



# Project Administration Manual

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Loan Number: 3072  
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## Mongolia: Payment System Modernization Project

## Contents

I.	PROJECT DESCRIPTION .....	1
	A. Rationale, Location and Beneficiaries.....	1
	B. Impact and Outcome .....	4
II.	IMPLEMENTATION PLANS.....	8
	A. Project Readiness Activities .....	8
	B. Overall Project Implementation Plan.....	8
	C. Project Implementation Organization – Roles and Responsibilities.....	11
	D. Key Persons Involved in Implementation .....	14
	E. Project Organization Structure.....	14
III.	COSTS AND FINANCING.....	15
	A. Contract and Disbursement S-curve .....	21
	B. Fund Flow Diagram .....	21
IV.	FINANCIAL MANAGEMENT .....	22
	A. Financial Management Assessment .....	22
	B. Disbursement .....	23
	C. Accounting .....	24
	D. Auditing .....	25
V.	Procurement and Consulting Services .....	25
	A. Advance Contracting .....	25
	B. Procurement of Goods, Works and Consulting Services.....	25
	C. Procurement plan .....	26
	D. Consultant’s Terms of Reference .....	33
VI.	SAFEGUARDS .....	49
VII.	Gender and Social DIMENSIONS .....	49
VIII.	Performance Monitoring, Evaluation, Reporting and Communication.....	51
	A. Design and Monitoring Framework.....	51
	1. Interbank payment systems infrastructure strengthened.....	52
	B. Monitoring .....	54
	C. Evaluation .....	55
	D. Reporting.....	56
	E. Stakeholder Communication Strategy .....	57
IX.	ANTICORRUPTION POLICY .....	58
X.	ACCOUNTABILITY MECHANISM .....	58
XI.	Record of PAM Changes .....	58

### **Project Administration Manual Purpose and Process**

The project administration manual (PAM) describes the essential administrative and management requirements to implement the project on time, within budget, and in accordance with Government and Asian Development Bank (ADB) policies and procedures. The PAM should include references to all available templates and instructions either through linkages to relevant URLs or directly incorporated in the PAM.

The Bank of Mongolia (BOM) as the Executing Agency (EA) is wholly responsible for the implementation of ADB financed Payment System Modernization Project (the Project), as agreed jointly between the borrower and ADB, and in accordance with Government and ADB's policies and procedures. ADB staff is responsible to support implementation including compliance by BOM of its obligations and responsibilities for project implementation in accordance with ADB's policies and procedures.

At Loan Negotiations, the borrower and ADB shall agree to the PAM and ensure consistency with the Loan agreement. Such agreement shall be reflected in the minutes of the Loan Negotiations. In the event of any discrepancy or contradiction between the PAM and the Loan Agreement, the provisions of the Loan Agreement shall prevail.

After ADB Board approval of the project's report and recommendations of the President (RRP), changes in implementation arrangements are subject to agreement and approval pursuant to relevant Government and ADB administrative procedures (including the Project Administration Instructions) and upon such approval they will be subsequently incorporated in the PAM.

## CURRENCY EQUIVALENTS

(as of 05 Octl 2016)

Currency unit	–	togrog (MNT)
MNT1.00	=	\$0.00044
\$1.00	=	MNT 2,290.00

## ABBREVIATIONS

2G RTGS	–	second generation RTGS a phrase coined by the World Bank Group referring to RTGS systems capable of incorporating Liquidity-Saving Mechanisms (LSM)
3D Secure	–	3-D Secure XML-based protocol designed to be an additional security layer for online credit and debit card transactions See ACS and MPI).
ACH	–	automated clearing house
ACH+	–	a term coined by the World Bank group referring to an upgraded Automated Clearing house system capable of supporting clearing of Direct Credits, Direct Debits, Cheques and Instant Funds Transfers (24x7 payments)
ACS	–	Access Control Server
AML/CFT	–	anti-money laundering and countering financing of terrorism
ATM	–	automated teller machine
BOM	–	Bank of Mongolia
CBAC	–	central bank accounting system
CBS	–	conventional bank account
CMS	–	card management system
CSD	–	central securities depository
DVP	–	delivery versus payment
EA	–	executing agency
EFTPOS	–	electronic fund transfers at point of sale
EMV	–	Europay, MasterCard, and Visa
FAR	–	Financial Agency Regulation
FCPR	–	financial consumer protection regulation
FRC	–	Financial Regulatory Commission
FTS	–	financial transfer system
FXTS	–	foreign exchange trading system
G/L	–	general ledger
HCE	–	host card emulation
IBAN	–	International Bank Account Number (ISO 13616-1)
ICB	–	international competitive bidding
ICTPA	–	Information, Communications Technology and Post Authority
IFT	–	Instant Funds Transfer
IPCS	–	interbank payment card switch
IVR	–	interactive voice response
JV	–	joint venture
LIBOR	–	London interbank offered rate
LSM	–	Liquidity Saving Mechanism
LVPS	–	low value payment system
MMTS	–	money market trading system
MNO	–	mobile network operator
MOF	–	Ministry of Finance
MPbB	–	interoperable mobile payment system based on the Pay by Bank Principle

MPI	–	Merchant plug-in provider
NCB	–	national competitive bidding
NETC	–	National Electronic Transaction Center
NFC	–	near field communication
NPSR	–	national payment system regulation
OTP	–	one-time password
PAM	–	project administration manual
PIU	–	project implementation unit
POS	–	point of sale
QCBS	–	quality and cost-based selection
RFID	–	radio frequency identification
RTGS	–	real time gross settlement
RTO	–	recovery time objective
SC	–	steering committee
SE	–	secure element
SOE	–	statement-of-expenditure
STP	–	straight through processing
SWIFT	–	Society for Worldwide Interbank Financial Telecommunication
TSM	–	Trusted Service Manager
USSD	–	unstructured supplementary service data
WAP	–	wireless application protocol

#### **NOTE**

In this report, "\$" refers to US dollars.

## I. PROJECT DESCRIPTION

### A. Rationale, Location and Beneficiaries

1. **Background.** The current system was partly built with support from the World Bank under its Financial Capacity Development Project (completed in 2009) and was considered one of its successful interventions. The current payment system is composed of an interbank payment infrastructure and a retail payment infrastructure. The former covers the real time gross settlement system (RTGS) for high-value transactions and the low-value payment system (LVPS) for low value transactions including real time execution of certain low-value transaction types. It also covers the auctioning and trading of foreign exchange and securities, central bank bills/treasury bills, and bonds. This includes a general ledger (G/L) system that is now outdated. The retail payment infrastructure is based on the financial transfer system (FTS) acquired by Bank of Mongolia (BOM, the central bank) and covers electronic fund transfer at point of sale (EFTPOS) / automated teller machine (ATM) switching. The LVPS, however, uses the FTS to clear transactions. It can also support card and merchant management and Europay, MasterCard and Visa (EMV)<sup>1</sup> and hybrid cards, but the FTS needs to be upgraded.

2. **Challenges.** It was recognized even at the close of the World Bank project that the payment system needed to undergo further development not only as market requirements evolve, but also because of the technical limitations of the system and the need to address emerging policy issues. Moreover, when the BOM introduced and successfully launched the current system, it was operating on the basis of minimum hardware and network requirements, and on the basis of the packaged software and solutions provided with very limited technical base, limited resources and a short time frame.

3. **Rising Demand.** Demand for payments service is rising rapidly. Total interbank low value transactions have risen from 25.4 million cases with a total value of 69.7 trillion MNT in the 3th quarter of 2013 to 33.2 million cases with a total value of 85.5 trillion MNT in the 3th quarter of 2015, a jump of 130.7% in volume and 122.7% in value. For low value interbank transactions, there has been an annual increase in volume of 94.1% according to the National Electronic Transaction Centre (NETC) of the BOM. The amount of payment card transactions also shows dramatic increases, from 42.1 million cases in the 3th quarter of 2013, this has risen to 122.4 million by the 3th quarter of 2015. In terms of value, there was a significant improvement from 3.5 trillion MNT to 5.8 trillion MNT for the same period, a rise of 166.5%. Yet, the card infrastructure in the rural areas is still at a medium level.

4. **Processing Cost.** The current system's processing cost per transaction of about 233 MNT in 2010 is 20 times more when compared with the Republic of Korea's processing cost of about 12 MNT. This trend has been increasing at the rate of 10% per year. Mongolia is in transition to moving on to the next generation of development in its payment system from paper and card-based payment services to electronic transfers. It still has yet to experience the effects of scale economies and other external factors.

5. **Financial Inclusion.** Mongolia is one of the most sparsely populated nation in the world with 3.0 million people spread over 1.56 million square kilometers of land area. About 60% reside in urban areas, a quarter of the population stay in Ulaanbaatar, the capital city. The rest live in rural areas that are hard to reach because of the rugged terrain and limited transport. Consequently, while Mongolia has one of the highest banks branch penetration rates in the world, with 60 branches per 100,000 adults, its geographical branch penetration is one of the lowest. It has only 0.87 branches per thousand km<sup>2</sup>.

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<sup>1</sup> EMV® is the emerging global standard for credit and debit payment cards based on chip card technology and stands for Europay, MasterCard®, and VISA®.

6. **Fragmented Services.** Regarding other forms of payments, certain operators such as Grapecity, the financial solution provider, has implemented most of the core-internet-mobile banking systems of commercial banks. On the other hand, Mobicom, the largest mobile phone operator, provides services through the MobiCom MobiExpress system incorporating mobile settlement and money transfers to its own mobile customers through its subsidiary, and is gradually expanding its network. With MobiExpress declining, Mobicom and Unitel have recently introduced loyalty schemes known as Candy and GG respectively. Both are closed loop system, but both systems create e-Money and therefore must be regulated. Mobile banking services are provided by several commercial banks. Mobile banking service uses SMS and / SmartPhone technology and currently interfaces with the 4 major mobile companies (G-Mobile, Skytel, Unitel, Mobicom).

7. Moreover, several banks and mobile network operators have implemented proprietary “closed loop” mobile financial services systems. Recently the Ulaanbaatar Public Transport Authority has introduced a smart card based rapid transport card u-Money. The U-Money Smart Card is a closed loop system which is not integrated into the retail financial services payment system and it is not known if the card technology used complies with international EMV smart card standards. It is imperative that all e-Money carriers used in Mongolia are compatible and capable of being integrated into the Mongolian retail financial services eco system i.e. as an integral part of the payment systems modernization programme the standards for all cards issued in Mongolia are established and interoperability and regulations are established for all e-Money carriers in Mongolia i.e. cards, mobile phones and future NFC<sup>2</sup> devices. Experience from international reference projects demonstrate that such closed loop systems tend to create monopolistic services that deters new entrants and eliminates competition, resulting in unfair pricing. Interoperability will likely be a future issue and a common integrated platform will be necessary to avoid costly upfront investments. This gives greater impetus to ensuring the interoperability of the competing systems in Mongolia as soon as possible.

8. **Software Limitations.** The LVPS does not allow direct debits, only direct credits. The system also faces limitations from the inflexibility of the packaged software and upgrade as it can only be done through the service provider that also maintains it. On the other hand, BOM is encouraging the introduction of various forms of noncash payment mechanisms. Priority areas are the point of sale (POS)/ATM shared networks, mobile banking and money market products. Commercial banks are introducing new forms of payment products such as the debit/credit card, mobile and internet banking. However, while noncash transactions are concentrated on the payment card, the card infrastructure is still incomplete.

9. Under the present system, any reserves—be it equity, treasury bills, bonds, foreign exchange and liquid cash—held by participant banks in Mongolia cannot be utilized as collateral in the clearing and settlement processes, i.e., the banks are exposed to avoidable settlement risks. It is therefore imperative that the proposed Central Securities Depository (CSD) system including both Custodian and Collateral management services is implemented without delay to avoid unnecessary settlement risk and occurrences of failure to settle. As emphasized by the World Bank Group in order to take full advantage of the introduction of the CSD the current RTGS system must be upgraded to a second generation RTGS<sup>3</sup> system in full support of Liquidity-Saving Mechanism (LSM).

10. **Standardization.** With a variety of new products and services being introduced in the market, it is important to standardize these systems following international practices for ease of use and control. However, for some countries, following optimized standards that

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<sup>2</sup> NFC – Near Field Communication

<sup>3</sup> Second Generation RTGS (2G RTGS) a phrase coined by the World Bank Group referring to RTGS systems capable of incorporating Liquidity-Saving Mechanisms (LSM)

appropriately reflect national characteristics and the realities of the domestic financial environment seems to be the best approach. Customized message standards based on global standards were applied. Establishing standards at the onset of commercialization of new technology, particularly on cutting edge services such as mobile payment and settlement service, needs to be instituted so that duplicated investments of financial organizations and companies can be avoided, and unnecessary expenses can be saved. Standardization of communication protocols, message codes (Including implementation of IBAN<sup>4</sup>), message format, payment / loyalty cards, point of sales terminals, ATMs, NFC devices, etc. will have to be undertaken as part of the support infrastructure.

11. **Security Issues.** On a systemic level, it is important to identify mitigating measures to minimize or regulate the exposure of individuals to risk. On the operational side, an insufficient back-up system, particularly one that is not interconnected to the individual banks' systems, runs the risk of a system failure occurring. It takes up to 11 minutes for transition from one system to the other. Appropriate security devices such as access control and closed circuit television are not in place. Neither is the equipment protected by regulated temperature and humidity controls for safe operation. There are also observed fire hazards. Moreover, the system needs to be able to respond to various forms of cyber-attacks as well as ensure adequate protection against information and communication vulnerabilities. Currently, mobile banking services offered by banks are exposed to security attacks. Security awareness is low since no serious hacking incidents have yet occurred.

12. Identity theft is a common concern among consumers. Data theft from magnetic stripe cards is well-known. Most of payment card fraud involves skimming, i.e., a card's magnetic stripe data is electronically copied by a criminal.

13. On the other hand, greater use of the internet exposes users to hacking or phishing attacks that may compromise their information. Protection against these hazards as well as educating consumers specially in the rural areas would be a necessity.

14. **Legal/Regulatory Framework.** The legal/regulatory framework needs to be updated to cover these new operations, provide consumer protection, and strengthen the oversight capabilities of the BOM, including enforcement of anti-money laundering measures and countering financing of terrorism (AML/CFT) such as know your customer rules and in the conduct of customer due diligence by banks and other payment system participants. A new Payments Law is currently under development by a team assisted by World Bank Technical Assistance the new draft law has not yet been submitted to Parliament. The Law on e-signatures has been passed and the implementing regulations was issued 2015. The law supports the operationalization of the use of digital signatures, the Information, Communications Technology and Post Authority (ICTPA) is implementing a public key infrastructure to issue certifications on its use to Mongolian citizens.<sup>5</sup> The ICTPA has also submitted for Cabinet consideration laws on data protection and cyber security. The Government of Mongolia is also committed to introducing the Universal Service Obligation Fund and amended the Law on State funds in 2006 for implementing Universal Service Obligation Fund in Mongolia. Following this, the obligations of contributing 2% levy from revenues before taxes was imposed on all providers of information and communication technology services to remote and rural areas of Mongolia. For the last 4 years, a total of 10.6 million MNT has been collected and used to finance rural ICT development and rural internet access to mobile telephone services and building optic fiber network in rural areas. It is imperative that a separate PKI system and a set of regulations are developed for the implementation of a separate PKI for the financial services sector.

15. **Institutional Framework and Coordination.** Financial institutions other than

<sup>4</sup> IBAN – International Bank Account Number based on the ISO ISO\_13616-1\_2007 Standards.

<sup>5</sup> In the meantime, BOM is seeking a license to issue certifications.



commercial banks are supervised by the Financial Regulatory Commission (FRC). As such, there is a possibility for the payment and settlement service by other financial institutions and oversight policy of FRC are inconsistent with the policy and position of the BOM. This may serve as a deterring factor to tight and rigorous oversight over the national payment and settlement system as a whole. A typical example is FRC's "Temporary Regulations for e-Money" that enables nonbanks to issue e-Money service licenses. The actual authority in this regard still remains unclear and undefined.<sup>6</sup> However, the ICTPA is the institution responsible for implementing the e-signature Law – an important legislation for the regulation of mobile banking and payments services. In some countries, the information office or government office regulating the legal documentation requirements other than the competent organization for payment and settlement (such as the central bank) is in charge of applying the national digital signature to financial transactions. Because digital signatures will be used by the public for financial transactions, inefficiencies may occur if there is no clear delineation of roles among relevant authorities. Taken together, it is important for the government to determine if authority over the various facets of the payment and settlement system should be centralized (typically with the central bank) or if a coordination arrangement needs to be put in place.

16. **Consistency with Government and ADB's Strategy.** The project is consistent with the National Development Strategy of the Government based on the Millennium Development Goals that call for strengthening the financial system, banking and financial services. One of the essential functions of the central bank is to develop, and oversee the operation of, the payment system. An efficient payments mechanism is critical to the smooth functioning of the financial markets. It is recognized that a disruption in the operation of the payment system can precipitate a systemic crisis in the financial system itself. The Strategy also calls for reducing urban-rural disparities that the project supports. The development of the payment system is a priority for 2013.

17. The project is likewise consistent with ADB's country partnership strategy for Mongolia, 2012–2016 that seeks to promote financial inclusiveness and sustainable growth, address infrastructure gaps specially those required for connectivity, support innovation and provide access to finance and basic services.<sup>7</sup> Moreover, it forms part of financial sector development that is an identified core area of operation under ADB's Strategy 2020.<sup>8</sup> The project will build on ADB's experience and lessons gained from previous ADB operation in Mongolia's financial markets, including those related to banking sector infrastructure and mobile banking services.

