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First annual progress report of the Board of Auditors on the implementation of the United Nations enterprise resource planning system

Note by the Secretary-General

The Secretary-General has the honour to transmit to the General Assembly a letter dated 30 June 2012 from the Chair of the Board of Auditors transmitting the report of the Board on the progress in the implementation of the enterprise resource planning system (Umoja) during the biennium ended on 31 December 2011.

* A/67/150.

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Letter of transmittal

30 June 2012

I have the honour to transmit to you the first report of the Board of Auditors on the implementation of the enterprise resource planning system during the biennium ended on 31 December 2011.

(*Signed*) **Liu** Jiayi
Auditor-General of China
Chair of the Board of Auditors

President of the General Assembly
of the United Nations
New York

First annual progress report of the Board of Auditors on the implementation of the United Nations enterprise resource planning system

Summary

The United Nations has multiple bespoke[a] information and communications technology systems that cannot easily interact, are costly to maintain and have not kept pace with technological developments. In July 2006, the General Assembly, in its resolution 60/283, endorsed the Secretary-General's proposal to implement an enterprise resource planning (ERP) system (the "Umoja" project) across the United Nations Secretariat.

Enterprise resource planning systems enable organizations to integrate their operations and facilitate the flow of information between all business functions, thereby offering the potential for enhanced accountability, improved managerial control and decision-making. Moreover most such systems help to identify and drive improved cost-effectiveness in the delivery of activities. The United Nations proposed ERP system spans most of the Organization's administrative and support functions in the following five areas: finance; supply chain and procurement; human resources; central support services; and programme and project management. The system also encompasses many entities within the wider United Nations system beyond the core United Nations Secretariat (see annex I). For this reason, among others, it represents a very challenging and complex business transformation project.

In the third annual progress report on the implementation of the project, the administration indicated that it expected implementation of the ERP system to be completed by the end of 2015, three years later than originally planned (see A/66/381). Projected costs for the project are $315.8 million, with predicted annual quantitative benefits of between $139 million and $220 million. The objective of the project is to simplify a wide range of administrative practices and to provide the United Nations with updated and accurate data that will enable quicker decision-making and better service delivery through the improved planning of programmes and measurement of results.

In December 2011, in its resolution 66/246, the General Assembly requested the Advisory Committee on Administrative and Budgetary Questions to request the Board of Auditors to audit the administration's implementation of the ERP system and to report annually to the Assembly starting at the main part of its sixty-seventh session.

The present report, which contains the findings and recommendations of the Board's first annual review, is the result of an assessment of the project undertaken between April 2011 and April 2012. The findings, recommendations and conclusion reflect the Board's assessment of the project at the time of audit. The administration has informed the Board that it has accepted all of its recommendations. Actions taken by the administration in response to the Board's recommendations are noted in the main body of the report and in annex II, although it should be noted that those actions have not yet been subject to audit.

[a] Systems which have been specifically built for or tailored to the United Nations and thus cannot easily be replaced with "off-the-shelf" systems.

The administration also informed the Board that the Secretary-General's fourth annual progress report on the implementation of Umoja, to be presented to the General Assembly at its sixty-seventh session, will provide an update on the fundamental changes introduced to the project since March 2012.

Given the significant difficulties faced by the project, the Board is reassured by management's open acknowledgment of the problems and deficiencies identified in the present report, and its commitment to a range of actions, many of which are already implemented or under way. In principle, such actions, if implemented quickly and effectively, should help to resolve many of these issues. The Board will follow up on further progress and the impact of the actions taken by the administration during the next audit of the project in the third quarter of 2012.

Overall conclusion

As set out in this report, the ERP (Umoja) project faced severe difficulties in 2011 and early 2012. The Board is concerned that the plans covering the scope, budget and timetable for the project set out in the third annual progress report are highly optimistic and lack rigour, and it cannot provide any assurance that the project can be delivered on time, within cost and to specification. Many of the problems encountered were avoidable and point to weak project governance and management, as well as to wider and deeper weaknesses in the United Nations governance and management of business transformation.

The ERP project encompasses numerous different entities and business models within the United Nations system. Given this challenging scope, the Board considers that the implementation strategy has been too ambitious from the outset both in terms of time frame and in its goal of achieving a simultaneous roll-out in all locations and at all entities. The Board considers that the strategy was formulated without undertaking a proper assessment of the existing business structure. Nor was due account taken of the wider interdependencies with other transformation projects, such as the implementation of the International Public Sector Accounting Standards (IPSAS). The Board notes the absence of any holistic assessment by senior management of the sequencing and capacity needed to deliver multiple transformation programmes.

The Board recognizes that the Secretary-General is aware of the difficulties and is, at the time of reporting, taking action to improve the governance, management and delivery of the project, as well as to address some of the wider governance and management issues within the Secretariat. The Board considers that it is vital that the actions taken are immediate, decisive and effective if they are to support the successful delivery of the ERP system and that they are taken within an overall strategy for the integrated delivery of multiple and concurrent business transformations within the United Nations. Until there is evidence of the effect of these actions, the Board can give no assurance that the project is on track to be delivered successfully.

The administration has specified that its high-level aims in implementing an ERP system are to deliver improved information management and achieve more efficient working practices. The administration has not, however, identified how it needs to improve information management, and the Board is concerned that the ERP project is not being approached as a business transformation project that seeks to make the Organization's processes as efficient as possible. Furthermore, the administration has not defined the specific benefits it aims to achieve, how it plans to achieve them or how they will be measured. As a result, there is a risk that an opportunity to improve the efficiency and effectiveness of the United Nations will be missed and that the ERP system will be simply an expensive replacement of the administration’s existing information systems. The Board is aware from previous examinations of major ERP- and information technology-enabled business transformation projects that once the system is in place any attempt to redesign process or to retrofit it will be very costly.

The Board is also concerned that the administration’s reported costs and progress for the ERP project are lacking in transparency and that the governance arrangements for the project have been ineffective. The project has been under way for four years without a detailed project plan and the Board is concerned that decisions about the project have been driven by a desire to meet an increasingly unrealistic timetable rather than to ensure that the system supports the Organization in meeting its strategic aims and objectives. The Board also has serious concerns that the administration’s anticipated final cost of the project does not take into account several factors that are likely to significantly increase costs. In addition, the administration has been unable to demonstrate whether the project is under or over budget because it cannot determine what should have been achieved in return for the $123 million it has spent so far.

The Board recognizes that there is a very strong case for a new integrated ERP system. The Board considers, however, that there is now sufficient uncertainty over what the project is seeking to achieve and whether it can be delivered on time and within budget as to require a fundamental reassessment of the project scope, probable cost, timetable and intended benefits.

Key findings and recommendations

The Board identified the following key findings.

The administration expects implementation of the ERP system to be completed three years later than originally planned. Significant “associated costs” are not included either in the anticipated final project cost of $315.8 million or within relevant departmental budgets. The timetable for the project set out in the third annual progress report indicates that implementation of the ERP system will be completed by the end of 2015, three years later than originally planned. The original $248.3 million estimated cost of the project was revised to $315.8 million in October 2009 and has been maintained at that level since that time. Neither the project budget nor relevant departmental budgets, however, include costs related to the implementation of the ERP system such as data cleansing, user testing and data archiving. The project team’s initial analysis suggests that these costs could total between $86 million and $110 million.

The administration’s third annual progress report (A/66/381) states that the project will deliver annual recurring benefits of between $139 million and $220 million, but there are no agreed plans on what changes the Organization needs to make in order to realize such benefits. While the administration knows what replacement business processes it wishes to implement, simply building and rolling out a new information technology system that incorporates those processes will not deliver the intended benefits. At present there are no plans on how working practices or staff structures should be organized to harness the efficiencies offered by the redesigned processes, and limited awareness of what will be expected of staff if the ERP system is to be implemented successfully. The administration has also not defined how improved management information will be used to deliver benefits or what information is needed, for what purpose and with what anticipated outcome.

Currently, the administration is not approaching the implementation of the ERP system as a business transformation project and has no plans for how it will manage change and embed more efficient working practices across the Organization. To realize the intended benefits of the ERP system the Organization will need to introduce new ways of working and make changes to staff working practices, roles and responsibilities. There are no plans for how improved ways of working will be embedded across the Organization and the scale and cost of the retraining programme that will be required to redirect staff time into more value-added activities has not been established. The lack of plans for business transformation present the risk that there will be delays in the adoption of the ERP system in business processes following implementation.

The administration is not managing project costs or implementation effectively. The administration has stated that the project had been delayed for a number of reasons, including a growth in project scope, slower than expected acceptance of new business processes and delays in the recruitment of project staff and subject matter experts. It is the view of the Board that such issues could have been foreseen and mitigated by the administration through better project management and stronger ownership of the project by senior management. There is no detailed plan identifying which tasks need to be completed to achieve the overall aims of the project, or the sequence in which they need to be completed. As a result, delays have accumulated unnoticed or have been accepted in the belief that they can be absorbed within the overall project timetable. A lack of sufficiently detailed monitoring and analysis of project costs against clear budgets and deliverables means that the administration is unable to manage project resources effectively. The administration is also unable to demonstrate whether the project is under or over budget because it cannot determine what should have been achieved in return for the $123 million it has so far spent.

Under the United Nations approach to the ERP system, multiple parties are responsible for delivering different interdependent parts of the project, with the performance of one party impacting upon another party's ability to deliver on its responsibilities. While all parties are working towards an agreed technical design, there is a risk that the administration will find it difficult to hold any one party accountable for the performance of the ERP system once it is implemented.

The timeline for the implementation of the ERP system set out in the administration's third annual progress report is unlikely to be achievable and the reported anticipated final cost of the system is not robust. Implementation of the ERP system is likely to be delayed further because its design has not been completed on schedule. The administration has not yet quantified the extent of this delay, but the revised implementation timeline has no contingency to absorb delay and makes no allowance for further slippage arising from common causes of project delay during implementation (such as complications with the transfer of data from legacy systems).

