Navigating the Future of Auditing:
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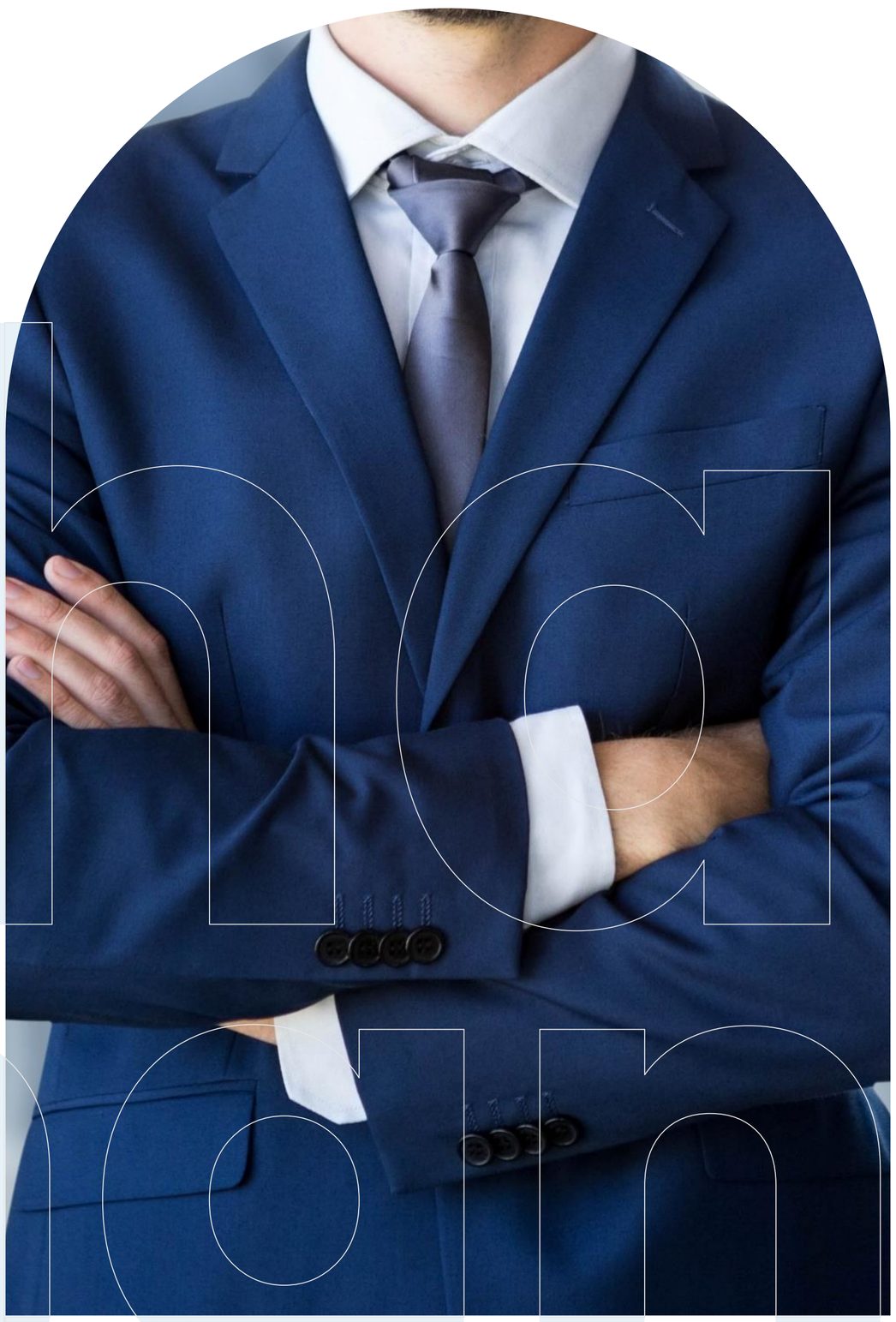

A Chairman's View

Modern Auditing Practices Uncovered Weekly

State Audit Office of the Kingdom of Thailand

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The Influence of Human-Robot Interaction in Public Sector Auditing: Embracing Cobots and Augmented Humans for Supreme Audit Institutions

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As the world embraces the digital revolution, the public sector is also experiencing significant transformations, with human-robot interaction (HRI) playing a crucial role in shaping these changes. In particular, public-sector auditing will soon be the emergence of collaborative robots (cobots) and augmented humans, with implications for Supreme Audit Institutions (SAIs). This article will explore the reasons for our concern, the contributions of HRI in public sector auditing, and the preparation required for adopting cobots and augmented humans within SAIs.

1. Why We Should Be Concerned?

The digital transformation of the public sector brings both opportunities and challenges. As traditional audit processes become increasingly automated, the role of human auditors is evolving. While automation offers significant benefits in terms of efficiency, accuracy, and cost savings, it also raises concerns about the potential loss of jobs and the need for new skills in the workforce. ***SAIs must proactively address these concerns by embracing HRI technologies and preparing their workforce for a collaborative future with robots.***

Concrete Potential Examples of Cobots and Augmented Humans as Audit Tools for SAIs in the Future:

1. Data Collection Cobots: Cobots can be designed to assist auditors in collecting and organizing data from various sources, such as

financial records, databases, or even physical documents. Equipped with computer vision and machine learning algorithms, these cobots can accurately recognize and sort information, significantly reducing the time and effort spent on manual data collection.

