



## INTERNAL AUDIT DIVISION

### REPORT 2016/023

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Review of recurrent issues in the  
implementation of Umoja in field  
missions

22 March 2016  
Assignment No. AT2015/519/05

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## Review of recurrent issues in the implementation of Umoja in field missions

### I. BACKGROUND

1. The Office of Internal Oversight Services (OIOS) conducted a review of recurrent issues in the implementation of Umoja (the Organization’s enterprise resource planning system) in field missions.
2. In accordance with its mandate, OIOS provides assurance and advice on the adequacy and effectiveness of the United Nations internal control system, the primary objectives of which are to ensure: (a) efficient and effective operations; (b) accurate financial and operational reporting; (c) safeguarding of assets; and (d) compliance with mandates, regulations and rules.
3. Umoja is an application of the SAP enterprise resource planning software that supports management activities related to finance, budget, human resources, supply chain, central support services and other core business functions. This system was intended to replace and integrate numerous existing legacy information systems in use across the United Nations Secretariat. The projected direct resource requirements for Umoja until 31 December 2015 were in a total amount of \$385 million.
4. The Department of Field Support (DFS) was established in 2007 to strengthen the capacity of the United Nations to manage and sustain peace operations. DFS provides dedicated support to peacekeeping operations, special political missions and other field presences in the areas of budget and finance, logistics, information and communications technology (ICT), human resources and general administration to help field missions implement their mandates.
5. The Department of Management (DM) leads the implementation of the Umoja project through the Umoja Office. The deployment of Umoja was divided into phases (Foundation, Extension I, and Extension II), modules, and clusters. Table 1 shows the Umoja deployment schedule.

**Table 1: Schedule of the Umoja cluster deployment**

<b>Implementation of Umoja Component and Location</b>	<b>Date</b>
Pilot: Umoja Foundation (Finance and Budget, Central Support Services, Programme and Project Management, Supply Chain/Procurement/Logistics) in the United Nations Interim Force in Lebanon	1 July 2013
Cluster 1: Umoja Foundation - Peacekeeping Missions	1 November 2013
Cluster 2: Umoja Foundation - Special Political Missions	1 March 2014
Pilot: Umoja Integration: Foundation + Extension I (Workforce Management, Organizational Management, Time Management, Travel Management and Payroll) in the United Nations Stabilization Mission in Haiti	1 July 2014
Cluster 3: Umoja Integration: Foundation + Extension I – in the Office for the Coordination of Humanitarian Affairs (Global), United Nations entities at Nairobi, Economic and Social Commission for Asia Pacific, and United Nations Assistance to the Khmer Rouge Trials	1 June 2015
Cluster 4: Umoja Integration (Foundation + Extension I) at United Nations Headquarters, Offices Away from Headquarters (including Economic Commissions), Tribunals and all remaining United Nations entities	1 November 2015
Cluster 5: Extension I (for national staff and individual uniformed personnel) - Peacekeeping and Special Political Missions	September 2016
Extension II	2017

6. Comments provided by DFS are incorporated in italics.

## **II. OBJECTIVE, SCOPE AND METHODOLOGY**

7. This engagement was conducted to: (i) analyze the recurrent issues reported in recent OIOS internal audit reports relating to the implementation of Umoja in field missions<sup>1</sup>; and (ii) identify necessary improvements as part of the preparation for the deployment of Cluster 5 processes (Extension I), which is scheduled for September 2016 in peacekeeping and special political missions.

8. This review was included in the 2015 internal audit work plan due to the risk that potential weaknesses in addressing recurrent issues in Umoja implementation could adversely affect the deployment of Cluster 5 processes in peacekeeping and special political missions.

9. The review was conducted from November 2015 to January 2016 and covered five OIOS internal audit reports issued between 1 January 2014 and 31 December 2015.

10. The methodology for the review involved the following steps:

- (i) Review of the five internal audit reports referred to above to identify recurrent issues relating to the implementation of Umoja;
- (ii) Identification of root causes of the recurrent issues;
- (iii) Review of the status and adequacy of actions taken to implement the audit recommendations made by OIOS;
- (iv) Review of the current control framework put in place for the implementation of Umoja (i.e., policies, manuals, systems and tools, training, monitoring and oversight mechanisms), and any ongoing measures taken in this regard; and
- (v) Identification of any additional actions required to address the recurrent issues.

