

**Urban Analytics for Transparency and Decision-Making**  
**Project Report and User Manual**

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## Urban Analytics for Transparency and Decision-Making

### Final Report

#### Abstract

The *Urban Analytics for Transparency and Decision-Making* capstone project with Columbia University School of International and Public Affairs aims to strengthen transparency and accountability within the Cascais Municipal Government while enhancing public trust in local institutions. Anti-corruption is fundamental to effective urban governance, serving as a foundation for sustainable and equitable development. As cities grow and urbanization accelerates, municipalities must adopt innovative, data-driven approaches to address governance challenges and improve responsiveness to citizens' needs. This project, in collaboration with the Cascais Municipality, successfully developed a robust corruption risk monitoring system by integrating comprehensive data collection and citizen perception insights that can be used to inform policy making. To achieve this, the consulting team designed a Power BI-based tool that tracks real-time progress across government departments. This database incorporates existing anti-corruption metrics alongside revised indicators and perception data to more holistically assess corruption risks. To capture public perception, the team conducted stakeholder mapping and created surveys to be disseminated among government employees and local citizens to measure how transparency and accountability are perceived and evaluate the effectiveness of existing anti-corruption efforts. These insights are automatically integrated into a corruption risk portal, allowing government entities to monitor trends and exact changes. Given legal requirements for public document accessibility, this project envisions the portal eventually becoming public-facing, fostering civic engagement and enabling citizen participation in anti-corruption efforts. By leveraging data-driven insights and participatory governance, this initiative has enhanced municipal transparency in Cascais while establishing a scalable model for accountable urban governance.

#### Background

Last year, Portugal celebrated its 50th year of democracy since the Carnation Revolution, which overthrew the right-wing dictatorship on April 25th, 1974.<sup>1</sup> Since then, the country has endured a rocky path towards truly integrating democratic practices, its recent history being colored by prejudiced attitudes towards people of color, harboring international financial crimes, and electing several prime ministers who have now been accused of corruption.<sup>2</sup> Transparency and anti-corruption lie at the heart of the essential democratic strengthening process and are a central focus of governance reforms as Portugal attempts to rectify its democratic record. U4, an anti-corruption resource center, states that “anti-corruption reforms can make a positive contribution to the quality of democracy through policy instruments that enhance

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<sup>1</sup>Associated Press, “Corruption Scandals Cast Shadow Over Portugal’s Early General Election,” *Voice of America*, February 25, 2024, <https://www.voanews.com/a/corruption-scandals-cast-shadow-over-portugal-s-early-general-election-/7501928.html>.

<sup>2</sup>Francesc Badia I Dalmases, “Portugal’s Complacency Towards Corruption,” openDemocracy, February 4, 2020, <https://www.opendemocracy.net/en/democraciaabierta/portugals-complacency-towards-corruption/>.

integrity, transparency, participation, accountability, independence, and justice.”<sup>3</sup> However, these necessary policy improvements are easier said than done. The country’s Corruption Perception Index (CPI), which sat at 63/100 in 2012, has unfortunately declined since 2019, now hovering at 57/100 after dropping three points in the last year.<sup>4</sup> This is not uncommon. Countries that have recently transitioned to democratic governance usually haven’t developed solid anti-corruption mechanisms, which is how they find themselves in a cycle of high corruption and low-performing democracy.<sup>5</sup>

The federal government has been working to improve its transparency and anti-corruption measures through actions such as updating its Penal Code in January 2024 to include amendments focusing on the crime of money laundering and the definition of “public official”.<sup>6</sup> On the other hand, Portugal continues to experience setbacks—the election last March, 2024, coming about after the socialist government collapsed amid allegations of corruption committed by Prime Minister Antonio Costa, who has yet to be indicted.<sup>7</sup> Guilty or not, this makes Portugal’s path towards transparency and anti-corruption exponentially harder as the public perception continues to wear. In 2024, the Council of Europe’s Group of States Against Corruption (GRECO) found that Portugal remained “globally unsatisfactory” in its compliance with anti-corruption recommendations.<sup>8</sup> Amid the inaction from the national government, local governments have stepped up to integrate transparency and anti-corruption measures into their local policies.

The Municipality of Cascais is located on the coast of Portugal, about 32 kilometers from Lisbon. It is a small municipality with a total population of 214,124 as of the 2021 census. Cascais is also one of the wealthiest municipalities in Portugal, with a cost of living above the national average. Recently, the local government has instituted the Department of Transparency and Quality (DTQ) to integrate better transparency and anti-corruption practices across the local government. This initiative also works to improve the public perception of the municipal government through participatory governance programs, such as whistleblowing channels and participatory budget-making.<sup>9</sup>

Columbia’s capstone consulting group, *Urban Analytics for Transparency and Decision-Making*, teamed up with the government of Cascais to foment the municipality’s efforts by refining the indicators used to monitor and measure anti-corruption data, integrating both compliance and behavioral (perception-based) indicators. The Municipality of Cascais has already made great strides towards digital transformation and data centralization through initiatives such as the GeoCascais platform. This created an important entry point to integrate a data structure that can be visualized in real-time through PowerBI, allowing the

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<sup>3</sup> “Contribution of Anti-corruption Measures to Democracy Promotion,” U4 Anti-Corruption Resource Centre, n.d., <https://www.u4.no/publications/contribution-of-anti-corruption-measures-to-democracy-promotion>.

<sup>4</sup> Transparency International, “Corruption Perceptions Index 2024,” Transparency.org, April 8, 2025, <https://www.transparency.org/en/cpi/2024/index/prt>.

<sup>5</sup> “Contribution of Anti-corruption Measures to Democracy Promotion,” U4 Anti-Corruption Resource Centre, n.d., <https://www.u4.no/publications/contribution-of-anti-corruption-measures-to-democracy-promotion/fullversion#background-understanding-the-relationship-between-corruption-and-democracy>.

<sup>6</sup> “Anti-Corruption 2025 - Portugal | Global Practice Guides | Chambers and Partners,” n.d., <https://practiceguides.chambers.com/practice-guides/anti-corruption-2025/portugal/trends-and-developments/O19344>.

<sup>7</sup> Associated Press, “Corruption Scandals Cast Shadow Over Portugal’s Early General Election,” *Voice of America*, February 25, 2024, <https://www.voanews.com/a/corruption-scandals-cast-shadow-over-portugal-s-early-general-election-/7501928.html>.

<sup>8</sup> Council of Europe, “Council of Europe Anti-corruption Body Publishes a Report on Portugal,” *Group of States Against Corruption*, July 12, 2019, <https://www.coe.int/en/web/greco/-/council-of-europe-anti-corruption-body-publishes-a-report-on-portugal>.

<sup>9</sup> “Transparência Municipal | Câmara Municipal De Cascais,” n.d., <https://www.cascais.pt/sub-area/transparencia-municipal>.

municipality to not only collect data more easily, but to measure change year over year regarding transparency and anti-corruption, and analyze when policy changes are needed.

## Approach

To translate Cascais' commitment to transparency and anti-corruption into actionable practice, the Columbia consulting team adopted a multi-layered approach grounded in research and indicator analysis. This section outlines the methods used to define transparency and anti-corruption standards and refine indicators for local practice. The team worked diligently to incorporate stakeholder feedback through focus group discussions held on sight—informing the structure of the final deliverables. By combining global best practices with localized insight, the team aimed to create a system that not only tracks institutional compliance but also captures behavioral change and public perception.

### *Research*

Thanks to previous work undertaken by a team from the Columbia Graduate School of Architecture, Planning, and Preservation (GSAPP), the groundwork for this project was laid through extensive background research and literature reviews. To understand how transparency and anti-corruption are currently being measured in other countries around the world, a case study analysis was conducted using examples from Barcelona, Madrid, Toronto, and Boston. The learnings from these case studies informed a list of indicators that were recommended to the Municipality of Cascais to integrate into their transparency and anti-corruption strategy. These indicators formed the basis for the work of the consulting team. One other important learning gleaned from the previous GSAPP team was a need for a detailed technical audit to assess Cascais' current data systems, technological infrastructure, and compliance with data protection standards. The consulting team took these recommendations forward in the creation of a data structure and Power BI system to better measure and monitor the city's compliance with transparency and anti-corruption standards.

### *Indicator selection*

The initial phase of the project entailed a detailed analysis of the key performance indicators (KPIs): 1. Those currently being used by the Municipality of Cascais, 2. Recommended KPIs from the GSAPP team, and 3. KPIs mandated by compliance systems such as ISO. KPIs were rated based on their relevance to the local context, demonstrated effectiveness, and ability to capture not only quantitative data but behavioral change. Accompanied by consultations with the Cascais Department of Transparency and Accountability, the following indicators were selected and incorporated into the team's data strategy.

<b>Key Performance Indicators</b>
Effectiveness of actions to address risks and opportunities
Amount of training hours related to preventing and combating corruption
Participation in training or awareness-raising actions related to the prevention and fight against corruption
Effectiveness of training

Number of Admissible Corruption-Related Complaints
Percentage of complaints submitted to Competent Authorities
Percent of control mechanisms implemented Percent of employees who signed the Anti-corruption Policy
Percent of effective control mechanisms
Compliance with the Internal Audit Program of the SGAC
Compliance with the deadlines for implementing actions to eliminate SGAC non-conformities or other incidents related to Corruption, including audit findings

### *Focus Group Discussions*

Two days of stakeholder engagements were conducted during the site visit to Cascais. Both days were predominantly grounded in a review of survey data, which had resulted from the GSAPP team's previous work on the project. The first day brought together the leadership of various departments and units within the municipal government. The second day convened the staff who work within these various departments. Participants were asked to give their reflections on the results, which demonstrated a gap between staff and leadership's understanding of transparency and observations of transparency strategies being integrated into the municipality. The reflections were diverse and very informative for the Department of Transparency and Quality's future strategy. It also brought up important questions around how transparency practices should be integrated into the various departments and the level of buy-in needed to fully promote behavioral change around anti-corruption.

This early focus on research, indicator selection, and stakeholder engagement was essential in shaping a monitoring system that is both globally informed and locally relevant. By critically assessing existing indicators and incorporating new ones that reflect behavioral change and practical implementation, the team laid the groundwork for a comprehensive, actionable framework. These indicators would go on to inform the broader structure of the project, guiding subsequent decisions around data integration, monitoring tools, and stakeholder engagement.

### **Deliverables**

To translate research insights, selected indicators, and results from the focus group discussions into actionable tools, the consulting team produced a set of deliverables designed to embed transparency and anti-corruption monitoring into the daily operations of the Cascais municipal government. These deliverables include a relational data structure, an interactive Power BI dashboard, a stakeholder-informed perception survey strategy, and a user manual to ensure long-term sustainability. Each output was developed with an emphasis on usability, scalability, and alignment with Cascais' broader goals for digital transformation and public accountability.

