The Birth of an Electric Utility in the Cradle of Humanity

A Case Study of Large Systems Change

APQC.

Agenda

- Introduction and Overview

- Terminology and Models Overview

- The Client and Context

- Project Context

- The Process and Sample Outputs

- Q&A

APQC.

Terminology and Models Overview

APQC.

Terms

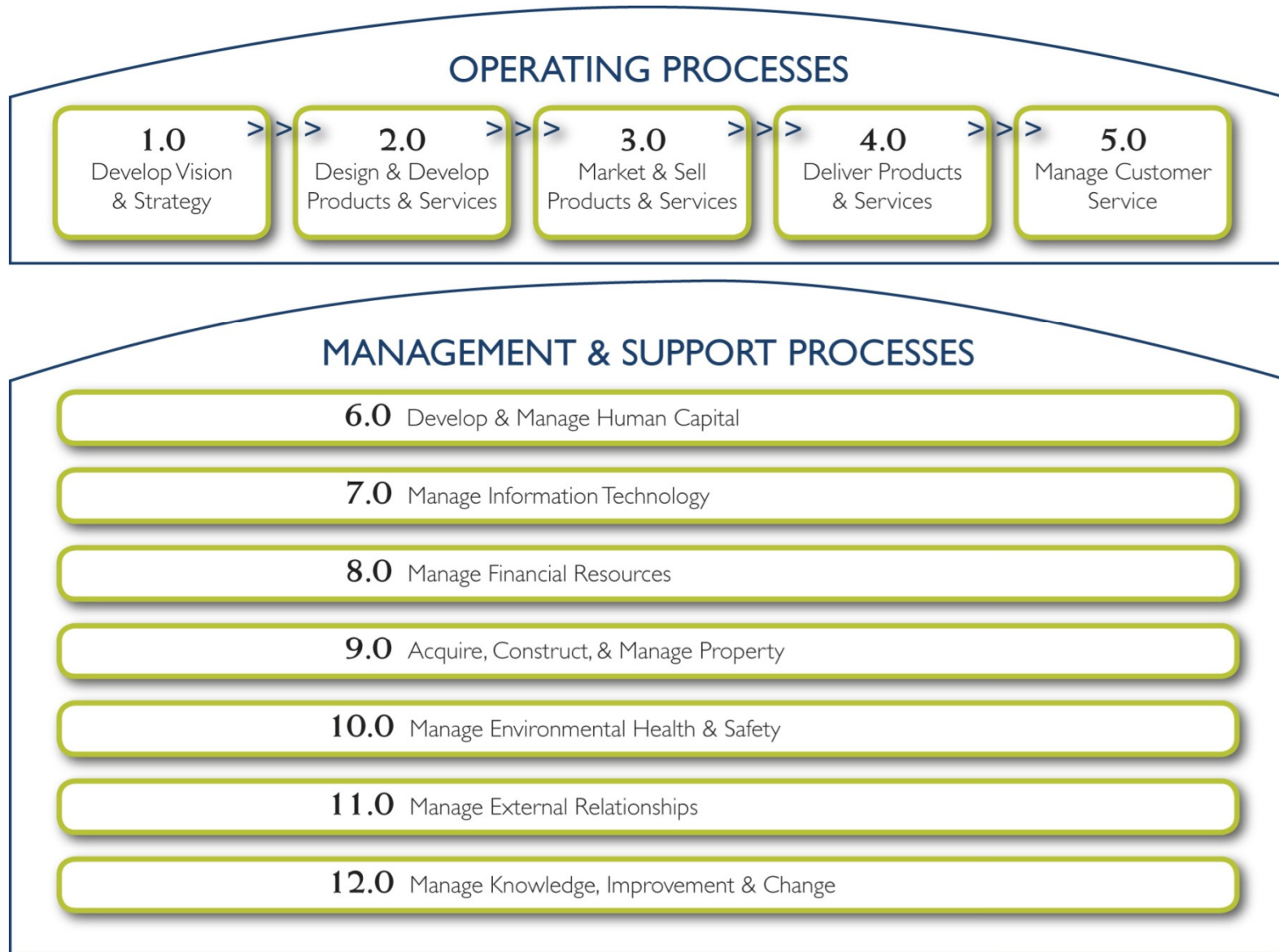Process Focus?

Frameworks?

BPM?

Process Frameworks?

Process?

APQC.