18. **Location.** The Project will be implemented in Ulaanbaatar, Mongolia.

19. **Beneficiaries.** The principal stakeholders and primary project beneficiaries are: (i) BOM and the government, (ii) the commercial and state banks, and (iii) mobile service providers participating in the payment system. Ultimately, however, the entire population will stand to benefit from the ubiquitous access to finance provided by the project, especially the rural poor.

## **B. Impact and Outcome**

20. The impact of the project is the availability of payments services throughout the country that is easily accessible even by its citizens located abroad, and in distant rural

<sup>6</sup> For reference, as of October 2011, the draft Payments Law clearly states that the central bank has the oversight authority.

<sup>7</sup> ADB. 2012. *Country Partnership Strategy: Mongolia, 2012–2016*. Manila.

<sup>8</sup> ADB. 2008. *Strategy 2020: The Long-Term Strategic Framework of the Asian Development Bank, 2008–2020*. Manila.

areas, and the unbanked. A study conducted by Moody's Analytics in 51 countries over a 6-year period shows that electronic card usage spurs economic growth by improving efficiencies in commerce and contributes to increased consumption and production, job creation that expand personal incomes thereby generating growth. It is estimated that global Gross Domestic Product grew an additional 0.2% per year than it would otherwise have from electronic card usage.<sup>9</sup>

21. The intended project outcome will be a national-based full service payment system that is efficient and affordable by its poorer constituencies; timely by delivering services on same day basis; facilitates fund transfers and access to liquidity to ensure the smooth functioning of financial markets, and; is secure and reliable therefore contributes to financial system stability, and meets evolving market needs.

22. Based on the analysis of the current payments infrastructure of the country – particularly identified deficiencies, the objectives of the BOM, and available technologies – the proposed outputs intend to build upon the existing system and will make use of portable packaged application software that can be installed on common platforms, intuitive in implementation, stable operation and based on widely accepted technologies conforming with international standards. The following are the component outputs for comprise the proposed payment and settlement system infrastructure for Mongolia:

- (i) strengthen interbank payment infrastructure;
- (ii) upgrade retail payments infrastructure and support systems;
- (iii) provide technical support and external services; and
- (iv) establish legal and regulatory framework.

23. **Interbank Payments Infrastructure** will include the following:

- (i) Upgrade of the Real Time Gross Settlement System (RTGS) to a 2G RTGS system capable of supporting liquidity-saving mechanisms;
- (ii) A central securities depository system – that enables book entry transfers of securities, centralized trade comparison and transaction processing for the clearing and settlement of securities on a delivery vs. payment basis and allow for collateral management such as the pledging of government securities into the RTGS Settlement account as an integral part of the Liquidity Saving Mechanism;
- (iii) A foreign exchange trading system – that facilitates foreign currency trading both locally and internationally by settling trades on payment vs. payment basis through the RTGS;
- (iv) A money market trading system – that will support interbank borrowing and lending on documents vs. payment basis through the RTGS; and
- (v) An updated general ledger (G/L) system – that will integrate the banks' accounts with the future payment system with the BOM accounts.

24. **Retail Payments Infrastructure and the Support System will comprise the following:**

- (i) An automated clearing house plus (ACH+<sup>10</sup>) – an electronic network for financial transactions that will provide for deposits and financial transfers and support the current real time payments or Instant Funds Transfer;

<sup>9</sup> M. Zandi and V. Signh. 2010. The Impact of Electronic Payments on Economic Growth, *Moody's Analytics*. March.

<sup>10</sup> ACH+ - A term coined by the World Bank group referring to an upgraded Automated Clearing house system capable of supporting clearing of Direct Credits, Direct Debits, Cheques and Instant Funds Transfers (24x7 payments)

- (ii) National Shared EFTPOS / ATM switch including card, merchant management and hybrid / EMV card production system (physical and electronic personalization), including integration of financial and other services in the Smart ID Card<sup>11</sup>;
- (iii) Retail banking delivery channels support (supporting branch automation, banking delivery channels and banking interfaces of project implemented systems);
- (iv) EMV / NFC standardization and integration of E-money schemes into Banking Payment system and E-Money clearing capability;
- (v) Shared Mobile Pay by Bank platform based on the fast payment;
- (vi) Implementation of Mobile NFC enablement either HCE or TSM;
- (vii) 3D Secure<sup>12</sup>, shared Access Control Server<sup>13</sup> (OTP) and Merchant Plug-in (MPI)<sup>14</sup>;
- (viii) Public Key Infrastructure (PKI) implementation for financial organizations;
- (ix) Network upgrade (Routers, Switches, Firewalls), enhancement of Main and DR Centers of NETC (HA & DR), Enhancement of Core Fiber Network of NETC (Topology Star plus linked nodes);
- (x) Integration of financial and other Services in the Smart ID Card.

25. A national shared EFTPOS/ATM switch includes card and merchant management. The FTS switch will be upgraded to be EMV compliant to cover the national shared EFTPOS/ATM and a card management system (CMS) and merchant management system. A CMS provides a flexible speedy way for banks (issuers) to introduce card-based products to the market and provides all aspects of card issuing and merchant acquiring functions. The multimedia messaging service provides online acquiring and real-time transaction processing with full back office support for credit, debit and other forms of card payments – managing the complete merchant life cycle from account establishment through to settlement.

26. The Shared Mobile Pay by Bank platform based on the fast payment hub. It will enable anytime, anywhere cashless banking for all Mongolian individuals and businesses based on account to account transfers making use of the proposed IBAN.

27. The shared 3D Secure Access Control Server is an OTP service generates a different number for every transaction and so it is considered to be a powerful tool to validate customers for financial transactions.

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<sup>11</sup> Smart ID card – refers to the current Mongolian National Smart ID card, which is a smartcard procured from Gemalto (an international smartcard vendor).

<sup>12</sup> 3-D Secure - XML-based protocol designed to be an additional security layer for online credit and debit card transactions. It was originally developed by Arcot Systems, Inc and first deployed by Visa with the intention of improving the security of Internet payments and is offered to customers under the name Verified by Visa. Services based on the protocol have also been adopted by MasterCard as MasterCard SecureCode, and by JCB International as J/Secure. American Express added 3-D Secure on November 8, 2010, as American Express SafeKey, in select markets and continues to launch additional markets. Analysis of the protocol by academia has shown it to have many security issues that affect the consumer, including greater surface area for phishing and a shift of liability in the case of fraudulent payments.

The 3-D Secure protocol makes use of an ACS (Access Control Server) on the issuer side (banks). Currently, most banks outsource ACS to a third party. Commonly, the buyer's web browser shows the domain name of the ACS provider, rather than the bank's domain name; however, this is not required by the protocol. Dependent on the ACS provider, it is possible to specify a bank-owned domain name for use by the ACS.

Each 3-D Secure transaction involves two Internet request/response pairs: VEReq/VERes and PAReq/PARes. Visa and MasterCard don't license merchants for sending requests to their servers. They isolate their servers by licensing software providers which are called MPI (merchant plug-in) providers.

<sup>13</sup> ACS - Access Control Server, a server usually operated by a Merchant plug-in provider (MPI) outsourcing 3D Secure services i.e. providing added security internet based card not present transactions.

<sup>14</sup> MPI - Merchant plug-in provider a software service provides outsourcing 3D Secure Access Servers.

28. NETC network upgrade and enhancement of Main and DR Centers are required as the payment system of the BOM is the nation's critical service that should be operated non-stop 24 hours a day, 365 days a year utilizing IT for the purpose of achieving business efficiency. Therefore, the annual system failure time should be minimized. It is necessary to implement communication and network, building, electricity, security and air control facilities accordingly.

29. Business continuity plan should be established in reference to computer systems, networks, facilities and human resources as a whole to secure business continuity, no service-interruption, provide quick response capability in case of computer attacks, and determine vulnerability of communication facilities and protect information.

30. The External Support and Technical Support Services will help build capacity and provide needed technical support:

- (i) Awareness and capacity development; and
- (ii) Project implementation unit (PIU) support.

31. The terms of reference (TORs) for the above are shown in Part VI, Section D.

32. The Legal and Regulatory Framework components required are:

- (i) mandated participant bank connection to the interbank payment system's Infrastructure;
- (ii) mandated interoperability for all card including credit card, mobile account or e-Money (must include U-Money, Candy, GG etc.) issuers / operators, loyalty and rapid transit cards;
- (iii) national payments system regulation;
- (iv) financial agency regulation (FAR);
- (v) financial consumer protection regulation (FCPR);
- (vi) AML/CFT regulation; and
- (vii) failure to settle and survivors pay rules.

33. Mandated participant bank connection to the interbank payment system's infrastructure is an integral part of the national payment system regulation (NPSR) which requires all licensed banks in Mongolia to clear and settle all interbank payments through the BOM clearing and settlement system.

34. Mandated interoperability for all card, mobile account or e-money issuers / operators is an integral part of the NPSR regulation which requires all licensed card, mobile account or e-money issuers / operators in Mongolia to provide full interoperability between card accounts, mobile accounts, e-money accounts and conventional bank accounts, and that all related interbank transactions must be cleared and settled the BOM clearing and settlement systems.

35. NPSR addresses (i) the authority of the central bank as overseer, (ii) payment and security settlement systems, (iii) payment service providers, (iv) the requirements applicable to any arrangement entered into by a financial institution and a mobile network operator (MNO) with respect to the mobile payment system, (v) insolvency, (vi) the to-be-formed advisory body to the BOM and (vii) the role of the to-be-established payment system mediator.

36. FAR addresses the rights and obligations of agents and financial institutions as well as the role of the central bank as overseer.

37. FCPR addresses general financial consumer protection principles as well as specific rules on disclosure, funds transfers, prohibited practices, data privacy, fees and charges, consumer recourse and liabilities of financial institutions. The FCPR attempts to balance the rights of the consumer with sustainable business models.

38. AML/CFT regulation addresses the identification and verification obligations of financial institutions and permitting non-face-to-face account opening and transactions.

39. Failure to settle and survivors pay rules are to ensure that payments made in real time are settled during the next ACH / RTGS session.

## II. IMPLEMENTATION PLANS

### A. Project Readiness Activities

40. The Project will be implemented over 36 months beginning in April 2016 and ending in June 2020. The project includes a number of procurement of payment system related software and equipment packages, and the consultancy services required to develop the bidding documents for all the contract packages. BOM will set-up a bid evaluation committee and a project implementation unit (PIU) which will be assigned to implement each of the components in the project. Similarly, the consultant selection process for the payment system's experts required to compile the technical, functional specifications and invitations to bid will also commence from second quarter of 2016. A number of the components of the project are upgrades to existing software systems at BOM. Procurement of these components must be based on direct contracting procurement as the upgrades required must be supplied by the original software vendor as those from other vendors will be incompatible. Overall Project Readiness Activities are presented in Table 1.

**Table 1: Project Readiness Activities**

Indicative Activities	2012				2013			.....	2016	Agency Responsible
	Sep	Oct	Nov	Dec	Jan	Feb	Mar		May	
Establish Budgetary Scope										BOM, ADB
Fact-Finding Mission										BOM, ADB
MOU										ADB
Negotiate Loan										BOM, ADB
ADB Board Approval										ADB
Loan Signing										BOM, MOF
Government Legal Opinion Provided										BOM, MOF
Government Budget Inclusion										MOF
Loan Effectiveness										BOM

ADB = Asian Development Bank, BOM = Bank of Mongolia, MOF = Ministry of Finance, MOU = Memorandum of Understanding.

### B. Overall Project Implementation Plan

41. Based on the implementation plan below, the project will be physically completed by 31 December 2019 and the loan account will close by 30 June 2020. The overall project implementation plan is shown in Figure 1.

42. Since the project duration is 36 months, the overall implementation plan will be updated at the annual / mid-term reviews, as and when required by the BOM together with ADB. The updated implementation plan will be submitted to ADB for no objection. Further updating will take place as required during loan review, with contract and disbursement projections for the following year.





## PROJECT MANAGEMENT ARRANGEMENTS

### C. Project Implementation Organization – Roles and Responsibilities

43. **Executing Agency.** Bank of Mongolia (BOM) will be the executing agency (EA) for the Project and the Payment System and Accounting Department of BOM will be implementing the project. The EA will guide and coordinate closely with other government agencies and ADB for the timely resolution of any issue and completion of the project within the target dates, expediting the procurement process, and organizing the Project Steering Committee (SC) meetings. The EA will designate a project coordinator for carrying out the day-to-day tasks. The deputy governor has been designated to head the SC that will provide overall supervision to project implementation. The director of NETC will be designated as project director and will be supported by the project implementation unit (PIU).

44. **Project Implementation Unit.** A PIU has been organized by the BOM to implement the Project deploying staff members of the BOM. The PIU, supported by a team of consultants, will manage the procurement activities, supervise the execution of each component of the Project, prepare and submit periodic/progress reports to the EA and ADB, provide secretariat support to the SC, and regularly liaise with the EA and ADB. The PIU is headed by a project coordinator and will comprise full-time core staff, including project managers, a payment system specialist and IT specialist. The PIU staff members report to the project director, who will guide and supervise the work of the PIU. The PIU will recruit the project consultants under the guidance of the EA and ADB. The outline terms of reference for consulting services and PIU staff is provided in Part VII (i.e., Procurement and Consulting Services) Section B. EA will provide a furnished, air conditioned/heated office space with communication and other support facilities as in-kind contribution for project implementation and management.

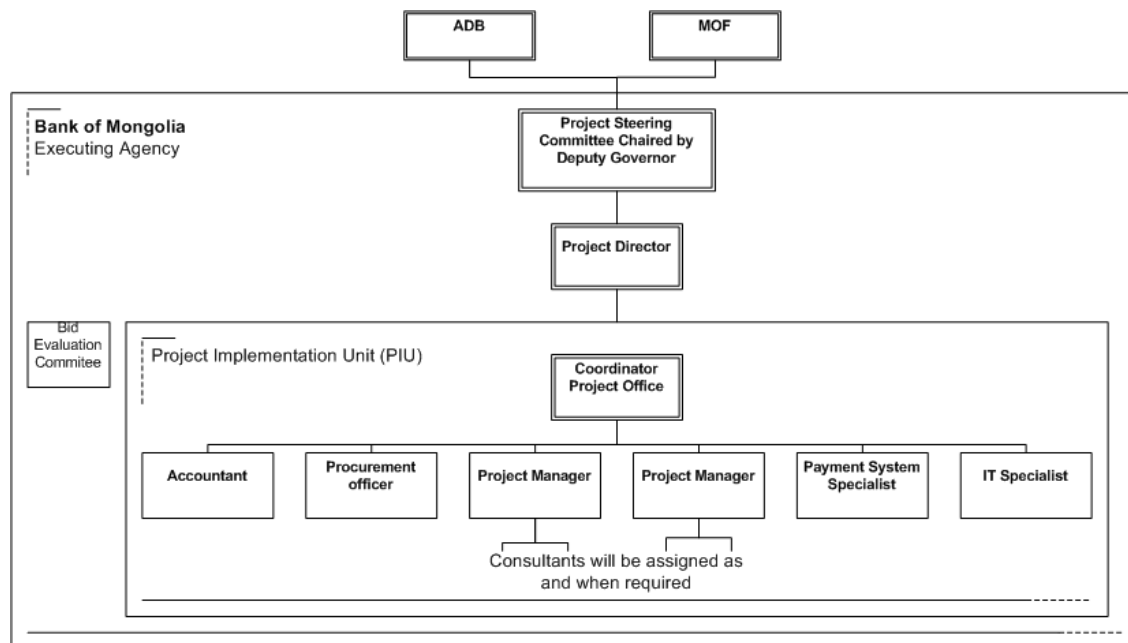
45. **Bid Evaluation Committee.** For purposes of evaluating the various bids that will be received for procurement of works and goods and for recruiting consultants, an independent evaluation committee will be formed to be composed of: the BOM component project manager assisted by unbiased BOM staff members and staff members from the involved stakeholders, i.e., participant banks and or mobile network operators. Members of the committee must not in any way be involved with any of the bidders that may constitute a conflict of interest.

46. **Project Steering Committee.** The BOM has formed an SC headed by its deputy governor to oversee the project implementation process and performance, provide policy guidance, and coordinate with other government ministries and agencies concerned. The SC will also coordinate with stakeholders, including the participating banks and mobile network operators. The SC will be composed of all the department heads at the BOM involved in the payments system. Representatives of other key stakeholders, such as the Financial Regulatory Commission and Communication Regulatory Commission, will also be appointed as members. The SC shall be responsible for (i) guiding the overall policy and strategic direction of the Project, (ii) reviewing and evaluating project performance, and (iii) assisting with coordination among other donor-funded projects relating to the Payment System Modernization Project. The SC will meet at least quarterly during the early stages of the Project and twice a year thereafter once the project becomes operational or as needed to ensure timely and orderly project implementation, provide policy guidance on ongoing and new government initiatives, serve as a platform for promoting private sector participation in initiatives under the project, and facilitate inter-agency cooperation. ADB will attend the SC meetings as observer, as needed. The SC will be assisted by an advisory committee from the National Council of Payment and Settlement System, composed mainly of representatives of BOM, the commercial banks, the Financial Regulatory Commission, the



Information Communications Technology and Post Authority, the Ministry of Finance, the Mongolian Securities Clearing House and Central Depository, and mobile network operators.

