

The Impact of Bottom-Up Risk Assessment on Enhancing Risk Culture within SABIC Shared Services

أثر التقييم التصاعدي للمخاطر على تعزيز ثقافة المخاطر في الخدمات المشتركة في سابك

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## **Introduction:**

Today, organizations, in a complex business landscape, are gradually implementing Shared Services models to improve efficiency, streamline processes, and ensure standardized operations across functions such as Information Technology, Procurement, Facility Management, Cybersecurity, Digital Transformation, and Planning and Control. As these functions mature, effective risk management becomes a cornerstone for sustaining performance, ensuring compliance, and achieving strategic objectives (COSO, 2017; ISO, 2018).

Within Shared Services, bottom-up risk assessment (BURA) has emerged as a structured approach to involve employees directly in identifying and assessing risks within their functional areas. This approach provides valuable operational insight and fosters accountability while complementing traditional top-down risk governance (OCEG, 2016; IRM, 2019). However, while BURA processes are widely applied, their actual influence on risk culture (defined as the shared values, attitudes, and behaviors that shape how risks are perceived and managed) is still under explored (FSB, 2014; Schein & Schein, 2017).

I will try to examine whether bottom-up risk assessment contributes to strengthening risk culture within SABIC Shared Services and to what extent. My study aims to determine if increased participation in risk identification and evaluation alone translates into greater ownership, accountability, and proactive engagement across the organization or there is another factor. By investigating this relationship, the research provides both academic and practical insights into how inclusive risk practices can enhance governance maturity and organizational resilience.

### **Problem Statement:**

Bottom-up risk assessment has been implemented in SABIC as part of its risk management framework, but there remains a limited understanding of its actual influence on its risk culture. Also, even though SS employees across different functions took part in identifying and assessing risks, it is unclear whether this participatory process has effectively strengthened ownership, accountability, and proactive risk behavior or just improved procedural compliance (COSO, 2017; IRM, 2019).

I backup this statement with the recent results from SABIC SS Bottom-Up Risk Assessment (BURA) exercises which show a decrease in overall risk maturity scores, declining from 77 (Advanced) in 2023 to 68 (Operational) in 2025. This drop suggests that while the process is established, its influence on sustaining or improving risk culture may not be as strong as intended. The Financial Stability Board's (2014) observed that formal frameworks often exist without a corresponding shift in cultural behaviors which aligns with the above suggestion.

This situation reveals a gap between risk assessment processes and cultural reinforcement mechanisms where tools may exist but are not deeply integrated into daily decision-making or communication (Schein & Schein, 2017). The main research problem, therefore, is to determine whether bottom-up risk assessment honestly contributes to enhancing risk culture within Shared Services functions or if the observed maturity levels indicate a need for more substantial alignment between assessment practices, leadership behaviors, and employee engagement in risk management (ISO, 2018; OCEG, 2016).

## **Importance of the Study:**

### **Academic Importance**

This study contributes to the growing body of research on risk culture and bottom-up risk management by analytically examining their relationship within Shared Services environments. While frameworks such as COSO ERM (2017), ISO 31000 (2018), and the OCEG Red Book (2016) recognize employee engagement as essential for embedding risk awareness, few empirical studies have quantified this relationship. The research builds a unified conceptual model linking participation, communication, and accountability to risk culture outcomes by integrating these frameworks.

### **Practical Importance**

Practically, the study provides insights for leadership and risk professionals on inclusive risk assessment practices that strengthen risk culture. The results can help organizations evaluate whether existing BURA initiatives effectively translate into improved cultural behaviors and sustained risk maturity (IRM, 2019; FSB, 2014). Furthermore, the findings may guide SABIC Shared Services in refining feedback mechanisms, communication structures, and leadership behaviors to ensure that bottom-up risk assessment contributes to governance maturity and resilience (COSO, 2017; ISO, 2018).

