ARTIFICIAL INTELLIGENCE INTERNATIONAL
CENTER OF EXCELLENCE FRAMEWORK

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The following white paper represents the Artificial Intelligence International Center of Excellence' (AIICOE) conceptual framework in building a strategic approach toward the adoption and advancement of artificial intelligence, for the international education community to include research, practice, and academic environments.

The intent is to build upon a framework that is a combination of a) research support , b) ontological experiences , and c) practical concepts that can assist primary (i.e. K-12), secondary, and education technology organizations in the formation of their own A.I. center of excellence.

👁 VISION

"The vision of AIICOE is to Lead the international education industry, as a pioneering innovator in the advocacy and implementation of standards and guidelines in A.I., in the pursuit of creating adaptive educational Centers of Excellence."

🎯 MISSION

"The mission of AIICOE is to establish and provide collaborative AI standards and guidance for international primary and secondary schools, community colleges, universities, and education technology institutions that seek the realization of their operational strategies."

❓ PROBLEM

A synthesis of our experiences in building and working through a combination of, a) building artificial intelligence policies, b) analysis of use case adoption of artificial intelligence, and c) reviewing researchers' call for an artificial intelligence center of excellence, via the available literature, has enabled us to form a conceptual problem statement.

"The problem within education organizations is the lack of a unified strategy toward the adoption and advancement of artificial intelligence."
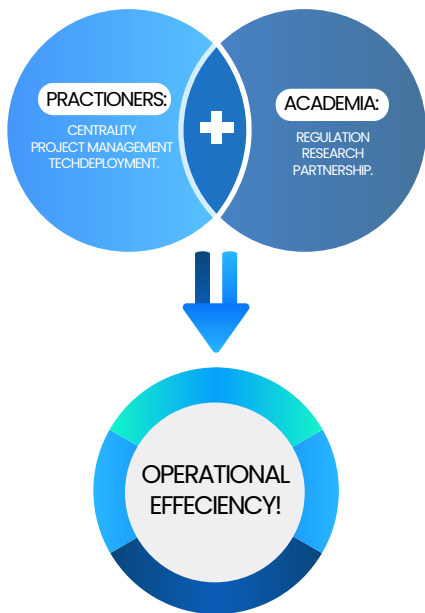
A further review into how we perceive education organizations presently adopt, and advance artificial intelligence include, but is not limited to the following shared reasons, concerns, and realization of the potential benefits of A.I.:

1. Fragmented or AdHoc A.I Adoption
2. Data Privacy and Security Concerns
3. High Administrative Workload and Costs
4. Ethical Concerns and Bias in A.I Systems
5. Lack of Training, Literacy, and/or Time

🔍 RESEARCH

A review of the available literature, listed in the References section of this white paper, provides a combined call toward the buildout of an artificial intelligence center of excellence, by academic and practitioners alike. Synthesis of the available research provides us with an ideology that practitioners and academic professionals ultimately seek the adoption of artificial intelligence for the purpose of creating operational efficiencies within their organizations. A summary of the key variables and our interpretation of the review of the combined literature is displayed in Table 1, whereby practitioners use of artificial intelligence is to build centrality, project management, and technology deployment gains. Academics seek the use of artificial intelligence to help with guidance from regulation, research promotion, and the development of partnerships.

Table 1:

PRACTIONERS:
CENTRALITY
PROJECT MANAGEMENT
TECHDEPLOYMENT.

ACADEMIA:
REGULATION
RESEARCH
PARTNERSHIP.

OPERATIONAL
EFFECIENCY!

💡 SOLUTION

An evaluation of our presented problem regarding education organizations' lack of a unified artificial intelligence strategy, combined with the available research, has led us to form the following Framework meant to continuously evolve, called the:

"Artificial Intelligence International Center of Excellence Framework"

The AIICOE Framework constitutes five guidelines that address, 1) the problem of education organizations lack of a strategy, 2) the need for education organizations to align to A.I. related mandates, standards, and guidelines, 3) the goal of contributing to research in artificial intelligence, to include the growth of the AIICOE Framework , 4) the recognition that resources within education organizations require continuous A.I. literacy training and experiences, and 5) the growth of careers through the inclusion of A.I. in curriculum and alignment toward credit for prior learning pathways. A detailed set of the AIICOE's Framework points are as follows toward the development of an education organization's development of their own A.I. center of excellence.

1. Develop an Institutional A.I Strategy

- **Clearly defined goals and objectives:** establish a vision for the A.I center of excellence, outlining Its mission, values, and long term aspirations.

- **Strategic partnerships:** form collaborations with industry, government, and other academic Institutions to leverage resources and expertise.

- **Resource allocation:** allocate sufficient funding, personnel, and infrastructure to support A.I Initiatives.

- **Ethical framework:** develop guidelines for ethical a.I. Development and use, addressing issues such as bias, privacy, and transparency.

