RAJARSHI JANAK UNIVERSITY

University Digitalization Strategy

2023

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1. Background

Rajarshi Janak University (RJU) recognizes the transformative potential of digitalization in higher education, prompted by global trends and advancements in Information and Communication Technology (ICT). In response to the evolving landscape, RJU is developing a comprehensive Digitalization Strategy to enhance teaching, learning, and administrative processes. While digitalization has shown promising results in Nepal, challenges like limited ICT policy framework, connectivity, and skilled human resources persist. RJU's strategy addresses these challenges, fostering academic excellence, inclusivity, and innovation. Through digitalization, RJU seeks to elevate its academic standing, engage globally, and contribute to the progress of higher education in Nepal.

As Rajarshi Janak University (RJU) initiates the development of its University Digitalization Strategy, a thorough Current State Assessment is imperative to comprehend the existing digital landscape within the institution. This assessment aims to identify strengths, weaknesses, opportunities, and challenges related to digitalization, laying the groundwork for an effective strategy formulation.

2. Mission Vision and Goal

Rajarshi Janak University's Digitalization Strategy aims to use technology for better learning, collaboration, and efficiency. We want to create a tech-savvy community that can thrive in a modern, interconnected world, making a positive impact on society.

Our vision is to make Rajarshi Janak University a leader in digital education, setting high standards in Nepal's higher education. We aim to provide an easy-to-use, secure digital environment that offers great learning experiences. This includes excellent connectivity, access to top-notch digital tools, and an engaging virtual learning space that encourages academic success and social responsibility.

The goal is to build a sustainable digital ecosystem at Rajarshi Janak University, improving teaching, research, and administration. We want to seamlessly integrate technology across the university, fostering innovation, adaptability, and lifelong learning. This way, we prepare our community to excel in a rapidly changing world, establishing RJU as a hub for digital education and research excellence.

3. Objectives

The specific objectives of Rajarshi Janak University's Digitalization Strategy are outlined as follows:

- Utilize digital technologies and innovative pedagogies to improve teaching, providing students with interactive, personalized, and learner-centered experiences.
- Streamline administrative processes to enhance efficiency, transparency, and accountability, minimizing bureaucratic complexities.
- Provide diverse digital learning resources and remove barriers to digital connectivity, ensuring equitable access to quality education for students from all backgrounds.
- Establish effective data management systems for evidence-based decision-making, institutional planning, and continuous improvement.

- Offer comprehensive capacity-building programs for faculty, staff, and students to enhance their digital literacy and enable effective use of digital technologies.
- Implement robust cybersecurity measures to safeguard digital assets, and personal data, and ensure data privacy and ethical use of digital resources.
- Raise awareness about digital citizenship, responsible digital behavior, and ethical use of technology among all stakeholders.
- Create a long-term sustainability plan for digital initiatives, ensuring continuous development, scalability, and adaptability to emerging technologies.

Through these objectives, Rajarshi Janak University aims to establish a transformative and future-oriented digital ecosystem that nurtures academic excellence, embraces innovation, and fosters holistic development in its academic community.

4. Digitalization Strategy at Rajarshi Janak University

4.1. Connectivity:

Strengthened Campus Communication: The focus of the plan is to establish strong connectivity throughout Rajarshi Janak University's campuses. This involves investing in high-speed internet infrastructure to ensure smooth communication among students, faculty, and staff.

1. Goal: Achieve 100% Wi-Fi coverage across all campuses and units within six months.
2. Steps: Upgrade the network infrastructure, install Wi-Fi access points in all buildings, conduct regular network maintenance, and provide technical support.

Intranet Development: Create an intranet platform for the university to enhance internal communication and collaboration.

Goal: Launch the intranet system within nine months.

Steps: Collaborate with the Internet Service Provider (ISP) and configure the intranet to meet organizational requirements for accessing internal resources.

4.2. Digital Infrastructure Development:

Update Technology: Replace old computers, servers, and networking gear across campus to improve efficiency. Implement a cost-effective and user-friendly strategy for hardware procurement throughout the university.

- Goal: Finish installment/ upgrades within twelve months.
- Steps: Assess technology needs, get necessary resources, and upgrade gradually. Promote N-Computing Technology to reduce the number of CPUs. Encourage the use of office-centric servers and workspace computers.

Maintain Digital Infrastructure: Continuously update and upgrade the existing digital infrastructure to ensure the scalability and integrity of RJU's IT systems.

- Steps: Keep improving the current digital infrastructure for cost-effectiveness and maximum integrity.

