THE ADVANTAGES OF AN INTEGRATED APPROACH TO BUSINESS DESIGN ON A LARGE EPCM PROJECT

Juan le Roex

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AGENDA

- The challenge
- Primary drivers
- Design approach
- System selection and configuration
- Conclusion
The Challenge

• Large multi-national project teams, diversity, characteristics of a new organization
• Many parties, complex contractual and other interactions
• Disparate, un-integrated applications
• Lack of integrated process through all parties
• Large amounts of data, documents
• Lack of pre-defined “toolbox” of process procedure and systems
• Timescale and cost dictate that projects are impatient, not prepared to wait around to do it
PROJECT ARCHITECTURE - START

SYSTEM OF PROCESSES

UN-STRUCTURED
• Policy
• Processes
• Procedures
• Work instructions

IT SYSTEM ARCHITECTURE

void & Spread
sheet anarchy

SYSTEM SILOS
PROJECT ARCHITECTURE - GOAL

SYSTEM OF PROCESSES

IT SYSTEM ARCHITECTURE

MAPPED INTO SYSTEM

INFORMS PROCESS

INTEGRATION LAYER

System 1  System 2  System 3  System 4
Primary Drivers

• Transparency and visibility of business process to support project decision making.
• Transformation of data into information.
• Archiving, traceability of historical actions and decisions.
• The need for quick and effective design, development and deployment of process, procedure and system.
Design Approach

• Systems Engineering Approach
  – Systematic, hierarchical decomposition of process and requirements.
  – Data modelling and design based on process requirements.
  – Integrated process and data design.

• Joint Application Development (JAD) Teams

• Integrated development environment

• Development automation & Change management

• ISO compliant
8 ISO QMS PRINCIPLES

1. Customer Focus
2. Leadership
3. Involvement Of People
4. **Process Approach**
5. System Approach To Management
6. Continual Improvement
7. Factual Approach To Decision Making
8. Mutually Beneficial Supplier Relationships
Management System – Value Chain

STAKEHOLDERS

- Shareholders
- Investors
- Employees
- Suppliers
- Government
- Regulatory bodies

Client

REQUIREMENTS

SUPPORT PROCESSES

- SENIOR MANAGEMENT TEAM
- MANAGEMENT SERVICES
- QUALITY ASSURANCE
- HUMAN RESOURCES
- LEGAL
- FINANCIAL SERVICES
- PROCUREMENT & SUPPLY CHAIN
- SAFETY, HEALTH & ENVIRONMENTAL
- PROJECT MANAGEMENT
- ADMINISTRATIVE SERVICES

OUTPUTS

STAKEHOLDERS

- Shareholders
- Investors
- Employees
- Suppliers
- Government
- Regulatory bodies

Client

REQUIREMENTS

CORE PROCESSES

- DESIGN
- PROCUREMENT
- BUILD
- COMMISSION
- HANDOVER

PRODUCT & SERVICE
The Business Management System (BMS)

• A well documented Quality Management System (QMS).

• The Systems to manage and control the business. These consist of:
  – A range of applications which are process specific.
  – A work flow engine which is the glue between the systems and is the key to integration of data, people and process.

• The reporting mechanisms.
BMS STRUCTURE

PROJECT POLICIES

QUALITY PLANS, PROCEDURES & BUSINESS PROCESSES

WORK FLOWS

TECHNOLOGY LAYER

Compliance to regulations
Compliance to quality requirements
Compliance to contractual requirements
Mandatory

Detailed work instructions
Standardized work flow execution
Development Approach

• The differentiating requirement an agile environment whereby Rapid Application Development (RAD) can be undertaken to support the project.

• Rigorous, standard systems engineering approach with checks and balances built into the process.
Life Cycle Model

- Requirements
- User requirements
- Analysis
- System specifications
- Design
- Test
- Test feedback
- Signed off system
- Deploy and training
- Maintained & improved
- Operational feedback

User requirements flow through the model, starting with requirements, then moving to analysis, system specifications, design, testing, feedback, signed-off system, deployment, training, maintenance and improvement.
System Selection and Configuration

- **Sybase’s Power Designer™ system.** provides an integrated development environment with the following major elements:
  - Requirements modelling.
  - Business process modelling.
  - Data modelling from conceptual (OOM) to physical DB.
- **Simul8** for business process simulation and analysis.
- **Microsoft .net development environment.**
- **Microsoft reporting services.**
- **Metastorm™ Business Process Management system.**
CONCLUSION

• The benefits of the right tools & integrated development environment far outweigh the costs incurred.

• Automating the development process enables requirement to design and deployment in weeks rather than many months.

• Achieved without sacrificing systematic approach agile & ability to design and deploy within a rigorous development process is possible.