

Improving performance in cataloguing and technical services workflows

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Overview

- Context
- BPR tools & techniques
- Application – macro & micro scales
- Apply tools & techniques to entity relationship model of FRBR

Research context

- Little or no published research that applies techniques to cataloguing or metadata workflows
- Useful insights from related areas
 - Backlogs/arrearages
 - Quality

Wider context

- Challenging economic climate
- Slow or no economic growth
- Current & future cuts within HE sector
- Impact upon libraries
- Consideration of activities at process level

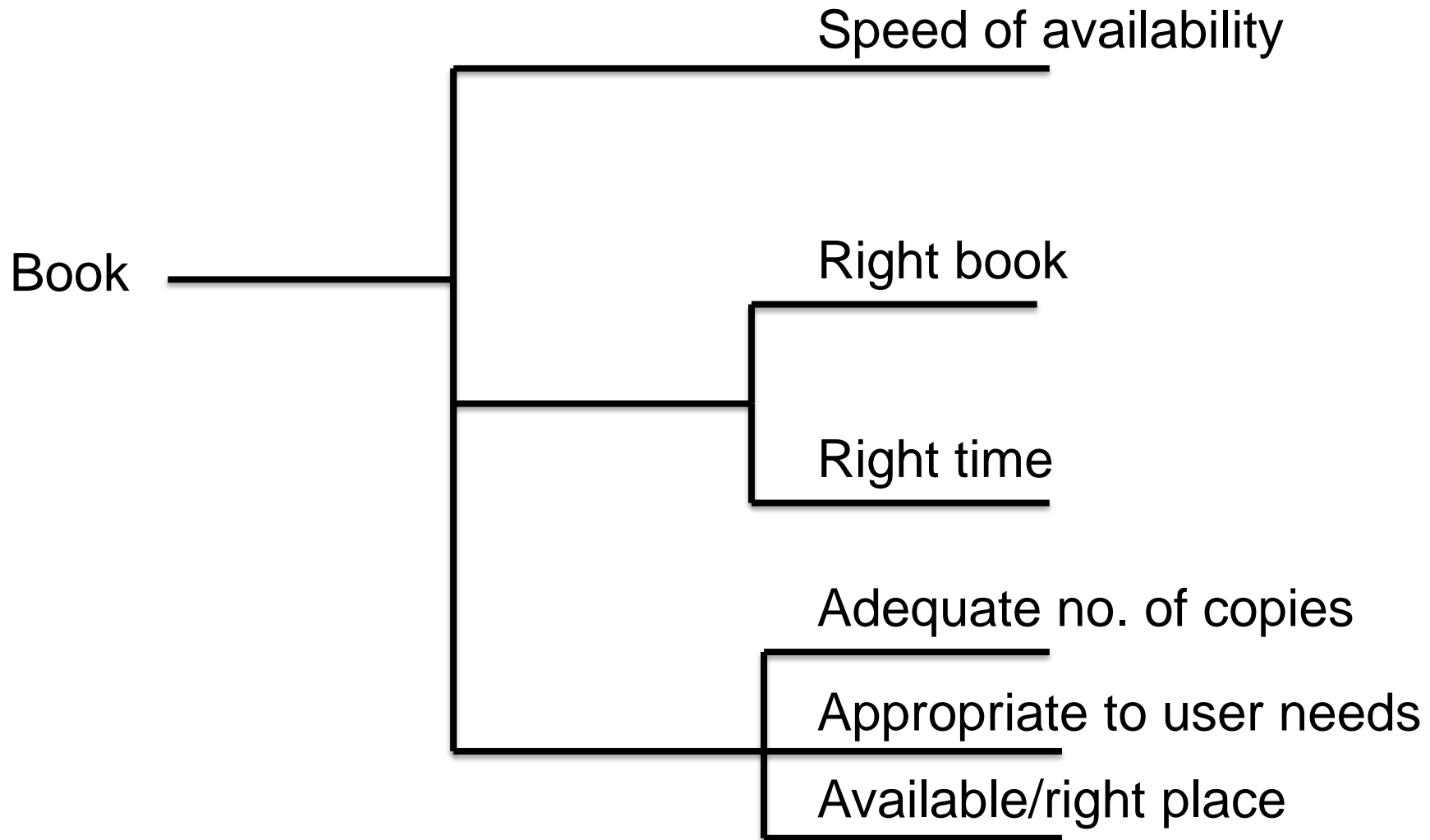
Local context

- Processfix engaged by 2007/8
- BPRs/RIWs across University
- WBS – operational excellence
- Library RIWs 2008/9-

SIPOC

Suppliers	Inputs	Process	Outputs	Customers
Library users Library staff Innovative Interfaces Publishers Suppliers OCLC RLUK University Materials suppliers (3M, etc) Library of Congress	Orders Suppliers databases Publishers catalogues Bibliographic records AACR2 Classification schedules NAF LCSH Library funds Spine labels Library stamps Tattle tape RFID tags ILS IT equipment etc	Ordering books (etc) Receipting Checking & paying invoices Labelling Cataloguing Classifying Subject indexing Management reporting	Books (etc) Bibliographic records Authority records Payments Management information	Library users Library staff Suppliers OCLC RLUK Suppliers University