In addition, the administration's estimated cost of the ERP system remains unchanged despite the extension of the timetable by two years and the adoption of a phased approach in order to support the implementation of IPSAS. The administration previously estimated that adopting a phased approach to support IPSAS implementation would cost $397.9 million, which is $82.1 million more than the current anticipated final cost (see A/64/380). The Board is concerned both that the administration could not provide the Board with convincing supporting evidence for the anticipated final cost of $315.8 million, as first stated in October 2009, and that the cost impacts of significant delays and changes to the project implementation approach since that time have not been reflected in the cost forecast set out by the administration. The Board noted that the administration has made reductions to its projected resource requirements in order to maintain the anticipated cost at $315.8 million but it has seen no evidence of underlying changes to project scope or planned activities indicating how the phased approach would be implemented without increasing costs. The Board considers that such measures fall far short of good practice in managing project finances where it is essential that there be an ongoing and realistic appraisal of costs as the basis for sound decision-making.

The more recent decision to produce the first set of financial statements under IPSAS using legacy systems, including the Integrated Management Information System (IMIS), has removed some of the pressure for the immediate delivery of the Umoja project. The Board will comment on the implications of this for IPSAS implementation in its second progress report on IPSAS (A/67/168). However, since the ERP project is proceeding with a phased implementation approach, it remains unclear as to why the increased costs previously forecast for such a strategy have not been reflected in the administration's anticipated final cost for the project.

The governance arrangements for the ERP project lack clear lines of accountability and are not conducive to transparent and effective decision-making. The roles and responsibilities of the members of the steering committee have not been clearly defined and they have no ownership of project deliverables, including, notably, business transformation. There is also a lack of transparency in decision-making as it is difficult to establish the basis upon which key decisions about the project have been made. The Board considers that the steering committee has not provided a sufficient critical challenge with regard to the feasibility of the actions proposed both by the project team and the Committee itself, and it notes that, until April 2012, the project did not have a senior responsible owner.

In the light of the above findings, the Board has made detailed recommendations in the main body of the present report. **The main recommendations are that, in the context of the fourth annual progress report of the Secretary-General on Umoja:**

(a) **The administration establish and communicate to the General Assembly what changes to the Organization it proposes in order to realize the intended annual benefits of the project;**

(b) **The administration clearly set out how it will manage business transformation and embed more efficient and standardized working practices across the Organization;**

(c) **The Project Director and steering committee: (i) reassess the feasibility of the project timetable and budget, including consideration of an optimism bias and the probable impact of identified risks; (ii) prepare a robust forecast of costs, including a timetable, to complete the project within the current scope of work; and (iii) report the findings, including proposals to address any cost and time increases identified, to the General Assembly at the earliest opportunity;**

(d) **Senior management put appropriate controls in place to clearly demonstrate to the General Assembly that assurance can be placed on the reported timetable and the actual and anticipated costs for the ERP project;**

(e) **The administration (i) appoint a single senior responsible owner with the requisite authority across the departments and entities in which the ERP system is to be implemented to drive the project forward; (ii) clearly communicate the identity and authority of the senior responsible owner to all staff; and (iii) finalize the planned revisions to the project's governance structure at the earliest opportunity, including assigning clear accountabilities for the completion of all major tasks.**

With regard to the final recommendation above, changes in the governance of the ERP project must be set within the more integrated approach to business transformation management and governance within the Secretariat that were under development at the time of the preparation of the present report. The Board comments further on these broader business transformation and governance issues in its financial report and audited financial statements for the biennium ended 31 December 2011 (A/67/5, Vol. I).

First annual progress report of the Board of Auditors on the implementation of the United Nations enterprise resource planning system

Contents

I. Background

1. A lack of strategic direction in the governance of information and communications technology (ICT) over the years has led to a fragmented approach to ICT implementation throughout the United Nations Secretariat. This fragmentation has resulted in the development of multiple bespoke systems that cannot easily interact, are costly to maintain and have not kept pace with technological developments.

2. In July 2006, in its resolution 60/283, the General Assembly endorsed the Secretary-General’s proposal to implement an enterprise resource planning (ERP) system across the United Nations Secretariat to replace existing systems such as the Integrated Management Information System (IMIS). Through the use of ERP systems organizations can integrate all aspects of their operations and facilitate the flow of information between all business functions. Such systems also incorporate industry best practices within their design, and reflect the views of the system vendor on the most effective ways to carry out various business functions and activities.

3. The United Nations proposed ERP system, known as Umoja, spans most of the Organization’s administrative and support functions across five areas: finance; supply chain and procurement; human resources; central support services; and programme and project management. It also encompasses many entities within the wider United Nations system beyond the core Secretariat (annex I). For this reason, among others, the system represents a very challenging and complex business transformation project.

4. The objective of the project is to simplify a wide range of administrative practices and to provide the United Nations with updated and accurate data that will enable quicker decision-making and better service delivery through the improved planning of programmes and measurement of results. The project is also part of a continuous organizational transformation seeking to update skills, harmonize working practices and maximize the productivity of the human, financial and material resources of the United Nations.

5. The administration, which expects the implementation of the ERP system to be completed by the end of 2015, some three years later than originally planned, anticipates a final project cost of $315.8 million, with predicted annual quantitative benefits of between $139 million and $222 million if full implementation and stabilization of the system are successfully achieved.

II. Mandate, scope and methodology

6. In December 2011, in its resolution 66/246, the General Assembly requested the Advisory Committee on Administrative and Budgetary Questions to request the Board of Auditors to conduct a comprehensive audit of the administration’s implementation of the Umoja project. The Assembly also requested that the Board report annually on the project, starting at the main part of the Assembly’s sixty-seventh session. The present report contains the findings and recommendations of the Board’s first annual review.

7. The Board has examined a number of international and national public sector projects in recent years and has identified five key elements that signify the

potential for a project to be delivered successfully (see table 1). The Board has also drawn on its experience in the implementation of other projects in the United Nations system in recent years and has tailored its approach to its review to the United Nations environment. The present report assesses the administration's approach to designing, initiating and managing the project against these five key elements.

Table 1
Five key elements for designing, initiating and managing successful projects

Key element	*Criteria*
Desired outcomes	Are desired outcomes understood by the organization?
	Does the organization have a mechanism to monitor achievement of the desired outcomes?
Business transformation	Does the organization have a plan to realize the desired outcomes?
	Has the organization engaged its stakeholders and managed their expectations?
Project management	Is the organization monitoring and managing delivery effectively against a clear project timetable and implementation plan?
	Is the organization monitoring and managing costs effectively against a budget which is linked to project deliverables?
Project assurance	Is the project realistic and feasible, with a robust cost forecast and timetable?
	Is there an effective system which gives assurance over project progress, including time and cost considerations?
Governance	Are effective governance and accountability arrangements in place for the project?
	Are effective arrangements in place to manage business transformation?

8. The Board's report is the result of an assessment of the project undertaken between April 2011 and April 2012. Its findings, recommendations and conclusion reflect the Board's assessment of the project at the time of audit. The Board has discussed its findings, conclusions and recommendations with the administration and, where appropriate, the administration's comments have been reflected throughout the report. While the actions taken by the administration in response to the Board's recommendations are noted after each recommendation and in annex II, these actions have not yet been subject to audit.

9. The Board coordinated its work closely with the Office of Internal Oversight Services (OIOS) in order to better understand and to utilize, where appropriate, the results of recent internal audits by OIOS.

III. Findings and recommendations

A. Desired outcomes

10. The implementation of an ERP system involves more than implementing a new information technology system; it is a whole business transformation involving the introduction of new ways of working that require changes to existing working practices and procedures, as well as in roles and responsibilities. Implementation therefore involves aligning the often conflicting aspirations and interests of a wide variety of stakeholders. Failure to understand business needs may result in missed opportunities, while a lack of buy-in from staff can be detrimental to the smooth implementation of the project. Therefore, in any major business transformation, senior management need to be clear about their priorities and desired outcomes and to communicate coherently and effectively what is expected of staff.

Understanding desired outcomes

11. The administration has specified that its high-level aims in implementing an ERP system are to deliver improved management information and achieve more efficient working practices (see A/64/380). The updated and more accurate data delivered through the ERP system is intended to enable quicker decision-making and better service delivery through improved planning of programmes and measurement of results. The administration could not, however, provide the Board with any plans for how improved management information would be used to deliver benefits, and there is a lack of clarity about what information is needed, for what purpose and with what anticipated outcome. The Board also notes that at present there is a lack of good quality management information across the Secretariat, as identified by the administration in its three reports on the ERP project (A/64/380, A/65/389 and A/66/381). As a result there is no baseline information against which improvements in performance can be measured when the ERP system is implemented.

12. The administration expects that the implementation of an ERP system will enable benefits to be derived from two main sources:

(a) Productivity gains through the adoption of streamlined and improved working practices (for example, reduced duplication of effort) that release staff time for more value-added activities;

(b) Efficiency gains owing to improved management information (for example, savings in procurement through minimizing waste and harnessing economies of scale).

13. While administration has stated that the project will deliver annual recurring benefits valued at between $139 million and $220 million,[2] but there are no agreed

[2] Additional information requested by the Advisory Committee on Administrative and Budgetary Questions on the report of the Secretary-General on Umoja (see A/66/7/Add.1).

plans on how the Organization needs to change to realize such benefits. In addition, the estimated benefits described by the project team have not been agreed to by the business units of the Secretariat and it is not clear what proportion of the benefits will result in cashable savings.[3]

14. Until firm plans are drawn up by process owners[4] demonstrating the outcomes the administration is seeking to achieve and how it expects to achieve them, process owners cannot begin to take action to deliver the above-mentioned benefits. Without clear and transparent plans for the changes needed to deliver the expected benefits there is a risk that stakeholders, for example the General Assembly and staff, will not support the proposed changes.