Move to the Cloud: Shift to cloud-based solutions for storage, applications, and services to enhance scalability and flexibility.

- Goal: Migrate 60% of current applications and services to the university cloud within six months.
- Steps: Find suitable cloud providers, assess compatibility, plan migrations, train staff on cloud management, and configure the university cloud server for applications.

Establish a Data Center: Improve the university's infrastructure to support increased data storage and processing needs.

- Goal: Finish data center upgrade within five months.
- Steps: Assess current capabilities, plan for more capacity, add new hardware and cooling solutions, and ensure data protection with backup cloud servers.

Improve Network: Upgrade all network infrastructure, including hardware and software, for reliability and security.

- Steps: Assess the network, upgrade switches and routers, optimize Wi-Fi coverage, and set up network monitoring systems.

Boost Cybersecurity: Strengthen measures to protect digital assets, sensitive data, and user privacy.

- Goal: Establish multi-layered cybersecurity protocols within six months.
- Steps: Implement firewalls, and intrusion detection systems, conduct regular security audits, provide user awareness training, and develop incident response plans.

4.3. Virtual Learning Environment

Choose LMS: Select a suitable Learning Management System that fits the university's goals.

- Goal: Finalize LMS selection and start implementation within three months.
- Steps: Evaluate LMS options based on features, scalability, and user-friendliness.

Move Course Content: Transfer existing course materials onto the LMS platform.

- Goal: Complete migration for at least 50% of courses within three months.
- Steps: Collaborate with faculty to upload materials, videos, assignments, and assessments onto the LMS.

Train Faculty: Teach faculty to effectively use the LMS for course delivery, interaction, and assessment.

- Goal: Provide initial faculty training within months of LMS implementation.
- Steps: Organize training workshops, webinars, and tutorials on LMS usage and pedagogical best practices. Assign dedicated support for every ten faculty members until they are proficient with the LMS.

Support Students: Familiarize students with the LMS interface for smooth adoption.

- Goal: Provide LMS orientation for incoming students before each semester.
- Steps: Develop user guides, conduct orientation sessions, and offer ongoing technical support.

Digital Assessments: Use online tools for assessments and timely feedback.

- Goal: Integrate online assessments for all courses within twelve months.
- Steps: Train faculty on creating online quizzes and assignments, implement auto-grading features, and ensure prompt feedback.

Virtual Learning Spaces: Create virtual spaces within the LMS for group projects and collaborative learning.

- Steps: Configure discussion forums, group chat features, and collaborative document editing tools.

Multimedia Repository: Build a repository in the LMS for storing and sharing multimedia resources.

- Steps: Design the repository interface, categorize resources, and ensure easy accessibility.

4.4. Web-Based Education Management Information System (EMIS)

Obtain Technology: Obtain the EMIS system by integrating it with the ERPS system.

- Goal: Complete technology installation and integration.
- Steps: Identify needed technology installation, ensure compatibility with other systems, and seamlessly integrate.

User-Friendly Design: Redesign the EMIS user interface to be intuitive and responsive.

- Steps: Focus on UI/UX to create a visually appealing and easy-to-navigate interface. Upgrade report systems for better graphical presentation.

Enhance Data Accuracy: Implement checks and workflows for accurate and reliable data.

- Steps: Develop automated validation checks, user-friendly error notifications, and procedures for correcting data.

Real-Time Reporting: Enable real-time generation of reports for informed decision-making.

- Steps: Develop reporting templates, integrate data visualization tools, and provide training on report generation.

Streamline Student Management: Improve enrollment and student records management.

- Steps: Develop automated online enrollment and enhance student record management.

Provide Continuous Support: Offer ongoing training and support for faculty and administrators to use the EMIS effectively.

- Goal: Provide regular training sessions and support throughout the year.
- Steps: Develop training materials, conduct workshops, and establish a dedicated support channel.

4.5. Digital Resource Development and Dissemination

Go Digital: Turn physical resources like textbooks and lecture notes into digital formats within a year.

- Goal: Digitize core educational resources.
- Steps: Scan or digitize print materials, ensure accurate text recognition, and store them in digital repositories.

Make Multimedia: Create videos, animations, and interactive simulations for better learning.

- Goal: Develop multimedia content for key subjects within six months.
- Steps: Work with faculty and multimedia experts to design engaging learning materials.

Use Online Resources: Explore and collect online educational resources to complement existing materials.

- Goal: Create a repository of Open Educational Resources (OER) within three months.
- Steps: Find relevant OER platforms, select resources for courses, and ensure proper attribution.

