



Addressing Arab Water Utilities Cost Recovery Dilemma Through Strategic Business Planning



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Amman-Jordan
December 2010



Presentation Highlights

- Utility Strategic Business Planning Concepts
- Statistical Cost Theory Simplified
- Cost Recovery Concepts and Programs
- Effective Utility Management –US Model
- Conclusions & Recommendations

Utility Strategic Business Planning Concepts

What is Business Strategic Planning?

It is the process of determining the long-term vision and goals of a utility and how to fulfill them.

This statement has the following key-aspect inference:

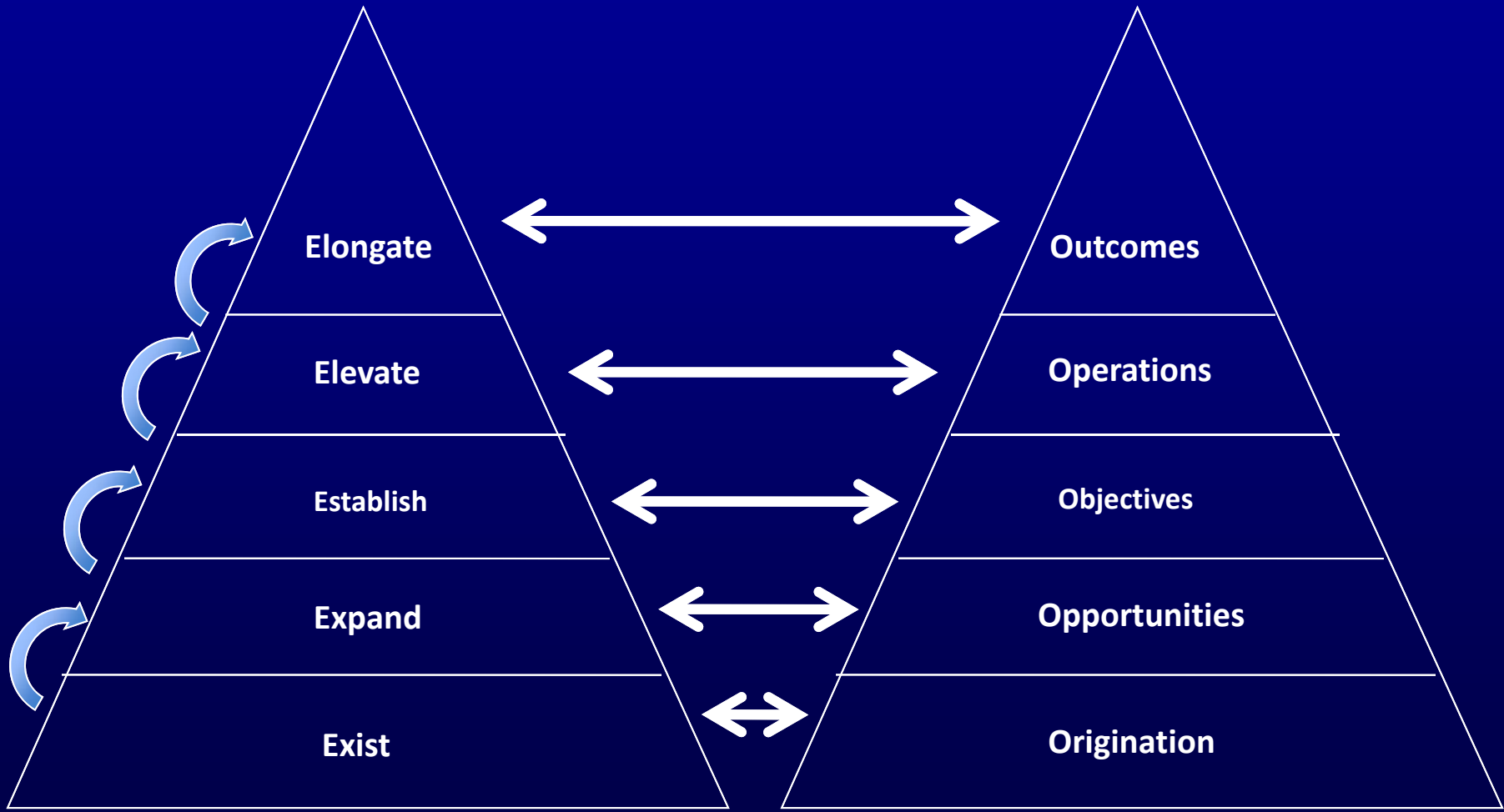
- A “process”
 - continuous, close-looped
- “determinant”
 - drives the utility
- “long-term”
 - generally, 5-year, future driven
- “vision”
 - collective seeing
- “goals”
 - collective priorities
- “Utility”
 - Water and Wastewater Utility
- “how to”
 - practically-oriented;”get it done”
- “fulfill” them
 - completion-oriented ;”got it done”

