INTERNAL AUDIT DIVISION

REPORT 2019/119

Audit of the Inspira Human Resources System

The Secretariat needs to assess the viability of the system in meeting its human resources management needs

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Audit of the Inspira Human Resources System

EXECUTIVE SUMMARY

The Office of Internal Oversight Services (OIOS) conducted an audit of the Inspira Human Resources System. The objective of the audit was to assess the adequacy and effectiveness of governance, risk management and control processes in ensuring effective and efficient utilization of the Inspira system in the United Nations Secretariat. The audit covered the period from January 2011 to May 2019 and included a review of risk areas relating to: (a) strategic planning; (b) data interfaces; (c) system configuration and control settings; (d) reporting; and (e) production support.

The audit showed that the Secretariat needs to assess the viability of the Inspira system in meeting its human resources management needs. To address the issues identified in the audit, the Department of Management Strategy, Policy and Compliance (DMSPC) and the Department of Operational Support (DOS) needed to:

- Define and agree on process ownership and assign roles and responsibilities for Inspira-related processes; and improve user awareness when introducing new enhancements.
- Address the data integrity issues relating to Inspira to enhance the reliability and usefulness of reports provided in the management dashboards.

OICT needed to:

- In coordination with DMSPC and DOS: perform an assessment justified by a quantified business case concerning the viability of the Inspira system and determine whether to invest in further enhancements to the system or replace it based on current and future business requirements provided by DMSPC and DOS; and update the actual cost of ownership on a regular basis.
- Consolidate the service requirements for Inspira and update the contract with the vendor as necessary to ensure that the required level of support is secured.
- In consultation with DMSPC and DOS: strengthen change management activities and oversight mechanisms for system customization; and implement a suitable change control management tool.
- Explore the enhancement of data interfaces between Umoja and Inspira to improve system efficiency.
- Define and communicate the requirements for third-party data access, data encryption, masking of sensitive data, and incident response requirements.
- Conduct a business impact assessment of Inspira-related activities and document a business continuity plan; and conduct periodic tests to ensure system availability.
- Establish and implement record/document management procedures for Inspira data in accordance with existing policies on data classification, sensitivity and handling.

DMSPC, DOS and OICT accepted the recommendations and have initiated action to implement them.

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Audit of the Inspira Human Resources System

I. BACKGROUND

1.   The Office of Internal Oversight Services (OIOS) conducted an audit of the Inspira Human Resources (HR) System.

2.   The General Assembly in its resolution 61/244 of 30 January 2007 approved the implementation of a talent management system (i.e., the Inspira HR System or "Inspira") to replace the stand-alone legacy systems that supported human resources management processes (i.e., Galaxy, Nucleus and the electronic performance appraisal system – ePAS).

3.   The scope of the system was based on an integrated framework of four core areas: (a) workforce planning; (b) staffing (recruitment); (c) performance management and development; and (d) learning management. Once implemented, the system was expected to provide a streamlined solution for the United Nations Secretariat's efforts to recruit, retain and develop staff.

4.   Inspira system was implemented in 2009, with phased releases throughout 2010 and 2011. In subsequent years, the system has been highly customized with the addition of more than 27 additional functionalities and enhancements.

5.   Inspira is divided into three main modules: Talent Management, Learning Management and Performance Management and was built on the PeopleSoft software platform which was substantially customized by developers to meet the Organization's specific requirements. Inspira integrated processes into one platform that in the past had been supported by stand-alone systems. In addition, it was expected that Inspira would be integrated with the United Nations' enterprise resource planning system – Umoja.

6.   The audit commenced prior to the Secretary-General's reform of the United Nations Secretariat which came into force on 1 January 2019. At that time, ownership of HR-related business processes and Inspira was with the former Office of Human Resources Management in the erstwhile Department of Management. The Office of Information and Communications Technology (OICT) is primarily responsible for technical support. Inspira is hosted and partly maintained by a third-party vendor.

7.   The system is used by external users to apply for jobs in the United Nations and by internal users for recruitment and other purposes (Talent Management, Learning Management and Performance Management). The total number of Inspira accounts as at 31 May 2019 was 3.65 million (94,909 internal accounts and 3.56 million external accounts). The total cost of Inspira implementation and related third-party support for the period 2014 to 2018 as reflected in Umoja was approximately $16 million.

8.   Comments provided by the Department of Management Strategy, Policy and Compliance (DMSPC), the Department of Operational Support (DOS) and OICT are incorporated in italics.

II. AUDIT OBJECTIVE, SCOPE AND METHODOLOGY

9.   The objective of the audit was to assess the adequacy and effectiveness of governance, risk management and control processes in ensuring effective and efficient utilization of the Inspira system in the United Nations Secretariat.

10.   This audit was included in the 2018 risk-based work plan of OIOS due to the risk that potential weaknesses or limitations in the Inspira system may have an adverse impact on effective management of human resources in the United Nations Secretariat.

11.   OIOS conducted this audit from December 2018 to May 2019. The audit covered the period from January 2011 to May 2019. Based on an activity-level risk assessment, the audit covered risk areas which included: (a) strategic planning; (b) data interfaces; (c) system configuration and control settings; (d) reporting; and (e) production support.

12.   The audit focused on the core modules of Talent Management, Learning Management and Performance Management and included a sample review of functionality enhancements implemented since the initial deployment. These included Offer Management, Continuous Appointments, Central Review Board (CRB), Reference Verification, and Consultant Engagement. At the time of audit, the Workforce Planning module had not been implemented.

13.   The audit methodology included: (a) interviews with key personnel; (b) review of relevant documentation; (c) analytical review of data; (d) test of transactions and procedures; and (e) visit to the third-party vendor hosting the Inspira system.

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

III.   AUDIT RESULTS

A.   Strategic planning

<u>The continued viability and usefulness of the Inspira system in its current form needs to be assessed</u>

15.   During the audit, several managers and staff of the Office of Human Resources (OHR) of DMSPC and the Human Resources Services Division (HRSD) of DOS expressed concerns about the long-term viability of the system in meeting the requirements of the Organization. HRSD explained that it would like to collaborate with DMSPC, DOS Procurement, and OICT to initiate a discussion with the software vendor on the transition to their new product (HCM Cloud) or initiate a new procurement exercise to take advantage of new technologies in current talent management products.

