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Review and assessment of US-Aid project on establishing the Iraq Financial Management Information System (IFMIS) at the Ministry of Finance.

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1. EXECUTIVE SUMMARY

Background on the Concept Note

This concept note has been developed as response to an idea raised by Dr. Barik Shubber that is the importance of automation of government budget preparation, submission and execution. Accordingly, discussion was initiated with Dr. Zaid Haba and Dr Abdulilah Dewachi who are also expert in the field. The initial conclusion was that the response should be based on a request for a call made by the officials in the government of Iraq.

Subsequently, we thought it would be very useful to raise this discussion in a form of a concept note on such pertinent subject matter.

Main Objective

The objective of this note is to invoke serious discussion at the experts and officials level on the strategic role of governmental enterprise resource planning system (ERP) and come up with road map for based on financial management information system implementation best practices and blended with the experience of Iraq expatriates and government officials.

Government ERP Implementation (World and Iraq Experience)

Many developed and developing countries have adopted financial management information system (FMIS) as a mean of financial reform and FMIS has become an important step if not precondition in the overall financial and budgetary control in those countries. Historically, developing countries experience has not shown high success rate in the implementation and adoption of FMIS. Many countries faced a complete failure or partial success. Iraq is no exception and the recent effort has been complete failure despite the allocation of substantial funds (more than 40 million USD) with serious effort to achieve the objective of having integrated financial system.

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Common Factor contributed to unsuccessful implementation

- Failure to follow implementation standards and best practice.
- Failure in identifying the system functional requirements (institutions actual need).
- Lack of business practices standardization and administrative reform and failure to redesign the business processes (procedures).
- Failure to identify prerequisite in terms of function, technical and human resource capacity.

Governmental ERP Structure and Building Blocks

Enterprise Resource Planning (ERP) role in an organization extends beyond the software technology solution. ERP can be defined as a set of procedures, standards, business rules and organizational structure, business workflows and technologies which all constitute an integrated corporate or governmental business solution. The following may be considered are the main component of an ERP system:

- 1- Business processes identification and standardization
- 2- Data standardization in terms of definition and format
- 3- Process, data and reporting control
- 4- Design to eliminate unnecessary duplication of information.

For public sector or governmental ERP budgeting is the primary engine for this type of systems. The decision made during the budgeting process drives all the action the governments takes during the year in question or several years to come. Hence understanding the budgeting process in terms of legal setting and other statutory or less formal concentration of powers is also critical for the configuration of the budgeting in GERP. Further budgetary control is another key aspect of GERP. GERP system should ensure that funds availability is checked and funds are reserved before any budget consuming financial or purchasing transaction takes place.

Iraq budgeting process is guided mainly by Coalition Provisional Authority (CPA) Order Number 95 which sets the legal framework of the role of public financial institutions in the budgeting formulation, budget execution and funds appropriation

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(CPA, 2003). The law clearly states that the budget projections shall be prepared by the Ministry of Finance in consultation with the Central Bank and other Ministries in their respective areas of expertise.

Implementation Road Map

Benefit Cost Analysis:

For implementation to be successful there are set of requirements to be met and standard practices to be followed. A comprehensive benefit cost analysis which should be associated with strategic planning study to provide the executives and the legislators the required information to decide whether the implementation is economically feasible.

Requirement specification document:

This is a key document to capture the actual requirement of governmental institutions. The requirements should be traceable, manageable, and should have a clear, single understanding, common to all parties involved.

Operational analysis:

This process produces the prioritized ERP requirements, reflecting business goals and company strategy. Also, the empirical findings from the Operational analysis are summarized in the To-Be model.

Risk Analysis:

Risks are categorized with respect to their occurrence in certain phases of the implementation:

selection, implementation and usage. Risks are discussed based on the probability and consequence of each risk and the consequence should be measured into a risk value.

Legal Framework:

The implementation plan requires the agreement of the federal government and the line ministries and other governmental institutions. The agreement is based on binding definitions and legal framework which govern the flow of information and the

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authorization procedure. The implementation team should carefully address legal and regulatory requirements.

