2024 INTERNAL AUDIT
WEBCAST SERIES

Course 3

From AI to IA: How Internal Audit Can Adopt and Address the Risk of Artificial Intelligence

June 25, 2024

|BDO

BDO and Our Internal Audit Webcast Series

Jamey Loupe, CISA, CCSK

MANAGING DIRECTOR, DATA RISK AND CONTROLS
RISK ADVISORY SERVICES

Jamey Loupe is a Managing Director in BDO's Risk Advisory Services practice where he focuses on IT risk advisory solutions. He has more than 15 years of progressive experience leading and organizing teams and projects and has provided audit and advisory services to various Fortune 500 and mid-size multinational companies in multiple industries. Prior to joining BDO, Jamey worked in the internal audit and information technology (IT) security functions for oil and gas services companies. Prior to that he was with a Big Four Firm. His experience includes:

- Leading, managing and conducting IT internal audits
- Managing complex IT Sarbanes-Oxley (SOX) compliance projects
- Recommending and implementing IT process improvements
- Conducting and leading enterprise resource planning (ERP) pre- and post-implementation reviews
- Conducting IT security assessments

EDUCATION
- Cybersecurity Certificate, Harvard University
- M.L.A., Information Management Systems, Harvard University Extension
- B.A., Information Systems Decision Sciences, Louisiana State University

PROFESSIONAL AFFILIATIONS
- Institute of Internal Auditors (IIA)
- Information Systems Audit and Control Association (ISACA)
- Cloud Security Alliance (CSA)
- Marine Corps Association and Foundation (MCA&F)

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Kirstie Tiernan

PRINCIPAL, DATA ANALYTICS & AUTOMATION
BDO DIGITAL

Kirstie Tiernan is a principal in BDO Digital, where she serves as a Digital Go-to-Market leader and is also a member of the BDO USA board. She leads the firm's initiative on AI, focusing on data-driven innovation. Kirstie and her team provide businesses with solutions such as data analytics, machine learning models, and predictive models, transforming raw data into actionable insights that support strategic decision-making. Her expertise includes helping clients utilize data from various sources, locations, systems, languages, and functions to drive organizational innovation and transformation.

Her approach to projects emphasizes process optimization and the integration of advanced technologies. This approach enhances operational efficiencies and ensures regulatory compliance and accurate reporting. Kirstie also served as co-lead for the firm's Digital Transformation & Innovation strategy execution. Under her co-leadership, the firm achieved several milestones, including the establishment of the BDO bot factory, the organization's inaugural Hackathon, and the facilitation of brainstorming and ideation sessions throughout the company.

Beyond her professional work, Kirstie is committed to diversity, equity, and inclusion (DE&I). She leads the Digital women's inclusion group at BDO, fostering a culture of inclusion and support. Her efforts in this area highlight her dedication to creating an inclusive and supportive work environment.

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EDUCATION
▶ M.B.A, Fraud Management and Economic Crime, Utica College
▶ B.S., Computer Information Systems, Indiana University

Learning Objectives

Recognize key risks of adopting Artificial Intelligence and mitigating factors and controls

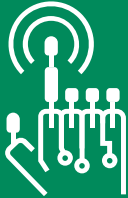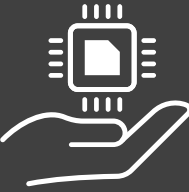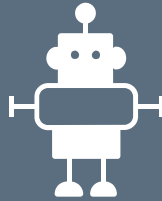Identify how utilizing Artificial Intelligence to conduct audit procedures can provide efficiencies and the ability for the organization to better address critical risks

Conduct insightful conversations with employees and management regarding the adoption of AI

Introduction

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Introduction

Machine Learning	Neural Networks / Deep Learning	Generative AI	Predictive Analytics	Robotic Process Automation (RPA)

▶ What is Artificial Intelligence (AI)?

▶ Core functionalities (Deep Learning, Machine Learning, Generative AI, Predictive Analytics, Natural Language Processing, Robotics)

▶ The rise of AI in business processes and its growing adoption of AI across industries

▶ AI and its potential impact on auditing projects

AI Benefits Summary

▶ **Time-Saving:** provide quick and accurate answers to questions, eliminating the need for extensive research.

▶ **Idea Generation:** generate ideas and offer suggestions for various tasks, such as brainstorming sessions or creative projects.

▶ **Language Assistance:** assist with language-related tasks, such as proofreading, grammar suggestions, and language translation.

▶ **Learning and Education:** serve as an educational resource, providing explanations, examples, and training scenarios.