Why Utility Strategic Business Planning?

Strategic Business Planning meets Utility Needs Hierarchy

W/WW Utility
Needs Hierarchy

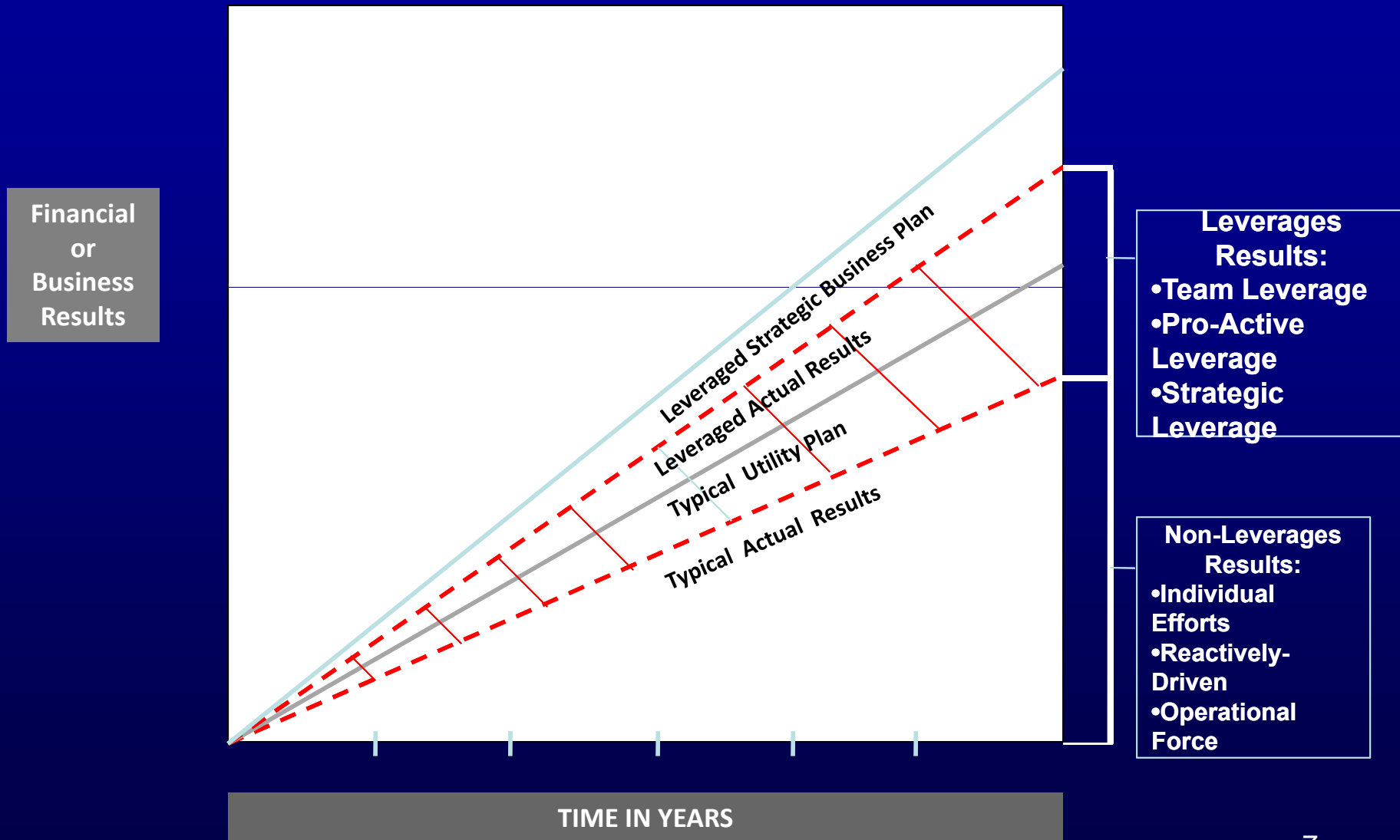
Strategic Business
Planning Provides



Utility Strategic Business, Capital & Financial Planning Overview



The Impact of the Utility Strategic Business Planning



Example: XYZ Utility Strategic Framework

Mission Statement: To provide quality and wastewater service to the region that protect the environment, promote public health, improve the quality of life and maintain the public trust.

Goals

- Cost Recovery

To manage the utility in a manner that optimize the utilization of resources and enables the utility to charge competitive and affordable rates, while providing for capital and operational needs

- Operations
- Customer Service
- Human Resource

Objectives

1- To reduce the NRW

2- To improving operational efficiency such as energy

3- To maintain a minimal operating reserve of 45 days of reserve

Strategies

- Provide improved cost information which ties to the financial planning to make optimizing decision based on cost control and operational consideration

Arab Region Water Highlights

The Middle East and North Africa Region (MENA) is the most water scarce region in the world.

- Worldwide, the average water availability per person is close to 7,000 m³/person/year, Whereas in the MENA region, only around 1,200 m³/person/year is available.
- One half of MENA's population lives under conditions of water stress.
- With the population expected to grow from around 300 million today to around 500 million in 2025, per capita availability is expected to halve by 2050.
