2024 TOP TRENDS IN BEHAVIORAL SCIENCE, DIGITAL TECHNOLOGIES, DATA, AND ARTIFICIAL INTELLIGENCE IN COMPLIANCE AND ENFORCEMENT

With the arrival of 2025, the New York City Bar Association (the "City Bar") Presidential Task Force on Artificial Intelligence and Digital Technologies (the "Task Force")[1] looked back on the key trends in behavioral science and digital technologies[2] that shaped the year 2024. These trends are inspired, at least in part, by global regulators taking a more holistic approach to risk management and compliance, focusing on behavioral science, culture, leveraging data and tools for business and risk, and addressing root causes of harm to ensure effective remediation.

I. WHAT IS BEHAVIORAL SCIENCE AND WHY DOES IT MATTER?

Behavioral science is the study of human behavior, exploring how individuals make decisions, interact with others, and respond to their surroundings. When applied to areas such

[1] The Task Force is composed of more than 200 representatives of more than 50 committees, councils, and other task forces of the City Bar and adjunct members, including lawyers, academics, trade association representatives, consultants, technologists, and others. See Task Force Dashboard at https://www.nycbar.org/committees/task-force-on-digital-technologies/ and https://www.nycbar.org/wp-content/uploads/2025/01/PTFAIDT-Leadership-250105.pdf (All websites last accessed on Jan. 27, 2025).

[2] This year in review was drafted by the Task Force Subcommittee on Behavioral Science in Digital Technologies (Behavioral Science Subcommittee) and approved by the Task Force Subcommittee on Articles and Blogs. The Behavioral Science Subcommittee analyzes the implications of behavioral science and digital technologies products and services working together to assess and impact risk and culture - and to strengthen, redesign, and retool compliance programs. Current members of the Behavioral Science Subcommittee include (1) Timothy Abrahams, Partner, Cyber, Privacy & Forensic Services – Advisory at PWC; (2) Subcommittee Co-Chair Tiffany Archer, Eunomia Risk Advisory, Inc., Founder & President, Behavioral Science Compliance Consultant & Data Insights Specialist, and Adjunct Professor at Fordham Law School; (3) Bryan Judice, Vice President of Compliance Solutions at KonaAI; (4) Subcommittee Co-Chair Amanda Raad, Partner and Co-Leader Global Anti-Corruption and International Risk Practice and Co-Founder and Leader, R&G Insights Lab at Ropes & Gray; and (5) Eugene Soltes, Professor at Harvard Business School and author of *Why They Do It: Inside the Mind of A White Collar Criminal*. The Task Force Subcommittee on Articles and Blogs serves as a peer review for Task Force writings, especially articles, blogs, reports, statements and other writings. Current Subcommittee members include (1) Angelena Bradfield, Head of Policy and Government Affairs at Financial Technology Association; (2) Robert Mahari, Harvard Law School and MIT Media Lab; (3) Lorraine McGowen, Task Force Co-Chair and Partner at Orrick, Herrington & Sutcliffe LLP; (4) Robert Schwinger, Partner at Norton Rose Fulbright US LLP; (5) Edwin Smith, Massachusetts Uniform Law Commissioner and Partner at Morgan Lewis; (6) Tiffany Smith, Partner at WilmerHale; and (7) Jerome Walker, Task Force Co-Chair and Partner at Jerome Walker PLLC.

as risk management,[3] behavioral science helps organizations to consider compliance challenges such as fraud and non-compliance with policies from a new perspective.[4]

II. WHY FOCUS ON BEHAVIORAL SCIENCE AND DIGITAL TECHNOLOGIES?

Digital technologies enhance the ability to collect and analyze data, while behavioral science provides a framework for interpreting that data and designing interventions that align with human psychology. The powerful synergy between the two can transform how organizations understand and influence behavior, and therefore impact organizational culture, which remains a key priority for regulators around the world.

For example, panelists in the UK Financial Conduct Authority's Webinar on Culture noted the "huge advances in research and technology in behavioral science which are shedding more light on [culture] and enabling us to approach [culture and its measurement] in a more rigorous way."[5] This forward progress can only be achieved with the assistance of digital technologies, as noted by James Hennnessy, Head of Governance and Culture Reform Initiative of the Federal Reserve Bank of New York. He described a key advancement in 2024 of "how technology can help to derive data from new sources, such as natural language processing and network analysis. Such tools provide real-time feedback and indications of trends - more than occasional 'snapshots' that can, without the right context, give misleading impressions. Qualitative evidence - anecdotes and other feedback gathered through focus groups, interviews, and other more people - and time-intensive techniques continue to round out the picture created by the numbers."[6]

III. BEHAVIORAL NUDGING THROUGH DIGITAL TECHNOLOGIES IN COMPLIANCE AND BEYOND

"Nudging" refers to subtly guiding users' decisions through design choices such as prompts, reminders, or default settings, which encourage positive behaviors. For example, an organization may nudge an employee to comply with legal or organizational policies or training requirements, without resorting to overt coercion.