Digital Libraries: Set up digital libraries for organized storage of educational resources.

- Goal: Launch digital libraries for major subjects within five months.
- Steps: Create user-friendly interfaces, categorize resources, and make them accessible for faculty and students.

Quality Studio: Produce high-quality educational content, including audio/video lectures, online courses, and interactive learning materials.

- Steps: Set up a well-equipped studio with the latest technology.

Share Resources Online: Build platforms for sharing and accessing digital resources within and beyond the university, using tools like Teams.

- Steps: Develop user-friendly platforms, enable resource uploads, and encourage user contributions.

Get Feedback: Collect feedback from faculty and students to keep improving and updating digital resources.

4.6. Office Automation

Simplify Processes: Identify and automate administrative tasks to streamline workflows.

- Goal: Complete process mapping and analysis within two months.

- Steps: Work with departments to document existing processes and find opportunities for automation.

One-Stop System: Integrate HR, Inventory, and Account Management modules for efficient administrative tasks and data handling.

- Steps: Develop a unified system incorporating required modules as per the university's needs.

Online Document Management: Set up an online system to organize and secure documents.

- Goal: Launch the document management system within four months.
- Steps: Develop the system architecture, migrate existing documents, and establish access controls.

Automated Approvals: Create automated workflows for document approvals, reducing the need for physical signatures.

- Steps: Design approval processes, integrate with the document management system, and provide training.

Digital Record Keeping: Shift from paper records to digital formats for efficient access.

- Goal: Complete digital record conversion for core departments within five months.
- Steps: Scan and digitize paper records, organize digital archives, and develop search mechanisms.

Online Payments: Integrate a secure online payment system for students' fees and expenses.

- Goal: Integrate with the existing system within one month.
- Steps: Choose a secure payment gateway, integrate with student accounts, and provide user guides.

Automated Reports: Develop computerized tools for generating routine reports for administrative decision-making.

- Goal: Implement automated report generation for departments within six months.
- Steps: Identify report requirements, design templates, and automate data collection.

Data Dashboards: Create dashboards providing insights into university operations and performance.

- Goal: Launch data analytics dashboards for key metrics within seven months.
- Steps: Define key performance indicators, integrate data sources, and design visualizations.

Continuous Feedback: Gather user feedback to improve the efficiency and usability of automated systems.

- Goal: Establish a continuous feedback loop within two months.
- Steps: Collect user feedback, analyze pain points, and make refinements accordingly.

4.7. University intellectual property Security, privacy, Plagiarism System, Surveillance, and Copyright law.

- The university will review/establish its rules about intellectual property, data privacy, and copyright to make sure they match new digital practices and legal rules.
- The focus is on making and following rules for intellectual property security, privacy, plagiarism prevention, and copyright. This includes protecting data, preventing plagiarism, and following copyright laws.
- Clear guidelines will be set for how data is accessed, stored, and shared to keep sensitive information safe and private.
- RJU will create a team (Intellectual Property Rights cell) to make sure everyone follows the rules about intellectual property and copyright.
- RJU will work with legal experts to make sure its rules follow national and international laws.
- The university will teach everyone about the importance of intellectual property rights and what happens if someone breaks copyright rules.

4.8. University Data Management, Protection, backup up and Disaster Recovery

Data Management:

- Review how we handle data now and set clear rules for organizing and keeping it.
- Create guidelines for sorting data, controlling who can access it, and how long we keep it.
- Use tools to organize data better and make it easier to find.
- Regularly check and update our rules to follow industry standards and laws.

Data Protection:

- Make strict rules to keep sensitive information safe.
- Use encryption, control who can access data, and use extra verification for security.
- Use advanced tools to stop and find any data breaches.
- Always keep an eye on and improve our data protection to stay safe from new threats.

Data Backup:

- Check how we back up data now to make sure we have copies that are safe and correct.
- Automatically back up data regularly to keep academic and admin info secure.
- Invest in backup plans outside our main place and use cloud storage for more security.
- Test our backup systems often to make sure they work well.
- Have a team to handle and keep an eye on data backup.

Disaster Recovery:

- Make a full plan for what to do if something goes wrong, like a data breach, system crash, or natural disaster.
- Focus on getting back important systems and apps quickly if something bad happens.

- Practice and test the plan to see if it works well.
- Keep updating the plan to fit new situations and possible problems.