🤖 **2. Robotic Process Automation (RPA):** RPA technology can automate repetitive tasks, such as data entry, reconciliation, and report generation. By implementing RPA solutions in their audit processes, SAIs can increase efficiency and reduce the likelihood of human errors.

🎧 **3. Natural Language Processing Cobots:** Cobots with natural language processing capabilities can assist auditors in analyzing text-based documents, such as contracts, policies, and regulations. These cobots can identify critical information, flag potential compliance issues, and summarize key findings for human auditors to review and interpret.

🔧 **4. Augmented Reality (AR) Tools:** AR tools can provide real-time, contextual information to auditors during on-site inspections. By overlaying digital data onto physical objects, AR tools can help auditors visualize complex data sets, identify discrepancies, and make more informed decisions.

🦴 **5. Exoskeletons for Physical Inspections:** In industries requiring physical inspections, such as infrastructure or construction, wearable exoskeletons can augment human auditors' physical capabilities. These devices can help auditors perform tasks more efficiently and safely by providing support, stability, and enhanced strength.

⚠️ **6. AI-driven Risk Assessment Tools:** AI-powered risk assessment tools can analyze vast amounts of data to identify patterns and anomalies indicative of fraud or non-compliance. By incorporating these tools into their audit processes, SAIs can prioritize high-risk areas and allocate resources more effectively.

🛜 **7. Machine Learning-based Anomaly Detection:** Advanced machine learning algorithms can analyze complex data sets and identify unusual patterns or outliers. These tools can help auditors detect potential fraud, errors, or mismanagement, enabling them to take corrective action more quickly.

8. Collaborative Decision-making Platforms: Human auditors and AI systems can work together on decision-making platforms that facilitate the exchange of information and insights. By combining human intuition and experience with the analytical capabilities of AI, these platforms can enhance the quality and effectiveness of audit processes.

These examples represent a few ways cobots and augmented humans can be utilized as audit tools for SAIs. As technology advances, additional applications and innovations will likely emerge, further enhancing the capabilities of SAIs and revolutionizing the field of public-sector auditing.

The Contribution of HRI in Public Sector Auditing:

- **Enhanced Efficiency and Accuracy:** Cobots and AI-powered software can automate repetitive and time-consuming tasks, such as data collection and analysis. This frees up human auditors to focus on higher-level tasks, such as interpreting the results and making strategic recommendations.
- **Improved Risk Assessment:** Advanced AI algorithms can analyze large volumes of data and identify potential risks and anomalies that human auditors may not easily detect. This allows SAIs to allocate their resources more effectively and more precisely target high-risk areas.
- **Continuous Auditing:** Cobots and AI systems can conduct audits on an ongoing basis, providing real-time insights and enabling auditors to identify and address issues more promptly.

- **Fraud Detection:** HRI technologies can help identify fraudulent activities by analyzing patterns and trends in data, making it easier for SAIs to safeguard public funds and maintain the financial system's integrity.

Preparing Cobots and Augmented Humans for SAIs:

- **Skill Development and Training:** As the role of human auditors evolves, it is crucial to invest in training and skill development. This includes teaching auditors how to work alongside cobots and training them in new technologies and analytical techniques.
- **Ethical Considerations:** SAIs must establish guidelines and best practices for the ethical use of cobots and AI technologies, ensuring that these tools are used responsibly and transparently.
- **Collaboration and Interoperability:** It is essential to develop standards and protocols that facilitate smooth interaction between humans and robots, promoting seamless collaboration and the effective exchange of information.
- **Investment in Research and Development:** SAIs should invest in research and development to explore new ways of integrating HRI technologies into their audit processes and keep pace with advancements in the field.

Conclusion

The influence of human-robot interaction in public sector auditing is undeniable, and SAIs must embrace the opportunities and challenges it presents. By adopting cobots and augmented humans, SAIs can enhance their efficiency, accuracy, and effectiveness while addressing the concerns that arise from automation. Furthermore, by preparing their workforce and infrastructure, SAIs will be better equipped to navigate the complexities of the digital age and continue to safeguard the public interest.

After word

A Chairman's View: Modern Auditing Practices Uncovered Weekly

According to the ASOSAI Chairman 2021-2024, The State Audit Office of the Kingdom of Thailand promotes the Bangkok Declaration 2021, which explains the adaptation of SAIs in the next normal era. Therefore, this short paper aims to provide weekly insights and updates on modern auditing practices, focusing on the experiences and perspectives of SAI Thailand's Chairman during their ASOSAI 2021-2024 term.

The paper series focuses on the Public Sector Audit Trends: Analyze emerging trends and advancements in the public sector audit landscape within Thailand and across ASOSAI member countries. The short paper series will be published in a concise and accessible format, with each weekly installment consisting of 3-5 pages. This format ensures that the content is easily digestible for a broad range of readers. The short paper series will be published weekly, with a new installment released every week, covering various topics within the defined scope.

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