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2. INTRODUCTION

Iraqi Federal Government (IFG) institutions' decision makers under increasing pressure to effectively allocate the country limited resources given the heavy burden of military and security operations cost, the need to invest in the country infrastructure, the urgency to combat poverty and create employment opportunities to an ever growing population. To further aggravate the condition under which the decision maker operates, the country source of revenue is limited to oil revenue which has become highly price volatile. Mismanagement of the scare resources has profound adverse effect on the government development programmes. The lack of accountability may be attributed to large extent to the absence of financial controls where accurate and timely data is not available for the decision making process and the auditing authorities. Thus financial accountability, resource allocation controllability and the availability of timely and accurate financial data are key responsibilities of public managers.

Effective management of financial and budgetary reform requires accurate, complete and transparent account of the financial operations on the country and institutions levels. Lack of an effective flow of accurate financial information between the public institutions contributes in turn to the lack of accountability.

2.1. FMIS and the World implementation experience

The world experience has shown that governments have to undertake a series of strategic decisions in order to ensure that the public financial resources are well managed and subject to accountability with an efficient legal and administrative framework. Many developed and developing countries have adopted financial management information system (FMIS) as a mean of financial reform. The implementation of FMIS has become an important step if not precondition in the overall

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financial and budgetary control in those countries. The financial crisis should operate as stimuli for financial reform which should be based on sound state of the art system in terms of technology and the functional procedure to be adapted.

The implementation of FMIS will have multidimensional implications. It should provide a platform for change management and standardization (a source of accurate and reliable financial data; a tracking system for all the stages of financial transactions from budget release, commitment, purchase, payment, reconciliation of bank statement and accounting of expenditure or revenue). The availability of current and past budgetary information will assist in effective planning, budgetary control and forecasting. Such system has to be supported by legal framework to facilitate the adoption of the system. The legal framework may hinder the overall effort of the implementation and adoption by the targeted institutions.

Historically, developing countries experience has not shown high success rate in the implementation and adoption of FMIS. Many countries faced a complete implementation failure and abandoning the implementation of the system and others were partially successful. Most of the implementation of the FIMS was driven and funded by donor agencies. One of the successful stories in the adoption and implementation of FIMS system was in Tanzania. The main reason behind the success was that the country authorities and donor perceived that the FIMS was a critical tool for achieving accountability in the public sector (Diamon and Khemani, 2006). While Ghana experience in implementing FMIS was an example of partial failure in terms of design and completing the project with the timeframe (it took more than eight years). Some other countries faced similar difficulties of those faced by Ghana. It took Vietnam four years to agree on the chart of account design (Heidenhof, 20010).

Generally, the limited success of FIMS may be attributed to the following:



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- 1- Lack of ownership identity which leads to loss of accountability and real ownership of the system. This may in turn contribute to shortfall in the requirement specification document.
- 2- Shortfall in the requirement specification document which leads to failure in identifying the system functional requirements (institutions actual need).
- 3- System design was not given sufficient time and failed to realistically to meet the requirements.
- 4- Failure to redesign the business processes (procedures).
- 5- Lack of business practices standardization and administrative reform
- 6- Failure to obtain buy-in
- 7- Unrealistic timeframe
- 8- The system failed to meet the top management requirement.
- 9- Lack of incentive for current practice reform.
- 10- Failure to identify prerequisites in terms of function, technical and human resource capacity.
- 11- Lack of risk identification and absence for mitigation of risks.

2.2. Iraq Financial Management Information System (IFMIS) Implementation Experience (post 2003 period).

Several serious attempts were made to provide support for the government of Iraq (GoI) to build the administrative and budgetary capacities. United States Agency for International Development (USAID) funded several institutional capacity building programs such as Tatweer, Legislative strengthening programs, and defense business and Defense department taskforce on business and operation stability (USAID, 2010). The IMF has highlighted the importance of implementing IFMIS in its reviews of Iraq's progress toward meeting the terms of the IMF Standby 20 Agreements.

USAID and the Reconstruction Management Office (IRMO) awarded contracts in July 2003 to BearingPoint to implement financial management information system for the

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government of Iraq. The objective was to provide a fully automated and integrated budget planning and expenditure reporting and tracking system at the central and provincial levels. The cost of the project exceeded \$40 million (Office of Inspector General, 2010). However, the project experienced significant delays and by 2007 USAID suspended assistance to the Ministry of Finance to implement IFMIS in June of the same year, following the kidnapping of five BearingPoint employees. The Iraqi government continued to rely on its legacy manual accounting system, which contributed to delays in the government's reporting of expenditure data. In lieu of IFMIS, Treasury and USAID tried to assist provincial governments with the use of inexpensive spreadsheet software to improve their financial management capability. The World Bank and the International Monetary Fund (IMF) made separate efforts to encourage improvements in Iraq's budgetary institutions (World Bank, 2008).