### **Objectives of the Study:**

The main objective of this study is to examine the impact of bottom-up risk assessment on enhancing risk culture within SABIC Shared Services.

Specific objectives:

1. To analyze the relationship between bottom-up risk assessment practices and key dimensions of risk culture.
2. To evaluate whether bottom-up risk assessment contributes to sustaining or improving organizational risk maturity.
3. To identify factors that enhance or hinder the effectiveness of bottom-up risk assessment in strengthening risk culture.
4. To provide recommendations for integrating risk assessment and culture reinforcement mechanisms.

## **Research Questions:**

### **Main Research Problem:**

To what extent does bottom-up risk assessment influence the development and strengthening of risk culture within SABIC Shared Services?

### **Sub-questions:**

1. How does bottom-up risk assessment affect ownership, accountability, communication, and proactive behavior?
2. Does bottom-up risk assessment contribute to maintaining or improving risk maturity?
3. What factors enhance or hinder its effectiveness?
4. How can integration between risk assessment and culture reinforcement be improved?

## **Research Hypotheses:**

### **Main Hypothesis:**

- H0. There is no significant relationship between bottom-up risk assessment and risk culture within SABIC Shared Services.
- H1. There is a significant positive relationship between bottom-up risk assessment and risk culture within SABIC Shared Services.

### **Sub-Hypotheses:**

- H1a. BURA positively influences ownership and accountability.
- H1b. BURA enhances communication and awareness.
- H1c. BURA promotes proactive risk behavior.
- H1d. Leadership support and collaboration moderate the effect of BURA on risk culture.
- H1e. The quality of BURA correlates positively with organizational risk maturity.

## **Previous Studies:**

Understanding the relationship between bottom-up risk assessment (BURA) and risk culture requires reviewing both conceptual frameworks and empirical findings across multiple disciplines, including enterprise risk management, organizational behavior, and shared services governance.

While leading frameworks such as COSO ERM (2017), ISO 31000:2018, and the OCEG GRC Capability Model (2016) emphasize integrating risk culture into governance processes, empirical evidence on how participatory risk assessments shape culture remains limited.

This review is structured into four sections:

1. Theoretical foundations and frameworks,
2. Studies on bottom-up risk management practices,
3. Research on risk culture and maturity, and
4. Identified research gaps.

### **1. Theoretical Foundations and Frameworks**

#### **1.1 COSO ERM (2017)**

The COSO Enterprise Risk Management Framework defines risk culture as a foundational element that shapes how decisions are made and risks are communicated across an organization (COSO, 2017). Its "Governance and Culture" component explicitly connects employee behavior, tone at the top, and information flow to effective risk management. COSO (2017) recognizes that culture is reinforced through open dialogue and transparency principles central to bottom-up engagement.

#### **1.2 ISO 31000:2018**

ISO 31000 defines risk management as a structured and iterative process guided by leadership, integration, and inclusiveness (ISO, 2018). The standard encourages organizations to embed risk awareness into all activities and involve employees in identifying, assessing, and managing risk. By emphasizing participation and continual improvement, ISO 31000 provides a rationale for bottom-up assessment as a mechanism for strengthening risk culture.

#### **1.3 OCEG GRC Capability Model (2016)**

OCEG's model integrates governance, risk, and compliance (GRC) under the concept of Principled Performance — reliably achieving objectives while addressing uncertainty and acting with integrity (OCEG, 2016). The model emphasizes two-way communication and accountability, aligning with bottom-up methodologies that enhance staff involvement and governance maturity, thereby promoting ethical conduct.

#### **1.4 Supporting Guidance (IRM, FSB)**

The Financial Stability Board (FSB, 2014) identified four drivers of risk culture: tone from the top, accountability, communication, and incentives.

Similarly, the Institute of Risk Management (IRM, 2019) emphasized that culture is built through daily behaviors rather than policies. Both agree that engagement and ownership are what distinguish compliant from resilient organizations.