▶ **Task Automation:** automate some simple tasks, such as generating code snippets or providing basic information.

▶ **Virtual Assistance:** act as a virtual assistant, helping with basic tasks like setting reminders, making to-do lists, and creating efficiencies.

MIT Study on Gen AI Productivity

A March 2023 MIT research paper on 444 professional workers evidenced substantial gains in efficiency, satisfaction, and quality of work against a control group, when completing real-world style tasks.

EFFICIENCY GAINS : Approximately 37% less time spent on the same task. Creating a rough draft took the participants 50% less time than the control group.

INCREASED SATISFACTION: Study recipients report materially higher satisfaction after completing a task with Gen AI versus without.

INCREASED QUALITY: Marks received by the treatment group were 20% higher than the control group. Importantly, the spread of grades became tighter, reflecting the substantial benefit to workers with lower writing ability, boosting them closer to high performing workers.

(c) Time Distribution (Second Task)

Noy, S. Zhang, W. (2023, March). Experimental Evidence on the Impact of Generative Artificial Intelligence
https://www.science.org/doi/10.1126/science.adh2586
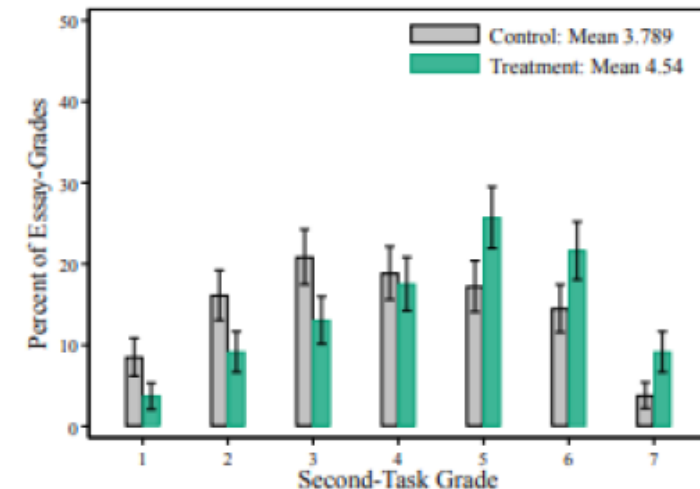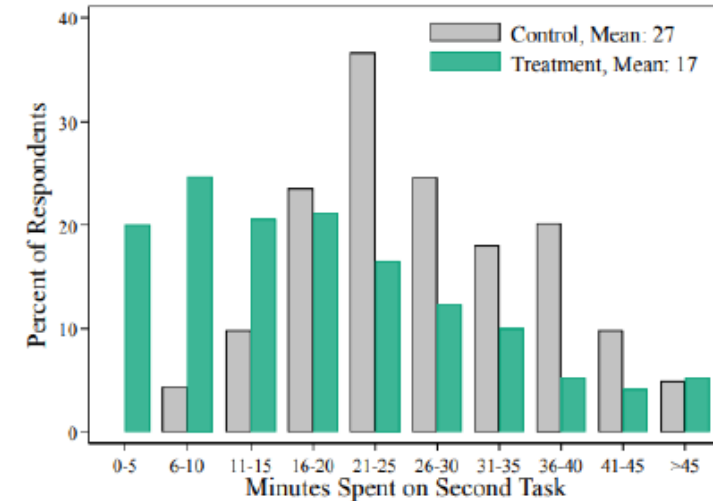
How Internal Audit Can Leverage AI

Internal Audit and AI

MARKETING

Creates email copy, social media posts, and blog articles

HEALTHCARE

Analyzes patient symptoms and medical history and generates a list of possible conditions

LEGAL

Drafting legal documents & contracts

RECRUITING

Screens resumes for relevant skills and experiences, Generates clear and detailed job descriptions

CUSTOMER EXPERIENCE

Instant customer support and personalized assistance

SENTIMENT ANALYSIS & BRAND REPUTATION

Processes text to identify sentiment toward a brand or product

FINANCIAL ANALYSIS AND REPORTING

Generates financial reports from data, assists analysts and investors in decision-making

