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Investigative Techniques and Digital Tools in a World of Modern Compliance

Presentation

Speaking Points included

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Investigative techniques and digital tools in a modern enforcement world

UNCTAD Roundtable

Superintendente Cielo Rusinque

Digital Investigation Tools: An Overview

The SIC utilizes both licensed and in-house developed digital tools for competition investigations.

Licensed Tools

External, sophisticated platforms for large-volume data and searches.

- FTIK Imager
- FTK Central
- Pathfinder Enterprise

In-House Tools

Developed by our engineering team, addressing specific needs and needs and challenges.

- Sabueso
- Inspector
- Sherlock

Licensed Tools: Capabilities & Challenges

These tools enable secure and efficient data extraction and analysis during inspections.

1

Data Extraction & Integrity

Ensures secure data from mobile devices and computers, preserving

2

Selective Search & Relevance

Enables targeted searches using using keywords and case-specific criteria for relevant information.

3

Information Requirements

Facilitates systematic of responses to information requests, reducing manual effort.

Challenges: *High licensing costs and the need for a dedicated forensic IT laboratory and datacentre.*

In-House Tools: Sabueso, Inspector & Sherlock

Developed to enhance monitoring capabilities and protect economic competition.

Sabueso

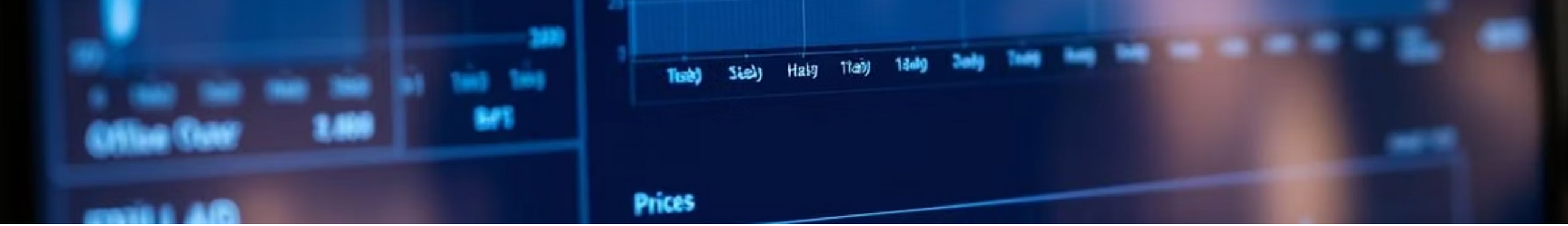
Monitors price behaviour for for supermarket products and and domestic airline tickets.

Inspector

Supervises regulatory from public entities that affect competition.

Sherlock

Streamlines reviews of public public procurement investigations for collusive practices.



Sabueso: Price Monitoring System

Sabueso monitors and analyses price data from various sources to identify anomalies.

Phase 1: Supermarket Prices

- Extracts price data from supermarket
- Normalizes and stores data by product, and price.

Phase 2: Airline Tickets

- Collects prices from various meta-search engines. engines.
- Normalizes data by airline, departure time, and and price.

Function: *Identifies atypical values and issues monthly alerts for further investigation.*

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Inspector: Regulatory Project Oversight

Inspector automates the identification and review of regulatory projects.

- Extracts documents from government websites using advanced web scraping.
- Filters content by keywords and summarises for metadata generation.
- Sends daily email notifications with enhanced titles, comment deadlines, and direct access.

Purpose: *To identify regulatory projects not officially reported but requiring competition advocacy review.*

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Sherlock: Public Procurement Investigations

Sherlock analyses public procurement data to detect potential collusive practices.

- Connects to State procurement platforms (SECOP I & II).
- Applies filters to identify single bidders, low competition, or minimal discounts.
- Current alerts based on simple rules: contract value near estimate, repeated wins by same bidder, single bidder wins.

> ***Challenge:*** *Data quality issues (e.g., inconsistent company names, coding errors) limit advanced algorithmic application.*

Lessons Learned & Future Goals

Key takeaways from digital tool development and a glimpse into future ambitions.

Technical & Data Challenges

Lack of intuitive graphic interfaces and data quality limit wider adoption and accuracy.

Human Validation & Collaboration

Essential for data normalization and ensuring quality; close close collaboration between teams is vital.