CTX/CTS tree

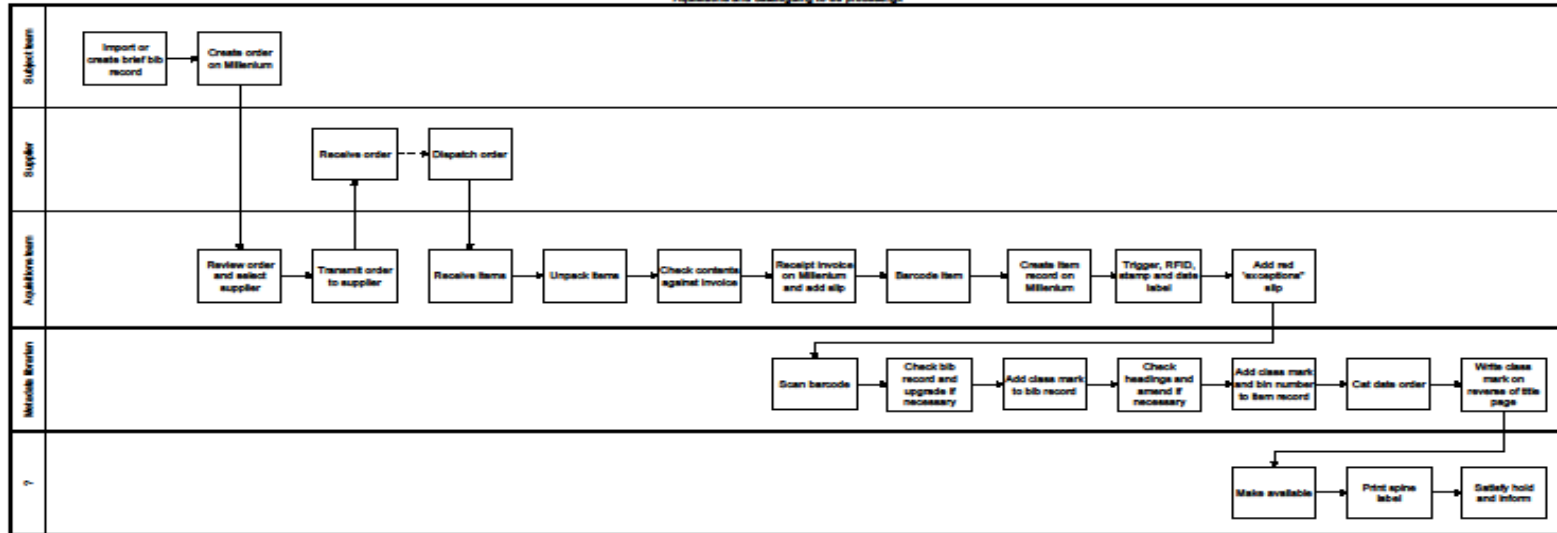


Process map

- Full representation of process
- Flow chart
- Sequence of activities within process
- Records each stage in process end-to-end
- 'Swim lanes' identify functional areas
- 'As is' & 'to be' process maps

Process map

Acquisitions and cataloguing to-be process.ign



Waste

- Anything that does not add value to a process
- Anything that at customer is not prepared to pay for
- All processes have waste

7 wastes (Ohno)

- Waiting time
- Transport
- Component design
- Inventory
- Over production
- Motion
- Defective goods

