



INTERNAL AUDIT DIVISION

REPORT 2022/054

Audit of project management and the supporting information and communications technology systems at the United Nations University

There is need to strengthen project management guidelines and some information technology controls, and to replace or rebuild the application system supporting project management

28 October 2022

Assignment No. AE2021-370-01

Audit of project management and the supporting information and communications technology systems at the United Nations University

EXECUTIVE SUMMARY

The Office of Internal Oversight Services (OIOS) conducted an audit of project management and the supporting information and communications technology systems at the United Nations University (UNU). The objective of the audit was to assess the adequacy and effectiveness of governance, risk management, and control processes over project management and the supporting information and communications technology (ICT) systems at UNU. The audit covered the period from 1 January 2020 to 31 March 2022. Based on an activity-level risk assessment, the audit covered risk areas relating to: (a) governance; and (b) ICT systems supporting project management.

UNU had a project management policy framework that regulated key aspects of the project management cycle. UNU also had a project management system (Pelikan) to support the management of projects and serve as a repository for project documents. The audit showed that UNU needed to strengthen project management guidelines and some information technology controls, and to replace or rebuild Pelikan.

OIOS made six recommendations. To address the issues identified in the audit, UNU needed to:

- Strengthen its policy framework for project management by: reinforcing the guidelines on risk management, quality control mechanisms and performance indicators; defining a clear reporting and monitoring framework and data architecture for project-related data; and establishing mechanisms to ensure that self-evaluations are performed, and completed projects are closed in a timely manner;
- Clarify the authority, roles, and responsibilities of the Campus Computing Centre, UNU departments, and ICT units of institutes in purchasing, developing, hosting, and maintaining software solutions to achieve the goals of its ICT strategy;
- Define and document its security policies and procedures for managing its assets in the cloud environment and assess and meet the skill gaps of staff in cloud security;
- Ensure that the issue of integration between the Pelikan system, the new enterprise resource planning system and the new website platform is adequately addressed; and perform a cost-benefit analysis for replacing or rebuilding the Pelikan system to improve its functionalities, reporting capabilities and security features;
- Develop and implement ICT configuration and change management policies and procedures, and maintain baseline configurations of its ICT systems; and

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UNU accepted the recommendations and has initiated action to implement them. Actions required to close the recommendations are indicated in Annex I.

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Audit of project management and the supporting information and communications technology systems at the United Nations University

I. BACKGROUND

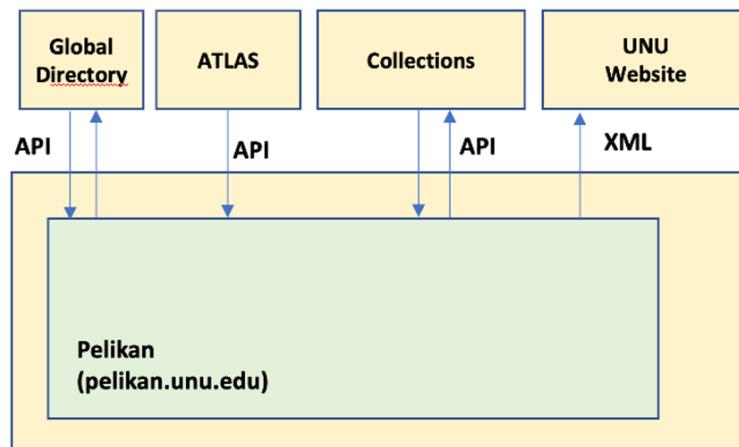
1. The Office of Internal Oversight Services (OIOS) conducted an audit of project management and the supporting information and communications technology (ICT) systems at the United Nations University (UNU).

2. UNU is an international community of scholars engaged in research, postgraduate training, and dissemination of knowledge in furtherance of the purposes and principles of the Charter of the United Nations. The global UNU system encompasses 13 institutes located in 12 countries around the world coordinated by the UNU Centre which is headquartered in Japan. The UNU Centre comprises of the Rector; Senior Vice-Rector; Vice-Rectorate in Europe; Directorate for Administration; Executive Office; Centre for Policy Research; Operating Unit on Policy Driven Electronic Governance; and UNU's representation at the United Nations Educational, Scientific and Cultural Organization (UNESCO).

