Introduction and Instructions

The Internal Audit Foundation (IAF) is the global leader in providing research and knowledge resources to enhance the internal audit profession. The IAF continually monitors the needs of the internal audit profession and its stakeholders to identify high priority topics for future projects. These high priority topics can either become research projects or educational products.

Research projects focus on discovering new information about the internal audit profession, using academic research methods such as surveys, focus groups, interviews, case studies, literature review, data analysis, and so on. Whenever possible, research projects should include implications and provide applications for practitioners.

Educational products are designed to provide information that internal audit practitioners can use on the job. Educational products often include “how-to” information, tools, best practices, and so on. (A research component can support the educational product.)

Author’s choice proposals may also be submitted for topics that are not directly related to the posted RFPs. These may be submitted for research or educational topics, and proposals will be evaluated at least once a quarter. The number of projects selected for funding will depend on the quality and number of proposals received and the amount of funds requested and available.

The following request for proposals is for a priority research project, and a global scope is encouraged. Please return your proposal as a Microsoft Word document via e-mail to research@theiia.org. The deadline for submission is September 15, 2017.

Topic Information:

Purpose: The Internal Audit Foundation (IAF), requests proposals from individual researchers or research organizations on collaborating and performing research related to: “Artificial Intelligence (AI) Governance, Risk, and Controls: What Should Internal Auditors Do Now?”

This Request for Proposal is organized into six sections:
2. Objectives
3. Scope of Work – Enumerate Specific Tasks
4. Deliverables and Performance Standards
5. Terms and Conditions
6. Proposal Evaluation and Award Process
7. Key Contacts and Project Management
Request for Proposals: ARTIFICIAL INTELLIGENCE RESEARCH PROJECT

Request for Proposal (RFP) Key Dates:

a. Responses Due Friday September 15, 2017
b. Award Project Friday September 29, 2017
d. Deliverable Two – AI Risks: What Organizations are Investing in and Creating and How Internal Auditors Need to Assess Risks November 30, 2017
e. Deliverable Three – AI Audit Programs a Case Study: What Innovative Internal Auditors are Piloting in Auditing AI December 31, 2017


The Internal Audit Profession recognizes the significant impact and disruption AI can have upon organizational processes and technology. Providing leading AI research designed to inform, alert, and call for action will benefit our membership and stakeholders globally. An AI Taskforce (Taskforce), composed of members of The Institute of Internal Auditors (IIA) will assist the IAF in identifying Researchers who have interest, availability, and experience in AI deployment and auditing who will research and prepare a minimum of three AI reports. Specifically, the research will offer insight into understanding and getting ahead of the AI changes and disruptions happening to current organizational processes and business.

The three deliverables are intended to provide ideas on how to address and act upon the coming AI changes. Target dates for completion of the three deliverables: October 31, November 30, and December 31, 2017.

The Taskforce defines Artificial Intelligence as the computer science or process that seeks to innovate and create technology to mimic many aspects of human intelligence such as speech, sensing, thinking, learning, executing, creativity, and other intelligent capabilities.

The Taskforce recognizes that AI covers many areas and can be viewed from a narrow AI to broad AI perspective. For example, narrow AI represents current research and deployment in domains like speech, facial recognition, or language translation. This includes solutions, machines or computers like IBM Watson and DeepMind’s AlphaGo. Broad AI covers systems that are flexible, versatile, and cognitive. This includes learning, perception, reasoning, executing, creativity, and planning. This type of broad AI is still in the early stages.

The research should focus first on the narrow AI deployments because the solutions are in “production” and the value and risks exist today. Exclude broad AI. Please use the included IAF Research Project Proposal Guidelines (included at the end of this document) to prepare your proposal response.

2. Objectives

a. Create and rapidly deliver quality AI research focused on GRC to the IIA membership
b. Engage qualified AI practitioners, especially GRC professionals, to serve as research writers.
c. Deliver thoughtful and current AI GRC topics using an appropriate research based methodology.
d. Provide global AI research.
3. Scope of Work – Enumerate Specific Tasks

The Taskforce envisions the Research Writer to plan, perform, present, and preserve the research project deliverables. Specifically, the Research Writers should answer and complete the research question, develop the research methodology, deploy the qualified research resource(s), draft, respond to edits, and quality reviews, establish and follow reasonable project due dates, provide periodic status reports, and agree with the IAF terms and conditions.