4.9. IT system security, safety, avoidance, and prevention from attack

Security Assessment:

- Thoroughly assess the security of the university's IT systems, networks, and applications to identify potential vulnerabilities and weaknesses.
- Keep the security assessment up to date by regularly reviewing and addressing emerging threats and new attack vectors.

Cybersecurity Measures:

- Implement strong cybersecurity measures, such as firewalls, intrusion detection systems, and antivirus software, to prevent unauthorized access and cyberattacks.
- Enforce strict access controls and authentication mechanisms to block unauthorized users from accessing sensitive information.

Regular Security Audits:

- Conduct frequent security audits and vulnerability assessments to proactively identify and address potential security gaps.
- Engage external security experts for independent audits to validate the effectiveness of security measures.

Backup and Recovery:

- Establish a reliable backup and recovery system to ensure data integrity and availability in case of a security breach or system failure.
- Periodically perform data recovery tests to confirm the effectiveness of backup and recovery procedures.

Continuous Monitoring:

- Implement continuous monitoring tools and processes to promptly detect and respond to security incidents.
- Regularly review security logs and alerts to identify potential threats and anomalies.

4.10. ICT Enabled Monitoring & Evaluations System

Data Governance and Ownership: We'll set up a strong system for managing data, defining clear roles for who owns the data, controls access to it, and ensuring its security. People called data stewards will be responsible for overseeing the quality and compliance of the data.

Data Security and Privacy Measures: We'll put strict measures in place to keep sensitive information safe. This includes using access controls, encryption, and techniques to make sure data is private.

Analytics: We'll use advanced tools to get valuable insights from our integrated data. This will help us make decisions based on data, supporting our strategic planning and resource allocation.

Data Reporting and Visualization: We'll create standard templates and dashboards to make it easy for people to access and understand data. This will help us make informed decisions.

Data Sharing and Collaboration: We want to encourage a culture of sharing and collaboration. This means we'll establish guidelines for sharing data, promoting research across different areas and collaboration between teams.

Data Literacy Training: We'll provide training for faculty, staff, and administrators on how to work with data, covering things like entering data, keeping it up-to-date, and using it. This will help everyone use data more effectively.

Ethical Data Usage: All our practices related to data will follow ethical guidelines and rules. We'll be transparent and accountable in how we handle data to make sure it's used ethically.

Action Items:

1. Identify key performance indicators (KPIs) and metrics to keep track of our digital initiatives.
2. Use a system that uses technology to collect and analyze data on our KPIs.
3. Use the insights from our data to make good decisions and improve our digital strategies.
4. Regularly check how well our digital initiatives are working and make changes as needed.

5. Resources Arrangement and Allocation

Financial Resources:

- Review the university budget and allocate funds for digital projects based on priorities.
- Seek external funding like grants for major digital initiatives.
- Use a transparent financial system to track expenses and optimize resource use.

Human Resources:

- Assess staff skills and plan training to boost digital competency.
- Hire specialized IT professionals for effective project leadership.

Technological Resources:

- Evaluate install and upgrade current IT infrastructure.
- Budget for new technologies and establish partnerships with tech vendors.

Facilities and Infrastructure:

- Check if physical spaces support digital efforts.
- Plan facility upgrades for tech-based needs.

Training and Capacity Building:

- Develop a training program for digital skills.
- Allocate resources for workshops and online courses.

Sustainability Plan:

- Plan for long-term sustainability beyond initial funding.
- Explore revenue opportunities like online courses and digital product sales.

6. Institutional Arrangements

Formation of Digitalization Committee:

- Set up a high-level Digitalization Committee with six key people, the Vice-Chancellor, Registrar, Deans, Department Heads, and IT experts.
- The committee will guide the overall digital strategy, making sure it fits with the university's vision.

IT Support Unit:

- Make a special IT Support Unit in the university for all things digital.
- Skilled IT professionals in the unit will handle hardware, software, networking, and cybersecurity.

Digital Learning Centre:

- Start a Digital Learning Centre to train and help faculty, staff, and students use digital tools.
- The center will also run workshops and events to boost digital skills for teaching and learning.

Technology Advisory Board:

- Make a Technology Advisory Board with IT experts and industry leaders.
- The board will advise on new technologies and best practices, helping find innovative solutions for digital challenges.

Digitalization Resource Centre:

- Create a Digitalization Resource Centre with digital learning materials, e-books, and research papers.
- The center will be a hub for sharing educational resources across the university.

Review and Evaluation Mechanism:

- Set up a regular review system to check how well our digital plans are working.
- These reviews will help us find ways to improve and keep making our digital efforts better.