3. The Rector has overall responsibility for the direction, organization, administration, and programmes of the University. The UNU Council serves as the governing board of UNU. It is composed of: (i) 12 appointed members who serve in their individual capacity; (ii) the UNU Rector; and (iii) 3 ex officio members: the United Nations Secretary-General; the UNESCO Director-General; and the Executive Director of the United Nations Institute for Training and Research. Each UNU institute is headed by a Director and has its own Advisory Board/Committee.

4. The Campus Computing Centre is UNU's technical arm responsible for ICT infrastructure and some applications. It had a total of eight staff led by the Chief of ICT who reported to the Executive Officer. UNU had four main ICT applications supporting project management as shown in Figure 1. These were: (i) Atlas (the Enterprise Resource Planning system); (ii) Pelikan (a web-based system that supports the implementation of project management); (iii) UNU Collections (an online institutional repository for academic publications); and (iv) the UNU website.

Figure 1: UNU ICT systems supporting project management



5. UNU is solely financed by voluntary contributions from a broad range of donors including national governments, international and regional organizations, academic institutions, private sector organizations

and various non-profit sector organizations. UNU projects range from small short-term research projects with no external donor or only one donor, to large multi-donor funded projects spanning many years, and projects involving strategic cooperation with other United Nations agencies. According to information in Pelikan, there were 638 ongoing projects at the time of the audit. The Atlas system showed a cumulative project budget of \$262 million as of January 2022.

6. Comments provided by UNU are incorporated in italics.

II. AUDIT OBJECTIVE, SCOPE AND METHODOLOGY

7. The objective of the audit was to assess the adequacy and effectiveness of governance, risk management, and control processes over project management and the supporting ICT systems at UNU.

8. This audit was included in the 2022 risk-based work plan of OIOS due to the risk that potential deficiencies in project management and supporting ICT systems may adversely affect effective implementation of projects.

9. OIOS conducted this audit remotely from April to July 2022. The audit covered the period from 1 January 2020 to 31 March 2022. Based on an activity-level risk assessment, the audit covered risk areas relating to: (a) governance; and (b) ICT systems supporting project management.

10. The audit methodology included: (a) interviews with key personnel; (b) review of relevant documentation; (c) analytical review of data; (d) sample testing; and (e) surveys.

11. The audit was conducted in accordance with the International Standards for the Professional Practice of Internal Auditing.

III. AUDIT RESULTS

A. Governance

Need to address gaps in the project management policy framework

12. A properly designed project management policy framework is essential for effective and efficient implementation of projects. The UNU Project Management Guidelines developed in 2016 are the main policy document governing the management of projects at UNU. OIOS assessed the adequacy of the Project Management Guidelines by reviewing 31 projects and benchmarking with the project management manuals of two similar sized United Nations organizations. The review showed that overall, the Project Management Guidelines supplemented by other UNU policy documents provided comprehensive rules, guidelines, and procedures to organize and regulate key aspects of the project management cycle. However, there were some gaps and areas of non-compliance that needed to be addressed to help enhance the effectiveness and efficiency of project management, as explained below.

(a) Risk management

13. UNU's institutes faced risks at all stages of the project management process, and some donors expected a full risk management strategy for the large projects. The onset of COVID-19 posed some challenges and risks to project management and led to global dispersal and turnover in the project team, and evolving donor expectations. There was inadequate guidance on identification, tracking and management of risks throughout the project management process, including the circumstances under which

issues should be escalated. OIOS reviewed 11 completed projects valued at \$10.1 million and noted that there was no evidence in the project management system that risks had been formally assessed for appropriate mitigation.

(b) Quality control and quality assurance

14. For all the 31 projects reviewed by OIOS, a description of the quality control mechanisms to be employed, and description of performance indicators was documented in Pelikan, as required. However, in nine cases, the description of quality assurance mechanisms was either too broad or vague. Similarly, the description of performance indicators was vague for 15 of the 31 projects reviewed. The Rector required the review of benchmarks and indicators to be a standing item on the agenda of Institute Board/Advisory Committee meetings, but this was not consistently done during the COVID-19 pandemic because the Advisory Committees met in brief online sessions that focused on core items. UNU needs to emphasize the importance of well-defined quality control mechanisms and performance indicators in its project management policy framework and provide appropriate guidelines for consistent application.

