CIS 4120: Define/Innovate BP’s

Session 2:
Processes, Services & Metrics

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What is a business process?

- From Miers & White:
  - A systematic set of activities that take a “business event” to a successful outcome
  - What is an example of a business event?
  - A collection of business activities that create value for the customer (outside-in thinking)
- From Wikipedia (repeated in W&M):
  - A collection of interrelated tasks which accomplish a business goal (inside-out thinking)
Categories & types of BP’s

Some “high-level” business processes:
Supply chain management, demand chain management, product/service design, customer service, contract management, etc.

Made up of a myriad of lower-level “part processes”:

- Account management
- Advance planning & schedule
- Advertising
- Assembly
- Asset management
- Benefits administration
- Branch operations
- Budget control
- Build to order
- Call center service
- Capacity reservation
- Capital expenditures
- Check request processing
- Collateral fulfillment
- Collections
- Commissions processing
- Compensation
- Component fabrication
- Corporate communications
- Credit request/authorization
- Customer acquisition
- Customer inquiry
- Customer requirements
- Customer self-service
- Customer/product profitability
- Demand planning
- Distribution/VAR management
- Facilities management
- Financial planning
- Financial close/consolidation
- Hiring/orientation
- Installation management
- Integrated logistics
- Internal audit
- Inventory management
- Investor relations
- Invoicing
- IT service management
- Knowledge management
- Manufacturing
- Manuf. capability dev
- Market research & analysis
- Market test
- Materials procurement
- Materials storage
- Order dispatch & fulfillment
- Order management
- Organization/leasing
- Property tracking/accounting
- Proposal preparation
- Publicity management
- Real estate management
- Recruitment
- Returns & depot repair
- Returns management
- Quality control
- Sales channel management
- Sales commission planning
- Sales cycle management
- Sales planning
- Service agreement management
- Service fulfillment
- Service provisioning
- Shipping
- Zero-based budgeting

Where to start?

MIT, NIST
A project is also business process

Consider the representation of a project (MS-Project)
A process is a project that’s executed multiple times (multiple flows, event triggers)

Think about normal project issues and metrics

- Sub-process (Activity)
- Activity Property
- Precedence Relations
- Resources (Roles)

A simple form of BP Model (no loops!)
Some inter-related questions for you …

- If a process exists, why does it exist?
  - Put another way, if a business process is the solution or answer, what’s the problem or question??

- When studying a phenomenon such as a business process should one start by:
  - Improving the solution?
  - Better understanding the problem that it’s the solution for?

- Should we assume the question or question the question?
Process discovery

The task of extracting & identifying a coherent business process within an organization’s collection of tasks, activities, events and decisions

It involves:

- Bounding the process (taken up next)
- Finding the process owner(s)
- Defining the operative metrics
- Discovering “happy path” & “rainy day” aspects
  - If everything works without exceptions (happy path)
  - What are the problem cases, exceptions -- “What if”
  - Modeling the “as is”
- Confirming the discovered process with its owners, users (stakeholders)
Process bounding

The problem – where to draw the boundary for what’s included in your “as-is” BP?
Definition of the “Boundary problem”

- How to determine which process elements (e.g. tasks, activities, logic, roles) are to be explicitly included in the business process under consideration?
  - And, therefore, what are the process interfaces to other agents and their tasks?

- What criteria (metrics) are to be used in determining if a chosen boundary is “better” or “worse” than another boundary?
  - The issue of what constitutes “better/worse” business processes is an open (research) question
  - Generally assessed by static or dynamic outcomes
  - But we need business process design metrics as well
Approach taken

- Applying “servitization” principles to the definition of the process boundary

Basic tenet:

- Every service has an underlying business process that delivers (produces) the service being sought
- However … not all arbitrarily defined business processes deliver a defined business service
- Service and process are the “dual” of one another
  - Where there’s a service, there’s an underlying business process
  - Where there’s a business process, there should be an associated, defined service (or services)
A service approach to process bounding

- Service is an “interface” between client and its underlying process.
- Client has a “Problem-to-be-solved” (by the service).
- Process interacts with its client(s) via a “service interface”
  - Client’s initiating event starts process; Process delivers result back.
- Discovery approach is iterative refinement
  - Sometimes start with the service aspect (& scope the process)
  - Sometimes start with the process aspect (& determine service)
Service basics