15. The implementation of an ERP system also presents a good opportunity to redesign service delivery models. Such a redesign, which may involve potentially significant changes to the number and location of staff posts, requires political support, managerial determination and effective change management skills. The Board notes that the projected benefits outlined in the annual progress reports on the Umoja project do not include any benefits accruing from the redesign of service delivery models, for example through the consolidation of select administrative functions in shared service centres, which would eliminate duplicative overheads. There are evidently significant potential benefits from the ERP system that are not currently being pursued.

16. The implementation of the ERP system is being overseen by a steering committee comprising senior officials under the chairmanship of the Under-Secretary-General for Management. In February 2012, the steering committee instructed the project team to focus on system implementation and stated that the review of service delivery alternatives for the Secretariat was not a priority or a prerequisite for implementation. The committee also decided that the responsibility for advancing the work on service delivery would be passed to the change implementation team of the Executive Office of the Secretary-General as part of its workplan over the next five years. The Board considers that plans to realize further benefits through the redesign of service delivery models should have been one of the project's priorities, and it is concerned that accountability for this task was not assigned to a senior level manager at the outset of the project.

17. During its final audit, the Board was unable to establish who was responsible for the redesign of service delivery models. The change implementation team stated that it was developing the vision and that the project team would be implementing it. However, the project team stated that it saw itself solely in the role of an enabler, indicating that it could set up the system to support whatever service delivery model is implemented.

18. At the time of writing, the administration informed the Board that the change implementation team is currently defining and harmonizing all transformation initiatives, exploring, in particular, potential changes to how service delivery works in the United Nations Secretariat. This work is being done under the leadership of

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[3] Cashable savings involve a reduction in the level of resources required to achieve a given outcome. Non-cashable savings involve improving outcomes for a given level of resource.

[4] Process owners are senior managers with responsibility for introducing the changes required to implement the ERP system. They are also members of the project's steering committee.

the Chef de Cabinet and in close collaboration with the new Under-Secretary-General for Management and the Umoja project director.

19. T**he Board recommends that the project director: (a) consider the gaps identified by the Board and, on that basis, reassess the benefits model for the ERP system in consultation with process owners; (b) agree on a baseline with identifiable benefit figures to be realized by each process owner; (c) determine what the actual cashable savings will be; (d) assign accountability to process owners for realizing the agreed savings and benefits and for developing plans to achieve them; and (e) communicate to the General Assembly what changes to the Organization it proposes to implement to realize the intended annual benefits from the project.**

20. The administration agreed with this recommendation and has informed the Board that a plan, which will be guided by process owners, has been initiated to manage the move from existing methods to new ways of working. Process owners are also now required by their terms of reference to develop benefit-realization plans and have been instructed by the chair of the steering committee that these plans need to be in place by no later than July 2013. During the six months preceding implementation at each United Nations entity a further in-depth analysis of business transformation needs will also be conducted and detailed benefits will be identified, quantified and set against appropriate baselines. Benefit figures will be endorsed by process owners, although responsibility and accountability for realizing the benefits will be given to the relevant budget owners (heads of department).

21. **The Board recommends that, in order to enable transparent planning and reporting of the achievement of the projected benefits of implementing the ERP system and to ensure clarity as to whether their achievement will require posts to be released or redeployed, the administration consult the General Assembly on its benefit-realization plans.**

22. The administration agreed with this recommendation and stated that future reports of the Secretary-General will include information on how posts may be redeployed or how roles may change as a direct result of the deployment and stabilization of the ERP system. This information will be further enriched following the identification and quantification of benefits within each entity in the six months preceding implementation of the ERP system. The Board notes the administration’s response, but emphasizes the need for clarity in how the stated benefits are to be realized in practice.

23. **The Board also recommends that the administration: (a) assign clear responsibility for all tasks related to developing proposals for realizing further benefits through changes in the approach to service delivery; and (b) publish a timetable against which those proposals will be developed.**

24. The administration agreed with this recommendation and has informed the Board that the Department of Management is accountable for defining and harmonizing all business transformation initiatives, in particular the service delivery model and the establishment of shared service centres. This work will continue under the leadership of the Chef de Cabinet, with the Under-Secretary-General for Management and the project director participating in all meetings at which such initiatives are discussed. The project is aligning its actions towards the implementation of the evolving service delivery model.

B. Business transformation

25. The implementation of the United Nations ERP system will require the identification of methods of working across numerous organizations (see annex I) that currently operate in different ways. This process will be standardized through the adoption of the 321 business processes included in the system design. The project team has documented existing business processes in order to support this transition.

26. The Board, having reviewed the approach taken by the project team to document existing processes, is concerned that the approach was solely qualitative, that it did not follow a consistent and clearly defined methodology and that it identified only generic differences such as non-standardized documents. For a project of this scope, the Board expects the issues identified to be related to specific process steps and to include quantification of the effects of the differences identified on staff. For example, identifying the levels of authorization needed for individual processes and their impact on delays and cost overheads.

27. While the processes to be adopted will be incorporated within the design of the ERP software and will need to be configured, to some extent, to the United Nations context, they are standard “off-the-shelf” industry best practice processes, reflecting the views of the vendor on the most effective way to carry out a given business function or activity. The final processes are therefore largely already decided upon and what is important is that the Organization understand how it currently operates and how it needs to change in order to adjust to the new processes. The Board is concerned that the administration’s design process focused too heavily on the final system design rather than on understanding the inefficiencies within existing business processes and gaining clarity as to what will be required to transition the Organization from current ways to new ways of working. For example, the design process could have placed more emphasis on understanding whether staff have the skills to use new data that the ERP system can effectively provide, and identifying what needs to be done to address any gap in skills.

28. To assess the readiness of the United Nations to implement an ERP system and adapt to new ways of working, the Board reviewed two important processes (raising requisitions and booking travel). The Board identified significant duplication of effort in the processes observed, including a high level of errors and rework owing to the fact that staff did not comply with data requirements or policies and procedures. Furthermore, the customers of the processes (i.e., the requisitioner) and the provider (i.e., the buyer) had received no formal training, which meant that successful completion of the processes was reliant on individual knowledge rather than as a result of following standard ways of working.

29. Although the Board’s review was limited in scope, there is a risk that the variability observed in working practices is common across other business processes and that this variability will remain despite the implementation of the ERP system. If this happens, the inefficiencies in current processes will be retained, and the opportunity for significant benefits reduced or lost entirely. The Board notes that it will be more costly and difficult to address such issues after the implementation of the ERP system if staff have already begun to work around the new processes in order to retain their previous working practices.

30. The success of ERP projects is largely determined by the extent to which they are managed as business transformation projects. The Board is concerned that the administration and the project team have invested insufficient time and effort in providing United Nations staff with the skills, capacity and capability to successfully deliver a business transformation project of this nature. For example, continuous reform and improvement will be required following the implementation of the ERP system, but the Board notes that the United Nations has no formalized approach to managing and improving business processes following its implementation. Such an approach would include a mechanism for understanding if new business processes are delivering benefits, identifying and solving problems with the processes and sharing best ways of working across the Organization. The lack of such an approach will inevitably lead to differences in how people carry out the same task even after the ERP system is implemented, which means that the opportunity to make efficiencies by introducing standard ways of working is unlikely to be fully realized.

31. **The Board recommends that the administration: (a) clearly set out how it will manage change and embed more efficient and standardized working practices across the Organization; and (b) develop plans for how staff will be supported to develop the skills, capacity and capability to adopt different working practices.**

32. **The Board also recommends that the administration establish a formal approach to managing and improving business processes to enable continuous reform and improvement following implementation of the ERP system.**

33. The administration agreed with these recommendations and has informed the Board that it has taken action to address its underinvestment in readying the Organization to deliver a business transformation project of this nature. For example, the project team has developed plans to map every transaction and role within the ERP system to individual staff members in order to determine how staff will be affected, as well as to ensure that appropriate communications, training and support are provided to ensure the desired behavioural change. Starting in April 2012, the administration, noting that the project team is still lacking sufficient skills to deal with this matter, refocused the hiring process and professional service contracting for the project to alleviate this skills gap.

Stakeholder engagement and management of expectations

34. An absence of clear ownership and accountability in the delivery of business benefits is a common factor contributing to project failure. Clear accountability and ownership of business transformation is a requisite if the potential benefits of implementing the ERP system are to be realized. If process owners do not have the authority to implement new ways of working or to institute changes to roles and responsibilities, there will be a lack of compliance with the new system’s processes, resulting in decreased benefits.

35. The Board found little clarity as to ownership and accountability for business transformation, in particular:

(a) Neither the project team nor the business units themselves have any business transformation plans;

(b) Alignment activities such as role-mapping have not started. Until such work is initiated, training requirements cannot be finalized and security roles within the new ERP software cannot be assigned to end users;

(c) The project team has no milestones or deliverables, nor a budget for business transformation activities.

36. The project team has developed tools such as Umoja NET to engage with stakeholders and support business transformation activities. Between July 2010 and July 2011, 662 United Nations staff attended general outreach sessions designed to educate stakeholders about the ERP system. This represents 5.2 per cent of the 12,700 transactional users who will routinely use the ERP system once it is implemented, and 1.6 per cent of the estimated 40,900 staff in those entities deploying the ERP system across the wider United Nations. During the Board's review in November 2011, stakeholders noted that there had been a reduction in the level of proactive engagement from the project over the last year. The administration acknowledged that, during that period, when it was reassessing its deployment strategy for the ERP system, communications and engagement with business stakeholders had been very limited.

37. The administration reported that staff in offices away from Headquarters accounted for 52 per cent of participation at the outreach sessions held between July 2010 and July 2011. During its audit work in the Nairobi hub (United Nations Office at Nairobi, the United Nations Environment Programme (UNEP), the United Nations Human Settlements Programme (UN-Habitat)), the Board identified deficiencies in local engagement with and awareness of the ERP project. In particular, the Board found that in those entities there was:

(a) Good general awareness and knowledge of the ERP project in terms of its original intentions and plans;

(b) A view that there had been good initial communication from United Nations Headquarters but that over the last year the level of engagement had dropped off;

(c) Concern that the absence of information on progress, particularly on which systems and processes are included within the scope of the ERP system, was holding up local planning, including the estimation of local "associated costs";

(d) Lack of local engagement in the estimation of costs and forecast benefits;

(e) Confusion about the extent to which implementation will require staff to be released or redeployed.