In summary the failure of these attempts is another example of similar failing projects. Given the security situation at the time, the IFMIS project did not follow standard Enterprise Government Resource Planning (ERP) system implementation steps. The failure of the implementer, the steering committee and the stake holder to adhere and apply the implementation standards was the principal killer of the project. The IFMIS was implemented without the consent, assessment, or buy-in of the Government of Iraq. The USAID implementer did not obtain input from the Iraqi system users to determine best fit, concept design, and users' requirements and the resulting configuration of IFMIS did not meet the user requirements of the Iraqi Ministry of Finance. USAID audit found that Iraqi system users were disappointed with the insufficient training provided by the implementers and Iraqi users also identified numerous functionality issues with the system (Office of Inspector General, 2010). The Government of Iraq did not accept IFMIS in part because it did not successfully perform accounting tasks.

Such complex and large scale project require serious planning, experience and committed teams, involvement of the functional department in all phases, strong

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support from the decision making authorities and strong and knowledgeable project management team. Further, project as such should set and realistic and attainable, phased objectives with a proper budget and timeframe. Most important of all, new system requires change management with a supporting legislative and legal framework.

2.3. Lesson Learned

In view of several audit reports (USAID) and other studies on the failure of the implementation of Iraq IFMS, the following can be categorized as high risk areas and were not properly handled. They should be considered as priority undertaking of system implementation:

- The system should not have been taken as pure IT project.
- Project management
- Personnel capacity
- Change management/organization expectation
- Software and services acquisition
- Software implementation

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3. GOVERNMENT ENTERPRISE RESOURCE PLANNING (GERP)

ERP, conventionally, is defined as an integrated software package (solution) which handles corporate financial, procurement and human resource data processing including workflow and reporting facilities. This definition fails to recognize the fundamental core function of an ERP system as it confines ERP to the technology (software) behind the system. Government ERP (GERP) is no exception

Enterprise Resource Planning (ERP) role in an organization extends beyond the software technology solution. ERP can be defined as a set of procedures, standards, business rules and organizational structure, business workflows and technologies which all constitute an integrated corporate or governmental business solution. Thus ERP involves the functional and organizational structure of an organization and also challenges the existing business culture, business procedures, management styles, accounting standards and data and document flows. The ERP brings standards which are based on best business practices that evolved over time (JMFIP, 2001).

Moving from disintegrated business culture to fully integrated business rules and procedures requires rethink or redesign business processes. The existing organizational structure and processes found in most organization including federal or central governments are not compatible with the structure, tools, and types of information provided by ERP systems. Thus, implementing an ERP system may compel redesigning business processes or developing new business processes on corporate or governmental level. It may require realignment in organizational control or require new legislation to maintain the effectiveness of the reengineering efforts. The realignment typically impacts most functional areas and many practices within the organization or governmental departments. The expected changes may affect organizational or governmental structures, policies, processes, and employees. The ultimate goal of ERP is to improve business or services and not implement software. It should be based on the principle of "Business/Service Driven" and

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directed by the business requirement and not be the IT staff. ERP requires new business practices and profound changes in the governmental or institutional culture. Government or institution staff should be prepared to accept and support change. Hence management of changes is fundamental in any ERP implementation.

3.1. GERP High Level Overview

Integrated ERP system must be built to ensure effective interrelationship between procedures, control, personnel, technology and data within the system itself. To ensure integration, the following components are the core of the system integration:

- 5- Business processes identification and standardization
- 6- Data standardization in terms of definition and format
- 7- Process, data and reporting control
- 8- Design to eliminate unnecessary duplication of information.

The following model illustrated by figure 1 may illustrate the interaction:

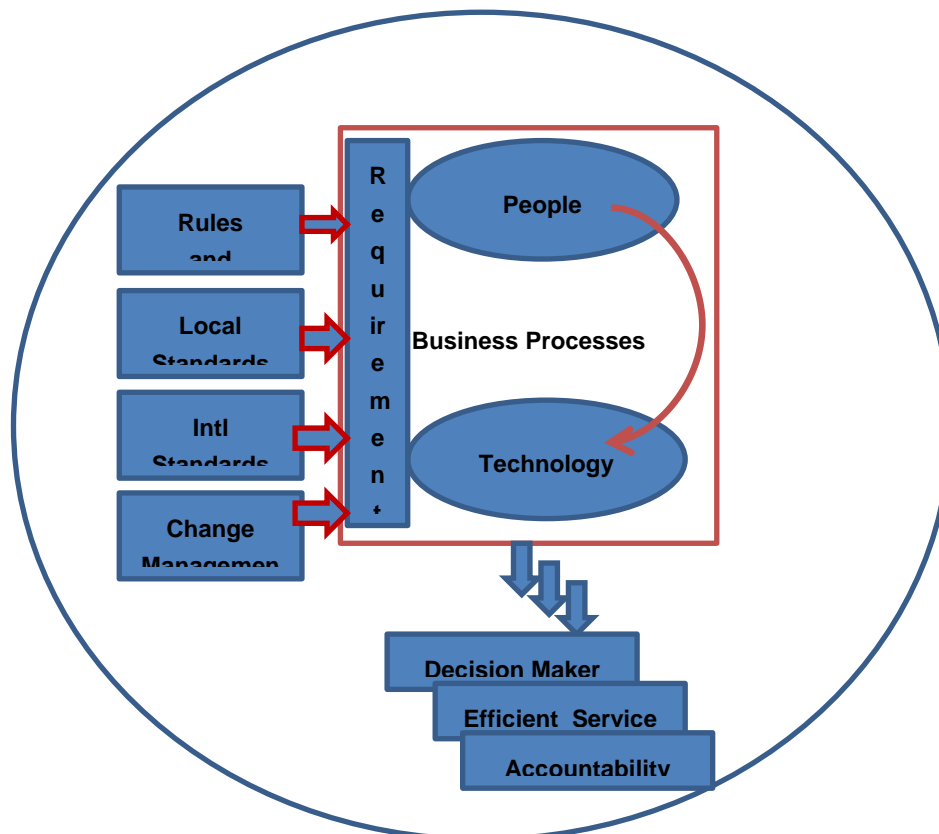


Figure 1. GERP High Level Business Model

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The above relationships depicts that governmental ERP implementation is not restricted to adopting set of technologies per se but rather extends itself to the all members of the society represented by government institutions, the services or the business processes, the rule and regulations, local standards as well as international standards. It is expected that the implementation of GERP is to harmonize these relationships and produce simple design fits the requirements and comply with rules regulations taking the consideration of the local and international standards. The ultimate objective is to offer better and cost effective service to the society, and furnish the decision maker with accurate and timely information and maintain accountability.

3.2. Iraq Public Finance Model

Government institutions' operations should not differ from corporate world in terms of resources management. Further, standard accounting procedures should apply to public institutions as it does for corporate organization. Accountability and transaction control procedures should not differ too between the two types of institutions. The difference is in the complexity of rules and regulations, the management hierarchies, the approval process and non-business influences on managing transactions within public institutions.

Budgeting is a key business component for central government, ministries and local or provincial authorities. Budgeting does not stand by its own. It is based on current and past and future expected expenditure and also on government policies, laws and regulation and political pressure groupings. Thus budgeting constitutes the core module of GERP where budget preparations, budgeting formulation and budget (submission) and budget execution is expected to be handled.

GERP system traces the transaction processing from budget release, commitment, purchase, payment, bank reconciliation and accounting of expenditure. These processes are handled by Purchasing module, Account Payables, Cash Management, Fund/Grant Management, Project Management, Asset Management, Human Resources

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and Payroll. These modules also route data to the General Ledger as an integration repository module. General ledger receives data directly and indirectly through the above mentioned modules and from external systems. The General ledger houses the chart of accounts and also the budgetary control. Most of financial reporting is generated from the General ledger.

The process of budgeting and funds disbursement is governed by laws and economic policies as well financial procedures. Iraq budgeting process is guided mainly by Coalition Provisional Authority (CPA) Order Number 95 which sets the legal framework of the role of public financial institutions in the budgeting formulation, budget execution and funds appropriation (CPA, 2003). The law clearly states that the budget projections shall be prepared by the Ministry of Finance in consultation with the Central Bank and other Ministries in their respective areas of expertise. Further, Order 95 stipulates that the preparation of the budget should be based on comprehensive and consistent quantitative macroeconomic framework, and the main assumptions underlying the budget, including the assumptions for oil prices and oil production. To the extent permissible given conditions prevailing in Iraq, the macroeconomic framework shall cover the budget year and the subsequent three years. Figure 2 portrays CPA Order 95 in terms of relationships and the flow of financial operations throughout public institutions including budget preparation and budget execution.

