OIOS

Office of Internal Oversight Services

INTERNAL AUDIT DIVISION

REPORT 2023/054

Audit of business intelligence and data warehouses at the Pension Administration of the United Nations Joint Staff Pension Fund

The Pension Administration needs to strengthen its data governance and project management capacity to realize the benefits of its business intelligence initiative

30 October 2023
Assignment No. AT2023-800-01

Audit of business intelligence and data warehouses at the Pension Administration of the United Nations Joint Staff Pension Fund

EXECUTIVE SUMMARY

The Office of Internal Oversight Services (OIOS) conducted an audit of business intelligence (BI) and data warehouses at the Pension Administration of the United Nations Joint Staff Pension Fund (UNJSPF). The objective of the audit was to assess the adequacy and effectiveness of the governance, risk management and control processes in ensuring effective implementation of BI and data warehouses in the Pension Administration. The audit covered the period from January 2020 to May 2023. Based on an activity-level risk assessment, the audit covered risk areas relating to: (a) strategy, data governance and management; (b) project management capacity; and (c) information and communications technology (ICT) support systems.

The audit showed that the Pension Administration needs to strengthen its data governance and project management capacity to realize the benefits of its BI initiative.

OIOS made nine recommendations. To address the issues identified in the audit, the Pension Administration needed to:

- Document the use-case scenarios and detailed requirements of the management dashboard and expedite its implementation, and enhance the usefulness of its monthly performance reports by leveraging BI tools;
- Refine the key performance indicator and target for its strategic objective of becoming a data-driven organization by considering the other metrics already available in its existing BI reports;
- Assess the reasons for the low utilization of existing BI dashboards and take appropriate action to increase their use, and provide periodic training on existing and new dashboards, targeting specific user groups including senior managers and Staff Pension Committees;
- Review the current organization structure, roles and responsibilities of the Data Analysis Unit and the Enterprise Applications Section's BI Technical Team to ensure alignment and provide the required capacity to deliver the expected results;
- Document reporting use cases and data visualization requirements for the Customer Relationship Management (CRM) system, and an integration plan for CRM with the BI platform defining current and future data fields, data sources, data migration and clean-up requirements;
- Reassess the need for the disclaimer in its BI reports and take appropriate action to improve their reliability;
- Establish a centralized function to assist user groups to determine detailed report specifications before starting development, harmonize the BI user requirements to create adequate underlying data models and data sets, and determine standard field names and formulas to ensure clarity and standardization across dashboards and reports;
- ███
- ███

The Pension Administration accepted the recommendations and has initiated action to implement them. Actions required to close the open recommendations are indicated in Annex I.

CONTENTS

Audit of business intelligence and data warehouses at the Pension Administration of the United Nations Joint Staff Pension Fund

I.   BACKGROUND

1.   The Office of Internal Oversight Services (OIOS) conducted an audit of business intelligence (BI) and data warehouses at the Pension Administration of the United Nations Joint Staff Pension Fund (UNJSPF).

2.   The Pension Administration was established in 1949 by the General Assembly to provide retirement benefits and social security protection for the staff of the United Nations and other organizations admitted to the membership of the Fund. UNJSPF currently has a membership of 25 organizations and is administered by the United Nations Joint Staff Pension Board.

3.   BI is an important system in the Pension Administration with the potential to transform raw data into meaningful insights and actionable information. An important aspect of BI is the data warehouse which is a central repository of data that can be optimized for reporting and analysis. The Pension Administration first launched its BI and data warehouse platform in 2017 and has been deploying various dashboards and reports for use by staff, managers and Staff Pension Committees (SPC) of member organizations.

4.   The Information Management Systems Service (IMSS) of Pension Administration is responsible for development and maintenance of the BI dashboards. IMSS outsourced the hosting of BI infrastructure and some part of development of BI dashboards to a United Nations agency ("Agency A"). The cost of current contractual agreements with Agency A is shown in Table 1.