47. The relationship between the involved organizational entities is depicted in the following organization chart:

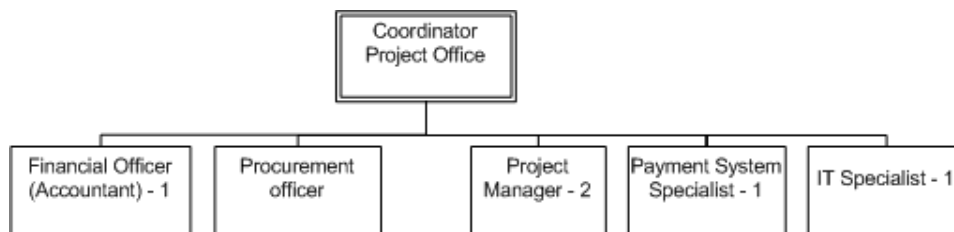


Project Implementation Organizations	Management Roles and Responsibilities
<b>Ministry of Finance</b> <b>Executing Agency (EA)</b> Bank of Mongolia	<ul style="list-style-type: none"> <li>➤ Signing of the Loan Agreement for the Project;</li> <li>➤ Monitoring of the Project implementation and providing respective coordination and facilitation;</li> <li>➤ Endorsing to ADB the authorized staff with approved signatures for payments and withdrawals processing;</li> <li>➤ Processing and submitting to ADB any request, when required, for reallocating the loan proceeds;</li> <li>➤ Primarily responsible for disbursement of loan/counterpart funds and ensuring financial controls and audits;</li> <li>➤ Guiding and coordinating closely with other government agencies and ADB for the timely resolution of any issue and completion of the project within the target;</li> <li>➤ Expediting the procurement process;</li> <li>➤ Organizing the SC meeting; and</li> <li>➤ Providing oversight on quality of overall Project implementation.</li> </ul>
Payment and Accounting Department Bank of Mongolia	<ul style="list-style-type: none"> <li>➤ Finalizing surveys, design, bidding documents, and contract awards;</li> <li>➤ Working closely with the MOF for timely provision of agreed counterpart funds for the Project;</li> <li>➤ Monitoring and evaluation of Project activities and outputs, including periodic reviews with the MOF;</li> <li>➤ Preparation of review reports reflecting issues and time-bound actions taken (or to be taken);</li> <li>➤ Involving beneficiaries and civil society representatives in all stages of Project design and implementation;</li> <li>➤ Public disclosure of project outputs;</li> </ul>

Project Implementation Organizations	Management Roles and Responsibilities
	<ul style="list-style-type: none"> <li>➤ Quality assurance of works, and services of consultants and counterpart staff;</li> <li>➤ Establishing strong financial management system and submitting timely withdrawal applications to ADB, conducting timely financial audits as per agreed timeframe and taking recommended actions;</li> <li>➤ Complying with all loan covenants;</li> <li>➤ Preparing regular periodic progress reports, and Project completion report and their timely submission to ADB; and</li> <li>➤ Ensuring Project's sustainability during post implementation stage and reporting to ADB on the assessed development impacts.</li> </ul>
Project Implementation Unit (PIU)	<ul style="list-style-type: none"> <li>➤ Responsible for overall implementation and supervision of the Project supported by full-time core staff and a team of consultants;</li> <li>➤ Managing the procurement activities;</li> <li>➤ Supervising the execution of each component of the Project;</li> <li>➤ Preparing and submitting periodic/progress reports to EA and ADB;</li> <li>➤ Providing secretariat support to the SC;</li> <li>➤ Regularly liaise with the EA and ADB; and</li> <li>➤ Recruiting the project consultants under the guidance of the EA and ADB.</li> </ul>
Asian Development Bank	<ul style="list-style-type: none"> <li>➤ Assisting the EA and its PIU in providing timely guidance at each stage of the Project for smooth implementation in accordance the agreed implementation arrangements;</li> <li>➤ Reviewing all the documents that require ADB approval;</li> <li>➤ conducting periodic loan review missions, a mid-term review, and Project completion mission;</li> <li>➤ Monitoring compliance with all loan covenants including safeguards;</li> <li>➤ Timely processing withdrawal applications and releasing eligible funds;</li> <li>➤ Monitoring compliance with financial audit recommendations;</li> <li>➤ Regularly updating the project performance review reports; and</li> <li>➤ Regularly posting on ADB website the updated Project information documents for public disclosure, and also the safeguards documents as per disclosure provision of the ADB's Safeguard Policy Statement.</li> </ul>
PIU Coordinator	<ul style="list-style-type: none"> <li>➤ PIU Coordinator will be responsible for definition and maintenance of standards for project management within the project.</li> <li>➤ The PIU Coordinator must strive to standardize and introduce economies of repetition in the execution of projects.</li> <li>➤ The PIU Coordinator must be the source of documentation, guidance and metrics on the practice of project management and execution.</li> <li>➤ The PIU Coordinator must be responsible for the project accounts and must open and manage the impress account.</li> </ul>

ADB = Asian Development Bank, MOF = Ministry of Finance, SC = Steering Committee.

The following organization chart depicts the PIU team's roles and structure discussed above:

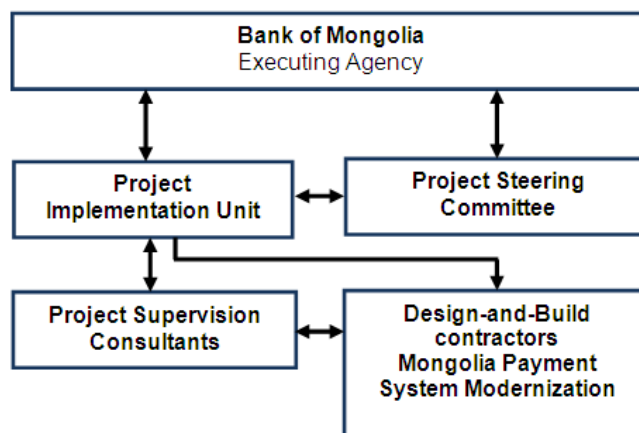


#### D. Key Persons Involved in Implementation

<b>Executing Agency</b>  Bank of Mongolia	B.Lkhagvasuren Deputy Governor  E. Anar Director General Payment and Accounting Department  T.Amarsaikhan Project Director Head of Payment Policy Regulation Division
<b>Asian Development Bank</b>  East Asia Department Mongolia Resident Mission	Yolanda Fernandez Lommen Country Director Tel (+976) 11-329 836 www.adb.org Email address: yfernandez@adb.org  Mr. Enerelt Enkhbold Investment Officer Tel (+976) 11-329 836 ext.122 www.adb.org Email address: eenkhbold@adb.org

#### E. Project Organization Structure

48. The PIU will be established prior to loan effectiveness. International consultants will be engaged to support the PIU in the development of the design and build contract packages for the major project components and to supervise procurement and implementation activities at BOM.

**Figure 2: Project Organization Chart**

### III. COSTS AND FINANCING

49. The Project investment cost is estimated at \$22.50 million equivalent, inclusive of contingencies and financing charges during the implementation period. The government has requested a loan of \$20.00 million from ADB's ordinary capital resources. The loan will have a maturity period of 20 years including a grace period of 5 years, straight line method, an annual interest rate determined in accordance with ADB's London interbank offered rate (LIBOR) based lending facility,<sup>15</sup> a commitment charge of 0.15% per year and such other terms and conditions set forth in the draft loan agreement. Based on this, the average loan maturity is 12.75 years and there will be no maturity premium. The government has provided ADB with (i) the reasons for its decision to borrow under ADB's LIBOR-based lending facility based on these terms and conditions, and (ii) an undertaking that these choices were its own independent decision and not made in reliance on any communication or advice from ADB." The Government of Mongolia will provide the remaining \$2.50 million equivalent as counterpart funding which includes cash contribution of \$0.58 million to cover the financing charges during implementation and \$1.92 million to cover taxes and duties in the form of tax exemption and other in-kind contributions.

Cost categories are as follows.

Category	Description
Works	Small works for Enhancement of NETC Main and DR Sites (HA & DR)
Hardware and Software <sup>a</sup>	Hardware and Software for (i) Interbank payment infrastructure, (ii) Retail payment infrastructure; and (iii) computers and peripherals for PIU.
Consulting services	Remuneration and reimbursable expenses for consultants.
Training	Training to develop capacity of project implementation unit and system participants and to increase new services' utilization;
Project management	PIU support staff salary, audit, and miscellaneous administration costs, including costs for communication, transportation, and office supplies.

PIU = -project implementation unit.

<sup>a</sup> Further detail is provided in the procurement plan.

50. Detailed cost estimates by expenditure category are shown in Table 2.

<sup>15</sup> The interest does not include any maturity premium. This is based on the above loan terms and the government's choice of repayment option and dates.

**Table 2: Detailed Cost Estimates by Expenditure Category**

Item	(US\$ million)	
	Total Cost	% of Total Base Cost
<b>A Investment Costs<sup>a</sup></b>		
<b>Payment and settlement system development</b>		
1 Interbank payment infrastructure (including 3 years systems maintenance)	4.23	
Retail payment infrastructure (including 3 years systems maintenance)	13.19	
<b>Awareness and capacity development</b>		
Public Awareness	0.30	
Training	0.30	
<b>Subtotal (A)</b>		
	<b>18.02</b>	<b>80.1%</b>
<b>B Recurrent Costs</b>		
1 Project implementation support	0.82	3.7%
2 Legal Framework Components Required to support the proposed Interoperable National Payment Systems Infrastructure	0.32	1.4%
3 Consultancy required to develop functional specification, requirements definition and development of invitations to bid	0.44	2.0%
<b>Subtotal (B)</b>		
	<b>1.58</b>	<b>7.0%</b>
<b>Total Base Cost</b>	<b>19.60</b>	<b>87.1%</b>
<b>C Taxes and duties<sup>b</sup></b>	<b>1.92</b>	<b>8.5%</b>
<b>D Contingencies</b>		
1 Physical <sup>c</sup>	0.20	0.9%
2 Price <sup>d</sup>	0.20	0.9%
<b>Subtotal (D)</b>		
	<b>0.40</b>	<b>1.8%</b>
<b>E Financing Charges During Implementation<sup>e</sup></b>	<b>0.58</b>	<b>2.6%</b>
<b>Total Project Cost (A+B+C+D+E)</b>	<b>22.50</b>	<b>100.0%</b>

Notes: Figures may not add up to totals due to rounding.

Exchange Rate: 1US\$ = 2,025 MNT

<sup>a</sup> In mid-2012 prices.

<sup>b</sup> Taxes and duties at 8.5%.

<sup>c</sup> Computed at 1% of all components.

<sup>d</sup> Computed at 1% of all components.

<sup>e</sup> Includes interest and commitment charges. Interest during implementation has been computed at the five-year forward London interbank offered rate plus a spread of 0.40%. Commitment charges for an ADB loan are 0.15% per year to be charged on the undisbursed loan amount.

Source: ADB estimates.

**Table 3: Allocation and Withdrawal of Loan Proceeds**

Number	Item	Total Amount Allocated for ADB Financing		Basis for Withdrawal from the Loan Account
		(\$)		
		Category	Subcategory	
1	Payment and settlement system development	17,420,000		100 percent of total expenditure claimed*
1.1	Interbank payment infrastructure		4,231,000	100 percent of total expenditure claimed*
1.2	Retail payment infrastructure		13,189,000	100 percent of total expenditure claimed*
2	Awareness and capacity development	598,000		100 percent of total expenditure claimed*
2.1	Public Awareness		298,000	100 percent of total expenditure claimed*
2.2	Training		300,000	100 percent of total expenditure claimed*
3	Recurrent costs	1,582,000		
3.1	Project implementation support		823,000	100 percent of total expenditure claimed*
3.2	Legal Framework Components Required to support the proposed Interoperable National Payment Systems Infrastructure		318,000	100 percent of total expenditure claimed*
3.3	Consultancy requirement functional specification, requirements definition and development of invitations to bid		441,000.00	100 percent of total expenditure claimed*
4	Unallocated	400,000		
	<b>Total</b>	<b>20,000,000</b>		

\* Exclusive of taxes and duties imposed within the territory of the Borrower.

Table 4: Detailed Cost Estimates by Financier

Item		(US\$ million)				Total Cost
		ADB Loan		Government		
		Amount	% of Cost Category	Amount	% of Cost Category	
<b>A</b>	<b>Investment Costs<sup>a</sup></b>					
1	<b>Payment and settlement system development</b>	<b>17.42</b>	<b>100.0%</b>	<b>0.00</b>	<b>0.0%</b>	<b>17.42</b>
	Interbank payment infrastructure (including 3 years systems maintenance)	4.23				4.23
	Retail payment infrastructure (including 3 years systems maintenance)	13.19				13.19
2	<b>Awareness and capacity development</b>	<b>0.60</b>	<b>100.0%</b>			<b>0.60</b>
	Public Awareness	0.30				0.30
	Training	0.30				0.30
	<b>Subtotal (A)</b>	<b>18.02</b>	<b>100.0%</b>	<b>0.00</b>	<b>0.0%</b>	<b>18.02</b>
<b>B</b>	<b>Recurrent Costs</b>					<b>-</b>
1	Project implementation support	0.82	100.0%			0.82
2	Legal Framework Components Required to support the proposed Interoperable National Payment Systems Infrastructure	0.32	100.0%	0.0%	0.0%	0.32
3	Consultancy required to develop functional specification, requirements definition and development of invitations to bid	0.44	100.0%	0.0%	0.0%	0.44
	<b>Subtotal (B)</b>	<b>1.58</b>	<b>100.0%</b>	<b>0.00</b>	<b>0.0%</b>	<b>1.58</b>
	<b>Total Base Cost</b>	<b>19.60</b>	<b>100.0%</b>	<b>0.00</b>	<b>0.0%</b>	<b>19.60</b>
<b>C</b>	<b>Taxes and duties<sup>b</sup></b>	<b>0.00</b>	<b>0.0%</b>	<b>1.92</b>	<b>100.0%</b>	<b>1.92</b>
<b>D</b>	<b>Contingencies</b>					
1	Physical <sup>c</sup>	0.20	100.0%	<b>0.00</b>	<b>0.0%</b>	<b>0.20</b>
2	Price <sup>d</sup>	0.20	100.0%	<b>0.00</b>	<b>0.0%</b>	<b>0.20</b>
	<b>Subtotal (D)</b>	<b>0.4</b>	<b>100.0%</b>	<b>0.00</b>	<b>0.0%</b>	<b>0.40</b>
<b>E</b>	<b>Financing Charges During Implementation</b>	<b>0.00</b>	<b>0.0%</b>	<b>0.58</b>	<b>100.0%</b>	<b>0.58</b>
<b>Total Project Cost (A+B+C+D+E)</b>		<b>20.00</b>		<b>2.50</b>		<b>22.50</b>
<b>% Total Project Cost</b>		<b>88.9%</b>		<b>11.1%</b>		<b>100.0%</b>

Notes: Figures may not add up to totals due to rounding.

<sup>a</sup> In mid-2012 prices.

<sup>b</sup> Taxes and duties at 8.5%.

<sup>c</sup> Computed at 1% of all components.

<sup>d</sup> Computed at 1% of all components.

<sup>e</sup> Includes interest and commitment charges. Interest during implementation has been computed at the five-year forward London interbank offered rate plus a spread of 0.40%. Commitment charges for an ADB loan are 0.15% per year to be charged on the undisbursed loan amount.

Source: ADB estimates.

Table 5: Detailed Cost Estimates by Outputs/Components

Item		Amount (US\$ million)	% of Cost Category	
<b>A</b>	<b>Investment Costs<sup>a</sup></b>			
	<b>1 Payment and settlement system development</b>	<b>17.42</b>	<b>96.7%</b>	
	Interbank payment infrastructure (including 3 years systems maintenance)	4.23	23.5%	
	Retail payment infrastructure (including 3 years systems maintenance)	13.19	73.2%	
	<b>2 Awareness and capacity development</b>	<b>0.60</b>	<b>3.3%</b>	
	Public Awareness	<b>0.30</b>	1.6%	
	Training	<b>0.30</b>	1.7%	
	<b>Subtotal (A)</b>	<b>18.02</b>	<b>100.0%</b>	
<b>B</b>	<b>Recurrent Costs</b>			
	1 Project implementation support	0.82	52.0%	
	2 Legal framework components required to support the proposed interoperable national payment systems infrastructure	0.32	20.1%	
	3 Consultancy requirement functional specification, requirements definition and development of invitations to bid	0.44	27.9%	
	<b>Subtotal (B)</b>	<b>1.58</b>	<b>100.0%</b>	
	<b>Total Base Cost</b>	<b>19.60</b>		<b>87.1%</b>
<b>C</b>	<b>Taxes and duties<sup>b</sup></b>	<b>1.92</b>	<b>8.5%</b>	<b>8.5%</b>
<b>D</b>	<b>Contingencies</b>			
	1 Physical <sup>c</sup>	0.20		
	2 Price <sup>d</sup>	0.20		
	<b>Subtotal (D)</b>	<b>0.40</b>		<b>1.8%</b>
<b>E</b>	<b>Financing Charges During Implementation<sup>e</sup></b>	<b>0.58</b>	<b>2.6%</b>	<b>2.6%</b>
<b>Total Project Cost (A+B+C+D+E)</b>		<b>22.50</b>		<b>100.0%</b>

Notes: Figures may not add up to totals due to rounding.

<sup>a</sup> In mid-2012 prices.

<sup>b</sup> Taxes and duties at 8.5%.

<sup>c</sup> Computed at 1% of all components.

<sup>d</sup> Computed at 1% of all components.

