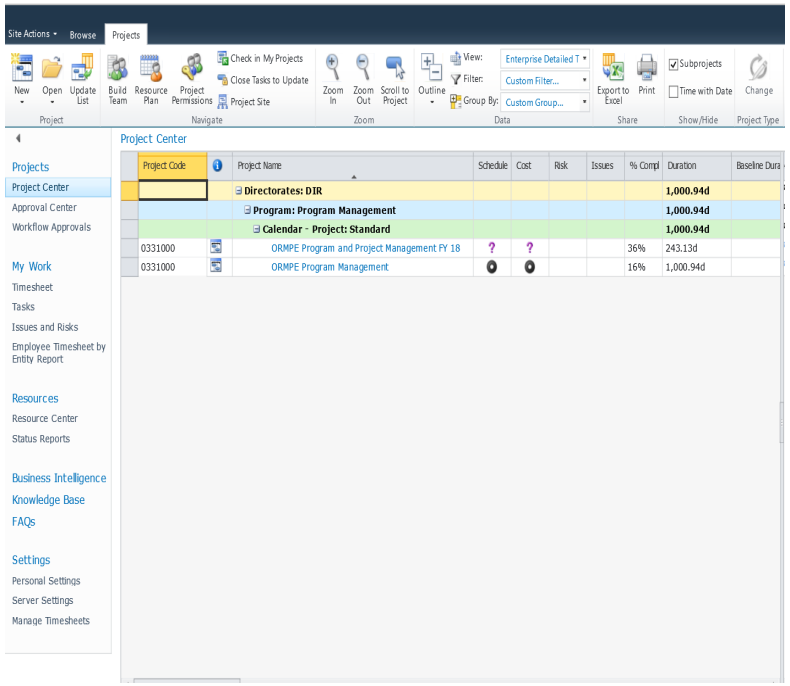
Rating	1	2	3	4	5
TECHNICAL	Insignificant change/loss to the technical architecture; or required system or operational functionality; or required operational performance	Minimal change/loss to the technical architecture; or required system or operational functionality; or minimal loss in required operational performance	Moderate change/ loss to the technical architecture; or required system or operational functionality; or required operational performance	Substantial change/loss to the technical architecture; or required system or operational functionality; or required operational performance	Major change/loss to the technical architecture; or required system or operational functionality; or required operational performance
CUSTOMER EXPECTATIONS	Insignificant difficulty in meeting expectations of and commitments to customers	Minimal difficulty in meeting expectations of and commitments to customers	Moderate difficulty in meeting expectations of and commitments to customers	Substantial difficulty in meeting expectations of and commitments to customers	Major difficulty in meeting expectations of and commitments to customers.
PUBLIC TRUST	Insignificant impact on public's trust in the Census Bureau	Minimal impact on public's trust in the Census Bureau	Moderate impact on public's trust in the Census Bureau	Substantial impact on public's trust in the Census Bureau	Major impact on public's trust in the Census Bureau
COST	Little – 0%.	<5%	5-7%	6-10%	>10%.
SCHEDULE	Little or No Impact	Able to meet schedule dates w/additional resources	Minor Slip in Key Milestones	Major Slip in Key Milestones; Critical Path Impacted	Unable to Meet Key Milestones

