ICT SKILLING FOR SCHOOLS

IMPORTANCE OF ICT IN EDUCATION
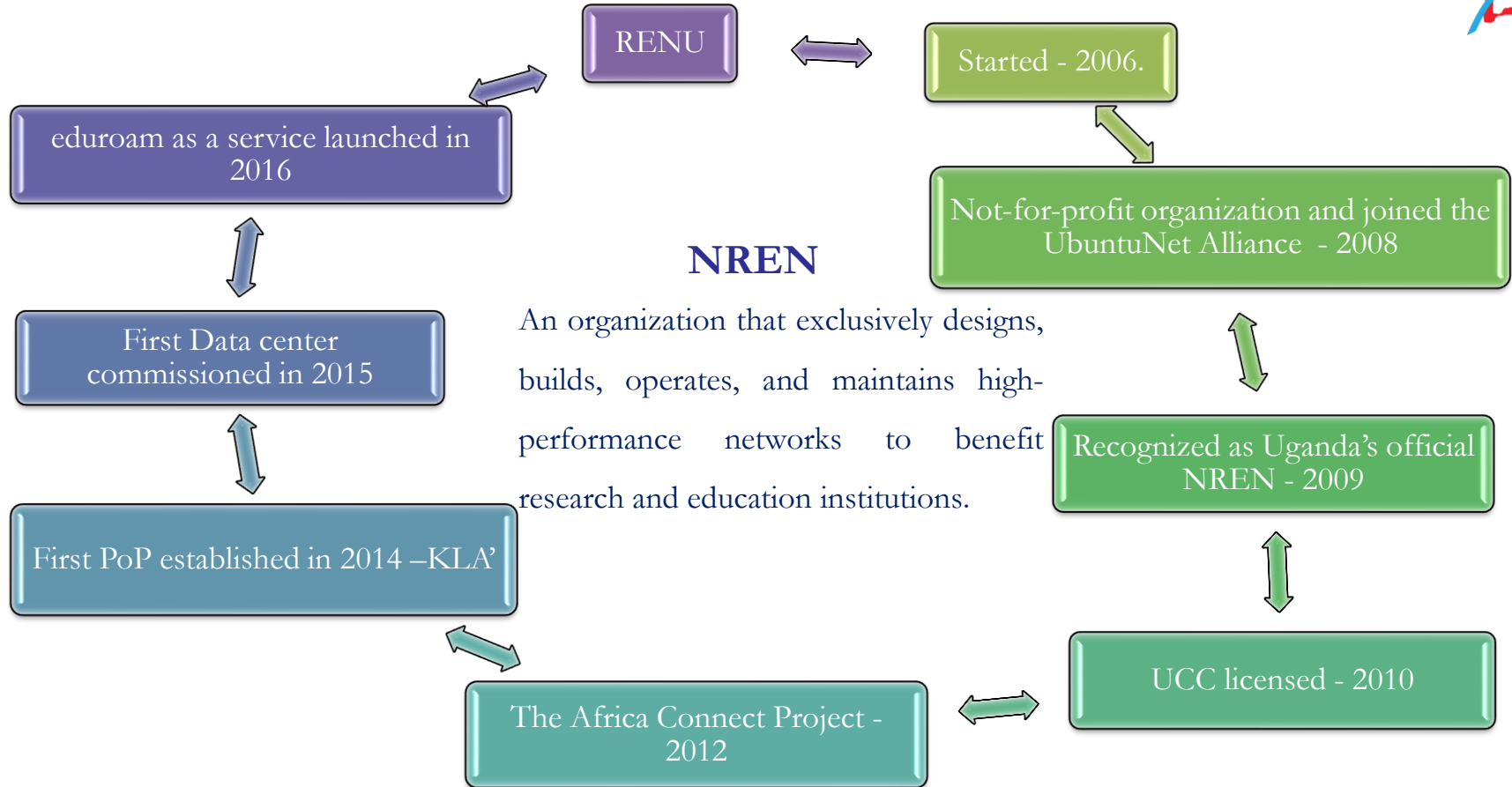
By

Kaboggoza Rajjab

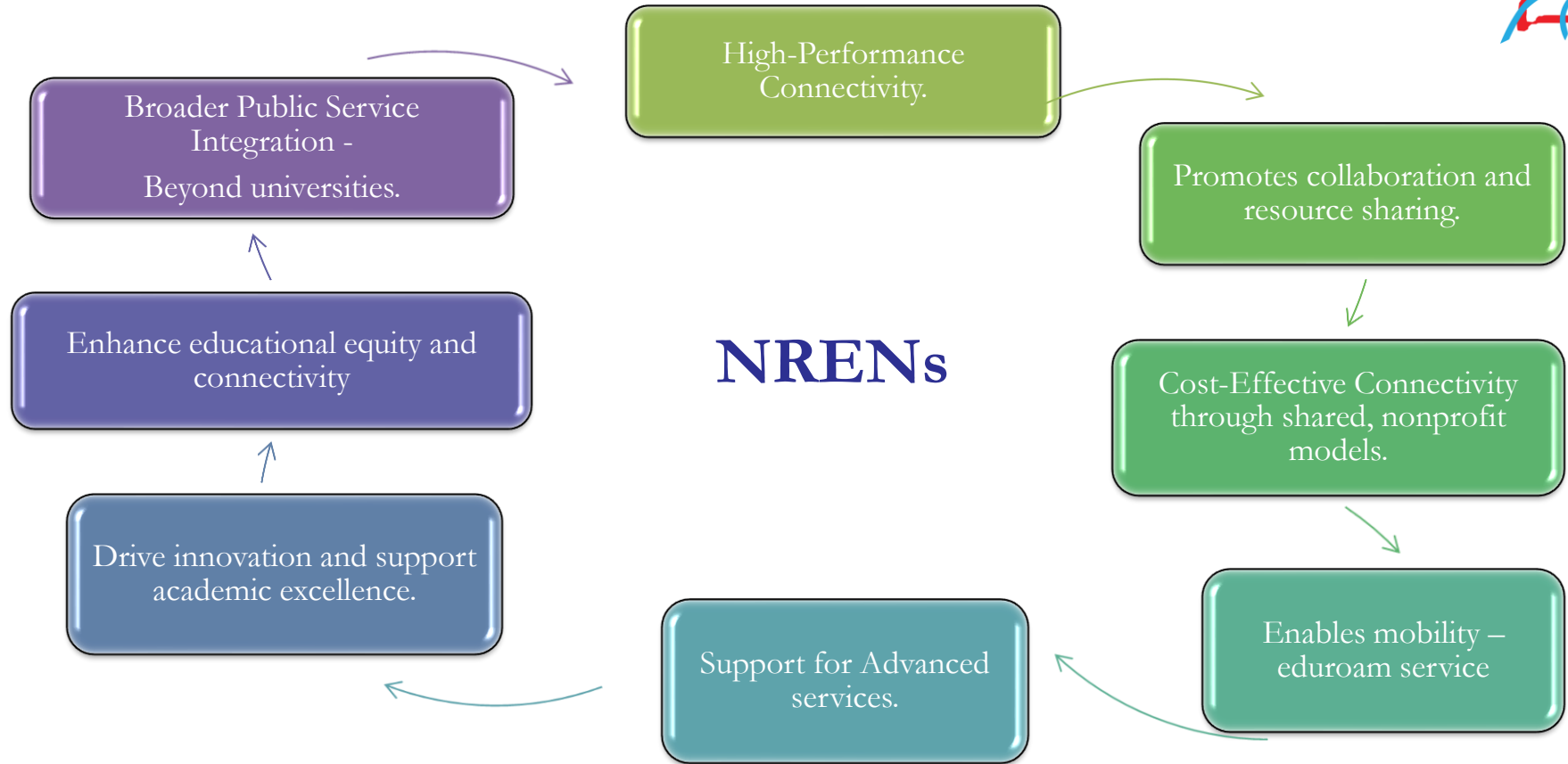rkaboggoza@renu.ac.ug

Outline

19th May 2025

Summary

- NRENs

- Why NRENs

- ICT Adoption in Uganda

- Challenges related to ICT

- RENU Journey with Schools

- Common Network Challenges

- AI statistics in Education

- Q&A.

Knowledge | Community | Solutions

WHAT IS AN NREN? - RENU

RENU

Started - 2006.

eduroam as a service launched in 2016

Not-for-profit organization and joined the UbuntuNet Alliance - 2008

NREN

An organization that exclusively designs, builds, operates, and maintains high-performance networks to benefit research and education institutions.

First Data center commissioned in 2015

Recognized as Uganda's official NREN - 2009

First PoP established in 2014 –KLA'

UCC licensed - 2010

The Africa Connect Project - 2012

WHY NRENs?