## **2. Studies on Bottom-Up Risk Assessment and Participation**

Bottom-up risk assessment, also known as participatory risk management, is recognized in the literature as a way to improve transparency, inclusivity, and collective awareness.

1. Kleffner et al. (2003) found that ERM adoption was higher where information flowed upward from operational levels, showing that participation enhances identification accuracy.
2. Mikes and Kaplan (2015) proposed that "calculative cultures" emerge when employees internalize risk processes, leading to proactive behavior.
3. Hunt (2019) observed that decentralized feedback loops in shared services improved accountability and collaboration.
4. Fraser and Simkins (2016) argued that risk identification driven by operational teams captures "micro-level vulnerabilities" often missed by top-down reviews.

Together, these studies suggest that participation in risk assessment fosters ownership and learning, critical foundations for a positive risk culture.

## **3. Studies on Risk Culture, Maturity, and Performance**

Empirical research suggests that frameworks alone do not guarantee high maturity or a strong culture.

1. Gordon, Loeb, and Tseng (2009) showed that ERM positively influences performance only when culture supports collaboration and open dialogue.
2. Power (2007) cautioned against "ritualistic compliance," where formal processes fail to translate into behavioral change.
3. Schein and Schein (2017) emphasized that cultural change arises through learning and reinforcement, rather than through procedures.
4. IRM (2019) reported that firms with culturally embedded risk awareness outperform those that rely on formal compliance structures.

## **4. Shared Services Context**

SABIC Shared Services (SSOs) are cross-functional, standardized, and efficiency-driven environments that often struggle to maintain distributed risk ownership.

While centralization can create control and consistency, it can also cause disengagement if risk management feels distant from day-to-day operations.

Research by Ulrich (2015) and Seddon et al. (2018) demonstrates that empowerment and feedback loops are essential for sustaining risk ownership and continuous improvement within shared services.

Integrating BURA mechanisms can therefore balance central oversight with employee empowerment, reinforcing both accountability and adaptability.

## 5. Comparative Summary of Key Studies

| Author(s)              | Focus / Sector                  | Methodology            | Key Findings                                          | Relevance to Current Study                      |
|------------------------|---------------------------------|------------------------|-------------------------------------------------------|-------------------------------------------------|
| Kleffner et al. (2003) | Corporate governance & ERM      | Quantitative survey    | Upward information flow improves ERM adoption         | Supports the concept of bottom-up communication |
| Gordon et al. (2009)   | ERM & performance               | Quantitative           | ERM linked to performance when risk culture is strong | Demonstrates culture as a mediating factor      |
| Mikes & Kaplan (2015)  | Risk management culture         | Qualitative case study | “Calculative cultures” strengthen proactive behavior  | Shows cultural embedding via participation      |
| Hunt (2019)            | Shared services risk engagement | Case study             | Decentralized feedback improves accountability        | Directly relevant to Shared Services context    |
| Power (2007)           | Organizational compliance       | Conceptual             | Over-formalization weakens culture                    | Highlights need for genuine engagement          |
| Schein & Schein (2017) | Organizational culture theory   | Conceptual             | Culture changes through learning, not enforcement     | Aligns with need for bottom-up reinforcement    |
| IRM (2019)             | Risk culture in practice        | Industry guidance      | Behavior and ownership drive risk culture maturity    | Provides practitioner validation                |
| Seddon et al. (2018)   | Shared Services governance      | Mixed methods          | Empowerment drives collaboration and efficiency       | Explains why Shared Services benefit from BURA  |

## 6. Conceptual Synthesis

The reviewed literature converges on several critical insights.

First, participatory approaches such as BURA are consistently associated with improved communication, accountability, and risk ownership, yet these effects are often inferred rather than empirically measured.

Second, studies indicate that risk culture acts as a mediating factor between process quality and overall organizational performance (Gordon et al., 2009).

