Introduction:

- This document is included with the supporting documents for Saudi Arabian Monetary Agency (SAMA) application for the United Nations Public Service Awards, because it was presented to the United Arab Emirates (UAE) Ministry of Finance, on 1/5/2005, as part of SAMA efforts to disseminate the knowledge and experience gained by developing SADAD Payment System, and explore options for SADAD to be replicated in other countries.

- The document covers:
  - History and Background of Bill Payment in Saudi Arabia
  - SADAD Payment System Overview
  - SADAD Timeline
  - SADAD Value
  - Regional Expansion Models
SADAD Overview Presentation To:
Ministry of Finance
United Arab Emirates

Dubai, 1/5/2005
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- SADAD Payment System Overview
- SADAD Timeline
- SADAD Value
- Regional Expansion Models
- Q & A
The objective of SADAD is to centralize and streamline Electronic Bill Presentment and Payment (EBPP)...

**Key Issues**
- Long collection cycles
- Inefficient processes
- High customer complaints and dissatisfaction
- Multiple separate linkages with different Banks

**Transition to SADAD EBPP**

Current Bill Payment Network

- Consumer
- Biller A
- Bank A
- Biller B
- Bank B
- Biller C
- Bank C
- Biller D
- Bank D

EBPP Vision

- Consumer
- Biller A
- Bank A
- Biller B
- Bank B
- Biller C
- Bank C
- SADAD
  - Biller D
  - Bank D
  - Biller N
  - Bank N

- Customer ownership retained by Billers and Banks
- Single point of linkage into SADAD for Billers and Banks based on open standards
- Billing and payments supported across a wide range of physical and electronic channels
- Streamlined processes for information exchange and payment settlement

SADAD Overview
... through a superior and robust infrastructure

SADAD Functional Architecture

SADAD Vision

- SAMA's initiative aims to establish an **electronic platform** to streamline the bill payment process in the Kingdom
- The **electronic platform** will act as an **intermediary** between Billers and Banks
- The **intermediary** will be the core to a **trusted payment** brand in the Kingdom
- A **trusted payment** process will use **leading edge technology** to provide efficient and effective customer service to the people of the Kingdom
- **Leading edge technology** will provide **cost effective bill payment** wherever and whenever the customer desires
Typical SADAD transactions access bill information held in SADAD through existing channels

SADAD Operational Model Overview

- Customer is authenticated by the Bank prior to querying SADAD.
- Banks communicates with SADAD through existing infrastructure.
- Billers communicate with SADAD to upload new bills, exchange bill status and reconcile reports.
- SADAD provides information, update bill status accordingly and initiate the settlement process.
- Customers will still be able to settle their bills through Biller Channels.

Note: (1) Customers will still be able to settle their bills through Biller Channels.
These transactions may be categorised in four stages

### SADAD Bill Presentment & Payment Stages

<table>
<thead>
<tr>
<th>Bill Information Acquisition</th>
<th>Bill Query and Presentment</th>
<th>Payment Initialisation</th>
<th>Payment Settlement And Reconciliation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Billers</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Billers send summary bills information to SADAD at a pre-determined schedule</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SADAD</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 SADAD validates data received and uploads it into its database</td>
<td>6 SADAD retrieves bill information from its database and forwards it to customer</td>
<td>9 SADAD updates its database based on the Bank’s confirmation(^{(2)})</td>
<td>12 At the end of the day, Billers receive reconciliation reports from SADAD showing a breakdown of all transactions processed by SADAD</td>
</tr>
<tr>
<td>3 SADAD notifies Billers of any discrepancies</td>
<td></td>
<td>10 SADAD notifies relevant Biller(s) accordingly</td>
<td>11 At the end of the day, SADAD initiates settlement instructions through SARIE</td>
</tr>
<tr>
<td><strong>Banks</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Customer requests bill(s) information through Bank channels(^{(1)})</td>
<td>5 The Bank forwards the request received to SADAD</td>
<td>7 Customer selects the bill(s) to be paid and the respective amount(s)</td>
<td>13 SADAD updates bills status to “settled”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8 The Bank debits the customer account and confirms the transaction</td>
<td></td>
</tr>
</tbody>
</table>

