



Building a better working world

EY Digital Loss Prevention Services

Enriched by human mind. Enabled by EY Virtual Analytics Infrastructure.

Employee theft costs businesses a significant amount of money every year. The US National Retail Federation’s 2017 National Retail Security Survey projected that employee theft would result in an overall loss of more than US\$14b in 2017. The US National Restaurant Association estimated that employee theft costs its members 4% of overall food sales on an annual basis.

Traditional loss prevention approach has not been effective

Most existing loss prevention software applications use exception-based reporting that tends to generate high false positives. The technology-centric approach also fails to take into account the unique delivery model and risk profile of each business. Moreover, companies’ reliance on reactive, fact-finding investigations prevents them from taking a proactive and comprehensive approach to mitigate risk.

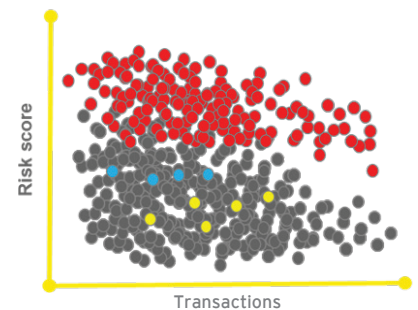
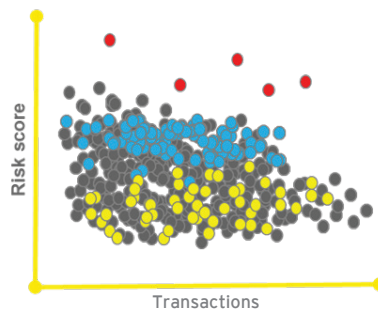
EY Digital Loss Prevention Services – going beyond exception-based reporting

Capitalizing on its decades of fraud investigation experience, EY works with businesses to develop loss prevention programs that focus on proactive continuous monitoring by using advanced data analytics and artificial intelligence (AI) technologies such as machine learning.

Illustrative comparison between the two approaches

Exception-based reporting

Analytics and AI-based approach



- = Fraudulent transactions
- = Legitimate transactions

- = Transactions falsely identified as fraudulent
- = Fraudulent transactions not identified



Powered by Virtual Analytics Infrastructure (EY Virtual), EY Digital Loss Prevention Services has the flexibility to be deployed on premises or via cloud, the scalability to be implemented in multiple locations, and the ability to integrate with ERP systems, point of sales (POS) systems, inventory, payroll, case management tools and data management applications.



Key features of EY Digital Loss Prevention Services

1 Real-time access to data: any time, anywhere

At EY, we regard broad and sufficient data as key to safeguard against internal theft. Our technology is specifically designed to ingest and analyze POS, inventory and other relevant data sources to help companies gain a consolidated view of their employee risk – in real time – instead of having to resort to sampling. While sampling may be helpful to assess the scale of the problem it may not identify specific instances of theft.








2 Predictive risk scoring driven by behavioral analytics and machine learning

At the core of our offering is a library of proprietary sector-specific anti-fraud schemes developed using employee behavioral patterns from historical fraud incidents. We also work with clients to develop custom anti-fraud schemes based on their unique business model and risk profile.

We translate each anti-fraud scheme into client-specific scoring models using behavioral analytics, predictive analysis and other forensic data analytics techniques. The risk scores, individually and combined, are then used to indicate potential high-risk transactions. We employ machine learning to refine the analytics algorithms over time and to help identify new patterns of fraud behavior as employees adapt to known rules and find new ways to commit fraud.