Table 1: Cost of BI services outsourced to Agency A

Service	Recurring Annual Cost ($)	One Time Cost ($)
BI support service (December 2020)		279,650
Application - BI support services (March 2021)	364,092	
Project agreement - BI development – customer master data (December 2021)		638,650
Project agreement - BI development – Key Performance Indicators (KPIs) (December 2021)		1,277,600
Infrastructure - BI hosting services (March 2021)	393,276	
Data governance assessment		99,670
Total	**757,368**	**2,295,570**

5.   Additionally, in accordance with its 2020-2023 strategy, the Fund established a Business Transformation and Accountability Unit and Data Analysis Unit to enhance its capacity to become a data-driven organization, increase transparency and accountability, and enable management and other decision-makers to make informed, data-driven decisions.

6.   Comments provided by the Pension Administration are incorporated in italics.

II.   AUDIT OBJECTIVE, SCOPE AND METHODOLOGY

7.   The objective of the audit was to assess the adequacy and effectiveness of the governance, risk management and control processes in ensuring effective implementation of BI and data warehouses in the Pension Administration of UNJSPF.

8.   This audit was included in the 2023 risk-based work plan of OIOS due to the risk that potential weaknesses in management of BI and data warehouses in the Pension Administration could adversely affect the achievement of their intended objectives.

9.   OIOS conducted this audit from February to May 2023. The audit covered the period from January 2020 to May 2023. Based on an activity-level risk assessment, the audit covered risk areas relating to: (a) strategy, data governance and management; (b) project management capacity; and (c) information and communications technology (ICT) support systems.

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

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

III.   AUDIT RESULTS

Delayed implementation of KPIs and Management Dashboard

12.   The General Assembly in its resolution 77/258 requested the Pension Board to further refine and support the effective implementation of KPIs and workload drivers of the Pension Administration in relation to their budget requests. Also, the Board of Auditors in their report A/77/5/Add.16 noted that the Pension Administration needed to implement a dashboard incorporating key results and KPIs using a BI platform to review and monitor performance and assist in taking corrective action, as required.

13.   OIOS noted the following:

(a)   The Pension Administration was yet to document the requirements of the Management Dashboard for BI purposes (i.e., use-case scenarios and report specifications). The Fund stated that it was awaiting the Pension Board's approval of the "Fund's Strategy for 2024 and beyond" along with KPIs before starting the project.

(b)   In July 2022, the Pension Administration conducted a KPI gap analysis and identified potential KPIs that could be implemented. At the time of the audit, these new KPIs had not been operationalized for compilation of monthly performance reports.

(c)   Monthly performance reports were prepared manually (using Excel) and presented in a static format (PDF) to senior management. Most of the data was available in the existing BI platform which could be used to present a granular view with drill-down capability for more information.

14.   The Pension Administration needs to address these shortcomings to make more effective use of its data for informed decision-making and reporting to its stakeholders.

(1)	**The Pension Administration should: (a) document the use-case scenarios and detailed requirements of the Management Dashboard and expedite its implementation; and (b) enhance the usefulness of its monthly performance reports by leveraging Business Intelligence tools.**

> *The Pension Administration accepted recommendation 1 and stated that: (a) it will document the requirements and implement a Management Dashboard; and (b) the delivery mechanisms for existing manual monthly performance reports will be revised in line with the development of the Management Dashboard.*

Need to make more effective use of existing BI reports

15.   It is best practice to employ KPIs that are both relevant and meaningful, accompanied by appropriate targets to achieve success in realizing strategic objectives. BI and data warehouses serve as a modality for the Pension Administration to achieve its strategic objectives and transform it into a data-driven entity.