### *Data Structure*

Once the KPIs were selected, a data structure was created to effectively manage and store data collected across the different departments in the municipality. The database uses a relational structure to connect data across different tables using a common key field, primarily the process ID. This approach allows data to be modular, consistent, and easily scalable, enabling complex indicators to be calculated using data from multiple sources. At the core of the system is the master matrix table, which acts as a central reference point. Other tables like `people_training`, `audit`, `complaint`, and `indicators` link back to this table via the process field. This setup ensures that every training, audit, or complaint is associated with a specific internal process or project.



This relational structure ensures data integrity and enables dynamic dashboard filtering by process, year, or department. It also allows for deeper insights by connecting quantitative and qualitative data across transparency and anti-corruption efforts.

*Power BI*

The Power BI dashboard serves as the central interface for visualizing and analyzing all transparency and anti-corruption indicators tracked by the municipality. Through a suite of interactive visuals—including gauge charts, scorecards, and trend lines, users can monitor compliance progress, identify areas of risk, and benchmark performance over time. The dashboard enables dynamic filtering by process, year, or indicator, allowing users to tailor their view to specific needs or departments. Designed for accessibility, it provides both leadership and technical staff with immediate, actionable insights while supporting transparency goals through clear, intuitive data displays. As new data is entered, the dashboard updates automatically, ensuring real-time oversight and facilitating evidence-based decision-making across the organization.

*Surveys*

Behavioral or perception-based data plays an integral role in informing transparency and anti-corruption policies and practices. Quantitative indicators help rate the city’s compliance with anti-corruption protocol,

however, they do not adequately assess the effectiveness of transparency and anti-corruption practices or capture behavioral change. To track perception data across the local government, the consulting team integrated a stakeholder engagement strategy to better understand how transparency and anti-corruption are understood by international stakeholders (municipal staff and leadership) and external stakeholders (citizens). Two separate focus group discussions were conducted during the site visit, inviting about 10 staff members and 10 unit leaders from different departments across the municipal government. Based on the learning from the conversations, three surveys were produced to better evaluate perception change over time for leadership, staff, and citizens. New KPIs were embedded in the questions of the new surveys and will be tracked annually through the Power BI tool. The survey should be released every year to measure change over time and more accurately adapt policies based on public opinion.

### *Manual*

The manual serves as a comprehensive guide for understanding and operating the transparency monitoring system developed for the municipal government. The system was designed to support and enhance anti-corruption efforts by integrating fragmented data sources into a centralized platform and enabling accessible, real-time insights through interactive data visualizations. This manual is structured to support both technical users and general staff. It outlines the key terms and data architecture, describes the structure and purpose of each dashboard component, and provides detailed instructions for data refresh, maintenance, and troubleshooting. The document also includes a set of recommendations to ensure effective long-term adoption and scalability of the system. By following the guidance in the manual, users will be able to confidently manage the system, interpret insights accurately, and contribute to a more transparent and accountable local government.

Together, these deliverables form a cohesive monitoring system that enables Cascais to track both compliance and perception-based indicators in real time. The system provides a foundation for more transparent and evidence-based decision-making, while also equipping municipal staff with the tools needed to manage and sustain these efforts independently. By combining technical infrastructure with stakeholder engagement, the project advances Cascais' commitment to open governance and serves as a model for other municipalities seeking to integrate anti-corruption strategies into their institutional frameworks.

## **Risk & Recommendations**

While the tools and frameworks developed through this project offer a strong foundation for transparency and anti-corruption monitoring, their long-term success will depend on sustained institutional commitment, technical capacity, and stakeholder engagement. This section outlines key risks identified throughout the project's implementation—from data management and survey deployment to political shifts and public expectations—and offers actionable recommendations to mitigate these risks. By addressing these challenges proactively, the Municipality of Cascais can ensure the system's effectiveness, adaptability, and long-term impact.

### *Surveys and Stakeholder Engagement*

Risk: Stakeholder engagement may lose momentum over time, particularly if future focus group discussions (FGDs) or survey adaptations are deprioritized. Additionally, failing to regularly update the surveys could lead to outdated or misaligned insights that no longer reflect institutional or public sentiment.

<b>Recommendations:</b>
Institutionalize annual FGDs with both internal (staff and leadership) and external stakeholders (citizens and civil society groups) to maintain a feedback loop and inform continuous policy refinement.
Review and revise survey instruments each year to reflect evolving transparency priorities, contextual changes, and emerging risks, ensuring KPIs remain relevant and actionable. However, be mindful that extensive changes to the questions will degrade the ability to measure change over time.
Consider new ways to integrate perception data and behavioral change into the Power BI tool and utilize practices across departments to instill the importance of transparency.
Extend the perception survey to Cascais citizens to begin tracking corruption perception over time and provide spaces for participatory processes—ensuring adequate communication and transparency with surveyors.

#### *Data Structure Integrity*

Risk: Inconsistent data entry, such as typos or formatting errors, could compromise the integrity of the indicators and the reliability of insights derived from the dashboard. Furthermore, limited knowledge of the structure and constraints of each table may lead to improper data handling or duplication.

<b>Recommendations:</b>
Provide standardized data entry templates and controlled vocabularies for each department and personnel contributing to the system.
Offer technical training to staff on how each table functions, including its limitations and interdependencies, to ensure correct use and maintenance.
Periodically audit the data system to identify gaps or irregularities, and use findings to update training materials and processes.
The Department of Transparency and Quality may consider its own internal data officer to ensure compliance and provide technical support where needed, especially if the portal becomes public-facing.

#### *Power BI Dashboard Integration*

Risk: The current separation between compliance and perception data may limit the dashboard's ability to provide a holistic view of anti-corruption efforts. Furthermore, a lack of clarity about whether the dashboard is intended for internal or external audiences could affect user design and impact.

<b>Recommendations:</b>
Consider integrating survey results directly into the Power BI dashboard to allow for a unified view of both behavioral and compliance indicators.
Define the target audiences for the dashboard (internal only vs. public-facing) and create tailored versions if necessary. This would enhance usability while protecting sensitive information where needed.
As Cascais progresses towards public transparency, ensure that visualizations are accessible and easy to interpret by non-technical audiences.

*Cross-Departmental Coordination and Management*

Risk: A lack of collaboration between departments and uneven technical capacity could hinder the consistent use and maintenance of the system. This may also delay data reporting or result in fragmented insights.

<b>Recommendations:</b>
Appoint transparency focal points in each department to serve as liaisons with the DTQ and coordinate internal data collection.
Use the project manual to guide training workshops across departments and ensure shared understanding of system use.
Establish a regular check-in mechanism between departments and the DTQ to review progress, troubleshoot issues, and share lessons learned.

*Political and Institutional Risk*

Risk: Shifts in political leadership or changes in administrative priorities may deprioritize the system or dismantle transparency initiatives altogether, especially if institutional ownership is weak.

<b>Recommendations:</b>
Build strong internal ownership of the system across departments to protect continuity through political cycles.
Advocate for formal adoption of the system within municipal governance frameworks or legal statutes, ensuring that transparency efforts are institutionalized beyond individual leadership.
Use the Power BI dashboard to regularly demonstrate progress and impact to municipal leaders, reinforcing its value as a decision-making tool.

*Public Trust and Expectation Management*

**Risk:** If the dashboard or perception surveys are made public without clear messaging or evidence of action taken, public trust may decline due to perceived inaction or misalignment with citizen expectations.

<b>Recommendations:</b>
Develop a public communication strategy that explains how data is collected, how it informs decision-making, and what concrete actions have resulted.
Use survey results to engage with the public transparently and show responsiveness to concerns, reinforcing a participatory governance model.
Incorporate feedback mechanisms into the dashboard or municipal website where citizens can ask questions or make suggestions about the transparency agenda.

Managing transparency and anti-corruption is a continuous process that requires ongoing refinement and organizational resilience. The recommendations outlined above are designed to strengthen the systems established during this capstone project, while anticipating the practical and political challenges that may arise. By embedding these risk mitigation strategies into institutional processes, Cascais will be better positioned to preserve momentum, build public trust, and remain a national leader in open, accountable governance.

## **Conclusion**

This capstone project marks a significant step forward in Cascais Municipality's efforts to institutionalize transparency and combat corruption through data-driven governance. By building on the foundational work of the GSAPP team and integrating global best practices with local priorities, the Columbia consulting team successfully developed a robust, scalable system to monitor corruption risks and strengthen public accountability. The creation of a comprehensive indicator framework, a relational data structure, and an interactive Power BI dashboard has enabled real-time insights into municipal performance and compliance, while also empowering internal and external stakeholders to engage meaningfully with transparency initiatives.

Incorporating behavioral indicators through stakeholder engagement and perception-based surveys further deepens the municipality's understanding of how transparency is experienced and valued by its constituents. This dual approach—combining compliance metrics with citizen and staff perceptions—offers a more holistic view of governance challenges and opportunities for reform. The accompanying manual ensures that municipal staff have the tools needed to maintain and adapt the system, reinforcing long-term sustainability and institutional learning.

Ultimately, this project demonstrates the power of urban analytics to support participatory, responsive, and accountable governance. It not only positions Cascais as a leader in municipal transparency within Portugal, but also offers a replicable model for cities around the world seeking to operationalize anti-corruption commitments through smart, citizen-centered design.

## **Appendix I: User Manual**

# **Cascais Municipality Transparency Dashboard User Manual**

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## 1. Overview

This manual serves as a comprehensive guide for understanding and operating the transparency monitoring system developed for the municipal government. The system was designed to support and enhance anti-corruption efforts by integrating fragmented data sources into a centralized platform and enabling accessible, real-time insights through interactive data visualizations.