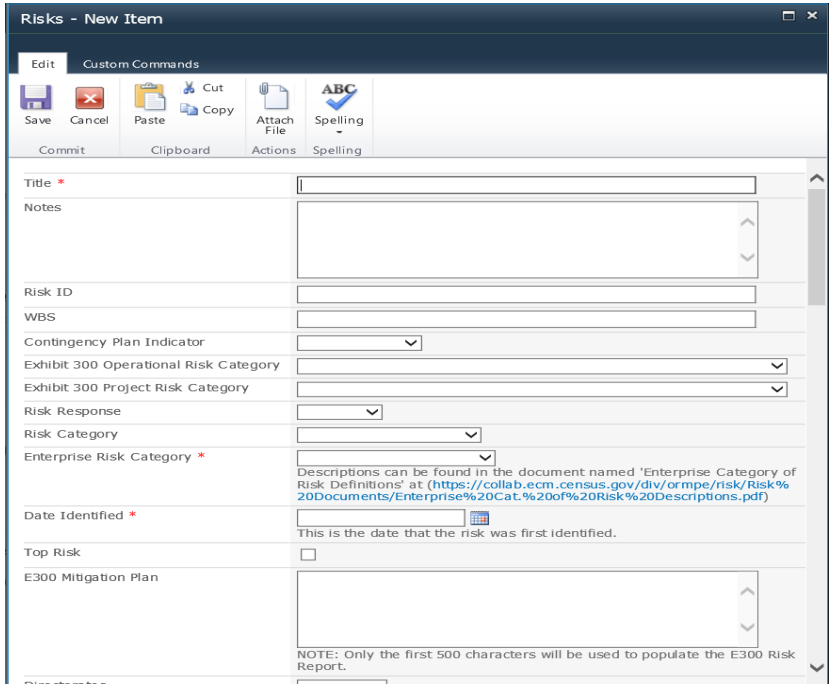
Portfolio of Risks

- The ERM Tool enables a portfolio view of risks
- Level 1 risks are managed by the Enterprise Risk Review Board
- Level 2 risks are the Census Bureau's Major Programs
- Level 3 are risks related to level 2



ERM Tool Risk Data Entry





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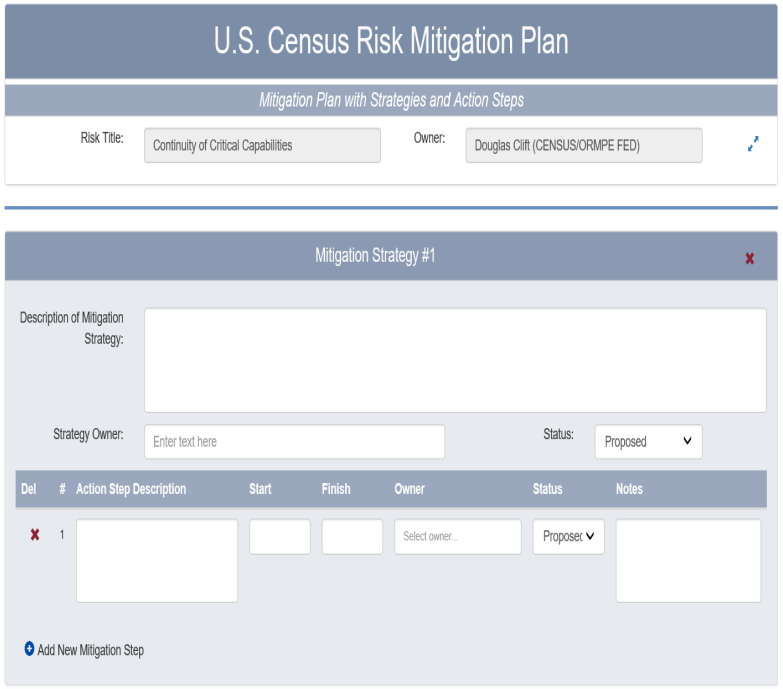
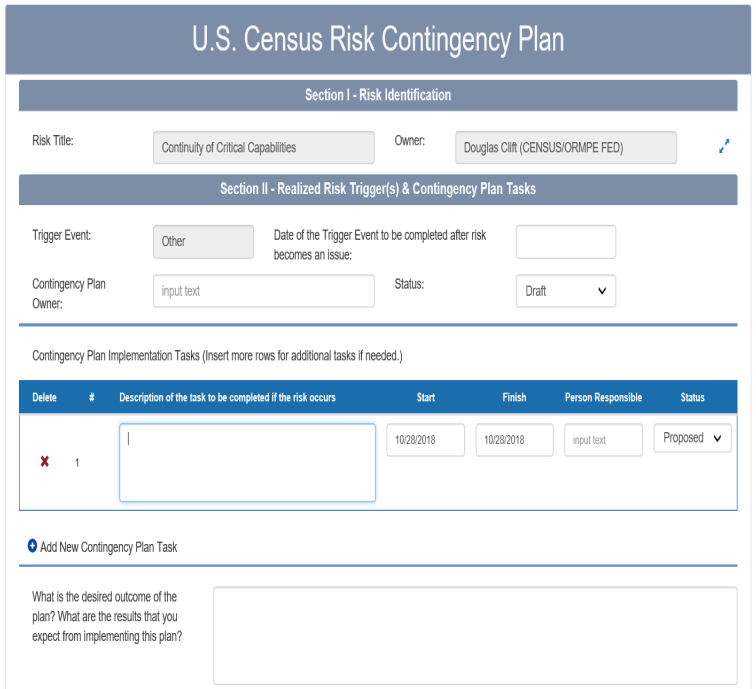
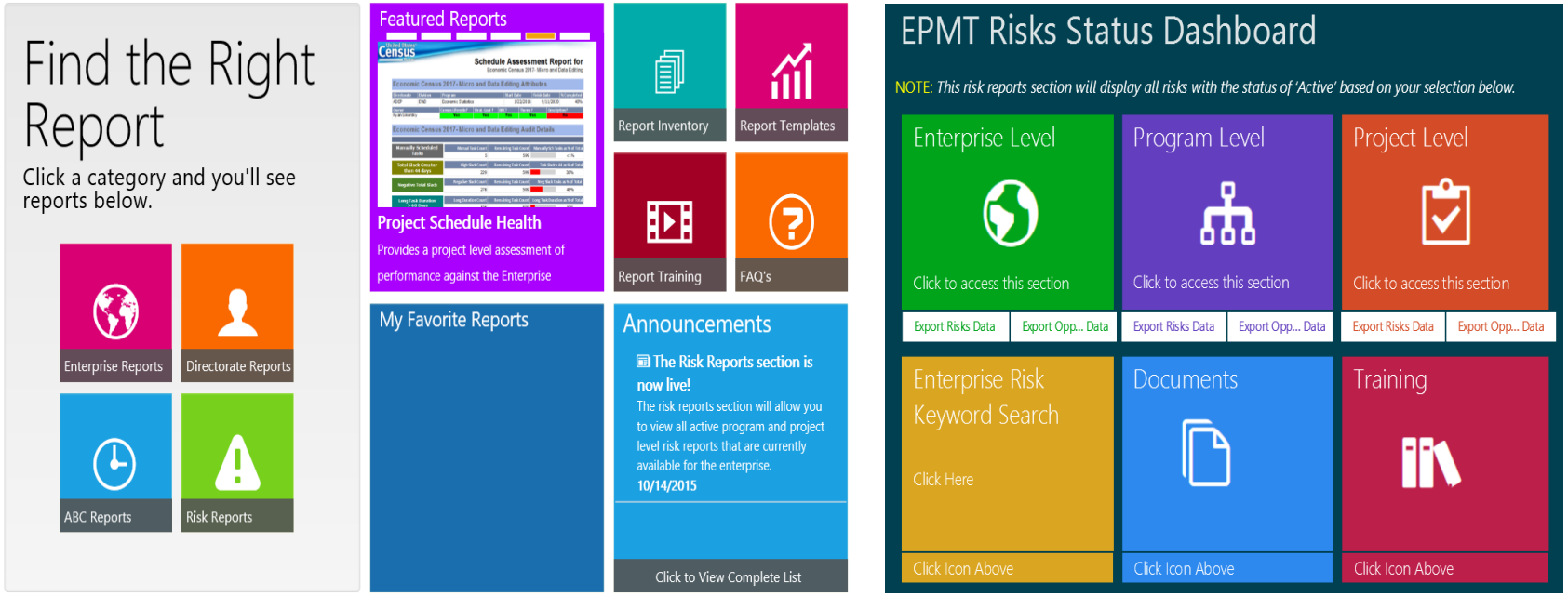