16.   The Pension Administration had established its strategic objectives for the years 2024 and beyond, building upon the previous 2021-2023 strategy. One of the key strategic objectives is to transform the Pension Administration into a data-driven organization. To monitor the progress in achieving this objective, the Pension Administration introduced a KPI called "Number of critical data elements managed in BI dashboards and reports". The target for this KPI is "to implement two or more critical data elements annually in the BI dashboards and reports". OIOS is of the view that this KPI is at a high level, and there is need to provide clarity on what is being measured regarding the Pension Administration's progress in becoming a data-driven organization. For instance, there were other measures (i.e., reports) already in use that the Pension Administration could consider as KPIs for measuring progress in achieving its strategic objective, as follows:

(a)   The progress in implementing the Data Governance Project, which is tracked by the Pension Administration's Project Management Office.

(b)   The data quality dashboard provided metrics to measure the level of data quality. Best practices suggest the use of the data quality score as a KPI because it assesses the accuracy, completeness, and reliability of data for decision making.

(c)   The interface dashboards presented the number of interface errors. Insights from these reports could be used as a KPI to measure data integration efficiencies in the Pension Administration.

17.   Defining more specific metrics may enable the Pension Administration to better assess its performance and foster a culture of data-driven decision-making, thereby enabling it to achieve its strategic objective.

> **(2)   The Pension Administration should refine the key performance indicator and target for its strategic objective of becoming a data-driven organization by considering the other metrics already available in its existing Business Intelligence reports.**
>
> *The Pension Administration accepted recommendation 2 and stated that as it gradually refines its data strategy as part of becoming a data-driven organization, relevant KPIs and targets will be developed or enhanced. Performance indicators and targets will be enhanced based on the progress achieved in the implementation of data strategy and other available information and metrics.*

Previous recommendations on data governance and quality were yet to be fully implemented

18.   The effectiveness of BI and data warehouse systems is directly linked to data governance, data management practices, and data quality within an organization. These components form the foundation for accurate and reliable data analysis and decision-making. In 2020, an OIOS audit of data governance, data

management and reporting in the Pension Administration (Report 2020/020 of 8 September 2020) made a number of recommendations. In December 2021, the Pension Administration signed a project agreement with Agency A at a cost of $99,670 to support the implementation of some of the actions required by these recommendations. However, the expected outcomes of the outsourcing arrangement were yet to be fully realized, even though the project agreement was closed. The Pension Administration still needed to: (a) define and implement a data governance and management framework; (b) document an enterprise-wide inventory of data assets; (c) clearly assign roles and responsibilities over data ownership and stewardship; and (d) undertake a comprehensive risk assessment of data privacy and implement privacy management standards in business processes and information systems.

19.   Delays in implementing these actions have an impact on the progress achieved by the BI and data warehouse initiatives. To succeed in becoming a data-driven organization, it is essential for the Pension Administration to prioritize and expedite the implementation of the pending actions. OIOS continues to monitor the implementation of recommendations made in its Report 2020/020.

<u>Low utilization of existing dashboards and reports needs to be addressed</u>

20.   The Pension Administration had dedicated substantial effort and resources for development and enhancement of BI dashboards and related BI reports over several years to provide managers and senior management with a decision-support system concerning budget allocation, workforce management and strategic priorities.

21.   Despite the significant investment made in BI development, OIOS' review indicated low utilization of the existing BI dashboards and related reports, as explained below.

(a)   <u>Use of dashboards by SPCs</u>

22.   In August 2022, the Pension Administration introduced a BI dashboard that allowed member organizations to monitor unreconciled contribution discrepancies and assisted them in prioritizing the resolution of contribution discrepancies by utilizing the dashboard's key age range feature. As of 17 May 2023, the unreconciled discrepancies pertained to 13,201 participants across various member organizations. OIOS' review covering a three-month period from 26 January to 26 April 2023 showed that only 2 users from SPCs (out of 151) had accessed these reports. Likewise, only 11 out of 151 SPC users had accessed the SPC-related BI dashboards during the three-month period. Further, the 'Periodic Benefits report' and the 'Human Resources Interface report' were accessed only once during this period.