(c) Project reporting and monitoring

15. The UNU project management guidelines require project managers to, at a minimum, prepare six-month progress reports and to monitor progress in project activities and budgets. However, the guidelines did not have a clear reporting and monitoring framework indicating what financial and substantive project data and summary reports should be submitted or made accessible to the Institute Directors, the Rector, and external stakeholders. Other than stating that the six-month progress report should include a brief narrative of the status of implementation of the projects, there were no guidelines on what financial or other project data should be included in the progress reports. As a good practice noted in other organizations, the project policy framework should clearly describe the reporting framework and reporting calendar with details of the tools and systems that will be used to generate the information to be included in the reports.

16. OIOS noted that in practice, the institutes prepared the progress reports in an Excel sheet summarizing the information for all their projects including project title, start date, end date, status (ongoing or complete) and a brief narrative of the projects. The progress reports did not have any information on the extent to which the planned outputs had been achieved, and whether there were any significant delays in the implementation of planned activities. This information is necessary for effective monitoring and oversight. The progress reports did not also have financial information such as budget variances and budget implementation rates. As discussed later in the report, staff were not satisfied with the adequacy of data and information generated by Pelikan and UNU Collections; some institutes had developed their own Excel spreadsheets or other systems for monitoring. UNU needs to conduct a needs assessment to identify data and information needs of staff, the various levels of management, and external stakeholders. The results of the needs assessment can then form the basis defining a reporting framework and architecture for data generated from its research and capacity development projects.

(d) Project closure and evaluation

17. The project management guidelines require that completed projects be closed in a timely manner, but this was not always complied with. As of February 2022, 21 projects had passed their end date, but they were not closed in Pelikan. Of these, two projects had ended in 2019, one in 2020, and the others in 2021. UNU took steps to close some of them while the audit was going on. UNU attributed some of the delays to the COVID-19 pandemic and the lack of functionalities in the Pelikan system. Further, the project management guidelines require completed projects to conduct self-evaluations and outline what should be included in the self-evaluation report. But there was no evidence that such evaluations were performed for

any of the 11 completed projects reviewed by OIOS. The gaps noted show the need to strengthen the review and reporting mechanisms to ensure that at a minimum, self-evaluations are performed in accordance with the guidelines, and completed projects are closed in a timely manner. Another good practice noted in other organizations that UNU could adopt is to indicate evaluation plans in the project documents.

(1) UNU should strengthen its policy framework for project management by: (a) reinforcing the guidelines on risk management, quality control mechanisms and performance indicators; (b) defining a clear reporting and monitoring framework and data architecture for project-related data; and (c) establishing mechanisms to ensure that self-evaluations are performed, and completed projects are closed in a timely manner.

UNU accepted recommendation 1 and stated that revisions to its existing policy framework for project management will be informed by a needs assessment and the identification and roll-out of a successor project management system to Pelikan by the end of 2024.

Need to clarify responsibilities for purchasing, developing, hosting, and maintaining software solutions

18. ICT systems and applications used by UNU for project management, including Pelikan, UNU Collections, websites and Atlas, are essential for enabling and supporting efficient and effective project management. These systems were managed by different departments and units: the Campus Computing Centre was responsible for managing Pelikan; another team within the Office of Communications was responsible for development and maintenance of UNU Collections and UNU websites; and the Directorate of Administration was responsible for Atlas. Further, each institute managed its own ICT processes and personnel. An effective ICT governance framework is essential to ensure that the systems and applications supporting project management are properly managed and maintained.

19. UNU improved its ICT governance framework in 2021 with the roll out of the 2021-2024 ICT Strategic Plan and issuance of a revised ICT governance framework. The ICT Strategic Plan had four high-level strategic objectives relating to: (i) information security; (ii) standardization of tools and processes; (iii) culture of service excellence; and (iv) innovation in the delivery of services and use of data. In line with the revised ICT governance framework, the Management Group was responsible for overseeing the implementation of the strategy, with the Campus Computing Centre providing strategic direction. Performance indicators were defined for each of the strategic objectives which were to be used to monitor the achievement of the individual objectives.