Third, despite the emphasis on engagement, existing studies primarily examine financial or manufacturing sectors, leaving the Shared Services context underrepresented.

This synthesis reinforces the need for an empirical study examining whether and how bottom-up risk assessment contributes to measurable improvements in risk culture within SABIC Shared Services. In this setting, efficiency, standardization, and collaboration coexist and sometimes compete.

### **Theoretical Framework:**

This study integrates:

- COSO ERM (2017): Governance & Culture; Information, Communication & Reporting.
- ISO 31000 (2018): Leadership, Integration, Inclusiveness.
- OCEG Red Book (2016): Principled Performance and feedback loops.

These frameworks jointly propose that bottom-up risk assessment enhances risk culture through employee participation, transparent communication, and leadership reinforcement. And that yet to be proven.

## Research Methodology and Design:

### 1. Research Design

This study employs a quantitative, descriptive–analytical design. The quantitative approach allows me to numerically measure relationships between the independent variable (Bottom-Up Risk Assessment – BURA) and the dependent variable (Risk Culture) across Shared Services functions. The descriptive component captures employees' current perceptions, while the analytical component tests whether these perceptions differ by participation in BURA activities.

I will conduct a cross-sectional survey using an online questionnaire, enabling efficient data collection from multiple departments with minimal disruption to daily operations.

### 2. Population and Sampling

The target population includes all employees working in Shared Services functions, including Information Technology, Procurement, Facility Management, Cybersecurity, Digital Transformation, and Planning and Control. The population includes both employees who took part in the most recent BURA and those who did not, to allow comparative analysis.

I will use convenience sampling due to accessibility constraints. The minimum sample size is set at 100 respondents to ensure sufficient statistical power (Cohen 1988). I will seek representation from each functional area to capture organizational diversity.

### 3. Instrument Development and Validation

#### 3.1 Item Generation

Questionnaire items were derived from leading frameworks such as COSO (2017), ISO 31000 (2018), OCEG (2016), IRM (2019), and FSB (2014), and adapted from validated risk-culture surveys in the existing literature (Mikes & Kaplan, 2015; Gordon et al., 2009). Items are grouped into four constructs:

| Construct                                     | Example Source                 | Indicators / Sample Items                            | Scale             |
|-----------------------------------------------|--------------------------------|------------------------------------------------------|-------------------|
| <b>Bottom-Up Risk Assessment</b>              | ISO 31000 (2018) ; OCEG (2016) | Participation · Communication · Feedback · Follow-up | 5-point Likert    |
| <b>Risk Culture</b>                           | COSO (2017) ; IRM (2019)       | Ownership · Accountability · Awareness · Proactivity | 5-point Likert    |
| <b>Leadership Support &amp; Collaboration</b> | FSB (2014)                     | Support · Team dialogue · Cross-function learning    | 5-point Likert    |
| <b>Demographics &amp; Exposure</b>            | Researcher                     | Function · Tenure · Participation frequency          | Nominal / Ordinal |

Each dimension includes 3–5 items, yielding approximately 28–32 statements in total.

#### 3.2 Expert Validation and Pilot Testing

- **Expert Validation:** Three subject-matter experts (two academics, one risk professional) will review the draft instrument for relevance, clarity, and alignment with research objectives.

- Pilot Testing: A pilot of 10 respondents will test comprehension and timing. I will use feedback to refine ambiguous wording.

- Reliability: Internal consistency will be evaluated using Cronbach's Alpha; coefficients  $\geq 0.70$  will be deemed acceptable (Hair et al., 2019).

- Construct Validity: Exploratory Factor Analysis (EFA) will confirm that items load appropriately under their respective constructs.