(b)   <u>Use of dashboards by senior management</u>

23.   The existing BI report portfolio included several high-level dashboards and reports that could be useful to managers for making decisions on the Pension Administration's budget, workforce, and determination of priorities. During the three-month period from 26 January to 26 April 2023, the Operations Service frequently accessed the BI dashboards. However, there were no records to show that these dashboards were accessed by the Pension Administration's senior management. The Pension Administration stated that while its senior managers may not access BI directly, they reviewed information or data extracted by others. OIOS is of the view that a cultural shift towards self-analytics is necessary for the Pension Administration to transform into a data-driven organization.

(3)   The Pension Administration should: (a) assess the reasons for the low utilization of existing Business Intelligence dashboards and take appropriate action to increase their use; and (b) provide periodic training on existing and new dashboards, targeting specific user groups including senior managers and Staff Pension Committees.

The Pension Administration accepted recommendation 3 and stated that it will: review the utilization of existing BI dashboards and develop a plan to ensure these are used as expected; and provide training to BI users, including senior managers and Staff Pension Committees, as new dashboards are developed. In addition, the BI team will provide data and dashboard training for common BI activities and concepts.

<u>Inadequate use of resources for centralized data collection, analysis and reporting</u>

24.   Transparency and accountability are essential to ensure that budget resources are utilized for the intended purposes, leading to the achievement of expected outcomes.

25.   The BI Technical Team of the Fund's Enterprise Applications Section (EAS-BI Team) is responsible for delivering projects related to new BI dashboards and reports, and for making changes to existing reports. The EAS-BI Team consisted of one P-4 (borrowed from elsewhere) and one P-3 dedicated to BI development, supported by external business analysts and developers from Agency A.

26.   As part of its 2020-2023 strategy, the Pension Administration decided to create an organizational unit dedicated to data analytics to implement its strategic objective of improving data analysis and reporting. Accordingly, the Data Analysis Unit (DAU) was formed with 1 P-5, 2 P-4 and 2 P-3 posts.   In its budget estimates for 2022 (JSPB/69/R.21), the Pension Administration defined the role of DAU in transforming the Fund into a data-driven organization by stating that DAU was "responsible for the Fund's centralized data collection, analysis, and reporting structure. It acts as the Fund's Centre of Excellence on every data related matter… The Unit focuses on enhancing data accuracy and consistency and facilitating data collection, analysis, and communication. The Unit ensures that the Fund identifies important trends, makes data-driven decisions, and provides vital analytics".

27.   OIOS noted that the current responsibilities of DAU did not align with the responsibilities originally envisioned. For instance, DAU did not perform the following activities:

(a)   Consolidation and harmonization of BI reporting requirements coming from various business units to avoid overlaps and to optimize the development efforts of the EAS-BI Team;

(b)   Determining the standards for data elements (such as workdays, calendar days, and methodology to calculate the workdays across the reports, non-standard names for the same data fields such as user ID, unique ID and Pension ID);

(c)   Producing centralized datasets or establishing a data warehouse to support consistent and clear reporting based on correctly interpreted data; and

(d)   Addressing ad-hoc reporting needs from various sections and stakeholders using BI.

28.   Instead, these tasks were being performed by the EAS-BI Team which impacted its capacity to deliver planned reports. For example, during the three-month period from 16 February 2023 to 17 May 2023, the EAS-BI Team implemented 28 ad-hoc report requests. The high volume of these requests caused the Team to repeatedly shift the deadlines of planned BI projects which delayed the delivery of intended dashboards and reports. The Pension Administration indicated that it planned to include the establishment of a dedicated BI team in its budget proposal for 2024 to increase its existing capacity.