The solution comprises two core components:

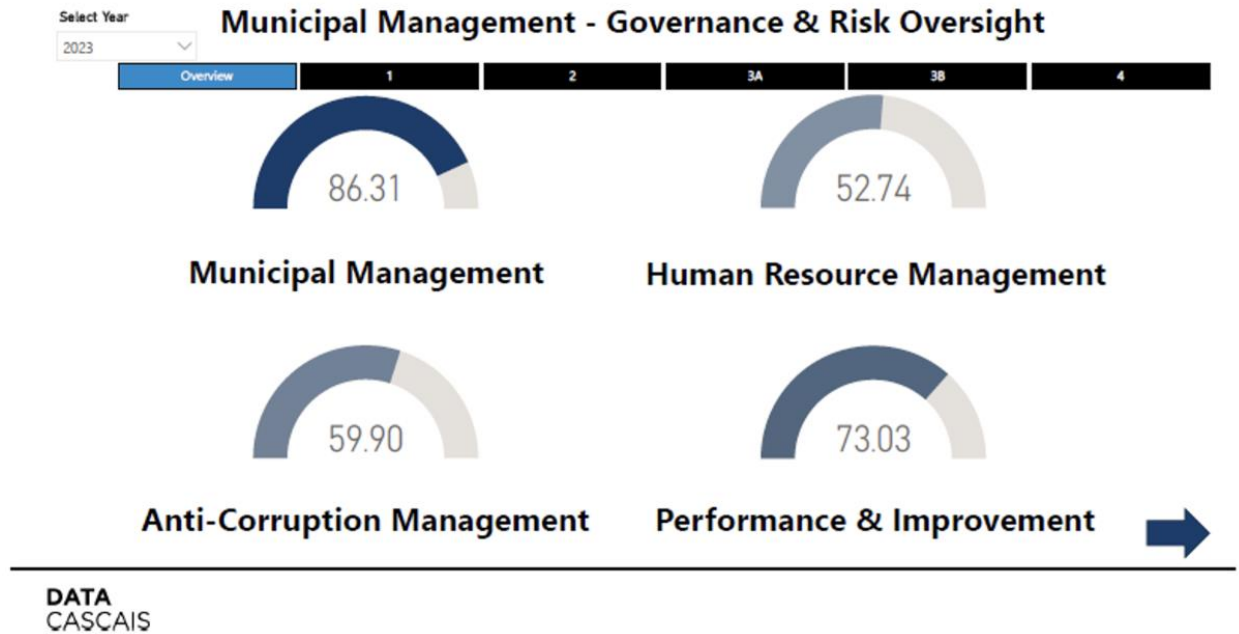
1. **A centralized relational database** that consolidates data from various processes, ensuring consistency, reducing redundancy, and establishing a reliable foundation for performance monitoring.
2. **An interactive Power BI dashboard** that visualizes key performance indicators (KPIs) related to transparency efforts, including training participation, incident reporting, and policy adherence. The dashboard is equipped with filters, slicers, and dropdown menus to facilitate user-driven analysis.

This manual is structured to support both technical users and general staff. It outlines the key terms and data architecture, describes the structure and purpose of each dashboard component, and provides detailed instructions for data refresh, maintenance, and troubleshooting. The document also includes a set of recommendations to ensure effective long-term adoption and scalability of the system.

By following the guidance in this manual, users will be able to confidently manage the system, interpret insights accurately, and contribute to a more transparent and accountable local government.

## 2. Navigating the Dashboard

### Page 0: Overview



The **Overview Page** provides a high-level snapshot of Cascais' Anti-Corruption Management System across four core processes. Each process is visualized with a **gauge chart** showing progress on a 0–100% scale. This enables both leadership and technical teams to quickly assess areas of strong performance and areas requiring further attention. Additionally, each process name under each gauge is embedded with a **hyperlink** that allows users to click through to a dedicated page with more detailed visualizations for that process.

Each gauge reflects the average progress across the relevant indicators within its process. For each indicator, performance is calculated as a percentage of the target defined by the client. For example, if the actual value is 80 and the target is 100, the indicator is scored as 80%. This normalization enables comparison across metrics with different scales. Once all indicators for a process are converted to a % of target achieved, the values are averaged with equal weight to produce the final score shown in the gauge.

**For example**, the **Human Resources Management** process includes three indicators:

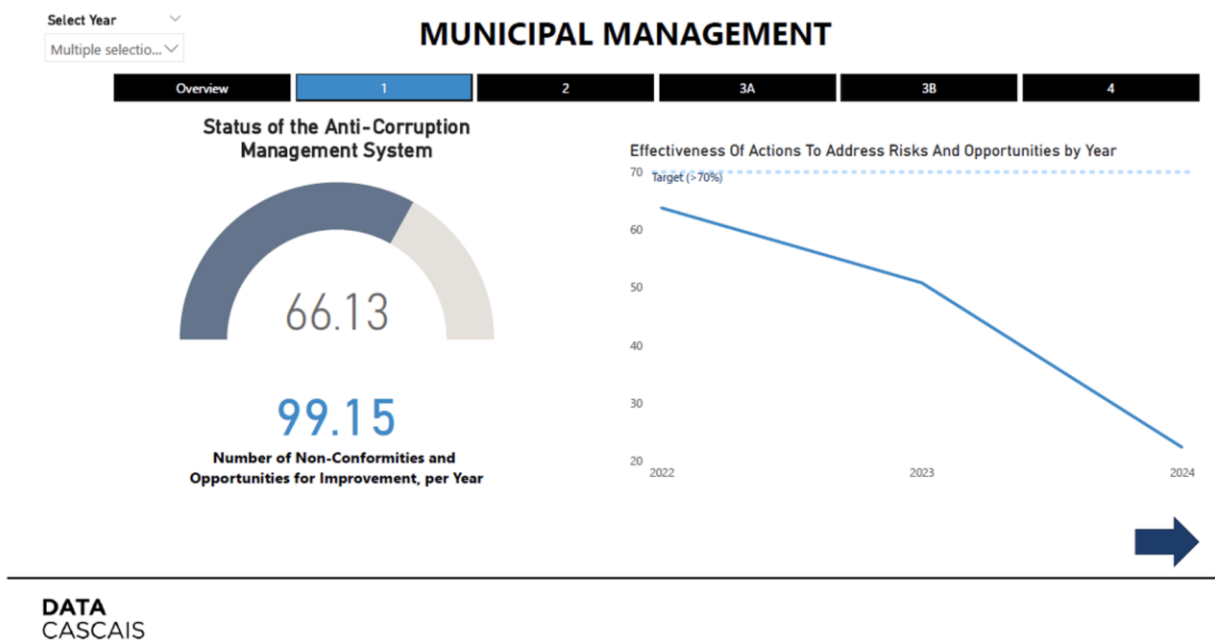
- **Training Hours:** Measured as a percentage of the 1,500-hour target (e.g., 1,200 hours = 80%).
- **Training Participation:** Measured as the percentage of employees who participated (e.g., 95% participation = 95%).

- **Training Effectiveness:** Based on survey results or evaluation score, compared to the 80% effectiveness target (e.g., 72% = 90% of target).

Each of these three indicators is converted to its % of target achieved, and the average of the three values is used to represent the Human Resources Management progress.

This same approach is applied across all four processes, ensuring consistency, transparency, and an accurate representation of progress relative to Cascais’ anti-corruption goals.

### Page 1: Municipal Management



The **Municipal Management** page shows components within Cascais’ Anti-Corruption Management System. This dedicated page helps municipal leaders monitor whether governance mechanisms are functioning as intended and highlights systemic gaps that may need to be addressed.

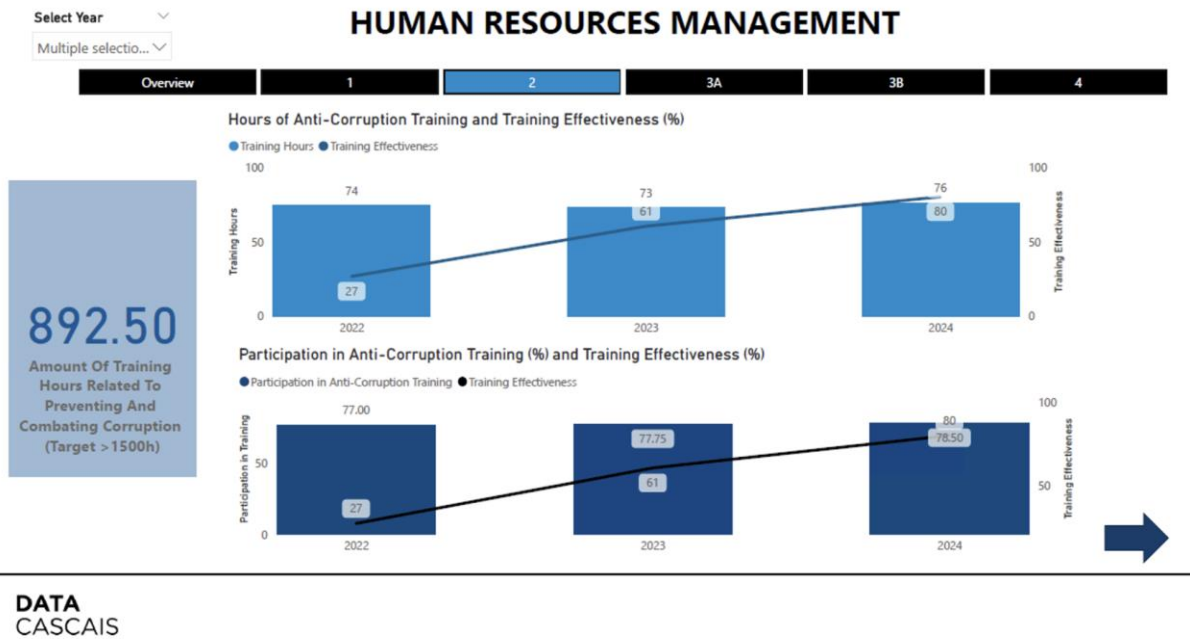
The year slicer in the top left corner enables selection for different time periods. By combining real-time scores with historical trend data, the visualization supports data-informed decision-making aimed at strengthening institutional integrity and performance. It provides insights into the operational integrity and responsiveness of municipal governance processes using the following indicators.

- **Status of the Anti-Corruption Management System** displays a gauge chart. This metric reflects the overall implementation level of the four pillars of municipal anti-corruption

practices. The score represents the weighted average progress toward full compliance and system maturity, benchmarked against client-defined targets (0–100%).

- **Number of Non-Conformities and Opportunities for Improvement (per Year)** shows the annual count of areas flagged for non-compliance or improvement. A higher number here highlights areas that may need increased oversight or process enhancements.
- **Effectiveness of Actions to Address Risks and Opportunities by Year:** This line chart tracks year-over-year performance in addressing identified risks and opportunities. The indicator measures whether corrective actions are effectively implemented and sustained. The trend line shows the need for strategic reassessment or reinforcement of current action plans. The dashed horizontal line represents the target threshold (set at 70%) for effective response implementation.