16.   Regarding the utilization of the Inspira system, the audit identified several functionalities across its various modules that were either not working optimally or had not yet been implemented, as explained in Section C of the present report. These needed to be analyzed and assessed to determine whether the Organization should expend additional resources on Inspira or consider other alternatives. As a first step, this would require discussion among the stakeholders and users of the system to enable a thorough assessment as to whether Inspira in its current form is adequately serving the intended purposes.

17.   The total cost of ownership of the Inspira system was unknown. OIOS was able to identify the expenditure for system implementation and support for the years 2014 to 2018 in Umoja, which amounted to $16 million. However, the budget provision and expenditures for Inspira from 2009 through 2013 were not available. Also, the benefits realized from the Organization's investment in the system were not assessed at any time during the system's life cycle. OIOS is of the view that these issues need to be addressed in determining the future viability of the Inspira system and its suitability for meeting the Organization's needs as it navigates through the ongoing reform in the Secretariat.

> **(1) OICT, in coordination with DMSPC and DOS, should: (a) perform an assessment justified by a quantified business case concerning the viability of the Inspira system and determine whether to invest in further enhancements to the system or replace it based on current and future business requirements provided by DMSPC and DOS; and (b) update the actual cost of ownership on a regular basis.**
>
> *OICT accepted recommendation 1 and noted that the total cost of ownership is updated on a quarterly basis.* Recommendation 1 remains open pending receipt of evidence of: (i) an assessment on the viability of the Inspira system; and (ii) the updating of the total cost of ownership.

The maintenance and on-demand contract needs to be updated to reflect current service requirements

18. The primary contract between the United Nations and a third-party vendor was signed in 2009 for maintenance support and on-demand hosting services for the Talent Management and Learning Management modules. The Not to Exceed (NTE) amount at the time was $5,669,330. The contract had not been reassessed since then.

19. OIOS noted that the contract had been subjected to 13 amendments and the NTE had grown to $14.5 million. There were substantial changes and additions to the original scope of work, including On Demand Cloud Services, Performance Management and other functionalities such as Reference Verification, Offer Management and Central Review Board modules. Also, the Financial Disclosure and Earthmed systems were added to the maintenance and hosting contract for Inspira even though they had no relationship to the original scope defined in the contract, which was Talent Management.

20. The effects of the contractual gaps have been explained in Section E of the present report. Key service requirements were not enacted because current service requirements were not formalized or updated in the contract. OIOS is of the view that OICT needs to update the contract based on current service requirements, pending the detailed assessment of the viability of the Inspira system as recommended in Recommendation 1, to ensure that the required level of support is provided by the current vendor.

> **(2) OICT, in coordination with the Procurement Division of DOS, should consolidate the service requirements for Inspira and update the contract with the vendor as necessary to ensure that the required level of support is secured.**
>
> *OICT accepted recommendation 2 and stated that it will coordinate with Procurement Division of DOS for resolution.* Recommendation 2 remains open pending receipt of evidence that service requirements for the Inspira system have been consolidated and the contract has been updated to ensure the required level of support.

Ownership for processes in Inspira needs to be clarified

21. As a result of the reforms initiated by the Secretary-General with effect from 1 January 2019, the roles and responsibilities for several HR processes were modified and distributed between OHR of DMSPC and HRSD of DOS. This represented a significant shift from the roles and responsibilities hitherto performed by the erstwhile Department of Management and the Department of Field Support. Secretariat entities were delegated HR operations, OHR became responsible for strategy and compliance on HR matters across the Secretariat, whereas HRSD provides operational support to the said entities. This change necessitates clear vision and leadership as to how HR policies and processes will be implemented through Inspira going forward.

22.   Discussions with responsible managers and staff during the audit indicated that OHR and HRSD held divergent views as to who is responsible for providing training to Inspira users when new enhancements are released. Clarification is required as to which Inspira training areas should be handed over from OHR to HRSD as a result of the reform. Likewise, responsibility for implementing the Consultants module was unclear; OICT had no business owner to consult when addressing issues. Delineation between the processes owned by OHR and HRSD needs to be determined. The process and authority of granting and revoking access to Inspira needs to be revisited and possibly redesigned as the Organization moves towards a more decentralized decision-making environment.

23.   Without clear assignment of process ownership, control deficiencies in the system may not be identified and resolved in a timely manner, and the system may not effectively support the business processes and objectives for which it was established.

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(3) DMSPC and DOS should: (a) define and agree on process ownership and assign roles and responsibilities for Inspira-related processes; and (b) improve user awareness when introducing new enhancements.

DMSPC and DOS accepted recommendation 3. Recommendation 3 remains open pending receipt of evidence that: (i) process ownership is defined and roles and responsibilities are assigned for Inspira-related processes; and (ii) action has been taken to improve user awareness when introducing new enhancements.

Change management needs to be strengthened

24.   There was an Inspira change management governance plan that outlined the change management workflow approval process and related escalation procedures. Efforts of 10 days or more were approved by OHR and HRSD and efforts of more than 30 days (deemed a project) should be approved by the Inspira Steering Committee. Although low level changes were approved, approvals of project type changes (i.e., enhancements, changes, and fixes) were delayed and affected by the non-functioning of the Inspira Steering Committee. The committee had stopped meeting regularly since late 2018 to assess new functionality or changes/enhancements, as well as to discuss system effectiveness concerns that required funding, prioritization and general oversight of the system. These gaps caused the following deficiencies:

(a) There were outstanding Inspira change requests that had not been prioritized by OHR for implementation/resolution; some dated as far back as January 2018. An open items list showed that out of 58 change requests in 2018, 43 were still open with no action taken.

(b) A change request was issued and implemented in 2018 to remove staff member's access when they separated; however, the change was not implemented retroactively for staff already separated at the time of the fix.