APQC's Process Classification Framework

- Created with expert and practitioner panels in 1992
  - Updated annually
  - Globally recognized
  - Defines activities and processes across 12 enterprise-level operating and management categories
- The PCF is available in two forms:
  - Cross-industry – a neutral framework adaptable across a wide range of industries and sectors
  - Industry-specific – a suite of frameworks featuring industry-unique processes
- All APQC content linked to cross-industry PCF
  - Research
 - Benchmarks
  - Measures

APQC.

APQC's Process Classification Framework

OPERATING PROCESSES

| 1.0 Develop Vision & Strategy | 2.0 Design & Develop Products & Services | 3.0 Market & Sell Products & Services | 4.0 Deliver Products & Services | 5.0 Manage Customer Service |

MANAGEMENT & SUPPORT PROCESSES

6.0 Develop & Manage Human Capital

7.0 Manage Information Technology

8.0 Manage Financial Resources

9.0 Acquire, Construct, & Manage Property

10.0 Manage Environmental Health & Safety

11.0 Manage External Relationships

12.0 Manage Knowledge, Improvement & Change

APQC.

Three Legs of an Improvement Plan

All transformation efforts
must:

> Ensure the processes are
> aligned

> People and organization
> structures support the
> business goals

> IT support getting the right information to the
> right people at the right time

Sustainable Business Improvement

People

Process

Technology

7

APQC.
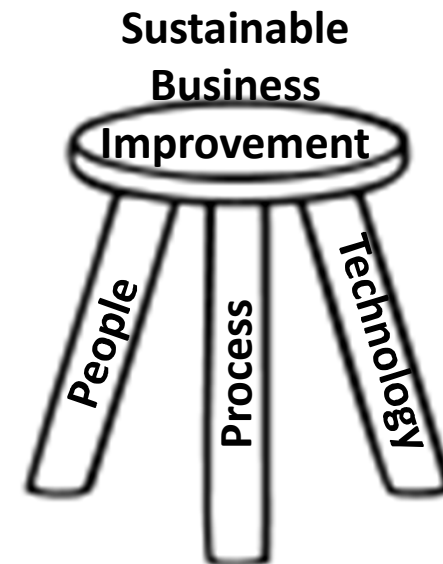
Transformation Approach

A design approach for analyzing existing business processes and developing new processes to meet strategic business objectives which allows the success of new process and its benefits to be measured.

The project is structured around four work streams that logically group related activities.

Program Management

(Planning, Managing and Supporting the Work)

Business Process Design and Analysis

(Developing the Business Process Blueprint and Clarifying Business Requirements)

Information Technology Development and Deployment

(Developing the Support Tools and Systems and IT Environment)

Change and Implementation Management

(Designing and Managing the Engagement and Transition within the Business)

8

APQC.

Key Elements of Change Management

➤ **Guide Change and Mitigate Change**

➤ **Mobilize Leaders**

➤ **Engage and Communicate with Stakeholders**

➤ **Align the Organization:** Key elements include:

   ■ Putting appropriate governance models and decision-making accountabilities in place to support the new way of working

   ■ Designing roles, competencies, authorities, and organization structures , developing job definitions and staffing plans

➤ **Prepare the Workforce**

APQC.

The Client and Context

APQC.

Ethiopia

APQC

Ethiopian Economy

- GDP economy growth has attained greater than 11% per annum

  - The economy faces a number of serious structural problems.

- Ethiopia has the greatest water reserves in Africa.

- Ethiopia has great potential to be a producer, as it is one of the most fertile countries in Africa

- Agriculture accounts for almost 41 percent of the gross domestic product (GDP), 80 percent of exports, and 80 percent of the labor force

  - Principal crops include coffee, pulses (e.g. beans), oilseeds, cereals, sugarcane and vegetables
  - Ethiopia is Africa's second biggest maize producer
  - Ethiopia's livestock population is believed to be the largest in Africa
  - Recently developed a strong floriculture business with expected exports of $195 million in 2011

APQC.

Ethiopia's Growth And Development Plan

➤ Sustaining faster and equitable economic growth

➤ Maintaining agriculture as a major source of economic growth

➤ Creating favorable conditions for the industry to play key role in the economy

➤ Enhancing expansion and quality of infrastructure development

➤ Enhancing expansion and quality of social development

➤ Building capacity and deepen good governance

➤ Promote women and youth empowerment and equitable benefit

APQC.