Ambitious Future Goals

Consolidate early warning systems, integrate panels, and expand data coverage.

Call for Joint Development

Propose collaborative development of tools among competition authorities to share experiences and reduce reduce costs.

"Investigative Techniques and Digital Tools in a World of Modern Compliance"

SPEAKING POINTS – Superintendente Cielo Rusinque

Roundtable: Investigative Techniques and Digital Tools in a World of Modern Compliance
Time limit: 10 minutes
Key question: *Can you share examples of how your authority has applied digital investigation techniques, such as electronic review of documents, in competition cases?*

1. Opening Remarks (1 minute)

- Good morning and thank you for the opportunity to participate in this important discussion.
- It is a pleasure to join colleagues from across the world to reflect on how digital tools are transforming our enforcement capacities.
- I represent the Superintendence of Industry and Commerce of Colombia — the national competition authority.
- Today I will briefly share both successful experiences and valuable lessons we've learned in developing and applying digital investigation tools.

2. Licensed Digital Tools: External Technologies (2 minutes)

We've relied on powerful external software to handle large volumes of data, especially during inspections.

Key tools: FTK Imager, FTK Central, Pathfinder Enterprise
These tools allow us to:

- Securely extract and preserve digital evidence during on-site inspections.
- Search and process information from company devices, including emails, presentations, and documents.
- Use keyword filters and metadata to streamline document review.

They are also used to process responses to formal information requests — enabling more automated, structured searches rather than manual document analysis.

Advantages:

- Highly advanced technology with strong safeguards and traceability.
- Multi-purpose use across different divisions, including consumer and data protection.

Challenges:

- High licensing and operational costs.
- The need for a dedicated digital forensics lab and isolated data center infrastructure, with strict access controls.

3. In-House Tools: SABUESO, INSPECTOR, and SHERLOCK (4 minutes)

We have also developed our own digital tools to expand investigative and monitoring capabilities.

SABUESO

- Designed in two phases:
    1. To monitor product prices on supermarket websites.
    2. To track airline ticket prices using online search engines.
- The system extracts, normalizes, and stores price data, generating alerts on anomalies.
- Helps identify potential anti-competitive behavior in key consumer markets.

INSPECTOR

- Monitors regulatory projects from over 60 public entities.
- It flags potentially anti-competitive measures that were not formally submitted to our advocacy channel.
- Extracts documents, filters by keywords, and sends daily alerts with metadata and deadlines to our team.

SHERLOCK

- A tool to identify potential collusive practices in public procurement.
- It analyzes tender data from national procurement platforms (SECOP I and II).
- Applies three key rules to detect red flags:
    1. Contracts awarded at 97% or more of estimated value.
    2. Same company winning 3+ contracts from the same authority.
    3. Single-bidder tenders where that bidder wins.
- **Main limitation:** Data quality issues — inconsistent company names, ID numbers, duplicates, etc., generate false alerts.
- Sherlock currently analyzes structured data only; it does not yet process the content of tender documents.

4. Technical Lessons and Reflections (2 minutes)

Developing and deploying these tools has revealed both possibilities and limitations.

Technical challenges:

- Lack of user-friendly interfaces limits access for non-technical staff.
- Data inconsistencies (CAPTCHAs, missing updates) cause false alerts or limit automation.
- For example, SABUESO and Sherlock still require significant human validation despite partial automation.

Key takeaways:

- Data standardization and traceability are essential.
- Human oversight remains critical to avoid errors and misinterpretation.
- Inspector and Sherlock have enabled valuable historical datasets for long-term analysis.
- Interoperability between systems is vital for effective enforcement and deeper insights.

5. Closing Thoughts and Proposal for Collaboration (1 minute)

- At the SIC, we aim to:
    1. Build early-warning systems to detect competition risks.
    2. Develop visual dashboards to support decision-making.
    3. Expand data coverage to new sectors and platforms.
- **A final proposal:**
  Let us move toward **joint development of digital tools among competition authorities.**
  This would:
    - Share costs.
    - Reduce duplication.
    - Elevate enforcement capacity across jurisdictions.

Closing line:

"Collective, technically sound, and systemic collaboration is the foundation for protecting competition in today's digital economy."

Thank you very much.