NRENs

- High-Performance Connectivity.
- Promotes collaboration and resource sharing.
- Cost-Effective Connectivity through shared, nonprofit models.
- Enables mobility – eduroam service
- Support for Advanced services.
- Drive innovation and support academic excellence.
- Enhance educational equity and connectivity
- Broader Public Service Integration - Beyond universities.

ICT Adoption in Uganda's Education Sector

Education Digital Agenda Strategy (2021–2025)

❖ Improve Uganda's education service delivery through sustainable digital transformation

Education Sector Strategic Plan (ESSP 2017–2020)

❖ Early emphasis on ICT integration in curriculum delivery and institutional management.

❖ Achieve equitable access to relevant and quality education and training

Vision 2040

❖ Uganda's national goal is to transform into a knowledge-based economy.

❖ ICT is seen as a key driver of social transformation, including education.

https://www.education.go.ug/digital-agenda/
https://www.globalpartnership.org/content/education-and-sports-sector-strategic-plan-2017-2020-uganda
https://www.greenpolicyplatform.org/sites/default/files/downloads/policy-database/UGANDA)%20Vision%202040.pdf

WITHOUT ICT

Physical seminars & Teaching Methods

- ❖ Formal with desks in rows.
- ❖ Class teacher at the front.
- ❖ Lectures, rote memorization, and direct instructions.
- ❖ Chalkboards.

Learning Materials

- ❖ Textbooks, handwritten notes, and printed materials.
- ❖ Libraries – crucial for research, handwritten assignments, and projects.

Learning Materials

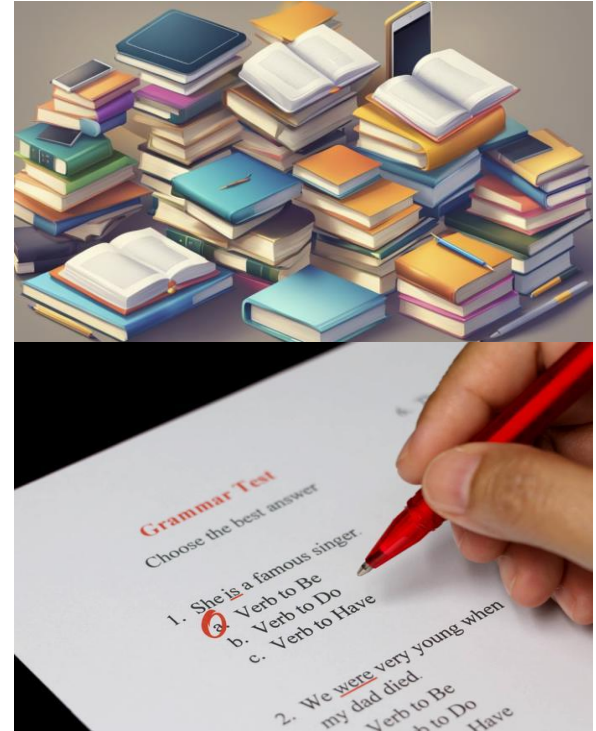- ❖ Confined to what was available in textbooks.
- ❖ Libraries and teachers' knowledge

Assessments.

- ❖ Tests and quizzes were given in written form.
- ❖ Feedback on assignments given in person or written form.

Manual Processing.

- ❖ Attendance.
- ❖ Grading.
- ❖ Record-keeping

CHALLENGES FACED BY SCHOOLS
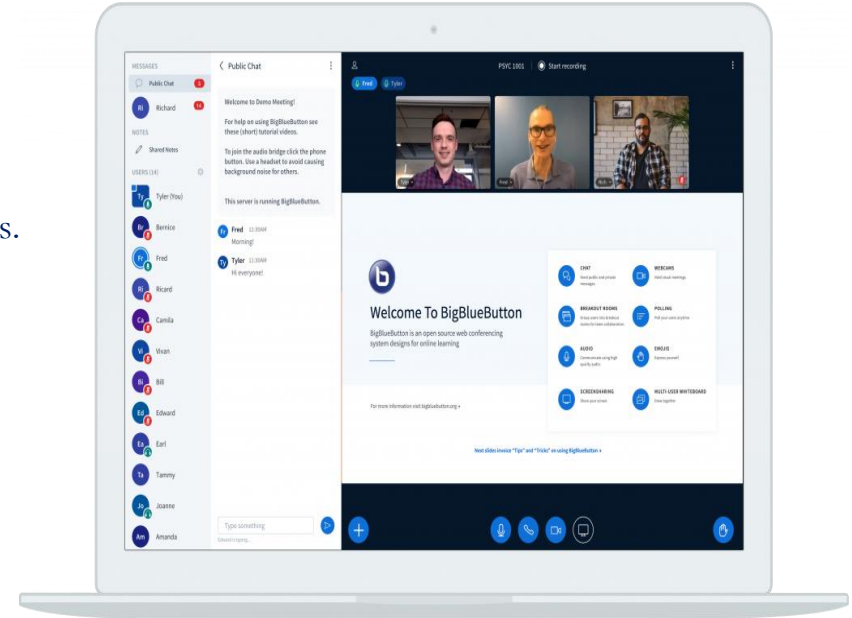

RELATED TO ICT

WHERE DOES RENU COME IN?