Page 2: Human Resources Management



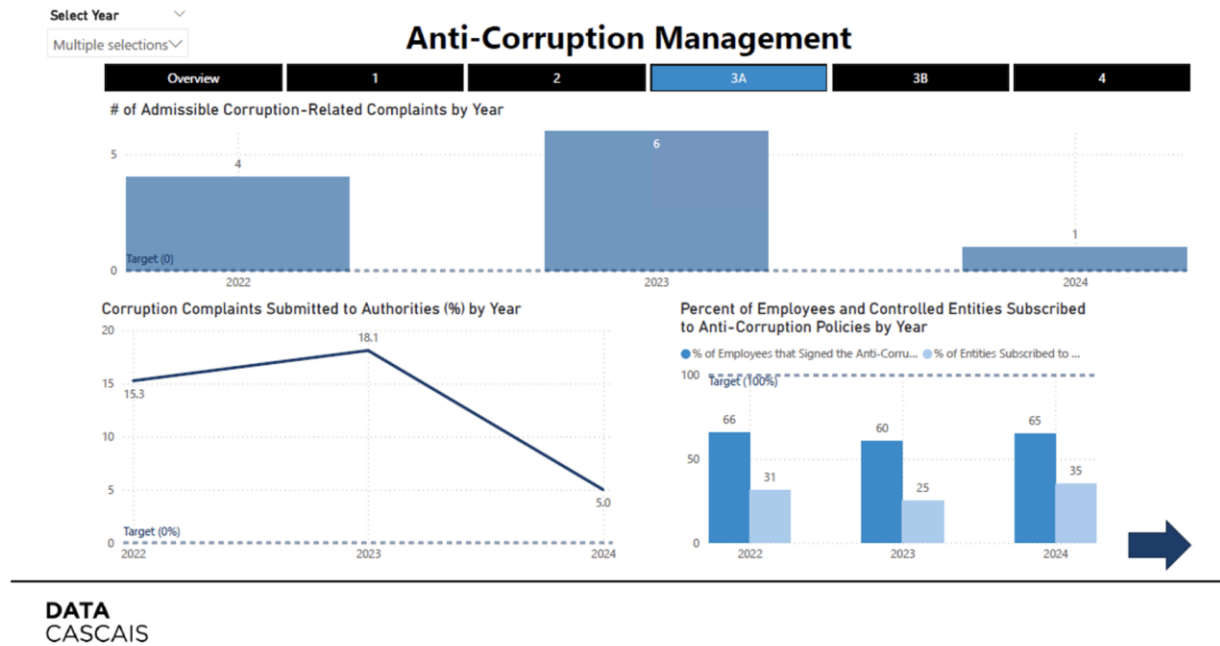
The **Human Resources Management** page provides a comprehensive analysis of Cascais’ efforts in building organizational capacity through anti-corruption training. These visuals allow stakeholders to track institutional progress toward more informed and prepared personnel, capable of identifying and managing corruption risks effectively. The insights help HR and compliance

teams tailor future training strategies, identify years of underperformance, and align efforts with organizational compliance goals.

It evaluates both the quantity and quality of capacity-building initiatives by tracking three key indicators across time.

- **Amount of Training Hours**  
The left-side card highlights a cumulative total of hours dedicated to training on preventing and combating corruption. This value reflects the municipality's commitment to continuous staff development and awareness-building across departments.
- **Hours of Anti-Corruption Training and Training Effectiveness (%)** visual shows training hours (bars) and perceived training effectiveness (line) across years. Training effectiveness is benchmarked against a client-defined target of >80%. The trend demonstrates progress in both delivery and impact of training content.
- **Participation in Anti-Corruption Training (%) and Training Effectiveness (%)** examines participation rates (bars) and effectiveness (line), reinforcing the link between reach and learning impact, with the target set to 80%. This indicates not only accessibility but also engagement and comprehension among attendees.

Page 3A: Anti-Corruption Management (1)



The first page of **Anti-Corruption Management** presents key indicators that evaluate the robustness and reach of Cascais’ anti-corruption policies and reporting mechanisms. It helps assess whether the municipality is effectively preventing, identifying, and addressing corruption-related issues. While these metrics provide a snapshot of policy penetration, risk reporting, and escalation management within the municipality, the view enables internal audit teams and leadership to identify gaps in compliance, assess cultural adoption of policies, and calibrate support or intervention efforts as needed.

- **# of Admissible Corruption-Related Complaints by Year** tracks the volume of corruption complaints deemed admissible through the internal system. The goal is a value of **zero**, aligning with the municipality’s objective of full policy compliance and effective risk controls. Any rise in admissible complaints may signal procedural weaknesses, policy gaps, or reduced deterrence.
- **Corruption Complaints Submitted to Authorities (%)** shows the percentage of internal complaints that escalate to external legal or oversight bodies. While some escalation is expected, a high percentage may indicate unresolved issues at the organizational level. The target is ideally **0%**, suggesting full resolution within the institution.

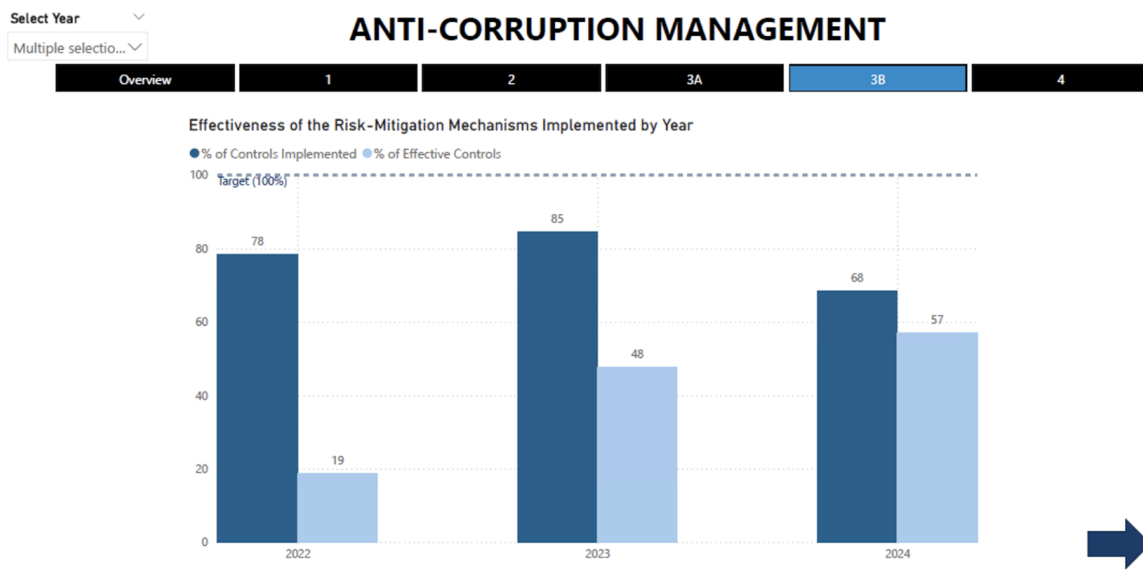
- **Percent of Employees and Controlled Entities Subscribed to Anti-Corruption Policies**

This dual-bar visualization shows internal compliance levels for both individuals and entities. It includes:

- The percentage of employees who have formally acknowledged the municipality’s anti-corruption policies
- The percentage of controlled entities that have subscribed to the same governance standards

The target for both is **100%**, reflecting the expectation that all staff and partners uphold anti-corruption commitments.

**Page 3B: Anti-Corruption Management (2)**



**DATA**  
CASCAIS

This page evaluates the **implementation and effectiveness of risk-mitigation controls** within Cascais’ Anti-Corruption Management framework. It focuses on not just whether controls have been put in place, but also whether they are achieving their intended impact. This view is particularly useful for internal audit and risk management teams to assess whether institutional safeguards are both present and working. Monitoring these metrics over time supports a cycle of continuous improvement, where each control’s design and outcome are regularly evaluated against real-world performance.

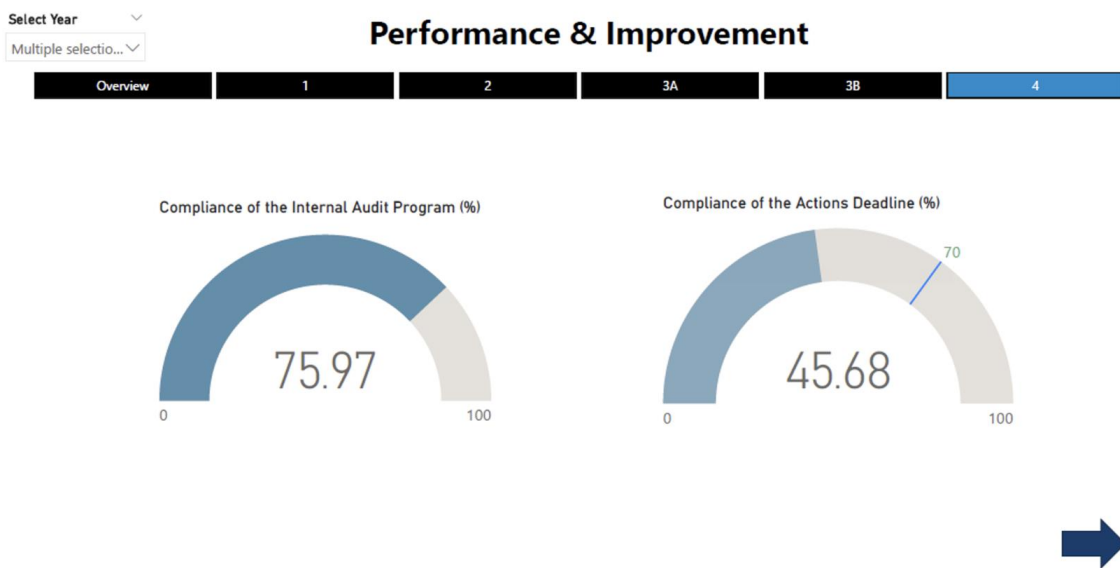
- **Effectiveness of the Risk-Mitigation Mechanisms Implemented by Year**

This dual-bar visualization compares:

- The **percentage of risk-mitigation controls implemented** (dark blue)
- The **percentage of those controls deemed effective** (light blue)

While implementation reflects operational follow-through, effectiveness measures the practical utility and impact of each control in preventing or mitigating corruption risks. The benchmark for both indicators is set at **100%**, aligning with ideal standards for a fully secure and functionally resilient system. The gap between implementation and effectiveness helps identify controls that may require refinement, reinforcement, or replacement.

**Page 4: Performance & Improvement**



**DATA**  
CASCAIS

This **Performance & Improvement** page provides a focused evaluation of Cascais’ commitment to continuous improvement and internal oversight through the lens of two essential metrics related to audit compliance and timely corrective actions. The visuals provide a snapshot of how well Cascais manages the life cycle of risk identification and resolution—from audit initiation to timely closure of findings. This view supports strategic planning, resource allocation, and accountability in driving a culture of improvement.