(c) The lack of oversight also caused high levels of customization. As such, the system was no longer fully compliant with the standard PeopleSoft code. Hence, a significant amount of effort was required to patch, update or enhance the system.

(d) OICT used Bugszilla (an open source software development tool). As a result, the change control and release processes for Inspira were, in effect, more manual than automated.

(e) Users were not always informed or trained when an enhancement/functionality was released.

> **(4) OICT, in consultation with DMSPC and DOS, should: (a) strengthen change management activities and oversight mechanisms for system customization; and (b) implement a suitable change control management tool.**
>
> *OICT accepted recommendation 4 and stated that a change request management tool has been developed, which is under beta testing for internal processes and will be reviewed and tested by DMSPC and DOS prior to launch.* Recommendation 4 remains open pending receipt of evidence that: (i) change management activities have been strengthened and oversight mechanisms have been instituted for system customization; and (ii) a suitable change control management tool has been implemented.

B.   Data interfaces

System integration between the Inspira modules and Umoja needs to be strengthened

25.   Large enterprise-wide systems such as Inspira should be designed so that the integration between the modules are seamless and facilitate data validation/verification checks. Further, the Umoja system was a critical HR data source for the Inspira HR system and should benefit from a real-time automated interface.

26.   The interfaces of data to/from Umoja were largely manual procedures (daily and weekly files were uploaded manually and monitored manually by OICT staff members), which was time consuming. OICT stated that the manual interfaces with Umoja were intended as a temporary solution at the time of the Umoja implementation.

27.   The data integration procedures between the various modules of Inspira were at times lacking and prevented the required validation and verification checks across the various modules. This gap caused duplication of effort, and data inconsistencies. DOS/HRSD stated that data integration was a long-standing deficiency in the system and agreed that the linkages across the various modules should be developed and integrated with position management in Umoja.

28.   OIOS noted that interface and integration deficiencies were a pervasive problem throughout the system, which was exacerbated by the lack of data dictionary, missing and outdated business design documents and entity relationship diagrams. For example:

(a)   There were discrepancies in position numbers between Inspira and Umoja caused by the lack of an interface for validation and verification. Further, while entities needed to redeploy staff to meet operational needs, OHR stated that the discrepancies were also caused by constant movement and changes of position by the business areas (borrowing and loaning) which also caused misalignments that were difficult to track in the systems.

(b)   The organization structure in Inspira was not aligned with the Organization Management module in Umoja. This affected the accuracy of data. For example, for the 2017-2018 and 2018-2019 performance cycles, 1,056 and 353 staff were not assigned departments respectively, and 1,784 staff and 3,420 staff were not assigned a first reporting officer (FRO) and second reporting officer (SRO) respectively as at May 2019 for 2018-2019 performance cycle.

(c)   There was no automated updating of performance development plans.

> **(5) OICT, in collaboration with DMSPC and DOS, should explore the enhancement of data interfaces between Umoja and Inspira to improve system efficiency.**

C. System configuration and control settings

29.   The Inspira system should be configured to provide application controls that prevent the possibility of unauthorized, fraudulent or invalid processing of transactions and to facilitate efficiency and effectiveness. Also, any planned functionality that was not implemented for various reasons at the beginning of the project should be assessed to determine if there is still a need for the functionality.

30.   The audit showed that progress had been made with enhancing and improving the Inspira HR system with additional functionality and enhancements since the earlier rollout of the system. However, further controls and improvements were required for the system to provide the envisaged streamlined solution for enabling the Organization's efforts to recruit, retrain and develop staff. Some of the functionality was not working properly and some planned features were not yet implemented.

31.   OIOS reviewed configuration settings, validation controls over master and transactional data in the core Inspira modules (Talent Management (staffing/recruitment), Learning Management and Performance Management) and functionality enhancements for a sample of key modules.

32.   OIOS noted that: (a) several validation controls in the system were not enabled, implemented or configured; (b) the completeness, accuracy and authorization of master and transactional data were not adequately controlled in Inspira by design, user training, configuration, and monitoring mechanisms; and (c) manual interventions were required for many processes.

33.   In OIOS' opinion, there was a need to revisit planned functionality yet to be implemented to determine if such functionality is still required to meet the needs of the Organization, as part of a review of the viability of the current system. The following gaps were noted.

(1)   Functionality not working adequately

34.   The following functionalities were not working adequately as intended:

 (i)   Talent Management

35.   This module was primarily used for staffing/recruitment related processes. OIOS noted that when job openings (JO) were closed prematurely, the system functioned improperly with regard to accepting/rejecting candidates. The system returned all applicants including the selected candidates with 'Offer in progress' status to a reject bucket before the applicants were assigned an 'END' status.

(ii)   Offer Management

36.   This functionality was used to facilitate the appointment of a candidate. OIOS noted that the system did not prevent role conflicts to preserve the integrity of segregation of duties. OICT explained that there were compensating controls in Offer Management, as part of the offer generator process. The Offer

Endorser role which normally was held by the executive officer/senior HR authorized user, ensured the various steps in the offer process were validated/reviewed and endorsed (including grade/step) before the offer letter was generated. However, it was noted that the Offer Facilitator role was also performed by the Offer Endorser, thereby negating the compensatory control. The Offer Facilitator was also able to bypass the requirements for calculations of grade and step, and the requirement for medical clearance and reference checks by using the override function. OICT stated that the Inspira team was working on implementing an online security provisioning tool to be released in 2020.

(iii)   Consultant module

37.   The functionality was primarily used to support the end-to-end processes for engagement of consultants, including vacancy management, rostering, selection, pre-screening, workforce planning, position management, automated onboarding, and performance management. The data structure for the consultant functionality was not adequate, and consultant data records were not properly defined, classified or streamlined within job families to enable effective roster search. For example, for the job family telecommunications technology, there were 153 different categories associated with the job family, some of which were not telecommunications technology.