Access to information/resources.

❖ RENU partnership with UCC.

❖ Fast and reliable Internet connection.

❖ Tools like Wikipedia, Google search, and academic databases.

❖ Educational tutorials via YouTube, etc.

Digital Classrooms.

❖ Online learning & virtual classroom models.

❖ Tools like BigBlueButton, Zoom.

WHERE DOES RENU COME IN?

Technology in teaching and learning.

❖ UCC support to schools - Internet extension.

      Donations in forms of; **Computer Labs, Laptops** Etc.

❖ Learning Management Systems (LMS) like Moodle, etc.

❖ eduroam on the Go - Facilitate continuous research by researchers.

❖ Web conferencing - Virtual classes and seminars – Zoom & BigBlueButton.

❖ Web development - School websites.

❖ Domain Registration - Unique domain name server for schools' websites.

❖ ERP - Oversees school processes in terms of management.

RENU SCHOOL JOURNEY

RENU and UCC Initiatives.

- Computer labs and equipment donations by UCC.
- Reliable connectivity at subsidized prices.

Customization & Development.

- Solutions tailored to school-specific needs.
- Continuous updates and enhancements

Strategic Partnership.

- RENU Collaboration with UCC under UCUSAF.
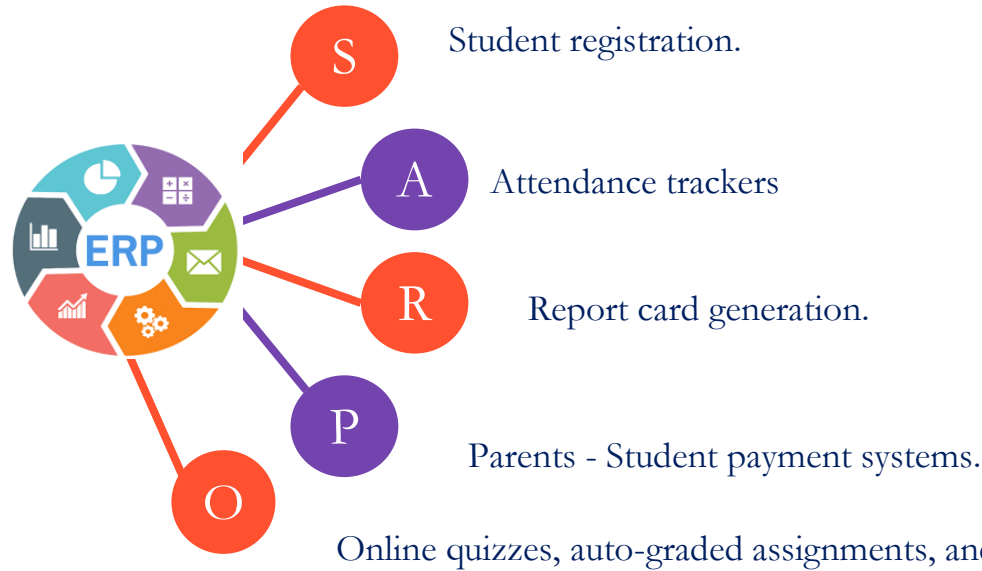- Extending the Internet connection to schools.

Capacity Building & Support.

- ICT workshops for teachers and headteachers.
- Bandwidth boosts during school events and trainings.