- **Compliance of the Internal Audit Program (%)**  
This gauge chart reflects the extent to which scheduled internal audits are being completed in accordance with the established program. High compliance here suggests that the municipality is consistently conducting its audits as planned, ensuring routine oversight and risk monitoring. This metric serves as a backbone for system accountability and performance diagnostics.
- **Compliance of the Actions Deadline (%)**  
This gauge measures the percentage of corrective or preventive actions that are resolved within their assigned deadlines. It indicates the agility and responsiveness of the organization in addressing identified gaps or non-conformities. The benchmark for success is set at **70%**, highlighting the goal of prompt remediation. Falling short of this threshold may suggest operational bottlenecks, resource gaps, or insufficient follow-up mechanisms.

## ● Key Terms

The dashboard tracks a comprehensive set of Key Performance Indicators (KPIs) that reflect the municipality's efforts in promoting transparency and strengthening anti-corruption practices. These indicators are drawn from training participation records, signed declarations, compliance metrics, audit activities, reporting channel usage, and stakeholder engagement.

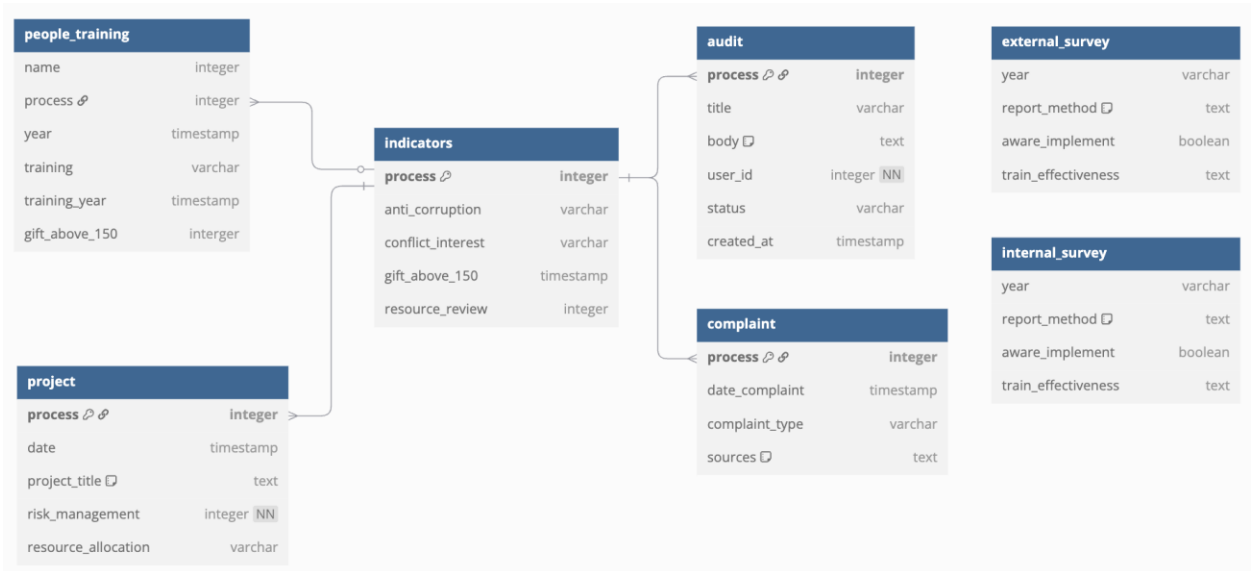
Below is the full list of KPIs included in the system:

No	Area	Indicator	Codebook
1	Municipal Management	SGAC Certification	sgac_certification
2	Municipal Management	Effectiveness of actions to address risks and opportunities	%_risk_actions
3	Human Resources Management	Amount of training related to preventing and combating corruption	training_hours_corruption
4	Human Resources Management	Participation in training or awareness-raising actions related to the prevention and fight against corruption	%_corruption_awareness
5	Human Resources Management	Effectiveness of training	%_training_effectiveness
6	Anti-Corruption Management	Number of admissible corruption-related complaints	num_corruption_complaints
7	Anti-Corruption Management	Percentage of complaints submitted to competent authorities	%_complaints_authorities
8	Anti-Corruption Management	Percentage of employees who signed the Anti-Corruption Policy	%_signed_anti_corruption
9	Anti-Corruption Management	Percentage of controlled entities that subscribed to the Anti-Corruption Policy	%_entities_anti_corruption
10	Anti-Corruption Management	Percentage of control mechanisms implemented	%_control_mechanisms
11	Anti-Corruption Management	Effectiveness of control mechanisms	%_effective_controls

12	Performance and Improvement	Compliance with the Internal Audit Program of the SGAC	%_audit_program
13	Performance and Improvement	Compliance with the deadlines for implementing actions to eliminate SGAC non-conformities or other incidents related to Corruption, including audit findings	%_sgac_deadlines
14	Human Resources Management	Percentage of employees with documented attendance at training session for Declaration of Compliance with the Anti-Corruption Policy	%_anti_corruption
15	Human Resources Management	Percentage of employees with signed Declaration of Compliance with the Anti-Corruption Policy	%_signed_anti_corruption
16	Human Resources Management	Percentage of employees with documented attendance at training session for Declaration of Knowledge of the Conflict of Interest Management Policy	%_conflict_interest_training
17	Human Resources Management	Percentage of employees with signed Declaration of No Conflicts of Interest	%_signed_no_conflict
18	Human Resources Management	Percentage of employees with documented attendance at training session for Declaration of No Conflicts of Interest	%_training_no_conflict
19	Human Resources Management	Percentage of employees with signed Declaration of No Conflicts of Interest in the Accumulation of Functions Regime	%_signed_no_conflict_func
20	Human Resources Management	Percentage of employees with documented attendance at training session for Declaration of No Conflicts of Interest in the Accumulation of Functions Regime	%_training_no_conflict_func
21	Human Resources Management	Percentage of employees with signed Code of Ethics and Conduct, which contains the guidelines for action	%_signed_ethics
22	Human Resources Management	Percentage of employees with documented attendance at training session for Code of Ethics and Conduct, which contains the guidelines for action	%_training_ethics

23	Anti-Corruption Management	Percentage of externally audited communications that actively promote use of Reporting Channel, if applicable	%_reporting_channel
24	Anti-Corruption Management	Percentage of employees who previously submitted the Accumulation of Functions report but did not submit a report for the present year, as per Segregation of Duties	%_accumulation_report
25	Anti-Corruption Management	Percentage of employees and functions published on municipal website	%_published_functions
26	Anti-Corruption Management	Number of registered gifts valued $\geq 150\text{€}$	num_gifts_150€
27	Anti-Corruption Management	Percentage of resource allocation documents with managers' signed review	%_resource_review
28	Anti-Corruption Management	Percentage of corruption risk management reports with managers' signed review	%_corruption_risk_review
29	Anti-Corruption Management	Number of complaints, concerns, or issues raised with regard to managers' undue use of discretionary power	num_discretion_complaints
30	Anti-Corruption Management	Number of complaints, concerns, or issues raised with regard to managers' lack of supervision	num_supervision_complaints
31	Performance and Improvement	Percentage of required audit documents submitted on time	%_audit_docs_time
32	Performance and Improvement	Proportion of recommendations implemented from previous Annual Internal Audit Program	%_audit_recommendations

## Data Structure and Sources



The database uses a **relational structure** to connect data across different tables using a common key field, primarily the process ID. This approach allows data to be modular, consistent, and easily scalable, enabling complex indicators to be calculated using data from multiple sources.

At the core of the system is the **master matrix or indicator** table, which acts as a central reference point. Other tables like **people\_training**, **audit**, **complaint**, and **project** link back to this table via the process field. This setup ensures that every training, audit, or complaint is associated with a specific internal process or project.

- **people\_training** captures employee-level data on participation and declarations, connected to project-level context via process.
- **indicator** stores summarized compliance metrics also linked by process, useful for aggregating results across dashboards.
- **audit** and **complaint** tables log oversight and accountability issues tied to each project/process.
- **internal\_survey** and **external\_survey** are **standalone** survey tables that provide organizational feedback not tied to a specific process, but instead categorized by year.
- **Projects** capture the municipal initiatives while tracking whether risk management was conducted, resource allocations, and anti corruption subscriptions.

This relational structure ensures data integrity and enables dynamic dashboard filtering by project, year, or department. It also allows for deeper insights by connecting quantitative and qualitative data across transparency and anti-corruption efforts.

Table	Column	Description
<b>train_effectiveness</b>	year	Year of the survey
	applicability_level	Survey question
	employee_type	Category of the respondent (e.g., Leadership)
<b>project</b>	process	Unique identifier for each initiative
	year_project	Project start date and year
	project_entities	Entities involved in the project
	risk_management	Risk assessment status
	resource_allocation	Risk assessment status
	anti_corruption_subscription	Indicates whether the entity signed onto anti-corruption commitments
	audited	Indicates whether the entity has been externally audited
<b>audit</b>	department	Department responsible to be audited
	document_type	Type of audit (e.g., Internal Audit Bravo)
	date_of_submission	When the audit was submitted
	deadline	Due date for action

	date_closed	When action was completed
	implemented	Whether recommendations were implemented
	on_time	Whether implementation was timely
	effectiveness	Effectiveness rating (qualitative or binary)
<b>people_training</b>	name	Employee name
	training	Type of training
	training_year	When the training was taken
	expiration	Expiration of training
	declaration_sign	Indicates if declaration was signed
	gift_above_150	Binary record of receiving gifts $\geq 150\text{€}$
	training_hours	Volume of training per session
	published	Indicates whether employee's information is published on the municipal website
<b>complaint</b>	department	Origin of the complaint
	year_complaint	Date of submission and complaint year
	complaint_type	Type of issue (e.g., Discretionary Authority, Managerial Oversight)
	sources	Where the complaint came from (e.g., Internal, Whistleblower, Public)

	admissible	Flag indicating whether the complaint was valid/corruption-related
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## ● Key Performance Indicators (KPIs) and Calculations

In this table, the term process refers to the name of a department within Cascais Municipality in a structural context. It is labeled as a process to refer to a business process related to the underlying data structure.

