Performance Based Contracting

Business Metrics Drivers

John Tsucalas / Sept 21, 2013

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26 Years – Travel and Transportation, Energy, and Government

Key Areas of Expertise

- Enterprise Architecture – CIO level advisory
  - Recently working with American Airlines, Delta Airlines, United, Continental, Virgin Atlantic, FlyBe, and UPS
- Architect for High Performance Computing systems
  - Airline Reservations and Flight Operations
    - Ancillary Sales
    - Fares and Availablility
    - ACARS and Aircraft Movement
  - High Speed SOA and Cloud
    - Founded in 2005 as SAAS offering
- SOA and Cloud based development
  - Both traditional programming and using SOA based tooling

The principle…

"What gets measured gets managed"

Peter Drucker

But …

Traditional Measures

So many things to report… (a few)

Plan

- Master Planning
  - Scope managed by people who are incented to expand scope, this should be the reverse
    - Project Managers
    - Subject Matter Experts
  - Detailed Schedule
    - Granularity standards in waterfall (40 hour tasks)
    - Agile – Tighten requirements for likely fixed pricing of modules

Build

- Development Speed
  - Incremental Measures
    - Function Points
    - Code Lines
    - Requirements Completed
    - Modules
  - Whole Project
  - Release Schedule
  - Cost
- Quality
  - Bugs Found
  - Bugs Fixed
  - Priority of bugs
  - Aging of bugs

Run

- Uptime / Runtime
  - Up/Down
    - Definition of availability
    - Anticipation of partial down and “zombied state”
    - Networks in scope
  - Performance
    - Speed of process
    - Speed to user (usually out of scope)
  - Changes and Cadence
    - See Build
  - Quality
    - See Build

Traditional Measures

So many things to report… so much to do wrong…

Build

- Development Speed
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Speed to what?

Too detailed no flexibility in design

Please don't, we all can write lots of code

Works if you can write **business** requirements at the correct level with specific business measures

Only as good as the specification. The reason many age so long is there is little reason to fix a useless function

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Only as good as the specifications. If it is not critical that something is down why did you build/buy it? Hard to define "up"…

Generally the application and network are separate vendors

Who cares? The speed you get things done is all that matters. The quality of UI matters more than speed of processes

Business Metric Driven Management

Asking “Big” questions

What do I really want to have happen?

Find the real business/functional outcome or intermediate you want and measure it

- Clients served with a function
- Exceptions handled by …
  - System Function – richer and broader
  - Self Service utilization increases
  - Agent/Human Assistance decreased to only focus on tough issues
- Complaints by public/client
- Additional Revenue
- Speed to market for new offering/function

Facilitators (why this works):

- Better tools for business events
- User Interfaces designed for:
  - Outcomes – Get the job done
  - Flexibility – Eliminate exceptions
- Client/User focused design but not specification
- Back end systems must be simple and flexible
- Smart architects and developers win
- Functional metrics make justification and funding easier
- Flexible integration tools
- …

Examples of good measures

Measure the opportunity to make money

- **Airline Software as a Service**
  - Measured and paid by Passenger Boarded
- **Online Advertising**
  - Measured by click through on links
  - Measured by impressions
- **Agent Tablet Applications**
  - Measured by passenger boarded and bags checked
- **Retail supply chain**
  - Measured by order timing and shipment costs