(4)   The Pension Administration should review the current organization structure, roles and responsibilities of the Data Analysis Unit and the Enterprise Applications Section's

> **Business Intelligence Technical Team to ensure alignment and provide the required capacity to deliver the expected results.**
>
> *The Pension Administration accepted recommendation 4 and stated that it reviewed the distribution of roles and responsibilities and determined that it was necessary to create a dedicated BI Unit for the management, development and support of the BI function in IMSS. A request for the corresponding resources was submitted with the 2024 budget and already approved by the Pension Board at its session in July 2023. The new BI team and DAU will document their interactions with business units. Other actions will be defined based on the General Assembly's decision on the 2024 budget and the Fund's data governance framework.*

B.   Project management capacity

Integration with the Customer Relationship Management system was yet to be documented

29.   The Pension Administration's 2020-2023 strategy aimed to modernize pension services by improving the reconciliation of data. One of the initiatives to achieve this goal was determined as the acquisition of a Customer Relationship Management (CRM) system which would centralize and integrate into one repository all the data related to customer relationships, providing real-time data for trend analysis and reporting.

30.   The new CRM system is expected to deliver some reporting capability, data visualization, and trend and pattern analysis to make data-driven decisions. While the Pension Administration had documented a Project Initiation Document for CRM, it was yet to define the necessary reporting requirements for enabling data-driven decision-making. For instance, there was no documented evidence of the required reporting use cases and visualization requirements.

31.   Furthermore, successful implementation of CRM would require data migration from the Pension Administration's existing information systems (including the Integrated Pension Administration System, iNeed, Member Self Service, document imaging repository and Digital Certificate of Entitlement) as well as data quality checks and data clean-up activities. There was no documented data migration plan for these critical tasks at the time of the audit.

32.   The lack of timely identification of current and future data sources, data fields, their interactions, use cases, data migration and clean-up plans may impede the Pension Administration's capacity to smoothly roll out the CRM system.

> **(5)   The Pension Administration should document: (a) reporting use cases and data visualization requirements for the Customer Relationship Management (CRM) system; and (b) an integration plan for CRM with the Business Intelligence platform defining current and future data fields, data sources, data migration and clean-up requirements.**
>
> *The Pension Administration accepted recommendation 5 and stated that the reporting requirements for the CRM system have been documented in the Project Initiation Document. The Fund will use reporting capabilities offered by the new solution. Report details will be finalized during the design sessions for the implementation of the system.*

<u>The disclaimer in BI dashboards needs to be removed to underscore data reliability</u>

33.   Accurate and reliable data ensures consistency and dependability, enabling stakeholders to have confidence in the results obtained from data analysis and BI reports. The Pension Administration is responsible for the accuracy and reliability of the data stored, processed and presented in its systems.

34.   The Pension Administration utilizes BI dashboards for providing stakeholders with performance and operational information. For example, outputs of these dashboards are used to prepare financial statements and conduct actuarial analyses. At the same time, each dashboard in the BI system included a disclaimer stating that the displayed information is based on preliminary data that has not been reviewed by business users. The disclaimer also states that the Fund does not guarantee the accuracy of the information and will not be held responsible for any errors, omissions or misuse of the data.

35.   Such disclaimers can raise doubts about the reliability of the BI dashboards, the quality of data in the underlying systems, and the integrity of data verification and sign-off processes. Notwithstanding the disclaimer, the Pension Administration remains accountable to present reliable information to its stakeholders and owns the responsibility for the data stored, processed and presented in its systems.

36.   The Pension Administration stated that the disclaimer was initially drafted in 2019 by business users as part of the dashboard template. Since then, improvements had been made and the disclaimer would be removed.

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(6) The Pension Administration should reassess the need for the disclaimer in its Business Intelligence reports and take appropriate action to improve their reliability.