INTERNAL AUDIT

Analyzes financial data for unusual patterns, identifies potential fraud

TECHNOLOGY

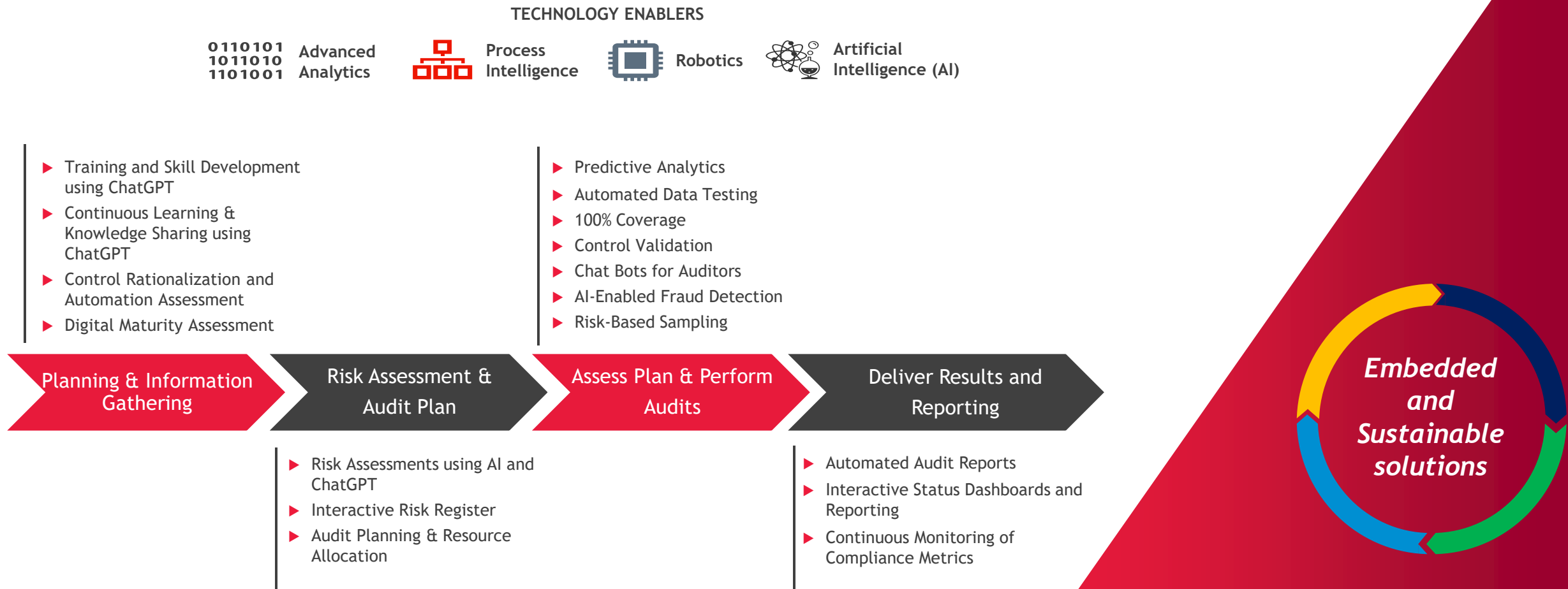Software development and code generation

ChatGPT for Internal Audit

Hi, I am Carl Wilson, the Chief Audit Executive for a large manufacturing firm. We are based in 125 countries with over 7,000 offices and 150,000 employees.

▶ My team doesn't have a complete list of Key Risk Indicators by business process and audit area

▶ Often, our teams perform audit testing procedures for similar audits in an inconsistent and manual way

▶ I have been assigned the task of enhancing our controls environment by finding ways to implement more preventative vs detective controls

▶ I have also been asked to find more opportunities to replace manual controls and procedures with more automated controls

▶ I have a small team of auditors that must support several audits globally

▶ How can I leverage artificial intelligence and ChatGPT?

Opportunity to Leverage Next-Generation Digital Tools Can Be Found Throughout the Internal Audit Lifecycle

TECHNOLOGY ENABLERS

0110101
1011010
1101001 **Advanced Analytics**

Process Intelligence

Robotics

Artificial Intelligence (AI)

Planning & Information Gathering

- ▶ Training and Skill Development using ChatGPT
- ▶ Continuous Learning & Knowledge Sharing using ChatGPT
- ▶ Control Rationalization and Automation Assessment
- ▶ Digital Maturity Assessment

Risk Assessment & Audit Plan

- ▶ Risk Assessments using AI and ChatGPT
- ▶ Interactive Risk Register
- ▶ Audit Planning & Resource Allocation

Assess Plan & Perform Audits

- ▶ Predictive Analytics
- ▶ Automated Data Testing
- ▶ 100% Coverage
- ▶ Control Validation
- ▶ Chat Bots for Auditors
- ▶ AI-Enabled Fraud Detection
- ▶ Risk-Based Sampling

Deliver Results and Reporting

- ▶ Automated Audit Reports
- ▶ Interactive Status Dashboards and Reporting
- ▶ Continuous Monitoring of Compliance Metrics