Note:  
(1) In the case where Biller channels are used, only bills status is updated through SADAD  
(2) In the case where Biller channels are used, the Biller will be responsible for updating SADAD
Currently, SADAD services are focused on capturing the consumer market of high volume, low value payments…
...through a wide range of payment channels

**Payment Channels to SADAD**

<table>
<thead>
<tr>
<th>Channel Interaction</th>
<th>Physical</th>
<th>Internet</th>
<th>ATM</th>
<th>Call Centre</th>
<th>CAMs(*)</th>
<th>Point of Sales</th>
<th>Other Channel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer’s Bank</td>
<td>Bank branch</td>
<td>Online Banking</td>
<td>ATM</td>
<td>Phone banking</td>
<td>CAM</td>
<td>Supermarket; Department store; Post offices</td>
<td>Mobile; Kiosk</td>
</tr>
<tr>
<td>Other Bank</td>
<td>Bank branch</td>
<td>ATM</td>
<td></td>
<td></td>
<td>CAM</td>
<td>Supermarket; Department store; Post offices</td>
<td>Mobile; Kiosk</td>
</tr>
<tr>
<td>Unbanked Customers</td>
<td>Bank branch</td>
<td>ATM</td>
<td></td>
<td></td>
<td>CAM</td>
<td>Supermarket; Department store; Post offices</td>
<td>Mobile; Kiosk</td>
</tr>
</tbody>
</table>

*Note: (*) CAM: Cash Acceptance Machines operated by banks*
SADAD will deliver significant benefits to all its stakeholders

**SADAD Benefits to Stakeholders**

**SAMA**
- Faster collaborative competition
- Reduced cash usage in the Kingdom’s economy
- Standardized approach to electronic payments
- Higher degree of trust and security in electronic payments

**Banks**
- Lower costs due to reduced transaction volumes at branches
- Easier to link into multiple Billers
- Potential to offer new Value Added Services
- Enhanced customer service and image

**Billers**
- Lower CapEx due to reduced investments in infrastructure and software development
- Lower OpEx due to fewer resources required to build, operate and support outsourced EBPP
- Improved cash availability resulting in increased interest revenue

**Consumers**
- Convenience and time saving
- Minimized service interruptions due to payment delays
- Reliable service with high degree of trust and security
- Flexibility of payment channels

**Kingdom**
- Robust infrastructure for e-Government
- Increasing productivity due to more efficient processes and minimized time wastage
- Catalyst for growth and electronic commerce adoption
- Capitalizing on economies of scale to avoid infrastructure duplication
SADAD’s ultimate goal is to become the Kingdom’s E-Services backbone with e-Billing Platform at its core

### SADAD Evolution Phases

<table>
<thead>
<tr>
<th>Evolution Phase</th>
<th>Description</th>
<th>Services Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>e-Billing Platform</strong></td>
<td>Streamlining payment of basic and periodic customer bills</td>
<td>Core Presentment &amp; Payment, Biller File Processing Services, Bank &amp; Biller Back-Office Features, Helpdesk and Portal Services</td>
</tr>
<tr>
<td><strong>e-Payment Engines</strong></td>
<td>Support multiple types of electronic payments</td>
<td>Integration Services, Customer Specific Services, Consulting Services, Dispute Management, Payment Value Add Services</td>
</tr>
<tr>
<td><strong>e-Services Backbone</strong></td>
<td>Foundation for building a wide variety of electronic services</td>
<td>Horizontal Markets (B2B Platform, Micro-Payments), Vertical Markets (Data Exchange Infomediary, m-Commerce)</td>
</tr>
</tbody>
</table>
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- SADAD Value
- Regional Expansion Models
- Q & A
in order to reach a viable organization with a feasible business model SADAD used a systematic method to do that…