<sup>e</sup> Includes interest and commitment charges. Interest during implementation has been computed at the five-year forward London interbank offered rate plus a spread of 0.40%. Commitment charges for an ADB loan are 0.15% per year to be charged on the undisbursed loan amount.

Source: ADB estimates.



Table 6: Detailed Cost Estimates by Year

Item	(US\$ million)				
	Total Cost <sup>d</sup>	2016	2017	2018	2019
<b>A Investment Costs<sup>a</sup></b>					
1 <b>Payment and settlement system development</b>	<b>17.42</b>	<b>2.01</b>	<b>5.29</b>	<b>8.31</b>	<b>1.82</b>
Interbank payment infrastructure (including 3 years systems maintenance)	4.23	0.34	1.13	2.76	0.00
Retail payment infrastructure (including 3 years systems maintenance)	13.19	1.66	4.16	5.55	1.82
2 <b>Awareness and capacity development material</b>	0.60	<b>0.00</b>	<b>0.20</b>	<b>0.20</b>	<b>0.20</b>
<b>Subtotal (A)</b>	<b>18.02</b>	<b>2.01</b>	<b>5.48</b>	<b>8.51</b>	<b>2.02</b>
<b>B Recurrent Costs</b>					
1 Project implementation support	0.82	0.23	0.20	0.20	0.20
2 Legal Framework Components Required to support the proposed Interoperable National Payment Systems Infrastructure	0.32	0.00	0.13	0.13	0.06
3 Consultancy required to develop functional specification, requirements definition and development of invitations to bid	0.44	0.27	0.18	0.00	0.00
<b>Subtotal (B)</b>	<b>1.58</b>	<b>0.50</b>	<b>0.50</b>	<b>0.32</b>	<b>0.26</b>
<b>Total Base Cost</b>	<b>19.60</b>	<b>2.50</b>	<b>5.98</b>	<b>8.84</b>	<b>2.28</b>
<b>C Taxes and duties</b>	0.00	0.00	0.00	0.00	0.00
<b>D Contingencies</b>					
1 Physical <sup>b</sup>	0.20	0.02	0.05	0.13	0.00
2 Price <sup>c</sup>	0.20	0.02	0.05	0.13	0.00
<b>Subtotal (C)</b>	<b>0.40</b>	<b>0.03</b>	<b>0.11</b>	<b>0.26</b>	<b>0.00</b>
<b>E Financing Charges During Implementation</b>	0.00	0.00	0.00	0.00	0.00
<b>Total Project Cost (A+B+C+D)<sup>e</sup></b>	<b>20.00</b>	<b>2.54</b>	<b>6.09</b>	<b>9.10</b>	<b>2.28</b>

Notes: Figures may not add up to totals due to rounding.

<sup>a</sup> In mid-2012 prices.

<sup>b</sup> Computed at 10% of field research and development, training, surveys and studies.

<sup>c</sup> Computed at 5% of base cost.

<sup>d</sup> Sum of all ADB funds for the project.

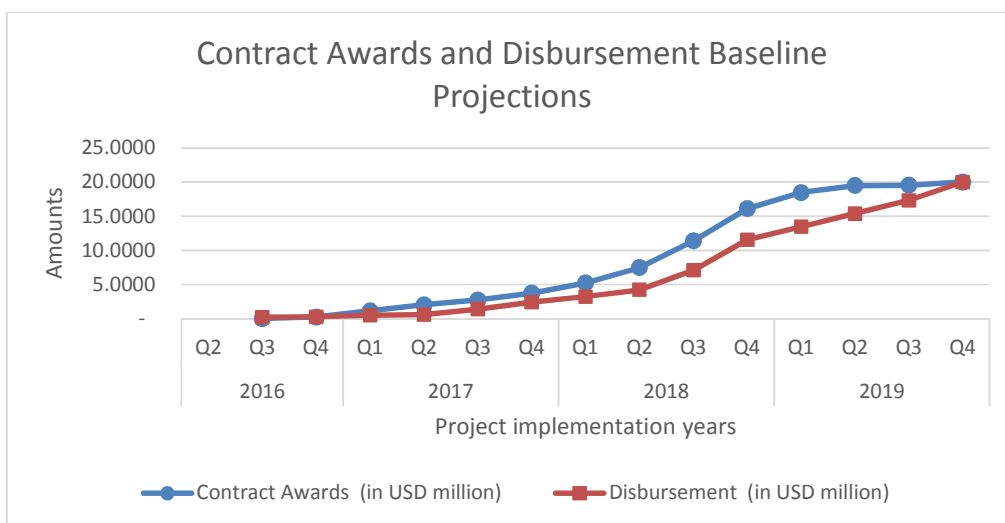
Source: ADB estimates.

**A. Contract and Disbursement S-curve**

52. Figure 3 shows the estimated disbursement progress over the implementation period of the Project. The Disbursement S-Curve will help to assess disbursement performance at any time during the project implementation. In case of delays and poor disbursements, this will help as an early warning system for taking timely remedial measures.

**Figure 3: Disbursement S-curve**

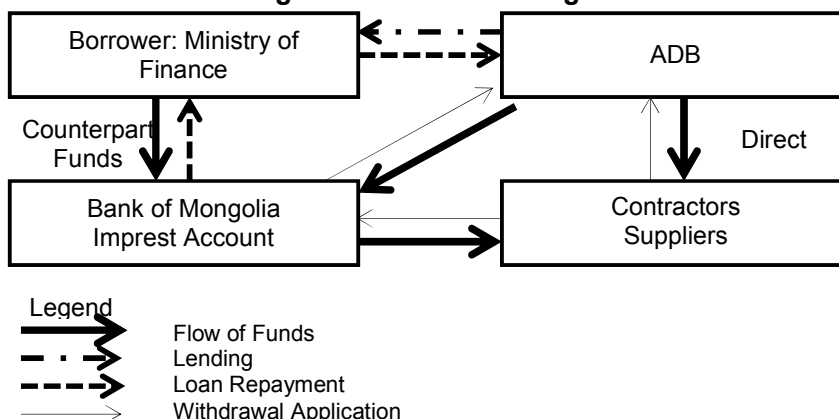
	Contract Awards					Disbursement				
	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total
<b>2016</b>	-	-	35,000	229,000	264,000	-	-	246,583	68,400	314,983
<b>2017</b>	915,000	890,000	696,000	992,000	3,493,000	211,583	95,400	808,783	999,100	2,114,866
<b>2018</b>	1,497,000	2,228,000	3,928,040	4,697,000	12,350,040	810,400	996,900	2,855,000	4,463,100	9,125,400
<b>2019</b>	2,362,500	1,017,460	56,000	457,000	3,892,960	1,918,400	1,918,400	1,918,400	2,689,551	8,444,751
<b>Total</b>	<b>20,000,000</b>					<b>20,000,000</b>				



**B. Fund Flow Diagram**

53. Figure 4 shows how the funds will flow from ADB and the Government to implement the Project.

**Figure 4: Fund Flow Diagram**



## IV. FINANCIAL MANAGEMENT

### A. Financial Management Assessment

54. This Financial Management Assessment is based on the ADB's standard questionnaires. Key findings of the financial management assessment undertaken for the BOM during the project preparation are as follows:

**Table 7: Summary of the Financial Management Assessment**

Particulars	Conclusions
<b>A. Funds Flow Arrangements</b>	BOM has not previously implemented ADB-funded projects. BOM has in the past implemented World Bank funded projects and internal funds flow arrangements are reliable and secure. MOF and BOM have the capability to smoothly work under the proposed Project with the training designed through ADB during inception mission and by the project management consultants during project implementation.
<b>B. Staffing</b>	BOM is staffed with experienced financial specialists who are experts in managing internal finance. All employees are full time with formal job descriptions for each position.
<b>C. Accounting Policies and Procedures</b>	The chart of accounts based on the state standard format has been in use by BOM for many years. Segregation of duties is specified in the comments on the questionnaire including budgeting system, payments, policies and procedures, cash and bank, safeguard over assets, other offices and implementing entities. A separate financial management manual is planned to be established for the Project in accordance with ADB requirements.
<b>D. Internal and External Audits</b>	An internal audit function is available. For the external audit, accounts and financial statements will be audited by independent auditors acceptable to ADB.
<b>E. Reporting and Monitoring</b>	Financial statements are currently prepared for BOM on monthly, quarterly and annual basis. Existing reporting system can be linked with the financial information of physical project progress but with the help of consultants specializing in financial management.
<b>F. Information Systems</b>	Financial management system is computerized and produces the necessary financial reports of the ongoing development works. The staff is adequately trained to maintain the system and the management organization and processing system safeguard the confidentiality, integrity, and availability of the data.

55. Actions required to be taken by the BOM are as follows:

- (i) BOM's financial staff must undergo training on ADB financial management procedures for better understanding and strengthen their internal audit capacity;
- (ii) A separate financial management manual for the project should be established in accordance with the Government and ADB requirements; and
- (iii) BOM should maintain separate accounts for the Project and have such accounts audited annually, in accordance with appropriate auditing standards consistently applied by independent auditors whose qualifications, experience, and terms of reference are acceptable to ADB.

56. **Risk Analysis.** During the implementation phase, the BOM might face some risks that can generally be divided in two main categories: (i) country level; and (ii) organization/project level. These are summarized as follows. Financial management risks shall need to be considered and updated throughout the life of the investment program. Risk mitigation measures shall also be updated accordingly.

**Table 8: Financial Management Risk Assessment and Mitigation Measures**

<b>Risk</b>	<b>Risk Assessment</b>	<b>Risk-Mitigation Measures</b>
<i>Inherent Risk</i>		
1. Country-specific Risks	N	MOF and BOM shall ensure the timely release of counterpart funds, as per loan covenants.
2. Entity-specific Risks	N	BOM is familiar with ADB procurement guidelines and disbursement procedures. Involvement of international procurement specialists at the initial stage of the project until all contract awards and consultants' recruitment, and extensive training on ADB procedures shall be carried out.
3. Project-specific Risks	N	The project will ensure that the required interfaces use existing industry standards and that all interfaces to existing participant systems and mobile network operator services require little or no integration effort on the core banking system and mobile network operator sides.
<b>Overall Inherent Risk</b>	<b>N</b>	
<i>Control Risk</i>		
1. Implementing Entity	M	Organizational capability building of the BOM and PIU will support the existing organizational structure.
2. Funds Flow	M	Timely availability of funds will be ensured by implementing the proposed funds flow arrangements.
3. Staffing	M	PIU shall assist the BOM to design and implement the training program especially for ADB financial reporting requirements and their integration into overall national financial reporting requirements.
4. Accounting Policies and Procedures	M	Accounting policy reflects the national accounting standards and the requirements of ADB.
5. Internal Audit	M	Internal auditor shall be improved by the training.
6. External Audit	N	Audit of the project accounts shall be done in accordance with the International Standards on Auditing, by an auditor acceptable to ADB.
7. Reporting and Monitoring	N	BOM and PIU shall regularly report in accordance with ADB requirements on inherent adequate control mechanisms.
8. Information Systems	N	The efficiency of the existing information system and reporting is adequate.
<b>Overall Control Risk</b>	<b>M</b>	

H = High, S = Substantial, M = Moderate, N = Negligible or Low.

## **B. Disbursement**

57. The loan proceeds will be disbursed in accordance with ADB's Loan Disbursement Handbook (2015, as amended from time to time),<sup>16</sup> and detailed arrangements agreed upon between the Government and the ADB.

58. **Prohibited investment activities.** Pursuant to ADB's Safeguard Policy Statement (SPS) (2009),<sup>17</sup> ADB funds may not be applied to the activities described on the ADB Prohibited Investment Activities List set forth at Appendix 5 of the SPS.

59. **Imprest Fund Procedure.** To expedite project implementation through timely release of loan proceeds, the EA will open an imprest account after loan effectiveness, the designated at BOM or a commercial bank and will manage and liquidate the account according to ADB's Loan Disbursement Handbook and other arrangements satisfactory to ADB. The currency of the imprest account is US dollar. The imprest account is to be used

<sup>16</sup> Available at: <http://www.adb.org/documents/loan-disbursement-handbook>

<sup>17</sup> Available at: <http://www.adb.org/Documents/Policies/Safeguards/Safeguard-Policy-Statement-June2009.pdf>

exclusively for ADB's share of eligible expenditures. The government who established the imprest account in its name is accountable and responsible for proper use of advances to the imprest account. The ceiling of the imprest account is 10% of the loan amount.

60. Sub-accounts may be used to keep advances from imprest account to cover PIU's operational costs. The currency of the sub-account may be USD and/or MNT. The subaccount is normally a separate bank account opened for the exclusive use of the project, unless otherwise approved by ADB. The EA should ensure the following matters for using the sub-account(s):

- there is a clearly defined need for the sub-account(s);
- the borrower and EA, must have sufficient administrative and accounting capabilities to establish adequate internal control, accounting, and auditing procedures to ensure proper use and operation of the sub-account(s); and
- there is treatment of foreign exchange differences.

61. The EA should ensure that every liquidation and replenishment of each sub-account is supported by (i) the statement of account (bank statement) prepared by the bank where the sub-account is maintained, and (ii) a sub-account reconciliation statement<sup>18</sup> reconciling the above-mentioned bank statement against the sub-account's records. These supporting documents should be retained by the borrower, EA, and/or IA, as appropriate, and be made available to ADB upon request

62. Before the submission of the first withdrawal application, EA should submit to ADB sufficient evidence of the authority of the person(s) who will sign the withdrawal applications on behalf of the borrower, together with the authenticated specimen signatures of each authorized person of MOF. The minimum value per withdrawal application is \$100,000, unless otherwise approved by ADB. Individual payments below this amount should generally be paid from the imprest account, or by the EA and subsequently claimed to ADB through reimbursement. ADB reserves the right not to accept WAs below the minimum amount.

63. ADB's Loan Disbursement Handbook describes which supporting documents should be submitted to ADB and which should be retained by the government for liquidation and replenishment of the imprest account.<sup>19</sup>

64. Statement-of-expenditure (SOE) **procedure**. The SOE procedure may be used for reimbursement of eligible expenses and liquidation of advances to the imprest account. The ceiling of the SOE procedure is the equivalent of \$20,000 per individual payment. Supporting documents and records for the expenditures claimed under the SOE should be maintained and made readily available for review by ADB's disbursement and review missions, upon ADB's request for submission of supporting documents on a sampling basis, and for independent audit. Reimbursement and liquidation of individual payments in excess of the SOE ceiling should be supported by full documentation when submitting the withdrawal application to ADB.

### **C. Accounting**

65. The EA will maintain separate project accounts and records by funding source for all expenditures incurred on the Project. Project accounts will follow international accounting principles and practices.

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<sup>18</sup> See Appendix 10D of ADB. 2015. *Loan Disbursement Handbook*. Manila

<sup>19</sup> See Chapter 10 of ADB. 2012. *Loan Disbursement Handbook*. Manila

## **D. Auditing**

66. The EA will cause the detailed consolidated project accounts to be audited in accordance with International Standards on Auditing and in accordance with the Government's audit regulations by an auditor acceptable to ADB. EA should submit to ADB the audited financial statements, including the auditor's report and the management letter<sup>20</sup> for each financial reporting period (fiscal year) from the date of loan effectiveness until the loan account's financial closing on ADB's record of loan account. The audited project accounts will be submitted in the English language to ADB within six months of the end of the fiscal year. The annual audit report will include a separate audit opinion on the use of the imprest accounts, and the SOE procedures.

67. The EA has been made aware of ADB's policy on delayed submission, and the requirements for satisfactory and acceptable quality of the audited accounts. If the delay in submitting the audited project accounts and audited financial statements is more than six months, ADB will not issue a commitment letter and may not approve new contract awards. If the delay is more than 12 months, loan disbursements may be suspended or the loan may be canceled. ADB reserves the right to verify the Project's financial accounts to confirm that the share of ADB's financing is used in accordance with ADB's policies and procedures.

## **V. PROCUREMENT AND CONSULTING SERVICES**

### **A. Advance Contracting**

68. The project will not require advance contracting.

### **B. Procurement of Goods, Works and Consulting Services**

69. All procurement of goods and works to be financed out of the proposed ADB loan will be undertaken in accordance with *ADB's Procurement Guidelines* (April 2015 as amended from time to time) and the Public Procurement Law of Mongolia (2004). International competitive bidding (ICB) will be used for civil works contracts valued at \$5 million or more. Civil works contracts valued at less than \$5 million will be procured using national competitive bidding (NCB) procedures. ICB will be applied to supply contracts estimated to cost \$2.0 million or more. Supply contracts with a value of less than \$2.0 million will follow NCB, and those less than \$100,000 will follow shopping procedures as reflected by particular circumstances of the contract packages. The selection and engagement of contractors will be subject to ADB's prior review and approval. Before commencement of NCB procurement, ADB and the Borrower will review the Borrower's procurement procedures to ensure consistency with ADB requirements. Any necessary modifications or clarifications to the Borrower's procedures will be documented in the procurement plan. Any internationally tendered equipment packages will include the necessary technical support for ensuring proper installation, testing, commissioning, and training of operational staff as part of the related contracts. In accordance with ADB requirements, foreign contractors may participate in bidding for NCB contracts. The EA has been advised of the need to maintain transparency and accountability in procuring goods and services, as required under the ADB's Anticorruption Policy (1998, as amended from time to time).

70. A 36-month procurement plan indicating threshold and review procedures, and goods, works and consulting services contract packages, is in Section C below.