## **III. REVIEW RESULTS**

11. Between 1 January 2014 and 31 December 2015, OIOS made 48 recommendations in the five internal audit reports issued on the implementation of Umoja in field missions. As of November 2015, 30 recommendations remained open, including four critical and 26 important recommendations.

12. The review identified 20 important audit recommendations of recurrent nature, as shown in Table 2 below. The remaining 28 audit recommendations were not considered to be of a recurrent nature.

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<sup>1</sup> The missions audited were: (i) the United Nations Interim Force in Lebanon (Report 2014/033); (ii) the United Nations Stabilization Mission in Haiti (Report 2015/074); (iii) the United Nations Support Office for the African Union Mission in Somalia (Report 2014/162); (iv) the United Nations Organization Stabilization Mission in the Democratic Republic of the Congo and the Regional Service Centre, Entebbe (Report 2015/087); and (v) the United Nations Mission in the Republic of South Sudan (Report 2015/125).

**Table 2: Recurrent issues and related audit recommendations reported by OIOS between 1 January 2014 and 31 December 2015**

Recurrent issue	Number and percentage of audit reports in which the recurrent issue was identified	Number of recommendations relating to the recurrent issue
(a) Inadequate data management	5 (100%)	13
(b) Inadequate user access provisioning and management	5 (100%)	7
<b>Total</b>		<b>20</b>

13. OIOS concluded that there was a need for DFS, in coordination with the Umoja Office and other related process owners, to further address the systemic issues related to: (a) strengthening procedures for effective data management to cleanse, convert and validate data (i.e., related to finance, procurement, logistics, and business partners processes); and (b) reviewing the criteria and processes for assigning roles and provisioning user access to the Umoja system.

14. OIOS made two recommendations to address the issues identified during the review. DFS accepted and is in the process of implementing the recommendations.

Inadequate data management processes in field missions

15. Instructions issued by the Umoja Office required the cleansing of field mission data for each cluster to ensure the efficient functioning of Umoja immediately following its deployment.

16. OIOS had made 13 recommendations to address instances of non-compliance with the data cleansing requirement. Eleven recommendations pertained to control weaknesses over cleansing, converting and validating data of finance, procurement, logistics, and business partner processes. The remaining two recommendations related to inadequate logging of transactions during the Umoja blackout period. Based on the audit recommendations, the United Nations Interim Force in Lebanon (UNIFIL) strengthened the monitoring mechanisms for cleansing, processing and validating the Umoja data and implemented adequate controls; OIOS accordingly closed those recommendations relating to UNIFIL. However, implementation of these recommendations in the remaining four field missions was yet to be completed.

17. The identified control weaknesses were primarily due to the following:

- (i) Extensive manual (using Excel) calculations and subsequent recording in Umoja of attendance data, daily subsistence allowances and danger pay which created delays and were prone to errors;
- (ii) Inadequate monitoring and supervision of transactions during blackout and non-compliance with logging procedures;
- (iii) Fragmented and unclear responsibilities to control and validate human resources data classified and recorded in Umoja which resulted in lack of overall accountability for this function; and
- (iv) Absence of a comprehensive analysis of data processed and generated outside Umoja (i.e., using the Field Support Suite of applications) which were used as input for Umoja processing. Since the implementation of the Foundation processes in 2013-14, the Umoja

Office issued a number of new templates and guidance for data preparation and governance. However, in those instances where manual calculations and inputs for data cleansing were required, there was inadequate compliance with the established data validation standard.

18. The above-mentioned deficiencies had an impact on the reliability of Umoja data with potential negative consequences on the decision-making process, instances of overpayments, reconciliation issues, and unreliable financial statements. DFS needed to address these issues during the preparatory phase before the deployment of Cluster 5 processes in September 2016.