No	Indicators	Table calculation
1	<b>sgac_certification</b>	<p>The %_audit_recommendations indicator shows how many audit recommendations were both implemented and completed on time. It looks specifically at Internal and Corrective audit types in a certain process and year, and all the data comes from the Audit table.</p> <ul style="list-style-type: none"> <li>• The formula checks how many audits were marked “Yes” for both “implemented” and “on time,” then compares that to the total number of relevant audits for that year and process.</li> <li>• It uses SUMPRODUCT and REGEXMATCH to filter by audit type (Internal or Corrective), and also makes sure the audit year matches what’s selected.</li> </ul>
2	<b>%_risk_actions</b>	<p>The %_risk_actions indicator measures how effectively the organization follows through on risk-related audit recommendations. It checks what percentage of Internal and Corrective audits were both implemented and completed on time within a given process and year. All of this is based on data from the Audit table.</p> <ul style="list-style-type: none"> <li>• The top part of the formula filters for audits that were marked “Yes” for both implementation and timeliness.</li> <li>• Then it compares that to the total number of audits of those types in the same process and year.</li> <li>• The formula uses SUMPRODUCT and REGEXMATCH to only include the relevant audit types and filter by year.</li> </ul>
3	<b>training_hours_corruption</b>	<p>The training_hours_corruption indicator adds up the total number of hours employees spent in anti-corruption training for a specific process and year. It uses data from the People_Training table.</p> <ul style="list-style-type: none"> <li>• The formula filters the rows by matching the process (column B) and the year (based on the training date in</li> </ul>

		<p>column G).</p> <ul style="list-style-type: none"> <li>Then it sums up the training hours from column L, giving you the total volume of training delivered on corruption prevention.</li> </ul>
4	<b>%_corruption_awareness</b>	<p>The %_corruption_awareness indicator tracks how many employees participated in anti-corruption awareness activities in a given process and year. It pulls the data from the People_Training table.</p> <ul style="list-style-type: none"> <li>The formula filters based on the process and the year (from the training date in column G), then counts how many employees marked “Yes” in column I, meaning they took part in awareness-related actions like seminars or info sessions.</li> </ul>
5	<b>%_training_effectiveness</b>	<p>The %_training_effectiveness indicator shows how many employees felt that the anti-corruption training was useful for their daily work. It’s based on responses recorded in the TrainingData table.</p> <ul style="list-style-type: none"> <li>The formula counts how many people rated the training as either “Fully Applicable” or “Applicable.”</li> <li>Then it compares that to the total number of people who responded that year.</li> <li>The final percentage gives a quick view of how effective the training was, based on the learners’ own feedback.</li> </ul>
6	<b>num_corruption_complaints</b>	<p>The num_corruption_complaints indicator counts how many valid or admissible corruption-related complaints were submitted in a specific process and year. It pulls data from the Complaint table.</p> <ul style="list-style-type: none"> <li>The formula filters the complaints by matching the process (column A) and the year of the complaint (from column B), then counts only those marked “Yes” in column F, meaning they were confirmed as valid corruption concerns.</li> </ul>
7	<b>%_complaints_authorities</b>	<p>The %_complaints_authorities indicator shows the percentage of valid corruption-related complaints from the DTQ department that were sent to the proper authorities in a given year. It uses data from the Complaint table.</p>

		<ul style="list-style-type: none"> <li>• The formula first filters complaints from Human Resources that were marked “Yes” for being admissible (column F), and then compares that number to the total number of HR complaints submitted that year (column B).</li> <li>• The result gives you the share of serious complaints that were actually escalated for follow-up.</li> </ul>
8	<b>%_signed_anti_corruption</b>	<p>The %_signed_anti_corruption indicator shows the percentage of employees who signed the Declaration of Compliance upon onboarding, within a specific process and year. The data is sourced from the People_Training table.</p> <ul style="list-style-type: none"> <li>• The formula looks for employees who attended the training and marked “Yes” for signing the declaration (column I).</li> <li>• It then compares that to the total number of employees assigned to that training in the same process and year, giving you the percentage of those who followed through with a formal commitment.</li> </ul>
9	<b>%_entities_anti_corruption</b>	<p>The %_entities_anti_corruption indicator shows the percentage of entities involved in a project that have officially subscribed to the municipality’s Anti-Corruption Policy. The data comes from the Table2 table (your project table).</p> <ul style="list-style-type: none"> <li>• The formula counts how many entities marked “Yes” for subscribing to the anti-corruption commitment in a specific process and year.</li> <li>• Then it divides that by the total number of entities involved in that same process and year to get the percentage.</li> </ul>
10	<b>%_control_mechanisms</b>	<p>The %_control_mechanisms indicator shows the percentage of control mechanisms that were actually implemented across all departments in a given year. It uses data from the Audit table.</p> <ul style="list-style-type: none"> <li>• The formula checks how many audits were marked as “Yes” for being implemented (column F), based on the deadline year (column E).</li> <li>• Then it compares that to the total number of audits planned for that year to calculate the percentage of control mechanisms that were followed through.</li> </ul>

<p><b>11</b></p>	<p><b>%_effective_controls</b></p>	<p>The %_effective_control indicator represents the average of several composite indicators, including %_risk_actions, %_control_mechanisms, and %_effective_controls. It is calculated using data directly from the Master Matrix. The formula takes the average of these columns.</p>
<p><b>12</b></p>	<p><b>%_audit_program</b></p>	<p>The %_audit_program indicator shows how many Corrective Action audits were actually implemented for a specific process and year. It helps track how well the organization is sticking to its internal audit program. The data comes from the Audit table.</p> <ul style="list-style-type: none"> <li>● The formula filters for Corrective Action audits that are marked “Yes” for implementation (column F) and matches them by process and audit year (column C).</li> <li>● Then it compares that to the total number of Corrective Action audits planned for the same process and year to get the final percentage.</li> </ul>
<p><b>13</b></p>	<p><b>%_sgac_deadlines</b></p>	<p>The %_sgac_deadlines indicator shows how many Internal and Corrective Action audits were both implemented and completed on time, based on SGAC requirements, for a specific process and year. This helps track how well departments are meeting deadlines for resolving audit findings. The data comes from the Audit table.</p> <ul style="list-style-type: none"> <li>● The formula looks at audits marked “Yes” for both implemented (column F) and on time (column G), and filters by process and year using the audit date (column C).</li> <li>● It then divides that by the total number of Internal and Corrective audits for the same process and year to get the final percentage.</li> </ul>
<p><b>14</b></p>	<p><b>%_anti_corruption</b></p>	<p>The %_anti_corruption indicator measures the percentage of employees who attended the Anti-Corruption Policy Training and confirmed their participation (marked “Yes”), within a specific process and year. The data is pulled from the People_Training table.</p> <ul style="list-style-type: none"> <li>● The formula counts how many employees were involved in the training (column E) for the selected process and year, and also marked “Yes” in column I—meaning they officially completed or acknowledged the training.</li> <li>● It then divides that by the total number of employees assigned to the Anti-Corruption Policy Training, giving a percentage that reflects actual completion and</li> </ul>

		acknowledgment rates.
15	<b>%_signed_anti_corruption</b>	<p>The %_signed_anti_corruption indicator shows the percentage of employees who signed the Declaration of Compliance after completing the Anti-Corruption Policy Training, for a given process and year. The data is from the People_Training table.</p> <ul style="list-style-type: none"> <li>• The formula looks at employees who completed the training (column E) and marked “Yes” for signing the declaration (column I), filtered by process and year.</li> <li>• It then divides that number by the total number of employees assigned to the training, giving a percentage that reflects how many followed through with the formal declaration after training.</li> </ul>
16	<b>%_conflict_interest_training</b>	<p>The %_conflict_interest_training indicator measures the percentage of employees who attended the Conflict of Interest Management Training for a specific process and year. All the data comes from the People_Training table.</p> <ul style="list-style-type: none"> <li>• The formula counts employees who both participated in the training (column E) and had signed confirmation (column F) for the matching process and year.</li> <li>• Then it compares that to the total number of employees who were assigned that training, giving you the percentage of actual participation.</li> </ul>
17	<b>%_signed_no_conflict</b>	<p>The %_signed_no_conflict indicator tracks the percentage of employees who signed the Declaration of No Conflicts of Interest upon onboarding, for a specific process and year. The data comes from the People_Training table.</p> <ul style="list-style-type: none"> <li>• The formula filters for employees who attended the training (column E) and marked “Yes” in the declaration field (column I).</li> <li>• It then divides that number by the total number of employees who were assigned the training in the same process and year, giving you the percentage who signed the declaration after training.</li> </ul>
18	<b>%_training_no_conflict</b>	<p>The %_training_no_conflict indicator shows the percentage of employees who attended the No Conflicts of Interest Training for a specific process and year. This helps track participation in integrity-related education. The data comes from the</p>

		<p>People_Training table.</p> <ul style="list-style-type: none"> <li>• The formula filters the rows to find employees who were assigned the training (column E), and checks how many of them actually completed it (based on column F) within the selected process and year.</li> <li>• It then compares that number to the total number assigned to the training to get the final percentage.</li> </ul>
19	<b>%_signed_no_conflict_func</b>	<p>The %_signed_no_conflict_func indicator measures the percentage of employees who signed the Declaration of No Conflicts of Interest in the Accumulation of Functions Regime after completing the full compliance training, which includes all relevant aspects, for a specific process and year. It uses data from the People_Training table.</p> <ul style="list-style-type: none"> <li>• The formula looks at employees who attended the Accumulation of Functions (Segregation of Duties) Training and marked “Yes” in the declaration column (column I).</li> <li>• It then compares that to the total number of employees assigned that training during the same process and year, giving the percentage who completed and signed.</li> </ul>
20	<b>%_training_no_conflict_func</b>	<p>The %_training_no_conflict_func indicator shows the percentage of employees who attended the Accumulation of Functions (Segregation of Duties) Training during a specific process and year. This helps monitor engagement with segregation of duties awareness. The data comes from the People_Training table.</p> <ul style="list-style-type: none"> <li>• The formula filters for employees assigned to that specific training (column E) and checks how many actually attended (based on column F), within the selected process and year.</li> <li>• Then it compares that to the total number of employees assigned the training to get the final percentage.</li> </ul>
21	<b>%_signed_ethics</b>	<p>The %_signed_ethics indicator tracks the percentage of employees who signed the Code of Ethics and Conduct after attending the corresponding training, for a specific process and year. This helps measure how well ethical commitments are being reinforced through training. The data comes from the People_Training table.</p>