71. All consultants to be financed under the ADB loan will be recruited in accordance

<sup>20</sup> Refers to the formal communications from the auditor highlighting deficiencies in internal control, identified by the auditor during the course of the audit.

with ADB's *Guidelines on the Use of Consultants* (2013, as amended from time to time).<sup>21</sup> Consultants will be selected and engaged using ADB's quality and cost-based selection and consultant's qualifications selection procedures. A total of 300 person-days (international) of consulting services will be needed to develop the functional specifications for the components of the modernization of the Mongolian payment system. The consultancy will be grouped packages for some of the ICB components of the project, the packages will be funded under the Project to (i) undertake business process analysis and reengineering, and (ii) develop functional and technical requirements specification. Consultants will be engaged using QCBS with the standard ratio of 80:20, consultant's qualification selection (CQS) and individual consultant's selection.

72. The consultants will have expertise in (i) core banking system / BOM general ledger (G/L), (ii) automated clearing house plus, (iii) central securities depository (CSD) for government securities (including reserve and portfolio management), foreign exchange trading system (FXTS) and money market trading system (MMTS), (iv) Implementation of Mobile NFC enablement either HCE or TSM, (v) EMV / NFC standardization and integration of E-money schemes into Banking Payment system and E-Money clearing capability. The outline terms of reference for all consulting services are detailed in Section D. The relevant sections of ADB's Anticorruption Policy (1998, as amended from time to time) will be included in all documents and contracts relating to the engagement of consultants.

### C. Procurement plan

#### Basic Data

<b>Project Name:</b> Payment System Modernization Project	
<b>Project Number:</b> MON46312-001	<b>Approval Number:</b> 3072
<b>Country:</b> Mongolia	<b>Executing Agency:</b> The Bank of Mongolia (Central Bank)
<b>Procurement Risk:</b> Moderate	<b>Implementing Agency:</b> N/A
<b>Project Financing Amount:</b> \$ 22,500,000 <b>ADB Financing:</b> \$ 20,000,000 <b>Co-financing (ADB Administered):</b> <b>Non-ADB Financing:</b> \$2,500,000	<b>Project Closing Date:</b> 31 December 2019
<b>Date of First Procurement Plan:</b> 10 August 2016	<b>Date of this Procurement Plan:</b> October 2016

### A. Methods, Thresholds, Review and 18-Month Procurement Plan

#### (a) Procurement and Consulting Methods and Thresholds

Except as the Asian Development Bank (ADB) may otherwise agree, the following process thresholds shall apply to procurement of goods and works.

Procurement of Goods and Works		
Method	Threshold	Comments
International Competitive Bidding (ICB) for Goods	US\$2,000,000 and above	
National Competitive Bidding (NCB) for Goods	Between US\$100,001 and \$1,999,999	The first NCB is subject to prior review, thereafter post review
Shopping for Goods	Up to US\$100,000	
Direct Contracting for Goods	Between US\$100,000 and \$1,000,000	
International Competitive Bidding (ICB)	US\$5,000,000 and above	

<sup>21</sup> Checklists for actions required to contract consultants by method available in e-Handbook on Project Implementation at: <http://www.adb.org/documents/handbooks/project-implementation/>

for works		
National Competitive Bidding (NCB) for Works	Between US\$100,001 and \$4,999,999	The first NCB is subject to prior review, thereafter post review.
Shopping for Works	Below \$100,000	

Consulting Services	
Method	Comments
Consultants' Qualifications Selection for Consulting Firm	Recurrent Costs
Quality and Cost Based Selection for Consulting Firm	
Individual Consultant Selection for Individual Consultant	Investment Costs

**(b) Goods and Works Contracts Estimated to Cost \$1 Million or More**

The following table lists goods and works contracts for which the procurement activity is either ongoing or expected to commence within the next 18 months.

Package Number	General Description	Contract Value	Procurement Method	Review [Prior/Post]	Bidding Procedure	Advertisement Date (quarter/year)	Comments
1.	Core Banking System / BOM general ledger (G/L)	1,236,000.00	ICB	Prior	1S1E	Q2/2017	Prequalification of Bidders: N Domestic Preference Applicable: N Bidding Document: Goods
2.	Central Securities Depository for Government Securities (including Reserve and Portfolio Management)	1,414,000.00	ICB	Prior	1S1E	Q3/2017	Prequalification of Bidders: N Domestic Preference Applicable: N Bidding Document: Goods
3.	ACH Plus supporting Direct Credits, Direct Debits and Instant Funds Transfers	2,228,000.00	ICB	Prior	1S1E	Q2/2017	Prequalification of Bidders: N Domestic Preference Applicable: N Bidding Document: Goods
4.	EMV/NFC standardization and integration of E-money schemes into Banking Payment system and E-money clearing capability	1,142,000.00	ICB	Prior	1S1E	Q1/2017	Prequalification of Bidders: N Domestic Preference Applicable: N
5.	Enhancement of NETC Main and DR Sites (HA & DR)	1,139,000.00	NCB	Prior	1S1E	Q2/2017	Prequalification of Bidders: N Bidding Document: NCB documents for Goods and Small works Comments: Multiple contracts



**(c) Consulting Services Contracts Estimated to Cost \$100,000 or More**

The following table lists consulting services contracts for which the recruitment activity is either ongoing or expected to commence within the next 18 months.

Package Number	General Description	Estimated Value	Recruitment Method	Review (Prior/Post)	Advertisement Date (quarter/year)	Type of Proposal	Comments International or National Assignment
6.	EMV/NFC standardization and integration of E-money schemes into Banking Payment system and E-money clearing capability	123,000.00	CQS	Post	Q1/ 2017	STP	Assignment: <b>International</b>
7.	Legal Framework Components Required to support the proposed Interoperable National Payment Systems Infrastructure	318,000.00	QCBS	Prior	Q1/ 2017	FTS	Assignment: <b>International Quality-Cost Ratio: 80:20</b> Expertise: <b>Various experts</b>

**(d) Goods and Works Contracts Estimated to Cost Less than \$1 Million and Consulting Services Contracts Less than \$100,000 (Smaller Value Contracts)**

The following table groups smaller-value goods, works and consulting services contracts for which the activity is either ongoing or expected to commence within the next 18 months.

Package Number	General Description	Estimated Value	Number of Contracts	Procurement Method	Review [Prior/ Post ]	Bidding Procedure	Advertisement Date (quarter/year)	Comments (Prequalification Yes or No)
8.	Integration of financial and other Services in the Smart ID Card	628,000.00	1	ICB	Prior	1S1E	Q4/2017	Prequalification of Bidders: <b>N</b> Domestic Preference Applicable: <b>N</b>
9.	PIU Furniture and Computer Hardware	35,000.00	Multiple	Shopping	Post		Q3/2016	Comments: Computers and Printing devices, Desks, chairs and shelves for PIU Staff
10.	Upgrade RTGS to 2nd Generation	343,000.00	1	Direct Contracting	Prior	1S1E	Q4/2016	Prequalification of Bidders: <b>N</b> Bidding Document: <b>Goods</b>
11.	Foreign Exchange Trading System	619,000.00	1	ICB	Prior	1S1E	Q3/2017	Prequalification of Bidders: <b>N</b> Domestic Preference Applicable: <b>N</b> Bidding Document: <b>Goods</b>
12.	Money Market Trading System	619,000.00	1	ICB	Prior	1S1E	Q3/2017	Prequalification of Bidders: <b>N</b> Domestic

								Preference Applicable: <b>N</b> Bidding Document: <i>Goods</i>
13.	Retail banking delivery channels support (supporting branch automation, banking delivery channels and banking interfaces of project implemented systems)	496,000.00	TBD	NCB	Prior	1S1E	Q3/2017	Prequalification of Bidders: <b>N</b>  Bidding Document: <i>Goods</i>  Comments: <b>Multiple contracts</b>
14.	3D Secure, shared Access Control Server (OTP)	273,000.00	1	ICB	Prior	1S1E	Q4/2017	Prequalification of Bidders: <b>N</b> Domestic Preference Applicable: <b>N</b> Bidding Document: <i>Goods</i>
15.	Public Key Infrastructure implementation for financial organizations	864,000.00	1	ICB	Prior	1S1E	Q1/2017	Prequalification of Bidders: <b>N</b> Domestic Preference Applicable: <b>N</b>
16.	Upgrade of the National Shared EFTPOS / ATM Switch including Card, Merchant Management and Hybrid / EMV Card Production System (physical and electronic personalization)	890,000.00	1	Direct Contracting	Prior	1S1E	Q2/2017	Bidding Document: <i>Goods</i>
17.	NETC Fiber Network Extension (Ring Network Topology)	383,000.00	1	Direct Contracting	Prior	1S1E	Q4/2016	Bidding Document: <i>Goods</i>
18.	NETC Core network devices and Security network upgrade (Routers, Switches, Next Generation Firewalls)	656,000.00	1	NCB	Prior	1S1E	Q4/2016	Prequalification of Bidders: <b>N</b> Bidding Document: <i>Goods</i>

### Consultancy Services

Package Number	General Description	Estimated Value	Number of Contracts	Recruitment Method	Review (Prior / Post)	Advertisement Date (quarter/year)	Type of Proposal	Comments
	Core Banking System / BOM General Ledger (G/L)	64,000.00	1	ICS	Prior	Q3/2016	Bidata	Assignment: <b>International</b>
	Central Securities Depository (CSD) for Government Securities (including Reserve and Portfolio)	72,000.00	1	ICS	Prior	Q4/2016	Bidata	Assignment: <b>International</b>

	Management) FXTS and MMTS							
	ACH+ system supporting clearing of Direct Debits, Direct Credits and Instant Funds Transfers	93,000.00	1	ICS	Prior	Q3/2016	Biodata	Assignment: <b>International</b>
	Implementation of Mobile NFC enablement either HCE or TSM	89,000.00	1	ICS	Prior	Q1/2018	Biodata	Assignment: <b>International</b>

### B. Indicative List of Packages Required Under the Project

The following table provides an indicative list of goods and works and consulting services contracts over the life of the project, other than those mentioned in previous sections (i.e., those expected beyond the current period).

Goods and Works							
Package Number	General Description	Estimated Value (cumulative)	Estimated Number of Contracts	Procurement Method	Review [Prior/Post]	Bidding Procedure	Comments Domestic Preference Applicable
23.	Shared Mobile Pay by Bank platform based on the fast payment hub	2,377,000.00	TBD	ICB	Prior	1S1E	Prequalification of Bidders: N Domestic Preference Applicable: N Bidding Document: Goods
24	Implementation of Mobile NFC enablement either HCE or TSM	2,113,000.00	ICB	Prior	1S1E	1S1E	Prequalification of Bidders: N Domestic Preference Applicable: N

Consultancy Services							
Package Number	General Description	Estimated Value	Number of Contracts	Procurement Method	Review (Prior / Post)	Advertisement Date (quarter/ year)	Type of Proposal
None							

### C. List of Awarded and On-going, and Completed Contracts

The following tables list the awarded and on-going contracts, and completed contracts.

Goods and Works							
Package Number	General Description	Estimated Value	Awarded Contract Value	Procurement Method	Advertisement Date (quarter/ year)	Date of ADB Approval of Contract Award	Comments
None							

Consulting Services							
Package Number	General Description	Estimated Value	Awarded Contract Value	Recruitment Method	Advertisement Date (quarter/year)	Date of ADB Approval of Contract Award	Comments
None							

## D. National Competitive Bidding

### A. Regulation and Reference Documents

1. The procedures to be followed for national competitive bidding shall be those set forth in the Public Procurement Law of Mongolia of 1 December 2005, effective 1 February 2006, as amended in February 2007; July 2009; and February, June and December 2011 (hereinafter referred to as PPLM), with the clarifications and modifications described in the following paragraphs required for compliance with the provisions of the ADB *Procurement Guidelines*.

### B. Procurement Procedures

#### 1. Eligibility [Recommended standard provision]

2. The eligibility of bidders shall be as defined under section I of the Procurement Guidelines; accordingly, no bidder or potential bidder should be declared ineligible for reasons other than those provided in section I of the Guidelines, **as amended from time to time**.

3. Government-owned enterprises in Mongolia shall be eligible for projects only if they can establish that they: (i) are legally and financially autonomous; (ii) operate under the principles of commercial law; and (iii) are not dependent agencies of the Borrower, Beneficiary, Recipient Executing Agency and/or the Implementing Agency.

#### 2. Participation of Foreign Bidders

4. International bidders from eligible countries of ADB shall be allowed to participate in local procurement and may not be denied participation due to nationality.

#### 3. Preferences

5. No domestic preference shall be given for domestic bidders and for domestically manufactured goods.

#### 4. Prequalification and Registration

6. Prequalification is discouraged for procurement contracts using NCB. When used, particularly for works contracts, an individual prequalification exercise is acceptable for each contract as is the use of a registration system (or approved standing list) of contractors based on criteria such as experience, financial capacity, and technical capacity. Foreign bidders from eligible countries must, however, be allowed to register and to bid without unreasonable cost or additional requirements.

#### 5. Rejection of All Bids and Rebidding

7. All bids shall not be rejected or new bids invited without ADB's prior written concurrence.

8. No bid shall be rejected merely on the basis of a comparison with the estimated cost or budget ceiling without ADB's prior written concurrence (with specific reference to Article 30 of the PPLM).

### **C. Bidding Documents**

#### **6. Use of Bidding Documents**

9. National Standard Bidding Documents Goods and Works that have been approved for procurement in ADB-financed projects shall be used.

#### **7. Language**

10. Bidding documents may be prepared in other languages, but a copy of the bidding documents must be made available in English and submitted to ADB for review.

#### **8. Bid Validity**

11. Bidders shall be requested to extend the validity of their bids only under exceptional circumstances and the Executing or Implementing Agency, as the case may be, shall communicate such request for extension to all bidders before the date of expiry of their bids. When the procurement is subject to ADB's prior review, the Executing or Implementing Agency, as the case may be, shall obtain in a timely manner the prior written concurrence of ADB for the extension of the bid validity period.

#### **9. Bid Evaluation**

12. Evaluation and qualification criteria, and submission requirements, to be used in each bidding activity shall be clearly specified in the bidding documents. The evaluation of bids shall be done in strict adherence to the criteria specified in the bidding documents.

13. Negotiations with bidders shall not be undertaken before award of contract, except as provided in Paragraph 2.63 of ADB's Procurement Guidelines A bidder shall not be required, as a condition for award, to undertake obligations not specified in the bidding documents or otherwise to modify its bid as originally submitted.

14. At the same time that notification on award of contract is given to the successful bidder, the results of the bid evaluation shall be posted on a well-known freely accessible website (namely Mongolia's Ministry of Finance e-procurement website: [www.e-procurement.mn](http://www.e-procurement.mn)) identifying the bid and lot numbers and providing information on the: (i) name of each bidder that submitted a bid; (ii) bid prices as read out at bid opening; (iii) names of bidders whose bids were rejected and the reasons for their rejection; and (iv) name of the winning bidder, and the price it offered, as well as the duration and summary scope of the contract awarded. The Executing Agency or Implementing Agency, as the case may be, shall respond in writing to unsuccessful bidders who seek explanations on the grounds on which their bids were not selected.

#### **10. ADB Policy Clauses**

15. A provision shall be included in all NCB works and goods contracts financed by ADB requiring suppliers and contractors to permit ADB to inspect their accounts and records and other documents relating to the bid submission and the performance of the contract, and to have them audited by auditors appointed by ADB.

16. A provision shall be included in all bidding documents for NCB works and goods contracts financed by ADB stating that the Borrower shall reject a proposal for award if it determines that the bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive or obstructive practices in competing for the contract in question.

17. A provision shall be included in all bidding documents for NCB works and goods contracts financed by ADB stating that ADB will declare a firm or individual ineligible, either

indefinitely or for a stated period, to be awarded a contract financed by ADB, if it at any time determines that the firm or individual has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive or obstructive practices or any integrity violation in competing for, or in executing, ADB-financed contract.

#### **D. Consultant's Terms of Reference**

##### **Outline Terms of Reference for the Modernization of the Mongolian Payment System**

###### International Positions

#### **1. Core Banking System / BOM general ledger (G/L) Specialists (40 person-days)**

- (a) The consultants' tasks and responsibilities will include the following:
  - (i) Lead role in the development of the functional and technical specifications for the BOM core banking system G/L.
- (b) Qualifications
  - (i) The consultants will have a minimum of 10 years' experience in the area of core banking system / BOM G/L in a central banking environment.
  - (ii) Previous experience as leading functional and technical discussions and consultations with government agencies in other similarly situated developing countries is an important prerequisite.
  - (iii) Relevant experience in a central bank would be an advantage.

#### **2. Automated Clearing House plus - ACH+ system supporting clearing of Direct Debits, Direct Credits and Instant Funds Transfers (52 person-days)**

- (a) The consultants' tasks and responsibilities will include the following:
  - (i) Lead role in the development of the functional and technical specifications for an automated clearing house for Bank of Mongolia.
- (b) Qualifications
  - (i) The consultants will have a minimum of 10 years' experience in the area of automated clearing house set-up and operations in a central banking environment.
  - (ii) Previous experience as leading functional and technical discussions and consultations with government agencies in other similarly situated developing countries is an important prerequisite.

#### **3. Central Securities Depository (CSD) for Government Securities (including Reserve and Portfolio Management) Foreign Exchange Trading Systems (FXTS) and Money Market Trading System (MMTS) (40 person-days)**

- (a) The consultants' tasks and responsibilities will include the following:
  - (i) Lead role in the development of the functional and technical specifications for a CSD for Government Securities (including Reserve and Portfolio Management) FXTS and (MMTS) for Bank of Mongolia.