(iv)   Continuing appointment

38.   This functionality was used to manage the periodic continuing appointment (CA) exercise which occurs once every few years. As such, the functionality had only been used once since its implementation in 2014. OIOS' review of the module indicated that some critical functionalities were not working as required and rendered the functionality "not fit for purpose". There was a glitch in the algorithm for determining the staff members' eligibility for CA consideration. As a result, out of 1,006 eligible staff members in the professional category, the system showed 900 (89 per cent) as not eligible in the original status output for review. Of the 437 eligible staff members in the general service category, the system originally showed 314 (71 per cent) as not eligible. The manual review requested by the staff members identified that these staff members were, in fact, eligible and they were ultimately awarded a continuing appointment. This indicated that there were significant integrity issues with the functionality as eligible staff members could have been passed over for continuing appointments.

(v)   Performance Management

39.   The module facilitates tracking of employees' goals and performance throughout the cycle and the sharing of such information with authorized users across the organization. The following gaps were noted:

(a)   Staff members could assign themselves as their own FRO/SRO. At the time of review the performance management module did not prevent a staff member from selecting themselves as their own FRO or SRO. OIOS noted 53 staff members who have been their own FRO and SRO, 102 staff members who have been their own FRO, and 64 staff members who have been their own SRO. In addition, OIOS noted 164 instances where the FRO/SRO scenario occurred for completed ePAS cycles over the years. OICT resolved this matter during the time of audit, therefore no recommendation is issued on this condition.

(b)   The system allowed the creation of ePAS into the future. A staff member can create performance documents for future years indefinitely. OIOS noted ePAS documents for future cycle dates (i.e. 2025 – 2026, 2058 – 2059, 2100 – 2101 etc.). Further, some of these documents were in the 'Evaluation-in-progress' or 'Completed' status). OICT stated that OHR did not provide guidance on restrictions that needed to be configured on how far in the future a staff member can create and complete an ePAS.

(vi)   Learning Management

40.   Learning Management is an internet-based administrative tool that is used for administrative purposes as it allows learners to register for instructor-led and online courses, supports sharable content object reference model (SCORM) packages, and can track completion of mandatory learning. However, OIOS noted the following:

(a)   The learning management tool was not a learning content management system (LCMS) and it lacked the authoring tools that allow for the design, development and delivery of online learning that is effective and accessible to all learners. There was fragmentation in the delivery of LCMS activities outside Inspira. Therefore, there is a need for provision of LCMS that will consolidate the existing fragmentation.

(b)   A user could print a certificate without taking a course. For example, a candidate who did not take the Umoja Business Intelligence (BI) courses was able to print certificates.

(c)   Some SCORM were built on outdated technology. The Ethics and HIV courses (mandatory courses) were built on technology that was no longer supported by OICT (e.g., Flash) resulting in the system not generating completion certificates. Staff members had to send a request with screen shot as proof to the Inspira team in order to receive a certificate.

(d)   There were inconsistencies with regard to internet browser compatibility with the different courses offered in the Learning Management System (LMS). Different browsers were compatible with different courses. This was not optimal, and there was need for browser standardization across LMS.

(e)   Accessibility functionality for staff members with disabilities was not adequately considered in design: Accessibility functionality was not adequately considered in the design of LMS to ensure that the system can be effectively used by people with disabilities so that they can perceive, understand, navigate and interact with the system. Currently, Inspira addresses accessibility with a plug-in, which is neither cost effective nor sustainable.

41.   In OIOS' opinion, given the risk associated with the HR processes and related transactions, an assessment was required to determine whether appropriate controls should be configured in Inspira, or the gaps in these controls should be compensated with appropriate detective or monitoring controls supported by a coordinated oversight mechanism.

42.   OIOS also noted functionality originally envisioned or described in business design documents that had not yet been implemented, as described below.

(2)   Functionality not implemented

43.   The following functionalities of Inspira had not been implemented:

(i)   Reference verification

44.   Functionality to track reference verification timelines: The reference verification module had a functionality available to track the progress of reference verification requests from users across the United Nations common system. OIOS noted that this functionality had not been implemented as designed for tracking and monitoring performance against established service level agreements.

(ii)   Consultant module

(a)   Required data feeds from Umoja mentioned in the business design document for updating job data for Consultants was not implemented.

(b)   Verification checks for consultant recruitment: Functionality to check for sexual and criminal misconduct: ST/AI/2013/4 on consultants and individual contractors required some mandatory checks upon the recruitment of a consultant. This requirement was included in the scope and defined in the business design documents for the consultant's functionality. However, some of these verification checks were not implemented. For example: (a) mandatory separation break period required for separating/retiring staff members; and (b) non-reappointment of former staff member that were separated for abandonment of post, misconduct, dismissal, non-renewal or termination of appointment for unsatisfactory service, and/or resignation in lieu of disciplinary action.

(c)   Disposition for future selection and removal of consultant candidates: The business design documents for the consultant functionality indicated that the candidates short listed but not selected should be tagged with the disposition 'to be considered for future selection' without going through a full assessment. However, this functionality was not implemented. Further, the functionality to "remove" candidates from the roster based on their "inactivity" after a certain period of time was still to be automated.

(d)   Consultant module reporting capability: Reporting requirements were not available for the consultant functionality. It was expected that there would be integrated reporting and analytical capabilities to support all phases of the consultant recruitment process, including operational and statistical reports. This gap impacted the intended objective to analyze roster data for possible outreach and planning.

(iii)   Continuing Appointments

45.   The business requirements document for CA indicated that the system would calculate the level of the relevant post envelopes (number of posts available to be continuing). However, this was never implemented, and the process remains a manual process which could be exposed to the risk of error. Additionally, while the business requirements document specified the several reports that would be available for the CA exercises, there was no evidence that those reports had been produced and used.

(iv)   Learning Management

46.   LMS capture of in-person and external courses: In-person courses were not always updated or included in LMS and to have these added was a manual process. Further, external courses and certifications were not captured in LMS, which should be a part of a staff member's training record.