ERM Tool Risk Reporting



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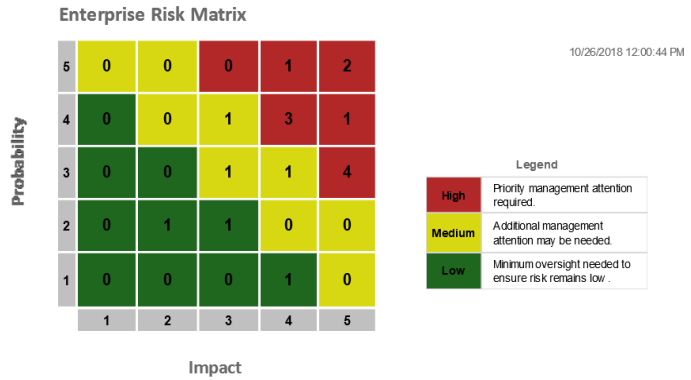

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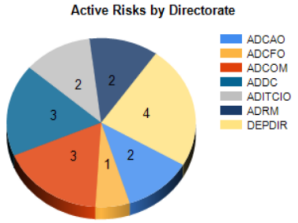
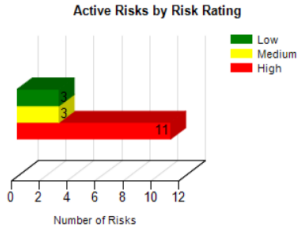
Legend

High	Priority management attention required.
Medium	Additional management attention may be needed.
Low	Minimum oversight needed to ensure risk remains low .