3.3. GERP Building Blocks

ERP systems are built on accrual accounting principal and business best practice with a degree of generality. Business best practices has evolved over time based on generally accepted accounting principles (GAAP) and IFRS (International Financial Reporting Standards) which in turn take into accounts the general legal framework under which these practices expected to operate. For public sector or governmental ERP budgeting is the primary engine for this type of systems. The decision made during the budgeting process drives all the action the governments takes during the year in question or several years to come. Hence understanding the budgeting process in terms of legal setting and other statutory or less formal concentration of powers is also critical for the

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configuration of the budgeting in GERP. Further budgetary control is another key aspect of GERP. GERP system should ensure that funds availability is checked and funds are reserved before any budget consuming financial or purchasing transaction takes place.

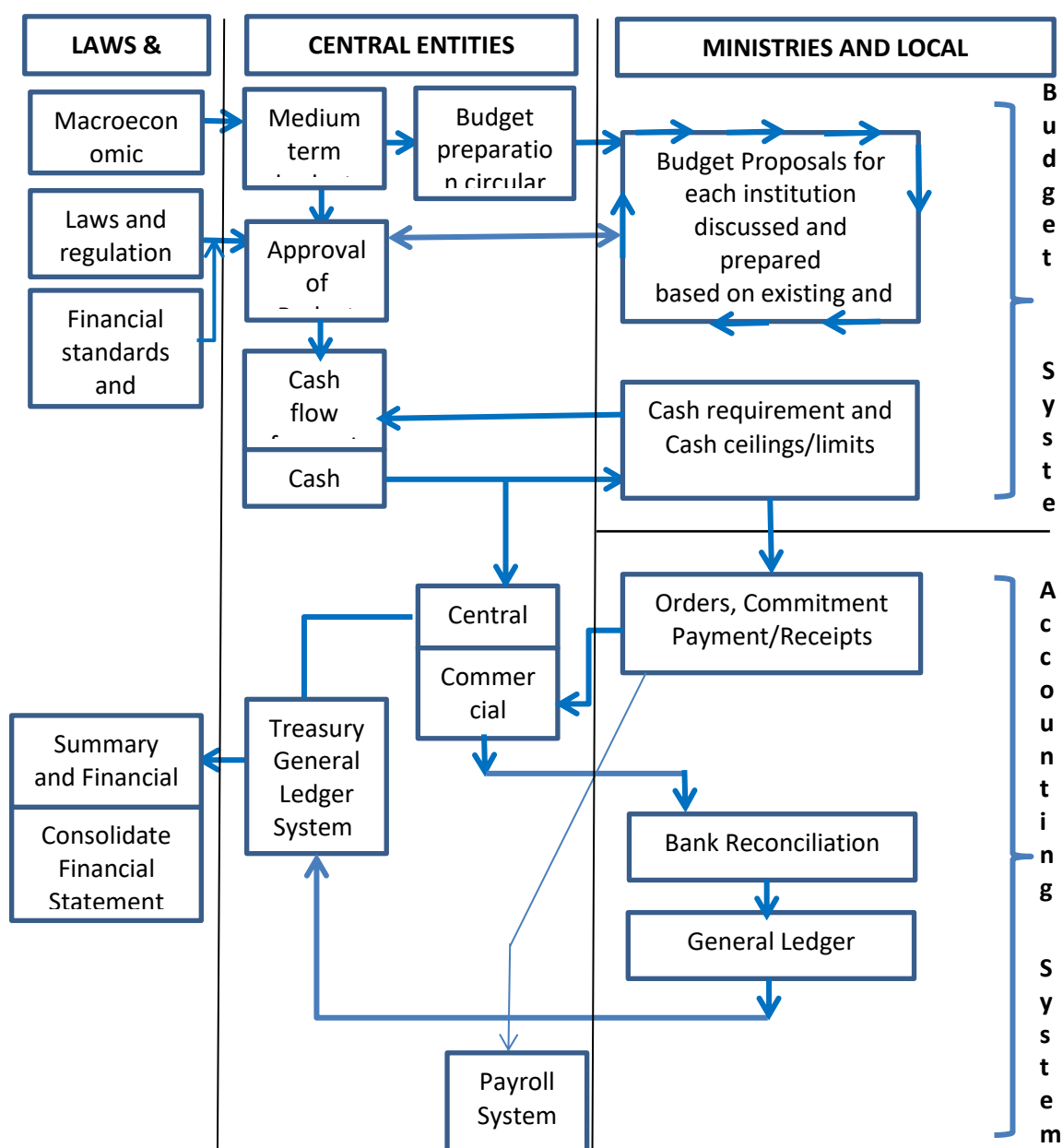


Figure 2. Iraq Public Budgeting and Funds Disbursement Model Based on CPA Order Number 95