- *Socially-motivated policies on water pricing inhibit cost-recovery, reduce maintenance, worsen service quality and threaten the financial sustainability of utilities in many countries in the region. (World Bank, 9/2010)*

Example: Impact of Potable Water on Developing World Economies

Any decrease in the quality, and therefore usability, of water in South Africa by 1% may result in the loss of 200,000 jobs, a drop of 5.7% in disposable income per capita, and an increase of 5% or R18.1 billion in government spending.

Plus Economics – November 2010

Relevant Water Statistics

The world Bank estimates the annual world volume of nonrevenue water is 12,893 billion gallons (48.6 billion m³)—almost 13 trillion gallons! **

Real losses in developing countries alone could supply water to 200 million people.

Nonrevenue water losses in the United States are suspected to be around 6 billion gallons a day; that is more than enough to meet the delivery needs of the 10 largest cities in the US**

***More than 5000 water and wastewater utilities are in the world as of 2006

More than 70 water and wastewater utilities in the Arab Countries

***Julian Thornton, Reinhard sturn, George Kunkel ; Water Loss Control, 2nd Edition . Published by McGraw-Hill, Inc, 2008 edition*

***<http://energybusinessreports.com/shop/Water-and-Wastewater-Utilities-of-the-World.html?v=1&itemid=328>

W/WW Utility Constraints

The following constraints with varying degrees affect water utilities throughout the developing world

- • Financial difficulties.
- • Institutional problems.
- • Inadequate human resources.
- • Lack of sector coordination.
- • Lack of political commitment.
- • Insufficient community involvement.
- • Inadequate operation and maintenance.
- • Lack of hygiene education.
- • Poor water quality.
- • Insufficient information and communication.