#### 4. Data-Collection Procedure and Timeline

| Phase | Activity                              | Planned Period | Output                  |
|-------|---------------------------------------|----------------|-------------------------|
| 1     | Instrument drafting & expert review   | Nov – Dec 2025 | Validated questionnaire |
| 2     | Pilot test and refinement             | Jan.26         | Reliability verified    |
| 3     | Survey distribution (via Forms)       | Feb.26         | Responses collected     |
| 4     | Data cleaning & analysis (Rapidminer) | Mar.26         | Statistical results     |
| 5     | Interpretation & report drafting      | Apr.26         | Findings chapter        |

I will distribute the survey link through internal communication channels. Participation will be voluntary and anonymous.

#### 5. Data-Analysis Plan

I will export the collected data and analyze it using Rapidminer Studio which is an advanced data analytics platform that I already have access to and capable of executing statistical and predictive modeling techniques. The software would allow me to reliably test (Cronbach's Alpha), perform Correlation analysis and perform regression modeling, similar to SPSS, while offering enhanced visualization and automation capabilities. The choice of Rapidminer ensures flexibility in handling structured survey data and supports future extension of the model into predictive risk-culture analytics.

The following analyses will be performed

| Stage                | Technique              | Purpose / Output                               |
|----------------------|------------------------|------------------------------------------------|
| Descriptive Analysis | Means, SD, Frequencies | Summarize demographic & item-level responses   |
| Reliability Testing  | Cronbach's Alpha       | Measure internal consistency of each construct |

|                               |                             |                                                                                                   |
|-------------------------------|-----------------------------|---------------------------------------------------------------------------------------------------|
| <b>Validity Testing</b>       | Factor Analysis             | Confirm construct structure (EFA / CFA if possible)                                               |
| <b>Correlation Analysis</b>   | Pearson's r                 | Examine relationships between BURA and culture dimensions                                         |
| <b>Comparative Tests</b>      | Independent t-test / ANCOVA | Compare culture scores of BURA participants vs non-participants                                   |
| <b>Regression Modeling</b>    | Multiple Regression         | Determine predictive strength of BURA on risk culture controlling for leadership support & tenure |
| <b>Effect Size Estimation</b> | Cohen's d / $\eta^2$        | Quantify magnitude of observed relationships                                                      |

I will assess Statistical significance at  $\alpha = 0.05$ . Both parametric and non-parametric tests will be used where assumptions are violated.

#### 6. Ethical Considerations and Data Management

The research adheres to the ethical principles of voluntary participation, informed consent, confidentiality, and transparency.

- **Anonymity:** No names or departmental identifiers will be collected.
- **Informed Consent:** A pre-survey statement will explain the purpose, confidentiality, and the right to withdraw at any time.
- **Data Storage:** Data will be stored securely in password-protected drives and deleted after completion.
- **Approval:** The research has been pre-cleared with the organization's HR Business Partnership for survey distribution as far as no confidential information in jobbery.

## Study Tools:

### 1. Primary Research Tool: Structured Questionnaire

The main instrument used for data collection in this study is a structured online questionnaire, designed to measure employees' perceptions of Bottom-Up Risk Assessment (BURA) practices and Risk Culture within SABIC Shared Services.

The questionnaire is carefully structured to ensure clarity, reliability, and alignment with the study's objectives and hypotheses.

It will be developed in both English and Arabic to ensure linguistic inclusiveness and to minimize misunderstanding among respondents whose primary working language may differ.

The questionnaire will be distributed electronically via a secure platform such as Microsoft Forms, allowing respondents to complete it conveniently and anonymously. The digital format also enables automatic data capture, supporting accurate coding and statistical analysis in Rapidminer.