As this trend continues to evolve, behavioral nudging is expected to become a cornerstone tool for companies to drive employee engagement, increase retention, and foster responsible ethical behavior. Organizations have increasingly adopted innovative nudging strategies to drive positive behavior changes. For example, within the energy industry,

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[3] Michael Hallsworth, *A Manifesto for Applying Behavioral Science, available at* https://www.bi.team/wp-content/uploads/2023/04/BIT_Manifesto.pdf.

[4] To be most effective, behavioral insights need to be applied to the specific context of an organization or market understanding and mapping culture provides this context.

[5] See, the discussion hosted by the UK Financial Conduct Authority in the *Assessment of Culture Webinar, available at* https://www.fca.org.uk/publication/transcripts/webinar-transcript-assessment-of-culture.pdf.

[6] Statements from The Federal Reserve Bank of New York, (March 12, 2024), *available at* https://www.newyorkfed.org/newsevents/speeches/2024/hen240312.

companies are leaning on default nudging strategies to boost participation in sustainable energy initiatives by streamlining the decision-making process.[7]

To prepare for this shift, organizations should prioritize the development of ethical nudging strategies that align with their business goals while respecting user autonomy. The task includes ensuring transparency about how nudging techniques work, providing users with the ability to opt-out, and carefully considering the psychological impact of these interventions. The UK's *Behavioural Insights Team*, for example, emphasized the importance of ethical guidelines in applying behavioral science to policy, stressing that nudges should be transparent and designed to protect the well-being of individuals.[8]

Organizations should also invest (if budgets permit) in behavioral science expertise to design nudges that are effective, yet not manipulative, to promote long-term positive behavior and maintain employee trust. Research demonstrates that well-designed nudges can empower individuals to make better decisions, but only when they are thoughtfully and ethically implemented.[9]

IV. DATA AND ARTIFICIAL INTELLIGENCE

In its 2024 updated Evaluation of Corporate Compliance Programs (ECCP) guidance,[10] the Department of Justice (DOJ) highlighted the growing significance of data analytics and artificial intelligence (AI) to compliance. The guidelines are designed to assist prosecutors during corporate investigations, plea negotiations, or when determining whether to bring charges. The latest iteration expands on its encouragement for companies to leverage data to strengthen their compliance program in two ways:

1. The first relates to risks generally. Companies should harness data analytics to inform risk assessments, monitor compliance controls, and proactively identify potential misconduct. The DOJ reminded companies that they must use data and technology to the same degree for risk as for commercial purposes. Data insights are a critical resource in the evaluation of compliance program effectiveness and efforts to continuously improve.

2. The second relates to the impact of emerging technologies. DOJ's guidance underscores the importance of managing risks associated with emerging technologies, particularly AI, as part of a corporation's compliance program. The ECCP suggests companies

[7] See King, C. (August 4, 2023) *Octopus Energy Develops Affordable Renewable Energy* https://energydigital.com/articles/octopus-energy-develops-affordable-renewable-energy; Flores S. & Royster M. (March 31, 2023) *Some DG&E Customers Are Being Automatically Switched to New Power Provider*, https://www.nbcsandiego.com/nbc-7-responds-2/some-sdge-customers-are-being-automatically-switched-to-new-power-provider/3199688/.

[8] Behavioural Insights Team (BIT) (2020). *The Behavioural Insights Team Annual Report.*

[9] Sunstein, C.R. (2019). *The Nudge Unit: How We Can Use Behavioral Science to Build a Better Future.*

[10] U.S. Department of Justice Criminal Division (updated September 2024), *Evaluation of Corporate Compliance Programs, available at* https://www.justice.gov/criminal/criminal-fraud/page/file/937501/dl?inline.

should take a proactive approach to mitigate AI's potential unintended consequences and should put controls in place to strengthen accountability, trustworthiness, and reliability in the context of new technology. That includes measuring the accuracy and precision of its analytics and assessing the quality of its data sources.