- (b) Qualifications
  - (i) The consultants will have a minimum of 10 years' experience in the area of CSD for government securities (including reserve and portfolio management) FXTS and MMTS in a central banking environment.
  - (ii) Previous experience as leading functional and technical discussions and consultations with government agencies in other similarly situated developing countries is an important prerequisite.
  - (iii)

#### **4. Implementation of Mobile NFC enablement either HCE or TSM (50 person-days)**

- (a) The consultants' tasks and responsibilities will include the following:
  - (i) Lead role in the development evaluation of HCE<sup>22</sup> versus TSM<sup>23</sup> technology for NFC enablement of mobile phones.
  - (ii) Lead role in the development of the technical specifications for a HCE or TSM solution for Bank of Mongolia.
- (b) Qualifications
  - (i) The consultants will have a minimum of 10 years' experience in the area of mobile NFC / RFID card readers for delivery channels including HCE and TSM technology.
  - (ii) Previous experience as leading functional and technical discussions and consultations with government agencies in other similarly situated developing countries is an important prerequisite.

#### **5. EMV/NFC standardization and integration of E-money schemes into Banking Payment system and E-money clearing capability (70 person-days)**

- (a) The consultants' tasks and responsibilities will include the following:
  - (i) Lead role in the development of the functional and technical specifications for EMV / NFC standardization for national ₮ card and integration of e-Money schemes into Banking Payment system and E-money clearing capability for Bank of Mongolia.
  - (ii) Assist BOM in setting up plan to promote use of EMV / NFC standardized ₮ cards and integration of e-money schemes into Banking Payment system and E-money clearing capability for Bank of Mongolia.
- (b) Qualifications
  - (i) The consultants will have a minimum of 10 years' experience in the area of EMV / NFC and e-money standardization.
  - (ii) Previous experience with EMV / NFC standardization is essential.
  - (iii) Understanding and preferably hands-on experience with implementation of EMV Centre of excellence and Card Personalization services is a prerequisite.

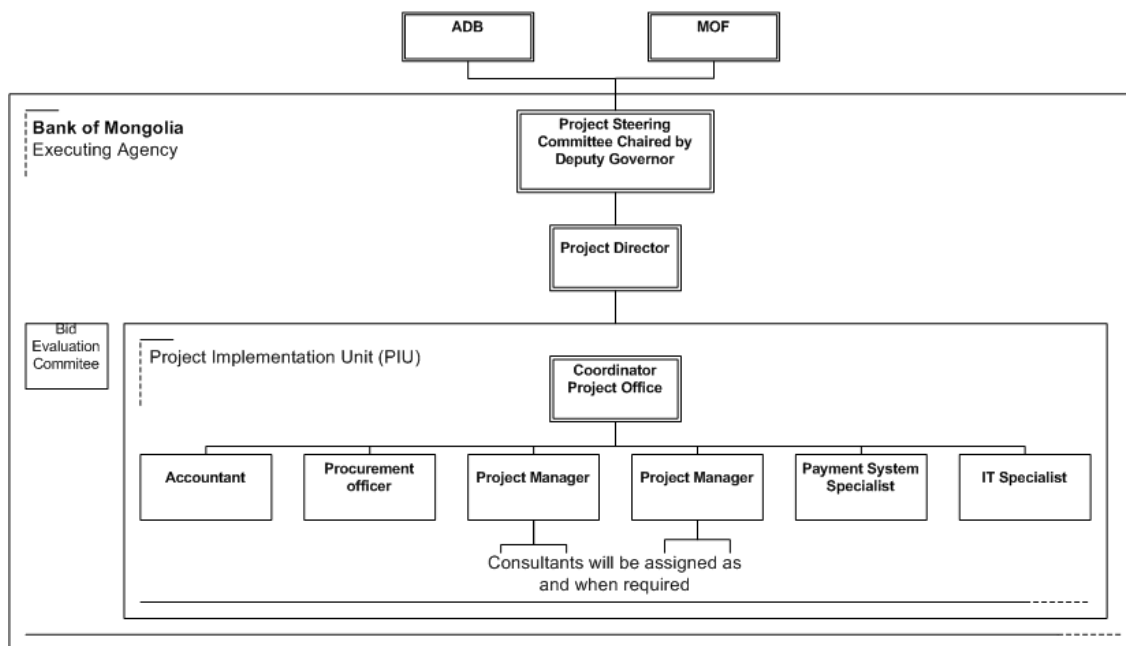
<sup>22</sup> HCE – Host Card Emulation

<sup>23</sup> TSM - Trusted Service Manager

- (iv) Previous experience as leading functional and technical discussions and consultations with government agencies in other similarly situated developing countries is an important prerequisite.

## 5. Project Implementation Unit (7x36 person months)

- (a) The project implementation unit (PIU) will employ local staff based on demands imposed by the execution of the Mongolian Payment System's Modernization Project. The conceptual organization structure of the PIU is as follows:



- (b) The composition of the PIU will be dynamic in response to demands by the Payment Systems Modernization Project. The roles and responsibilities envisaged are as follows:
- i. Project Coordinator
  - ii. Procurement officer
  - iii. Project accountant
  - iv. Payment specialist
  - v. IT specialist
  - vi. Project officers (managers)
  - vii. other consultants will be as and when required

Following are the terms of reference for each of the above roles:

### 9.1 Project Coordinator

- (a) The project coordinator's tasks and responsibilities will include the following:
- (i) Responsible for the day to day management of the PIU and for the allocation of PIU staff to the projects and work packages included in the scope of work within the project components.



(b) Qualifications

- (i) The project coordinator will have a minimum of 10 years' experience as a project manager or project director in the payment systems domain.
- (ii) Previous experience such as leading functional / technical discussions and consultations with government agencies or banks in Mongolia or elsewhere in the world is an important prerequisite.

**9.2 Procurement officer**

(a) The procurement manager's tasks and responsibilities will include the following:

- (i) Responsible for the day to day management of procurement related tasks including the completion of requests for proposal and coordination of the acquisition of all of the components to be procured for the project

(b) Qualifications

- (i) The procurement manager will have a minimum of 6 years' experience as a procurement manager in the information technology and software systems domain.
- (ii) Previous experience such as procurement on behalf of government entities or banks in Mongolia or elsewhere in the world is an important prerequisite.

**9.3 Project Accountant**

(a) The project accountant's tasks and responsibilities will include the following:

- (i) Responsible for the day to day management of the project accounts including the imprest accounts in accordance with the ASB procedures.

(b) Qualifications

- (i) The project accountant will have a minimum of 4 years' experience as an accountant preferably in the information technology and software systems domain.
- (ii) Previous experience such as project accounting on donor based projects in Mongolia or elsewhere in the world is an important prerequisite.

**9.4 Payment Systems Specialist**

(a) The payment systems specialist's tasks and responsibilities will include the following:

- (i) Responsible the functional integrity and interoperability and compatibility of the interfaces between the components of the modernized payment systems architecture.

(b) Qualifications

- (i) The payment systems specialist will have a minimum of 8 years' experience in the payment systems domain and must have been responsible for functional design and implementation of payment systems solutions in one or more Mongolian Banks.
- (ii) Previous experience such as leading functional / technical discussions and consultations with government agencies or banks in Mongolia or elsewhere in the world is an important prerequisite.

### **9.5 IT Specialist**

- (a) The IT specialist's tasks and responsibilities will include the following:
  - (i) Responsible for the technical integrity and interoperability and compatibility of the interfaces between the components of the modernized payment systems architecture.
- (b) Qualifications
  - (i) The IT specialist's will have a minimum of 8 years' experience in the payment systems domain and must have been responsible for technical design and implementation of payment systems solutions in one or more Mongolian Banks.
  - (ii) Previous experience such as leading functional / technical discussions and consultations with government agencies or banks in Mongolia or elsewhere in the world is an important prerequisite.

### **9.6 Project Manager (1-2 individuals depending on demand)**

- (a) The project managers' tasks and responsibilities will include the following:
  - (i) Responsible for the day to day management of the specific sub-projects or work packages and for the allocation of resources to the sub-projects and work packages included in the scope of work within the project components.
- (b) Qualifications
  - (i) The project managers will have a minimum of 8 years' experience as a project manager in the payment systems domain.
  - (ii) Previous experience such as leading functional / technical discussions and consultations with government agencies or banks in Mongolia or elsewhere in the world is an important prerequisite.

### **9.7 Other consultants to be assigned as and when required**

- (a) The other consultants' tasks and responsibilities will include the following:
  - (i) Responsible for the fulfillment of the specific terms of reference pertaining to the specific consultancy assignment.
- (b) Qualifications

- (i) The consultants will have a minimum of 8 years' experience in the payment systems domain and must have been responsible for delivery of the specific tasks allocated to the specific consultant assignment.
- (ii) Previous experience such as leading functional / technical discussions and consultations with government agencies or banks in Mongolia or elsewhere in the world is an important prerequisite.

### **Outline Terms of Reference for the Development of a Legal Framework for the Modernized Payment System Consultants**

- (a) The legal consultants must develop a legal/regulatory framework for the modernized Mongolian payment system, ensuring that there are no conflicts with existing laws and regulations and following best practices, covering but not limited to the following:
  - (i) National Payments System Regulation (NPSR). Addresses (a) the authority of the central bank as overseer over the payment and security settlement system and payment service providers, (b) the requirements applicable to any arrangement entered into by a financial institution and a mobile network operator (MNO) with respect to the mobile payments system, (c) insolvency, (d) role of the to-be-formed advisory body to the central bank and (e) the role of the to-be-established payments system mediator.
  - (ii) Financial Agency Regulation. Addresses the rights and obligations of agents and financial institutions relating to the role of the central bank as overseer.
  - (iii) Financial Consumer Protection Regulation (FCPR). Addresses general financial consumer protection principles as well as specific rules on disclosure, fund transfers, prohibited practices, data privacy, fees and charges, consumer recourse and liabilities of financial institutions. The FCPR attempts to balance the rights of the consumer with sustainable business models.
  - (iv) Anti-Money Laundering/Countering Financing of Terrorism Regulation (AML/CFT Regulation). Addresses the identification and verification obligations of financial institutions and permitting non-face-to-face account opening and transactions.
  - (v) Failure to settle Rules and Survivors Pay Rules to ensure that payments made in real time are settled during the next ACH / RTGS session.
- (b) Qualifications:
  - (i) The legal consultancy firm or individual must have 10 years' experience in the development of payment systems laws and regulations and specifically the development of specifications for interoperable financial services.
  - (ii) Relevant experience with development of laws and regulations in a similarly situated developing countries environment would be an advantage.

### **Outline Functional Overview for the Core Banking System / BOM general ledger (G/L) to be integrated into the Modernized Payment System**

1. The Core Banking System / BOM G/L must incorporate as a minimum the following functionality:

- (a) International Financial Reporting Standards (IFRS) defined by the American Institute of Certified Public Accountants
  - (i) Finance and Accounts
  - (ii) Accounts Receivable
  - (iii) Customer Master
  - (iv) Accounts Payable
  - (v) Vendor Master
  - (vi) Invoice Processing
  - (vii) Debit / Credit Notes
  - (viii) Calculation of work done (Work measurement)
  - (ix) Payment Processing (Goods & Services)
  - (x) Viewing Vendor Account
  - (xi) Bank Guarantee Monitoring (Issued/Received)
  - (xii) Earnest Money Deposits (EMD) Monitoring
  - (xiii) Compliances with Tax laws
  
- (b) General Ledger
  - (i) Accounts (Chart of accounts)
  - (ii) Calendar
  - (iii) Accounting Year-end closing
  - (iv) Consolidation of Unit Balances
  - (v) Monthly/Quarterly/Year-end reporting
  
- (c) Budgeting
  - (i) Fixed Assets
  - (ii) Fixed Asset Master Data
  - (iii) Retire Fixed Assets
  - (iv) Assignment (to employees)
  - (v) Location
  - (vi) Transfer
  - (vii) Revalue Fixed Assets
  - (viii) Reclassify Fixed Assets
  - (ix) Physical Verification of Fixed Assets
  - (x) Accounting
  - (xi) Depreciation
  - (xii) Insurance
  
- (d) Banking Functionalities
  - (i) commercial banks
  - (ii) government (multi currencies)
  - (iii) accounts revaluation gains and losses
  - (iv) realized and unrealized gains
  - (v) transactions against accounts (multi-Currency)
  - (vi) transactions made in ACH / RTGS
  - (vii) generate Society for Worldwide Interbank Financial Telecommunication (SWIFT) messages
  - (viii) Interact with SWIFT
  
- (e) Procurement

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- (i) Services Master
  - (ii) Vendor Master
  - (iii) Budget
  - (iv) Purchase Request
  - (v) Stock Control
  - (vi) Purchase
  - (vii) Import Management
  - (viii) Service Procurement
  - (ix) Request for information / expression of interest (EOI) Processing
  - (x) Request for proposal generation (scope of work, evaluation criteria, terms of reference)
  - (xi) Receipt and Stores
  - (xii) Inventory & Insurance
  - (xiii) Rental of Bank Facilities
- (f) Human Resources
- (i) Employee Master Maintenance
  - (ii) Recruitment / Manpower Planning
  - (iii) Succession Planning
  - (iv) Probations & Confirmations
  - (v) Transfers
  - (vi) Separations
  - (vii) Leave and Attendance Management / Overtime
  - (viii) Management of Increments
  - (ix) Employee Entitlements
  - (x) Grievances / Complaints
  - (xi) Employee Self service
  - (xii) Training
  - (xiii) Payroll Management
  - (xiv) Health Insurance (Medical)
  - (xv) Employee Assistance Program
  - (xvi) Performance Assessment
  - (xvii) Scholarship
  - (xviii) Management of Promotions
- (g) ERP Solution
- (i) Reporting Capabilities
  - (ii) Workflow
  - (iii) Data warehousing (DW) and Extract, transform and load (ETL) Tool
  - (iv) Web Portals
  - (v) EDI integration
  - (vi) Backup and Restore
  - (vii) Disaster Recovery
  - (viii) Training
  - (ix) Documentation

**Outline Functional Overview for the Automated Clearing House Plus (ACH+) to be integrated into the Modernized Payment System**

1. The ACH must incorporate as a minimum the following functionality:

- (a) The ACH+ System is an electronic clearing system that enables files of payment instructions to be exchanged among financial institutions; calculates the multilateral net positions; and submits a net settlement instruction to RTGS for RTGS to carry out the settlement. The files must be exchanged via a telecommunication network (virtual private network) or via SWIFTNet.
- (b) The ACH main functions are:
  - (i) Preparation of payment items (Direct Credits, Direct Debits and Instant Funds Transfer), batches and files at branch or Head Office level
  - (ii) Data entry, file import and straight-through processing facilities for payment entry
  - (iii) Sorting, formatting and data conversion for outbound and inbound transactions
  - (iv) Secure transmission to and from Central ACH system for clearing
  - (v) Processing of credit transfers (small value payment orders) and direct debits, including refusal processing
  - (vi) Collateralized clearing and multilateral netting in flexible clearing sessions
  - (vii) Settlement of net positions via RTGS
  - (viii) Extensive monitoring and reporting facilities
- (c) The entry of files must be conducted during one or more clearing sessions within the business day; at the end of each session, the settlement is carried out over RTGS and the detailed debit and credit information in the files is delivered to the relevant participants. ACH uses SWIFT standard XML format for transmission of data.
- (d) Instant Funds Transfer (IFT<sup>24</sup>) transactions must be submitted in Straight Processing Mode (STP<sup>25</sup>) and IFT Transactions must be executed in real time and in 24x7 mode.
- (e) The ACH+ must have powerful risk management features, which guarantee settlement by means of collateral in the form of cash reserves in RTGS and the pledging of government securities in favour of the Central Bank in a Securities Registration System (Central Depository or Government Securities Registration System).
- (f) The ACH+ must provide guarantee features which prevents clearing of payment file for which a debit exceeds the net position plus collateral for any Participant is accepted. This ensures that the net positions must be valid for settlement via RTGS at the end-of-session.
- (g) The ACH+ must operate a settlement accumulator used by RTGS as a technical account, and Participants accounts must be updated only on an all or nothing basis when all funds are available. Hence, partial settlement cannot occur and the ACH Operator must not be exposed to any consequent legal liabilities.
- (h) The ACH+ operators must be able to monitor the status and progress of the settlement in RTGS, and enquire on the ACH funds reserve of Participants involved and any shortfall in the settlement accounts of Participant involved in the settlement.