- Services share a set of common principles
  - Defined customer/client
  - Client has a “problem-to-be-solved” (Christensen)
    - The service deliverable partially or completely solves it
  - The client has a set of “value” metrics
    - Their view (not the process owners view) of what the significant KPI’s are for the service
    - Sometimes formalized as an SLA
  - The service is initiated (triggered) and a “normal and expected” result (response) is received by the client

- The client can be internal or external to the organization providing the service
- The service of interest may, in turn, rely on use of other services (for which this service is the client)
Service definitions

- Economics (noun)
  - A set of one-time consumable and perishable benefits

- Marketing
  - A means of delivering value to customers by facilitating outcomes customers want to achieve without the ownership of specific cost and risks

- Blended
  - An economic activity offered by one party to another, to bring about desired results in recipients or in objects or other assets for which purchasers have responsibility

- Ours
  - An offering to a customer (consumer) that the customer initiates via an interface, and in so doing begins one or more underlying actions), whose normal and expected result is either a delivered response or a change in some object that the customer seeks to change
Framing the business service-process

The Client (with Problem To Be Solved)

The initiating event (start event)
The processes response to the trigger

A short “X-to-Y” description that captures the nature of the service provided (e.g. Request-to-Appointment)

Outcome (client) innovation

Value metrics:
Performance measures associated with the client’s perception of value (tend to be external, effectiveness related)

Value metrics:
1. 
2. 
3. 
4.

Process metrics:
Performance measures associated with the underlying process operation (tend to be internal, efficiency related)

Process metrics:
1. 
2. 
3. 
4. 
5.

Operational (process) improvement/innovation
Example value metrics

- **Availability**
  - Anytime, anyplace
  - 24 x 7 x 365
  - **Example metric**: %time request accepted/calendar period

- **Know me**
  - Personalized interaction, tailored information
  - **Example metric**: Amount of (constant) personal information required to total amount of information provided

- **Tailor to (changing) needs**
  - Mass customization (market of one)
  - **Example metric**: Perceived flexibility of solution

- **One-stop fulfillment (single point of contact)**
  - Understand the full need
  - Organize to fulfill it, service it, replace it

- Minimize client-experienced *transaction* costs (time, $)
  - Search, alternative evaluation, selection, delivery, return

- **Transparency across multiple channels (omni-channel)**
  - Bricks, clicks, mobile, face-to-face, etc.

Some metrics that might matter to the process client
Types of process metrics

- **Time-based**
  - Cycle-time (total average, variance in time)

- **Resource-based**
  - Time and cost consumption (e.g. Activity-Based Costing)
  - Resource scheduling and competition (flexibility, use)
  - Cash-to-cash (receipts and expenditures)

- **Quality**
  - Error-rates in deliverables (average, variance)
Example process metrics w/ measures

- Resource consumption & utilization
  - Total (direct/indirect) cost/transaction
  - % resource utilization/week

- Transit (or cycle) time
  - Average transaction time through process
  - 3-sigma (three std. deviations) transit time
  - Transit time variability (+/- 3-sigma)

- Quality/defects
  - % aborted transactions
  - % completed transactions containing errors

- Response to load
  - % increase in cycle-time for a 2x increase in transaction volume

- Compliance with controls and regulation
  - # of compliance “variations” per 100 transactions
  - All internal & external controls monitored and adhered to
Role of metrics in BPM

1. Determine Metrics
2. Discover process
3. Critique process
4. First “to-be” process
5. Operating process

Process Metrics
Improvement potential
Innovation potential
Value Metrics
BAM Dashboard

Justification
In-Class exercise-2-1

Consider the service of providing concert tickets online

Answer the following questions about this:

- Generic customer name
- PTBS
- Value metrics
- Initiation of service
- Normal and expected results
- How would you name it as a service (x –to- y)
- Process metrics (imagine you run this service)
- Is it “core or non-core” (criticality)
KPI’s

- Key performance indicator: What a manager has to do “right” (focus on) in order to meet performance objectives and the measure(s) that indicate this