38. During its audit work at the United Nations Organization Stabilization Mission in the Democratic Republic of the Congo (MONUSCO), the United Nations Assistance Mission for Iraq (UNAMI) and the African Union-United Nations Hybrid Operation in Darfur (UNAMID) peacekeeping missions, OIOS undertook work in coordination and support of the Board's review of the ERP project. The Office found that there were no local ERP project teams or focal points for the project at the missions, and no defined leadership or accountability for delivering the ERP system locally. In addition OIOS discovered that local management had concerns about:

(a) Lack of awareness of the ERP project;

(b) Lack of involvement in the development and validation of new business processes;

(c) Lack of involvement in the calculation of the ERP system's projected benefits; and

(d) Lack of clarity about the potential local costs of implementing the ERP system.

39. The Board notes that there is a lack of proactive structured engagement with external stakeholders, and that no communications or engagement strategy currently exists for the project. The Board concludes that, although efforts have been made to engage with staff at Headquarters and at other offices, there is limited awareness among staff of what will be expected of them if the ERP system is to be implemented successfully.

40. In its first progress report on the implementation of the International Public Sector Accounting Standards (IPSAS) (A/66/151), the Board recommended that the administration assess the feasibility of combining the business transformation activities for the implementation of IPSAS and the ERP system. While there is a clear need for the two projects to be closely aligned in order to ensure that their objectives are met, the Board notes that there is no evidence of any such assessment or plan. Although it is likely that the implementation of IPSAS will proceed more quickly than that of the ERP system, the Board considers that there is still merit in combining the business transformation activities for the two major projects. The Board therefore reiterates its previous recommendation on assessing the feasibility of combining business transformation activities for the implementation of IPSAS and the ERP system in its second progress report on IPSAS implementation (A/67/168).

41. **The Board recommends that the project director: (a) establish the level of engagement with the ERP project across the Organization; (b) develop plans for addressing any shortfalls in communications or engagement; and (c) develop a communications and engagement strategy for the implementation phase.**

42. The administration agreed with this recommendation and has informed the Board that an engagement strategy has been proposed, discussed and agreed upon with the steering committee and the process owners. The administration also informed the Board that collaboration between the IPSAS and ERP project teams has been intensified with the aim of ensuring greater harmonization between the two projects, including temporarily co-locating staff members and appointing a manager from the Office of Programme Planning, Budget and Accounts to complete the pending elements of the financial aspects of the design of the ERP system.

C. Project management

43. To deliver a project successfully it is important to have a clear timetable and implementation plan for delivery. The timetable and implementation plan should be linked to budgets allocated to fund the various project tasks. The timetable and budgets should then be tracked and managed against robust information on costs incurred and project progress. Without such plans and budgets it is impossible to

adequately track progress. Since cost escalation and delays are common in major projects, it is also important to identify critical paths and review points for updating costs and timelines so that options can be assessed on a realistic basis before key decisions are taken.

Management of timetable and project implementation

44. The timetable for implementation of the ERP system is divided into four high-level stages: preparation; design; build; and deployment. The preparation phase began in January 2008 and the administration originally projected that implementation of the system would be completed by the end of 2012.

45. In October 2009, the administration reported that the original timetable for completion had slipped by a year, from the end of 2012 to the end 2013 (see A/64/380). In May 2011, as a result of further delays with the project, the steering committee took the decision to break the build and deployment stages into phases in order to further mitigate delays and support the mandate to implement IPSAS by 2014. The revised build and deployment stages are broken down into two phases: Umoja Extension and Umoja Foundation.

46. Umoja Foundation will include functionality to support IPSAS requirements. Its scope includes processes across the following areas: finance; procurement of goods and services; and assets, inventory and property management. Umoja Extension will include all other functionalities included in the full scope of the ERP system, covering processes across the following areas: human resources; budget formulation; force planning; demand planning and logistics execution; conference and events management; document production and distribution; grants management; and sales and services to the public. Under the phased implementation approach, full deployment of the ERP system is projected for the end of 2015, three years later than originally planned.

47. In the third annual progress report (A/66/381), the administration stated that the project had been delayed for a number of reasons, including an increase in the scope of the project, slower than expected acceptance of new business processes and delays in the recruitment of project staff and subject matter experts. The Board's view is that these issues could have been foreseen and mitigated by the administration through better project management and a greater degree of ownership over the project by senior management. The Board notes, however, that a lack of robustness and transparency over the project timetable has meant that those charged with governing the project (the steering committee, the management committee and the General Assembly) have not had a clear enough view of the progress of the project to enable them to make effective and timely decisions to mitigate any risks that have arisen.

48. Since the project began in 2008, the project team has been using a high-level timetable which specifies only when different phases of the project, such as design or implementation, are expected to be completed. The project team has not had a detailed underlying implementation plan with a set of milestones and deliverables clearly identifying: (a) individual tasks and activities to be completed to achieve the overall aims of the project; (b) the sequence in which they need to be completed; or who needs to complete them. As a result, delays have accumulated unnoticed or unchallenged, for example, by the steering committee, or have been accepted in the belief that they can be absorbed within the overall project timetable.

49. The Board recognizes that the more recent decision to implement IPSAS using legacy systems, including the existing Integrated Management Information System (IMIS), has taken some of the immediate scheduling pressures off the ERP system project. The decision was taken because the administration could not be sure that the ERP system would be ready on time to achieve the IPSAS implementation targets (which, in effect, would have left the United Nations with no means of producing financial statements). The implications for IPSAS implementation stemming from that decision are covered in the second progress report of the Board on IPSAS (A/67/168). The Board notes, however, that the decision to rely on IMIS is an interim transitional solution and that the improved reporting functionality to be delivered through the new ERP system is crucial to delivery of the benefits to be accrued from IPSAS.

Management of costs

50. Good quality cost information enables closer control of costs and careful monitoring of expenditure against budget, enabling a more consistent and strategic approach to decision-making. As at 30 April 2012, $123.2 million had been spent on the implementation of the ERP system, but, because the project team does not have a detailed project plan linking the budget to milestones and deliverables, the administration is unable to determine exactly what should have been achieved in return for this spending. The Board notes, however, that the administration is not required by the Financial Regulations and Rules of the United Nations to link the budget for the ERP system to milestones and deliverables, or to monitor costs in this way.

51. The project team budgets and records what it has spent only on the basis of broad areas of expenditure such as staff, or consultants and experts (table 2). The project team's ability to routinely record and monitor expenditure in greater detail is constrained by the lack of management information and reporting functionality provided by IMIS. For example, the cost figures in the comment column of table 2 are not monitored routinely and were prepared manually at the request of the Board. The lack of sufficiently detailed monitoring and analysis of project costs against clear budgets and deliverables means that the administration is unable to manage project resources effectively.

52. **The Board recommends that the administration: (a) establish a detailed project plan linking the budget to milestones and deliverables; (b) clearly set out who owns each part of the budget and what they are responsible for delivering; (c) establish arrangements for capturing information on expenditure and progress to enable it to more effectively monitor progress, maintain closer control over costs and improve decision-making about future expenditure.**

Table 2
Expenditure on Umoja as at 30 April 2012
(In millions of United States dollars)

Object of expenditure	*Actual expenditure as at 30 April 2012*	*Board's comments*
Posts	20.5	Project staff costs
Other staff costs	10.94	Temporary staff costs
Consultants and experts	0.92	No breakdown available
Travel of staff	1.97	No breakdown available
Contractual services	54.5	Including $49 million in services in relation to system design and creation of the benefits model
General operating expenses	9.0	Includes $5.1 million on office premises and $3.6 million on construction, alterations and improvements
Supplies and materials	0.79	Supplies, materials, furniture, equipment and office supplies and equipment
Furniture and equipment	24.6	Includes $24 million on software licences and maintenance fees
Total	**123.2**	

Source: Information provided to the Board of Auditors by the project team.

53. The administration agreed with this recommendation and has informed the Board that it recognizes the need for a system to routinely record progress against expenditure. It is introducing a project management solution called NOVA, to be in place by 31 December 2012, for this purpose.

Skills and capacity to act as an intelligent client

54. For the ERP system to be delivered on time and within budget, a large number of complex concurrent project tasks need to be completed in a timely and orchestrated manner. Multiple parties are responsible for delivering different interdependent parts of the project (for example, the software provider, multiple systems integrators and the United Nations itself), with the performance of one party impacting another party's ability to deliver. The successful management of a complex project such as this therefore requires a project team with the commercial skills to ensure that contractual responsibilities are clearly identified, apportioned and understood by all parties and that interdependencies are properly managed. The Board, however, has not seen an assessment of contract management project tasks which would allow the administration to define how many staff the project needs, what skills those staff need to have and at what point in the project they are needed.

55. The Board notes that although a contract has been signed for the build phase of Umoja Foundation, the design of the system is still open with varying levels of completion across the five functional areas covered by the ERP system. As ERP systems seek to integrate all aspects of an organization's operations and to facilitate the flow of information between all business functions, this varying level of completion means that the administration cannot yet be certain that the overall solution will work. The Board's view is that additional work will be required to finalize the design and that this will lead to increased costs. The Board discussed this risk with the project director during its final audit and he confirmed that the

administration was aware of the potential for this risk and the possibility of increased costs.