### Stages of SADAD

<table>
<thead>
<tr>
<th>Stage</th>
<th>Planning</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- Confirm Market Potential and Validate Value Proposition</td>
</tr>
<tr>
<td></td>
<td>- Define Value Proposition and Revenue Mode</td>
</tr>
<tr>
<td></td>
<td>- Define Business Functions</td>
</tr>
<tr>
<td></td>
<td>- Define High level Technology</td>
</tr>
<tr>
<td></td>
<td>- Build Business Case</td>
</tr>
<tr>
<td></td>
<td>- Develop Implementation Roadmap</td>
</tr>
<tr>
<td></td>
<td>- Define Detailed Functional and Technical Requirements</td>
</tr>
<tr>
<td></td>
<td>- Develop Technology Solution and Operation Services RFPs</td>
</tr>
<tr>
<td></td>
<td>- Align Potential Banks and Billers</td>
</tr>
</tbody>
</table>

| Build | - Create Project Management Office (PMO)                                |
|       | - Evaluate and select Vendor Technology & Ops. Services Proposals       |
|       | - Architecture Development of Processes, Application and Technology     |
|       | - Main Data Center and Disaster Recovery Center setup                   |
|       | - Integrate Banks and Billers for operations                            |
|       | - Completed Staffing and created all functional policies               |

| Operation | - Supporting the on-boarding of new Billers: |
|           |   - Integration Services          |
|           |   - Customer Specific Services    |
|           | - Further improving core technology and increasing flexibility:         |
|           |   - Bill Services & Features    |
|           |   - Interface Features          |
|           | - Supporting customers in improving their e-billing business and customer service processes and technologies |

| Growth | - SADAD can grow in three major areas: |
|        |   - New Billers Growth          |
|        |   - Portfolio Growth            |
|        |   - Regional Growth             |
|        | - Expanding into ancillary markets: |
|        |   - Horizontal Markets (B2B Platform, Micro-Payments) |
|        |   - Vertical Markets (Data Exchange Infomediary, m-Commerce) |

### Key Attributes

- Completed Staffing and created all functional policies
- Integrate Banks and Billers for operations
- Main Data Center and Disaster Recovery Center setup
- Evaluate and select Vendor Technology & Ops. Services Proposals
- Architecture Development of Processes, Application and Technology
- Create Project Management Office (PMO)
- Confirm Market Potential and Validate Value Proposition
- Define Value Proposition and Revenue Mode
- Define Business Functions
- Define High level Technology
- Build Business Case
- Develop Implementation Roadmap
- Define Detailed Functional and Technical Requirements
- Develop Technology Solution and Operation Services RFPs
- Align Potential Banks and Billers

### Timeline

- 2002
- 2003
- 2004

**SADAD’s CURRENT POSITION**
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During the Planning Phase, SADAD Conducted a market research that indicated strong acceptance of the SADAD concept and provides valuable insights into market.

Objectives of Primary Market Research

- Estimate the demand and degree of acceptance for EBPP services in the Kingdom
- Establish key success factors and potential “show stoppers” which have an impact on acceptance and demand

Key Areas for Research

Current Bill Payment Behaviour
- Number of received bills
- Frequency of incoming bills
- Type of bills
- Responsibility of bill payment and actual bill payment initialization
- Method of bill payment
- Disadvantages and issues in current bill presentation and payment process

Willingness to Use Electronic Bill Payment Services
- Willingness of using EBPP services and reasons therefore
- Preferred channel for EBPP usage
- Willingness to pay for services
- Required additional value added services
- Critical success factors for acceptance
- Preferred and trusted EBPP service provider

Source: PARC Analysis
Furthermore, market research indicated that consumers complain of time wastage and overall inconvenience in bill payment.

Top Consumer Issues Concerning Bill Payment

Key Research Findings

- Approximately 30% of respondents mentioned bill payment as the primary purpose of visiting bank branches.
- In about 25% of cases, bills are paid by a person other than the “wallet holder”.
- Bank branches and billers’ collection centres are currently the predominant channels for bill payment.
- Customers complained about time wastage and inconvenience of existing arrangements for bill payment.