**(1) DFS, in coordination with the Umoja Office and relevant process owners, should: (i) strengthen automated processing mechanisms to limit manual calculations; (ii) ensure compliance with the established standard for data validation; (iii) establish control mechanisms and clearly define responsibilities regarding the management of human resources data in Umoja; and (iv) conduct a comprehensive analysis of all data and systems (i.e., Field Support Suite) utilized as input for Umoja processing.**

*DFS accepted recommendation 1 and stated that control mechanisms will be defined in coordination with the Office of Central Support Services and the Office of Human Resources Management to reflect their responsibilities for different categories of personnel. The comprehensive analysis of all data and systems utilized as input for Umoja processing will focus on the Field Support Suite modules which interface with Umoja and on its data requirements. Recommendation 1 remains open pending receipt of evidence demonstrating that DFS has: (i) strengthened automated processing mechanisms to limit manual calculations; (ii) ensured compliance with the established standard for data validation; (iii) defined control mechanisms and responsibilities regarding the management of human resources data in Umoja; and (iv) completed the analysis of data processed with the Field Support Suite and used as input to Umoja.*

#### Inadequate user access provisioning and management

19. Instructions issued by the Umoja Office required the mapping of user access with the predefined enterprise roles and workflows developed for implementing the system. An enterprise role is a logical set of transactional capabilities allowing users to perform a specific set of actions (such as create, edit, approve) in Umoja. User access was granted at local, regional or global levels. Further, the United Nations Information Sensitivity toolkit required an entity to periodically review Umoja-related access rights and change or terminate them when necessary (i.e., when a user changed a position or office). The Controller delegated financial authority (i.e., to certify and approve transactions) to budget and finance officers in field missions. According to established procedures, requests for certifying and approving authority had to be submitted to the Director of the Budget Division and the Director of the Accounts Division, respectively.

20. Seven recommendations made by OIOS in the five internal audit reports referred to above addressed cases of non-compliance with these requirements. Six of these seven recommendations pertained to: (i) inadequate user access mapping; (ii) weaknesses in access control, authorization, and provisioning; (iii) delayed role mapping; and (iv) inadequate delegation of authority. Based on the audit recommendation, the United Nations Support Office for the African Union Mission in Somalia took corrective action by reviewing the role and access authorizations assigned to staff members. However, the remaining four missions were yet to implement the recommendation.

21. These control weaknesses were due to:

- (i) Non-compliance with the user access provisioning and de-provisioning procedures.
- (ii) Lack of segregation of duties.
- (iii) Inadequate periodic review of user access roles. In particular, there were several instances of:
  - a. User roles listed in user access mapping sheets that either did not exist in Umoja or were not assigned to any users in the system;
  - b. User roles that were not documented in the user access mapping sheets but had been assigned to users in Umoja;
  - c. Users having conflicting roles in the system;
  - d. Limited alignment between the 'check-in/check-out' system and the 'user access provisioning/de-provisioning' processes, resulting in several cases where users retained Umoja enterprise roles associated with their previous duty stations - or with access to the system - after their permanent check-out from the Organization; and
  - e. Absence of formal delegation of financial authority. Several users with certifying and approving roles in Umoja did not have formal delegation of authority. Since the implementation of the Foundation processes in 2013-14, the Umoja Office issued new guidance and delegation of financial authority documents to streamline the user access provisioning process in the field. However, in some instances, the implementation of these new terms of reference required a comprehensive review of the roles already assigned to staff which was not done in a timely manner.

22. Lack of adequate access controls in Umoja and failure to comply with the delegation of financial authority may expose the Organization to the risk of irregularities and potential loss of funds. DFS needed to address these issues during the preparatory phase before the deployment of Cluster 5 processes in September 2016.

**(2) DFS, in coordination with the Umoja Office and relevant process owners, should: (i) conduct periodic reviews of the roles assigned in Umoja and enforce compliance with the provisioning and de-provisioning processes of user access to the system; and (ii) ensure that the assignment of roles to staff members in Umoja is in accordance with formal delegation of authority.**

*DFS accepted recommendation 2. Recommendation 2 remains open pending receipt of evidence demonstrating that DFS has: (i) completed the review of roles assigned in Umoja and ensured compliance with the provisioning and de-provisioning of user access to the system; and (ii) assigned roles to staff members in Umoja in accordance with their formal delegation of authority.*

#### **IV. ACKNOWLEDGEMENT**

23. OIOS wishes to express its appreciation to the Management and staff of DM and DFS 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 REVIEW RECOMMENDATIONS

