



# Global Journal of Information Technology: Emerging Technologies



Volume 12, Issue 1, (2022) 69-76

[www.gjit.eu](http://www.gjit.eu)

## Core banking system implementation proposal

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### Suggested Citation:

Mulla, G. & Tafa, I. (2022). Core Banking System Implementation Proposal. *Global Journal of Information Technology: Emerging Technologies*. 12(1), 69-76. <https://doi.org/10.18844/gjit.v12i1.7434>

Received from January 20, 2022; revised from March 20, 2022; accepted from April 19, 2022.

Selection and peer-review under the responsibility of Assist. Prof. Dr. Ezgi Pelin Yildiz, Kafkas University, Turkey.

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### Abstract

The purpose of this article is to provide an analysis and a methodology for the implementation of a new CCBS (Centralized Core Banking System) for a Retail Bank. This article has been written based on the highest evaluation standard set by institutions like World Bank for such systems implementation. The scope of work, that will be defined in this article identifies all components and work required for the proposed implementation under this article. The proposed CCBS solution will be implemented based on a phased approach implementation methodology. The implementation team will undertake a confirmatory analysis of functionality during the Inception Reporting period and also illustrate how data will be migrated from the legacy systems into the new CCBS. Banking IT personnel will receive advanced administration training to become experts on subjects matter for using and administrating this product so they can act as the first line of support to the bank.

**Keywords:** Core Banking; Digital payments; Training.

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## 1. Introduction

The successful operationalization of a proposal system for CCBS implementation will require consideration of several key elements, including project schedule, traveling and physical presence of the teams respecting the restriction related to Covid 19 regulations, reliability of data migration, updating the current procedures of the bank in such a way that activities of the new main banking systems are not obstructed, time risk regarding the decision of implementing new procedures given that the bank currently works with a different existing system, concerns that the future institution expansion is not always clear in terms of business processes and approach (Nyein, 2019; Thennakoon, 2019).

The first and primary consideration has to do with the timeframes available given the impossibility of being present at the location of the financial institution having in mind the restriction generated from Covid 19 restrictions, by making a part of the analysis of the conditions for the implementation of the system remotely. This would be seen both in technical terms and in terms of financial and human resources. However, from the available data, it is evident that the organizational structure of financial institutions in most cases has limits in terms of human resources (Alshammari, 2020). When such a process starts, the banks gradually are hiring new staff. Due to the set (and limited) deadlines for this type of project, the scope, and resources available to the beneficiary at the beginning of the project are limited. The time required to complete the project also becomes necessary and passing the obstacle between the parties will be apparent. The longer the project is completed, the more complex it becomes, increasing the risk of failure. To this end, the formulation and approval of Blueprints will make it possible to save time, approve the concept without delay and eliminate any further changes resulting from the potential change in the resources committed. For this purpose, it is critical from our point of view, the identification of the essential staff and their placement as soon as possible for the new system implementation.

Under this service proposal, the implementation team should deploy the system servers and related infrastructure or at least suggest the required hardware. The Bank will need to have the necessary infrastructure in place when the acceptance process will be finalized. The servers available to the CCBS may be virtualized according to the Supplier's solution and will be accessible from the laptops/desktops within the institution branches (where they exist). Servers in most cases are maintained by the supplier (Li et al., 2020; Lopez, 2020). The implementation team will require to have in place the development and test system environment.

Data migration is one of the most important and critical aspects in the implementation of this type of project because it presents numerous operational complications and data risks (Tabrizchi et al., 2020). Generally, the migration of data from a preceding system to a new and improved system is performed and undertaken by the implementer to minimize the risk of data movement. Database migration is particularly complex as it brings different challenges. The implementation team sees this process as very delicate and important for a successful implementation given the correct and fast identification of where the problem (if any) might be generated. The whole process of extraction, transformation, mapping, import, and control of data in the new system, requires a real experience in

this field. The Data Migration methodology proposed, uses a target-to-source approach, the activities being driven from the bank's current systems to the new Core Banking System. The migration of data from a legacy system to a new Core Banking System comprises the following main activities.

Quality Management provides the basis for ensuring in any project or endeavor that formally defined standards and procedures are applied to provide: 1. Quality assurance measures in place to enable the participants to provide quality work product. 2. Quality control measures at various points of interim delivery to ensure the quality of the final delivery.