Some of Ethiopia Goals

➤ Enhancing expansion and quality of infrastructure development

  ◼ Telecommunication, railway, road, energy and irrigation development

➤ Enhancing education and training

➤ Electricity Targets

  ◼ Increase the number of customers access to electricity from 2 million to 4 million by expanding electricity access for new areas

  ◼ Increasing the existing 41% electricity power coverage of the country to 75%.

APQC.

Project Context

The Project Context

➤ Ethiopia potential for hydropower developments including 45,000 MW from hydro

   ■ Current installed capacity is 2,000 MW

➤ The generation infrastructure development also targets the neighboring countries power demand, which has created attractive export opportunity and maximize use of resources for the country.

➤ The Government set the three directions. These are:

   ■ Establish new organization by performing institutional transformation

   ■ To be a hub (the center of excellence) for renewable energy source in East Africa by exploiting the source and doing drastic institutional transformation

   ■ Establish job creating new organization that brings economical development of the country.

APQC.

EEPCO Business Targets

➤ Grow of the electricity consumption from 3.3 TWh (2009/2010A) to18.9 TWh(2014/2015E)

➤ Increase in installed capacity from 2.0 GW (2010-17 plants) to 7.86 GW (2015-36 plants)

➤ Increase in the transmission network from 11,369 Km (2010) to 15,326 Km (2015);

➤ Increase in the distribution network from 126,000 Km (2009/2010) to 282,000 Km (2014/2015);

➤ Increase in the number of customers from 1.9 million to 4.0 million

➤ Growth of total revenue to $800mm

APQC.

The Transformation Timeline

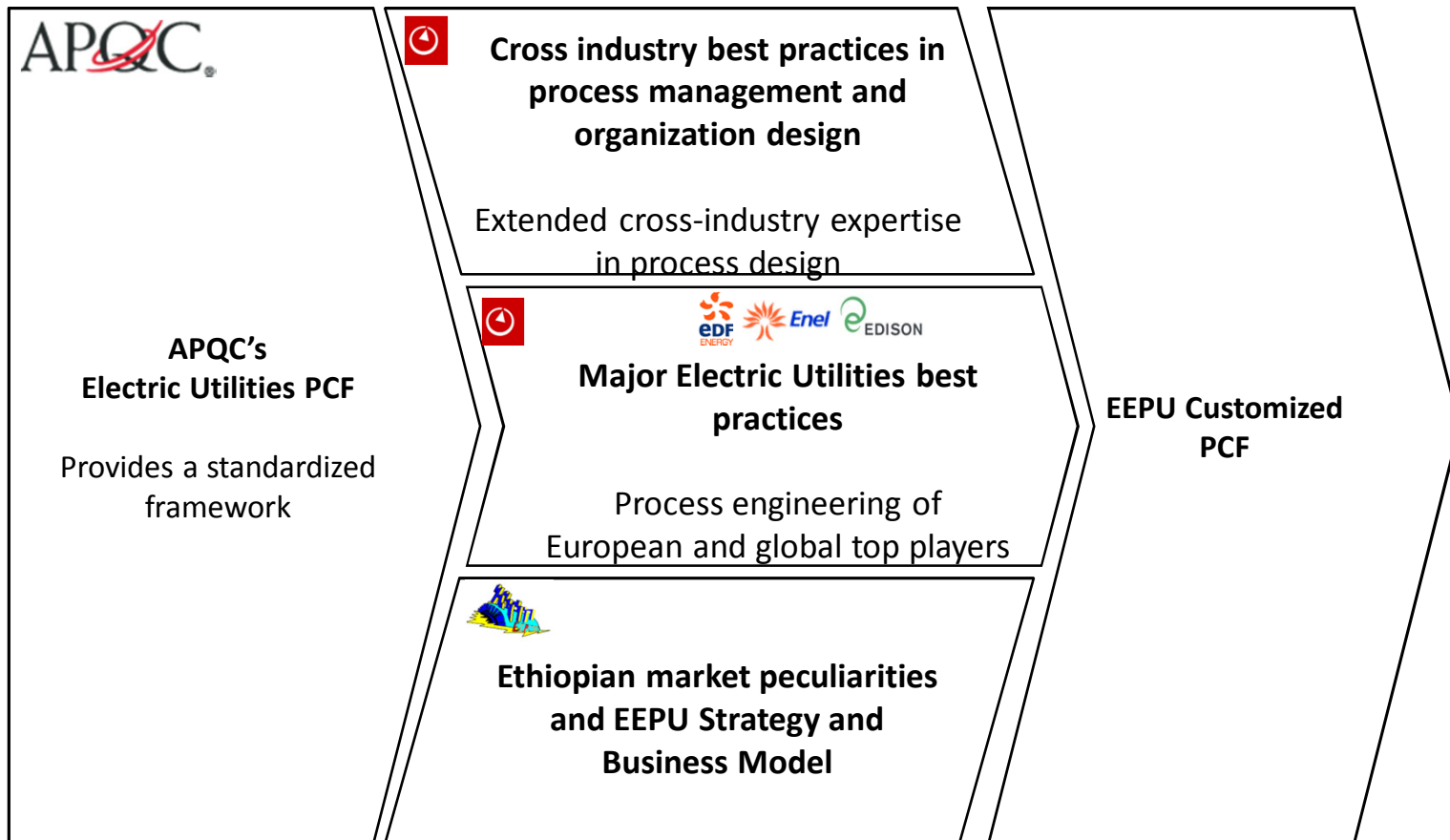| When	What
Spring 2010	Decided to start the EEPCO Transformation Journey
Summer 2010	Established the Transformation Project Office (TPO)
Summer 2010	Recruited (internal and external) 90 staff to join TPO
Sept 2010ired to	APQC provides PCF training to TPO staff
Jan 2011	Bain and Co. contracted to define the customized PCF for EEPCO, a business process management system, including design of the new businesses processes and organization.
April 2011	APQC contracted to review and comment on the products
July 2011	Final reports and products delivered
August 2011	Start search for a Management team to provide technical and capability development to EEPCO leadership
Fall 2011	Begin Implementation