Founding & Purpose.
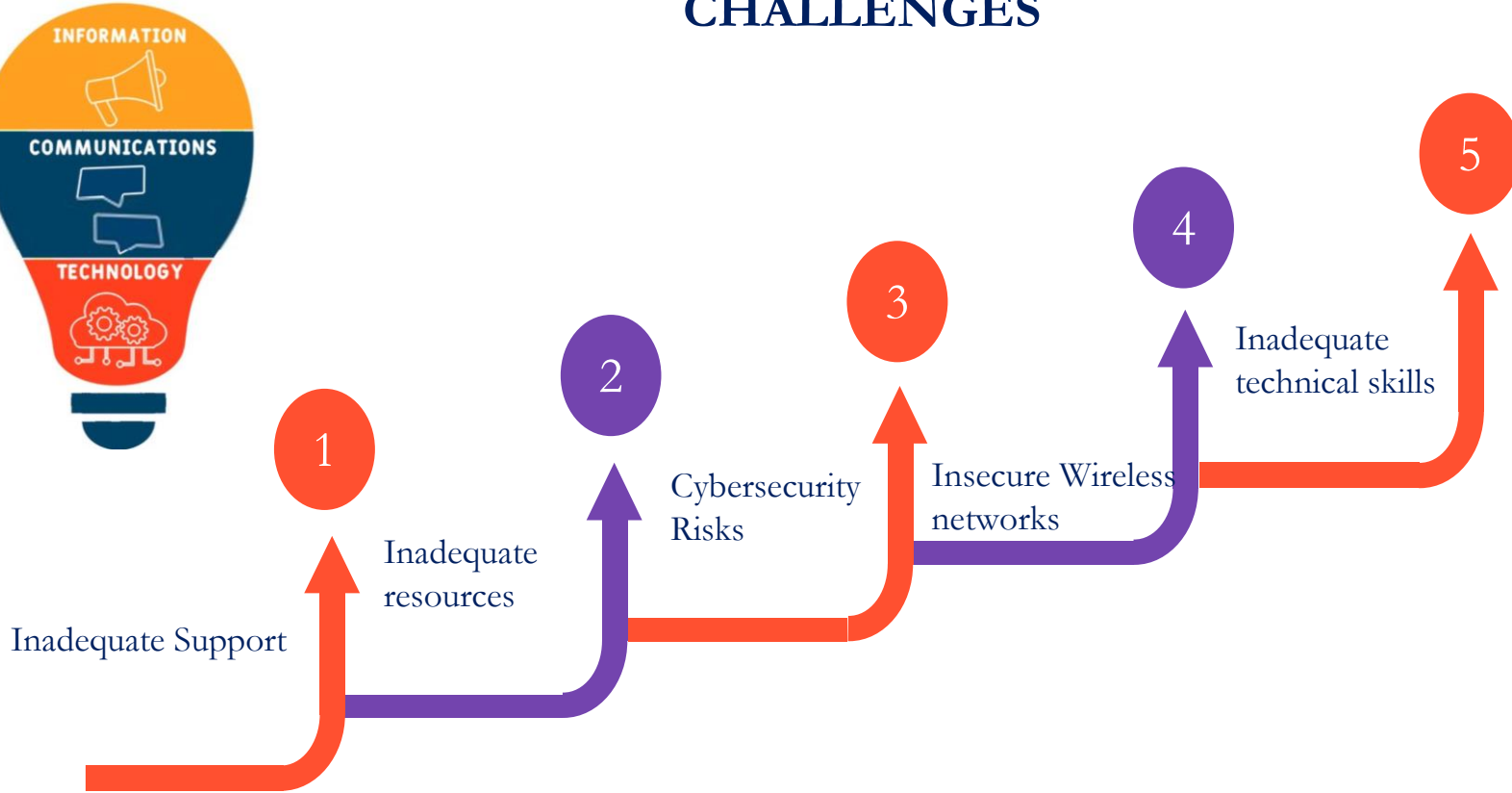
- Established by University VCs.
- Provide affordable Internet to universities and institutions.

Digital Solutions

- RENU services: Moodle LMS, ERP systems.
- Website hosting, email, and domain registration

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WHERE DOES RENU COME IN?

S — Student registration.

A — Attendance trackers

R — Report card generation.

P — Parents - Student payment systems.