The Taskforce expects the Research Writers to focus their research deliverables as follows:

**Deliverable One – AI Process Governance: Early Warning and What Internal Auditors Need to Do Soon.**

Provide a broad and comprehensive early warning of what can go wrong when AI Projects lack clear Governance.

For example, the March 2016 Microsoft Artificial Intelligence bot Tay, was pulled off the market when it was taught by Twitter Users to be racist, profane, and offensive. Another older example in July 24, 2015, was the Jeep demonstration by hackers taking over Jeep’s systems. The hackers took control of the Jeep by hacking into the Jeep’s system then remotely drove the Jeep off the road with the driver inside the car. Note: The hack was set up to demonstrate how poor security is over vehicle Wi-Fi systems and programs.

An Oct. 4, 2016 Forrester Research Webinar “AI: What’s Possible Today” by Mike Gualtieri, called out 58% of 391 business and technology professionals surveyed, are doing current and future AI research to deploy in their organizations, 39% are identifying and deploying AI now, with 31% determining the analytical frameworks like algorithms, training models, coding, etc.

What Governance should Internal Auditors look for and provide their organization? What advice should the IAF provide to its members on the investment and deployment of AI? What are some current governance practices that Chief Audit Executives, Board of Directors, and Executive Leaders need to start doing or prepare to do in governing the coming AI revolution?

Some questions might include: Do we have a clear AI strategy? Do we have the AI skills to build and support an AI system? Do we have an appropriate AI process and governance?

**Deliverable Two – AI Risks: How Internal Auditors Need to Assess Risks and What Organizations are Investing in AI**

The Internal Auditor and other Stakeholders need to consider the AI risks and rewards. How should these risks be framed or considered? Should we adopt something from the US Government? What are other governments globally doing? Should we use existing guidance such as the IIA GTAG 2 Change and Patch Management Controls? Critical for Organizational Success 2nd Edition? What about ISO or NIST frameworks or other industry frameworks?

The Research Writer should consider possible AI application risks that Internal Auditors should address such as:

- Meet the business requirements and objectives to create the expected value and ROI.
- Consider privacy or regulatory risks over data disclosure or misuse.
Request for Proposals: ARTIFICIAL INTELLIGENCE RESEARCH PROJECT

- Review AI infrastructure to understand weakness or threats.

- Determine how to build in or update existing system development methods to cover new AI risks in all phases from design, to requirements, coding, testing, user acceptance, and deployment. Especially focus on the rapid development methods like DevOps and Agile.

- Deal with software security vulnerabilities like extracting the software doing reverse engineering to obtain the business objective and understand the code, injecting malicious code, or modifying the code.

- Provide an updated list of where organizations are planning AI technology investments. This represents the highest business value and opportunity. These investments include the highest risk and reward. The Internal Auditor needs to be sitting at the table when these conversations and decisions are being made to first understand the investment then assess the risks.

- Establish a benchmark template for the current Internal audit practice and today’s IA development, to define a plan a route to move ahead and aligned with company’s strategic objectives related to AI

An IDC April 3, 2017 Press Release “Worldwide Spending on Cognitive and Artificial Intelligence Systems Forecast to Reach $12.5 Billion This Year, According to New IDC Spending Guide” states that by 2017 $12.5 Billion will be invested in cognitive and AI systems. This represents a 59.3% increase over 2016. IDC predicts that by 2020 investments will reach $46 Billion globally. Where are these investments going? According to David Schubmehl, the largest areas of spending is in cognitive applications $4.5 Billion. This includes cognitively-enabled applications that automatically learn, discover, and make recommendations. These software platforms will use both structured and unstructured data. Besides the AI software, dedicated server, storage, and infrastructure will be needed to support and operate the new AI applications.

Deliverable Three – AI Audit Programs a Case Study: What Innovative Internal Auditors are Piloting in Auditing AI

The Research Writer should identify or seek out any Internal Audit organization who recently completed an AI Audit. These would serve as a case study on what the Auditor did to plan, perform, present, and preserve the audit. This could include working with the IIA Audit Executive Council to identify some current practices.

4. Deliverable and Performance Standards

The Taskforce requests three or more deliverables. At a minimum, the Researcher should propose to produce three research deliverables:


c. Deliverable Three – *Al Audit Programs a Case Study: What Innovative Internal Auditors are Piloting in Auditing AI*. Target due date: December 31, 2017. Target 3 to 10 page deliverable.