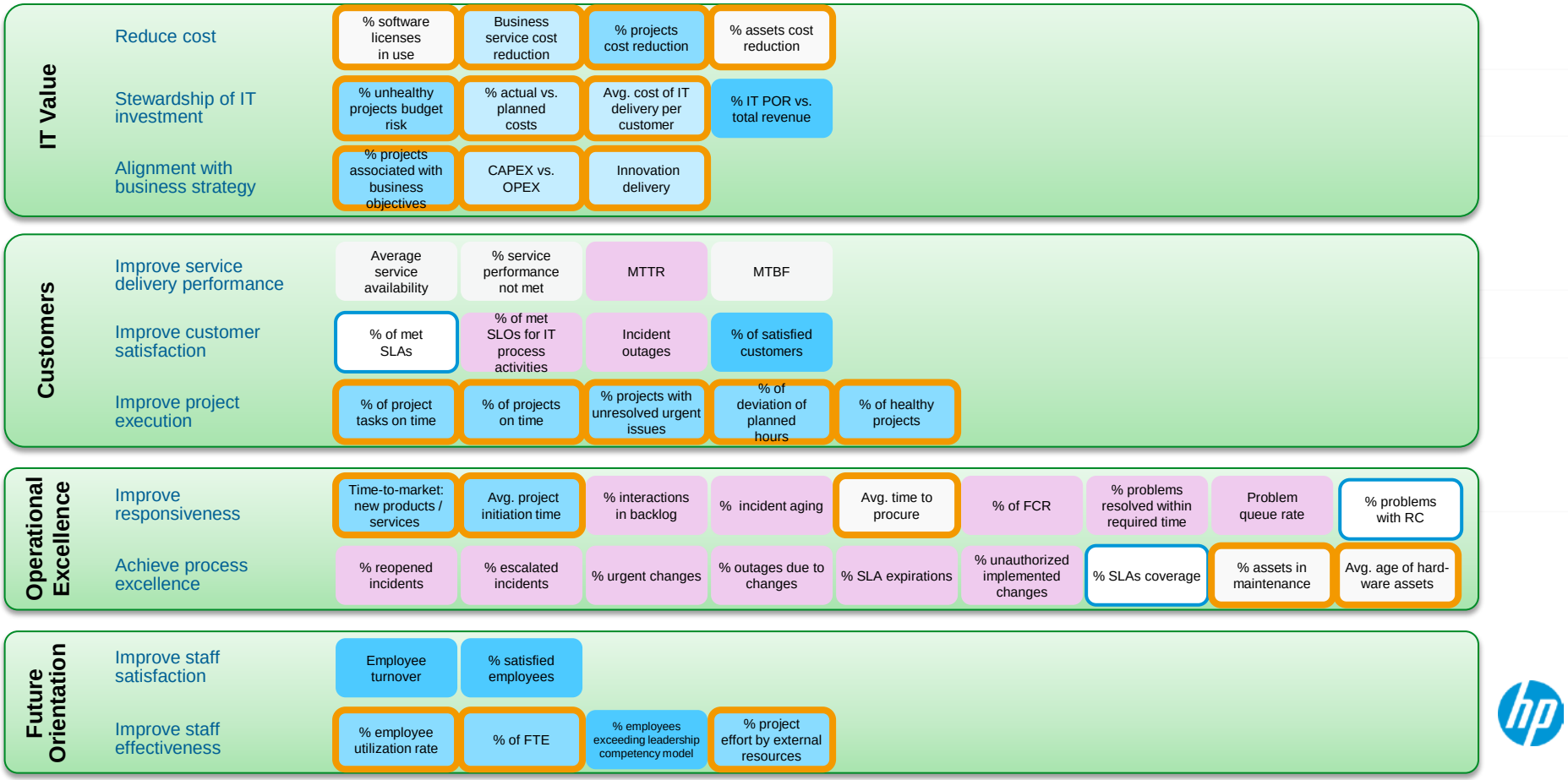
- **Each passenger presents an opportunity for revenue**
- **Impressions and click through are the measures of the delivery mechanism**
- **Passengers and Bags are direct measures of the effectiveness of tablet applications**
- **Shipping costs and stock aging reduced as application improves**

What is a good business measure?

A measure that…

- **shows the effectiveness of the specific solution to the business or enterprise**
- **shows the opportunity to make money or service clients not the actual outcome unless the solution is intended to optimize return**
- **something that is measured at some level today. Although the solution may provide metrics used there should be independent measures as well as a way to estimate the results and goals outside the solution**
- **almost always is used to reward the staff as well as the solution provider**
- **provides a mutual benefit to all stake holders**