O — Online quizzes, auto-graded assignments, and real-time feedback systems

ERP

Student Onboarding

Student Shortlisting

Student Grading

Attendance Tracking

Backoffice Processes

Scheduling Classes

Audits and Compliance

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CHALLENGES

1 — Inadequate Support

2 — Inadequate resources

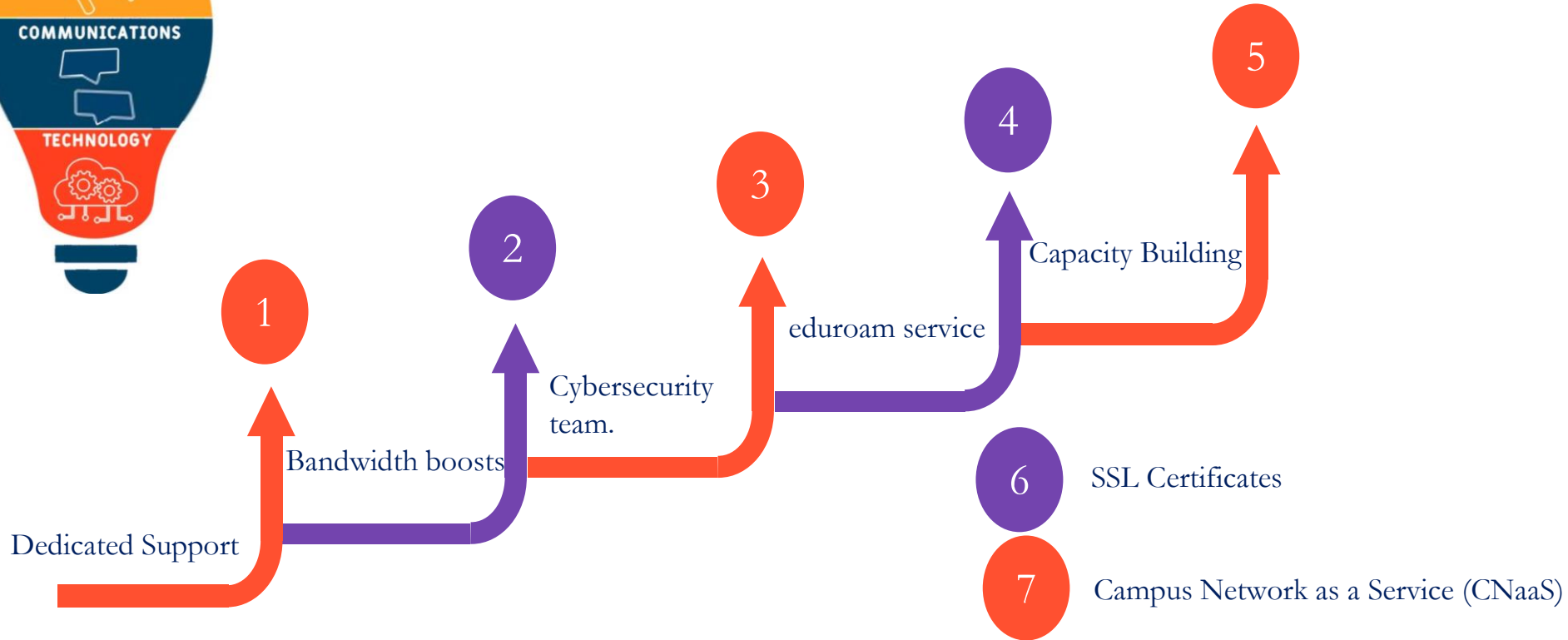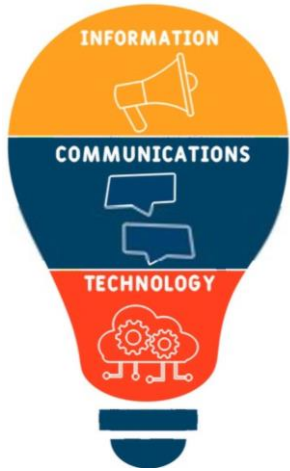3 — Cybersecurity Risks

4 — Insecure Wireless networks

5 — Inadequate technical skills

RENU SOLUTIONS TOWARDS THE DEMERITS

AI IN EDUCATION STATISTICS

According to US college students, **43% of them use ChatGPT and other AI study tools.**

For 90% of students, ChatGPT is a more effective study tool than hiring a tutor.

AI is used by half of educators to plan lessons.

More than 34,700 failing kids were identified and saved by AI-grade prediction technology.

By 2027, the market for AI education is expected to grow to $20 billion.

https://www.a3logics.com/blog/ai-in-education

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WHY AI IN EDUCATION

01 Research and Development

02 Adaptive Learning Platforms

03 Administrative Efficiency

04 Content Curation and Recommendation

05 Predictive Analytics for Student Performance

06 Virtual Classrooms and Simulations

07 Natural Language Processing (NLP) for Language Learning

08 Automated Grading and Feedback

09 Intelligent Tutoring Systems (ITS)

10 Personalized Learning Styles

Bigscal Technologies. (n.d.). *Top Benefits of Artificial Intelligence in the Education Sector*. Retrieved from
https://www.bigscal.com/blogs/education-industry/top-benefits-artificial-intelligence-education-sector/