**Outline Functional Overview for the Central Securities Depository for Government Securities (including Reserve and Portfolio Management) to be integrated into the Modernized Payment System**

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<sup>24</sup> IFT - Instant Funds Transfer

<sup>25</sup> STP – Straight through Processing

1. The CSD must incorporate as a minimum the following functionality:
  - (a) The CSD system must offer a wide range of depository functions. For government securities, the CSD must provide registration, full support of securities operations and settlement using delivery versus payment (DVP) Model 1 with the RTGS system. For settlement of Primary Market operations, including Auctions (sell & buy back), Payment of Coupons, Redemptions and various types of secondary market transactions, CSD system must support the DVP Model 1, DVP Model 2 DVP Model 3 depending on configurable business cases. More specifically, the CSD must manage government securities operations, including an auction master data registration, bidding management, awarding algorithm appliance, registration and settlement of auction results from the primary market, sales and purchases, exchange of custodian, registration, cancellation, and execution of pledges; registration, management, and execution of repo and reverse repo agreements; payment of interest and coupons, registration and payment of partial and full security redemptions.
  - (b) All financial instruments managed by the CSD application must be fully dematerialized. In the situations where the securities environment of the client includes still outstanding paper based securities, the CSD application must provide the technical functionality and the operational features to manage the immobilization process in order to dematerialize all paper based instruments in a consistent and efficient process.
  - (c) Main features of the system include:
    - (i) auction master data registration (including issuer designation, bid type selection, allocation type selection, instrument, trading symbol, ISIN, public offering, denomination currency, cash currency, base security type, value indexes, relevant dates, auction, issue, settlement, cut-off date, term of security/maturity date, uniform/multiple pricing, nominal value, accepted bid value range, accepted yield value range, ETC),
    - (ii) various types of financial instruments management including Foreign Exchange and Money Market instruments (parameterized definition)
    - (iii) bidding process (competitive or non-competitive),
    - (iv) simulation of auction results (during the bidding window),
    - (v) awarding algorithm execution,
    - (vi) registration and execution of auction results on the primary market (initial placement DVP transactions that transfer securities from the securities account of the issuer to the securities accounts of the successful bidders),
    - (vii) secondary market outright sales (according to Delivery versus Payment Model 1),
    - (viii) over-the-counter operations (bilateral agreements identified based on predefined matching criteria),
    - (ix) buy/sell trade orders (different types of trading orders enter on dynamically defined trading markets, managed by the Electronic Trading Platform, for selected listed securities that are matched according to stock exchange like algorithm),
    - (x) order matching (simple, partial order satisfaction, feel-or-kill)
    - (xi) adjustable T+n settlement
    - (xii) secondary market free of payment operations (where there is only a transfer of securities without generation a cash leg in the Real Time Gross Settlement system);
    - (xiii) registration / substitution / release & execution of pledge contracts,

- (xiv) registration / substitution / margin call operations for repurchase agreements,
- (xv) corporate actions
- (xvi) automatic calculation and execution of interest & coupon payment events,
- (xvii) full management of partial and total securities redemption,
- (xviii) securities income taxation calculation and automatic collecting mechanism based in taxation schemes and threshold values,
- (xix) real-time interface with the Real Time Gross Settlement system for the settlement of the cash leg of securities transactions according to Delivery versus Payment Model 1 principles,
- (xx) registration and execution of collateral to support settlement of automated clearing house sessions,
- (xxi) billing calculation and automatic collection in RTGS,
- (xxii) access rights and security control,
- (xxiii) complete management of individual client accounts (physical persons & legal entities)
- (xxiv) enquiries processing & online monitoring,
- (xxv) full reporting facilities (standard and ad-hoc),
- (xxvi) alerts and notifications,
- (xxvii) Complete audit for both static data changes and user audit trails
- (xxviii) Collateral Management System must acts as a mediator of collateral held by Participants at the CSD or a number of custodian systems (e.g. Mongolia Stock Exchange) and will provide some or all of:
  - (1) Collateral registration – i.e., keeping a classified record of collateral items by Participant; interfacing with custodians
  - (2) Regular valuation of collateral items
  - (3) Settlement of transfers of ownership title
  - (4) Stock lending and borrowing
  - (5) Use of securities for liquidity management and collateral purposes – pledges and repos
  - (6) Payment events - Redemption when securities expire, Dividend payments; managing expired collaterals
  - (7) Corporate events – mergers and acquisitions
  - (8) Enquiry, monitoring, reporting and administrative functions

**Outline Functional Overview for Upgrades to the National Shared EFTPOS / ATM Switch including Card, Merchant Management and Hybrid / EMV Card Production System (physical and electronic personalization) to be integrated into the Modernized Payment System, including integration of financial and other services in the Smart ID Card**

1. The National Shared EFTPOS / ATM Switch must incorporate as a minimum the following functionality:

- (a) A Card Management System (CMS) which must provide a flexible speedy way for banks (Issuers) to introduce card based products to the market and provides all aspects of card issuing and merchant acquiring functions.
- (b) The CMS must provide an Issuing System which provides full on-line and off-line transaction processing and all functions required to support a fully integrated card processing system. The CMS must be capable of supporting card management, customer services, transaction authorization, clearing and settlement with international payment systems providers and domestic



clearing and settlement systems, production of billing statements, collection and risk management.

- (c) The CMS must support issuing of credit, debit and ATM Cards including:
- (i) Domestic and International Cards
  - (ii) Revolving Credit Cards
  - (iii) Business and Corporate Cards
  - (iv) Loyalty Cards
  - (v) Virtual Cards for Internet Use
  - (vi) Private Label and non (embossed) personalized cards
  - (vii) Charge Cards (Major Purchases, loans and Micro Finance)
  - (viii) Chip Cards and Contactless Cards (including hybrid cards)
  - (ix) Online real-time processing – meet customer needs real-time
  - (x) Support for ALL card types: credit, debit, private label, loyalty, pre-paid and combo-functionality
  - (xi) Full scheme support: Visa, MasterCard, American Express, straight through processing, China Union Pay, private closed/open loop
  - (xii) Customer centric design
  - (xiii) EMV Compliant
  - (xiv) Fully internationalized
  - (xv) Real time Fraud Alerts
  - (xvi) EMV card production System (including physical printing, embossing and electronic personalization chip RFID etc.)
- (d) A Merchant Management System which must provide online acquiring and real-time transaction processing with full back office support for credit, debit and other forms of card payment – managing the complete merchant life cycle from account establishment through to settlement.
- (e) The Merchant Management System must provide acquiring and merchant management functionality as follows:
- (i) Merchant Establishment
  - (ii) Fraud prevention tools
  - (iii) Risk Alert Management
  - (iv) Interchange
  - (v) Financial Transaction Processing
  - (vi) Submission Processing
  - (vii) Commissions
  - (viii) Settlement
  - (ix) Terminal Management
- (f) The integration of financial and other services in the Smart ID and includes procurement of the Gemalto Security key card personalization system and the possible integration of the following services in the Smart ID card chip:
- (i) Biometrics (initially fingerprints to be upgraded to Iris Code)
  - (ii) Digitized Photograph
  - (iii) Personal Information
  - (iv) Digital Certificate (Public Key Infrastructure used to enable e-Government Transactions)
  - (v) Driving License
  - (vi) Library Card
  - (vii) Electronic Cash / Wallet etc.
  - (viii) Medical Record
  - (ix) Social Security and Welfare

- (x) Insurance

**Outline Functional Overview for the EMV / NFC standardization for ₮ card and integration of E-money schemes into Banking Payment system and E-money clearing capability**

1. EMV / NFC standardization and integration of e-money schemes (u-Money, Candy, GG etc.) including EMV Centre of excellence:

- (a) Establish EMV/NFC standardization for Mongolian national ₮ brand card
- (b) Establish clearing capability in NETC for e-money clearing between e-money schemes
- (c) To support banks to issue first batch of EMV/NFC standardized ₮ cards and
- (d) Establish an EMV Centre of Excellence (EMV-COE) based on the standards developed as an integral part of the EMV / NFC standardization and integration of e-money schemes

The main objectives of the EMV COE are:

- Standardization of EMV Parameters
- Cost Saving through Sharing
- Common Training and EMV Services
- e-Commerce security through their Access Control Server (a scheme Verified by VISA, MasterCard Secure Code)
- Capacity building within the COE and in the Mongolian banks

**Shared Mobile Pay by Bank platform based on the fast payment hub**

The Mobile Pay by Bank (MPbB) must incorporate as a minimum the following functionality:

- (a) The MPbB must be an integral part of the interoperable Retail Eco System.
- (b) The MPbB must be:
  - (i) Enables anytime, anywhere cashless payments for all Mongolian individuals and businesses – opens banking to large new market
  - (ii) All banks and all Mobile Network Operators can take part
  - (iii) Common standards on common technical platform integrated to National Switch
  - (iv) Banks can tailor products for competitive advantage
  - (v) Fully interoperable
- (c) The MPbB must not be:
  - (i) Fragmented
  - (ii) MNO-led; mobile accounts (wallets) are real bank accounts
  - (iii) Exclusive to one bank or group of banks
  - (iv) Outside BOM regulation
- (d) Technical Impact of implementing MPbB must involve:
  - (i) Banks must interface to the MPbB and the national switch using standard ISO8583
  - (ii) Existing POS and ATMs must accept m-cards i.e. a special BIN ranges will be required
  - (iii) Security zones needed between banks, MPbB and the national switch

- (e) Regulatory Impact of implementing MPbB:
  - (i) Mandatory interoperability
  - (ii) All Switches must be connected to National Switch and must settle through the RTGS
  - (iii) All domestic transactions cleared and settled locally
- (f) Commercial Impact of implementing MPbB:
  - (i) Implementation effort – Working Groups
  - (ii) Little equipment cost (non-intrusive)
  - (iii) Project Investment
  - (iv) BOM's role – regulatory
- (g) Huge opportunity inherent in the implementing of MPbB:
  - (i) New markets: 100%+ have mobiles, scarcity of bank branches, introduction of Agents
  - (ii) New products: cashless, convenient, secure
  - (iii) Participation in System Operator profits
- (h) The MPbB must be a cloud based architecture which provides a non-intrusive integration with the member banks and a fully network integrated connection to the Mobile network operators.

**Outline Functional Overview for the Retail banking delivery channels (supporting branch automation, banking delivery channels and banking interfaces of project implemented systems to be integrated into the Modernized Payment System)**

1. The Retail Banking Delivery Channels (supporting branch automation, banking delivery channels and banking interfaces of project implemented systems to be integrated into the Modernized Payment System). The main purpose of this component is to support bank interfaces and channels which connect commercial banks core banking and retail banking systems to new systems implemented by the project such as ACH+.
2. This component must as a minimum incorporate the following:
  - (a) Assistance to the participant banks, mobile network operators to facilitate integration into and safeguarding transactions in the modernized payment system. Possible integration and security measures include:
    - (i) Encryption of the USSD Mobile channel
    - (ii) Gateway systems facilitating connection between the Participant Banks and the Modernized Payment system
    - (iii) Wireless Access Protocol servers for integration of mobile financial services with the Mobile Financial Services
    - (iv) Delivery devices possibly RFC terminals, ATM's or IVR systems

**Outline Functional Overview for Implementation of Mobile NFC enablement either HCE or TSM**

Based on the EMV / NFC standardization and integration of e-money schemes including EMV Centre of excellence consultancy project, the BOM PIU team must evaluate the options of using HCE or TSM to enable mobile phones used in Mongolia to be NFC enabled.

Prima facie, TSM require a significant amount of setting up of the supporting organization and is by definition more difficult and usually a lot more expensive. TSM require MNOs and banks to collaborate, whereas a bank or Payment Service Provider can implement the HCE model alone. The TSM is about using the Secure Element (SE)<sup>26</sup>.

Both types of services need server based software, although the NETC Card Management System (CMS) ought not be impacted.

Once a decision / selection has been made the selected option must be procured through an international competitive bidding process.

### **Outline Functional Overview for the Shared 3D Secure, shared Access Control Server (OTP) to be integrated into the Modernized Payment System**

1. The 3D Secure Access Control / OTP system must incorporate as a minimum the following functionality:

- (a) The OTP system must generate and control passwords that are valid for only one login session or transaction. The OTP must facilitate avoidance of the shortcomings associated with traditional (static) passwords. The most important shortcoming that must be addressed by the OTPs is that, in contrast to static passwords, the OTP generated passwords must not be vulnerable to replay attacks. (This means that a potential intruder who manages to record an OTP that was already used to log into a service or to conduct a transaction will not be able to abuse it, since it will be no longer valid).
- (b) The OTP generation algorithms must make use of pseudo-randomness or randomness to avoid predictability of future OTP passwords by observing previous passwords. The OTP system must employ one or more of the following types of algorithms:
  - (i) Time-synchronization between the authentication server and the client providing the password (the generated OTPs are valid only for a short period of time);
  - (ii) Mathematical algorithm to generate a new password based on the previous password (the generated OTPs are effectively a chain and must be used in a predefined order); and
  - (iii) Mathematical challenge algorithm where the new password is based on a challenge (e.g., a random number chosen by the authentication server or transaction details) or a counter.
- (c) The OTP System must support electronic security tokens for generation of OTPs.
- (d) The OTP System must support server-side generation of OTPs and send the OTPs to the user using an out-of-band channel such as SMS messaging.
- (e) The OTP System must support printed OTPs that the user is required to carry.

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<sup>26</sup> SE - While not all NFC applications require security, those that involve financial transactions, certain mobile marketing applications (e.g., coupons and loyalty) or other applications that must protect a user credential require a "secure element" within the phone to securely store applications and/or credentials (e.g., financial account numbers) and provide for secure execution of applications.

## **Outline Functional overview the Public Key Infrastructure (PKI) for financial organizations**

1. The public key infrastructure component provides funding for the establishment of a Financial Sector Digital Signature Certificate Authority hosted at NETC providing the following facilities:

- (a) Certificate issuance on Smart Cards, Security Tokens, NFC Devices and / or Mobile Phones
- (b) Certificate revocation
- (c) Interface to Personalization Printer (Electronic and Physical Personalization)
- (d) Interface to Write Once Read Many (WORM) devices
- (e) Certificate Card Printer(s) (Electronic and Physical Personalization)

## **Outline overview of the NETC Network upgrade (Routers, Switches, Firewalls)**

Based on NETC's detailed plans of the enhancement of the NETC Network includes upgrade of Routers, Switches, Firewalls etc as follows:

Upgrade of the current Datacenter location and connections, including:

- (a) NETC Hot-backup site Located at NDC on UB city
- (b) NETC production site Located on UB city
- (c) NETC Disaster recovery site Located on Darkhan province

Upgrade of Network Topology to include:

- (a) Ring West and Ring East including installation of Fiber Cable and Network equipment

## **Outline overview of the enhancement of the NETC Main and DR Centres (HA & DR, Enhance Fiber Network Topology Star plus linked nodes) components of the Modernized Mongolian Banking System**

Based on NETC's detailed plans the enhancement of the NETC Main and DR Centers (HA & DR) includes:

1. Network cable and power cable management plan including Implementation of Network and power cable management, rack, patch panels and power distribution units.
2. Implementation of Cooling system plan including:  
Electric Uniflair Air Conditioner 5 Hp with humidiation
3. Implementation of Power management plan including Generator and UPS system
4. Implementation of Fire Suppression System Plan including:  
FM-200® Waterless FIRE SUPPRESSION SYSTEM
5. Implementation of Server room environment monitoring plan.

### **Outline Overview of the Integration of financial and other services in the Smart ID Card**

The system integration component for financial and other Services with the Smart ID Card component must incorporate as a minimum the following features:

- (1) Connectivity between the Smart-ID system and the retail and interbank financial systems
- (2) The ability to validate customers of financial or mobile financial systems via the Smart ID database
- (3) The ability to update the Smart ID database to include financial details in accordance with the Mongolian regulatory environment including privacy and security regulations.

### **Outline Overview of the staffing requirements for the Project Implementation Unit (PIU)**

1. The PIU will be headed by a project coordinator and will comprise full-time core staff, including a procurement officer, project accountant, payment specialist, IT specialist and two (2) project officers (managers).

## **VI. SAFEGUARDS**

73. **Social Safeguards.** The Project is classified as category C for involuntary resettlement in line with ADB's Safeguard Policy Statement (2009) as it will not likely involve any potential involuntary land acquisition or restriction of access to lands that will result to physical or economic displacement of people.

74. The Project is classified as category C for Indigenous Peoples in accordance with ADB's Safeguard Policy Statement (2009). The nature of project activities will not likely result in any direct or indirect impacts on Indigenous Peoples' communities. The proposed payment system will benefit informal as well as formal financial markets.

75. The government and the Bank of Mongolia have assured ADB that implementation of the project shall conform to all applicable ADB policies including those concerning anticorruption measures, safeguards, gender, procurement, consulting services, and disbursement.

76. **Environment.** The Project is classified as category C for environment in line with ADB's Safeguard Policy Statement (2009). It was determined that the Project will not have significant adverse environmental impacts.

77. **Execution of Goods and Works Contracts.** Any changes to the Project components arising from the detailed designs of the Project will be subject to prior approval by ADB and the relevant government agency(ies) of Mongolia in accordance with the approval procedures set forth in the Loan Agreement.

## **VII. GENDER AND SOCIAL DIMENSIONS**

78. The EA will also include a specific provision in the bidding documents to ensure that civil works contractors: (i) comply with core labor standards, applicable laws and regulations in Mongolia and incorporate applicable workplace occupational safety norms; (ii) do not differentiate payment between men and women for work of equal value; (iii) do not employ child labor in the construction and maintenance activities; (iv) eliminate forced or compulsory labor; (v) eliminate employment discrimination; (vi) to the extent possible, maximize

employment of local poor and disadvantaged persons for project construction purposes, provided that the requirements for job and efficiency are adequately met; and (vii) disseminate information on the risks of sexually transmitted diseases, including human immunodeficiency virus/acquired immunodeficiency syndrome, to the employees of the contractors under the Project and to members of the local communities near the Project.