The Taskforce will develop and provide key performance standards. Specifically, the deliverables should benefit and drive value to the IIA members. The deliverables will be clearly written, communicate a response to the research question that includes supporting survey or empirical data to reach a reasonable research conclusion. The Research Writer should plan and anticipate the deliverable due dates and provide status reports including sharing draft outlines, draft deliverables, and updated deliverables based upon edits and suggestions. The target audience for the deliverable reports are Internal Auditors and secondary audiences such as Board of Directors, Executive Leaders and Technology Leaders.

5. **Submission Format and Budget**

Response to this RFP should contain the information requested and be presented in the outline format included in the *Research Projects Proposal Submission Guidelines* (included at the end of this document). Include in the response:

a. Proposed research team members with a brief description of their project roles and qualifications. (Describe research capabilities and/or academic qualifications related to the topic. An internal auditor should be considered for the research team.)

b. Budget (Estimate itemized budget and identify who receives funds.)

No reimbursement for made for expenses related to the preparation of proposal submissions.

6. **Proposal Evaluation and Award Process**

The Taskforce will review submitted proposals and make recommendations to the IAF based on a number of factors:

a. AI experience and knowledge

b. AI Governance, Risk, and Controls experience

c. Proposed research methodology both in general and with some specific research design such as survey sample size, demographics, and sampling procedures.

d. Research Writer’s proposal

e. Address the research questions and objectives

f. Data collection and analytics tools

g. Research writer references

7. **Key Contacts and Project Management**

The Taskforce may be contacted during the proposal phase to answer questions and provide clarification. After awarding the research project, the IAF will serve as the project manager and key contact.
PROPOSAL SUBMISSION GUIDELINES FOR RESEARCH PROJECTS

Return your proposal as a Microsoft Word document via email to foundation@theiia.org. If additional information is needed, please contact the IA Foundation at foundation@theiia.org.

Proposals should **not exceed five pages** exclusive of the summary page and appendices described below, and should be organized in the following order:

1. **Proposal Summary Page**
   a. Date proposal submitted
   b. Primary researcher’s name, contact information, and credentials
   c. Name of the topic being addressed
   d. Proposal title (specific to the proposal, not the same as the name of the topic)
   e. Proposal abstract – approximately 50 words summarizing research needs, 2-3 research questions or objectives, methodology, and a description of the primary deliverable
   f. Research type (educational research, applied research, or theoretical research)

2. **Research Description**
   a. Research questions (and hypotheses if applicable)
   b. Please explain how this research will support the IA Foundation’s overall mission to expand knowledge and understanding of internal auditing and to advance the profession globally
   c. What value will this research bring for internal auditors and what would be the implication/impacts of this research on the profession?
   d. Who is the intended audience? (typical user profile)
   e. Primary and secondary audiences
   f. What is the target industry/sector for this research (e.g. Financial Services, Government, etc.) and will it have global application?
   g. Methodology (Explain how the proposed methodology will answer the research question. Include drafts of surveys or interview guides in appendices including sample size and description. For example: A demonstration to the task force members of the experience possessed based on a “case-study” presentation. An incomplete methodology will cause a research proposal to be returned.)
   h. Proposed annotated table of contents: this should include potential chapter titles along with 2-3 sentences, describing each chapter
   i. Other possible content uses

3. **Research Team and Budget Description**
   a. Proposed research team members with a brief description of their roles and qualifications. (Describe research capabilities and/or academic qualifications related to the topic. An internal auditor should be on the research team.)
   b. Budget (Give itemized budget and identify who receives funds.)

4. **Deliverable Description**
   a. Describe the deliverable format (e.g., manuscript, tools, checklists, etc.)
b. Length of the book or report; be specific! Provide estimated word count, number of exhibits/charts/graphs, and the level of detail in the exhibits (i.e. if more text than illustration)

c. Timeline for completion

5. Appendices
   a. Curriculum vitae (CV) for each researcher (three pages maximum)
   b. Previous researcher affiliation with The IIA or IA Foundation (previous research or educational products published, volunteer participation, chapter officer, etc.)
   c. First draft of the interview guide, survey questions, and/or analysis methodology (if applicable)

Submit proposals via email to: foundation@theiia.org.

Thank you for your interest in submitting a proposal. We look forward to working with you.