NORTH CENTRAL REGIONAL CENTER
FOR RURAL DEVELOPMENT

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Artificial Intelligence Use in Extension: Insights from Ohio, and Why Human Work Still Matters

PRESENTERS:

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Introduction

- How are Extension educators, staff, and administrators using artificial intelligence (AI) today?

- According to Hill and Narine (2023), AI has potential for "increasing efficiency, productivity, and performing tasks previously exclusive to humans."
- But they also warned that, "Extension must ensure educators and staff have the necessary knowledge and skills to effectively utilize and integrate this technology."

- Great potential of AI use to "enhance programs, deliver personalized advice, engage audiences, and disseminate research-based information." (Hill et al., 2024).

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What Did We Do?

- We asked Extension educators, staff, and administrators in Ohio how they were using generative language tools.

- We wished to explain why Extension's human-intelligence work is still relevant when some are asking if AI can do this work at no apparent cost.

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Question for Audience

Why is Extension's human-intelligence work still relevant when some are asking if AI can do this work at no apparent cost?

Please unmute yourself or type in the Chat Box.

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Research Design

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Research Design

- Qualitative Survey
- Targeted to all current OSU Extension employees (educators, staff, administration)
- Sent invitation to all 1,022 addresses on our internal email listserv.
- Used Qualtrics
- Response rate: 19% (sample: 195)
- Survey closed on Jan 13, 2025

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Respondent Characteristics

Years in Extension		
# Years	People	%
0-5	61	31.2
6-10	32	16.4
11-20	24	12.3
21+	29	14.9
Unspecified	49	25.1

Respondent Program Area			
Family & Consumer Sciences	42	21.5	
4-H	34	17.4	
Agriculture & Natural Resources	28	14.3	
Support Staff	23	11.8	
Community Development	10	5.1	
Administration	5	2.6	
No response	53	27.2	

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Data Analysis Technique

Sudarshan Adhikari

Data Analysis Technique

- Standard human coding followed by AI inquiry
- **Human coding:**
  - Organized the data
  - Looked patterns or repeated ideas from which to develop a data coding system for categorizing
  - Assigned codes and then used human review
  - Identified key ideas, recurring themes, and concepts
  - No use of qualitative data software such as NViVo.

Data Analysis Technique

- Standard human coding followed by AI inquiry

- **AI coding:**
  - Fed segments of the raw data (aggregated survey responses grouped by each question) into an actual AI machine
  - Microsoft Copilot
  - Asked it to code for thematic elements

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Human vs. AI Coding Comparison

Question	Human Coding Completed Jan. 13-16, 2025	Copilot AI Coding Completed Jan. 17, 2025
1a: **If you do NOT use AI, briefly share why?**	1. Lack of understanding / unclear how it can help 2. Time involved to learn the tech 3. Unethical 4. Copyright violations 5. Inaccurate / unsatisfactory results 6. No trust 7. No business need for it 8. AI power requirements (negative environmental impact) 9. It takes jobs from people (related to ethics)	1. Lack of understanding 2. No need 3. Ethical concerns 4. Trust issues 5. Time constraints 6. Technical challenges 7. Personal preference 8. Unfamiliarity with tools

Results

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Results

1b: If you currently use AI in your Extension work, briefly share a couple of examples.

Human Coding	Copilot AI Coding
1. Writing assistance (first drafts, reviews, summary, grammar, etc.)	1. Coding/technology
2. Writing (grant proposals and justification)	2. Writing assistance
3. Writing (social media posts / marketing titles and headlines)	3. Brainstorming/idea Generation
4. Data / information (article summaries, literature reviews)	4. Social media/marketing
5. Brainstorm ideas (teaching outlines, lesson plans, themes)	5. Educational content
6. Answering questions (“starter answers”, but must fact check)	6. Research/information gathering
7. Image generation / design ideas	7. Image generation
8. Coding spreadsheets (formula generation; summaries)	8. Productivity tools
9. Job searches	9. Miscellaneous
10. Identify related work / projects	

Our data analysis revealed greatly divided opinions on whether AI should be used, and **common challenges were noted.**

Question for Audience:

What are the major concerns or limitations of AI?

Please unmute yourself or type in the Chat Box.

Results

Summary of our findings on concerns and limitations:

- Accuracy (poor quality, errors, time to double-check output, rubbish, misinformation)
- Reliability (research-based, incomplete, biased, inconsistent)
- Ethical issues (plagiarism, copyright infringement, academic integrity, cheating)
- No training (how to use it properly, how to understand limitations, etc.)
- Non-human (depth, nuance, context missing)
- Loss of human: critical thinking, imagination, creativity, inspiration (overreliance)
- Energy demands (environmental). Privacy / security

These findings highlight the need for targeted training and support to facilitate AI expanded use or adoption in Extension work.

Suggestions and Conclusion

Sudarshan Adhikari

Make a 1-sentence argument for why Extension's work is still needed in the age of AI.

Why Extension's work is still needed in the age of AI?

- Extension's work provides human connection and understanding that AI cannot replicate.
- Trust and integrity are at the core of Extension's work, ensuring reliable and validated information.
- Every community is unique, and Extension's boots on the ground are needed to understand and respond to specific community needs, offering tailored and personalized solutions.
- Extension bridges the gap between technology and human needs, offering a trusted source of information and support.

Why Extension's work is still needed in the age of AI?

- What did Microsoft Copilot say?

"Extension provides the human touch, trust, and personalized help that AI can't, ensuring accurate information and meeting community needs."

Suggestions and Conclusion

Outline strategies (not regulations) for AI adoption and utilization

- Continue research to expand understanding and usage.
- Identify usage and implementation barriers.
- Establish practices for continuing human oversight.
- Explore AI ethical concerns.
- Ensure AI data are shared transparently.

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Suggestions and Conclusion

Train Extension workers on AI use

- Define ethics, bias, risk, and unintended consequences.
- Outline approaches to mitigate the above.
- Explore Extension personnel's willingness to learn to incorporate AI tools into their work.
- Summarize and share current ways Extension employees are leveraging AI today.

Suggestions and Conclusion

- **Educate the public and partners on AI use and limitations**
  - Outline Extension's aim of cautiously leveraging AI as a tool.
  - Emphasize the continuing need for human oversight to *verify and interpret* AI output (accuracy, application of information, copyright, misinformation, etc.).
  - Reinforce the critical nature of *context* and *local connection* (vs. random application of AI outputs).

Let's have a discussion.

Any Questions for any presenters??

Thank you.