Embedded and Sustainable solutions

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Chats

New Chat

+ New Chat

Older

- EU Data Act Enforcement
- Crisis Response Simulation
- Crisis Response Drill
- Crisis Response Simulation
- Test Conversation Inquiry
- Copilot Access Announcement
- Project Update Call
- Collaborative Asignet Partnership
- Vendor Data Update
- Vendor Data Modification
- AI Governance in Business
- AI Insights for Directors
- Knowledge Assistant Simplified
- Awaiting Meeting Notes
- AI-Driven IT Strategy
- GPT Unleashed: AI Impact
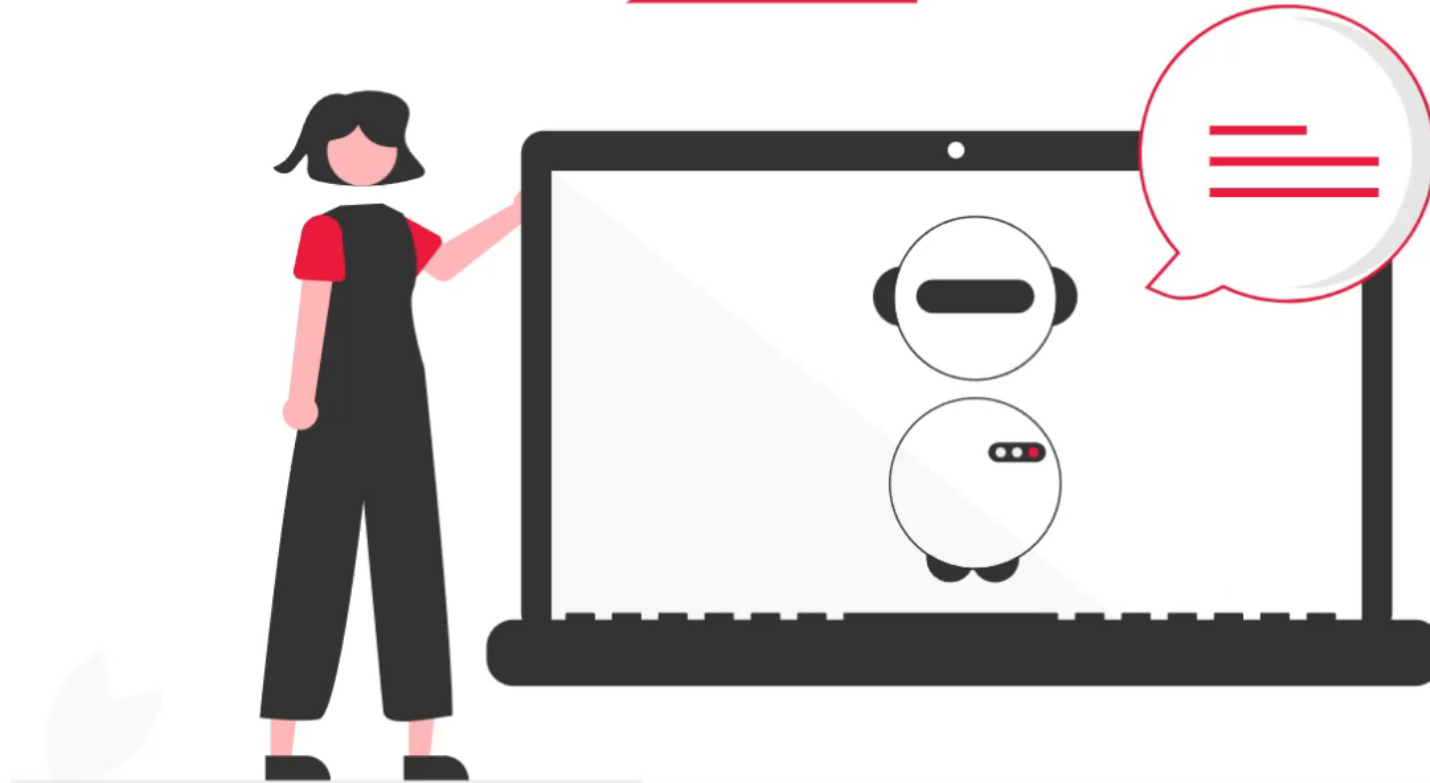- New Chat

Clear Conversations

Send a message...

New Analytics Question

Send a message...