Statistical Cost Theory Simplified

Utility's Statistical Cost Theory

- It states that cost equals input price multiplied by input quantity.
- Input quantity is driven by the output level and external operating conditions faced by a utility combined with management decisions given those constraints
- Similarly, input prices are a function of external business conditions combined with management decisions involving the procurement of inputs at given prices

Utility's Statistical Cost Theory

- A performance cost benchmarking study evaluates management decisions involving input quantities and prices given the external conditions and constraints faced by utility management.
- Performance cost benchmarking enables a comparison to be constructed relating a utility's actual costs to a customized projection of those costs as stated in the business plan
(*Utility Cost Performance = Actual Costs / Projected Costs*)
- Good cost performers will have actual costs below the expected amounts, whereas poor performers will have actual costs above the expected amounts.

Utility's Statistical Cost Theory

- **The cost equation shows performance to be a function of two terms.**
 - **Actual costs are reported directly from the utility,**
 - **projected (benchmark) costs must be estimated (3-5 year Period).**
- **The utility management challenge is to calculate projected costs in a fair and accurate way, accounting for the specific advantages and disadvantages inherent in the operating circumstances of each utility.**

Cost Recovery Concepts and Programs

Cost Recovery Dilemma

There are currently many strategies that bring different levels of immediate and effective solutions to the utilities cost recovery dilemma.

Each utility works within different constraints and challenges.

There is no one-fit-all strategy. Therefore, cost recovery should be addressed in accordance with each utility.

But...

There is no doubt that the utilities in the Arab World share some common aspects and attributes on which some similar cost recovery strategies can be implemented and best practices and lesson learned can be shared.

Business Planning and Cost Recovery

Strategic business planning ultimately integrates the cost-recovery goal and institutional programs in a multi-phase approach to fully and equitably recover all costs of operating, maintaining, and expanding the water and waste-water utilities from the customers of the service area while maintaining a high degree of financial viability.

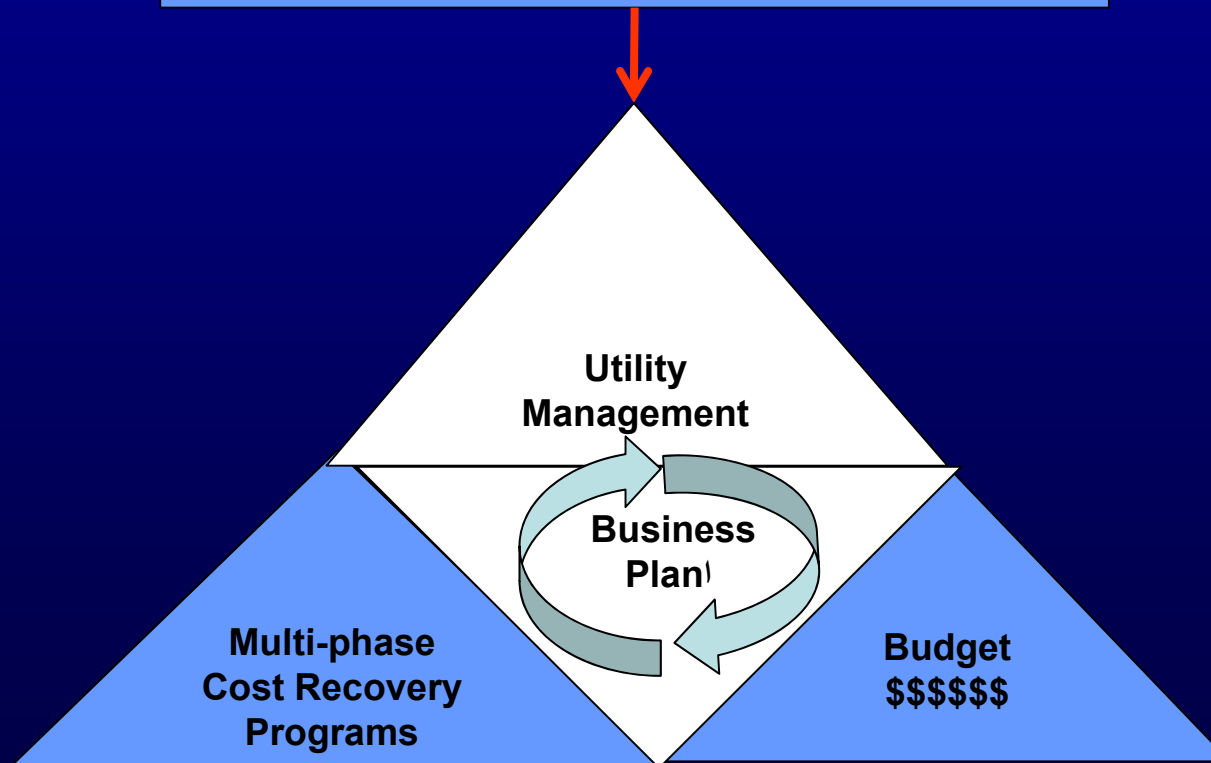
When will we achieve key cost recovery results?