The Pension Administration accepted recommendation 6 and stated that based on the improved data reliability, it has been decided to remove the disclaimer from the BI dashboards. A 'Jira' ticket has been created as an initial action. In view of the action taken by the Pension Administration, recommendation 6 has been closed.
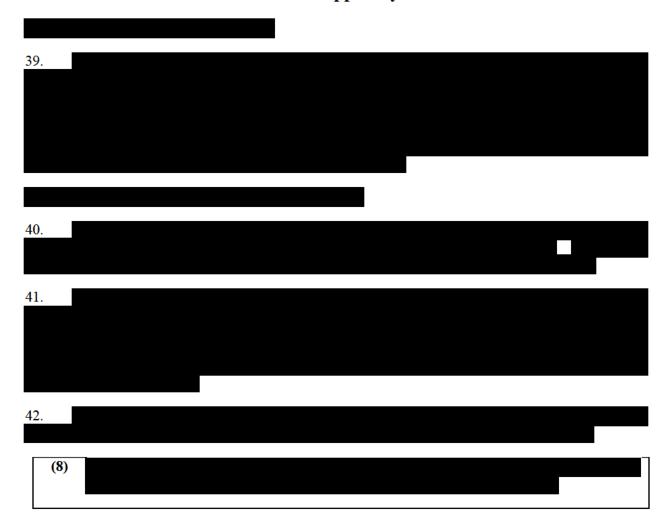

<u>There were systemic delays in the completion of BI projects</u>

37.   Timely and successful completion of projects depends on clearly defined scope and adequately assessed requirements.

38.   The Pension Administration's BI initiative has been ongoing for several years and is comprised of multiple projects, each with a project plan. Presently, these plans exist as intentions rather than enforced timelines. There were delays that affected most of the project deliverables, primarily due to the following:

(a)   Undefined process and measurement methods, lack of data dictionary and terminology documents. Uncertainties and differing opinions among user groups during the requirements analysis led to prolonged meetings spanning several weeks without finalizing the requirements.

(b)   Lack of clearly documented use case scenarios and requirements, besides users' unfamiliarity with the capabilities of the BI systems and visualizations. Users often made new requests and changes during the testing phase, leading to unexpected scope changes and multiple iterations.

(c)   Each unit independently generating its own set of requirements without knowledge of what/how others are doing. There was lack of a centralized function to harmonize and optimize the requirements across the various business units.

(d)   The BI project team handling a large caseload of one-time, ad-hoc data requests that came from the various parts of the Fund.

(e)   The BI project team comprising of mostly part time members in different time zones.

> **(7)   The Pension Administration should establish a centralized function to: (a) assist user groups to determine detailed report specifications before starting development; (b) harmonize the Business Intelligence user requirements coming from various user groups and stakeholders to create adequate underlying data models and data sets; and (c) determine standard field names and formulas to ensure clarity and standardization across dashboards and reports.**
>
> *The Pension Administration accepted recommendation 7 and stated that as it advances in its objective of becoming more data-driven and business users are more familiar with the dashboards, it is expected that more specifications will be provided in advance. In the context of data governance, the BI Team, in cooperation with relevant business owners, will develop and publish a data dictionary and terminology documents.*

C.   ICT support systems

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IV.   ACKNOWLEDGEMENT

45.   OIOS wishes to express its appreciation to the management and staff of the Pension Administration 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 business intelligence and data warehouses at the Pension Administration of the United Nations Joint Staff Pension Fund

Rec. no.	Recommendation	Critical[1]/ Important[2]	C/ O[3]	Actions needed to close recommendation	Implementation date[4]
1	The Pension Administration should: (a) document the use-case scenarios and detailed requirements of the Management Dashboard and expedite its implementation; and (b) enhance the usefulness of its monthly performance reports by leveraging Business Intelligence tools.	Important	O	Receipt of: (a) evidence of implementation of the management dashboard; and (b) monthly performance reports using BI tools.	31 July 2024
2	The Pension Administration should refine the key performance indicator and target for its strategic objective of becoming a data-driven organization by considering the other metrics already available in its existing Business Intelligence reports	Important	O	Receipt of the refined KPI and target for its strategic objective of becoming a data-driven organization.	31 July 2024
3	The Pension Administration should: (a) assess the reasons for the low utilization of existing Business Intelligence dashboards and take appropriate action to increase their use; and (b) provide periodic training on existing and new dashboards, targeting specific user groups including senior managers and Staff Pension Committees.	Important	O	Receipt of evidence of action taken to increase usage of dashboards and evidence of training provided to various BI user groups.	31 March 2024
4	The Pension Administration should review the current organization structure, roles and responsibilities of the Data Analysis Unit and the Enterprise Applications Section's Business Intelligence Technical Team to ensure alignment and provide the required capacity to deliver the expected results.	Important	O	Receipt of terms of reference (TOR) of the BI Unit and list of its resources, updated TOR of EAS and DAU, communication procedure and RACI matrix determining clear roles of these units.	31 July 2024