Data Analytics & Continuous Monitoring

▶ AI can analyze vast amounts of data for anomalies and fraud detection (identifying patterns, trends, anomalies in large datasets)

▶ The use of AI for continuous monitoring of controls and transactions (fraud detection and risk assessment)

▶ Examples of AI-powered audit tools (real-time monitoring and controls)

▶ Data visualization tools for impactful reporting

# Enhanced Risk Assessment

▶ AI can identify emerging risks within the organization

▶ Leveraging AI to analyze historical data for better risk predictions

▶ AI can help prioritize risks based on potential impact

▶ Manage risk and compliance to meet evolving business and regulatory requirements

Improved Efficiency

▶ AI can automate (streamlining repetitive tasks, data extraction, reconciliation, analysis)

▶ AI-powered tools for document review and interview transcription

▶ Potential for AI to free up auditor time for more strategic analysis

▶ Standardized, consistent workpapers, audit execution, and reports

▶ Interconnectivity support that AI brings from cross-platforms, various disciplines and the world wide web

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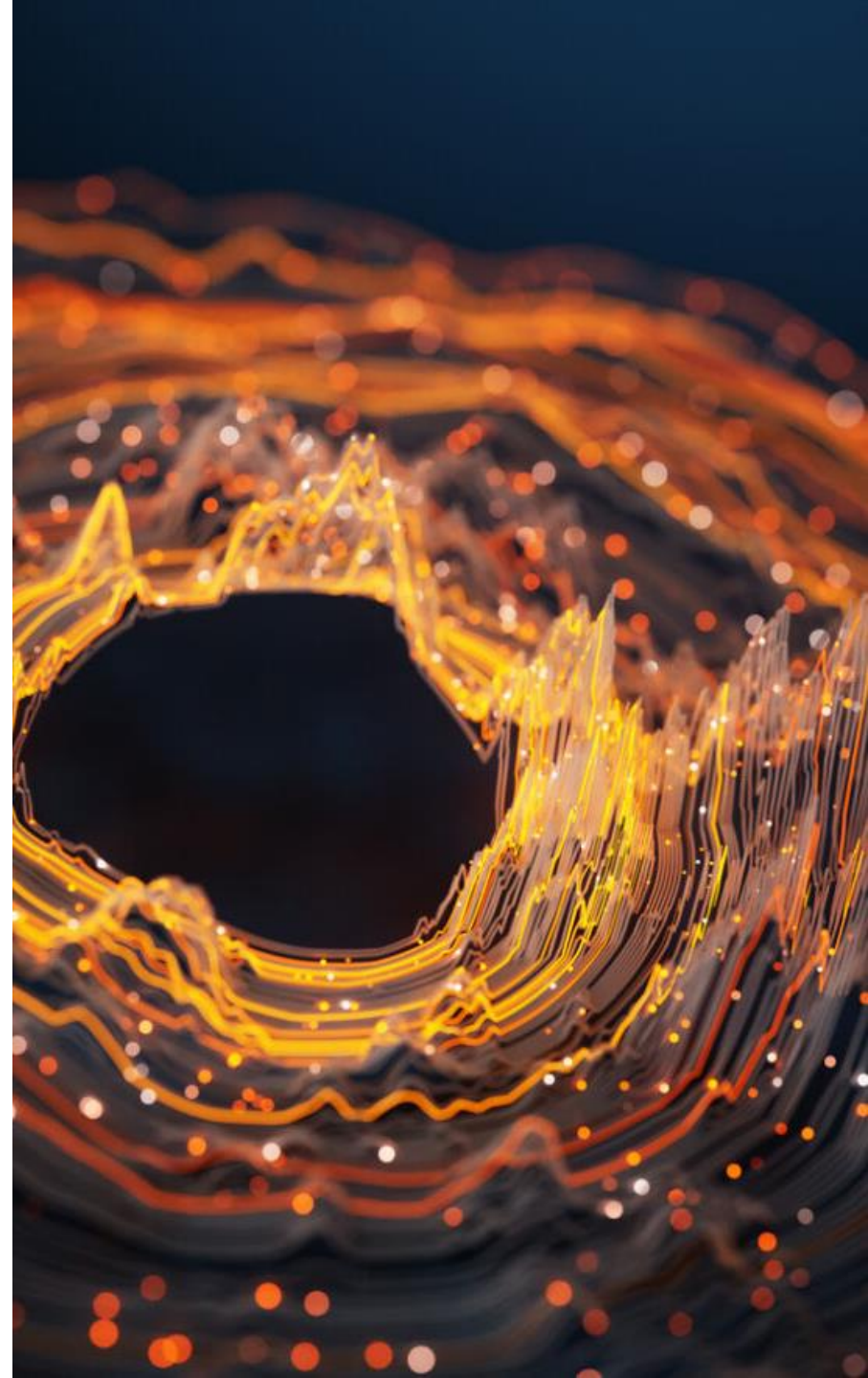
How Organizations Can Leverage AI