(v)   Workforce Planning

47.   Workforce planning is one of the four core areas of the Talent Management module. As stated in General Assembly resolution 61/244, strategic workforce planning serves to identify organizational needs concerning the recruitment of staff. Even though the workforce planning functionality was available in both Inspira and Umoja, it had not been assessed to determine whether it meets the strategic workforce planning needs of the Organization. DOS/HRSD acknowledged the need for implementing comprehensive workforce planning.

48.   OIOS is of the opinion that DMSPC, in coordination with DOS and OICT, needs to evaluate the desirability of fully implementing the functionalities in Inspira in the context of its assessment as to whether to invest in further enhancements to the system or replace it. Since this aspect is covered in recommendation 1 above, OIOS did not make a separate recommendation.

D.   Reporting

HR reporting functionality needs to be enhanced

49.   With the implementation of the Inspira system, it was expected that all HR management performance indicators and data would be available in a new online dashboard in the Inspira data warehouse and reporting module which was to provide powerful analysis and reporting tools. HR Insights was a reporting tool previously used by users for HR reporting, but this tool was discontinued for internal users in 2019. Instead, management dashboards were developed to provide specific reports to senior management on staffing, geographical diversity, e-performance, vacancy rates, recruitment and mandatory training.

50.   OIOS' review of the dashboards and the underlying data indicated that there was lack of alignment between the definition of data fields/headings and the field contents (e.g., the retirement date field contained end of contract/end of duty date information). Even though the specification document required the exclusion of staff in temporary posts from the data warehouse, the total number of staff (36,556) shown in the dashboard included 2,942 staff with appointments of a temporary nature. Also, there were 137 staff not assigned to any department and some staff were still assigned to departments that have ceased to exist.

51.   The gaps in the data integrity of HR data used by the management dashboards need to be addressed to ensure that the reports are reliable and useful.

> **(6) DMSPC, in cooperation with DOS, should address the data integrity issues relating to Inspira to enhance the reliability and usefulness of reports provided in the management dashboards.**
>
> *DMSPC accepted recommendation 6 and stated that it works with users of dashboards to help them identify data source errors and provide guidance on how business users should work to have missing or incorrect data fixed in both Inspira and Umoja. It further stated that OICT is working with DOS and the Business Transformation and Accountability Division of DMSPC to develop management reports via data cubes and the United Nations BI certified platform.* Recommendation 6 remains open pending receipt of evidence of improvement in data integrity as well as reliability and usefulness of HR reports provided in the management dashboards.

E.   Production support

Data security of the system and related infrastructure need to be strengthened

52.   To preserve the security, integrity and monitoring of critical transactions and events, it is best practice to implement procedures for the periodic vulnerability assessment and safekeeping of critical activity and event logs recording of the critical activity.

53.   OIOS noted that critical activities (i.e., user activities, exceptions, faults, information security events, production database objects, sensitive packages, procedures and functions) that required logging and monitoring had not been defined. OICT stated that it currently logs basic user activities and other fault exceptions and that logging of additional user actions will cause negative effect on performance. Additionally:

[REDACTED]

[REDACTED]

(c)   Incident response timelines were not defined and agreed upon with the system vendor.

(d)   System security reports were not run and reviewed. It is a good practice to regularly run system security reports (i.e., PeopleSoft delivered Database Audit Report and System Audit report) for identifying potential data integrity issues with the system. OIOS noted inconsistencies between the system tables, the PeopleSoft tools and the application tables. There were 329 exceptions noted on the SYSAUDIT report, and there were 7,461 views and 8,381 SQL tables defined in the database but not found in the Application Designer.

[REDACTED]

[REDACTED]

(g)   There were inadequate user deprovisioning procedures and a need to streamline roles in Inspira.

54.   Inadequate policies and procedures and the absence of a risk assessment to determine critical activities that required logging may expose the Organization to the risks of cybersecurity attacks and may prevent the timely response to security incidents and loss of sensitive data.

> **(7) OICT should define and communicate the requirements for third-party data access, data encryption, masking of sensitive data, and incident response requirements.**
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> *OICT accepted recommendation 7 and stated that data encryption and masking of sensitive data are to be implemented subject to funding availability.* Recommendation 7 remains open pending receipt of evidence that third-party data access, data encryption, masking of sensitive data, and incident response requirements have been defined and communicated.

Business continuity and disaster recovery processes need to be strengthened

55.   The ICT disaster recovery plan should be developed in conjunction with the business continuity plan (BCP) and provide recovery strategies to meet the objectives of BCP.

56.   The business continuity objectives and related requirements for Inspira had not been defined to ensure system availability during a disaster. Disaster recovery tests were conducted in December 2018, after the previous exercise which had been conducted in 2015. Further, service availability requirements (i.e., recovery time objective and recovery point objectives) had not been defined and provided to the vendor. This situation could lead to an inadequate response in the event of a disaster.

> **(8) OICT, in collaboration with DOS, should: (a) conduct a business impact assessment of Inspira-related activities and document a business continuity plan; and (b) conduct periodic tests to ensure system availability.**
>
> *OICT accepted recommendation 8 and stated that the latest disaster recovery test was conducted in December 2018 and the next one is scheduled for December 2019. Periodic tests will be continued.* OICT did not provide evidence of the disaster recovery test conducted in December 2018. Recommendation 8 remains open pending receipt of evidence of: (i) the business impact assessment of Inspira-related activities and documentation of a BCP; and (ii) results of the latest disaster recovery test.

Operational performance monitoring mechanisms need to be defined

57.   The use of ICT resources and assets should be monitored, and projections made for future capacity requirements to ensure the required system performance.

58.   OICT did not define requirements and institute procedures for performance and capacity monitoring of the Inspira application, related infrastructure and operations (i.e., server capacity and performance, data storage and the resolution of identified events/issues).

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60.   No document/storage management and retention procedures had been defined for the Inspira system. It is essential to optimize document handling, improve data accessibility, streamline file searches and prevent performance issues. For instance: (a) the system allowed the uploading of files multiple times across all modules without consideration to system performance; (b) access request forms were not automated and work-flowed to prevent overburdening the system with documents; and (c) there was a lack of ongoing data monitoring and cleanup of records from previous years that were not completed/ never revisited for completion but still remained in the system. This also included test data within the production system.