56. In ERP implementations the client will often seek the advice of an external contractor on software selection and for the design and build aspects of the system. This pushes accountability for delivery of the desired outcomes firmly onto the external contractor. In the case of the proposed ERP system, multiple parties are responsible for delivering different interdependent parts of the project, with the performance of one party impacting the ability of other parties to deliver on their responsibilities. Technical resources have already been provided by multiple parties (the project team, United Nations information technology function(s), and consultants) and external assistance during the build phase could be provided by up to three additional external contractors. While these parties will be working towards an agreed technical design, there is a risk that the administration will find it difficult to hold any one party accountable for the performance of the ERP system once it is implemented.

57. **The Board recommends that the steering committee assess whether the administration has an adequate number of staff with the appropriate commercial and contract management skills necessary to manage contracts with the multiple parties responsible for delivering different interdependent parts of the project.**

58. The administration agreed with this recommendation and has informed the Board that the project management office within the ERP project team has been strengthened to enable better management of the contracts with vendors. For example, experienced procurement professionals have been recruited and specific individuals have been made accountable for monitoring the interdependencies between different contracts. The administration also informed the Board that it will undertake a detailed assessment of the adequacy of the contract management function within the project team to determine if the measures implemented to date are sufficient.

D. Project assurance

59. An effective system that gives assurance of project costs and progress is critical for ensuring a successful outcome. Assurance is an independent assessment (independent of the project team) of whether the required elements to deliver a project successfully are in place and operating effectively. Assurance can also address key questions such as whether forecasts of costs and time to complete projects are robust, take into account identified risks and allow for optimism bias.[5] Assurance should also transfer lessons across an organization's portfolio to ensure that cross-cutting trends, lessons and examples of good practice are captured and acted upon.

60. Assurance can be derived from a number of sources and may be internal to an organization, for example, undertaken by an internal audit unit or central function, or external, where another body is responsible for the review. It can be planned,

[5] Within the professional project management community there is a well-demonstrated systematic tendency for project appraisers to be overly optimistic. To redress this tendency appraisers should make explicit, empirically based adjustments to the estimates of a project's costs and timetable.

where it is scheduled at the outset of a project to meet a specific requirement during its life cycle, or consequential, where it is triggered by an event during a project, such as concerns about a project's performance against its plan. The Board notes that the ERP project has not been subject to systematic independent assurance and highlights the following key areas where such assurance could have avoided significant project issues.

Assurance over the project timetable

61. The Board notes that an external review of the project timetable was commissioned by the administration prior to the release of the Umoja Foundation request for proposal in November 2011. It concluded that "the expected delivery timelines are aggressive beyond reasonable expectations" and that "the timelines assume the best of all scenarios, with no contingency". The timetable for implementing the ERP system was not changed in the light of the findings of this review, and the Board is concerned the administration is focused on delivering an output quickly rather than understanding what is actually deliverable. The Board notes that this assessment of the timetable was occurring at a time when the administration was seeking to re-phase the introduction of the ERP system to support the implementation of IPSAS.

62. The Board is concerned that the current ERP project timetable is unrealistic because:

(a) The timetable currently assumes that all steps in the project will be completed on time against challenging deadlines and makes no allowance for such an optimism bias or for slippage arising from common causes of project delay, such as complications with the transfer of data from legacy systems. The fragmentation of existing systems within the United Nations means that activities such as the transfer of data from legacy systems will be expensive and time-consuming;

(b) Procurement of the vendor for the build stage of Umoja Foundation was delayed by around a month and the project is not fully ready to move forward because the design of the system is still under way, with varying levels of completion across the five functional areas covered by the ERP system. The administration has not yet quantified the extent of this delay. When it announced the revised completion date for implementation of the ERP system (December 2015), the administration informed the Board that there was no contingency in the timetable to absorb further delay without an impact on the final completion date for the project;

(c) Procuring multiple systems integrators may cause further delays. The administration has signed a contract with a systems integrator to build, integrate, test and deploy Umoja Foundation. The timetable in the third annual progress report was based on the concept of using an initial contract to cover both Umoja Foundation and part of Umoja Extension. The administration now intends to use two contracts to cover this work, and it will procure a third contract to build the remainder of Umoja Extension. The Board has seen no evidence that the potential impact of this decision on the project timetable has been considered;

(d) The external review of the project timetable found that minimal time has been allowed between the completion of testing and planned deployment dates in the various locations where the ERP system is to be implemented. In this regard, the lack of any allowance for slippage presents the risk that there will be insufficient time between deployments to stabilize the system or provide adequate training and support to users.

Assurance over project costs and expenditure

63. In April 2008, the administration presented the General Assembly with an anticipated final cost for implementing the ERP system of $248.3 million (see A/62/510/Rev.1). The Umoja project is funded in accordance with a cost-sharing formula under the regular budget (15 per cent), the support account for peacekeeping operations (62 per cent) and extrabudgetary resources (23 per cent). Funding for the full anticipated cost of the project has never been approved by the Assembly. The administration requests funding to cover expected project expenditure for the next budgetary period, in line with the arrangements for the various sources of funding, and the Assembly approves funding on that basis.

64. In October 2009, the anticipated final cost was revised to $315.8 million with the increase relating to a request for an additional 36 project posts and an increase in travel costs to support instructor-led training rather than the train-the-trainer approach originally proposed (see A/64/380). The administration's anticipated final cost remained at $315.8 million at the time of the Board's audit.

65. The Board is concerned both that the administration could not provide the Board with robust supporting evidence for the anticipated final cost of $315.8 million, as first stated in October 2009, and that the cost impacts of significant delays and changes to the implementation approach to the project since October 2009 have not been reflected in the administration's cost forecast:

(a) The project does not have a detailed implementation plan linking the budget to a clear set of milestones and deliverables (as discussed above);

(b) As at 30 April 2012, $123.2 million had been spent on the implementation of the ERP system but the administration is unable to determine what should have been achieved in return for this spending (as discussed above);

(c) Since the administration revised its anticipated final cost to $315.8 million in October 2009 the timetable has been extended by two years and phased to support the implementation of IPSAS but the impact of this has not been reflected in the anticipated final cost (as discussed above);

(d) The anticipated final cost does not take account of unbudgeted associated costs or the probable cost of identified risks (as discussed above).

66. In the first annual progress report (A/64/380), the administration considered adopting a phased approach to support the implementation of IPSAS. The estimated cost of such an approach, which was $397.9 million, $82.1 million more than the current anticipated final cost, was rejected on the basis that "the overall cost was estimated to be far higher owing to the doubling of effort in the build and implementation phases, as well as the significant reworking and retraining required to integrate second-phase functions". Despite the recent decision to produce the first set of financial statements under IPSAS using legacy systems, the ERP project is proceeding with a phased implementation approach. However, it is unclear why the increased costs previously forecast for such a strategy have not been reflected in the administration's anticipated final cost for the project.

67. In August 2011, the project team's estimated project cost under the "IPSAS first" approach was $368.1 million. The steering committee considered this figure to be unacceptably high and instructed the project team to reduce the anticipated cost to $315.8 million prior to the publication of the third annual progress report. To achieve that reduction, the administration reduced its projected annual resource requirements, between 2012 and 2015, for travel, consultants and experts, contractual services and supplies and materials by between 15 and 57 per cent. The Board could find no evidence of underlying changes to project scope or planned activities to justify these reductions. The reductions to the estimate were made solely to ensure the reported anticipated final cost did not exceed $315.8 million, and did not represent a considered reassessment of the real financial implications of phasing the implementation of the ERP system.

68. The Board considers that the reduction of forecast resource requirements for key project activities to absorb cost overruns, without an underlying change to the intended approach, is unlikely to result in actual cost reduction. Even if cost reductions are realized in the specific areas identified, they may prove to be a false economy since they may put the achievement of the aims of the project at risk, and may in fact lead to higher overall costs or to the displacement of costs or lost opportunities elsewhere. If increases to the anticipated final cost need to be contained, the administration should prioritize which elements of the project are of strategic importance to the Organization and then make proposals to reduce costs based on a realistic assessment of the costs, risks and benefits of the options available.

69. The Board also notes that the administration did not identify significant associated costs related to the implementation of the ERP system, such as the costs of data cleansing, user testing and data archiving, at the business case stage. These costs are not included in the anticipated final cost of the project or within departmental budgets. The project team's initial analysis of associated costs, undertaken in March 2012, suggests that they could total between $86 million and $110 million, although some costs, including staff travel to training sites, have yet to be estimated.

70. The project team states that it cannot absorb all the associated costs within the project budget and is seeking to establish which budget owners will be expected to meet them. If the ERP system is to be delivered on time, budget owners need to commit themselves to prioritizing preparatory activities such as data cleansing and user testing. However, until there is clarity over the allocation of associated costs and when they will be incurred, budget owners cannot begin to make preparations. The administration informed the Board that the Department of Field Support has agreed to meet associated costs for its operations but it is unclear to the Board how field missions will fund these costs in practice if their existing budgets do not include allocations for them. The Board is also concerned that the General Assembly has not received or approved proposals for how the associated costs should be funded.

71. The lack of robustness and transparency with regard to the project timetable and the costs outlined above has meant that those charged with funding and governing the project (the steering committee, the management committee and the General Assembly) do not have a clear view of project progress or costs that would enable them to make effective and timely decisions to mitigate risks.

72. **The Board recommends that the project director and the steering committee: (a) reassess the feasibility of the project timetable and budget,**

taking into account the possibility of optimism bias and the impact of identified risks, and prepare a robust forecast of the cost and the time needed to complete the project under the current scope; and (b) report the findings and proposals to address any increase in cost and time identified to the General Assembly at the earliest opportunity.

73. The administration agreed with this recommendation and agreed that the lack of a detailed project plan had led to imprecise reporting on the status of the project both in terms of its timetable and budget. The administration informed the Board that in June 2012 the steering committee endorsed a revised deployment timetable and detailed project plan that will be presented to the General Assembly in the fourth annual progress report for the ERP project. Under the new project plan, deployment of the system will be performed on an entity-by-entity basis on the basis of information extracted from the IMIS system. The revised timetable delays the planned completion of the deployment and stabilization of the human resources and travel functionalities, under part one of Umoja Extension, by six months, to June 2016.