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AI in Your Day

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AI-Enabled Applications

Integrate advanced generative AI technologies, such as ChatGPT, into familiar tools used by employees and customers. This approach addresses the challenges of user adoption by enhancing existing applications

Game Changing Processes

Using AI to drive efficiency in the apps users already spend their time in or in new, purpose-built experiences
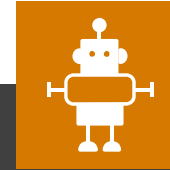
Disparate Data No Problem

Use AI to bring together data from multiple sources and search it

The Easy User Journey

Simple conversational interactions, voice-enabled control, and user-centric interfaces make life easier

Constant AI-Powered Assistance

Embedded AI assistants provide continuous support and information retrieval

Intelligent Content Generation

Auto-generated content speeds users through processes that would otherwise have them typing for hours

Generative AI Possibilities in Marketing

GENERATION

- Product descriptions and postings
- Product photos
- Marketing materials
- Seller review suggestions
- Resolve customer complaints and disputes
- Automated reporting
- Code for product features

INSIGHT/ANALYSIS

- Conduct research on topics of interest to clients
- Analyze client data including social media, product reviews, comments, customer service interactions
- Provide tailored data-driven recommendations
- Suggest the 'Next Best Offer' and determine the ideal marketing mix using historical data and predictive insights

IDEATION

- Ideate new features
- Develop customized product design
- Generate customer experience improvements
- Co-collaborate with AI

SIMULATION

- Simulated customer persona panel
- Empathize with the client journey
- Tailor marketing and communications for specific audiences
- Conduct sentiment analysis on reviews or survey responses

Generative AI Possibilities for Legal

RESEARCH

Help lawyers and legal research find relevant case law, statutes, regulations, and legal opinions by providing quick and accurate answers to their queries

CONTRACTS

Assist with reviewing and analyzing contracts, identifying potential risks, and highlighting important clauses or legal obligations

COMPLIANCE

Provide guidance on regulatory compliance matters, such as data protection laws, antitrust regulations, or environmental regulations along with advice on best practices

TRAINING

Create interactive training modules or onboarding materials for employees, covering topics like legal compliance, workplace policies, ethics, and provide guidance to ensure employees have a clear understanding of legal matters

Generative AI Possibilities for Tax

PREDICTIONS
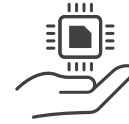
Historic datasets for predictions and actions

- ▶ Trial balance
- ▶ Transfer pricing
- ▶ Transactions
- ▶ YoY ETR
- ▶ State
  - • Apportionment
  - • Nexus
  - • UTP

CLASSIFICATION

Algorithms to suggest classification or anomalies

- ▶ Trial balance
- ▶ VAT
- ▶ Transfer pricing
- ▶ Fixed assets
- ▶ R&D document Analysis

GENERATIVE AI

Visualizations, transcript summary, and presentations

- ▶ Executive/audit summaries
- ▶ Talk to your ERP
- ▶ Analysis
  - • Materiality
  - • Comparisons
- ▶ Advanced Analytics

COPILOTS / SMART ASSISTANT

Operational efficiencies and collaboration

- ▶ Spreadsheet review
- ▶ Document search
- ▶ Talk to your mailbox
- ▶ Priority and task management

The Road to AI

Wherever you are in your artificial intelligence (AI) adoption journey, BDO Digital can help you seize opportunities, solve business problems, and drive growth with AI.

1 EDUCATE

2 IDENTIFY SCENARIOS

3 PREPARE & BUILD

4 ENABLE & ADOPT

5 GO & GROW

Risks Associated with AI

Artificial Intelligence Failures in the News

TastingTable.