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[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 Pension Administration in response to recommendations.

STATUS OF AUDIT RECOMMENDATIONS

Audit of business intelligence and data warehouses at the Pension Administration of the United Nations Joint Staff Pension Fund

5	The Pension Administration should document: (a) reporting use cases and data visualization requirements for the Customer Relationship Management (CRM) system; and (b) an integration plan for CRM with the Business Intelligence platform defining current and future data fields, data sources, data migration and clean-up requirements.	Important	O	Receipt of (i) list of reports and their user requirements documentation; (ii) BI integration plan.	30 April 2024
6	The Pension Administration should reassess the need for the disclaimer in its Business Intelligence reports and take appropriate action to improve their reliability.	Important	C	Action completed.	Implemented
7	The Pension Administration should establish a centralized function to: (a) assist user groups to determine detailed report specifications before starting development; (b) harmonize the Business Intelligence user requirements coming from various user groups and stakeholders to create adequate underlying data models and data sets; and (c) determine standard field names and formulas to ensure clarity and standardization across dashboards and reports.	Important	O	Receipt of evidence of establishing a centralized function that assists user groups in determining report specifications and ensuring effective and common reporting approaches, including standardization of field names and formulas across reports.	31 December 2024
8	██	Important	O	████████████████████████████████	31 March 2024
9	██	Important	O	████████████████████████████████	31 December 2024

APPENDIX I

Management Response

MEMORANDUM

Ref: UNJSPF/CEPA/28092023   New York, 28 September 2023

To / A:	Mr. Gurpur Kumar, Deputy Director Internal Audit Division, OIOS	From / De :	Rosemarie McClean, Chief Executive of Pension Administration, United Nations Joint Staff Pension Fund

Subject / Objet: **<u>UNJSPF response to draft report audit of business intelligence and datawarehouse in the Pension Administration of the United Nations Joint Staff Pension Fund</u>**

1.   Reference is made to your memorandum dated 14 September 2023, in which you submitted for the Fund's review and comments, the draft report on the above-mentioned audit.

2.   As requested, the Pension Administration's action plan for the implementation of the audit recommendations is included in **<u>Annex I</u>**.

3.   The Pension Administration would like to thank OIOS auditors for the constructive exchanges with management.

cc.:   Mr. D. Penklis, Deputy Chief Executive
       Mr. D. Dell'Accio, Chief Information Officer
       Ms. M. O'Donnell, Chief of Operations
       Mr. A. Blythe, Chief Client Services
       Ms. K. Manosalvas, Risk Management Officer, Audit Focal Point