Enterprise Risks as of 10/26/2018 12:00:44 PM - Sorted by Exposure and Timeframe

Risk ID	Risk Title	Probability	Impact	Exposure	Time Frame	Enterprise Category
56	Loss of Public Trust (Federal Government)	5	4	High	Near	Technology;
54	Programmatic Dependency on Technology if the Solution is not Available (CEDCAP)	4	5	High	Near	Technology;
51	Inadequate Knowledge Base Due to Skill-Set Shortages	4	4	High	Near	Operational;
70	Inaccurate Information in Media Coverage or Social Media	5	5	High	Near	Reputation;
55	Loss of Public Trust from a Census Bureau Breach (Census Bureau)	3	5	High	Near	Technology;
78	Funding of Disclosure Avoidance Initiatives	3	5	High	Mid	Financial;
74	Cyber Security Protection	3	5	High	Mid	Safety & Security;
69	Programmatic Dependency on Technology if the Solution is not Available (CEDSCi)	5	5	High	Mid	Technology;
58	Administrative Records Access	4	4	High	Mid	Operational;
59	Late Design Change	4	4	High	Mid	Political;
57	Continuity of Critical Capabilities	3	5	High	Mid	COOP/Disaster Recovery;
76	Lack of Dedicated Funding for IT Services	4	3	Medium	Mid	Financial;
75	Capital Planning (Infrastructure)	3	3	Medium	Mid	Operational;
62	Declining Response Rates	3	4	Medium	Far	Operational;
60	Availability of Funds Does Not Match Funds Needed	2	3	Low	Near	Financial;

ERM Template and Tool Benefits

- Standardized framework, methodology, and reporting
- Automated reporting and analysis
- Search and trending capability
- Risk management and ownership at the appropriate level
- Enterprise view of risk portfolio

Risk Sensing at Ginnie Mae

2018 AFERM SUMMIT

October 31, 2018

Polling Question 3

In mobile app, go to:
Polling Questions > 20 - Session 1F (Wed @ 1315) - Question 3

Are you familiar with “Risk Sensing?”

1. Yes
2. No
3. We conduct Risk Sensing at my Agency

LiveSlides web content

To view

Download the add-in.

liveslides.com/download

Start the presentation.

What am I missing?

From the 911 Commission Report:

“.... failure of imagination”

“The system was blinking red”

What is Risk Sensing

Risk Sensing shifts risk focus from reactive to proactive. It is a tool to help organizations identify, articulate, and assess risks that may otherwise go unidentified given their perceived level of unlikeliness to occur.

Risk Sensing combines intelligence gleaned from online data source with specialist assessment and analysis to drive proactive decision making

Signal Intelligence

Applies technology and advanced analytics to large public, unstructured data sets to detect emerging threats and opportunities, including those not covered by existing risk indicators

Human Intelligence

Subject-matter specialists assess, monitor, and analyze topics of strategic importance

Proactive Business Decisions

Intelligence is more timely, which informs decisions more quickly

The Opportunity For Ginnie Mae

Ginnie Mae's impact on U.S. housing finance? $2 trillion and counting[1]

Counterparty Risk	Operational Risk	Contractor Centric Business Model	Asset Management
• Backstop the guarantee of 433 approved Issuers on $1.9 trillion in MBS • Modeled stressed exposure of $3.9BN	• Keep the books and records on $2 T in MBS with zero room for error • Platform moves over $40BN in issuance/distributes $50 billion a month to MBS holders around the globe.	• 141 FTE manage this $1.9 trillion portfolio. • Allows for scale, but need oversight of contractor activities	• Assets seized in carrying out guaranty of MBS • Typically MSRs and whole loans • Credit and interest rate sensitive to value • Operationally intensive activities