79. The EA will monitor the implementation of the Social Development Action Plan below.

<b>Proposed Actions</b>	<b>Targets</b>	<b>Agencies Involved</b>	<b>Timing</b>	<b>Funding Source</b>	<b>Monitoring Indicators</b>
<p><b>Job creation during modernization of the Mongolian Payment System:</b></p> <p>Creation of a PIU within BOM capable of assuming responsibility for project management of the procurement and implementation of the project components.</p>	<p>To recruit a minimum of 5 national project staffs, including women, who can assume responsibility for the project management of specific components of the Mongolia Payment System Modernizations Project.</p>	EA	2016–2019	Labor costs to be borne by BOM	<p>No. of local labor employed by gender</p> <p>No. of local sellers provisioning the Project sites by gender</p>

## VIII. PERFORMANCE MONITORING, EVALUATION, REPORTING AND COMMUNICATION

### A. Design and Monitoring Framework

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
<p><b>Impact</b> Modern payment services available throughout Mongolia and easily accessible even by citizens who live in distant rural areas or abroad or are not clients of a bank</p>	<p><b>By 2026 (Baseline 2016)</b> Number of active users of payment cards among rural residents (those outside Ulaanbaatar) and herders doubles (baseline: 90,000)</p> <p>No. of payments terminals in rural areas increases by at least 50% (baseline: 3,248)</p> <p>Use of agents other than banks, as extensions of payment system increases, especially in rural areas (baseline: none)</p> <p>Cost of using payments system declines by at least half (baseline: MNT233 in 2010)</p> <p>All financial institutions implement direct debits either through conventional bank accounts, employing direct debit mandates, or via the mobile direct debit subsystem, employing PIN-based direct debit mandates (baseline: none)</p>	<p>Statistical bulletin of the BOM</p> <p>Related bank charges</p> <p>BOM reports</p>	<p><b>Assumption</b> Financial market stability and economic growth continue.</p> <p><b>Risks</b> Major disruption in payments system operation caused by external factors such as natural disaster.</p> <p>A systemic crisis occurs in the financial sector that leads to erosion of public confidence in financial markets.</p>
<p><b>Outcome</b> National full-service payments system established that is efficient and affordable by poor individual</p>	<p><b>By 2026 (Baseline 2016)</b> Interbank payment transactions increase by 15% per annum; (baseline = 7,137,800 transactions)</p> <p>Volume of payment card transactions increase by 15% per annum (baseline: 59.4 million transactions)</p> <p>New forms of payment services, including interoperable mobile payments, are introduced (baseline: none)</p> <p>No. of payments terminals increases by 10% per annum; (baseline: 10,825 terminals)</p> <p>Required laws and regulations are passed (baseline: none) Standardization is in place (baseline: none) Protection mechanisms, such as use of IC-based chips, firewalls, anti-key logging, and authentication</p>	<p>Statistical bulletin of the BOM</p> <p>Half-yearly report of BOM published on its website</p> <p>BOM reports</p>	<p><b>Assumption</b> Government and BOM support for the development of the payment system continues.</p> <p><b>Risk</b> Market participants lack the capacity to operate and maintain the new system.</p>



Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
	<p>processes and procedures, established (baseline: none)</p> <p>Business continuity plan is in place (baseline: none)</p>		
<p><b>Outputs</b></p> <ol style="list-style-type: none"> <li>1. Interbank payment systems infrastructure strengthened</li> <li>2. Retail payment systems infrastructure and support systems upgraded</li> <li>3. External services and technical support provided</li> <li>4. Legal and regulatory framework established</li> </ol>	<p><b>By 2026 (Baseline 2016)</b></p> <p>All infrastructure components specified under the ADB loan are procured and installed and become operational</p> <p>All infrastructure components specified under the ADB loan are procured and installed and become operational</p> <p>All necessary support systems specified under the ADB loan are set up</p> <p>Capacity-building support for payments system operation is completed and trained staff are fully operational</p> <p>Laws and regulations required to underpin the operation of the modernized payments system are passed</p>	<p>Documentation by the NETC</p> <p>Documentation by the NETC</p> <p>Documentation by the BOM and the NETC</p> <p>BOM regulations and directives and legislative acts</p>	<p><b>Assumption</b></p> <p>User banks smoothly adapt to new system</p> <p><b>Risks</b></p> <p>Relevant agencies do not coordinate sufficiently in project implementation and monitoring</p> <p>Delay in recruitment of consultants and low quality of service and available staff</p> <p>User banks object to adopting the new payment system</p> <p>Passage of necessary legislation is delayed.</p>

Activities with Milestones	Inputs
<ol style="list-style-type: none"> <li>1. <b>Interbank payment systems infrastructure strengthened by June 2026<sup>a</sup></b> <ol style="list-style-type: none"> <li>1.1 Implement Core Banking System / BOM General ledger (G/L) by month 26</li> <li>1.2 Implement Central Securities Depository for Government Securities (including Reserve and Portfolio Management) by month 32</li> <li>1.3 Upgrade RTGS to 2<sup>nd</sup> Generation by month 10</li> <li>1.4 Implement Foreign Exchange Trading System by month 32</li> <li>1.5 Implement Money Market Trading System by month 32</li> </ol> </li> </ol>	<p><b>Loan</b></p> <p><b>ADB: \$20.00 million</b></p> <p><b>Government: \$2.50 million</b></p>

Activities with Milestones	Inputs
<p><b>2. Retail payment systems infrastructure and support systems updated by June 2026</b></p> <p>2.1 Implement ACH Plus supporting Direct Credits, Direct Debits and Instant Funds Transfers by month 27</p> <p>2.2 Implement National Shared EFTPOS / ATM Switch upgrade including Card, Merchant Management and Hybrid / EMV Card Production System (physical and electronic personalization) by month 10</p> <p>2.3 Implement Retail banking delivery channels support (supporting branch automation, banking delivery channels and banking interfaces of project implemented systems by month 39</p> <p>2.4 Implement EMV/NFC standardization and integration of E-money schemes into Banking Payment system and E-money clearing capability by month 27</p> <p>2.5 Implement Shared Mobile Pay by Bank platform based on the fast payment hub by month 45</p> <p>2.6 Implement Mobile NFC enablement either HCE or TSM by month 33</p> <p>2.7 Implement 3D Secure, shared Access Control Server (OTP) by month 18</p> <p>2.8 Public Key Infrastructure implementation for financial organizations by month 18</p> <p>2.9 Implement NETC Fiber Network Extension (Ring Network Topology) by month 10</p> <p>2.10 Implement NETC Core network devices and Security network upgrade (Routers, Switches, Next Generation Firewalls) by month 10</p> <p>2.11 Implement Enhancement of NETC Main and DR Sites (HA &amp; DR) by month 18 Implement Integration of financial and other Services in the Smart ID Card by month</p> <p><b>3. Establish Legal and regulatory framework established to underpin the operation of the modernized payments system by June 2026</b></p> <p>3.1 Establish mandated participant bank connection to the interbank payment systems infrastructure by month 30</p> <p>3.2 Establish mandated interoperability for all card or mobile account issuers and operators, i.e., retail ecosystems infrastructure, by month 30</p> <p>3.3 Draft national payments system regulation by month 30</p> <p>3.4 Draft financial agency regulation by month 30</p> <p>3.5 Draft financial consumer protection regulation by month 30</p> <p>3.6 Draft regulations against money laundering and financing of terrorism by month 30</p> <p>3.7 Draft failure-to-settle rules and survivors pay rules by month 30</p>	<p><b>Inputs</b></p>

ADB = Asian Development Bank, ATM = Automated Teller Machine, BOM = Bank of Mongolia, EFTPOS = electronic fund transport at point of sale, EMV = Europay, MasterCard, and Visa, IC = integrated circuit, IVR = interactive voice recognition (telephony based menu system), NETC = National Electronic Transaction Center, NFC/RFID = near field communication / radio frequency identification technology, POS = point of sale, RTGS = real time gross settlement System, USSD = unstructured supplementary services data, WAP = wireless application protocol.

Source: Asian Development Bank.

## B. Monitoring

80. **Project Performance Monitoring.** The EA will establish an appropriate project performance monitoring system in the PIU within one year of effectiveness following the DMF indicators. The EA will, in consultation with ADB, develop a set of project performance monitoring indicators consistent with the ADB Guidelines for Preparing a Design and Monitoring Framework (2007, as amended from time to time). Project monitoring and evaluation reports will be submitted by the PIU to ADB on a quarterly basis. On Project completion, the impacts of the Project will be evaluated according to a schedule and terms of reference to be agreed upon by the EA and ADB.

81. EA will exercise rigorous monitoring to ensure expeditious contract awards and disbursement. In this respect, actions will include:

- (i) To avoid delays in bid evaluation resulting from contractors' submission of incomplete bids, a checklist of all the supporting documents, forms, and guarantees (Table 10) will be attached with the bids for future tendering. This will be further discussed during pre-bid meetings;
- (ii) Monitoring of agreed time-bound activities from preparation of bid evaluation report (BER) to the contract award will be carried out using a checklist (Table 11) for each action with the given timeframe; and
- (iii) For ADB monitoring, consultants shall copy to ADB project officer the interim payment certificates, which will help intensify ADB's monitoring, expedite withdrawal application processing and payments to contractors, and consequently improve the project implementation progress.

**Table 10: Checklist of Documents for Bidders at Purchase of Tender Documents**

Instruction to Bidders (ITB)	
Requirements	Specific Instructions and Supporting Documents
(a) Letter of Bid	<ul style="list-style-type: none"> <li>➤ Total bid price (excluding discount);</li> <li>➤ Discount (if any);</li> <li>➤ Bid validity of 150 days</li> <li>➤ Signed by an authorized person (see. Item e, below)</li> </ul>
(b) Completed schedules as required, including priced bill of quantities (BOQ)	<ul style="list-style-type: none"> <li>➤ Accomplished Schedule of Payment Currencies, if wished to be paid in foreign currency;</li> <li>➤ Accomplished Tables of Adjustment Data;</li> <li>➤ Accomplished BOQs</li> </ul>
(c) Bid Security	<ul style="list-style-type: none"> <li>➤ Bidders may utilize their existing bid security, with no revision to the expiry date, provided it meets the following: <ul style="list-style-type: none"> <li>➤ Format in accordance with the Form of Bid Security, or any format acceptable to the Employer; other forms like cashier's or manager's check is also acceptable;</li> <li>➤ Each lot (if in lots) is covered by a bid security (either one bid security per lot or one bid security covering multiple lots - EA should check if these are the same amounts indicated in the Bidding Documents);</li> <li>➤ Validity of bid security is 28 days beyond the validity of the bid; and</li> <li>➤ For Joint Ventures (JV), the bid security is in the name of the JV or names of all future partners of the JV, if not yet constituted.</li> </ul> </li> </ul>
(d) Alternative bids, if permissible	Alternative bid is not permitted. Any alternative bid will not be considered.
(e) Written confirmation authorizing the signatory of the Bid to commit the Bidder	<ul style="list-style-type: none"> <li>➤ Notarized Power of Attorney demonstrating the authority of the signatory of the bid.</li> </ul>
(f) Documentary evidence in	<ul style="list-style-type: none"> <li>➤ Accomplished Current Contract Commitments / Works</li> </ul>

Instruction to Bidders (ITB) Requirements	Specific Instructions and Supporting Documents
establishing the Bidder's qualifications to perform the contract if its Bid is accepted	<ul style="list-style-type: none"> <li>in Progress form.</li> <li>➤ Accomplished Financial Resources form with supporting documents.</li> <li>➤ Accomplished Bidder Information Sheet, JV Information Sheet, Pending Litigation Accomplished Financial Situation with supporting documents, and Average Annual Construction Turnover.</li> </ul>
(g) Technical Proposal	<ul style="list-style-type: none"> <li>➤ Accomplished Personnel Forms;</li> <li>➤ Accomplished Equipment form;</li> <li>➤ Site Organization;</li> <li>➤ Method Statement;</li> <li>➤ Mobilization Schedule;</li> <li>➤ Construction Schedule (work program or overall implementation schedule); and</li> <li>➤ In case of JV, a copy of the Joint Venture Agreement, or a Letter of Intent to execute a JV in the event of a successful bid together with a copy of the proposed JV agreement.</li> </ul>

**Table 11: Time-bound Action Plan for Preparation and Approval of Bid Evaluation Reports**

Activity	No. of Days	Responsible Agency/Department
Evaluation of Bids and preparation of BER	10-15 days	EA
EAPF's receipt and review of BER and preparation of procurement paper	4 days	EAPF
COSO and OGC review and comment of procurement paper	5 days	OSFMD and OGC
EA's/IA's incorporation of ADB comments in BER, if any	2 days	EA
EAPF's receipt of revised BER and finalization of PC paper	2 days	EAPF
COSO and OGC review of final PC paper and approval of PC	5 days	OSFMD and OGC and PC
Transmittal of ADB's no-objection of recommendation of award	1 day	EAPF
Notification of award to winning bidder(s)	2 days	EA
Contract signing	30 days	EA and Contractor

ADB = Asian Development Bank, BER = bid evaluation report, BOQ = bill of quantities, EA = executing agency, EAPF = East Asia Public Management, Financial Sector and Regional Cooperation Division, JV = joint venture, OGC = Office of General Counsel, OSFMD = Operations Services and Financial Management Department, PC = procurement committee.

Source: Asian Development Bank.

82. **Compliance Monitoring.** Compliance for all the loan covenants will be jointly monitored by EA and ADB through quarterly and annual progress reports, and loan review missions. In this respect, the PIU will submit to ADB a status report on the covenants summary with the explanation and time-bound actions on partly or non-complied covenants.

83. **Gender and Social Dimensions Monitoring.** No gender elements. The only monitoring activity is with respect to the recruitment of 5 project managers under the Social Development Action Plan. This will be done annually by the EA and any concerned consultant.

### C. Evaluation

84. ADB will field an inception mission within three months after signing of the loan

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agreement. Review missions will be carried out on a semiannual basis jointly by representatives of ADB and EA. The review missions will assess the status of the Project implementation including procurement, installation of equipment, financing, compliance with environmental and social safeguards, and the EA institutional capacity improvement. Site visits are also required. The Government and ADB will undertake a comprehensive midterm review in the third year of project implementation. The midterm review will include a detailed assessment of (i) project scope; (ii) implementation arrangements; (iii) achievement of scheduled targets; (iv) progress made in policy reform; and (v) capacity building measures. The midterm review will allow for any necessary midcourse corrections to ensure successful implementation and the achievement of the Project objectives. Within six months of physical completion of the Project, the EA will submit the project completion report to ADB.<sup>27</sup>

#### **D. Reporting**

85. The EA will provide ADB with (i) quarterly progress reports within one month from the end of the related quarter in a format consistent with ADB's project performance monitoring system; (ii) consolidated annual reports including (a) progress achieved by output as measured through the indicator's performance targets, (b) key implementation issues and solutions, (c) updated procurement plan, and (d) updated implementation plan for next 12 months; and (iii) a project completion report within six months of physical completion of the Project.

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<sup>27</sup> Project completion report format available at: <http://www.adb.org/Consulting/consultants-toolkits/PCR-Public-Sector-Landscape.rar>

### E. Stakeholder Communication Strategy

<b>Project Documents</b>	<b>Means of Communication</b>	<b>Responsible Party</b>	<b>Frequency</b>	<b>Audience(s)</b>
Project Data Sheet	ADB's website	ADB	semiannually	General Public
Reports and Recommendations of the President	ADB's website	ADB	upon approval by the Board	General Public
Legal Agreements	ADB's website	ADB	upon signing	General Public
Social Monitoring Reports	ADB's website	ADB	routinely disclosed	General Public, project-affected people in particular
Major Change in Scope	ADB's website	ADB	upon approval of such change	General Public
Completion Report	ADB's website	ADB	upon circulation to the Board	General Public
Evaluation Report	ADB's website	ADB	upon circulation to Management and the Board	General Public

## IX. ANTICORRUPTION POLICY

86. ADB reserves the right to investigate, directly or through its agents, any violations of the Anticorruption Policy relating to the Project.<sup>28</sup> All contracts financed by ADB shall include provisions specifying the right of ADB to audit and examine the records and accounts of the executing agency and all Project contractors, suppliers, consultants and other service providers. Individuals/entities on ADB's anticorruption debarment list are ineligible to participate in ADB-financed activity and may not be awarded any contracts under the Project.<sup>29</sup>

87. To support these efforts, relevant provisions are included in the Loan Agreement regulations and the bidding documents for the Project.

## X. ACCOUNTABILITY MECHANISM

88. People who are, or may in the future be, adversely affected by the project may submit complaints to ADB's Accountability Mechanism. The Accountability Mechanism provides an independent forum and process whereby people adversely affected by ADB-assisted projects can voice, and seek a resolution of their problems, as well as report alleged violations of ADB's operational policies and procedures. Before submitting a complaint to the Accountability Mechanism, affected people should make a good faith effort to solve their problems by working with the concerned ADB operations department. Only after doing that, and if they are still dissatisfied, should they approach the Accountability Mechanism.<sup>30</sup>

## XI. RECORD OF PAM CHANGES

89. All revisions/updates during the course of implementation should be retained in this Section to provide a chronological history of changes to implemented arrangements recorded in the PAM.<sup>31</sup>

**Table 12. Sample Table for Recording PAM Changes**

PAM Version	Created Date	Revision Date	Reasons of Change	Main Contents of Change
V1.0	October 2012	N/A	Initial	N/A
V2.0	April 2016	N/A	Initial	N/A
V3.0	April 2016	N/A	Initial	N/A
V4.0	April 2016	N/A	Initial	N/A
V5.0	Oct 2016	N/A	Inception mission	Change of key persons involved, updated Implementation Plan, updated Procurement Plan

<sup>28</sup> Available at: <http://www.adb.org/Documents/Policies/Anticorruption-Integrity/Policies-Strategies.pdf>

<sup>29</sup> ADB's Integrity Office website is available at: <http://www.adb.org/integrity/unit.asp>

<sup>30</sup> For further information, see: <http://www.adb.org/Accountability-Mechanism/default.asp>.

<sup>31</sup> The MOF and ADB shall ensure that changes to the PAM during project implementation must be consistent with the loan agreement.