Source: PARC Analysis, 2002
There is however, a 70% acceptance of an electronic bill payment service as long as key requirements are met.

Approval of an EBPP Service

- Will use: 42%
- Will not use: 6%
- Not likely to use: 10%
- Do not know: 15%
- Likely to use: 27%

Critical Success Factors:
- **Confidentiality** of personal information and **security** of payments
- **Additional paper bill** delivered
- **Control** over when and how much money is paid out of your account
- **Trustworthiness** of the sponsor of services
- **Consistency and accuracy** of information
- **Availability and convenience** of services

Source: PARC Analysis, 2002
In the Planning Phase SADAD business model was developed to provide a win/win proposition to both banks and billers.

**SADAD VALUE CREATION MODEL**

- **Billers** will pay SADAD a transaction fee per bill.
- **SADAD** will receive a portion of the Transaction Fee.
- **Banks** will receive a portion of the Transaction Fee.

**Model Component** | **Key Functions**
--- | ---
**Pricing Engine** | - Determine nominal Transaction Fees for each Biller profile
- Profile Billers along multiple dimensions – most importantly volume
- Analyse various pricing structures applied to each profile and determine optimal

**Compensation Engine** | - Determine nominal Transaction Fees for Banks
- Analyse and determine Compensation options with Banks

**Financial Engine** | - Analyse growth rates in transaction numbers and projections
- Determine Profit (or losses), breakeven point, cash flow and NPV

---

*Source: SADAD Overview 18*
... where Bank costs are a cornerstone in determining Transaction Fees

Total Bill Processing Transaction Costs

<table>
<thead>
<tr>
<th>Bank Costs</th>
<th>Biller Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bills processing system development</td>
<td>Bill processing system</td>
</tr>
<tr>
<td>Channels development</td>
<td>Bank integration</td>
</tr>
<tr>
<td>Linkage maintenance &amp; support</td>
<td>Bill processing</td>
</tr>
<tr>
<td>Call Centre telephony</td>
<td>Bank integration</td>
</tr>
<tr>
<td>Bills payment processing</td>
<td>Bank link maintenance</td>
</tr>
<tr>
<td>Bills enquiry &amp; complaints servicing</td>
<td>Bill inquiry &amp; complaint servicing</td>
</tr>
<tr>
<td>Cash handling</td>
<td>Reconciliation &amp; settlement</td>
</tr>
<tr>
<td>Reconciliation &amp; settlement</td>
<td>Reconciliation &amp; settlement</td>
</tr>
<tr>
<td>Channel Maintenance</td>
<td>Opportunity cost of cash float</td>
</tr>
<tr>
<td>Cost offset due to cash float</td>
<td></td>
</tr>
</tbody>
</table>

Note (1) Only incremental costs associated to bill payments have been considered. General costs such as system upgrades or branch operating costs have not been included

(2) Determined through analysis of Bank & Biller Control Groups

Source: SADAD analysis
The Biller Transaction Fee is calculated by combining up to five pricing elements…

### Biller Transaction Fee Elements

<table>
<thead>
<tr>
<th>Price Element</th>
<th>Description</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank Cost</td>
<td>‣ Total current Bank cost of bill processing, delivery and payment</td>
<td>‣ Nominal Transaction Fees built on existing cost structure</td>
</tr>
<tr>
<td>CapEx &amp; OpEx Reduction Premium</td>
<td>‣ Premium charged for the opportunity to reduce costs</td>
<td>‣ EBPP allows Billers to gain from major reductions in capital and operational integration costs</td>
</tr>
<tr>
<td>SADAD Fee</td>
<td>‣ SADAD EBPP usage fee ‣ Settlement charge</td>
<td>‣ Covers SADAD capital and operational expenses ‣ SADAD costs for settlement transactions through SARIE</td>
</tr>
<tr>
<td>Service Premium</td>
<td>‣ Premium charged for real-time vs. batch payment notifications</td>
<td>‣ Real-time notification requires additional processing and bandwidth</td>
</tr>
<tr>
<td>Profile Adjustment Factor</td>
<td>‣ Adjusted factor to reflect scale advantage for different types of Billers</td>
<td>‣ As volume increase, fees should decrease</td>
</tr>
<tr>
<td>SADAD Margin</td>
<td>‣ Small profit margin</td>
<td>‣ SADAD is planning to be a commercial entity therefore it needs to be profitable in order to stay in business</td>
</tr>
</tbody>
</table>
Similarly, up to four pricing elements are combined to constitute Bank Compensation