APQC.

Key Deliverables to Date

➤ A customized PCF

➤ Process maps for all the processes

➤ ID cards for all the processes that define the process, inputs and sources, outputs and users, KPI's, and key decisions

➤ Role and job descriptions

➤ Organization design

➤ Governance model

➤ IT requirements

➤ Recommended service level agreements

➤ Recommended implementation Roadmap

APQC.

The Process and Outputs

APQC.

Customization methodology Overview

APQC.

APQC's Electric Utilities PCF

Provides a standardized framework

Cross industry best practices in process management and organization design

Extended cross-industry expertise in process design

eDF ENERGY Enel EDISON

Major Electric Utilities best practices

Process engineering of European and global top players

Ethiopian market peculiarities and EEPU Strategy and Business Model
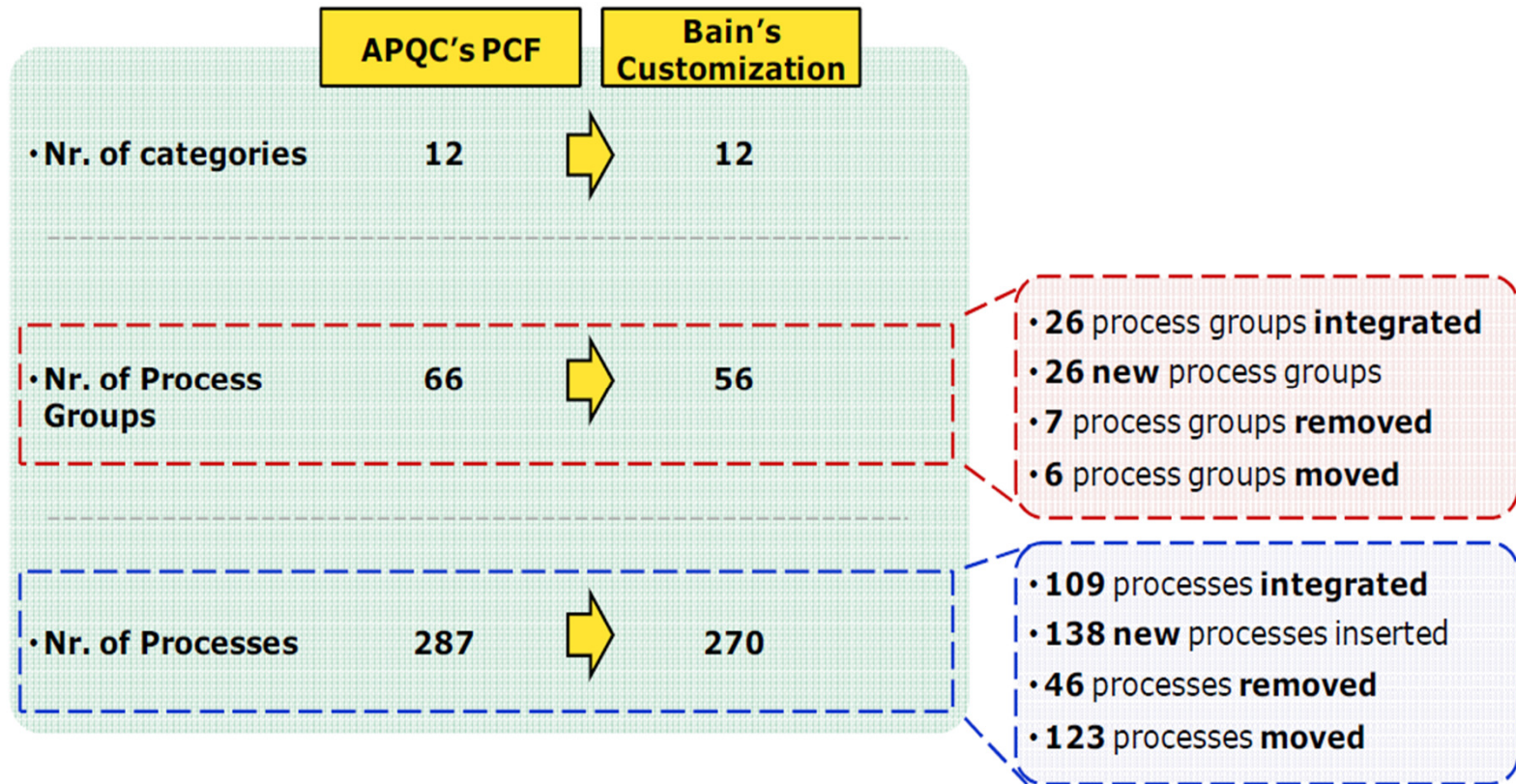
EEPU Customized PCF

The shift from APQC PCF to customized PCF results from the application of three analysis

APQC.

Customize APQC PCF Rules for Customization

Issues	Solutions

① Internal process not present in any category process → Creation of new process

② Process not applicable to analyzed company → Process not mapped

③ Presence of redundant processes → Integration of processes (even between different categories)

④ Inability to categorize joint operations → Creation of cross-categories new processes

⑤ Processes not aligned with Electric Utilities specificities/ best practices → Revision of process definition

⑥ Processes not qualified/ ordered/ grouped consistently → New qualification/ order proposed

Logics

APQC's EU PCF | World Class Organizat. | Customized EU PCF

APQC

Customization Impact

	APQC's PCF		Bain's Customization
• Nr. of categories	12	⇨	12
• Nr. of Process Groups	66	⇨	56
• Nr. of Processes	287	⇨	270

Process Groups (red box):
- **26** process groups **integrated**
- **26 new** process groups
- **7** process groups **removed**
- **6** process groups **moved**

Processes (blue box):
- **109** processes **integrated**
- **138 new** processes inserted
- **46** processes **removed**
- **123** processes **moved**

APQC.