- With the clear, prioritized strategic framework, the next step is dedicated to the act of quantification into “units” and “dollars” the previously identified goals. It is this process of quantification that converts an opportunity, which is a strategic business intention, into objective, which is a tangible target.
- Most Arab utilities aim at achieving the O&M costs at the short term.
- The Full Cost Recovery (FCR) is still beyond their reach at least , as long as the current constraints exist

Cost Recovery Via Business Planning Approach

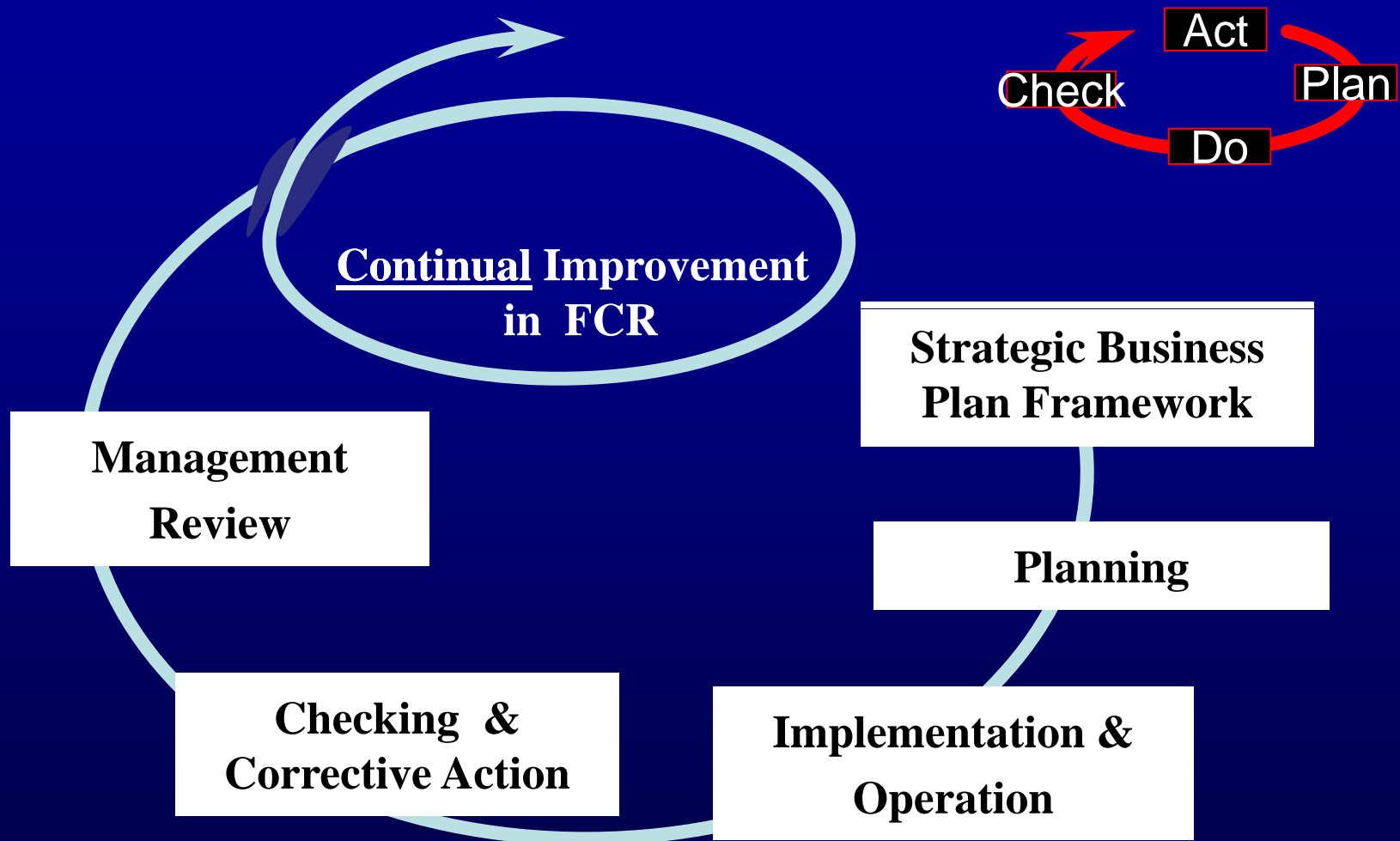
**External Constraints
Why Change?**

Analysis

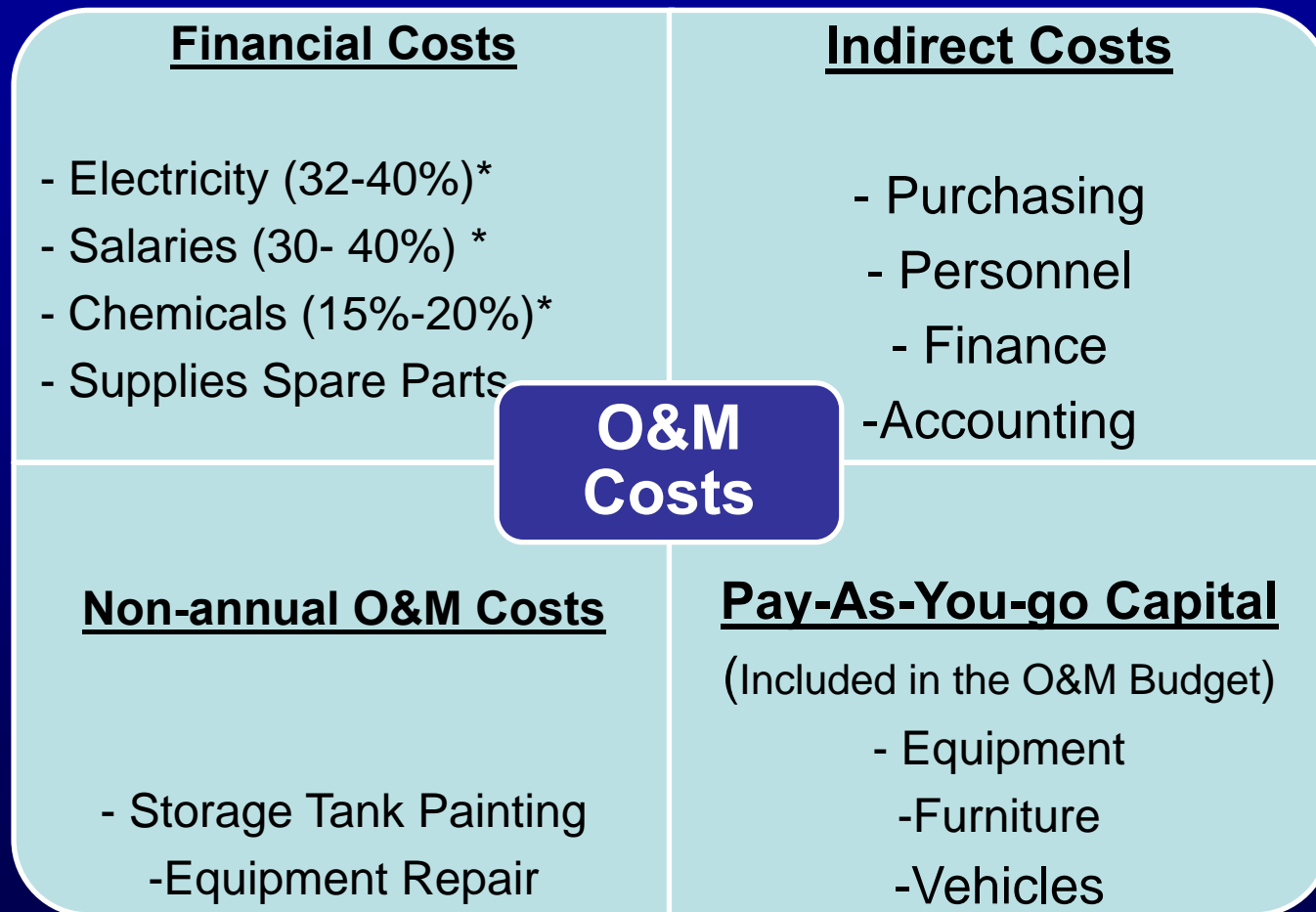


Planning

Cost Recovery Program Cycle



Major Types of O&M Costs



* These are just approximate average cost values for a w/ww utility in the MENA Region

Cost Recovery Programs

Through business planning, a variety of cost recovery programs are proposed, designed and implemented to accomplish :

- Accountable tariff,
