



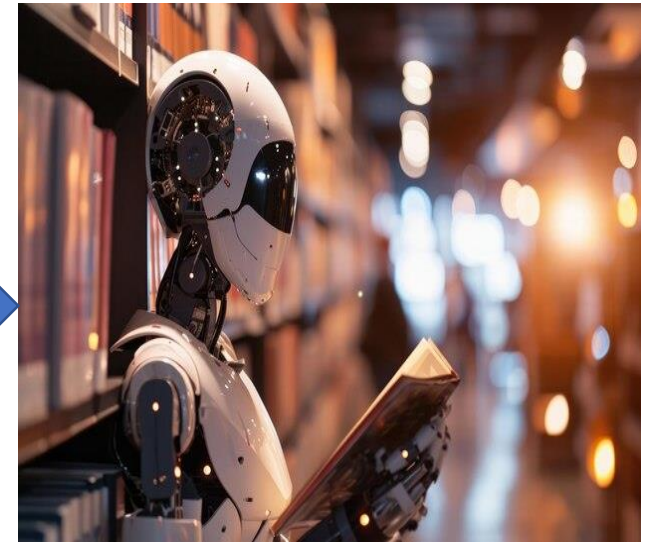
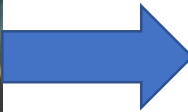
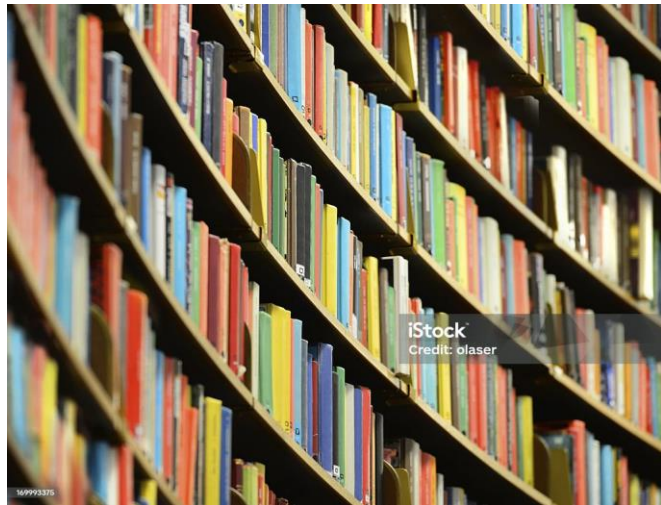
# Presentation Title: The Age of AI: Examining adoption of AI among Academic Libraries

Presenter Name : Jennifer Kyerewaa Antwi

Affiliated Institution: Accra Technical University

Country: Ghana

# Introduction



# Introduction

- The Industrial Revolution (4IR) has completely changed traditional productive methods contend that the rapid expansion of IT has altered library procedures as well as the processes involved in the creation, archiving, retrieval, and dissemination of information (Velasquez et al., 2019 & Ibrahim et al. (2017) ).
- AI currently permeate daily computing activities and the majority of modern computer system and mobile devices have AI capabilities that we are ignorant of .To improve their operations, academic and research libraries have incorporated IT tools and software packages (such as social media platforms, Web 2.0,etc) (Omame & Alex-Nmecha, 2020).
- The library has evolved from the medieval era where its meaning has changed from the physical building and now centers on collection and service delivery virtually where users are served in a remote location (Omame & Alex-Nmecha, 2020). The majority of libraries worldwide, including some academic and research libraries in Africa, have advanced their use of artificial intelligence (AI).

# Problem Statement



- Libraries offer materials, services, and venues that facilitate teaching, learning, and intellectual investigation
- Academic libraries play a crucial role in universities' research and teaching missions. Since the development of artificial intelligence (AI), there has been a surge in interest in figuring out how to incorporate AI technology into academic library services best to maximize their efficacy and efficiency.
- Even with AI's potential advantages, there are several obstacles to overcome when integrating these technologies into academic libraries.
- These include the necessity of a significant financial outlay, the requirement for personnel development and training, worries about data privacy and ethical issues, and the potential disruption of customary library services and responsibilities. Comprehensive study outcomes are also lacking.

# Problem Statement



- More concerns are raised about the introduction of AI into Ghanaian research and academic libraries as well as the staff's resistance to change.
- In light of this, the study is looking at how university libraries in Ghana have incorporated AI (data management, bookshelf management, and library retrieval system) into their operations. Employee librarians will benefit from the evaluation in terms of how they view the application of AI.
- The findings of the study could be used by academic library administration and tech-inclined staff members to encourage colleagues to adopt AI technologies in the workplace.

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- These include the necessity of a significant financial outlay, the requirement for personnel development and training, worries about data privacy and ethical issues, and the potential disruption of customary library services and responsibilities.
- Comprehensive study outcomes are also lacking. More concerns are raised about the introduction of AI into Ghanaian research and academic libraries as well as the staff's resistance to change.

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# Objective of the Study

- The following goals will guide the study's conduct.
- To determine the degree of appropriate use of the fundamental IT tools and knowledge that is easily accessible for integrating AI into library operations.
- To find out how AI features are used in library operations.
- To assess how library employees have adapted to using AI elements in their daily work.
- To look into the main obstacles libraries face while implementing AI functionality.

# Research Questions

- The study's research questions are as follows:
- What is the level of adequate usage of IT software and expertise readily available for AI adoption in the library's operation?
- How are AI features used in library operations?
- How does library staff adapt to change using AI in their operations?
- What are libraries' major challenges in adopting AI features in their operations?

## Methodology

- Approach: Qualitative Approach
- Design: Case Study technique
- Population: 19 Participants were selected –Head(Librarian, Reference Librarian, E-resource Librarian, IT support)
- Sampling Technique: Purposively
- Data collection tool: Semi-structured
- Data Analysis: Thematic Content Analysis
- Ethical Consideration: Informed Concerns, Anonymity concerns

Below is the representation of the participants for the study.



PARTICIPANTS (DEPARTMENTS)	UG-BALME L	GCTUCL	TOTAL
Librarian	1	1	2
Reference Librarian	3	-	3
E-Resource	5	3	8
IT SUPPORT	5	1	6
<b>TOTAL</b>	<b>14</b>	<b>5</b>	<b>19</b>

## Presentation of findings

- Software applications used in library operations.
- When it came to software applications incorporated into library operations, the participants were questioned.

Table 1.1 Application of software in library operations

Software applications used in library operations	Response
UGR1, UGL3...UGITS2 posit that	‘Yes, we have software called Sierra, LMS, my lib, lip guide, endnotes, and Mendeley that manages the library operations currently’.
GTUCITS3 explained that:	‘We have a system that we use to serve both visiting and stationed the research scientists...publications of the research scientist are uploaded on it and they download and use’. Aside from this, we have an open-source management system that manages the operations of the library in the dissemination of resources

# Types of Software Applications Used in the Libraries.



- The participants were asked to list the software programs that they had in their libraries. Every member talked about the software programs they use in their different libraries
- Table 1.2 Types of software applications in library operations

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Type of Software Application Used in the Libraries.	Response
UGR1 indicated that:	<i>'The library has management software called Sierra which enables the reference department to provide virtual reference services such as live chats with our patrons'. There is also a software called Ref2 for virtual reference services to our clientele but do not have data management and bookshelf management'.</i>
GTCU1 identified that:	<i>'Though we have the open source called KOHA, I also designed a platform for the librarians to use to disseminate information freely. We do more of the virtual since most of our patrons are remote. They do not often come to the premises and those who come too are served using the same platform'.</i>

- This bolsters the findings of Dzanda (2019), who stated that Ghanaian libraries are utilizing a variety of tools including social media, DAM, and ILS to improve the caliber of service delivery despite obstacles.

# Perception of Using Software Applications in the Operation of Libraries.

Perception of software use in library operation	Response
UGL1, UGR2...GCTU3 posit that:	<i>'Yes' 'erm' there is a need since it manages the library system to support teaching, learning, and research.</i>

# Adequate Basic ICT Facilities in facilitating AI adoption in library operations



Participant were asked if their libraries have the fundamental IT infrastructure needed to support the use of AI in library

operations. Participants expressed the necessity for incorporating IT tools to support library operations.

Adequate Basic ICT Facilities in facilitating AI adoption in library operations	Response
GTCUR2 asserted that:	<i>'The basic facility (s) is the internet since patrons come in with their computers and we too give them the internet.'</i>
UGR1, UGL2...UGITS3 also discussed that:	<i>'Yes, the library has both computers and the internet just that some of the computers are obsolete and inadequate.'</i>

- This is corroborated by Dube & Jacob's (2022) findings, which show that libraries used a range of technologies to help users receive timely responses to library-related inquiries during the COVID-19 pandemic. These technologies included traditional e-mail support as well as the use of related technology to AI such as BOTsa (Chabot).

# Adequate Usage and Perception of IT Tools in current libraries' operations.

Adequate Usage and Perception of IT Tools in current libraries' operations.	Response
UGER4...UGL1 explains that;	<i>'The library has social media channels and system...there is also Institutional repository that does all manner of citations for free flow of information to patrons...the library sometimes use the website'</i>
GTUCITS3 identified that:	<i>'Apart from both the online and local platforms built in-house, we do not have any other IT tools in making information access to our users'.</i>

- This bolsters the findings of Dzanda (2019), who stated that Ghanaian libraries are utilizing a variety of tools including social media, DAM, and ILS to improve the caliber of service delivery despite obstacles. The results once more showed that most participants in the Balme Library and GTU Library went on to say that software must be incorporated into library operations to enable work activities successfully and efficiently.

- Participants were questioned whether either library had IT know-how to support and facilitate user information delivery. The existence of IT specialists in their libraries who support the library's operations was by the majority of participants from both

Availability of IT expertise in supporting library operation	Response
UGR1...GTCUER3 posits that:	'It was also claimed that the main obstacles to carrying out their jobs have been outdated and insufficient computers as well as occasionally too internet speeds'
UGER3...GTCUR2 mentioned that:	'The awareness of Artificial Intelligence has not been inculcated in the library's operation in Ghana but the basic ones that are known to the libraries. They further expressed that it will be expedient if it is inculcated in the library's operation like the robotics as other big libraries are using in other parts of the world and even some parts of Africa's academic and research

The library staff's adoption to change the usage of AI features in



- When it comes to ICT and AI, the vast majority of participants in the interviews expressed how happy they were with the new trend and period libraries are entering. The library's IT support department regularly arranges for staff training. Without hesitation, they all joined in to gain knowledge of what their library had integrated, and they were questioned once more.

# Implications of the findings



- The findings can show how AI improves operational efficiency by automating repetitive processes such as metadata tagging, cataloging, and query responses. The amount of physical labor required allows librarians to contribute to higher-order tasks like collection curation and research help.
- Artificial intelligence (AI) can enhance user interfaces by providing more intelligent virtual assistants, tailored recommendations, and improved search capabilities. Libraries may give AI-driven platforms top priority to improve information access if results show that they have a good effect on user experience.
- Librarians' responsibilities may need to shift to place more of an emphasis on data science training, managing AI technologies, and comprehending AI ethics. Results indicating a rise in the use of AI could emphasize the necessity of ongoing professional development initiatives in the field of librarianship.

- Libraries may put more effort into teaching researchers and students about digital and AI literacy if research indicates that AI helps librarians manage digital collections and assist users in navigating complex information systems.

# Conclusion



- The Industrial Revolution (4IR) has completely changed traditional productivity. IT has altered library procedures as well as the processes involved in the creation, archiving, retrieval, and dissemination of information. Since artificial intelligence (AI) is a computer program that mimics human intelligence, it will benefit academic libraries and information services by providing a wealth of data that will enhance research and teaching at universities and research centers.
- The library has evolved from the medieval era where its meaning has changed from the physical building and now centers on collection and service delivery virtually where users are served in a remote location. The majority of libraries worldwide, including some academic and research libraries in Africa, have advanced their use of artificial intelligence (AI). The findings depicted the availability of basic IT facilities, technology-based software, and IT expertise in both libraries. This indicated how ready the library staff was to adapt to new trends in libraries from the findings of the study. However, Balme Library uses other features which Ghana Communication Technology is not using like Ref2 and many others. Similar challenges were identified from the findings. It was again revealed that none of the libraries are currently using the feature of AI under study. Budget cuts, unstable internet connectivity, etc were the challenges identified based on the findings of the study.

# Thank You..