Process Category Overview
1.0 Develop Vision and Strategy Example

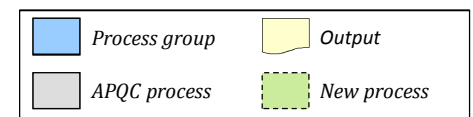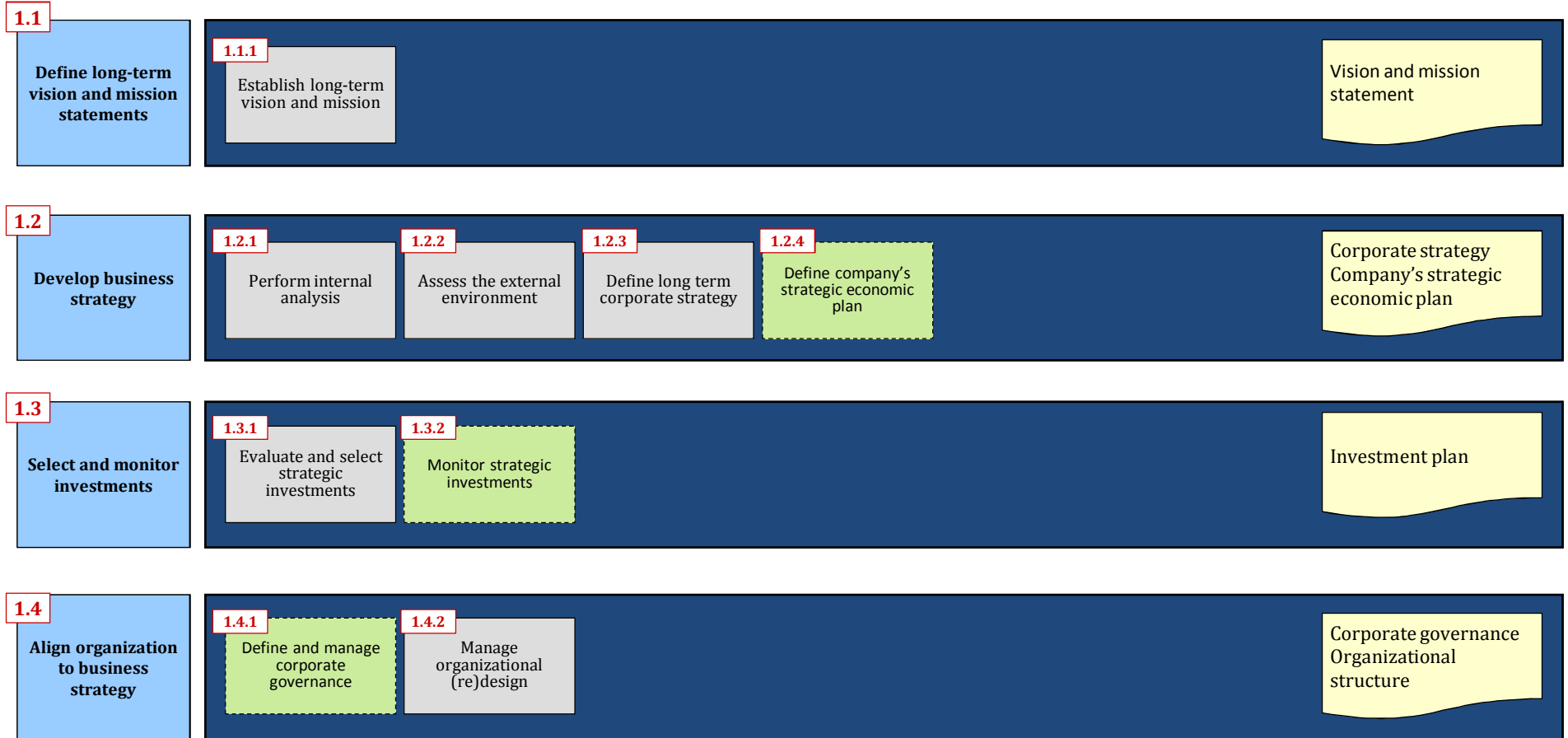| Description |
|---|
| *The category includes the processes to define the **overall company's strategic aspects** (long term vision and mission, corporate strategy), the **selection and monitoring of the investments** to implement the strategy, and the **definition/ alignment of organization structure**, coherently with the developed strategy* |

Process Groups	Outputs
• Define long-term vision and mission statements • Develop business strategy • Select and monitor investments • Align organization to business strategy	• Vision and mission statement • Corporate strategy • Company's strategic economic plan • Investment plan • Corporate governance • Organizational structure

APQC.

1.0 Develop Vision and Strategy
Process level - Customized version

1.1 Define long-term vision and mission statements

- **1.1.1** Establish long-term vision and mission

Vision and mission statement

1.2 Develop business strategy

- **1.2.1** Perform internal analysis
- **1.2.2** Assess the external environment
- **1.2.3** Define long term corporate strategy
- **1.2.4** Define company's strategic economic plan

Corporate strategy
Company's strategic economic plan

1.3 Select and monitor investments

- **1.3.1** Evaluate and select strategic investments
- **1.3.2** Monitor strategic investments

Investment plan

1.4 Align organization to business strategy

- **1.4.1** Define and manage corporate governance
- **1.4.2** Manage organizational (re)design

Corporate governance
Organizational structure

Legend:
- Process group
- Output
- APQC process
- New process

APQC®

1.0 Develop Vision and Strategy
Activity level - Customized version

01.04.02 Manage organizational (re)design

01.04.02.01	Assess company's strategy
01.04.02.02	Assess alternative organizational models
01.04.02.03	Define/revise the organizational model
01.04.02.04	Define/revise the organizational structure
01.04.02.05	Design/revise the relationships between organizational units
01.04.02.06	Approve organizational structure
01.04.02.07	Communicate organizational structure
01.04.02.08	Define/revise organization implementation plan
01.04.02.09	Communicate organization implementation plan
01.04.02.10	Implement organization/organization modifications

APQC.