### 2. Structure and Organization of the Questionnaire

The instrument will consist of four main sections, each serving a distinct analytical purpose:

| Section                                    | Content                                                                            | Purpose                                                    | Scale / Response Type                                        |
|--------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------|--------------------------------------------------------------|
| <b>A. Demographic Information</b>          | Function, tenure, management level, years of experience, and participation in BURA | To profile respondents and support subgroup analysis       | Nominal / Ordinal                                            |
| <b>B. Bottom-Up Risk Assessment (BURA)</b> | Questions on participation, communication, and feedback processes                  | To measure inclusiveness and quality of BURA practices     | 5-point Likert (1 = Strongly Disagree to 5 = Strongly Agree) |
| <b>C. Risk Culture Dimensions</b>          | Questions on ownership, accountability, awareness, and proactive behavior          | To assess the cultural maturity level of the organization  | 5-point Likert                                               |
| <b>D. Open-Ended Questions</b>             | Space for qualitative reflections or improvement suggestions                       | To collect additional insights beyond structured responses | Open text                                                    |

Each closed-ended section (B and C) will contain 25–30 items total, ensuring robust internal consistency for statistical testing.

### 3. Example Items by Construct

Below are sample items illustrating how I will operationalize theoretical constructs:

#### A. Bottom-Up Risk Assessment (Independent Variable)

- "I am encouraged to identify risks that could affect my area of responsibility."
- "Management provides feedback on the risks that employees raise."
- "Risk assessment activities in my function involve open discussion across different levels."
- "Follow-up actions from risk assessments are clearly communicated to all staff."

#### B. Risk Culture (Dependent Variable)

- "Employees take ownership of the risks they identify."
- "Accountability for managing risks is clearly defined in my function."
- "Colleagues proactively discuss and share lessons learned from past incidents."
- "Communication about risk issues is transparent and encouraged by leadership."

#### C. Leadership Support / Moderating Variable

- "My manager demonstrates commitment to risk management."
- "Leaders in my function encourage open dialogue about challenges and uncertainties."
- "I receive recognition or feedback for raising potential risks early."

#### D. Awareness and Communication (Cross-cutting Theme)

- "The outcomes of our Bottom-Up Risk Assessment are shared across the organization."
- "Employees are aware of the overall risk management framework and its objectives."

Each item is phrased positively, and several will be reverse coded to reduce response bias (e.g., "Employees rarely receive feedback on the risks they identify").

### 4. Instrument Development Process

The questionnaire design follows a theory-driven approach combining academic literature, established frameworks, and organizational context.

#### 4.1 Sources of Item Development

- COSO ERM (2017) – Governance and Culture component (tone, accountability, communication).
- ISO 31000 (2018) – Principles of inclusiveness and continual improvement.
- OCEG GRC Model (2016) – Feedback and integration across risk and compliance.
- IRM (2019) – Behavioral dimensions of risk culture.
- FSB (2014) – Supervisory insights on effective culture drivers.

## 4.2 Adaptation to Context

Since the study is situated in a Shared Services organization, all items are contextualized to operational realities, such as multi-department collaboration, centralized reporting, and distributed accountability.

This adaptation ensures relevance and clarity while maintaining conceptual integrity.

## 4.3 Translation and Pilot Validation

The English version will be professionally translated into Arabic and back-translated.

A pilot test with 10–15 respondents will confirm linguistic clarity, logical flow, and estimated completion time (10–12 minutes).

## 5. Reliability, Validity, and Data Quality Procedures

| Aspect                      | Method                                                          | Purpose / Criteria                                              | Reference               |
|-----------------------------|-----------------------------------------------------------------|-----------------------------------------------------------------|-------------------------|
| <b>Content Validity</b>     | Expert review by 2 academic supervisors and 1 risk professional | To confirm alignment with objectives and conceptual definitions | Sekaran & Bougie (2016) |
| <b>Construct Validity</b>   | Exploratory Factor Analysis (EFA)                               | To verify grouping of items under relevant constructs           | Hair et al. (2019)      |
| <b>Internal Consistency</b> | Cronbach's Alpha                                                | Acceptable reliability $\geq 0.70$                              | Hair et al. (2019)      |
| <b>Translation Validity</b> | Back-translation                                                | To ensure linguistic equivalence (English ↔ Arabic)             | Brislin (1986)          |
| <b>Bias Mitigation</b>      | Reverse-coded items & anonymity                                 | To reduce social desirability bias                              | Podsakoff et al. (2003) |

All analyses will be performed in Rapidminer, with summary reliability coefficients reported for each construct (BURA, Risk Culture, Leadership Support).