### Bank Compensation Elements

<table>
<thead>
<tr>
<th>Price Element</th>
<th>Description</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>+(+)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Bank Cost</strong></td>
<td>Compensation for transaction processing costs</td>
<td>SADAD principle is to cover Banks costs related to Bills servicing</td>
</tr>
<tr>
<td><strong>CapEx &amp; OpEx Reduction Premium</strong></td>
<td>Premium charged for the opportunity to reduce costs</td>
<td>EBPP allows Banks to gain from major reductions in capital and operational integration costs</td>
</tr>
<tr>
<td><strong>SADAD Fee</strong></td>
<td>SADAD EBPP usage fee</td>
<td>Covers SADAD capital and operational expenses</td>
</tr>
<tr>
<td><strong>(−)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Service Premium</strong></td>
<td>Premium charged to allow Banks to benefit from SADAD’s opportunities</td>
<td>Allows Banks to leverage resources for capturing incremental revenues</td>
</tr>
</tbody>
</table>

Notes: (*) Service premiums include:

1. Cross Sell / Up-Sell
2. Business focus
3. e-Channel usage increase
4. Other intangibles
5. New channels (i.e. POS)
Overall, the net effect of SADAD will be a reduction in the structural costs of bill processing.

**Structural Cost Reduction**

**Current Overall Bill Processing Structural Cost**
- Pre–EBPP -

**Projected Overall Bill Processing Structural Cost**
- With EBPP -

Where a positive \( (\Delta 1 + \Delta 2 - \Delta 3) \) equals structural cost reduction.

Source: SADAD analysis
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During the Build Phase, a PMO was created in order to take charge of building such a system, and it was decommissioned after that phase.

Key Tasks

- Oversee overall project implementation
- Approve project plans, targets and integration requirements
- Identify critical path, coordinate changes across projects and manage risks
- Coordinate the resolution of cross-project issues and intra-program dependencies
- Escalate and communicate across project teams and to senior management
During the PMO lifecycle, it has nine major functions operationalized to help ensure success of the build.

### Continuous Program Management Functions

1. **Change Management**
2. **Quality Assurance**
3. **Risk Management**
4. **Issue Management**
5. **Resource Management**
6. **Program Management**
7. **Technology Alignment**
8. **Business Alignment**
9. **Progress Tracking & Reporting**

### High-Level Program Management Office Functions

1. **Track milestones and deliverables for overall project jointly with different vendors:**
   - Reject project plans if they do not meet PMO standards and details
   - Provide criteria in selecting vendor during the RFP process
2. **Communicate relevant messages to all stakeholders**
3. **Identify potential resource bottlenecks, unique requirements, contingencies and plan accordingly**
4. **Remove program / project personnel due to a misalignment of personnel skills with the tasks at hand or where they are needed**
5. **Establish and maintain standards for issue categorization and resolution time according to issue severity and facilitate resolution**
6. **Pro-actively identify and quantify potential risks (e.g., financial, resource, technical)**
7. **Establish and maintain quality assurance standards, procedures and schedule compliance / assurance reviews**
8. **Establish and maintain a standard process for receiving, testing and approving changes to program scope**
9. **Assess the fit of proposed technologies with current or planned environment / infrastructure**
Leading edge technology used in building SADAD to provides optimum availability, performance, scalability and security