McDonald's Is Removing Its Current AI Technology From More Than 100 Drive-Thrus

March 2024

Copilot goes into autopilot, starts breaking rules

April 2024

X's chatbot Grok accuses NBA player of going on vandalism spree after it misinterprets tweets about game

August 2023

Pregnant woman sues after AI accuses her of carjacking

September 2023

AI-generated song submitted to the Grammys

June 2024

Microsoft Recalls CoPilot+

Rite Aid Banned from Using AI Facial Recognition After FTC Says Retailer Deployed Technology without Reasonable Safeguards

Risks of AI

Privacy and Cyber Security

- ▶ Privacy
- ▶ Identity
- ▶ Data Security
- ▶ Secure Cloud
- ▶ Incident Response

Responsibility and Accountability

- ▶ Acceptable use
- ▶ Societal / Market Impacts
- ▶ Regulatory Environment
- ▶ Accountability of Outcome

Misinformation and Inaccuracies

- ▶ Output Integrity
- ▶ Validation
- ▶ Intellectual Property Concerns

Bias and Discrimination

- ▶ Unintended Bias
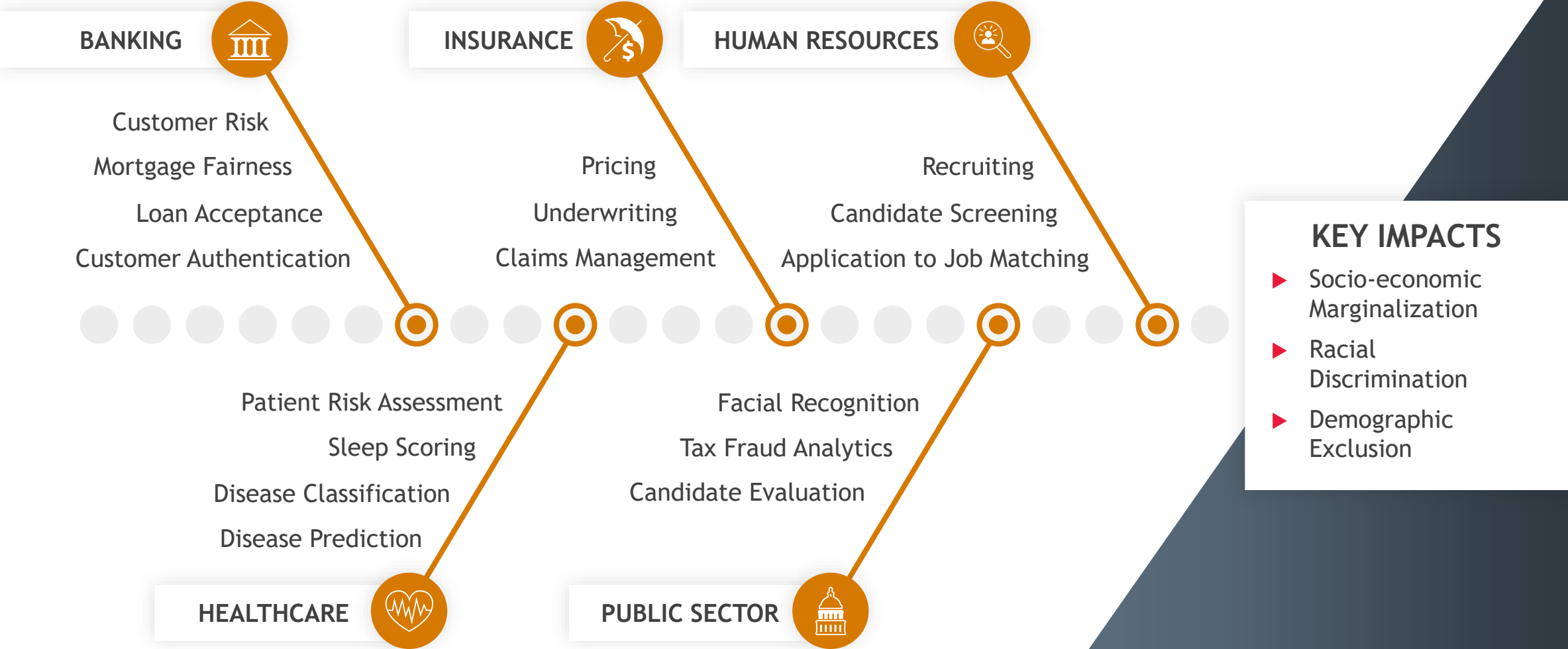- ▶ Unrecognized data patterns
- ▶ Market Fit

Regulations and Requirements

- ▶ Regulatory Alignment
- ▶ Governance of Program

Key Industries and Potential Bias

BANKING

Customer Risk

Mortgage Fairness

Loan Acceptance

Customer Authentication

INSURANCE

Pricing

Underwriting

Claims Management

HUMAN RESOURCES

Recruiting

Candidate Screening

Application to Job Matching

HEALTHCARE

Patient Risk Assessment

Sleep Scoring

Disease Classification

Disease Prediction

PUBLIC SECTOR

Facial Recognition

Tax Fraud Analytics

Candidate Evaluation

KEY IMPACTS

▶ Socio-economic Marginalization

▶ Racial Discrimination

▶ Demographic Exclusion

Third Party Vendor AI Risks

- ▶ Lack of Transparency and Explainability
- ▶ Intellectual Property (IP) Ownership
- ▶ Model Performance and Maintenance
- ▶ Vendor Lock-in
- ▶ Business Continuity and Exit Strategy
- ▶ Regulatory Compliance