74. The administration also advised the Board that two independent project design reviews have been undertaken by the system integrator (Accenture) and the ERP software vendor (SAP AG), with the aim of validating the completeness and quality of the design and associated project deliverables. Work to address gaps identified began on 4 June 2012 and is expected to be completed by the end of July 2012. The administration acknowledged that this additional design work will lead to increased costs, but noted that the work was imperative in order to advance the project. The administration informed the Board that the anticipated final cost of the project will increase and that revised costs will be presented to the General Assembly in the fourth annual progress report.

75. **The administration agreed with the Board's recommendation that senior management put appropriate controls in place so that they can clearly demonstrate to the General Assembly that assurance can be placed on the reported timetable, and actual and anticipated costs for the ERP project.**

76. **The Board also recommended that the project team and budget owners work together to: (a) develop a robust estimate of all associated costs of the project; (b) clarify the allocation of associated costs as a matter of urgency to give budget owners as much time as possible to make preparations to meet these costs; and (c) develop proposals as to how these associated costs will be met.**

77. The administration agreed with this recommendation and informed the Board that a working group, under the guidance of the Under-Secretary-General for Management, chaired by the Assistant Secretary-General/Controller and with representatives from the Secretariat, including the Department of Field Support, offices away from Headquarters, United Nations Headquarters and the field missions, is to be convened in July 2012 to establish guidance on the application of indirect costs associated with the ERP project. In particular, the working group will: (a) review and validate all costs not included in the project budget but which are associated with implementation of the ERP system (for example, data cleansing and conversion); (b) provide guidance on the preparation of the proposed programme budget for 2014-2015; and (c) identify opportunities to redesign the Organization's service delivery model in order to redirect existing resources to perform the tasks associated with indirect costs. The administration stated that the working group will formulate

new estimates for indirect costs and that its view was that efforts should be made by every concerned department to absorb these costs within their existing resources.

Assurance over project risks

78. Identification of potential risks allows organizations to establish mechanisms to minimize the likelihood of them arising. During its interim audit in November 2011, the Board identified a number of weaknesses in the way the steering committee and the project team handled project risks, including a focus on actions required to tackle issues arising from risks that had materialized rather than on mitigating actions to prevent risks arising.

79. The Board noted that a revised risk register prepared by the project team in March 2012 following interim Board recommendations now lists risks that have yet to materialize and quantifies both the probability of the risks arising and their potential impact. The Board is still concerned however that:

(a) The revised risk register includes only broad descriptions of who owns the risks (for example, "requires attention from senior managers") and does not clearly assign accountability or ownership of the risks;

(b) The revised risk register identifies the probable cost impact of the identified risks in broad terms across five categories ranging from less than 1 per cent or $100 million, to greater than 5 per cent or $500 million. The administration's anticipated final cost does not reflect such costs;

(c) The revised risk register, while useful for the project team, is too detailed for effective consideration by the steering committee or senior management.

80. **The Board recommends that the chair of the steering committee and the project director: (a) assign clear ownership of project risks to those with the authority to address such risks; (b) assess and document the likelihood of the occurrence of each risk, including quantified impacts; and (c) establish regular risk monitoring as part of the ongoing budgeting and resourcing arrangements.**

81. The administration agreed with this recommendation and informed the Board that its concerns will be incorporated into the project risk register and/or applicable monitoring mechanism. The project management office, which is responsible for maintaining the project's risk register, will assign accountability or ownership for project risks. The administration also stated that the project team has developed a dashboard for reporting risks to the steering committee.

Learning lessons from previous ERP implementations

82. The Secretariat does not have a systematic approach for capturing and transferring lessons from projects across its portfolio or to other organizations of the United Nations system, relying rather on informal contact across organizations and projects. For example, in July 2011, the administration commissioned a survey of ERP implementations at 25 organizations of the common system, with the aim of learning from their experiences and identifying best practices. The following lessons were identified by the review at that stage:

(a) Organizations that successfully implemented ERP systems had consistent support from the highest levels of management. Effective risk management and clear reporting lines between senior management and project management was also reported to be crucial;

(b) Many organizations start with an ambitious plan (including scope, timeline and availability of staff resources (skills)) and underestimate financial requirements;

(c) Timelines are often ambitious and tight, resulting in either a postponement of the go-live date or a reduction in scope;

(d) Business process re-engineering and restructuring is a continuous process, and does not end when the system goes live;

(e) The measurement of benefits is challenging and organizations often use anecdotal evidence or simple measures such as trends in processing time as the basis for reporting on benefits.

83. In October 2011, the administration presented the findings emerging from the study to the Advisory Committee on Administrative and Budgetary Questions. However, the Board has seen no evidence that these lessons have been taken into account by the administration or considered by an independent assurance function. Without a systematic approach to assurance, there is a risk that these cross-cutting trends, lessons and examples of good practice will be missed and the United Nations ERP project will not translate any lessons learned from previous ERP implementations in the wider United Nations system into practical action.

E. Governance

84. Effective governance of ICT is an important factor in ensuring its appropriate management and use in supporting the achievement of an organization's aims and objectives. ICT governance covers the people, systems and processes that direct, approve, control and assure an organization's ICT by establishing clear lines of accountability and authority.

85. In January 2012 the Advisory Committee on Administrative and Budgetary Questions requested that the Board audit the handling of ICT affairs in the Secretariat, including the Office of Information and Communications Technology. While the Board currently envisages issuing a separate report on the topic of the management of ICT in the United Nations in late 2012, it considers it important to present some initial views on the issue of ICT governance in this report as they are of importance to the delivery of the ERP project.

General principles of effective ICT governance

86. There is no single model for ICT governance that can be applied to every organization. However, one of the key roles in any ICT governance structure is that of the chief information officer, whose position within an organization will be driven by the nature of the business, its objectives and the risks it is facing at any given time.

87. In organizations undergoing significant reform, a substantial investment in their ICT estate or with a high reliance on ICT to deliver their business, the role of the chief information officer will typically be filled by a member of staff at a senior (board) level with responsibility for overall business performance. That individual may be asked to lead ICT projects that are crucial to the strategic and operational

objectives of an organization, such as the implementation of an ERP system. The role of the chief information officer is distinct to that of the chief technology officer, which is typically less business orientated or strategic, and focused on the management of ICT assets and the ICT estate. The chief technology officer will often not report directly to the board, but rather through an intermediary manager.

ICT governance in the United Nations Secretariat

88. In the United Nations Secretariat an ICT governance framework and ICT strategy has been introduced by the Office of Information and Communications Technology, which was established in February 2009. This framework also governs the ICT structures at the offices away from Headquarters, the Office for the Coordination of Humanitarian Affairs, the Office of the United Nations High Commissioner for Human Rights (OHCHR), the United Nations Conference on Trade and Development (UNCTAD), UNEP, UN-Habitat, the United Nations Office on Drugs and Crime and the United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA). The head of the Office of Information and Communications Technology, the Chief Information Technology Officer, is responsible for the overall direction and performance of ICT activities across the Secretariat. The key functions and responsibilities of the Chief Information Technology Officer include:

(a) Providing strategic vision and leadership in the management of information and technology for the United Nations Secretariat;

(b) Overseeing ICT project implementation and business transformation processes throughout the Organization;

(c) Overseeing, through appropriate delegation, ICT operations and investments at all offices of the Secretariat.

89. The post of the Chief Information Technology Officer was created with a reporting line to the Deputy Secretary-General on the basis that it would enable the officer to assume a strategic and transformational role within the executive management team. It was also envisaged that the reporting line would provide a framework for implementing systemic reform and help mitigate the effects of organizational silos and cultural resistance to change.

90. The Board's view is that the aims behind the creation of the role of the Chief Information Technology Officer were consistent with the broad principles of good ICT governance. It notes however, that while the officer's key functions span some of the typical responsibilities of both a chief information officer and a chief technology officer, the role is focused predominantly on the management of ICT assets and the ICT estate, rather than on issues such as business transformation and the integration of ICT with business objectives and activities. The Board considers that, as currently designed, the role of the CITO does not encompass the authority needed to successfully drive business transformation across the Organization and it is unclear who else is accountable and responsible for such activities.

91. The Board's initial high-level review of the ICT strategy noted that it made no reference to the United Nations strategic plans, indicating a lack of alignment between the ICT strategy and the United Nations strategic plans. There is a risk that the United Nations ICT strategy will not fully support its business needs and priorities. In March 2012, the reporting line for the Chief Information Technology

Officer was changed from the Deputy Secretary-General to the Under-Secretary-General for Management. The Board's view is that this decision further accentuates, in principle, the lack of ownership for the alignment of ICT strategies with business activities and objectives at the senior executive level of the Organization. In essence there is no one at a senior management level with responsibility and accountability for assessing and defining the information needs of the Organization and the business transformations required to address those needs.

92. The Board considers that the lack of clarity regarding responsibility and accountability within the overall ICT governance structure of the United Nations has an impact on the delivery of the ERP system. There is no evidence of the necessary holistic view of the Organization's information requirements and legacy systems, nor how the business will migrate from them, decommission them or use them to support the transition to the ERP system. Nor has there been any assessment of how this would be achieved across a range of United Nations business entities with varying degrees of autonomy and significant differences in governance, processes and service delivery models. The Board considers that this holistic assessment is a necessary precursor for successful business transformation, and is also of the view that this lack of legacy management plans is an indicator of deficiencies in both ICT governance, and governance in the United Nations more generally.

Governance of the ERP project

93. For the ERP system to be implemented successfully there is a need for strong senior level ownership of the project, which should be supported through governance arrangements that encourage effective and timely decisions, with roles, accountabilities and responsibilities clearly defined. Key risks need to be identified and assessed, and action needs to be taken to address them.