<table>
<thead>
<tr>
<th>Availability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SADAD production runs in clustered Unix environment</td>
</tr>
<tr>
<td>A disaster recovery site is allocated to support availability</td>
</tr>
<tr>
<td>Redundant networking equipments</td>
</tr>
<tr>
<td>The usage of market-proven solutions</td>
</tr>
<tr>
<td>2x2 Mbps leased lines to SAMA Joint Network</td>
</tr>
<tr>
<td>99.9% Availability</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>SADAD responds to banks in 2 seconds</td>
</tr>
<tr>
<td>SADAD is continuously undergoing enhancements, improvements and upgrades to improve performance</td>
</tr>
<tr>
<td>SADAD is designed to be capable of handling the transactions for its current and near-future billers</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Scalability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SADAD production makes use of clustering technology</td>
</tr>
<tr>
<td>SADAD is designed with the future growth in mind</td>
</tr>
<tr>
<td>SADAD is scalable both horizontally and vertically</td>
</tr>
<tr>
<td>SADAD uses around 30% of the production environment's capability</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Security</th>
</tr>
</thead>
<tbody>
<tr>
<td>Three layers of firewalls before external data reaches the production server</td>
</tr>
<tr>
<td>Intrusion detection system allocated to continuously monitor traffic</td>
</tr>
<tr>
<td>Anti-virus solution setup on both servers and clients</td>
</tr>
<tr>
<td>SADAD uses SAMA’s (eTrust) and its PKI</td>
</tr>
<tr>
<td>Encryption is applied on link and app. level</td>
</tr>
<tr>
<td>Policies, procedures and awareness training to secure the operations environment</td>
</tr>
</tbody>
</table>
In order to build SADAD, SAMA partnered with the best fit partners around the world…

<table>
<thead>
<tr>
<th>Business and Technology Partners</th>
</tr>
</thead>
<tbody>
<tr>
<td>webMethods</td>
</tr>
<tr>
<td>Oracle</td>
</tr>
<tr>
<td>Symantec</td>
</tr>
<tr>
<td>Microsoft</td>
</tr>
</tbody>
</table>

SADAD Overview
SADAD EBPP Architecture was designed to be very flexible in adding new modules so it can provide more services.
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In the Operation Phase major functions were identified and created with their main processes...

SADAD Major Functions

SADAD Managing Director

Development
- Development
- ICT Operations
- Finance & Admin
- EBPP Operations
- Contracts & Program Mgt.
- Business Development

- Finance & Accounting
- Bank & Billers Support
- Infrastructure

- General Admin
- Service Desk
- Onboarding Management

- HR
- Network
- Sales

- Application
- Unix
- Marketing

- QA
- Windows
- Product Development

- Production Control
- webMethods
- CheckFree
- Portal

- QA Portal
- QA Portal
- QA Portal
One of the major processes is the onboarding process of banks and billers which is constituted of eight key activities lasting up to 4 months.

### SADAD Onboarding Process

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-3 Weeks</td>
<td>Detailed Impact Analysis</td>
</tr>
<tr>
<td></td>
<td>Business Rules Assessment</td>
</tr>
<tr>
<td></td>
<td>Integration Planning</td>
</tr>
<tr>
<td>4-6 Weeks</td>
<td>Integration &amp; Development</td>
</tr>
<tr>
<td>2-3 Weeks</td>
<td>Testing</td>
</tr>
<tr>
<td>1 Week</td>
<td>On-boarding Migration Planning</td>
</tr>
<tr>
<td></td>
<td>Training</td>
</tr>
<tr>
<td></td>
<td>Go-Live</td>
</tr>
</tbody>
</table>

**SADAD Overview**
All on-boarding activities are owned by the Biller with on-going support from SADAD Integration Unit (SIU)