The EEPU PCF was the base for ...

➤ Mapping the process, and process requirements and outputs

➤ Defining the roles and responsibilities

➤ Designing a process centric organization

➤ Establishing KPI's using benchmark data

APQC.

Example of Organization Process Design and Structure Alignment

Project development and control phases

Develop investment proposal	Plan the project	Manage and monitor investments

Main relationships

① Development of strategic investments concept

② Communication of strategic investment concept to engineering

③ Development of investment proposal

④ Support in the definition of the capital planning for the investment proposal

⑤ Forecast of market situation to support the definition of the investment proposal

⑥ Communication of the investment proposal for evaluation

⑦ Consolidation and evaluation of the investment proposal

⑧ Communication of the evaluated investment proposal for final approval

⑨ Final approval of the investment proposal

Technical expertise

APQC

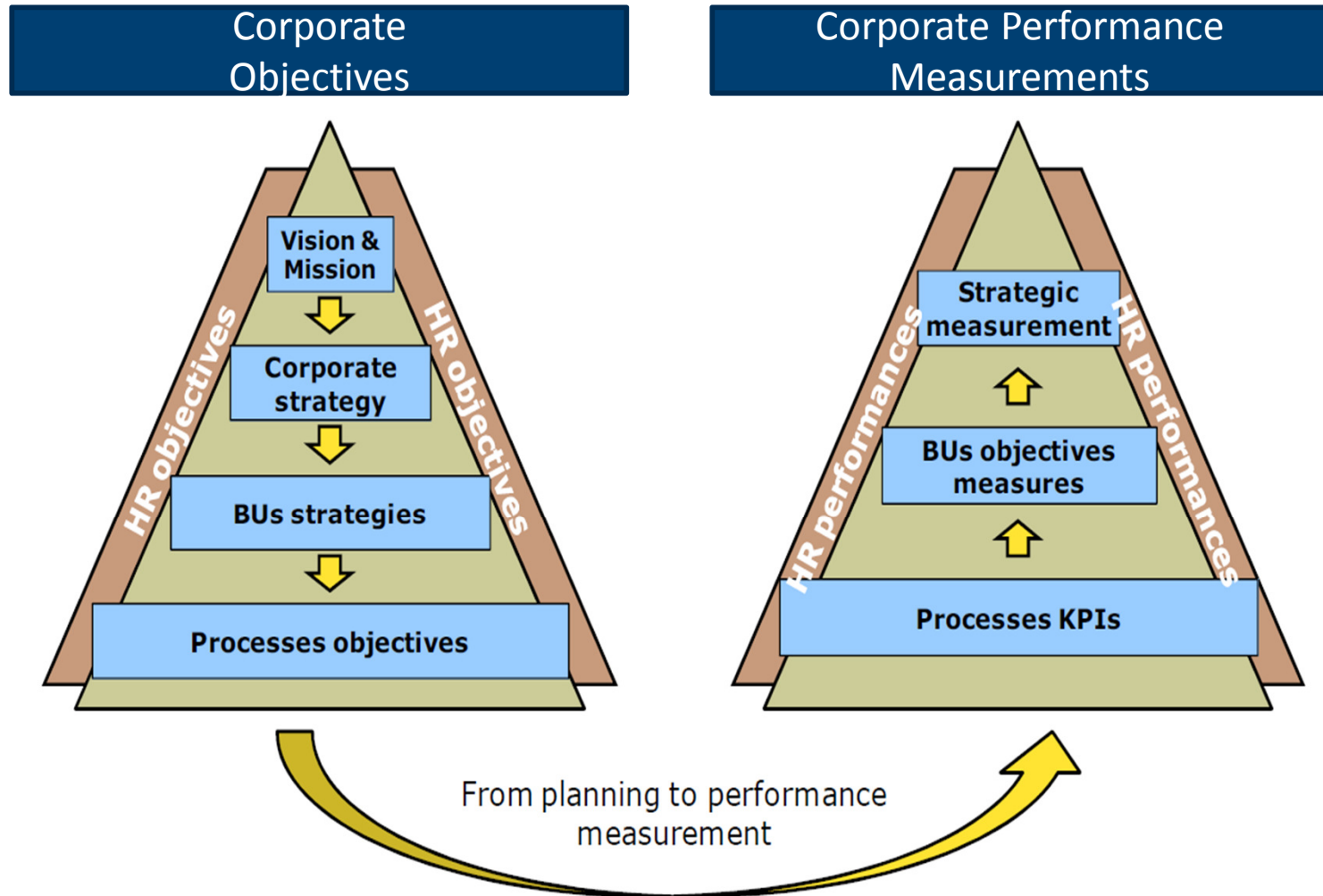# Utility Benchmark Database was Developed