- Lower NRW,
- Effective and efficient operation and maintenance (energy rationalization, chemical optimization and system automation).

Key Enabling Conditions/ Factors to Full Cost Recovery (FCR)

1. Maintaining effective working relationships with government;
2. Building core staff capabilities;
3. Offering customer-oriented services;
4. Developing a business operations plan; and
5. Maintaining accurate recordkeeping, accounting and information technology (IT) systems.

Key Utility Programs To Improve Cost Recovery

These top-five programs are ranked by importance and high impact that utilities undertook to improve cost recovery in the developing countries. The top five ranked actions were:

1. Reducing non-revenue water;
2. Improving operational efficiency such as energy
3. Improving metering;
4. Increasing and restructuring tariffs as permitted by the regulators; and
5. Expanding the number of connections.

Arab Utilities can also identify more programs within their business plans.

Example:

XYZ Utility – Strategic Objectives

Our objective is to :

- Operate on a commercial basis
- Program Title:
- Reducing non-revenue water
- Rational:
Most Arab utilities have water loss or non-revenue water ranging between 30%- 45%(NRW). Although it cannot be eliminated, it can be greatly reduced. Reducing NRW is the fastest, most economical effective cost recovery way for any water utility to increase both revenue and the amount of water available

Example:

XYZ Utility – Strategic Objectives

Main Program Tasks

Task	Responsible	Indicator
1. Real Losses are the physical losses from distribution <i>system</i>	Technical Department	Reducing NRW by 25% from its current rate by fiscal year 2015
2. Apparent losses	Commercial and Financial Department	

Example:

XYZ Utility – Strategic Objectives

Our objective is to .:

- Operate on a commercial basis
- Program Title:
- Improving operational efficiency such as energy
- Rational:
Energy consumes about 30%-40% of the O&M budget.