<table>
<thead>
<tr>
<th>Activities</th>
<th>Detailed Impact Analysis</th>
<th>Business Rules Assessment</th>
<th>Integration Planning</th>
<th>Integration &amp; Development</th>
<th>Testing</th>
<th>Integration Migration Planning</th>
<th>Training</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scope of Work</td>
<td>Impact Analysis aims to help Billers assess their operational and technical readiness for integration with SADAD</td>
<td>Business Rules Assessment aims to assess current billing rules based on SADAD’s system design, usage and integration requirements</td>
<td>Integration Planning is designed to help Billers appropriately consolidate their integration tasks with SADAD</td>
<td>Integration &amp; Development aim to develop the required changes in the billing system and connect with SADAD to exchange messages</td>
<td>Testing aim to ensure compliance with SADAD requirements during development through end-to-end Unit and Integration Testing</td>
<td>Integration Migration aims to complete final cut-over from current system to SADAD</td>
<td>Training aims to help Billers to identify and train related operational resources</td>
</tr>
</tbody>
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- SADAD Timeline
  - Planning Phase
  - Build Phase
  - Operation Phase
  - Growth Phase
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- Regional Expansion Models
- Q & A
In the Growth Phase, SADAD have three main dimensions for growth…

SADAD Opportunity Space

MARKET GROWTH

International Marketplace

Regional Marketplace

KSA Marketplace

KSA CUSTOMER GROWTH

Private Sector

Public Sector

Major Utility Providers

Basic EBPP

Advanced EBPP

e-Services Backbone

SADAD Overview 34

\[ \tau = \text{Time} \]

\[ 0 = \text{Today} \]
Given SADAD’s current service portfolio, identification and evaluation of the incrementally addressable KSA customer base required a high-level review of relevant sectors.

Summary of Addressable KSA Sectors

- Government
  - Ministry of Finance
  - Ministry of Interior
  - Ministry of Commerce & Industry
  - Ministry of Municipal & Rural Affairs
  - Ministry of Social Affairs
  - Chamber of Commerce
  - Postal Services
  - Ports Authority
  - Water & Electricity
- Transportation
  - Airlines
  - Railways
- Insurance
  - Insurance Portfolio (excluding Driving Insurance)
- Media
  - Satellite TV
  - Printed Publications (newspapers & magazines)
- Telecom
  - Fixed-line Prepaid
  - Internet Service Providers
- Non-Banking Financial Services
  - Instalments
- Education
  - Private Schools
  - Private Universities
- Healthcare
  - Private Hospitals
- Real Estate
  - Home Rentals

(1) Excluding some Government Agencies, addressable sector focus is on consumer payments not business not already addressed in Wave 1
(2) Driving Insurance was addressed in Wave 1 SADAD
(3) Incumbent national operator for PSTN and GSM was addressed Wave 1 SADAD
(4) National and foreign Banks were addressed in Wave 1 SADAD
(5) Data could not be obtained for private Clinics
The potential evolutionary path of EBPP services was mapped to help continuously guide the introduction of new services.

### Summary of Portfolio Evolution

<table>
<thead>
<tr>
<th>Stage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stage I: Core &amp; VAS Development</strong></td>
<td>Core Presentation &amp; Payment, Biller File Processing Services, Bank &amp; Biller Back-Office Features</td>
</tr>
<tr>
<td><strong>Stage II: Customer-Base Expansion</strong></td>
<td>Integration Services, Bill Services &amp; Features, Interface Features</td>
</tr>
<tr>
<td><strong>Stage III: External Services</strong></td>
<td>Consulting Services, Dispute Management, Payment Technologies</td>
</tr>
<tr>
<td><strong>Stage IV: Adjacent Market Expansion</strong></td>
<td>Horizontal Markets, Vertical Markets</td>
</tr>
</tbody>
</table>

![Diagram](image-url)
Given SADAD’s current service portfolio, the potential regional customer base was identified and assessed at a high-level.