Audit of business intelligence and data warehouses at the Pension Administration

Rec. no.	Recommendation	Critical[1]/ Important[2]	Accepted? (Yes/No)	Title of responsible individual	Implementation date	Client comments
1	The Pension Administration should: (a) document the use-case scenarios and detailed requirements of the Management Dashboard and expedite its implementation; and (b) enhance the usefulness of its monthly performance reports by leveraging Business Intelligence tools.	Important	Yes	Chief Business Transformation Unit, Chief Data Analysis Unit, Chief Enterprise Applications Section	July 2024	a) The Fund will document the requirements and implement a Senior Management Team (SMT) Management Dashboard. b) Delivery mechanism for existing manual monthly performance reports will be revised in line with the development of the SMT Management Dashboard.
2	The Pension Administration should refine the key performance indicator and target for its strategic objective of becoming a data-driven organization by considering the other metrics already available in its existing Business Intelligence reports	Important	Yes	Chief Data Analysis Unit	July 2024	As the Fund gradually refines its data strategy as part of the organisation-wide objective of becoming a data-driven organisation, relevant key performance indicators and targets will be developed or enhanced. Key performance indicators and targets will consider, as inputs, the progress achieved in the data strategy and other available metrics.
3	The Pension Administration should: (a) assess the reasons for the low utilization of existing Business Intelligence dashboards and take appropriate action to increase their use; and (b) provide periodic training on existing and new dashboards, targeting specific user groups including senior managers and Staff Pension Committees.	Important	Yes	Chief Enterprise Applications Section / Business Intelligence Team and relevant business users	March 2024	The Fund will: a) Review the utilization of existing business intelligence dashboards and develop a plan to ensure these are used as expected; b) Provide training to business intelligence users, including senior managers and Staff Pension Committees, as new dashboards are developed. In addition, the BI team will provide data and dashboard training for common BI activities and concepts.
4	The Pension Administration should review the current organization structure, roles and responsibilities of the Data Analysis Unit and	Important	Yes	Chief Information Officer and	July 2024	Management reviewed the distribution of technical roles and responsibilities and determined, it was necessary to create a Business Intelligence Unit for

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[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.

Rec. no.	Recommendation	Critical[1]/ Important[2]	Accepted? (Yes/No)	Title of responsible individual	Implementation date	Client comments
	the Enterprise Applications Section's Business Intelligence Technical Team to ensure alignment and provide the required capacity to deliver the expected results.			Chief Data Analysis Unit		the management, development, and support of the business intelligence function in IMSS. A request for the corresponding resources was submitted with the 2024 budget and already approved by the UNJSP Board at its session in July 2023. In addition, the new EAS and DAU will document their interactions with business units. Other actions will be defined based on the General Assembly decision on the 2024 budget and the Fund's data governance framework.
5	The Pension Administration should document: (a) reporting use cases and data visualization requirements for the Customer Relationship Management (CRM) system; and (b) an integration plan for CRM with the Business Intelligence platform defining current and future data fields, data sources, data migration and clean-up requirements.	Important	Yes	Chief Information Officer, Chief Client Services Service	April 2024	The reporting requirements for the CRM system have been documented in the Project Initiation Document. The Fund will use reporting capabilities offered by the new solution. Report details will be finalized during the design sessions for the implementation of the system.
6	The Pension Administration should reassess the need for the disclaimer in its Business Intelligence reports and take appropriate action to improve their reliability.	Important	Closure requested	Chief of Operations	Not applicable	The Fund requests closure of this recommendation, as based on the improved data reliability it has been decided to remove disclaimer from the BI dashboards. Relevant JIRA ticket is provided as evidence.
7	The Pension Administration should establish a centralized function to: (a) assist user groups to determine detailed report specifications before starting development; (b) harmonize the Business Intelligence user requirements coming from various user groups and stakeholders to create adequate underlying data models and data sets; and (c) determine standard field names and formulas to ensure	Important	Yes	Chief Enterprise Applications Section / Business Intelligence Team	December 2024	As the Fund advances in its objective of becoming more data driven and business users are more familiar with the dashboards, it is expected that more specifications will be provided in advance. In the context of Data Governance, the BI Team, in cooperation with relevant business owners, will develop and publish a Data dictionary and terminology documents.

Rec. no.	Recommendation	Critical[1]/ Important[2]	Accepted? (Yes/No)	Title of responsible individual	Implementation date	Client comments
	clarity and standardization across dashboards and reports.					
8	███████████████████████	Important	Yes	Chief Information Security Officer	March 2024	██████████████████████
9	███████████████████████	Important	Yes	Chief Information Officer and Chief Data Analysis Unit	December 2024	██████████████████████