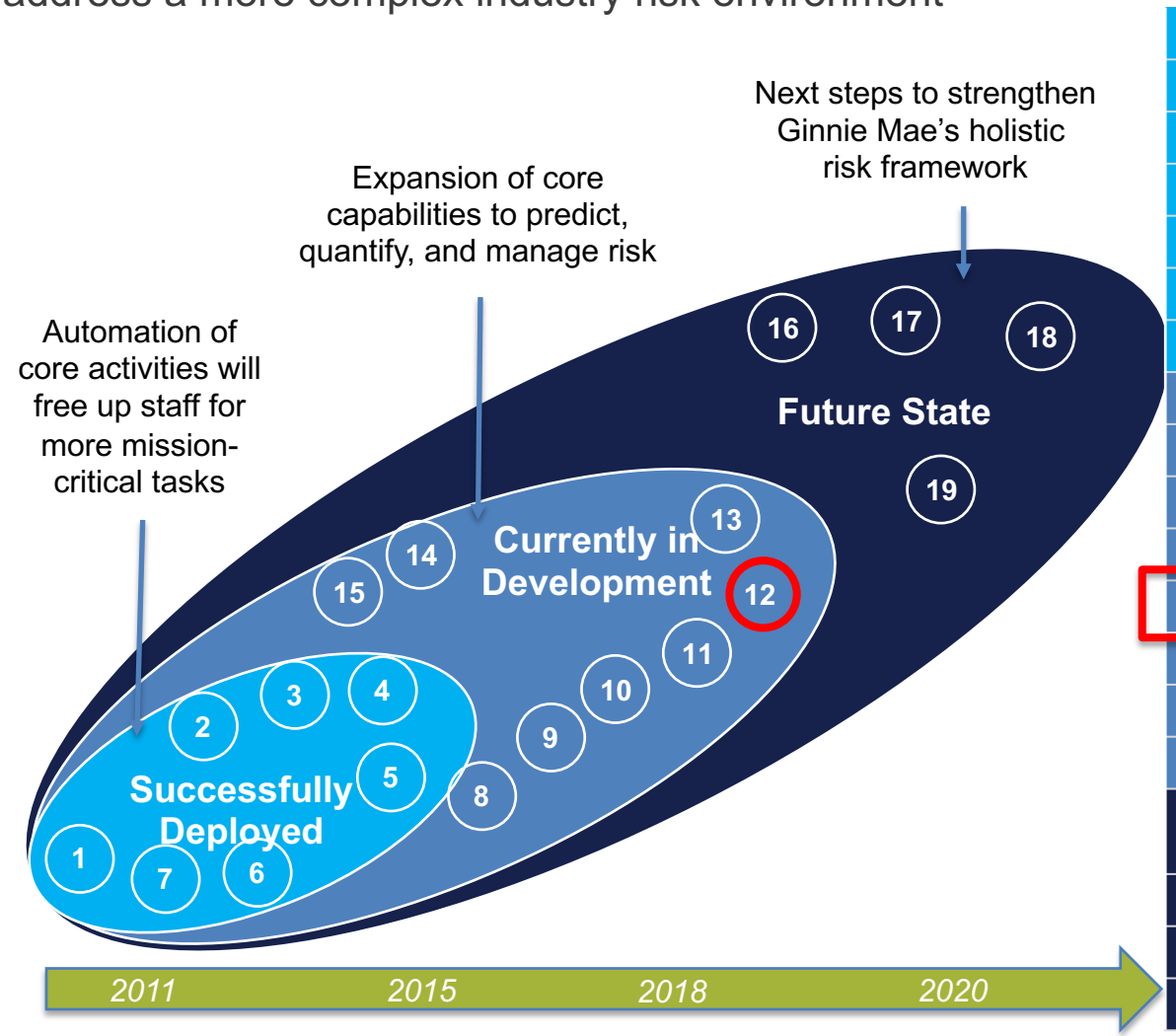
This introduces known and unknown risks to Ginnie Mae, and increases the breadth of prospective impacts to the organization and the industry at large

Known Knowns Risk is identified, accurate modeling exists to quantify the impact	**Example:** Mortality of U.S. males, flattening of yield
Known Unknowns Risk is identified, accurate modeling does not exist to quantify the impact meaningfully	**Example:** Collapse of major reinsurer, changes in the value of embedded options due to drop in equity markets and increase in volatility
Unknown Unknowns The existence of the risk is not predictable, let alone quantifiable	**Example:** correlations of markets risk that exist only in the tail prior to 2007, U.S. Treasury bond default, Madoff scandal

[1] Ginnie In Brief, 10/18/18

Risk Sensing at Ginnie Mae - Objective

Risk Sensing is part of a multi-year effort at Ginnie Mae to modernize its capabilities to address a more complex industry risk environment