20. The revised ICT governance framework emphasized the central role of ICT and the importance of alignment, coordination, and cooperation across UNU. It defined the roles and responsibilities of the Rector (strategic direction), the Management Group (alignment of UNU-wide needs), the Campus Computing Centre (technical expertise), the ICT Network (collaboration and exchange), and the individual ICT units (addressing local needs in alignment with UNU policies and standards). It also introduced a dual-reporting line for heads of ICT units at institutes to the Institute Director regarding daily operational needs, and to the Campus Computing Centre regarding UNU-wide policies, standards, and initiatives. There were recurring concerns about inadequate staffing in the Campus Computing Centre which UNU indicated it was addressing by, among other things, exploring outsourcing for specific services and expanding the role of the ICT network to cover UNU-wide services and operations.

21. OIOS noted that the framework did not clearly define the authority, roles and responsibilities of the UNU departments and ICT units at institutes in purchasing, owning, hosting, and maintaining ICT infrastructure and systems. The role of the Campus Computing Centre in overseeing such systems was also not clearly defined. It was also not clear whether ICT staff in the various departments (for example the ICT team within the Office of Communications) were part of the ICT Network. The lack of clarity in the

authority, roles and responsibilities resulted in lack of integration between the UNU systems and applications supporting project management, as explained later in the report. It also resulted in multiple tools being acquired for the same purpose across UNU; for example, four separate tools were used to detect plagiarism (iThenticate, Turnitin, Grammarly and EDAS).

(2) UNU should clarify the authority, roles and responsibilities of the Campus Computing Centre, UNU departments, and ICT units of institutes in purchasing, developing, hosting, and maintaining software solutions to achieve the goals of its ICT strategy.

UNU accepted recommendation 2 and stated that this exercise would also offer an opportunity to strengthen coordination and collaboration.

Need to improve security policies for project management systems

22. Best practices require that the migration of applications into cloud infrastructure should be accompanied with appropriate ICT security policies and procedures, including clear residency requirements for data hosted in the cloud.

23. The Management Group endorsed the Web Security Guidelines and the ICT Code of Ethics, and the Campus Computing Centre developed the UNU ICT risk management internal control guide. Following the approval of the Campus Computing Centre's proposal for cloud migration, the ICT infrastructure and application systems supporting the management of projects (Pelikan, UNU Collections and websites) were migrated to the cloud. UNU did not revise its security policies and procedures after the migration of its applications to cloud environment to ensure enhanced privacy and security.

24. Though UNU implemented various cloud security configurations on Amazon Web Services (AWS) infrastructure, it did not keep records of its baseline security configurations and changes made to them. There was no procedure or cloud security policy requiring the expected level of security to reflect the risk profile of the cloud environment. Additionally, after migration to cloud environment, the staff managing the infrastructure and applications did not receive formal training to enhance their skills. Lack of baseline security configurations and training may expose UNU to security risks specific to the cloud environment.

(3) UNU should: (a) define and document its security policies and procedures for managing its assets in the cloud environment; and (b) assess and meet the skill gaps of staff in cloud security.

UNU accepted recommendation 3 and stated that the Campus Computing Centre had adopted and applied the Centre for Internet Security foundations benchmark standard for AWS based on UNU's risk acceptance. UNU will formalize these security practices in 2023. In addition, UNU will investigate and budget to send personnel to relevant training courses to expand capacity.

B. ICT systems

Need to rebuild or replace the main project management system

25. Pelikan was expected to support the management of projects in UNU throughout the project cycle and serve as a repository for project documents. It had the potential to capture information on project start date, end date, workplans, activities, outputs, performance indicators, donors, funding and expenditure, as well as Sustainable Development Goals and gender mainstreaming considerations. However, the system's effectiveness was affected by: (i) some limitations in its functionalities; (ii) lack of integration with other

systems that supported project management; and (iii) users not using all the functionalities and not posting all the required information, as explained below.

(a) Lack of integration between Pelikan and other systems supporting project management

26. Pelikan is the main system that hosts the project data and should be integrated with the financial data and other application systems supporting project management for completeness and accuracy of project information. However, integration between Pelikan, Atlas and UNU Collections was not automated. The unique identifiers for projects (i.e., Pelikan project ID) in both Atlas and UNU Collections were not mandatory fields; they were to be populated manually, which was not consistently done. There were two new ongoing initiatives which would replace Atlas and UNU Collections. It is essential that UNU takes effective steps to address the existing integration issues when implementing these new systems. OIOS noted the following:

(i) In December 2021, UNU was informed by its administrative service provider of plans to decommission Atlas and introduce a new enterprise resource planning system (Quantum). At the time of the audit, no business impact assessment had been conducted to assess the risks and impact of the rollout of Quantum on Pelikan and other application systems supporting project management across UNU. OIOS is of the view that ensuring integration between Pelikan and Quantum is important for the system's continued viability.