The Quality Management Plan and related measurement and control criteria are established at the commencement of the project and the results are monitored regularly. The implementation Team and the Client will agree on specific Quality Management procedures and protocols that will be included in monitoring and reporting for the project. The Quality Management plan applies to ensuring appropriate allocation and deployment of resources and the management of information flows and related validations during the project, which includes the following:

- Specifications: Requirements and solutions definition and documentation, review, approval, and sign-off
- Change Management: Subsequent changes to requirements and solutions, configuration parameters, and control data elements
- Code development: Build life-cycle deliverables
- Testing control: Test products, test execution and results in management, remedies, and re-testing.

The Project Management function is responsible for ensuring necessary quality assurance and quality control measures are included in the plan and managed accordingly. Applicable control checklists and jointly agreed procedures are put in place for all project participants and according to designated and logical work groups, with specific attention being given to ensuring that cross-party handover and acceptance criteria (exit and entry criteria), are clearly defined and addressed in the specified QA objectives. Quality control gates and sign-off are applied during each stage of the project, ensuring the project moves forward in a controlled and confident manner.

### **1.1. Purpose of study**

The purpose of this article is to provide an analysis and a methodology for the implementation of a new CCBS (Centralized Core Banking System) for a Retail Bank.

## **2. Materials and Method**

The following proposal is based on a Commercial-Off-The-Shelf (COTS) modular Centralized Core Banking System with configuration and parameterization. The scope of work will be included the following modules: AP (Accounts Payable), AR (Accounts Receivable), FA (Fixed Assets), GL (General Ledger), LO (Loan Origination), LCO (Limits and Collateral), KYC-AML-Risk (Know-Your-Customer, Anti-Money Laundering, Risk), TF, LC, and BG - Trade Finance/Services (Forfaiting/Factoring, Letters of Credit, Document Collection) and BG (Bank Guarantees), FX (Foreign Exchange), FAS (Financial Assets),

SACM (Security, Access and Channel Management), TL (Teller Services), ES/DMS E-Services (Electronic/Online services)(Table 1).

### 2.1. Participants

The implementation team, in most cases, should provide training to the bank, and carry out testing and maintenance, and warranty services following post-acceptance of the system. The average time for supply and installation of the system that includes the modules mentioned in the scope of work should be within twelve (12) months from the start date of the project.

The following module's functions and components are in a common scope of work for the CCBS Implementation project (Table 1):

**Table 1**  
*Main Modules and Functionalities*

Line-Item No.	Subsystem / Item
1	Core Accounting Modules
1.1	AP (Accounts Payable)
1.2	AR (Accounts Receivable)
1.3	FA (Fixed Assets)
1.4	GL (General Ledger)
2	Loan Modules
2.1	LO (Loan Origination)
2.2	LCO (Limits and Collateral)
3	Reporting and Risk Modules
3.1	Section VI, KYC-AML-RISK (Know-Your-Customer, Anti-Money Laundering, Risk)
4	Trade Finance / Foreign Exchange / Financial Assets Modules
4.1	Section VI, TF, LC, and BG - Trade Finance/Services (Forfaiting/Factoring, Letters of Credit, Document Collection) and BG (Bank Guarantees)
5	FX Foreign Exchange
6	Financial Assets
7	SACM (Security, Access, and Channel Management)
8	Teller Services
9	ES/DMS E-Services (Electronic/Online services) (ES and DMS)
10	PORTAL (internal communications and support)

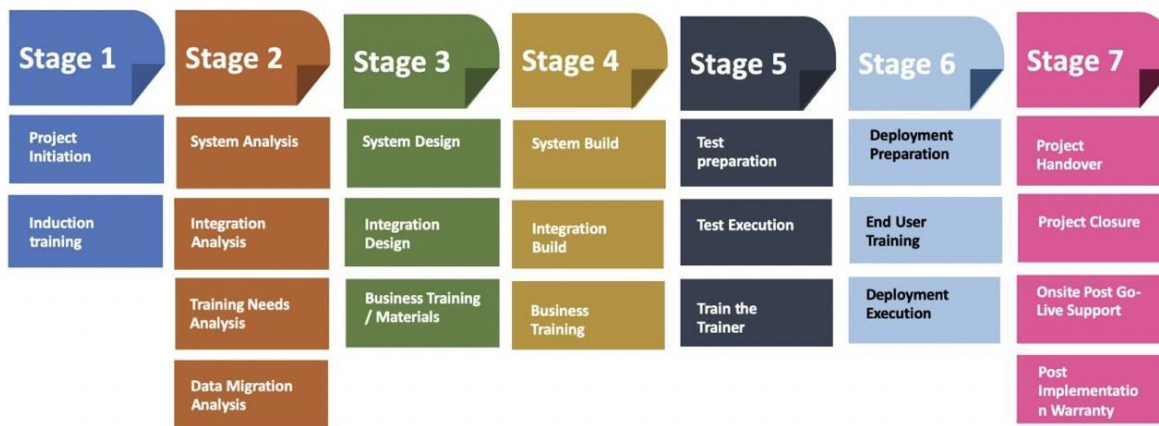
11	CMS (Content Management System/DMS)
12	Contracting/Training/Acceptance
12.1	Project Management and Reporting
12.2	Training
12.3	Acceptance Testing and Documentation

## 2.2. Procedure

The methodology has 7 distinct stages applied for the deployment of the Core Banking System. At a high level, the stages are shown and typically undertaken on a sequential basis, however individual activities within some of the stages typically overlap (Table 2).