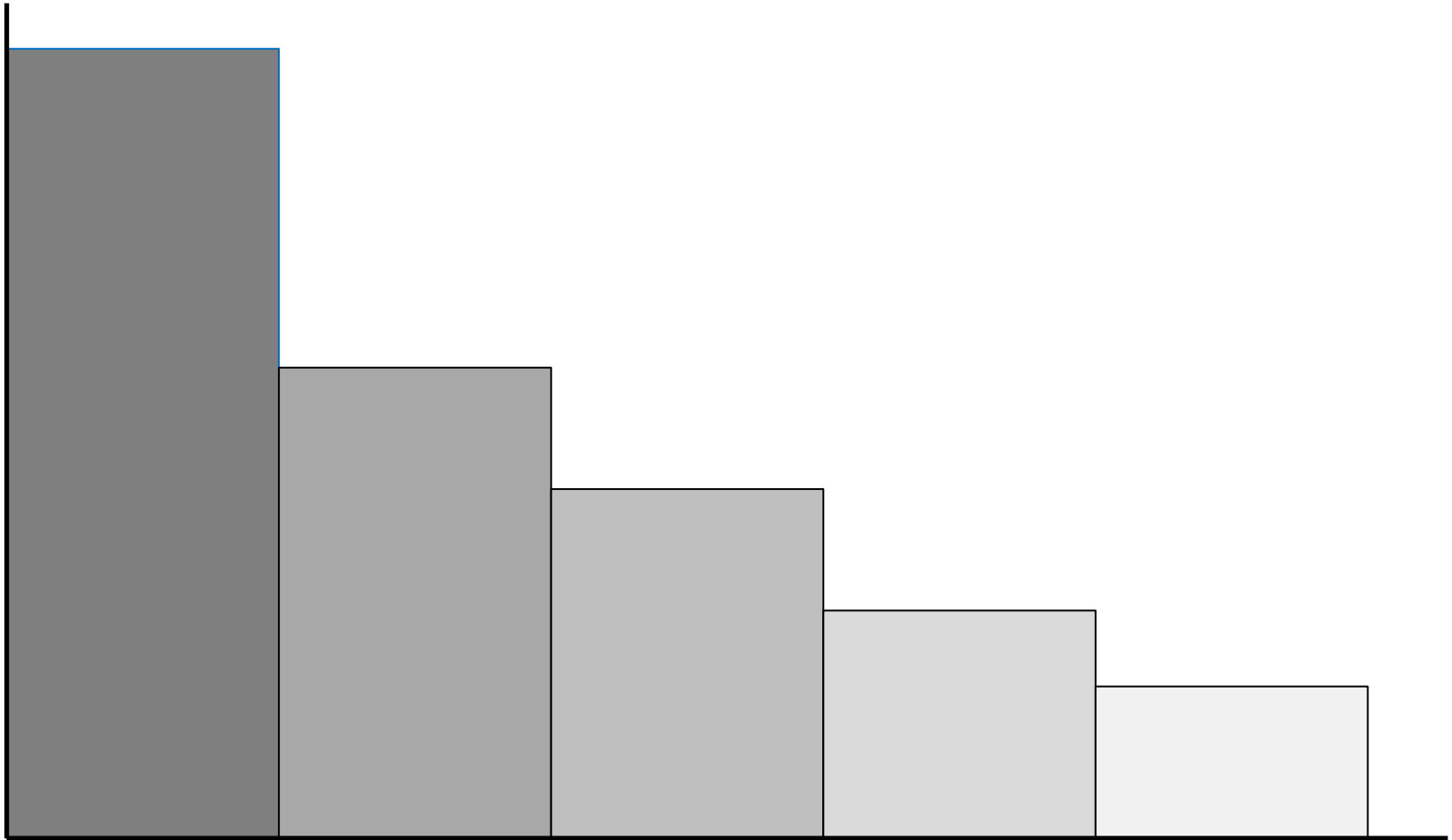
Process efficiency

$$\frac{\text{Value-added time}}{\text{Activity cycle time}} \times 100$$

WIP

- Unfinished work at any stage in the process at specific point in time
- Amount & volume of WIP used to identify bottlenecks (real & potential)
- Process with no WIP indicative of over-capacity & underutilised resource
- Will always be WIP in an unbalanced process

Pareto chart



FRBR analysis: 2 aspects

- Identifying which elements need to be present within the bibliographic record
- (Re-)organising workflow in order to achieve these requirements

FRBR chpt 6: User tasks

- Maps entity attributes & relationships to user tasks
- Identifies which attributes & relationships important for group 1 entities (work, expression, manifestation, item) relative to user tasks (find, identify, select, obtain)
- Ranks according to high/medium/low value

Attributes & relationships

- To support particular user task, both attribute & relationships between the entity & other entities may be important
- Relationships allow user to associate entity with another entity or to “navigate” a bibliographic database
- “In a sense “relate” could be viewed as a fifth user task.” (p.80)

FRBR & improvement tools

- FRBR analysis breaks open bibliographic record to allow process improvement tools to be applied
- Possible to identify specific data elements & why they are applied
- Identify which attributes are being used to perform a particular user task for an individual group 1 entity

Measurement

- Exposed attributes & relationships of group 1 entities in relation to the user tasks & sub-tasks can be measured within workflow
- Understand proportion of resource expenditure involved in recording specific attributes & relationships
- Can apply to flat data structure of single record or hierarchical, multiple records

Applying improvement tools to FRBR

- Enables analysis of specific entities & relationships that facilitate user tasks within the context of their resource requirements
- Resource expenditure on recording entities & relationships can be set against that of other entities & relationships

Application can be...

- ...done generically against the bibliographic record in relation to the user tasks
- ...applied against specific identified criteria within the context of required input standards

FRBR chpt 7: basic requirements...

- Recommendations for basic levels of functionality
- Which elements should be present for basic record
- Identifies specific data elements needed to enable user to achieve specific tasks
- Arranged into descriptive & organising elements

FRBR & workflows

- Leads analysis back to workflows
- Identify which group 1 entities & attributes are most important for record content to achieve specific user tasks
- Serves as benchmark on which to base workflow
- What work is done, prioritised, included/excluded from individual record

FRBR & tool application

- SIPOC to scope process
 - What is needed to meet record requirements
- CTS trees for each user task & sub-task
 - Find manifestations, Identify works, etc.
- Process map, process efficiency, 7 wastes to target improvement
 - What does not support user tasks is waste

Conclusions

- It is possible to structure work and/or the cataloguing department in order to meet these requirements
- Task become that of allocating resources to meet requirements & balance activities that enable them
- Improvement tools & techniques used to achieve these aims

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