(ii) At the time of the audit, there was an ongoing project to develop a new website that would replace UNU Collections. The project risk register included risks that the new website may not deliver the anticipated system interface with Pelikan. This condition could create duplication of effort by requiring data input in both Pelikan and the new website, resulting in delayed display of project outcomes to the user community. Data inconsistencies may also impact the integrity of the presented outcomes.

27. OIOS is of the view that UNU should use the rollout of Quantum and the new website as an opportunity to address the integration shortcomings with Pelikan to improve the efficiency and effectiveness of the project management process.

(b) [REDACTED]

28. [REDACTED]

29. [REDACTED]

(c) Lack of data entry controls

30. OIOS' review of a random sample of 31 ongoing projects showed that important project information such as project activities, outputs and financial information were not captured as required. Additionally, project documentation such as work plans, project proposals, evaluations and contracts were not always saved in Pelikan as envisaged. These gaps were largely attributed to lack of data entry controls that would ensure that all data fields are properly completed.

(d) Users were not satisfied with reporting capabilities of Pelikan

31. Results of OIOS' survey of Pelikan users indicated that the system's functionalities and reports were not satisfying user requirements, and they did not provide the required depth of data and information. As a result, some institutes had developed manual monitoring processes for the projects they managed by using spreadsheets or manual fill-out forms. As stated earlier in the report, UNU needs to assess its information needs and define a clear reporting framework and data architecture for project-related data.

32. Based on the above, OIOS concluded that Pelikan in its current form was not an effective and efficient project management tool; it needs to be either rebuilt or replaced. To enhance its utility as a project management tool, at a minimum: (i) the issues of interface between Pelikan, the enterprise resource planning system, and the new website need to be prioritized and resolved; (ii) reporting capabilities need to be enhanced to meet UNU's information needs; and (iii) data entry controls need to be put in place to help ensure that all mandatory fields are properly completed. In addition, UNU needs to consider the security and other risks arising from the issues noted above.

(4) UNU should: (a) ensure that the issue of integration between the Pelikan system, the new enterprise resource planning system and the new website platform is adequately addressed; and (b) perform a cost-benefit analysis for replacing or rebuilding the Pelikan system to improve its functionalities, reporting capabilities and security features.

UNU accepted recommendation 4 and stated that in the face of the identified weaknesses of Pelikan, it does not intend to make significant investments into that system. Instead, UNU will focus on identifying a modern fit-for-purpose solution. UNU will carry out a needs assessment and undertake the necessary steps to identify a suitable successor to Pelikan. During this transition period (2022-2024), UNU will ensure the integrity and usability of Pelikan and make minor adjustments as needed. UNU has already implemented mechanisms that mitigate the risks associated with the operating system and Drupal to meet UNU's risk acceptance.

Need to strengthen the change and configuration management processes

33. Best practices require implementing an effective change and configuration management process ensuring that change requests are evaluated, approved, and recorded. UNU had established a manual change management process with a change request form. OIOS observed that not all change requests went through the formal change management process. For example, when Pelikan reported an incomplete display of the publications list (a limitation to 50 publications), a parameter was introduced to remove the limit on the number of publications. The issue was reported through an email, and there was no change request form associated with the required change. Therefore, the change could not be traced, and it was not clear when the change was approved and by whom.

34. Similarly, UNU did not keep records of changes made on the infrastructure configurations in the cloud. As there were no baseline configurations, it was impossible to trace back any changes made to the



IV. ACKNOWLEDGEMENT

38. OIOS wishes to express its appreciation to the management and staff of UNU for the assistance and cooperation extended to the auditors during this assignment.