Risk Mitigations

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Control Objectives for AI Risk Mitigation

▶ Develop AI Strategic Plan

▶ Data Governance

▶ Model Validation and Testing

▶ Transparency and Explainability

▶ Intellectual Property Management

▶ Model Performance Monitoring

Control Objectives for AI Risk Mitigation

- ▶ Change Management
- ▶ Business Continuity and Disaster Recovery
- ▶ Cybersecurity and Privacy Controls
- ▶ Compliance Management
- ▶ Vendor Oversight and Due Diligence
- ▶ AI Trusted Testing Program

AI Trusted Testing Program

OUTCOMES:

▶ Reduce bias

▶ Reduce inaccuracies

▶ Identify customer experience issues

▶ Identify critical bugs

▶ Improve NPS

▶ Improve accessibility for disabled users

It's important to test your AI against a diverse set of real-world users

LLM APPLICATION
Text or Voice interaction

PERSONAL DATA CONSENTS & NDAS

DIVERSIFIED TEAM
Example: Age, gender, ethnicity, disability, sexual orientation, socio economic, education
Experts: Medical, Financial
Location: Cultural context

TESTING STRATEGIES

Prompt Input/Responses
▶ Natural usage
▶ Directed usage
▶ Adversarial

Testing for: Biased and/or inaccurate responses

User Feedback
▶ Surveys to gauge user satisfaction, trustworthiness, pain points
▶ Measure attributes, such as latency for voice interaction

Quality Assurance
▶ Exploratory, scripted
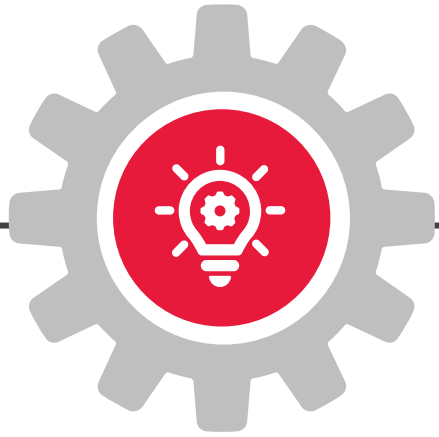▶ Localization
▶ Accessibility

Conclusion

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Conclusion

▶ Key takeaways on AI's potential for various projects

▶ Collaboration with IT and data science teams

▶ Developing an AI strategy

▶ The importance of AI governance and risk management strategies

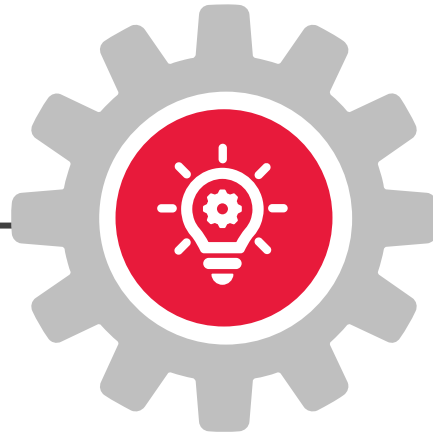▶ The future of AI and its continued impact on our profession

Final Thoughts & Takeaways

Numerous Use Cases

AI has numerous use cases throughout the organization

Additional Risks

With the use of AI, as with any technology, comes additional risks

Internal Audit Can Help

As Internal Audit professionals we can help the organization adopt AI in a risk responsible manner

Questions?

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Thank You

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Join Us!

Join Us!

Join Us!

Skills Development: Project Management for Internal Audit

TUESDAY, DECEMBER 3, 2024
3:00 – 4:00 PM ET / 2:00 – 3:00 PM CST

SIGN UP TODAY ▶

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About BDO USA

At BDO, our purpose is helping people thrive, every day. Together, we are focused on delivering exceptional and sustainable outcomes — for our people, our clients and our communities. Across the U.S., and in over 160 countries through our global organization, BDO professionals provide assurance, tax and advisory services for a diverse range of clients.

BDO is the brand name for the BDO network and for each of the BDO Member Firms. BDO USA, P.C, a Virginia professional corporation, is the U.S. member of BDO International Limited, a UK company limited by guarantee, and forms part of the international BDO network of independent member firms.

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