The Implementation Methodology is a process-driven implementation approach, with each step in the implementation identified.

**Table 2**  
*Project Planning and Controls*



Successful execution and management of the project are achieved by ensuring that for the participating parties there is a clear definition of the project activities and the related roles, responsibilities, and management processes to enable more effective work (Liu, R, et al; 2009). The effort under this proposal is subject to the expectations that which team will perform and own the

activities addressed, with the respective obligations, as outlined in the table, subject to any other stated qualifications and/or limitations.

In Table 2, the expected activities are described but could be subject to further information and discussion variations may be applicable. Microsoft Project (MSP) could be used to provide cross-referencing to the Conceptual Project Schedule provided in this proposal as well as points where Quality Assurance & Control measures are applied.

### 3. Results

#### 3.1. The project Plan proposed

The project Plan proposed is presented in Table 3.

**Table 3**  
*Project Plan*

Activities	Task Name	Duration	Resources
	CCBS (Centralized Core Banking System)	264 days	
1	Preliminary Work	15 days	
1.1	Creating Test Environment	15 days	D
4	Design, development, and implementation of the CCBS SACM (Security, Access, and Channel)	73 days	
4.1	Install/configure the SACM module (Pre-delivery Testing)	5 days	D
5.1	Install/configure the accounting module (Pre-delivery Testing)	2 days	D
6.1	Install/configure the Loan module (Pre-delivery Testing)	2 days	D
8	Design, development, and implementation of the CCBS Teller Services	110 days	
9	Design, development, and implementation of the CCBS Foreign Exchange	115 days	
10	Design, development, and implementation of the CCBS Financial Assets	103 days	
11	Design, development, and implementation of the CCBS Trade Finance/Services	103 days	
12	Design, development, and implementation of the CCBS ES/DMS E-Services	133 days	

Below are defined the roles that are mentioned in Table 3:

**Responsible:** This role conducts the actual work/owns the problem. There should be only one R. If multiple R's are listed, then the work needs to be further subdivided to a lower level.

**Accountable:** Approves the completed work and is held fully accountable for it. (There should be only one A).

**Supportive:** Provides additional resources to conduct the work or plays a supportive role in implementation.

**Informed:** This role is about the information on progress and results. One-way communication (typically from R to I)

The Implementation team will review/assess the following components:

- Project's log frame indicators and targets, assess how "SMART" the midterm and end-of-project targets are (Specific, Measurable, Attainable, Relevant, Time-bound), and suggest specific amendments/revisions to the targets and indicators, as necessary.
- How the project's objectives and outcomes or components are enough to clear, practical, and feasible within the time frame.
- Identify potential beneficial development effects.

#### **4. Discussion**

A relevant modern core banking technology helps banks scale new heights, augment efficiency, provide improved customer experience, and gain customer loyalty (Tabak & Borkovic, 2019; Haralayya, 2021). This session has summarised the activities to be performed under this proposal for the implementation proposed of the Core Banking System. Where applicable the necessary distinction is made between activities to be performed by the Provider and those expected by the financial institution.

It is expected that all of the specified Services are to be performed within the agreed timelines and that the onsite activities are to be performed as indicated in this proposal on a contiguous basis as indicated, without intervening delays. Where the implementer has a dependency on the financial institution, the financial institution is responsible to ensure that the agreed timelines and contiguous activities stated in this proposal are not impacted by the timing and quality of performance of the financial institution (Richard, 2019).

#### **5. Conclusion**

The final Project Schedule, and related timelines, may be revised by mutual agreement between parties before the signing of an agreement or the commencement of the project. Where a revision of the Project Tasks or Schedule impacts implementer effort and price calculations under this proposal, the implementer reserves the right, via the Project Change Control procedure, to be compensated for any additional service time expended and/or costs incurred.

In the preparation of this proposal, the implementer had to rely on the information provided by the financial institution. The scope of work statements forms the basis upon which this proposal has been prepared according to the implementer's understanding of the requirements of the financial institution, and related assumptions as stated in this work.

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