V. ENHANCING THE QUALITY OF COMPLIANCE: AI, PREDICTIVE ANALYTICS AND MACHINE LEARNING

Over the years, compliance professionals have employed data analytics in various forms to detect trends and anomalies. The progression of AI, specifically through Predictive Analytics and Machine Learning (ML), has transformed this methodology. Predictive Analytics employs statistical techniques to analyze historical data and predict future events, whereas ML, a subset of AI, develops algorithms that enable computers to learn from data and enhance decision-making over time.

In the context of compliance programs, the integration of Predictive Analytics and ML has been applied to disposition and remediate cases by marrying historical and current company hotline data. AI has been used to identify trends and assist in predicting outcomes of current compliance cases by analyzing historical cases. Predictive Analytics and ML models help to create workflows to achieve desired goals such as analyzing, summarizing, and calculating risks, predicting potential outcomes and ultimately helping to disposition cases without removing human judgment from the equation. The application of these workflows and methods has contributed to the creation of timely, value-driven compliance processes while strengthening quality, managing critical risk, and enhanced trust encouraging feedback.

VI. TRENDS IN COMPLIANCE DATA ANALYTICS

While global regulators provide insights into data expectations and how they evaluate compliance programs, they do not typically address or mention what specific data analytics are most effective. Rather, those insights often come directly from legal, risk and compliance professionals and regulatory investigations or monitorships. The year 2024 transitioned away from singular rules-based tests/algorithms in an attempt to improve the identification of potential risks. These changes include modifying rules-based tests/algorithms by: (1) adding policy or financial-based thresholds, (2) combining multiple rules-based tests/algorithms, and (3) incorporating machine learning either as a component of the test/algorithm itself or as a broad overlay.

Adding policy or financial-based thresholds algorithms/test results in the analytics focusing on more specific subsets of information and potential risks and providing insights into potential behavioral patterns or shifts that underlie those risks such as intentional efforts to bypass required approvals. Combining multiple tests/algorithms enables organizations to look at multiple risk signals simultaneously. These signals usually highlight a more complex compliance risk – such as financial fraud, bribery and corruption. Finally, the integration of ML models for compliance risk assessments allows organizations to use insights from their data analytics efforts to train these models. Doing so improves the accuracy of identifying potential high-risk transactions and reducing false positives. We expect these, and other trends, will continue to take shape in 2025.

Data analytics are also being increasingly embedded within compliance functions. For example, by combining different data sources (e.g., surveys, investigations, human resources), companies are able to draw clearer inferences and develop better action plans. Much of this innovation is arising due to the hiring of more sophisticated data-focused staff within the legal and compliance functions. In this regard, there is a shift away from simply relying solely on outside vendors and contractors and instead developing internal expertise and working with multidisciplinary teams both internally and externally.

VII. BREAKING DOWN SILOS: COMPLIANCE ENFORCEMENT EXTENDING INTO PRODUCT QUALITY AND SAFETY

One of the most striking shifts in 2024 was the heightened emphasis on product quality and safety in relation to compliance. Conventionally, companies have treated product quality and safety as separate domains from compliance. Authorities are increasingly recognizing their critical overlap, especially in the aviation and pharmaceutical industries. Organizations have responded by investing more in team efforts to bridge gaps between their compliance, product quality, and safety teams. For example, companies are placing greater emphasis on the cultural dimensions of quality and safety. Psychological safety, measured by the willingness of employees to speak up about quality and safety issues, can be a litmus test for potential concerns.[11] Adequately training employees to detect product defects and safety risks is also increasingly viewed as a compliance issue. The year 2025 is likely to see compliance teams continue to navigate overlapping responsibilities with product safety and quality realm as well as other overlapping functions.

VIII. ROOT CAUSE AND EFFECTIVE REMEDIATION

While focusing on one root cause may be expedient in the short term, there is a growing recognition that causes of misconduct are many and complex. The updates to the DOJ's ECCP guidance show an increasing desire for organizations to take a more holistic approach when addressing misconduct, from broadening their understanding of the "why" and the "how" behind issues, to ensuring that remediation efforts tackle potential systemic issues that impact the attitudes and behaviors of those involved. Understanding culture, as noted above, and specific subsets of culture such as those providing feedback is one part of understanding the cause and scoping appropriate remediation. Another comes from the DOJ asking companies to learn lessons from their own failures and to be thoughtful of how they update their programs and train employees.[12] Impactful training designed to shift behavior and attitudes needs to be open about failures and be designed to allow compliance teams to capture data about employee

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[11] From a regulatory standpoint see, for example, statements from The Federal Reserve Bank of New York (March 12, 2024), *available at* https://www.newyorkfed.org/newsevents/speeches/2024/hen240312.