Internal Audit Division
Office of Internal Oversight Services

STATUS OF AUDIT RECOMMENDATIONS

Audit of project management and the supporting information and communications technology systems at the United Nations University

Rec. no.	Recommendation	Critical ¹ / Important ²	C/ O ³	Actions needed to close recommendation	Implementation date ⁴
1	UNU should strengthen its policy framework for project management by: (a) reinforcing the guidelines on risk management, quality control mechanisms and performance indicators; (b) defining a clear reporting and monitoring framework and data architecture for project-related data; and (c) establishing mechanisms to ensure that self-evaluations are performed, and completed projects are closed in a timely manner.	Important	O	Receipt of evidence that UNU has: (a) reinforced the guidelines on risk management and quality control mechanisms; (b) defined a clear reporting and monitoring framework; and (c) established mechanisms to ensure that self-evaluations are consistently done and completed projects closed in a timely manner.	31 October 2024
2	UNU should clarify the authority, roles, and responsibilities of the Campus Computing Centre, UNU departments, and ICT units of institutes in purchasing, developing, hosting, and maintaining software solutions to achieve the goals of its ICT strategy.	Important	O	Receipt of evidence of action taken to clarify roles and responsibilities for purchasing, developing, hosting, and maintaining software solutions.	31 December 2023
3	UNU should: (a) define and document its security policies and procedures for managing its assets in the cloud environment; and (b) assess and meet the skill gaps of staff in cloud security.	Important	O	Receipt of evidence that security practices for managing UNU's assets in the cloud environment have been formalized and skill gaps of staff in cloud security have been identified and addressed.	31 December 2023
4	UNU should: (a) ensure that the issue of integration between the Pelikan system, the new enterprise resource planning system and the new website platform is adequately addressed; and (b) perform a cost-benefit analysis for replacing or rebuilding the	Important	O	Receipt of the plan of action for replacing or rebuilding Pelikan and ensuring its integrity and usability during the transition phase.	31 October 2024

¹ Critical recommendations address those risk issues that require immediate management attention. Failure to take action could have a critical or significant adverse impact on the Organization.

² Important recommendations address those risk issues that require timely management attention. Failure to take action could have a high or moderate adverse impact on the Organization.

³ Please note the value C denotes closed recommendations whereas O refers to open recommendations.

⁴ Date provided by UNU in response to recommendations.

STATUS OF AUDIT RECOMMENDATIONS

Audit of project management and the supporting information and communications technology systems at the United Nations University

	Pelikan system to improve its functionalities, reporting capabilities and security features.				
5	UNU should: (a) develop and implement ICT configuration and change management policies and procedures; and (b) maintain baseline configurations of its ICT systems.	Important	O	Receipt of evidence that UNU has implemented ICT configuration and change management policies and procedures and maintains baseline configurations of its ICT systems.	31 December 2023
6	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

APPENDIX I

Management Response



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Tokyo, 21 October 2022

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Reference: OIOS-2022-01471

RE: OIOS audit of project management and the supporting information and communications technology systems at the United Nations University (draft report)

Management Response

UNU would like to thank OIOS for the comprehensive report and agrees with the recommendations.

As intensively discussed before and during the OIOS-led audit, UNU's primary goal for this exercise was to ascertain whether there would be value in further investing in its project management system named "Pelikan". The system was developed in-house over a decade ago. Meanwhile, ICT developments have brought various ERP-led and other project management systems forward. Given that UNU is soon changing its current ERP system from Atlas to Quantum, the results of this audit are timely for UNU to assess its strategy regarding Pelikan.

Among its recommendations, OIOS concluded that

"UNU should (a) ensure that the issue of integration of the Pelikan system with the new ERP system and new website platform is adequately addressed; and (b) perform a cost-benefit analysis for replacing or rebuilding the Pelikan system to improve its functionalities and reporting capabilities and to mitigate security vulnerabilities due to unsupported underlying software."

UNU agrees with this recommendation and therefore plans to undertake the following steps over the course of the next 24 months:

- First, UNU will undertake an internal needs assessment, after presenting this report including the helpful annex listing “additional Pelikan system requirements from the user community” and suggested next steps to the upcoming Conference of Directors in late November 2022.
- Based on the needs assessment, a task team would be formed at UNU for assessing the new ERP (Quantum) system’s project management module, which is still under development and expected to be launched in Q1-Q2 2023. The team would assess to what extent the new ERP project management module would meet UNU’s needs.
- Should the new ERP’s module not satisfy UNU’s requirements, the task team would also assess existing similar project management systems throughout 2023 and present their conclusion to the Rector and Directors in early 2024.
- Finally, UNU would then proceed with the selected tool/platform by Q4 2024 and revise relevant policies and guidance documents informing project management at UNU.