> **(9) OICT, in collaboration with DMSPC and DOS, should establish and implement record/document management procedures for Inspira data in accordance with existing policies on data classification, sensitivity and handling.**
>
> *OICT accepted recommendation 9 and stated that multiple discussions have taken place on this topic in the Inspira Steering Committee.* Recommendation 9 remains open pending receipt of evidence of implementation of record/document management procedures for Inspira data.

IV.   ACKNOWLEDGEMENT

61.   OIOS wishes to express its appreciation to the management and staff of DMSPC, DOS, and OICT for the assistance and cooperation extended to the auditors during this assignment.

(*Signed*) Eleanor T. Burns
Director, Internal Audit Division
Office of Internal Oversight Services

STATUS OF AUDIT RECOMMENDATIONS

Audit of the Inspira Human Resources System

Rec. no.	Recommendation	Critical[1]/ Important[2]	C/ O[3]	Actions needed to close recommendation	Implementation date[4]
1	OICT, in coordination with DMSPC and DOS, should: (a) perform an assessment justified by a quantified business case concerning the viability of the Inspira system and determine whether to invest in further enhancements to the system or replace it based on current and future business requirements provided by DMSPC and DOS; and (b) update the actual cost of ownership on a regular basis.	Important	O	Receipt of evidence of: (i) an assessment on the viability of the Inspira system; and (ii) the updating of the total cost of ownership.	31 March 2021
2	OICT, in coordination with the Procurement Division of DOS, should consolidate the service requirements for Inspira and update the contract with the vendor as necessary to ensure that the required level of support is secured.	Important	O	Receipt of evidence that service requirements for the Inspira system have been consolidated and the contract has been updated to ensure the required level of support.	30 September 2021
3	DMSPC and DOS should: (a) define and agree on process ownership and assign roles and responsibilities for Inspira-related processes; and (b) improve user awareness when introducing new enhancements.	Important	O	Receipt of evidence that: (i) process ownership is defined and roles and responsibilities are assigned for Inspira-related processes; and (ii) action has been taken to improve user awareness when introducing new enhancements.	30 June 2020
4	OICT, in consultation with DMSPC and DOS, should: (a) strengthen change management activities and oversight mechanisms for system customization; and (b) implement a suitable change control management tool.	Important	O	Receipt of evidence that: (i) change management activities have been strengthened and oversight mechanisms have been instituted for system customization; and (ii) a suitable change control management tool has been implemented.	30 September 2020
5	OICT, in collaboration with DMSPC and DOS, should explore the enhancement of data interfaces between Umoja and Inspira to improve system efficiency.	Important	O	Receipt of evidence that data interfaces between Umoja and Inspira is enhanced to improve system efficiency.	31 December 2020
6	DMSPC, in cooperation with DOS, should address the data integrity issues relating to Inspira to enhance the reliability	Important	O	Receipt of evidence that data integrity issues are addressed to enhance the reliability and	31 December 2020

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[1] Critical recommendations address critical and/or pervasive deficiencies in governance, risk management or control processes, such that reasonable assurance cannot be provided with regard to the achievement of control and/or business objectives under review.
[2] Important recommendations address important (but not critical or pervasive) deficiencies in governance, risk management or control processes, such that reasonable assurance may be at risk regarding the achievement of control and/or business objectives under review.
[3] C = closed, O = open
[4] Date provided by DMSPC, DOS, and OICT in response to recommendations.

STATUS OF AUDIT RECOMMENDATIONS

Audit of the Inspira Human Resources System

Rec. no.	Recommendation	Critical[1]/ Important[2]	C/ O[3]	Actions needed to close recommendation	Implementation date[4]
	and usefulness of reports provided in the management dashboards.			usefulness of HR reports provided in the management dashboards.	
7	OICT should define and communicate the requirements for third-party data access, data encryption, masking of sensitive data, and incident response requirements	Important	O	Receipt of evidence that third-party data access, data encryption, masking of sensitive data, and incident response requirements are defined and communicated.	31 December 2020
8	OICT, in collaboration with DOS, should: (a) conduct a business impact assessment of Inspira-related activities and document a business continuity plan; and (b) conduct periodic tests to ensure system availability.	Important	O	Receipt of evidence of: (i) the business impact assessment of Inspira-related activities and the documentation of a business continuity plan; and (ii) the results from the latest disaster recovery test.	31 December 2019
9	OICT, in collaboration with DMSPC and DOS, should establish and implement record/document management procedures for Inspira data in accordance with existing policies on data classification, sensitivity and handling.	Important	O	Receipt of evidence of the implementation of record/document management procedures for Inspira data.	31 March 2021

APPENDIX I
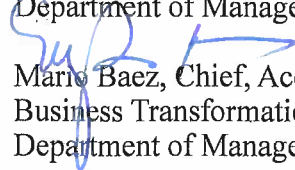

Management Response

United Nations ⊕ Nations Unies

TO: Mr. Gurpur Kumar, Deputy Director   DATE: 3 December 2019
A: Internal Audit Division
     Office of Internal Oversight Services

THROUGH: Olga de la Piedra, Director
S/C DE: Office of the Under-Secretary-General
          Department of Management Strategy, Policy and Compliance

FROM: Mario Baez, Chief, Accountability Service
DE: Business Transformation and Accountability Division
       Department of Management Strategy, Policy and Compliance

SUBJECT: **Draft report on an audit of the Inspira Human Resources System (Assignment No.**
OBJET: **AT2018/517/01)**

1.   We refer to your memorandum dated 29 October 2019 regarding the above-mentioned draft report. We are hereby providing you below and in Appendix I the consolidated comments from the Office of Human Resources (OHR) and Business Transformation and Accountability Division (BTAD) in the Department of Management Strategy, Policy and Compliance (DMSPC); the Department of Operational Support (DOS); and the Office of Information and Communications Technology (OICT).