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Purchasing is another challenge for any implementation for public sector ERP. Purchasing module is linked to commitment accounting based on accrual accounting principal where any purchasing requisition is made funds are committed or encumbered. This is in effect invokes budgetary control rules which is configured to ensure operation within the budgeted resources.

Account payables process generates payment which built-in checks to ensure that invoices are match approved commitments. Further, the account payables are integrated with purchasing and fixed assets where purchases which are tracked as assets are moved to asset modules.

Public sector or government funds or grants may be linked to legal or external reporting which require special setting. Hence grant management adds further dimension to ERP system. Account receivable may not fully serve government receivable as such it becomes essential to consider grant management module.

The central repository of the government financial system is the General Ledger. All the transaction originated from other modules post to the General Ledger. The posting process begins with allocation of budget funds through to the commitments to payment for goods and services. Transactions posts concurrently to the respective subledger and the general ledger. Accordingly, transaction can be tracked from the original source and as well as in the corresponding posting sent to the general ledger. The general ledger also maintains the accounting structure (chart of accounts), the accounting rules which governs the posting attributes combinations as well as the accounts reporting hierarchies. In addition, the budgeting setup and the budgetary control are also built and setup in the general ledger. The flow of transactional data may depicted by figure 3.

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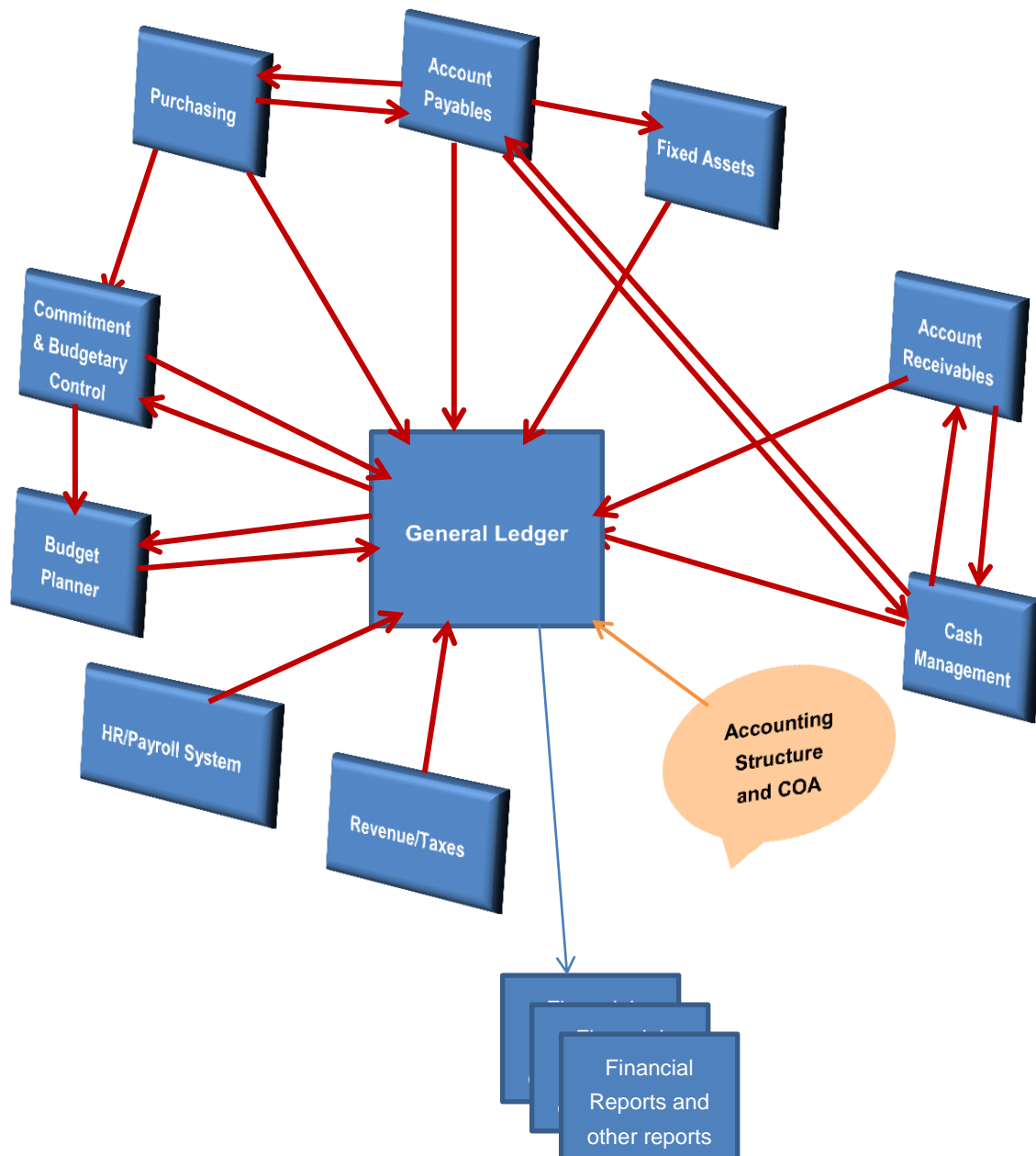