		<ul style="list-style-type: none"> <li>• The formula looks for employees who participated in Ethics &amp; Conduct Training and marked “Yes” in the declaration field (column I).</li> <li>• It compares that number to the total number of employees assigned to that training during the same process and year, giving you the percentage of those who followed through with the formal commitment.</li> </ul>
22	<b>%_training_ethics</b>	<p>The %_training_ethics indicator shows the percentage of employees who attended the Ethics &amp; Conduct Training and confirmed participation by signing, within a specific process and year. It helps track both attendance and acknowledgment of the training’s content. The data comes from the People_Training table.</p> <ul style="list-style-type: none"> <li>• The formula filters for employees who were assigned the Ethics &amp; Conduct Training and marked “Yes” in the declaration column (I).</li> <li>• Then it divides that number by the total number of employees assigned the training, giving you the percentage who officially completed and signed off on it.</li> </ul>
23	<b>%_reporting_channel</b>	<p>The %_reporting_channel indicator shows the percentage of projects or entities that were externally audited and actively promoted the use of the reporting (whistleblower) channel in a given process and year. It uses data from the Table2 table.</p> <ul style="list-style-type: none"> <li>• The formula counts how many projects marked as “Yes” for being audited (in the audited column), filtered by process and year.</li> <li>• It then divides that by the total number of projects in that same process and year to get the percentage of external communications that support transparency through the reporting channel.</li> </ul>
24	<b>%_accumulation_report</b>	<p>The %_accumulation_report indicator shows the percentage of employees who did not submit their Accumulation of Functions report in the current year, even though they had submitted it in the past. It helps identify possible gaps in annual compliance. The data comes from the People_Training table.</p> <ul style="list-style-type: none"> <li>• The formula filters by process and year, and looks for employees marked “Yes” in column N—indicating they submitted a report previously but not this year.</li> </ul>

		<ul style="list-style-type: none"> <li>• It then divides that by the total number of employees in that process and year, giving the percentage of potentially overdue reports.</li> </ul>
25	<b>%_published_functions</b>	<p>The %_published_functions indicator shows the percentage of employees who attended the Anti-Corruption Policy Training and whose names and functions were published on the municipal website, within a specific process and year. This reflects the transparency of personnel records. The data comes from the People_Training table.</p> <ul style="list-style-type: none"> <li>• The formula filters for employees in the selected process and year who completed the training (column E) and are marked “Yes” in the published column (column M).</li> <li>• It then divides that by the total number of employees assigned to the training, giving you the percentage of staff whose information is publicly shared.</li> </ul>
26	<b>num_gifts_150€</b>	<p>The num_gifts_150€ indicator counts how many gifts valued at €150 or more were registered by employees in a specific process and year. This helps track compliance with ethical gift reporting policies. The data is taken from the People_Training table.</p> <ul style="list-style-type: none"> <li>• The formula sums the values in column J (which logs high-value gifts) for the selected process and year.</li> <li>• The result gives the total number of such gifts reported—helping flag potential risks around favoritism or undue influence.</li> </ul>
27	<b>%_resource_review</b>	<p>The %_resource_review indicator shows the percentage of projects where resource allocation documents were reviewed and signed by managers in a specific process and year. This helps assess how closely leadership is monitoring budget and resource planning. The data comes from the Table2 table.</p> <ul style="list-style-type: none"> <li>• The formula counts how many projects have “Yes” in the Resource allocation column, filtered by process and year.</li> <li>• Then it divides that by the total number of projects in the same category to calculate the percentage of reviewed allocations.</li> </ul>
28	<b>%_corruption_risk_review</b>	<p>The %_corruption_risk_review indicator shows the percentage of projects where corruption risk management documents were</p>

		<p>reviewed and signed by managers for a specific process and year. It helps track whether risk assessments are being taken seriously during project planning. The data comes from the Table2 table.</p> <ul style="list-style-type: none"> <li>• The formula checks how many entries have “Yes” in the Risk management column, filtered by and year.</li> <li>• It then divides that by the total number of projects in that process and year, giving you the percentage of reviews completed.</li> </ul>
29	<b>num_discretion_complaints</b>	<p>The num_discretion_complaints indicator counts how many complaints were made about the undue use of discretionary power by managers in a specific department and year. This helps flag concerns around potential abuse of authority. The data comes from the Complaint table (also referred to as Table4 for department matching).</p> <ul style="list-style-type: none"> <li>• The formula filters complaints by department (column A), year (column C), and complaint type (column D), specifically looking for those labeled “Exercise of Discretionary Authority.”</li> <li>• It returns the number of such complaints submitted during that period.</li> </ul>
30	<b>num_supervision_complaints</b>	<p>The num_supervision_complaints indicator counts the number of complaints related to insufficient managerial oversight in a specific department and year. It helps track issues where staff may feel unsupported or where oversight structures might be weak. The data comes from the Complaint table and Table4 for department references.</p> <ul style="list-style-type: none"> <li>• The formula filters by department and year, then looks specifically for complaints labeled “Insufficient Managerial Oversight” in column D.</li> <li>• It returns the total number of those complaints for the selected timeframe.</li> </ul>
31	<b>%_audit_docs_time</b>	<p>The num_supervision_complaints indicator counts the number of complaints related to insufficient managerial oversight in a specific department and year. It helps track issues where staff may feel unsupported or where oversight structures might be weak. The data comes from the Complaint table and Table4 for department references.</p>

		<ul style="list-style-type: none"> <li>• The formula filters by department and year, then looks specifically for complaints labeled “Insufficient Managerial Oversight” in column D.</li> <li>• It returns the total number of those complaints for the selected timeframe.</li> </ul>
<p>32</p>	<p><b>%_audit_recommendations</b></p>	<p>The %_audit_recommendations indicator shows the percentage of Corrective Action audit recommendations from the previous year that were actually implemented in the current year, for a specific process. It’s a way to track follow-through on past audit findings. The data comes from the Audit table.</p> <ul style="list-style-type: none"> <li>• The formula filters audits by process and looks at those categorized as Corrective Action (column B), completed the previous year (column C), and marked “Yes” for implementation (column F).</li> <li>• It compares that to the total number of relevant audits from the previous year, giving you the percentage of past recommendations that have been acted on.</li> </ul>

### 3. Maintenance and Update Instructions

To ensure the dashboard continues to deliver accurate and up-to-date insights, it's important to regularly maintain both the database and the Power BI dashboard. This section outlines the key tasks for keeping the system running smoothly.

#### 1. Updating the Data

Data should be updated monthly or quarterly, depending on internal reporting cycles.

- Update raw data files (e.g., People\_Training, Audit, Complaint, Project) in the shared storage or designated Excel sheets.
- Ensure each file follows the same column structure and naming convention to avoid broken queries in Power BI.
- For new entries, double-check that the process and year fields are correctly filled in, as they are used to link across tables.

## Appendix II: Internal Stakeholder Survey (Staff)

### Internal Stakeholder Survey (Staff)

#### Perception of Transparency and Reporting Methods

1. Which of the following best defines government transparency for you?
  - a. Community involvement in local government and an open public process in which the business of the public is accomplished in public.
  - b. Citizens have access to publicly available information about the actions of those in government and the consequences of these actions.
  - c. Shedding light on formal and informal rules, plans, processes and actions to help the public hold all power to account for the common good.
  - d. Creating a culture of compliance and integrity that is grounded in legal provisions and consistent with the Code of Ethics for the municipality.

Please select the one that most closely aligns with your understanding.

2. The United Nations Convention Against Corruption states that there are many definitions of corruption but recognizes that it could entail any of the following:
  - a. Bribery of public officials
  - b. Bribery of foreign public officials and officials of public international organizations
  - c. Bribery in the private sector
  - d. Embezzlement, misappropriation, or other diversion of property by a public official
  - e. Trading in influence
  - f. Abuse of functions
  - g. Illicit enrichment
  - h. Embezzlement of property in the private sector
  - i. Laundering of proceeds of crime
  - j. Concealment
  - k. Obstruction of justice

Have you ever witnessed one or more of these acts committed by the Cascais municipality? Please select which ones.

3. If you have witnessed any of these acts, have you reported it?
  - a. Yes
  - b. No
4. How did you report it?
  - a. Reported it through the Whistleblowing Channel
  - b. Emailed the manager of complaints
  - c. Reported to direct superior
  - d. Other

If other, please explain

#### Awareness and Effectiveness

1. On a scale from 1-4, how familiar are you with Cascais' Anti-Corruption Management System? (1= not familiar, 2= kind of familiar, 3=familiar, 4= very familiar)

- a. 1
  - b. 2
  - c. 3
  - d. 4
2. Which of the following instruments and/or principles from the Regime for Prevention of Corruption are most effective for promoting transparency in your unit?
- a. Plan for the Prevention of Corruption Risks (article 6)
  - b. Conduct Code (article 7)
  - c. Whistleblowing Channels (article 8)
  - d. Training and Communication (article 9)
  - e. Administrative Transparency (article 12)
  - f. Avoid Conflict of Interests (article 13)
  - g. Avoid Accumulation of Functions (article 14)
  - h. Internal Control System (article 15)
  - i. Promoting Competition in Public Procurement (article 16)
  - j. Enforce Sanctions (article 20)

Select up to three.

3. Are you aware that Cascais is implementing a Transparency Strategy?
- a. Yes
  - b. No
4. On a scale from 1-4, how important is the municipality's implementation of a Transparency Strategy?
- a. 1
  - b. 2
  - c. 3
  - d. 4
5. Have you attended any of the following trainings? Please select which ones
- a. Anti-corruption management system
  - b. Compliance program
  - c. Anti-Bribery Management Systems (ISO 37001)
  - d. Risk Management
  - e. Auditing Management Systems (ISO 19011)
  - f. Other (related to anti-corruption)

If other, please explain.

6. If not, why?
- a. I didn't think it was necessary for my job functions
  - b. I didn't have time
  - c. I was not aware of the training
  - d. Other

If other, please explain

7. If you attended these trainings, was it helpful for your job?
- a. Yes
  - b. No

8. Please explain

9. Would you benefit from additional training?
  - a. Yes
  - b. No

10. If so, what kind?

### **Integrating Transparency Practices**

1. Has your unit leadership organized initiatives to promote transparency in the unit?
  - a. Yes
  - b. No
2. If yes, please give an example(s).
3. On a scale from 1-4, how much does transparency relate to your job function?  
(1= not familiar, 2= kind of familiar, 3=familiar, 4= very familiar)
  - a. 1
  - b. 2
  - c. 3
  - d. 4
4. On a scale of 1-4, how transparent do you feel your unit, division, or department is?  
(1= not familiar, 2= kind of familiar, 3=familiar, 4= very familiar)
  - a. 1
  - b. 2
  - c. 3
  - d. 4
5. On a scale from 1-4, how transparent do you feel the Cascais municipal government is?  
(1= not familiar, 2= kind of familiar, 3=familiar, 4= very familiar)
  - a. 1
  - b. 2
  - c. 3
  - d. 4
6. How could DTQ better engage your unit in the city's efforts to advance municipal transparency?
  - a. More training
  - b. Webinars
  - c. Meetings and focus groups
  - d. Surveys
  - e. Communications campaigns
  - f. Other

If other, please explain.