KPIs database is composed by the following sections:

➤ **Metric name**

➤ **Metric type** The KPIs are distinguished in five different types:

  ■ *Cost effectiveness*

  ■ *Cycle time*

  ■ *Process efficiency*

  ■ *Staff productivity*

  ■ *Supplemental information*

➤ **APQC benchmark**

➤ APQC benchmarking provide three values for each KPI:

  ■ first quartile, median value and to the last quartile

➤ **EEPU PCF reference**

  ■ This section includes the number and the name of the category, process group and the process which the KPI refers to.

APQC.

Benchmarking Sample

APQC Metric	Metric Type	APQC Benchmark			EEPU PCF Reference
		25th	Median	75th	
Number of FTEs performing the process "establish internal controls policies and procedures" per $1 billion revenue	Process efficiency	1,27	0,58	0,31	01.04.01 - Define and manage corporate governance
Percentage of independent members on the audit committee	Supplemental information	50,00	62,50	93,75	01.04.01 - Define and manage corporate governance
Percentage of independent members on the compensation committee	Supplemental information	37,50	50,00	87,50	01.04.01 - Define and manage corporate governance
Percentage of independent members on the governance committee	Supplemental information	50,00	50,00	100,00	01.04.01 - Define and manage corporate governance
Percentage of independent, outside directors on the board	Supplemental information	88,54	90,45	91,10	01.04.01 - Define and manage corporate governance
Percentage of officers/employees on the compensation committee	Supplemental information	-	-	25,00	01.04.01 - Define and manage corporate governance
Percentage of other non-independent members on the audit committee	Supplemental information	6,25	29,17	45,83	01.04.01 - Define and manage corporate governance
Percentage of other non-independent members on the compensation committee	Supplemental information	6,25	29,17	45,83	01.04.01 - Define and manage corporate governance
Percentage of other non-independent members on the governance committee	Supplemental information	-	33,33	50,00	01.04.01 - Define and manage corporate governance
Personnel cost of the process "establish internal controls policies and procedures" per $1,000 revenue	Cost effectiveness	0,10	0,07	0,03	01.04.01 - Define and manage corporate governance
Systems cost of the process "establish internal controls policies and procedures" per $100,000 revenue	Cost effectiveness	0,76	0,54	0,31	01.04.01 - Define and manage corporate governance
Total business entity personnel cost per $1000 revenue	Cost effectiveness	164,63	123,80	69,09	01.02 - Develop business strategy

APQC

Linking Measures and Objectives Based upon Process Metrics

Corporate Objectives	Corporate Performance Measurements

Corporate Objectives pyramid (HR objectives on sides):
- Vision & Mission
- Corporate strategy
- BUs strategies
- Processes objectives

Corporate Performance Measurements pyramid (HR performances on sides):
- Strategic measurement
- BUs objectives measures
- Processes KPIs

From planning to performance measurement

APQC.

APQC's Role

➤ APQC representatives traveled to Ethiopia to conduct in-depth reviews of the customization work that Bain and the TPO teams completed.

➤ APQC certified all of the deliverables, affirming that they met the scope of the project and were compliant with PCF business rules.

APQC.

Key Lesson's

➤ A PCF can create a common language and understanding

➤ Process mapping creates understanding

➤ Project and Change Management helps develop an integrated solution that addresses people, process and technology

APQC.

Learn more about APQC

For more information visit our website at:
http://www.apqc.org

Lori Perry Account Manager	Neville Sokol Research Services
713.685.4693	713.685.4755
lperry@apqc.org	nsokol@apqc.org

APQC.