Office of Human Resources

Paragraph 35(b)

The disposition to ensure that a JO was subject to review by a review body was not always mandatory. There was no consistency as to when a JO was subject to review by one of the review bodies. OIOS was unable to ascertain why some JOs had the disposition 'review body' populated whereas others did not, considering that the posts were of a similar type and duration, which should be subject to review by one of the review bodies. Examples of inconsistencies in job openings subject to CRB review are Jos 88760, 87045, 83667, 91058, 90108, 87145, 87166, 77631, 91185 86450, 88312, 89027.

2.   There is a factual error in the above paragraph which needs to be addressed. The job openings cited in the draft report by OIOS as evidence of non-compliance are explicitly excluded from ST/AI/2010/3 (entry level general service and related categories) or are temporary or recruit-from-roster job openings, which do not require review by Central Review Board. Here are the details of those advertisements indicated by OIOS:

88760 - TJO – UNMISS – P4
87045 – RFR - MC -BOGOTA – FS6
83667 – TJO – MONUSCO – P3
91058 – TJO – UNODC – P4
90108 – TJO – UNODC – P3
87145 – ESCAP — G4
87166 – TJO –UNEP – P3
77631 – TJO – MINUSCA – P3
91185 – TJO – MONUSCO – P5
86450 – RFR – MINUSCMA – FS4
88312 – TJO – OCSS – TC3
89027 – TJO – DFS – P3

Paragraph 36 (a)

Design gaps that allow HR policy to be overridden: The OM functionality was also used for appointments and selections that did not fall under the scope of ST/AI/2010/3 (staff selection system), which may not be advertised in Inspira (i.e., Entry level General Service, National P Officer, special envoys to the Secretary-General, Military and for temporary appointments of less than 3 months). However, OIOS noted that there were some appointment types (1507 records out of 6283) that were classified as non-Inspira recruitments, some of which did not meet the criteria established by OHR for these types of appointments. However, OIOS noted that these appointments were made via OM. This was a design gap within Inspira, as the functionality could be used to bypass the Organization's recruitment policies and procedures. Additional controls are needed to prevent possible abuse.

3.   There is a factual inaccuracy in the above paragraph which needs to be corrected. There is no policy restriction that would prevent the use of the offer management module in relation to appointments that are not made as a result of ST/AI/2010/3, and that, in fact, using Inspira for onboarding is a recommended practice for the global Secretariat for recordkeeping and data analysis. No policy is being overridden or bypassed in using the offer management module for processing any offer in the Secretariat which are not administered under ST/AI/2010/3. OIOS needs to review its definition of "non-compliance" because using a tool to better administer processes even if there is no policy requirement for it is fully policy compliant.

Paragraph 36(c)

OM was also used to determine the grade and steps for appointments. However, the system was designed to allow for overrides without compensatory controls to prevent errors or unauthorized grade/step

determinations. For instance, in the case of existing staff members, the current step and grade was not always captured in the system, even though the algorithm required this data for calculating the next grade and step. However, the Offer Facilitator was able to bypass the requirements by using the override function that allowed the manual calculations of grade and step which was subject to error and potential abuse. Further, the requirement for medical clearance and reference checks could also be bypassed and there was no workflow in OM to require another level of approval if the Offer Facilitator elects to bypass the reference check process.

4.   It needs to be noted that the example given in the above paragraph is irrelevant since staff salary upon promotion is determined according to staff rule 3.4, and they do not go through the offer management module for determination of step.

Paragraph 36 (e)

No verification check ensuring that candidates tagged for further verification were checked: Pre-screened candidates tagged for further assessment were given the disposition of 'HR assessment' in the system. However, it was noted that there were no automated verification checks ensuring that all such candidates were subjected to the HR assessment. Without such enforcement, the recruitment of the candidate can be concluded without the required assessment.

5.   For the above paragraph, it needs to be noted that HR assessment takes place during the recruitment process and completed shortly after the posting period is over to ensure that candidates meet the eligibility requirement for applying for the job opening, and the verification takes place at that time. This process bears no relevance to the offer management process.

Paragraph 47

Workforce planning is one of the four core areas of the Talent Management module. As stated in General Assembly resolution 61/244, strategic workforce planning serves to identify organizational needs concerning the recruitment of staff. ~~Even though the workforce planning functionality was available in both Inspira and Umoja, it was yet to be implemented.~~ DOS/HRSD acknowledged the need for implementing comprehensive workforce planning.

6.   The above paragraph is referring to functionalities that have not been implemented and would need to be assessed in the interest of strategic workforce planning. In this regard, it is suggested to delete the sentence "even though workforce planning functionality was available in both Inspira and Umoja, it was yet to be

implemented" since it is implies that Inspira and Umoja functionalities fully meet strategic workforce planning needs which is yet to be assessed.

<u>Office of Information and Communications Technology (OICT)</u>

Paragraph 40 (a)

The learning management tool is not a learning content management system (LCMS) and it lacks the required authoring tools that will allow for the design, development and delivery of online learning that is effective and accessible to all learners. This gap has resulted in proliferation of LCMS activities outside Inspira. Therefore, there is a need for the provision of a LCMS that will consolidate the existing fragmentation.

7.   For the above paragraph, OICT disagrees that a learning management system (LMS) should have all the features of content management. Course authoring tool is necessary when one has to create contents on the fly. Generally, Enterprises don't do that, because courses are prepared, reviewed, approved before publishing for use by staff. But if required, one can plug in content authoring tool (there are plenty available). For example, that is what Moodle does, they use plug-ins.

8.   OICT also disagrees that the lack of authoring feature causes the proliferation of LMS activities outside of Inspira. Indeed, the Inspira mandates have never included the learning of non-staff of the Secretariat, neither did its business owner (former OHRM) have the mandate to train non-staff. The other LMS systems are programmatic oriented and since their courses don't necessarily target the Secretariat staff, their requirements are different.