Summary of Market Opportunities:

- Potential regional expansion candidates countries includes:
  - United Arab Emirates
  - Egypt
  - Jordan
  - Bahrain
  - Kuwait
  - Qatar
  - Oman
  - Other
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SADAD will reduce risk, implementation cost and development time for any EBPP project in the region…

SADAD Value

1. Highly defined and detailed Business Model
2. Proven and Solid Technical Solution
3. Valuable Know-How for such high risk projects
4. Comprehensive Program Management Office Capabilities
5. Highly defined and detailed Business Processes for all aspect of the operation
6. Thorough Long-term Strategy that covers business development, operation, growth, staffing, etc.
SADAD business model is a viable and profitable model that creates a win/win situation for all parties.

SADAD Business Model consists of different components:

1. Financial Model
2. Billers Pricing Engine
3. Banks Compensation Engine
4. Operation Model
5. These Business Models are integrated and link to each other
6. Such Business Models are consistently updated and developed based on market facts and new opportunities
The Technical Solution was tested and deployed successfully in the Saudi Market

SADAD Technical Solution consist of:
- Core EBPP Transaction Processing Application
- Back office applications (accounting, billing, helpdesk etc)
- Database
- Shared application utilities (workflow, security, user management)
- Integration and messaging
- Operating System
- Hardware and communications
- Architecture of Processes, Application and Technology are created and tested
- Business continuity plan is put in place (Main and Disaster Recovery Data Centres)
- Continues Research and Development
SADAD team know-how can be leveraged to other markets knowing that there are lots of commonalities in the region.

Know-How

- During the different phases of the project, SADAD accumulated the required experience and skills to overcome challenges such as:
  - Banks and Billers negotiation of concept
  - Creating the most appropriate business model
  - Demonstrating SADAD value proposition
  - Constructing the technical solution
  - Satisfying all stakeholders needs
  - Agreeing the fee structure with stakeholders
  - Maintaining SADAD business model across all market segments
SADAD has proven Program Management Office skills that was deployed during the build phase of the project.

PMO Capabilities

- PMO Skills includes:
  - Define/maintain the overall program master plan and responsibilities for individual work streams
  - Track milestones and deliverables for each work stream jointly with vendor
  - Define reporting standards and reporting frameworks
  - Define communications strategy
  - Develop repository of frequently asked questions
  - Establish standards for issue categorization and resolution time according to issue severity
  - Establish quality assurance standards and procedures
  - Establish a standard process for requesting and approving changes in project scope and system functionality
SADAD developed all the required business processes that are needed to run such a system...

- All the required business processes that are needed to run such a system are available and include:
  - Onboarding Banks and Billers Process
  - Helpdesk support process
  - Daily operational processes
  - Settlement and reconciliation process
  - Business Development processes
  - Defined all the functional requirements
  - Security procedures
  - Business Continuity plans and processes in case of any interruption
SADAD developed a long-term strategy that provide a roadmap for it…

Long-term Strategy

- SADAD strategy addressed its growth and prioritize it along the following dimensions:
  - Customer Base Growth
  - Services Evolution
  - Regional Expansion
- The strategy also addresses:
  - Business and new products development
  - Staffing issues
  - Operational issues
  - Technical solution
  - Customer behaviour strategy
  - Maximize Banks and Billers benefits
  - Constant R&D and new technologies adoption
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There are different models that can be used in order facilitate SADAD building of an EBPP entity in the UAE.

### SADAD Regional Expansion Models

<table>
<thead>
<tr>
<th>“Centralized Transactions” Model</th>
<th>“Mirror-site” Model</th>
<th>“Franchise” Model</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Diagram" /></td>
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<td><img src="image" alt="Diagram" /></td>
</tr>
</tbody>
</table>

- **“Centralized Transactions” Model**
  - All transactions are processed by SADAD's local data centre.

- **“Mirror-site” Model**
  - SADAD creates a separate data centre in each country – owned and operated by SADAD either partially or fully.

- **“Franchise” Model**
  - SADAD sells the SADAD concept to a local company and uses a franchise model to manage and grow the business.

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