Example:

XYZ Utility – Strategic Objectives

Main Program Tasks

Task	Responsible	Indicator
<ol style="list-style-type: none">1. Expand our energy testing programmes to identify inefficient operations2. Replace inefficient pumps with higher efficiency ones based on whole life costs3. Seek ways to use renewable operations such as using sewage sludge gas as fuel4. Achieve energy efficiency savings at all pumping stations and borehole sites5. Streamline processes to reduce energy use6. Develop other energy sources such as wind power and solar energy	Technical Department	Reducing energy costs by 5% from its current rate by fiscal year 2015

Effective Utility Management US Model

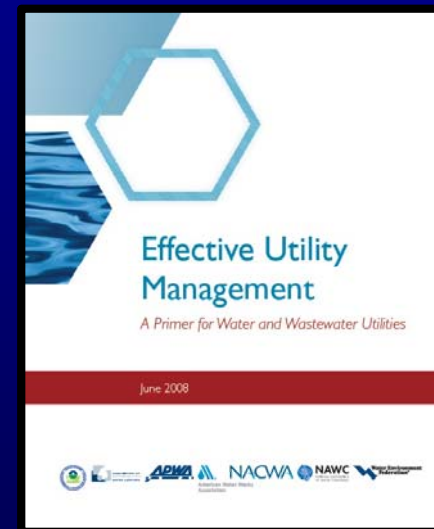
Effective Utility Management

- In response to these common challenges, US EPA and six national water sector associations collaborated to launch the Effective Utility Management (EUM) Initiative in 2008
- Products developed for utility managers by utility managers and the collaborating organizations



10 Attributes of Effectively Managed Water Utilities

1. Product Quality
2. Customer Satisfaction
3. Employee and Leadership Development
4. Operational Optimization
5. Financial Viability
6. Infrastructure Stability
7. Operational Resiliency
8. Community Sustainability
9. Water Resource Adequacy
10. Stakeholder Understanding and Support



5 Keys to Management Success

1. Leadership

Commitment from the top

2. *Strategic Business Planning*

Setting the vision, mission, and goals with a long-term perspective

3. Organizational Approaches

Involve employees, change management, implementation strategies

4. Measurement

Quantify baseline performance and track improvements

5. Continual Improvement Management Systems

Framework (Plan, Do, Check, Act cycle)

4. Operational Optimization

Ensures ongoing, timely, cost-effective, reliable, and sustainable performance improvements in all facets of its operations. Minimizes resources use, loss, and impacts from day-to-day operations. Maintains awareness of information and operational technology developments to anticipate and support timely adoption of improvements.

Related Performance Indicator

- **O&M Cost Ratios**
- **MGD WW/Water Processed per Employee**

5. Financial Viability

Understands the full life-cycle cost of the utility and establishes and maintains an effective balance between long-term debt, asset values, operations and maintenance expenditures, and operating revenues. Establishes predictable rate—consistent with community expectations and acceptability—adequate to recover costs, provide for reserves, maintain support from bond rating agencies, and plan and invest for future needs.

Related Performance Indicator

- **Debt Ratio**
- **Return on Assets**
- **Billing Accuracy**

Where do the Arab Utilities Stand Regarding the 10 Attributes?

- Most Arab water and wastewater utilities likely already doing something towards one or more of the attribute-related outcomes
- They can incorporate them into utility management systems and strategic business planning processes

Conclusions & Recommendations

Where Do We Go From Here?

- Conducting professional Arab-wide water and wastewater utility cost recovery survey
- Linking utility business plans with cost recovery strategies and programs
- Classifying utilities according to operating revenues.

In the US, Utilities are recommended to be classified A, B and C according to which the National Association of Regulatory Commissioners (NARUC) and the National Council of Governmental Accounting (NCGA) developed the charts of accounts. *

- Customizing and standardizing EUM *Primer* to help management to utilize it in all facets of utility operations
- Targeting performance measures or benchmarks based on the Attributes and the AWWA Literature

Discussion (Q&A)