## 6. Data Collection and Administration

- **Distribution:** I will distribute the survey via internal email or collaboration platforms with a brief cover letter describing the study's purpose and confidentiality assurance.
- **Response Window:** Approximately two weeks (10 working days) to ensure adequate participation while maintaining momentum.
- **Estimated Completion Time:**

## **Boundaries:**

Defining the boundaries of a research study helps to clarify its scope, context, and generalizability. It also ensures transparency by identifying the parameters within which I can interpret the results. For this research, which examines the impact of bottom-up risk assessment (BURA) on risk culture within SABIC Shared Services, the boundaries are categorized as topical, spatial, temporal, human, and methodological.

### **1. Topical Boundary**

The topical boundary defines the specific themes, variables, and constructs that the research addresses.

This study focuses exclusively on exploring the relationship between:

1. The independent variable: Bottom-Up Risk Assessment (BURA), represented through employee participation, communication, and feedback mechanisms.
2. The dependent variable: Risk Culture, represented by ownership, accountability, awareness, and proactive behavior.

While other aspects, such as overall enterprise governance, top-down risk processes, and compliance frameworks, may interact with risk culture, they fall outside the study's analytical scope.

This boundary ensures that the research remains centered on grassroots participation in risk management rather than executive-level policy design, thus providing a focused understanding of how cultural change may emerge from operational engagement.

### **2. Spatial Boundary**

The spatial boundary concerns the organizational and environmental context of the research.

This study is confined to Shared Services environments, where functions such as Information Technology, Procurement, Facility Management, Cybersecurity, Digital Transformation, and Planning and Control are centralized to serve multiple business units within one organization.

The choice of this context is deliberate:

1. Shared Services models often aim to achieve efficiency and standardization, yet risk ownership can become diffused.
2. BURA practices within such models offer a valuable opportunity to test whether distributed participation can strengthen collective culture despite centralization.

The study will thus not generalize to manufacturing, healthcare, or purely financial institutions, as their structures and decision hierarchies differ substantially.

However, the insights may still offer transferable lessons to other organizations with hybrid or matrix structures.

### **3. Temporal Boundary**

The temporal boundary defines the timeframe of data collection and contextual relevance.

The research will focus on data gathered during Q1 2026, following the 2025 Bottom-Up Risk Assessment cycle.

This timing allows for reflection on an assessment that participants recently experienced, increasing the accuracy of perceptions while minimizing recall bias.

Furthermore, comparisons may refer to changes observed between BURA 2023 (maturity score 77 – Advanced) and BURA 2025 (maturity score 68 – Operational), but no new longitudinal data will be collected beyond the 2026 survey.

Thus, findings will capture a cross-sectional snapshot rather than a longitudinal progression.

Future research may expand this boundary to include trend analysis across multiple cycles to observe cultural evolution over time.

#### 4. Human Boundary

The human boundary identifies who is included or excluded in the sample population.

The target group includes employees and managers working within Shared Services functions, regardless of hierarchical level or tenure, provided they:

1. Are familiar with or affected by organizational risk management activities, and
2. Have either participated in or been exposed to the Bottom-Up Risk Assessment process.

Exclusions include:

1. External consultants or contractors are not formally part of the Shared Services structure.
2. Business-unit employees who are clients of the Shared Services functions but not part of their internal processes.

Including both BURA participants and non-participants will allow comparative analysis and provide a richer understanding of whether exposure to BURA correlates with stronger perceptions of risk culture.

#### 5. Methodological Boundary

The study is methodologically limited to a quantitative cross-sectional survey design.