Figure 3. Simplified ERP Modules Relationships



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4. IMPLEMENTATION ROADMAP

4.1. Business Case

ERP implementation requires comprehensive benefit cost analysis which should be associated with strategic planning study to provide the executives and the legislators the required data and information necessary to determine whether the implementation is economically feasible. The case is expected to:

- Identify alternative options and recommend the best and viable alternative.
- Define the approach and the expected outcome of the case study.
- Identify stakeholders.
- Survey existing systems.
- Document high level evaluation of existing systems.
- Provide estimated cost of running existing systems compared with the implementation of ERP system.
- Document legal framework under which ERP operates.
- Document high level samples of workflow and authorization procedures for business process.
- Identify possible cost reduction if ERP is implemented.
- Provide high level implementation plan and recommend best practice of deployment.
- Set high level budget plan for the recommended alternative.
- Document key findings.
- Identify assumptions and risks.
- Assess ERP technologies and make recommendation
- Identify process improvement and change management.

4.2. Functional Requirement Specification Document

This document is one of the most critical documents which will identify the functional requirements of the whole system. The following are the headline for



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each business process and associated functions. The details of each function will have to be documented in details. This document is not meant to include any details:

- Budget Business Process Requirement
 - Budget Development: Data Classification Structure
 - Budget Preparation
 - Salary and Position Budgeting
 - Analysis and Forecasting
 - Reporting and inquiry
 - Budget Maintenance and Monitoring
 - Revenue
 - Position Control: General Requirement
 - ✓ Position Management
 - ✓ Position Projection
- Finance business requirement
 - General Ledger: General requirement
 - ✓ Organizational design
 - ✓ Chart of account design
 - ✓ Fund Accounting
 - ✓ Journal Entry
 - ✓ Recurring transactions
 - ✓ Inter ministry/institution voucher
 - ✓ Encumbrance (Fund reservation)
 - ✓ Closing
 - ✓ Budget Control
 - ✓ Operating budget
 - ✓ Inquiry and reporting
 - Account Payable: General Requirements
 - ✓ Invoice Processing

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- ✓ Payment matching
- ✓ Disbursement
- ✓ Discounts
- ✓ Holds
- ✓ Banking
- ✓ Payment authorization
- ✓ Printing payments and handling
- ✓ Issuance reconciliation
- ✓ Employee reimbursement
- ✓ On-line inquiry
- Account Receivables /Billing/Cash Management General Requirement
 - ✓ Customer maintenance
 - ✓ Billing and invoicing
 - ✓ Account receivable
 - ✓ Intergovernmental Billing/General Services Billing
 - ✓ Receipts
 - ✓ Report and queries
- Asset Management: General Requirements
 - ✓ Asset Additions and maintenance
 - ✓ Asset disposition and retirement
 - ✓ Asset depreciation
 - ✓ Asset physical inventory
 - ✓ Asset leases
 - ✓ Report and queries
- Grant Accounting: General Requirement
 - ✓ Budget
 - ✓ Transaction processing
 - ✓ Inquiry and reporting