Example IT Measures – These are not Business Metrics



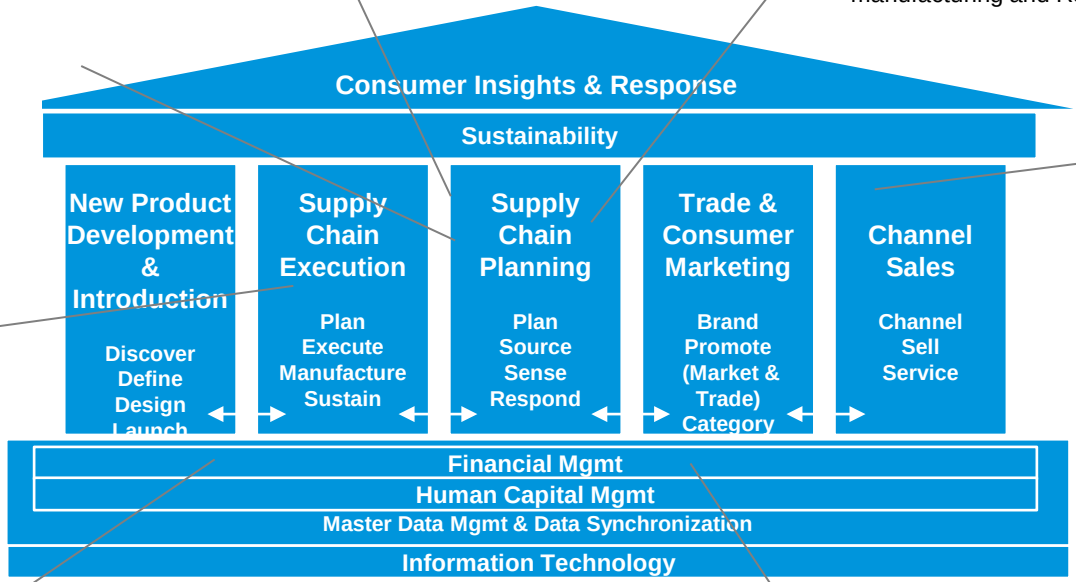
Example – Consumer Products

REVENUE GROWTH
Volume, pricing, new product development (product mix), market expansion (geography mix) and acquisitions are primary drivers of Revenue Growth for Consumer Product companies but can also be significantly impacted by foreign currency volatility

% COST OF GOODS SOLD (COGS)
Comprised of direct materials and supplies as well as labor, then distribution, shipping and warehouse expenses. Commodity/ Input costs have significant impact

DAYS IN INVENTORY (DII)
Inventory management is an area of focus and is comprised of raw materials, work-in process and finished goods

FIXED ASSET UTILIZATION
Fixed Assets for Consumer Product companies are primarily comprised of machinery and equipment which includes company owned distribution warehouses, manufacturing and R&D facilities