- High level examples:
  - Financial: Asset utilization
  - Customer: Customer satisfaction
  - Environment/community: Support local organizations
  - Internal: Delivery in full
  - Employee satisfaction: Satisfaction surveys and increased retention
  - Learning & growth: Increased empowerment, expertise and adaptability
Metrics and KPI’s (2)

Metric’s (hard – quantitative & soft – qualitative)

- Measurable values with units associated with them
- Examples:
  - Dollar revenue gained from top 10% of customers this week
  - % of payments made by direct credit
  - Billing accuracy
  - Revenues/total assets (%)
  - Revenue in sales “pipeline”
  - Inventory items above/below target limits
  - Sales to selling cost ratio
  - Adherence to schedule (tasks performed on time/total tasks)
  - Claims frequency
  - % contractors to total staff
  - Employee motivation index
Example exercise on services & metrics

- Process begins with the author of a screenplay submitting their work to a literary agent.
- The literary agent, in turn, selects a potential producer who might be interested in the work and forwards it to that person.
- The producer employs a script reader who first reviews the screenplay. If the reader decides it’s not acceptable, they return it to the writer. Else, it’s forwarded on to the producer who reads the screenplay.
- The producer can either decide to reject it, purchase it outright, or take an option on the work.
  - If rejected, the producer sends a notification to the writer.
  - If either of the other two options he/she proceeds to (concurrently) find a director for the film as well as get agreement from a star actor to anchor the film.
- Once these agreements are made, the producer sends off the screenplay to several film companies to see if one or more of them will agree to do the production.
- After these results are in, producer will notify writer that their screenplay will either be produced, or an option taken on it.

Who’s the process owner? Who’s the client? Where’s the process boundary? What’s the service provided?
Writer to producer business process

- Who is the client?
- Who is the process owner (and scope)?
- Are there services the process draws from?
- What’s the service definition?
- What are possible value & process metrics?
Depending upon assumptions - solution

- Writer
  - Submit screenplay
  - Decision to produce
- Tender-to-produce
  - Submit screenplay
  - Decide to produce
- Receipt-to-produce decision
  - Submit proposal
  - Commit to film
- Proposal-to-commitment

- Producer
  - Purchase screenplay
  - Woot a director
  - Choose a star
  - Notify writer
- Tender
  - Submit screenplay
  - Tender decision

- Litigation Agent
  - Submit screenplay
  - Send rejection
- Client
  - Review screenplay
  - Send rejection
- Writer
  - Submit screenplay
  - Greenlight

- Proposal-to-commitment
  - Two for the Money
  - One-Man Show

- Proposal-to-commitment
  - Submit proposal
  - Commit to film
Seen as a set of services

Screenplay submission –to- Produce decision

One Man Show, Inc.  Spectacular Mega Films  Two-for-the-Money
Another example: Claims-handling process

Boxes & Arrows version of a process model
Claims processing – BPMN version

1. **Customer**
   - Claim Submission
   - Create auto claim
   - Register claim
   - Assign claim adjustor

2. **Claims**
   - Validate claim
   - Request assessor assessment
   - Check assessment report
   - Assessment process

3. **Adjustments**
   - Negotiate settlement
   - Record acceptance
   - Initiate payment & repair
   - Close-out claim

4. **Claims-Handling**
   - Claim close-out
Some questions …

- Is this really one service to the end-customer (claimant)?
- There are at least three, customer determined phases
  - Submission of claim
  - Negotiation of settlement
  - Repair and bill submission to check (and the client here might be the repair shop, not the client)
- It’s likely there’s an intermediary – the agent
  - If so, they are the client for the first insurer service (submission)
Questions regarding line of service thinking

The client’s hidden process

- Loss notify
- First offer to settle
- Receive counter offer
- Best-and-final offer
- Referred Case
- Negotiated Settlement
- Bill for repairs
- Payment for repairs

Does this alternative representation …
- Suggest a different (set of) process model(s)?
- Imply a different set of value/performance metrics
- If so, would you end up with different a “should-be”

Would you be able to visualize this if you hadn’t first modeled the process?

Even if this isn’t how the process currently works, is it a possibility for a “should-be” model?
- Does this service model suggest opportunities for sourcing?
- What might you do to improve the “overall” client experience?