94. The implementation of the ERP system is being overseen by a steering committee that reports to the management committee. The steering committee comprises of officials including the Under-Secretary-General for Field Support, the Under-Secretary-General for Management (who is also chair of the steering committee) and the Chief Information Technology Officer. Until June 2011, the project director reported directly to the Under-Secretary-General for Management, as chair of the steering committee, and to the Chief Information Technology Officer on day-to-day project management and technology issues.

95. Following the resignation of the Under-Secretary-General for Management as chair of the steering committee in June 2011, a number of interim changes were made to the governance structure for the project. Under those changes the project director reported directly to the Chief Information Technology Officer, who was responsible for guiding the management of Umoja on behalf of the steering committee (see A/66/381). In addition, the Deputy Secretary-General was appointed as chair ad interim of the steering committee and the Chef de Cabinet appointed as a new member of the steering committee. In March 2012, the governance structure was further revised and under those changes the project director now reports solely to the Under-Secretary-General for Management.

96. In its interim audit of the ERP project the Board noted that, despite changes to the governance structure of Umoja, the root causes of delays to the project were still not being addressed effectively and called for clearer and more effective senior management ownership of project deliverables. The roles and responsibilities of the

steering committee had not been clearly defined and it had no ownership of project deliverables such as business transformation. In April 2012, in response to the Board's observations, the administration introduced a terms of reference for process owners, who are the members of the steering committee. The responsibilities of process owners include: (a) business transformation activities that are required to introduce the ERP system successfully; (b) resourcing data cleansing and data enrichment activities during implementation; and (c) benefits realization for their respective processes. While recognizing the positive steps taken, the Board will assess the impact of these changes in its future work on the ERP project.

97. A single senior responsible owner, who is accountable for the project, is regarded in the professional project management community as an essential prerequisite to successful delivery. The senior responsible owner, for a project of the magnitude and importance of an ERP implementation should typically be at the executive level of the organization (often the chief information officer or chief executive), have the authority to make the decisions required to drive the project forward and be clearly accountable for making such decisions. That individual should also have operational delivery, project management and technical skills, as well as an in-depth understanding of the business and the full confidence and trust of those charged with governance and funding.

98. In its interim audit of the ERP project the Board highlighted that the governance structure of Umoja did not include such a role and recommended that a senior responsible owner be appointed with the requisite authority to drive Umoja forward and remove inhibitors to the project. In response to that recommendation, in April 2012 the steering committee endorsed the designation of the chair of the committee as the senior responsible owner for the ERP project. The terms of reference for the senior responsible owner state that the officer is ultimately accountable for the ERP project, including for aligning the project with the Organization's corporate needs and business strategy and, with the support of process owners, for business transformation and benefits realization. The Under-Secretary-General for Management, as the chair of the steering committee, is the project's senior responsible owner. The Board, while recognizing the positive steps taken, is concerned that the senior responsible owner as currently designated does not have authority over all of the departments and entities at which Umoja will be implemented and that therefore the officer may not be able to drive the project forward effectively.

99. **The Board recommends that the Administration: (a) appoint a single senior responsible owner with the requisite authority, across the departments and entities in which the ERP system is to be implemented, to drive the project forward; (b) clearly communicate the identity and authority of the senior responsible owner to all staff; and (c) finalize the planned revisions to the project's governance structure at the earliest opportunity, including assigning clear accountabilities for the completion of all major tasks.**

100. The administration agreed with this recommendation and informed the Board that it has taken a number of steps aimed at ensuring the Under-Secretary General for Management, as the designated "project owner" (equivalent to senior responsible owner), has the necessary authority to drive the project forward. For example, the Chef de Cabinet wrote to the heads of departments and offices on 2 July 2012 to advise them that the Secretary-General has made implementation of the ERP system

a high priority and that his 2012 compacts with senior managers will include a special objective and three performance measures to support implementation. One such performance measure is that, by 31 December 2012, all departments and offices must complete a plan for how and when data cleansing will occur.

IV. Acknowledgements

101. The Board wishes to express its appreciation for the cooperation and assistance extended to its staff by the Under-Secretary-General for Management, the project director and members of their staff.

(*Signed*) **Liu** Jiayi
Auditor-General of China
Chair of the Board of Auditors

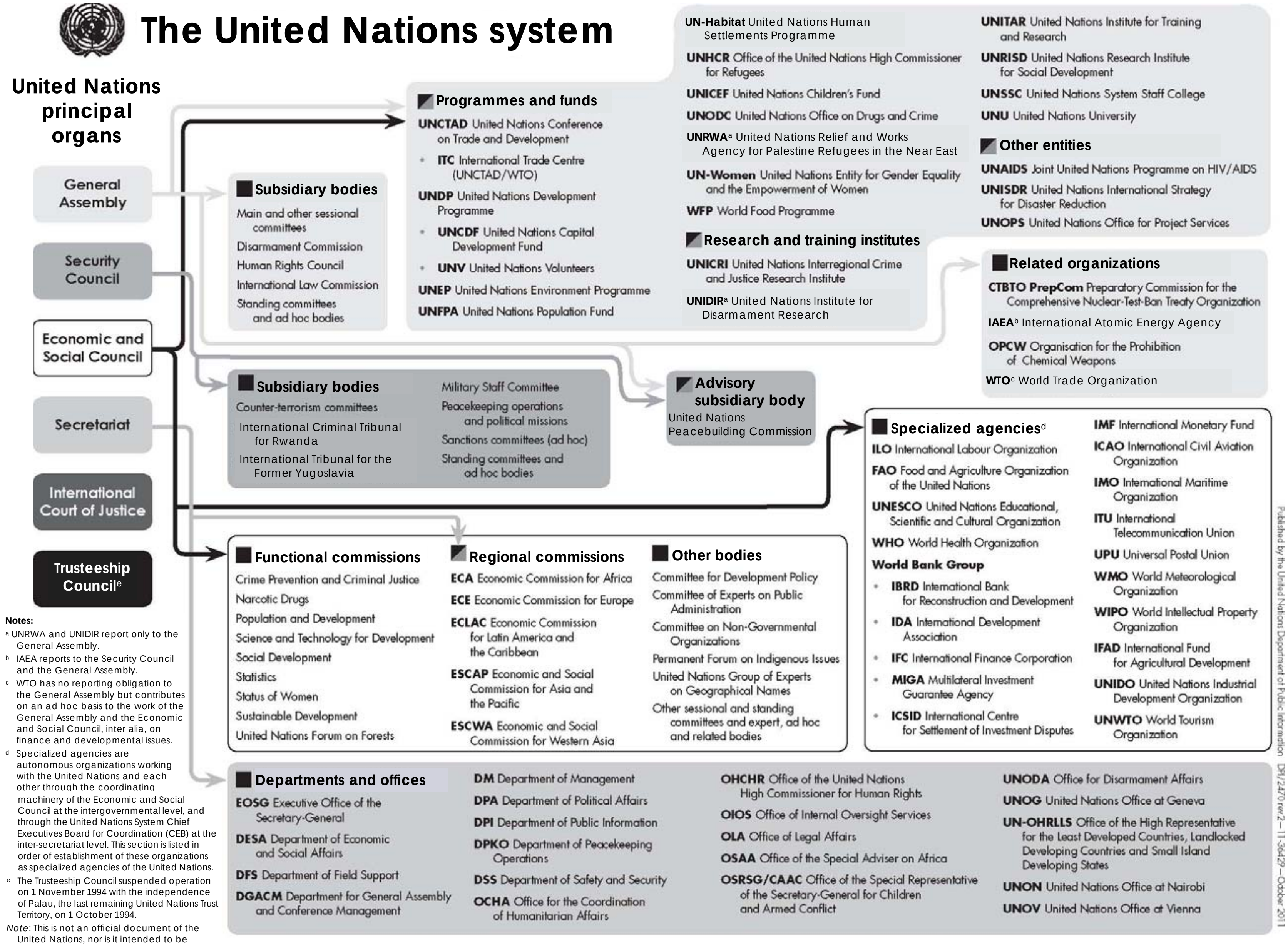
(*Signed*) Amyas **Morse**
Comptroller and Auditor General of the
United Kingdom of Great Britain and Northern Ireland
(Lead Auditor)

(*Signed*) Terence **Nombembe**
Auditor-General of South Africa

30 June 2012

Annex I

Scope of the enterprise resource planning system



Annex II

Status of actions proposed by the administration in response to the recommendations of the Board of Auditors

Recommendation	*Responsible office*	*Agreed with (yes/no)*	*Target date for implementation*	*Administration comments (June 2012)*
The Board recommends that the project director: (a) consider the gaps identified by the Board and, on that basis, reassess the benefits model for the ERP system in consultation with process owners; (b) agree a baseline with headline benefit figures to be realized by each process owner; (c) determine what the actual cashable savings will be; (d) assign accountability to process owners for realizing the agreed savings and benefits, and for developing plans to achieve them; and (e) communicate to the General Assembly what changes to the organization it proposes to implement to realize the intended annual benefits from the project	Umoja	Yes	July 13	The gaps identified by the Board will require considerable consultation with (a) the steering committee to determine accountability, (b) the Change Implementation Team to develop the vision/framework for “shared services” and (c) the process owners This process will not be completed prior to the submission of the fourth annual report, in which the approach and progress will be summarized. Actual discussions with the Advisory Committee on Administrative and Budgetary Questions and the Fifth Committee will provide a further opportunity to provide updates. Target completion date of July 2013 coincides with the planned go-live of Umoja at a pilot site
The Board recommends that, in order to enable transparent planning and reporting of the	Umoja	Yes	2013, 2014, 2015 reports of the Secretary-General on Umoja	The future reports of the Secretary-General will include information on how posts may be redeployed or