## Appendix III: Internal Stakeholder Survey (Leadership)

### Internal Stakeholder Survey (Leadership)

#### Perception of Transparency and Reporting Methods

5. Which of the following best defines government transparency for you?
  - a. Community involvement in local government and an open public process in which the business of the public is accomplished in public.
  - b. Citizens have access to publicly available information about the actions of those in government and the consequences of these actions.
  - c. Shedding light on formal and informal rules, plans, processes and actions to help the public hold all power to account for the common good.
  - d. Creating a culture of compliance and integrity that is grounded in legal provisions and consistent with the Code of Ethics for the municipality.

Please select the one that most closely aligns with your understanding.

6. The United Nations Convention Against Corruption states that there are many definitions of corruption but recognizes that it could entail any of the following:
  - a. Bribery of public officials
  - b. Bribery of foreign public officials and officials of public international organizations
  - c. Bribery in the private sector
  - d. Embezzlement, misappropriation, or other diversion of property by a public official
  - e. Trading in influence
  - f. Abuse of functions
  - g. Illicit enrichment
  - h. Embezzlement of property in the private sector
  - i. Laundering of proceeds of crime
  - j. Concealment
  - k. Obstruction of justice

Have you ever witnessed one or more of these acts committed by the Cascais municipality? Please select which ones.

7. If you have witnessed any of these acts, have you reported it?
  - a. Yes
  - b. No
8. How did you report it?
  - a. Reported it through the Whistleblowing Channel
  - b. Emailed the manager of complaints
  - c. Reported to direct superior
  - d. Other

If other, please explain

#### Effectiveness of Municipal Transparency Initiatives

11. On a scale from 1-4, how familiar are you with Cascais' Anti-Corruption Management System? (1= not familiar, 2= kind of familiar, 3=familiar, 4= very familiar)
  - a. 1

- b. 2
  - c. 3
  - d. 4
12. On a scale from 1-4, how familiar is your staff with Cascais' Anti-Corruption Management System?  
(1= not familiar, 2= kind of familiar, 3=familiar, 4= very familiar)
- a. 1
  - b. 2
  - c. 3
  - d. 4
13. Which of the following instruments and/or principles from the Regime for Prevention of Corruption are most effective for promoting transparency in your unit?
- a. Plan for the Prevention of Corruption Risks (article 6)
  - b. Conduct Code (article 7)
  - c. Whistleblowing Channels (article 8)
  - d. Training and Communication (article 9)
  - e. Administrative Transparency (article 12)
  - f. Avoid Conflict of Interests (article 13)
  - g. Avoid Accumulation of Functions (article 14)
  - h. Internal Control System (article 15)
  - i. Promoting Competition in Public Procurement (article 16)
  - j. Enforce Sanctions (article 20)
- Select up to three.
14. Are you aware that Cascais is implementing a Transparency Strategy?
- a. Yes
  - b. No
15. On a scale from 1-4, how important is the municipality's implementation of a Transparency Strategy?
- a. 1
  - b. 2
  - c. 3
  - d. 4
16. Have you attended any of the following trainings? Please select which ones
- a. Anti-corruption management system
  - b. Compliance program
  - c. Anti-Bribery Management Systems (ISO 37001)
  - d. Risk Management
  - e. Auditing Management Systems (ISO 19011)
  - f. Other (related to anti-corruption)
- If other, please explain.
17. If not, why?
- a. I didn't think it was necessary for my job function
  - b. I didn't have time
  - c. I was not aware of the training

d. Other

If other, please explain

18. If you attended these trainings, was it helpful for your job?

- a. Yes
- b. No

19. Please explain

20. Do you think your staff would benefit from additional training?

- a. Yes
- b. No

21. If so, what kind?

### **Integrating Transparency Practices**

7. Have you ever organized initiatives to promote transparency in your unit?

- a. Yes
- b. No

8. If yes, please give an example(s).

9. On a scale from 1-4, how much does transparency relate to your job function?

(1= not familiar, 2= kind of familiar, 3=familiar, 4= very familiar)

- a. 1
- b. 2
- c. 3
- d. 4

10. On a scale of 1-4, how transparent do you feel your unit, division, or department is?

(1= not familiar, 2= kind of familiar, 3=familiar, 4= very familiar)

- a. 1
- b. 2
- c. 3
- d. 4

11. On a scale from 1-4, how transparent do you feel the Cascais municipal government is?

(1= not familiar, 2= kind of familiar, 3=familiar, 4= very familiar)

- a. 1
- b. 2
- c. 3
- d. 4

12. How could DTQ better engage your unit in the city's efforts to advance municipal transparency?

- a. More training
- b. Webinars
- c. Meetings and focus groups
- d. Surveys
- e. Communications campaigns

f. Other

If other, please explain.

## Appendix IV: External Stakeholder Survey

### External Stakeholder Survey

#### Identifying Questions

1. Which category best describes your organization?
  - a. Nonprofit organization
  - b. School or educational institution
  - c. Local business
  - d. Public service
  - e. Municipal entity
  - f. Community Group
  
2. What is your role within your organization?
  - a. Executive/Leadership (e.g., Director, Principal, CEO)
  - b. Managerial (e.g., Program Manager, Department Head)
  - c. Staff/Employee
  - d. Volunteer
  - e. Other
  
3. How many employees are in your organization/business
  - a. Less than 50
  - b. More than 50
  - c. Other
  
4. How long has your organization/business worked with the municipality of Cascais?
  - a. Less than a year
  - b. 1-5 years
  - c. Over 5 years

#### Perception of Transparency and Reporting Methods

9. Which of the following best defines government transparency for you? Please select the one that most closely aligns with your understanding.
  - a. Community involvement in local government and an open public process in which the business of the public is accomplished in public.
  - b. Citizens have access to publicly available information about the actions of those in government and the consequences of these actions.
  - c. Shedding light on formal and informal rules, plans, processes and actions to help the public hold all power to account for the common good.
  - d. Creating a culture of compliance and integrity that is grounded in legal provisions and consistent with the Code of Ethics
  
10. Is transparency important to your organization or business?
  - a. Yes
  - b. No
  
11. Why?  

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12. The United Nations Convention Against Corruption states that there are many definitions of corruption but recognizes that it could entail any of the following.

Have you ever witnessed one or more of these acts committed by the Municipal Government of Cascais?  
Please select which ones.

- a. Bribery of public officials
  - b. Bribery of foreign public officials and officials of public international organizations
  - c. Bribery in the private sector
  - d. Embezzlement, misappropriation, or other diversion of property by a public official
  - e. Trading in influence
  - f. Abuse of functions
  - g. Illicit enrichment
  - h. Embezzlement of property in the private sector
  - i. Laundering of proceeds of crime
  - j. Concealment
  - k. Obstruction of justice
13. If you have witnessed any of these acts, have you reported it?
- a. Yes
  - b. No

14. If you did not report it, why?
- 

15. How did you report it?
- a. Reported it to the authorities
  - b. Reported it through the Municipal Whistleblowing Channel
  - c. Emailed the manager of complaints
  - d. Reported it to the direct superior of my organization/business
  - e. Other

### Effectiveness of Municipal Transparency Initiatives

22. Do you feel like Cascais is actively promoting transparency in the municipality?
- a. Yes
  - b. No
23. Have you seen or heard of the following municipal initiatives? If so, please select which one/s
- a. Anticorruption Management System - <https://www.cascais.pt/sub-area/sistema-de-gestao-anticorruptcao>;
  - b. Data Cascais Web Page - <https://data.cascais.pt/>;
  - c. Participatory Budget - <https://op.cascais.pt/orcamento-participativo>;
  - d. Youth Voice - <https://www.cascais.pt/sub-area/voz-dos-jovens>
  - e. GeoCascais Web Page - <https://geocascais.cascais.pt/>
  - f. App Fix Cascais - <https://www.cascais.pt/fixcascais>
  - g. Associations Offices - <https://www.cascais.pt/balcao-associativismo-na-sua-associacao-de-moradores>

- h. Exhibition “Live Cascais” - <https://360.cascais.pt/pt/agenda/exposicao-habitar-cascais-estrategia-local-de-habitacao>
  - i. Services to the residents - <https://www.cascais.pt/servicos>
  - j. Other (related to transparency)
24. If other, please explain
25. On a scale from 1-4, how much do you feel like the transparency initiatives have positively impacted your organization or community?  
(1= negatively impacted, 2= not impacted at all, 3= somewhat positively impacted, 4= positively impacted)
  - a. 1
  - b. 2
  - c. 3
  - d. 4
26. Please describe the impact of these initiatives, if any.
27. On a scale from 1-4, how transparent do you feel the Cascais municipal government is?  
(1= not transparent, 2= kind of transparent, 3=transparent, 4= very transparent)
  - a. 1
  - b. 2
  - c. 3
  - d. 4
28. From your perspective, what areas of improvement should the municipality prioritize with regard to transparency and the prevention of corruption?

### **Civic Engagement Improvement**

1. Do you or your organization feel engaged by the local government to participate in decision-making?
  - a. Yes
  - b. No
2. Does community participation improve or reduce your perception of local authorities' transparency and prevention of corruption?
  - a. Improve
  - b. Reduce
  - c. Neither
  - d. Not applicable because I don't feel engaged by the local authorities
3. Which of the following engagement tools do you think would effectively promote transparency and encourage community participation? (Select all that apply)
  - a. Public consultations or town halls
  - b. Online surveys or feedback forms
  - c. Social media updates
  - d. Citizen advisory boards or committees
  - e. Other
4. If other, please explain

5. Are you aware that the following resources are available on the Cascais website? Select the ones you are aware of:
  - a. Municipal Transparency main page - <https://www.cascais.pt/sub-area/transparencia-municipal>
  - b. Transparency Indicators - <https://www.cascais.pt/indicadores-de-transparencia>
  - c. Administrative Transparency - <https://www.cascais.pt/transparencia-administrativa>
  - d. Municipal structure and organization - <https://www.cascais.pt/pagina-de-composicao/composicao-da-camara-municipal-mandato-2021-2025>
  - e. Whistleblowing channels - <https://www.cascais.pt/sub-area/canal-para-promocao-da-transparencia-municipal>
  - f. Information about taxes, tariffs and other regulations - <https://www.cascais.pt/documentos-regulamentos>
  - g. Public Procurement Information - <https://www.cascais.pt/sub-area/contratacao-publica>
  
6. Do you recommend any additions to the website that would improve transparency and accessibility?  
\_\_\_\_\_
  
7. Would you be open to being contacted about future focus groups between stakeholders and the local government to improve perceptions of transparency and accountability?
  - a. Yes
  - b. No
  
8. If yes, please indicate an e-mail for us to contact you.

## Appendix V: References

- “Anti-Corruption 2025 - Portugal | Global Practice Guides | Chambers and Partners,” n.d. <https://practiceguides.chambers.com/practice-guides/anti-corruption-2025/portugal/trends-and-developments/O19344>.
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