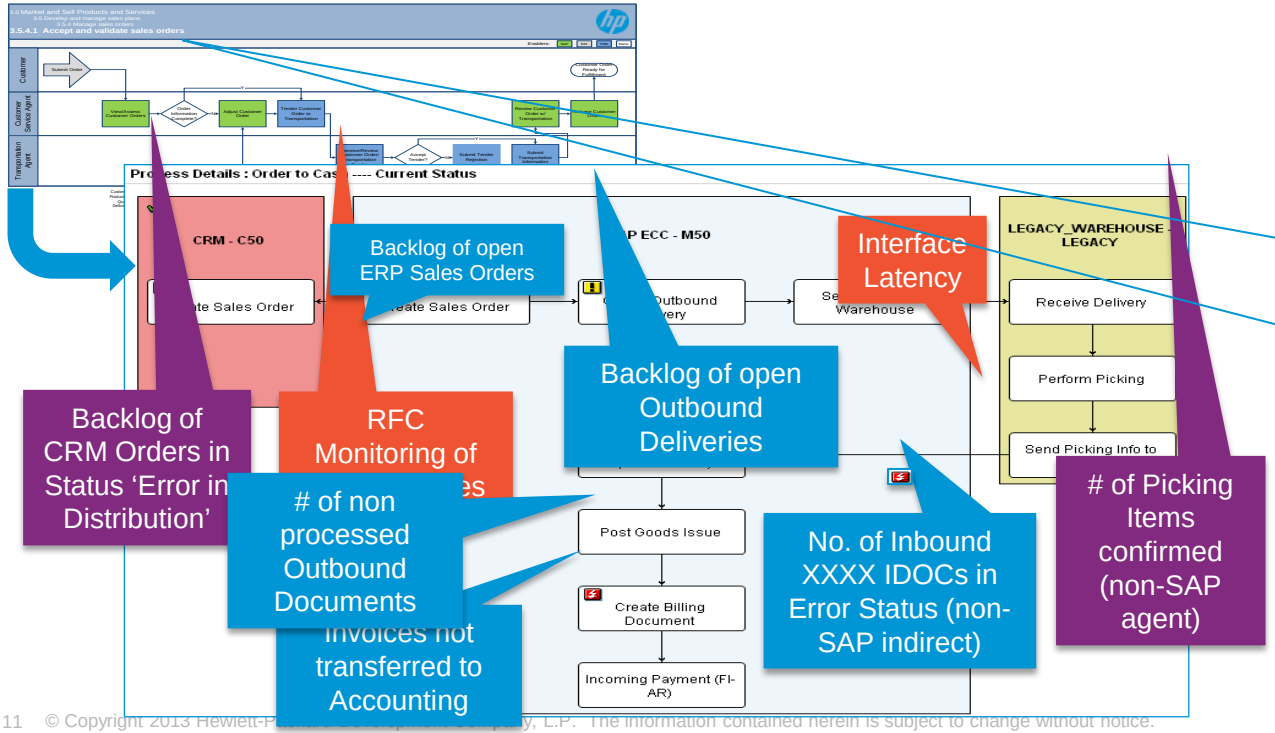
% SELLING, GENERAL & ADMIN. EXPENSES (SG&A)
Sales & Marketing, non-manufacturing Labor and Related expenses, in addition to shared service costs such as Information Technology, Finance & Accounting, Customer Service and HR are all expenses typically included in SG&A for Consumer Product companies

DAYS PURCHASES OUTSTANDING (DPO)
Days Purchases Outstanding represents the number of days to pay Trade Payables to suppliers for the purchase of commodities, materials and supplies

DAYS SALES OUTSTANDING (DSO)
Days Sales Outstanding (DSO) represents the number of days to collect Trade Receivables from clients

Example – Deriving from models

Build a process view and monitor technology performance that aligns with key Operational KPIs



Illustrative

- # of Purchase Requisition Items overdue
- # Purchase Requisitions in approval
- # PR overdue for PO creation
- # PO Items with Invoice Receipt Qty
- Goods Receipt Qty

The practice…

“Everything stinks till it’s finished”
Dr. Seuss

But maybe not as much …

Not just about contracting…

What things are usually part of this?

- Modeling the process and data – Process driven
  - Higher level models of the “to be” important
  - Data and Events matter more because those have your outcomes
  - Find the real outcomes
- Event Driven (typically)
  - Loosely coupled for flexibility
- UI build and change requires flexibility and analysis
- Test Driven by outcomes
  - All business measures covered in test cases
- Monitoring by business function
  - Still also at technical level – for troubleshooting
- Management Reporting not just for IT

What we get:

- Your problem is the vendors problem
- Applications/Systems that are key tools to drive outcomes and help get work done
- Funding for projects defined in actual outcomes
- Higher satisfaction from staff (both IT and users)
- Solutions become better sized for implementations
- End of life HW/SW usage decreases because of ongoing drivers
- Vendors become business outcome partners
- Measurements matter rather than penalties on things that don’t matter

Resources

Requirements Management For Architecture and Architecture Process

- **TOGAF - http://pubs.opengroup.org/architecture/togaf8-doc/arch/chap15.html**

Service Delivery

- **Information Technology Infrastructure Library (ITIL)**

Defining Requirements

- **MITRE - http://www.mitre.org/publications/systems-engineering-guide/se-lifecycle-building-blocks/requirements-engineering/analyzing-and-defining-requirements**

Simple Introduction to Modelling

- **http://www.wikihow.com/Make-a-Business-Process-Model**

Thank you