2. Align to Federal, State, Industry, and Institutional Mandates and Guidelines

- **Compliance with regulations:** ensure adherence to relevant federal, state, and institutional Policies related to A.I data privacy, and cybersecurity.

- **Integration with existing initiatives:** align the A.I center of excellence with broader institutional Goals and strategic plans.

- **Collaboration with governing bodies:** engage with government agencies and regulatory Bodies to contribute to policy development and implementation.

- **Enforce quality:** integrate quality control and quality assurance processes while designing and Developing A.I Initiatives.

3. Contribute to Research Related to A.I.

- **Research focus:** identify areas of A.I research (i.E. Efficiency, quality, technology) that align with institutional Strengths and societal needs.

- **Resource development:** support internal resource research through funding, mentorship, and professional Development opportunities.

- **Incubate research:** encourage resources and learners to research projects and collaborations with Institutional strategy and alignment.

- **Knowledge dissemination:** publish research findings in academic journals , practical journals,and share knowledge through workshops and seminars.

4. Establish Literacy and Competency for Educators, Learners , and The Community
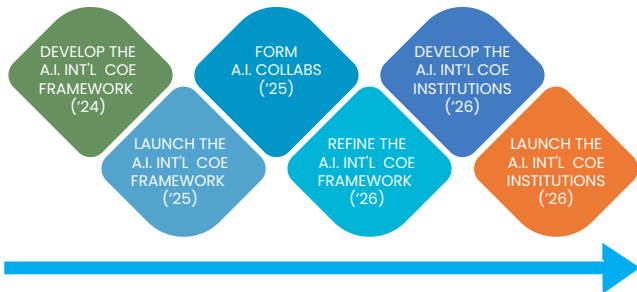
- **Professional development:** Offer training programs and workshops to enhance A.I Literacy among administrators, educators, staff and learners.

- **Curriculum development:** integrate a.I concepts into existing curriculum across Various disciplines.

- **Learner engagement:** provide opportunities for learners to learn about A.I through hands on projects, competitions, and extracurricular activities.

- **Community outreach:** engage with the broader community to promote A.I awarenessand education.

5. Integrate A.I. in Curriculum that Aligns with Workforce Pathways

- **Industry partnerships:** collaborate with industry partners to identify workforce needs and develop A.I. Related programs.

- **Career pathways:** develop career pathways and align program offerings with academic credit, to prepare learner s for careers in A.I., and related fields.

- **Internships and co-ops:** facilitate internships, externships, apprenticeships, and cooperative education Placements to provide practical experience.

- **Lifelong learning:** offer continuing education programs to keep professionals updated on A.I. Advancements.

TIMELINE

Figure 1 illustrates a timeline for the development of the AIICOE Framework. We recommend education organizations contribute to, adopt, and utilize this Framework in the formation of artificial intelligence collaboration workshops, or AI Collabs, where faculty, researchers, administrators, staff, and education technology vendors share common problems and solutions in pursuit of operational efficiencies and effectiveness. Growth of the Framework is perceived to be a continuous process of communicating the problem addressed in this white paper, along with problems brought forth via collaborations, seminars, and partnerships. The ultimate intent of the AIICOE as an organization is to, 1) resolve education organization problems, through guidance, 2) grow the AIICOE Framework toward the resolution of problems, 3) assist each education organization in the creation of their own A.I. center of excellence, and 4) form an AIICOE Institution where faculty, researchers, administrators, staff, and education technology vendors can contribute solutions to resolve the combined set of problems faced by education organizations.

REFERENCES

- Australian government department of education. (2019). Australian a.I. Framework.

- Curry, e, Metzger, a., Zillner, s., Pazzaglia, j. C., & garcía robles, a. (2021). The Elements of big data value: foundations of the research and innovation ecosystem. Springer.

- DiGirolamo, M. (2024). Shibumi Corporation. Establishing an AI center of excellence. https://shibumi.com/blog/establishing-ai-coe/

- Ernest, B. (2024). Federation of American Scientists. (n.d.). AI in education. https://fas.org/initiative/artificial-intelligence/

- EU A.I. Act. (2024). EU Artificial Intelligence Act.

- Government of Japan. (2022). A.I. Strategy 2022.

- Personal Data Protection Committee. (2022). Singapore's A.I. Governance Framework.

- Ragland, D. A. (2023, January 12). Establishing an AI center of excellence: A strategic guide. Medium. https://medium.com/@david.a.ragland/establishing-an-ai-center-of-excellence-a-strategic-guide-df80122644e6

- Tariq, M. U., Poulin, M., & Abonamah, A. A. (2021, July 8). Achieving operational excellence through artificial intelligence: Driving forces and barriers. Frontiers in Psychology, 12, 686624. https://doi.org/10.3389/fpsyg.2021.686624

- Tsatsoulis,C., & Holtzman, J. "Transferring artificial intelligence technology through a research center of excellence," Proceedings Mexico-USA Collaboration in Intelligent Systems Technologies, Cancun, Mexico, 1996, pp. 30-35.

- White House. (2023). Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence.