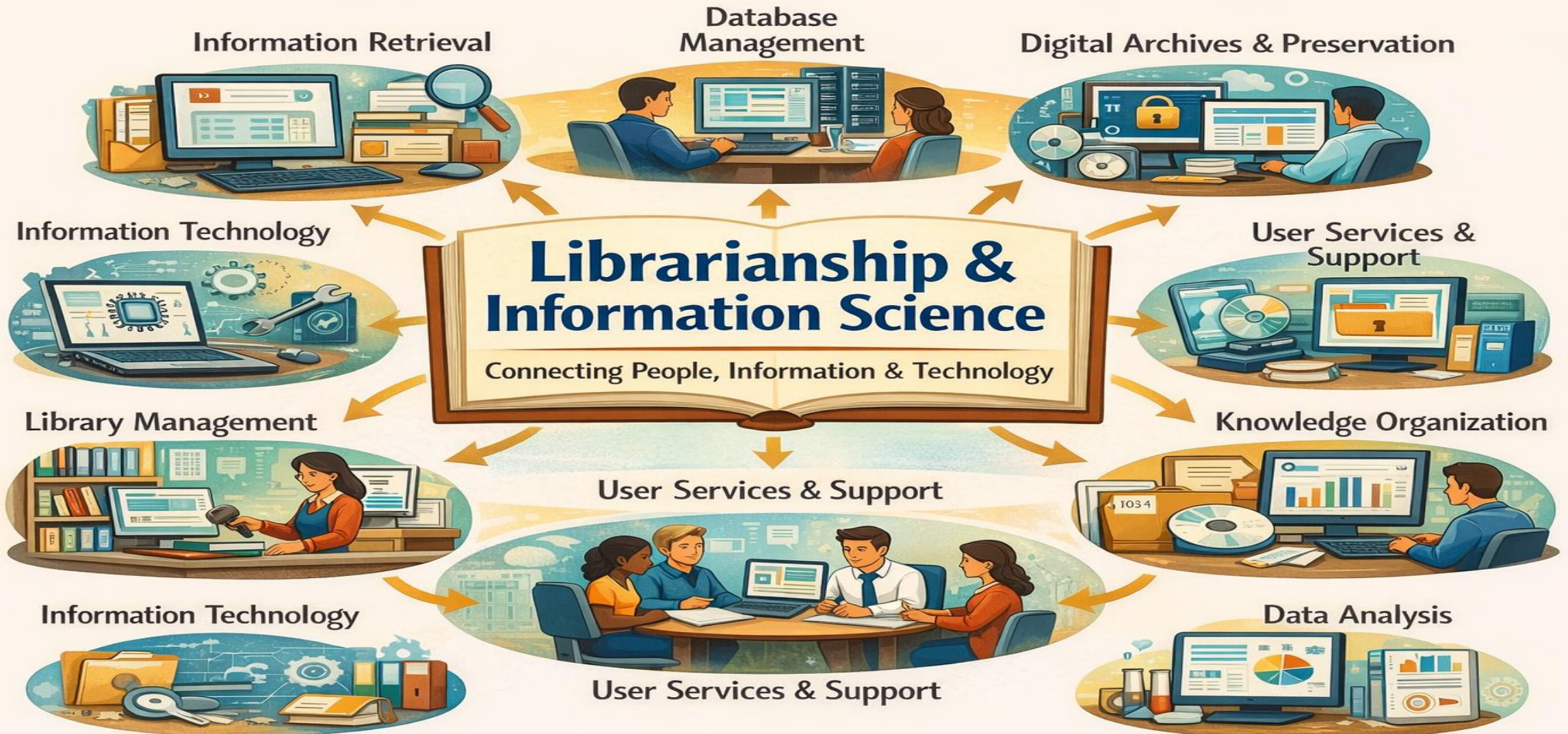


# ARTIFICIAL INTELLIGENCE–DRIVEN LIBRARIANSHIP FOR EDUCATIONAL TRANSFORMATION

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# IS PILLARS



# LIBRARIANSHIP

## Key Components of Librarianship

### Information Organization



### Collection Development



### Reference & Research



### User Services



### Digital Resources



### Programs & Outreach



# EMBEDDED LIBRARIANSHIP

ACADEMIC SUPPORT /  
CLASSROOM COLLABORATION

EMBEDDED  
LIBRARIANSHIP

HEALTHCARE  
INFORMATION SUPPORT



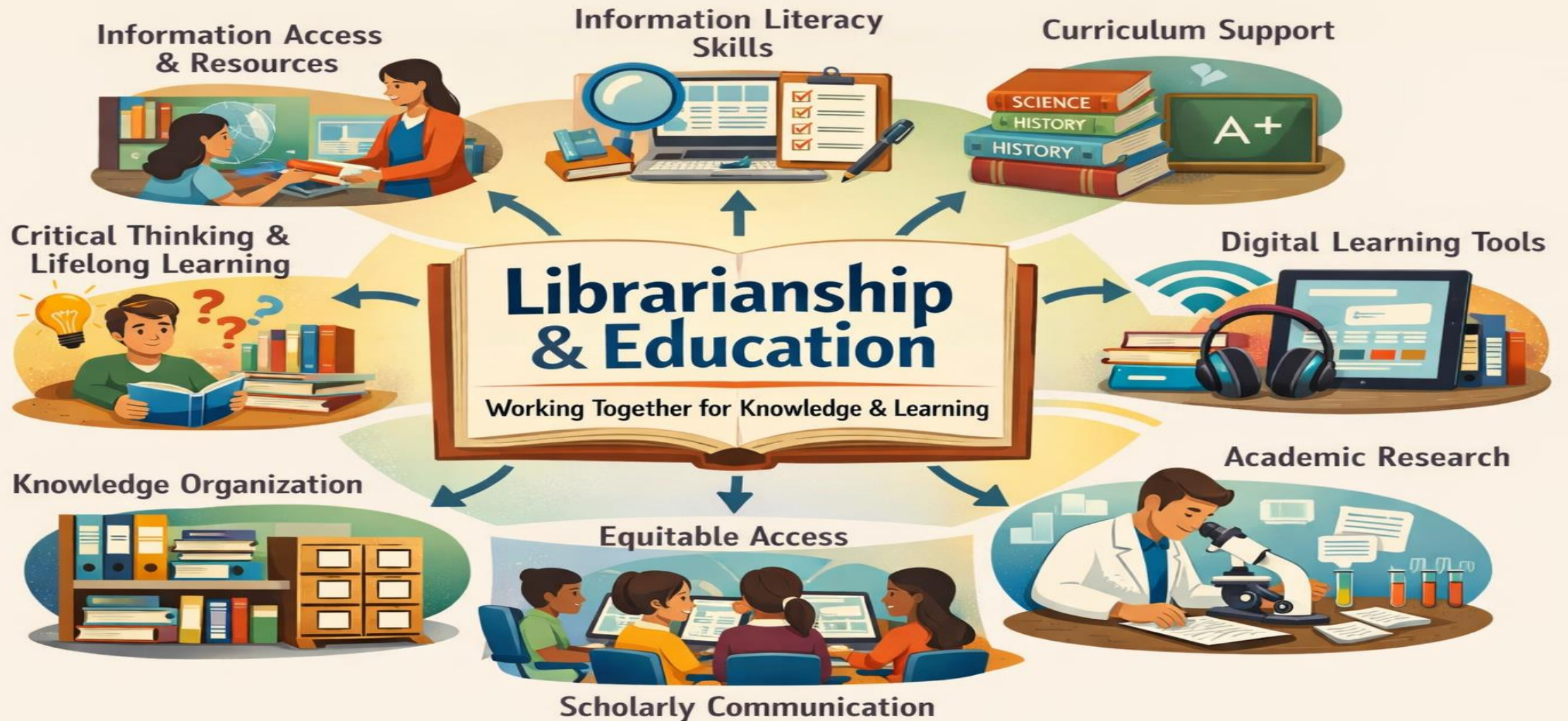
EMBEDDED  
LIBRARIAN



COMMUNITY / SCHOOL  
OUTREACH

CORPORATE / RESEARCH  
ENVIRONMENT

# LIBRARIANSHIP & EDUCATION



# AI ADOPTION IN LIBRARIES

## GLOBAL VIEW

- In 2026, Global AI EdTech market - \$7.6B
  - 86% of students using AI tools daily
  - 85% of academic libraries piloting AI chatbots.
  - AI expertise (64% LIS professionals report skills gaps).
- **76% of libraries** are exploring/implementing AI in 2025 (up from 67% in 2024)
- Only **~33% have fully deployed AI systems** (Clarivate, 2025 survey)

# EXAMPLES

- **Hangzhou Library (China)** – (public)- smart systems.
- **Stony Brook University Libraries (USA)** – developing and integrating its own large language model (LLM) and AI-enhanced discovery tools into library workflows.
- **University of Delaware Library (USA)** – piloted an AI-powered chatbot (“UDStax”) to support user queries and library navigation.
- **San José State University Library (USA)** – has deployed “Kingbot,” an AI chatbot offering after-hours support for patrons.
- **Kansas State University (Hale Library, USA)** – opened an AI Studio to provide students and staff access to generative AI platforms and resources.

# CONT'D

- Higher adoption in **Asia & Europe** than North America
- **60% cite budget constraints** as the main barrier
- Over **55% require major staff upskilling**
- Libraries globally (~2.8 million) are key to AI-driven knowledge access ( IFLA, 2023)
- Annual global losses to AI-enabled academic dishonesty exceed \$1.2B

## CONT'D

- **Library of Congress-** AI cataloguing (23,000+ books)
- **Public AI Libraries (USA)-** Community AI kiosks
- **Norway-** National language AI models
- **Cornell University (2025)-** AI literacy training program
- **Armenia-** OCR covers ~30% of 15M pages
- **Key concerns-** Bias, privacy, intellectual freedom, digital divide

## EDUCATION IMPACT

- Personalized instruction, new skill requirements, and shifting pedagogies demanding AI literacy alongside critical information literacy.
- 92% of higher education programs prioritize AI literacy, with adaptive platforms boosting course completion rates by 70% and exam scores by 10%. (McKinsey & Company, 2025; World Economic Forum, 2025)
- 91% of student AI use goes undetected by traditional assessment methods. (Stanford University, 2024)
- 64% of LIS graduates report no AI coursework; only 36% of professionals demonstrate AI proficiency.
- Systematic retraining programs lag behind 82%
- Emerging roles include "AI auditors" and transparency specialists, supported by \$500M in explainable AI research funding.

# AFRICA OVERVIEW

- AI adoption is **uneven and mostly exploratory** across African libraries.
- Early-stage implementation; high awareness, **low integration**.
- **South Africa**- 4% of university libraries with formal AI deployment vs 64% using digital resources.
- **Tanzania**- 68.3% of librarians aware of AI; only 23% report usage.
- Majority of libraries in “**exploratory/pilot**” phase (2025 scoping review).
- **South Africa, Nigeria, Kenya** – better infrastructure & funding.
- **Central & West Africa** – lagging behind.
- 72% of African libraries lack AI governance policies; 91% of training datasets exclude African language/content representation (IFLA, 2024)

# CONT'D

| Country      | Institution/Project                                  | Year | Scope             | Status             |
|--------------|--|------|-------------------|--------------------|
| Kenya        | Various academic libraries (Kamau et al.)            | 2026 | Academic (survey) | Planning/pilot     |
| South Africa | Durban Univ. of Technology (AI chatbots, analytics)  | 2024 | Academic          | Active             |
| South Africa | Univ. of Pretoria (AI cataloguing & chatbots)        | 2024 | Academic          | Active             |
| Tanzania     | Univ. of Dar es Salaam Library (AI awareness survey) | 2023 | Academic          | Completed (survey) |
| Zimbabwe     | National libraries (AI integration planning)         | 2025 | National/Public   | Early/adoption     |
| Ghana        | Academic libraries (Adjei & Agyeman study)           | 2025 | Academic          | Exploratory        |

# SKILLS, ETHICS & ACCESS

- Digital divide & language diversity
- AI literacy gaps
- **Ethical concerns-** Bias, privacy, Kenya's Data Protection Act exists, but **institutional AI guidelines are lacking.**
- **Human-centered, inclusive AI:** Close digital divides (UNESCO & IFLA)
- **Localized AI solutions** ( Legal & Ethical)

# KENYA OVERVIEW

- Emerging and mainly pilot-scale; interest is rising
- Kenya launched a national AI Strategy (2025–30) in 2024.
- AI is nascent: early use cases (search, cataloging, chatbots) are reported, but limited ICT infrastructure and resources slow uptake
- Major projects include KNLS's Vtabu digital library (cloud collections) and the KNLS–Worldreader BookSmart reading app.
- Universities are piloting AI tools (e.g. chatbots for reference)

# KNLS

| Initiative         | Institution      | AI Use-case  | Status          |
|--------------------|------------------|--|-----------------|
| Soma Safari        | SJSU/KNLS        | QR-linked digital storybooks<br>Union catalog (“WebCat”) integrating all Kenyan library collections online | Pilot (2025)    |
| KNLS Vtabu Library | KNLS             | Cloud-based digital platform   | Active          |
| BookSmart App      | KNLS/Worldreader | Digital reading app (children)   | Launched (2024) |

# CONT'D

- Data on AI use is limited.
- ≈38% of academic libraries using AI for search and ≈36% for user support (chatbots)
- Many libraries still report low bandwidth and few ICT resources (EIFL,2024)
- Funding shortfalls, weak infrastructure and low AI-skills among staff
- Kenya's 2019 Data Protection Act covers personal data, but no AI-specific library guidelines exist . Lacks AI-specific guidelines
- National AI focus wanting- improved connectivity, targeted training and clear policy.
- Librarians generally view AI positively

# EVOLVING ROLE OF LIBRARIANS

## Emerging Roles of Librarianship in Education in the AI Age

AI Literacy Educator



Data Analyst



Digital Content Curator



Digital Content Curator



AI Powered Instructional Designer



AI Tools Facilitator



AI Ethical Advisor



Information Synthesizer



# AI TOOLS

## Key AI Tools *Being Adopted in Libraries Globally*



### Chatbots & Virtual Assistants



Automated patron support

### Machine Learning



Data analysis & recommendations

### Automated Cataloging



AI-driven metadata tagging

### Smart Search & Discovery



Advanced search engines

### Predictive Analytics



User behavior insights

### OCR & Text Recognition



Digitizing printed materials

### Recommendation Systems



Personalized content suggestions

### Robotic Process Automation



Automated tasks & workflows

# IMPEDIMENTS

## Challenges in Adopting AI in Kenyan Libraries

### Lack of Infrastructure



### Skills Gap



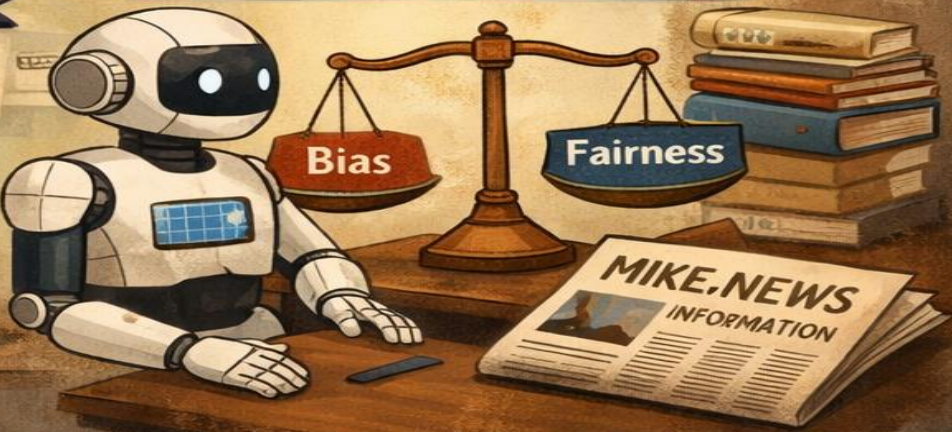
### Limited Funding



### Digital Illiteracy



### Ethical Issues



# CONT'D

- Only 40% of the population had access to reliable internet. (CCK, 2020)
- 60% of libraries lacked staff with adequate training in digital technologies. (KLA, 2021)
- Budget deficit of approximately 30% (KNLS, 2021)
- 45% of library staff expressed concerns about AI replacing human jobs. (UON, 2022)
- The Data Protection Act of 2019 necessitates that libraries implement stringent data protection measures, but many lack the resources to comply fully.
- Over 70% of libraries still rely on manual cataloging methods. (KLA, 2021)
- Only 25% of library professionals in Kenya had participated in training related to AI and its applications ( 2023)

# RECOMMENDATIONS

- **Improving Infrastructure** - The Kenyan government aims to increase internet penetration to 80% by 2030 through its National Broadband Strategy.
- **Training and Capacity Building** - Develop training programs for library staff on AI technologies and digital literacy.
- **Securing Funding and Resources** - Pursue grants and partnerships with NGOs and private sectors to secure funding for AI projects.
- **Promoting AI Awareness and Advocacy**- Conduct awareness campaigns to educate the public and library staff about the benefits of AI in libraries.

# CONT'D

- **Implementing Data Security Measures-** Establish robust data privacy policies and use secure AI solutions that comply with the Data Protection Act
- **Modernizing Library Management Systems-**Transition to integrated library management systems that support AI functionalities. **E.g,** Adopt cloud-based solutions that can be easily updated and integrated with AI tools, such as Koha or Alma.
- **Fostering Collaboration and Knowledge Sharing-**Create networks among libraries to share experiences, challenges, and solutions related to AI. **E.g** Establish a consortium of libraries to collectively invest in AI technologies and share best practices.

# KEY QUESTIONS ON AI ADOPTION IN KENYA

- How can Kenyan libraries **build AI literacy** among staff and users?
- What **policies and ethical guidelines** are needed for safe AI use?
- How can **funding and infrastructure** gaps be addressed for AI deployment?
- Which **local or open-source AI tools** best suit Kenyan contexts, including African languages?
- How can libraries **collaborate regionally and globally** (AfLIA, IFLA, UNESCO) to leverage AI?
- What strategies can ensure AI **enhances access, inclusion, and learning** while upholding core library values?

# CONCLUSION

- AI is not here to replace librarians, but to empower them—turning data into insight, and books into knowledge for all.
- In the library of the future, human judgment and AI intelligence must collaborate to ensure access, equity, and ethical learning.
- Librarians require certification in AI design, evaluation, and explainable AI. Libraries to serve as community AI literacy hubs, develop 300+ tool verification protocols and positioning themselves as ethical AI policy development centers [IFLA 2026].