9.   Thank you for giving us the opportunity to provide comments on the draft report.

Management Response

Audit of the Inspira Human Resources System

Rec. no.	Recommendation	Critical[1]/ Important[2]	Accepted? (Yes/No)	Title of responsible individual	Target date	Client comments
1	OICT in coordination with DMSPC and DOS should: (a) perform an assessment justified by a quantified business case concerning the viability of the Inspira system, and determine whether to invest in further enhancements to the system or replace it based on current and future business requirements provided by DMSPC and DOS; and (b) update the actual cost of ownership on a regular basis.	Important	Yes	Chief, HR-IT	Q1 2021	It is proposed to revise the text of the recommendation as indicated. OICT will coordinate with DMSPC and DOS to implement this recommendation. For 1(b) it should be noted that he total cost of ownership is updated on a quarterly basis.
2	OICT, in coordination with the Procurement Division of DOS, should consolidate the service requirements for Inspira and update the contract with the vendor as necessary to ensure that the required level of support is secured.	Important	Yes	Chief HR-IT	Q3 2021	OICT will co-ordinate with Procurement Division of DOS for resolution.
3	DMSPC and DOS should define and agree on process ownership and assign roles and responsibilities for Inspira-related processes and improve user awareness when introducing new enhancements.	Important	Yes	ASG OHR, DMSPC ASG OSO, DOS	Q2 2020	It is proposed to split the prior recommendation 3 into two separate recommendations 3 and 4 and reformulate it with DMSPC and DOS taking the responsibility for implementing recommendation 3 and OICT taking the lead for implementing recommendation 4 (in consultation with DMSPC and DOS).

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[1] Critical recommendations address critical and/or pervasive deficiencies in governance, risk management or control processes, such that reasonable assurance cannot be provided with regard to the achievement of control and/or business objectives under review.

[2] Important recommendations address important (but not critical or pervasive) deficiencies in governance, risk management or control processes, such that reasonable assurance may be at risk regarding the achievement of control and/or business objectives under review.

Management Response

Audit of the Inspira Human Resources System

Rec. no.	Recommendation	Critical[1]/ Important[2]	Accepted? (Yes/No)	Title of responsible individual	Target date	Client comments
4	OICT in consultation with DMSPC and DOS should strengthen change request management and oversight mechanisms for system customization and implement a suitable change request management tool.		Yes	Chief HR-IT	Q3 2020	OICT has developed a change request management tool. This is under beta testing for internal processes and will be reviewed and tested by DMSPC and DOS prior to launch.
5	OICT, in collaboration with DMSPC and DOS, should explore the enhancement of data interfaces between Umoja and Inspira to improve system efficiency.	Important	Yes	Chief HR-IT	Q4 2020	Inspira supports real time integration. Inspira is integrated with UN ESB (Enterprise Service Bus) with other enterprise applications as requested and authorized by the business users. OICT is currently exploring and working the Umoja project team to deliver real time data interfaces with Umoja. There already exists asynchronous integration of data between Umoja and Inspira.
6	DMSPC in cooperation with DOS should address the data integrity issues relating to Inspira to enhance the reliability and usefulness of reports provided in the management dashboards.	Important	Yes	Management and Programme Analyst, Analytics and Project Management, BTA	Q4 2020	It is proposed to revise the recommendation text as indicated. **BTA comment** From the detail of the data integrity issues in the audit report (see paragraphs 49-51), it appears that the problems described arise from Umoja data, not Inspira data. That said, on a day to day basis, DMSPC works with users of dashboards to help them identify data source errors and provide guidance on how business users should work to have missing or incorrect data fixed in both Inspira and Umoja. On a continuous basis BTAD reviews, verifies and requests bug and issues fixes within the dashboard structure from the technical team in OICT (such as the data field

Management Response

Audit of the Inspira Human Resources System

Rec. no.	Recommendation	Critical[1]/ Important[2]	Accepted? (Yes/No)	Title of responsible individual	Target date	Client comments
						definition issued mentioned in the audit report).
						Also, from a strategic perspective of the issue of data integrity, it should be noted that BTAD/DMSPC is leading the UN BI project, an important deliverable of which is system-wide certified data and reports that will significantly improve the integrity and quantity of data produced from many sources. This includes Umoja and Inspira, both of which feed the management dashboards.
						OICT comment:
						OICT is working closely with DOS and the BTA/DMSPC team to develop management reports in OICT data cube and UN Business Intelligence (BI) certified platform respectively. Discussions, analysis and prototypes already in various advanced stages. The UN BI project is led by DMSPC.
7	OICT should: (a) define the critical events relating to Inspira for logging and periodic monitoring of these events; (b) define and communicate the requirements for third-party data access, data encryption, masking of sensitive data, and incident response requirements; and (c) plan and conduct periodic vulnerability assessments.	Important	a) No b) Yes c) No	Chief HR-IT	Q4 2020	It is proposed to reformulate the recommendation to assign the ownership fully to OICT. a) Currently Inspira logs basic user activities and other fault exceptions. Logging of additional user actions will cause negative effect on performance. b) Data encryption and masking of sensitive data can be implemented subject to funding approval of software licenses required. Third-party data access and incident response requirement to be reviewed and discussed with system vendor along with procurement division and OICT Information Security. c) Vulnerability assessment by UN security team is already an existing practice. Evidence will be provided by OICT to

Management Response

Audit of the Inspira Human Resources System

Rec. no.	Recommendation	Critical[1]/ Important[2]	Accepted? (Yes/No)	Title of responsible individual	Target date	Client comments
						OIOS.
8	OICT, should: (a) conduct a business impact assessment of Inspira-related activities and document a business continuity plan; and (b) conduct periodic tests to ensure system availability.	Important	Yes	Chief HR-IT	Q4 2019	It is proposed to reformulate the recommendation and assign OICT as the lead. The last disaster recovery test was conducted in December 2018. The next one is scheduled for December 2019. Periodic tests will be continued.
9	OICT, in collaboration with DMSPC and DOS should establish and implement record/document management procedures for Inspira data in accordance with existing policies on data classification, sensitivity and handling.	Important	Yes	Chief HR-IT	Q1 2021	Multiple discussions have taken place on this topic in the Inspira Steering committee.