Recommendation	Responsible office	Agreed with (yes/no)	Target date for implementation	Administration comments (June 2012)
achievement of the projected benefits of implementing the ERP system and clarity over whether their achievement will require staff to be released or redeployed, the Administration consult the General Assembly on its benefits realization plans				how roles may change as a direct result of the deployment and stabilization of the ERP system. This information will be further enriched following identification and quantification of benefits at each entity in the six months preceding implementation
The Board also recommends that the Administration: (a) assign clear responsibility for all tasks related to developing proposals for realizing further benefits through changes in the approach to service delivery; and (b) publish a timetable against which these proposals will be developed	Umoja	Yes	Oct. 12	There is an ongoing discussion between the Change Implementation Team, the project owner and Umoja on this observation to determine the various roles and responsibilities
The Board recommends that the Administration: (a) clearly set out how it will manage change and embed more efficient and standardized working practices across the organization; and (b) develop plans for how staff will be supported to develop the skills, capacity and capability to adopt different working practices	Umoja	Yes	July 13	The Umoja organizational change management team and the realization teams have developed approaches, strategies and plans to assess the change impact associated with the deployment of Umoja; the role-mapping (Umoja roles to individuals) approach and a learning/training approach. All these activities are aimed at ensuring that the

Recommendation	Responsible office	Agreed with (yes/no)	Target date for implementation	Administration comments (June 2012)
				Organization identifies the major changes between the “as is” and “to be” processes, determines the staff that will be impacted and ensures that appropriate communications, training and support is provided to them to ensure that the behavioural change is realized and that the impacted staff have only the user access and authority that is appropriate for them to execute their functions, with the proper segregation of duties
The Board also recommends that the Administration establish a formal approach to managing and improving business processes to enable continuous reform and improvement following implementation of the ERP system	Umoja	Yes	Aug. 13	A formal approach for a centre of excellence to manage and improve business processes post Umoja implementation will be considered during the development of the United Nations ERP support and sustainment strategy. This strategy will include requirements for change management, training and business analysis to enable continuous improvement to the system after the implementation of Umoja
The Board recommends that the project director: (a) establish the level of engagement with the ERP	Umoja	Yes	Sept. 12	A comprehensive engagement strategy was proposed, discussed and agreed with the steering

Recommendation	Responsible office	Agreed with (yes/no)	Target date for implementation	Administration comments (June 2012)
project across the Organization; (b) develop plans for addressing any shortfalls in communications or engagement; and (c) develop a communications and engagement strategy for the implementation phase				committee and the process owners, including the roll-out support structure, the mobilization, awareness and training of all management and staff involved
The Board recommends that the Administration: (a) establish a detailed project plan linking the budget to milestones and deliverables; (b) set out clearly who owns each part of the budget and what they are responsible for delivering; and (c) establish arrangements for capturing information on expenditure and progress to enable it to more effectively monitor progress, maintain closer control over costs, and improve decision-making about future expenditure.	Umoja	Yes	Dec. 12	With regard to the $118 million spent so far in the project, the Administration did not have systems in place that could link the budget to milestones and deliverables. The Administration can attest as to which activities have been implemented with these funds and what achievements have been obtained. Notwithstanding that this is not a requirement under the United Nations system accounting standards, the Administration recognizes the need to have such a tool in a project of this nature and it is introducing NOVA, one of the most efficient project management solutions available in the market, for that purpose

Recommendation	Responsible office	Agreed with (yes/no)	Target date for implementation	Administration comments (June 2012)
The Board recommends that the steering committee assess whether the Administration has an adequate number of staff with the appropriate commercial and contract management skills necessary to manage contracts with the multiple parties responsible for delivering different interdependent parts of the project	Department of Management-Office of the Under-Secretary-General	Yes	Dec. 12	A detailed assessment of the adequacy of the contracts management function within Umoja will be undertaken. However, since June 2011, Umoja augmented its contract management capacity with the assignment of experienced procurement professionals with significant experience in United Nations procurement and contracting. The assignment of a subject matter expert together with the consolidation of all procurement activities under the Project Management Office has strengthened Umoja's ability to manage multiple third party contractors. After the assessment mentioned above is completed, the Administration will be able to determine if the measures implemented to date are sufficient
The Board recommends that the project director and steering committee: (a) reassess the feasibility of the project timetable and budget, including consideration of optimism bias and the probable impact of identified risks,	Umoja	Yes	Sept. 12	An analysis of the project timetable, project budget and deployment strategy and other critical elements is currently nearing completion. This effort in the context of the preparation for the fourth annual report is being

Recommendation	Responsible office	Agreed with (yes/no)	Target date for implementation	Administration comments (June 2012)
and prepare a robust forecast of cost and time to complete the project under the current scope; and (b) report the findings and proposals to address any cost and time increases identified, to the General Assembly at the earliest opportunity				informed/validated by engagement with the project owner, the steering committee, process owners, Secretariat entities and external consultant groups. This engagement is necessary to gain acceptance and accountability of the Umoja timetable, scope and budget going forward. The fourth progress report will be cleared by the project owner, endorsed by the Umoja steering committee and the Management Committee and be processed as normal through the Programme Planning and Budget Division, the Office of the Under-Secretary-General of the Department of Management and the Executive Office of the Secretary-General
The Board recommends that senior management in the Administration put appropriate controls in place so that they can clearly demonstrate to the General Assembly that assurance can be placed in the reported timetable, including actual and anticipated costs for the ERP project	Department of Management-Office of the Under-Secretary-General	Yes	Dec. 12	The Umoja Director, together with the project owner (senior responsible owner) and the steering committee, will ensure that appropriate controls are in place to clearly demonstrate to the General Assembly that assurance can be placed in the reported timetable, and actual and anticipated costs for the ERP project

Recommendation	Responsible office	Agreed with (yes/no)	Target date for implementation	Administration comments (June 2012)
The Board further recommends that the project team and budget owners work together to: (a) develop a robust estimate of all associated costs of the project; (b) clarify the allocation of associated costs as a matter of urgency to give budget owners as much time as possible to make preparations to meet these costs; and (c) develop proposals for how these associated costs will be met	Umoja	Yes	Oct. 12	A working group, under the guidance of the project owner, chaired by the Assistant Secretary-General/Controller and with representatives from the Secretariat, including the Department of Field Support, offices away from Headquarters, Headquarters and the field missions is to be convened in July 2012 to establish clear guidance on the application of indirect costs associated with the Umoja project, bearing in mind the challenges to the Umoja deployment timeline and the need for timely budget planning and preparation across departments. In particular the working group will: (a) review and validate all costs not included in the Umoja budget but which are associated with its implementation (e.g. data cleansing and conversion); (b) provide guidance in this regard for the preparation of the programme budget for 2014-2015; and (c) identify opportunities to redesign the Organization’s service delivery model in order to redirect existing resources to perform the tasks

Recommendation	Responsible office	Agreed with (yes/no)	Target date for implementation	Administration comments (June 2012)
				associated with indirect costs. The Working Group will formulate the new estimates for indirect costs bearing in mind the following two principles: to keep costs at a minimum; and to ensure that efforts are made by every concerned department to absorb these costs from within existing resources
The Board recommends that the chair of the steering committee and the project director: (a) assign clear ownership of project risks to those with appropriate authority to address each risk; (b) for each risk, assess and document the likelihood of the risk arising and its quantified impact; and (c) establish regular risk monitoring as part of the ongoing budgeting and resourcing arrangements	Umoja Department of Management-Office of the Under-Secretary-General	Yes	Sept. 12	As identified in the draft fourth progress report on Umoja, significant progress has been made in the identification and management of project issues and risks. Concerns noted by the Board will be incorporated into the Umoja risk register and/or monitoring mechanism as applicable
The Board recommends that the Administration: (a) appoint a single senior responsible owner with the requisite authority, across the departments and entities in which the ERP system is to be implemented, to drive the project forward;	Department of Management-Office of the Under-Secretary-General	Yes	N/A	This recommendation has been implemented by designating the Under-Secretary-General of the Department of Management as the project owner of Umoja. The Department of Management, in accordance with the Secretary-General's

Recommendation	*Responsible office*	*Agreed with (yes/no)*	*Target date for implementation*	*Administration comments (June 2012)*
(b) clearly communicate the identity and authority of the senior responsible owner to all staff; and (c) finalize the planned revisions to the project's governance structure at the earliest opportunity, including assigning clear accountabilities for the completion of all major tasks				bulletin ST/SGB/2010/9, "formulates policies and procedures and provides strategic guidance, direction and support to all entities of the Secretariat, including the offices away from Headquarters and the regional commissions, in three broad management areas, namely, finance and budget, human resources, and physical resources (support operations and services)". As the Board states in paragraph 3 of the present report "Umoja, spans most of the Organization's administrative and support functions across five areas: finance; supply chain; human resources; central support services; and programme and project management", and all key areas fall within the purview of the Department of Management. In line with the Secretary-General's bulletin, the Department is headed by an Under-Secretary-General who "is responsible for the formulation of the Secretariat's management policies and has overall responsibility for the management of the

Recommendation	*Responsible office*	*Agreed with (yes/no)*	*Target date for implementation*	*Administration comments (June 2012)*
				financial, human and physical resources of the Secretariat, in accordance with the Secretary-General's delegation of authority". It is also the Under-Secretary-General who "represents or ensures the representation of the Secretary-General on management matters in relation to governing bodies, funds, programmes and agencies of the United Nations common system and administrative advisory bodies. He or she also monitors emerging management issues throughout the Secretariat by interacting with executive committees". Having Umoja defined as "a continuous organizational transformation, enabling high-quality, cost-effective service delivery for evolving United Nations mandates aimed at maximizing the productivity of the United Nations human, financial and material resources", there is no better project owner than the Under-Secretary-General of the Department of Management. Finally, it should be added that the project owner has received the full support of Member

Recommendation	Responsible office	Agreed with (yes/no)	Target date for implementation	Administration comments (June 2012)
				States to assume these responsibilities (please refer to General Assembly resolution 66/246 that transferred the Umoja project to the Department of Management) and also the full support of the Secretary-General and of the Umoja's steering committee

Note: The information contained in the present annex has not been subject to audit or verification by the Board. The Board will follow up on further progress and the impact of the actions taken by the administration during its next audit.