This methodological boundary means I will collect data at a single point in time and primarily rely on self-reported perceptions.

Although this method provides measurable and comparable data, it does not capture deeper behavioral or longitudinal changes.

Future studies could complement this design with qualitative interviews or longitudinal case studies to strengthen causal inference.

Additionally, while the study uses established frameworks (COSO, ISO, OCEG, IRM), the operationalization of risk culture dimensions is adapted to the organizational context rather than applying a standardized instrument verbatim. This adaptation may introduce minor contextual bias but ensures relevance and clarity for respondents.

## 6. Ethical and Practical Boundary

Ethical boundaries pertain to the responsible conduct of research and respect for organizational confidentiality.

All participation will be voluntary and anonymous, and no individual data will be traceable.

Practically, the boundary also recognizes that time constraints and organizational permissions may limit access to a larger population. Therefore, results will be interpreted as indicative, not definitive, of the overall Shared Services risk culture landscape.

### Summary

In summary, these boundaries ensure that the study remains focused, ethical, and feasible, while maintaining academic rigor.

They define clear lines of inclusion and exclusion that allow for valid interpretation of results without overstating their generalizability.

By transparently articulating these limits, the research strengthens its credibility and provides a foundation for replication or future expansion into comparative and longitudinal studies.

## References:

- Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences* (2nd ed.). Lawrence Erlbaum Associates.
- Committee of Sponsoring Organizations of the Treadway Commission (COSO). (2017). *Enterprise Risk Management—Integrating with Strategy and Performance*. COSO.
- Financial Stability Board (FSB). (2014). *Guidance on Supervisory Interaction with Financial Institutions on Risk Culture*. FSB.
- Financial Stability Board (FSB). (2020). *Effective Practices for Cyber Incident Response and Recovery*. FSB.
- Fraser, J., & Simkins, B. (2016). *Enterprise Risk Management: Today's Leading Research and Best Practices for Tomorrow's Executives*. Wiley.
- Gordon, L. A., Loeb, M. P., & Tseng, C.-Y. (2009). Enterprise risk management and firm performance. *Journal of Accounting and Public Policy*, 28(4), 301–327. <https://doi.org/10.1016/j.jaccpubpol.2009.06.006>
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). *Multivariate Data Analysis* (8th ed.). Cengage Learning.
- Hunt, J. (2019). Participatory approaches in enterprise risk management. *International Journal of Risk Management*, 23(2), 112–130.
- Institute of Risk Management (IRM). (2012). *Risk Culture: Resources for Practitioners*. IRM.
- Institute of Risk Management (IRM). (2019). *Risk Culture: Guidance Paper*. IRM.
- International Organization for Standardization (ISO). (2018). *ISO 31000:2018 Risk Management—Guidelines*. ISO.
- Kleffner, A. E., Lee, R. B., & McGannon, B. (2003). The effect of corporate governance on the use of enterprise risk management: Evidence from Canada. *Risk Management and Insurance Review*, 6(1), 53–73.
- Mikes, A., & Kaplan, R. S. (2015). When one size doesn't fit all: Evolving directions in the research and practice of enterprise risk management. *Journal of Applied Corporate Finance*, 27(1), 37–41.
- OCEG. (2016). *GRC Capability Model (Red Book)*. OCEG.
- Power, M. (2007). *Organized Uncertainty: Designing a World of Risk Management*. Oxford University Press.
- Schein, E. H., & Schein, P. (2017). *Organizational Culture and Leadership* (5th ed.). Wiley.
- Seddon, P. B., Cullen, S., & Willcocks, L. (2018). *Shared Services and Outsourcing: A Contemporary Outlook*. Routledge.
- Sekaran, U., & Bougie, R. (2016). *Research Methods for Business: A Skill-Building Approach* (7th ed.). Wiley.
- Ulrich, D. (2015). *HR from the Outside In: Six Competencies for the Future of Human Resources*. McGraw-Hill.