### Review of recurrent issues in the implementation of Umoja in field missions

Recom. no.	Recommendation	Critical <sup>2</sup> / Important <sup>3</sup>	C/ O <sup>4</sup>	Actions needed to close recommendation	Implementation date <sup>5</sup>
1	DFS, in coordination with the Umoja Office and relevant process owners, should: (i) strengthen automated processing mechanisms to limit manual calculations; (ii) ensure compliance with the established standard for data validation; (iii) establish control mechanisms and clearly define responsibilities regarding the management of human resources data in Umoja; and (iv) conduct a comprehensive analysis of all data and systems (i.e., Field Support Suite) utilized as input for Umoja processing.	Yes	O	Receipt of evidence demonstrating that DFS has: (i) strengthened automated processing mechanisms to limit manual calculations; (ii) ensured compliance with the established standard for data validation; (iii) implemented control mechanisms and define responsibilities regarding the management of human resources data in Umoja; and (iv) analyzed data the in Field Support Suite that are used as input for Umoja processing.	31 March 2017
2	DFS, in coordination with the Umoja Office and relevant process owners, should: (i) conduct periodic reviews of the roles assigned in Umoja and enforce compliance with the provisioning and de-provisioning processes of user access to the system; and (ii) ensure that the assignment of roles to staff members in Umoja is in accordance with formal delegation of authority.	Yes	O	Receipt of evidence demonstrating that DFS has: (i) reviewed the roles assigned in Umoja and ensured compliance with the provisioning and de-provisioning of user access to the system; and (ii) assigned roles to staff members in Umoja in accordance with their formal delegation of authority.	31 March 2017

<sup>2</sup> 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.

<sup>3</sup> 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.

<sup>4</sup> C = closed, O = open

<sup>5</sup> Date provided by DFS in response to recommendations.

# **APPENDIX I**

## **Management Response**

**CONFIDENTIAL**

Immediate

TO: Mr. Gurpur Kumar, Deputy Director  
A: Internal Audit Division, OIOS

DATE: **MAR 18 2016**

THROUGH:

S/C DE:

REFERENCE: UNHQ-AR-BOI-Memo-2-  
2016-7466

FROM: Hubert Price, Acting Assistant Secretary-General  
DE: for Field Support

SUBJECT: **Review of recurrent issues in the implementation of Umoja in field**  
OBJET: **missions (Assignment No. AT2015/519/05)**

1. I refer to your memorandum dated 3 March 2016 regarding the above-mentioned audit. We note that OIOS has taken into account our comments provided on 26 February 2016. Please note that DFS does not have any further comments on the findings in the report. We have, however, updated Appendix I to reflect our comments and the individual responsible for the implementation of the recommendations with the deadline.

2. Thank you for the opportunity to comment on the draft report. We stand ready to provide any further information that may be required.

Cc: Ms. Cynthia Avena-Castillo

## Management Response

## Review of the recurrent issues in the implementation of Umoja in field missions

Rec. no.	Recommendation	Critical <sup>1</sup> / Important <sup>2</sup>	Accepted? (Yes/No)	Title of responsible individual	Implementation date	Client comments
1	DFS, in coordination with the Umoja Office and relevant process owners, should: (i) strengthen automated processing mechanisms to limit manual calculations; (ii) ensure compliance with the established standard for data validation; (iii) establish control mechanisms and clearly define responsibilities regarding the management of human resources data in Umoja; and (iv) conduct a comprehensive analysis of all data and systems (i.e., Field Support Suite) utilized as input for Umoja processing.	Important	Yes	Director ICTD	First quarter of 2017	DFS accepts items (i) and (ii) with no further comments. With regards to item (iii) DFS wishes to clarify that the control mechanisms will be established and the responsibilities will be defined in coordination with the Office of Central Support Services and the Office of Human Resources Management to reflect their responsibilities for different categories of personnel. The analysis recommended in item (iv) will focus on the Field Support Suite modules which interface with Umoja and on the Umoja data requirements.
2	DFS, in coordination with the Umoja Office and relevant process owners, should: (i) conduct periodic reviews of the roles assigned in Umoja and enforce compliance with the provisioning and de-provisioning processes of user access to the system; and (ii) ensure that the assignment of roles to staff members in Umoja is in accordance with formal delegation of authority.	Important	Yes	Director ICTD	First quarter of 2017	DFS accepts this recommendation with no further comments.

<sup>1</sup> 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.

<sup>2</sup> 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.