If Project is implemented, the following should be considered

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- Project Accounting: General requirements
 - ✓ Project Budgets
 - ✓ Project funding
 - ✓ Project Details
 - ✓ Project Accounting
 - ✓ Project Close
 - ✓ Inquiry and reporting

- Procurement Business Requirement
 - Ministry/Institution Maintenance Requirement
 - Commodity/Product Data Maintenance
 - Contract/Agreement Administration
 - ✓ Contract amendment
 - ✓ Contract content management
 - Procurement: General requirement
 - ✓ Purchase Requisition/Purchase Order Header Information
 - ✓ PR/PO line items details data
 - ✓ PR/PO Accounting Requirements
 - ✓ PO/P: Purchase Order General
 - ✓ Source of Supply Determination
 - ✓ PO/PR Header Elements
 - ✓ PO/PR commodity Line
 - ✓ PR/PO Creation of Purchase Order
 - ✓ PO Accounting
 - ✓ Goods Receiving
 - ✓ PR/PO Vendor Invoice General
 - ✓ PR/PO Invoice Matching
 - ✓ PR/PO Payment Request Information
 - ✓
 - RFP Process



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- Vendor Management
- Vendor Bidding/Order to Invoice
- Vendor Master data Maintenance
- Workflow Maintenance
- For HR and Payroll will be documented later.

4.3. Change Management and Business Process Reengineering

ERP implementation requires a careful and serious effort to review the current business processes. Some of these business processes have to be changed as they may hinder efficiency and automation. Other processes may be redundant and require removal from certain business flow. Further, current or existing organizational structure may require review and some of the hierarchies need to be changed. ERP systems implementation requires full documentation of each business process with its associated approval workflow. It offers an opportunity for business process improvement where more efficient and cost effective flow of business is implemented. Further, introducing automation requires employees "BUY IN" (Callegas and Terzi, 2012). One of the risks of failure is the absence of staff involvement and ownership of the new system.

It is critical to define change management plan which should include the following:

- 1- Full support of the executive management
- 2- Engagement of senior management
- 3- Involvement of the users in the redesign of business processes
- 4- Senior management should communicate the benefit of changes and the new system.

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4.4. Legal Framework

Legal framework is a key area and has to be clearly established. The implementation plan requires the agreement of the federal government and the line ministries and other governmental institutions. The agreement is based on binding definitions and legal framework which govern the flow of information and the authorization procedure. The implementation team should carefully address legal and regulatory requirements. These requirements should include the roles and responsibilities of the ministries and government institutions involved in the control and management of public finance.

Further, the framework may identify the provisions, receipt and custody of government funds, annual process, submissions, approval and procedure of release of funds (USAID, 2010) It should also stipulate the basis of accounting and the form and procedures for presentation of annual accounts. The statutory review covers the reporting requirements, such as publication of the budget, external audits, and reporting to international bodies such as the IMF. Success of implementation may reset on understanding how the legal system in place functions, so that it will respond not only to the requirements, but maintain the adaptability to respond to changes in the legal framework.

4.5. Risk Analysis

The Implementation of ERP brings massive changes and in turn is subject to high risk of failure. Risks are different and depend on the phase of the implementation. The probability of failure may lead high value risk when it is related to the initiation phase and hence care must be taken at the initial stage. Risk identification and risk assessment may contribute to risk management and mitigation throughout the life cycle of the implementation. Mistakes or shortfall in early stages of implementation may be high

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destructive in later stage and it will not be easy to manage. Change management can be on the highest risk bearing activities.

4.6. Technical Requirement Specification Document

The document is intended to identify the detail of the operating environment of the system. The following are the headline of the technical requirements. The actual document will specify the details of the operating environments:

- System and Technical requirements: General Requirement
- System Security
- Database Management System
- Input Methods and Devices
- Processing
- Interface
- Desktop Configuration
- User Interface
- Workflow
- Query and Reporting
- Security and Audit
- Issue Handling
- Documentation
- Web and Plugins
- Data Management and Data warehousing

4.7. Summary

Governmental ERP system implementation is vital component for any reform to succeed. Budget submission, execution and control rest on efficient procedures and process workflow using state of the art software.

Implementation of GERP should not be considered as an IT project as it involves the functional and organizational structure of an organization and



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also challenges the existing business culture, business procedures, management styles, accounting standards and data and document flows. It is strategic undertaking and requires a justified business case with a full commitment of the highest authority of the government. It should be run and managed by committed and experienced team in both the technology and the functional processes.

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