[12] See further, statements from the US DOJ (September 23, 2024), *available at* https://www.justice.gov/opa/speech/principal-deputy-assistant-attorney-general-nicole-m-argentieri-delivers-remarks-society.

perceptions. One-size-fits-all training, despite the apparent efficiency it brings, will not cut it – especially for key risk-takers. Giving participants an experience they want to embrace, and where they have a safe space to articulate concerns and try approaches (with feedback) helps to ‘plumb in’ ways of working they can use when faced with a dilemma. Doing so can change attitudes and behaviors and present a more effective remediation outcome.

IX. EXPANDED USE OF MONITORSHIPS

Independent corporate monitorships continued to be in vogue as a compliance enforcement mechanism in 2024. Under the prior Trump Administration, we saw a drop in monitorships. Since then, monitorships have experienced a resurgence over the past several years under the Biden Administration. The year 2024 saw a significant uptick in monitorships as well as the notable rise in double monitorships, where organizations have been subject to multiple monitors imposed by different regulators simultaneously. Cryptocurrency exchange Binance,[13] commodities giant Glencore,[14] and TD Bank Group,[15] each had concurrent monitorships imposed in 2024. The increasing frequency of double monitors reflects the growing complexity of legal frameworks and compliance challenges facing companies as well as a desire by authorities to oversee compliance themselves rather than delegate supervision. In light of the uncertain political landscape and anticipated changes to the DOJ, it remains to be seen whether this trend will continue in 2025.

X. WHAT CAN WE LEARN FROM THESE TRENDS

The convergence of behavioral science, digital technologies, data, and AI will continue to profoundly transform the compliance and enforcement landscape in 2025. As organizations

[13] Binance’s guilty plea to money laundering charges is part of coordinated resolutions with the DOJ, Department of the Treasury’s Financial Crimes Enforcement Network (FinCEN), Office of Foreign Assets Control (OFAC) and the U.S. Commodity Futures Trading Commission (CFTC). Both the DOJ and FinCEN have appointed monitors at Binance. See DOJ Press Release, *available at* https://www.justice.gov/opa/pr/binance-and-ceo-plead-guilty-federal-charges-4b-resolution; FinCEN Press Release, *available at* https://www.fincen.gov/news/news-releases/fincen-announces-largest-settlement-us-treasury-department-history-virtual-asset.

[14] Glencore International AG and Glencore Ltd. entered into separate plea agreements with the DOJ, with each providing for the appointment of an independent compliance monitor for a period of three years to assess and monitor the Company's compliance with the agreements and evaluate the effectiveness of its compliance programme and internal controls. Glencore’s separate agreement (made by multiple Glencore entities) with CFTC refers to the monitorship implemented pursuant to the plea agreement with the DOJ. See DOJ Press Release, *available at* https://www.justice.gov/opa/pr/glencore-entered-guilty-pleas-foreign-bribery-and-market-manipulation-schemes; CFTC Press Release, *available at* https://www.cftc.gov/PressRoom/PressReleases/8534-22.

[15] After TD Bank pleaded guilty to money laundering violations and entered into consent orders with the Office of the Comptroller of the Currency, the Federal Reserve Board, and FinCEN, and plea agreements with the DOJ and the United States Attorney Office for the District of New Jersey, FinCEN imposed a four-year monitorship on the company and the DOJ imposed a three year monitorship on the company. See FinCEN Press Release, *available at* https://www.fincen.gov/news/news-releases/fincen-assesses-record-13-billion-penalty-against-td-bank; DOJ Plea Agreement, *available at* https://www.justice.gov/opa/media/1373336/dl.

harness these innovations, they can anticipate more efficient, accurate, and proactive solutions to address regulatory challenges, promote ethical behavior, and satisfy regulatory authorities. These advancements empower employees to foresee risk, customize interventions, and refine decision-making. However, with this rapid evolution comes the responsibility to ensure a balance between progress and ethical integrity, safeguarding privacy and fairness. As we move forward, staying ahead of these trends will be key to fostering a future defined by transparency, accountability, and robust compliance frameworks.

Presidential Task Force on Artificial Intelligence and Digital Technologies
Lorraine McGowen, Co-Chair
Edward So, Co-Chair
Jerome Walker, Co-Chair

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Contact
Raabia Qasim, Associate Policy Counsel | 212.382.6655 | rqasim@nycbar.org