The timeline considers the preparation of UNU’s next Strategic Plan (2025-2029) under new leadership. Having a successor project management system up and running by the end of 2024 will also support the implementation of UNU’s next system-wide strategic plan.

Considering this timeline and the next steps, UNU will only proceed with adjustments to Pelikan and other project management support and regulatory elements limited to the necessary minimum from now until the end of 2024.



David M. Malone
Rector of the United Nations University
Under-Secretary-General of the United Nations

Management Response

Audit of project management and the supporting information and communications technology systems at the United Nations University

Rec. no.	Recommendation	Critical ¹ / Important ²	Accepted? (Yes/No)	Title of responsible individual	Implementation date	Client comments
1	UNU should strengthen its policy framework for project management by: (a) reinforcing the guidelines on risk management, quality control mechanisms and performance indicators; (b) defining a clear reporting and monitoring framework and data architecture for project-related data; and (c) establishing mechanisms to ensure that self-evaluations are performed, and completed projects are closed in a timely manner.	Important	Yes	Pelikan FP/ EO	Q4 2024	Revisions to UNU's existing policy framework for project management will be informed by a needs assessment and the identification and roll-out of a successor project management system to Pelikan by the end of 2024.
2	UNU should clarify the authority, roles, and responsibilities of the Campus Computing Centre, UNU departments, and ICT units of institutes in purchasing, developing, hosting, and maintaining software solutions to achieve the goals of its ICT strategy.	Important	Yes	Director C3	Q4 2023	This exercise also offers an opportunity to strengthen coordination and collaboration.
3	UNU should: (a) define and document its security policies and procedures for managing its assets in the cloud environment; and (b)	Important	Yes	Director C3	Q4 2023	a) C3 has adopted and applied the CIS foundations benchmark standard for AWS based on UNU's risk acceptance. UNU will formalize these security practices in 2023.

¹ Critical recommendations address those risk issues that require immediate management attention. Failure to take action could have a critical or significant adverse impact on the Organization.

² Important recommendations address those risk issues that require timely management attention. Failure to take action could have a high or moderate adverse impact on the Organization.

Management Response

Audit of project management and the supporting information and communications technology systems at the United Nations University

Rec. no.	Recommendation	Critical ¹ / Important ²	Accepted? (Yes/No)	Title of responsible individual	Implementation date	Client comments
	assess and meet the skill gaps of staff in cloud security.					b) UNU will investigate and budget to send personnel to relevant training courses to expand capacity.
4	UNU should: (a) ensure that the issue of integration between the Pelikan system, the new enterprise resource planning system and the new website platform is adequately addressed; and (b) perform a cost-benefit analysis for replacing or rebuilding the Pelikan system to improve its functionalities, reporting capabilities and security features.	Important	Yes	Pelikan FP*	Q4 2024	<p>(a) In the face of the identified weaknesses of Pelikan, UNU does not intend to make significant investments into that system. Instead, UNU will focus on identifying a modern fit-for-purpose solution.</p> <p>(b) UNU will carry out a needs assessment and undertake the necessary steps to identify a suitable successor to Pelikan. During this transition period (Q4 2022-Q4 2024), UNU will ensure the integrity and usability of Pelikan and make minor adjustments as needed. UNU has already implemented mechanisms that mitigate the risks associated with the operating system and Drupal to meet UNU's risk acceptance.</p> <p><i>*in close consultation with C3 and Finance.</i></p>
5	UNU should: (a) develop and implement ICT configuration and change management policies and procedures; and (b) maintain baseline configurations of its ICT systems.	Important	Yes	Director C3	Q4 2023	<p>a) Change management procedures exist with a documented workflow for submitting and approving change requests. UNU's existing change management procedures will be extended to include AWS.</p> <p>b) UNU extracted the raw standards-based baseline cloud configurations from AWS and will document them within the next 12 months.</p>

Management Response

Audit of project management and the supporting information and communications technology systems at the United Nations University

Rec. no.	Recommendation	Critical ¹ / Important ²	Accepted? (Yes/No)	Title of responsible individual	Implementation date	Client comments
6	<p>[REDACTED]</p>	<p>[REDACTED]</p>	<p>[REDACTED]</p>	<p>[REDACTED]</p>	<p>[REDACTED]</p>	<p>[REDACTED]</p>