	Capabilities
1	Counterparty Risk Reporting
2	Quarterly Trends and Deep Dives
3	Issuer Credit Reviews
4	CorporateWatch
5	Risk-Based Pricing
6	Exposure Modeling
7	Predictive Modeling
8	Natural Disaster Analysis
9	Owned Portfolio Analytics
10	Issuer Financing Evaluations
11	Non-Bank Stress Testing
12	Risk Sensing
13	DESC
14	KPIs
15	Servicing Fee Coverage
16	Enhanced Acknowledgement Agreements
17	Credit Enhancements
18	Cyber Threat Detection
19	External Regulator Coordination

Risk Sensing Focuses on the Unknown Unknowns

New tools and techniques make it possible to introduce/analyze new data sets

Real Time Social Intelligence

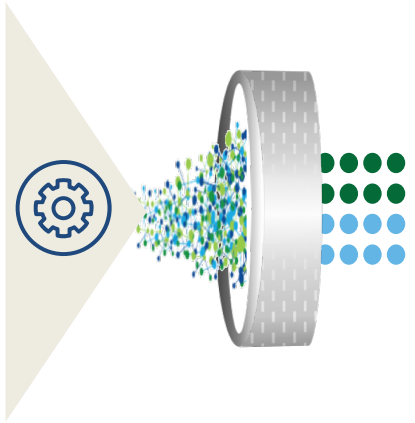
Statistically analyzing over **100 million posts** per day

- Provides continuous **real-time** data content classification
- **Predicts** social signals through **next 72 hours**
- Cognitive analytics enhance organizational intelligence via **unsupervised machine learning**

Periodic Near Term Horizon Scanning

Scanning **340,000+** news, blogs, and social media sources in 190 countries and 80 languages

- Provides **near term** insights on risks that may emerge within a year
- **Proactively** identifies emerging risks using **cognitive analytics**
- **Augmented insights** via industry/subject matter analysts wit

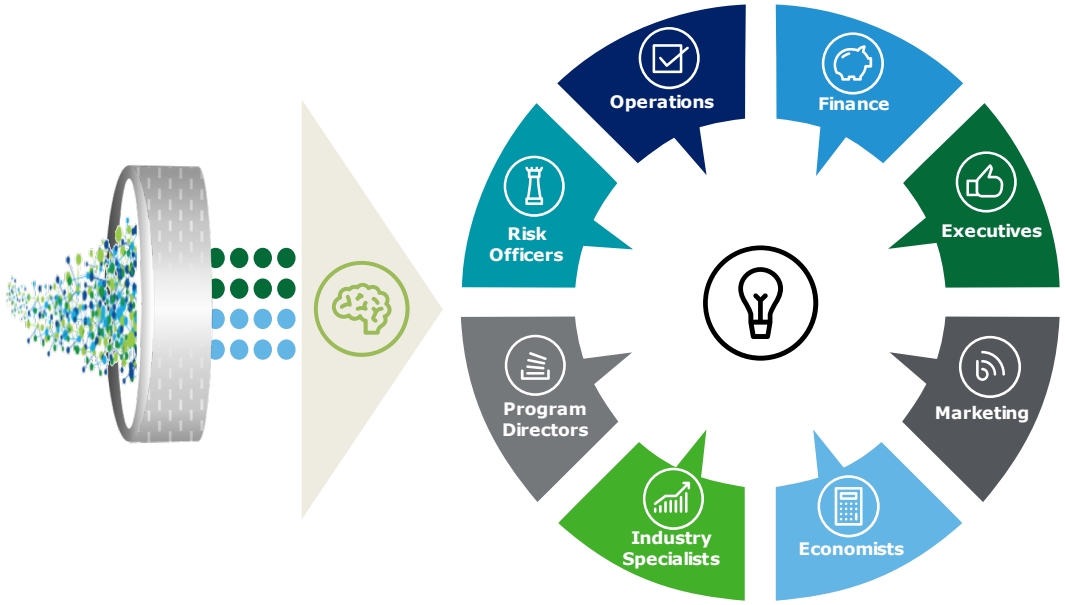


Advanced Analytics enables:

- Processing of large amounts of data quickly
- Processing new varieties of data, e.g. unstructured

Risk Sensing Focuses on the Unknown Unknowns

New data sets enable new analyses and new insight



With the power to analyze new data, organizations can:

- Broaden the scope of risk awareness within the organization
- Shift attention forward looking
- Incorporate more perspectives into risk planning, mitigation
- Make more informed investment and budget decisions/requests