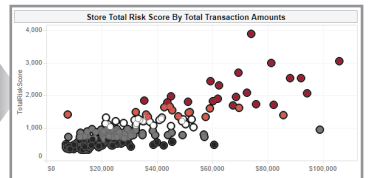
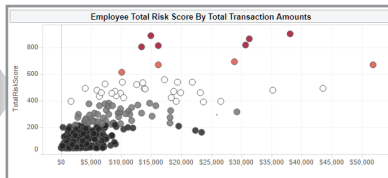
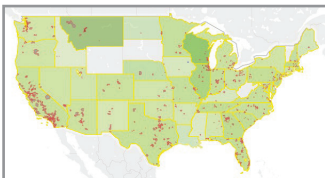
Sample anti-fraud schemes

 Cross-sector (e.g., bribery, sales promotion) 		
 Quick service restaurant (e.g., cancelled transactions, under-ringing)	 Casual dining (e.g., tip padding, wagon wheel)	 Retail (e.g., preferred discounts, refund, false returns)



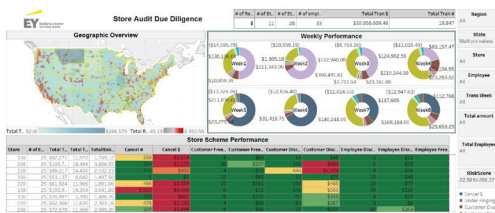
3 Interactive and integrated case manager

Through EY Virtual's built-in interactive case management tool, investigators have access to a full view of anti-fraud schemes that enables them to manage alerts and drill into specific risk areas in real time. Users also have the ability to automate certain escalation procedures using workflow tools. The case manager can integrate a wide range of data sources such as video feeds from surveillance systems and relevant external documentation, so that all relevant information needed for investigation can be readily available at one central location.



4 Visual executive dashboard and robust reporting

Our executive dashboard enables senior executives to monitor the performance of multiple locations in one consolidated view in real time. The reports can be programmed to provide not only risk insights but also additional operational measurements such as revenue performance and sales projections.



5 Human domain knowledge enhanced by sector experience

Our team includes data scientists, forensic accountants, certified fraud examiners and investigators who possess decades of experience combined advising corporations. Recognizing that each sector faces unique challenges, we tailor each implementation by engaging our sector-focused teams and working closely with client stakeholders. We offer delivery models that enable clients to adopt a phased implementation approach based on their business priorities so they can regularly assess return on investment and better control costs.



EY in action

With EY's help, a global quick-service restaurant client significantly improved its loss recoveries – amounting to multi-million US dollars of bottom-line savings – by enhancing its traditional POS controls using forensic data analytics. Besides leveraging EY proprietary anti-fraud schemes, EY developed custom anti-fraud schemes by collaborating with the client's internal investigators. The anti-fraud schemes took into account each store's unique business model and geographic risk profile and incorporated data from multiple data sources, including POS, employee performance records and shift schedules. EY professionals implemented anti-fraud schemes into risk-ranking predictive models using statistical modeling, machine learning and other forensic data analytics techniques. In addition, they incorporated a manual feedback loop into the predictive models to fine tune and improve their accuracy over time.

The team also implemented procedures to document the company's loss profile in order to measure loss recovery improvements and to demonstrate ROI on an ongoing basis. The executive reports have provided insights that helped regional and store managers to implement POS controls to prevent and deter fraud. For example, the restaurant identified several types of high-risk transactions that now require manager approval. The proactive approach has helped to reinforce a culture of ethics and integrity within the organization.

EY | Assurance | Tax | Transactions | Advisory

About EY

EY is a global leader in assurance, tax, transaction and advisory services. The insights and quality services we deliver help build trust and confidence in the capital markets and in economies the world over. We develop outstanding leaders who team to deliver on our promises to all of our stakeholders. In so doing, we play a critical role in building a better working world for our people, for our clients and for our communities.

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About EY Forensic & Integrity Services

Dealing with complex issues of fraud, regulatory compliance and business disputes can detract from efforts to succeed. Better management of fraud risk and compliance exposure is a critical business priority – no matter the size or industry sector. With approximately 4,500 forensic professionals around the world, we will assemble the right multidisciplinary and culturally aligned team to work with you and your legal advisors. We work to give you the benefit of our broad sector experience, our deep subject-matter knowledge and the latest insights from our work worldwide.

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