

# Modeling ISO 37001 Anti-Bribery Evaluation of Business Associates Through Expert Systems

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Corruption is the single greatest obstacle to economic and social development around the world<sup>1</sup>. Every year \$1 trillion is paid in bribes<sup>2</sup> while an estimated \$2.6 trillion are stolen annually through corruption, a sum equivalent to more than 5 percent of the global GDP<sup>3</sup>.

Despite the size or type of organization, it has disastrous impacts such as eroding political stability, increasing the cost of business and contributing to the deficit of operations.

As a consequence ISO has created the ISO 37001 standard which specifies requirements and provides guidance for establishing, implementing, maintaining, reviewing and improving an anti-bribery management system<sup>4</sup>.

The advantage of this standard is to help implement robust and proportionate measures that can substantially reduce the risk of bribery and address corruption where it does occur.

But how can small and medium enterprises engage this issue with limited resources and the lack of regulation?

By using expert systems, it is possible to detect this circumstance, but not all SMEs have the money and infrastructure to do so. This proposal addresses this by recommending the use of Ontological modeling through Protégé, an open-source ontology editing platform and framework for building intelligent systems<sup>5</sup>. It will be a proof of concept in the business associates selection process referred in Annex A.11 and A.15 of the ISO 37001 standard.

By modeling the procedures used to select business associates through the use of Protégé, we can perform inference throughout the process to identify the lack of regulation, any abnormal behavior, and possible risk of bribery in company specific policies and methods.

This approach does not require the use of custom made software, but rather only the training of IT personnel to model the firm requirements and obtain the inferred results.

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<sup>1</sup> International Chamber of Commerce / Transparency International / United Nations Global Compact / World Economic Forum Partnering Against Corruption Initiative. 2008. 'Clean Business is Good Business'.

<sup>2</sup> World Bank. 'Six Questions on the Cost of Corruption with World Bank Institute Global Governance Director Daniel Kaufmann'.

<sup>3</sup> International Chamber of Commerce / Transparency International / United Nations Global Compact / World Economic Forum Partnering Against Corruption Initiative. 2008. 'Clean Business is Good Business'.

<sup>4</sup> ISO/TC 309. ISO 37001:2016 - Anti-bribery management systems. 2016-10. International Organization for Standardization, Geneva, Switzerland.

<sup>5</sup> How Can Protégé Bootstrap Your Semantic Application? A Deep Dive into the Coolest Features of Protégé and the Latest Oracle Spatial and Graph. Rafael S Gonçalves, Isai B. Cicourel, Zhe Wu. Smart Data Conference. 2015-08.