Object Process Method (OPM)
(and other graphic models)
1.040 Course Subjects and Topics

**Project Management Knowledge**
- Participants
- Finance
- Delivery

**Projects as Systems**

**Project Initiating and Strategic Planning**
- Design, Mission, Uncertainties, Risk
- Quantitative Decision-Making, OPM

**Project Implementation Planning**
- WBS, CPM, PERT, Smoothing

**Project Execution and Control**
- Evaluation, Dynamics
- Reasoning-Judgment
- Control, Optimization
- Leadership, International

**Closing**
- Documentation, Learning
- Field Trip
- Special Topics

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**1.040 Navigation Aid**
CDI-(O)
Outline

Engineering Drawings

Object Process Method

Example

Other Graphic Tools for Project Management
Lascaux, France
~17,300 years BP

Nazca, Peru
~1,500 years BP
Proportions and total quantities of meats supplied to Paris butchers.
(first known use of pie charts in cartography)

Minard (1858)
Movement of travelers via principal European railroads.
Number and destination of emigrants from Europe, Africa, China, and South Asia for 1858

Minard (1862)
Napoleon's march on Russia

Minard (1869)
Engineering Drawings

Beyond aesthetics
Sizing of symbols
Context alters perception

https://www.e-education.psu.edu/geog486/l5_p5.html
Engineering Drawings

Type of symbols
Elegance in simplicity

https://www.e-education.psu.edu/geog486/l5_p5.html
Outline

Engineering Drawings

Object Process Method

Example

Other Graphic Tools for Project Management
History


Overview

OPM is a graphic model that relies upon a simple suite of building blocks to represent relationships between objects and processes. OPM links physical or informational entities using links. Entities can be created, transformed or consumed by a process.
Conceptual Model: Object-Process-Diagram

- **Inputs**: $n$
- **Resources**: $o$
- **Time**: $p$
- **Money ($$$)**
- **Consumables**: $q$
- **Personnel**: $r$
- **Facilities**: $m$
- **Deliverables**: $m$

**Diagram Elements**:
- $\rightarrow$: Source/Target Yields/Consumes
- $\leftarrow$: Source affected by Target process
- $\bigcirc$: Source is an Agent of the process
- $\triangle$: Source is an Instrument of the process
- $\triangledown$: Relates general to specific

**OPM Nomenclature**

**Conceptual Model**:
- Object - Process - Diagram

**NCS Research**

![Diagram Image](image-url)
Project: Set of related process tasks using and producing objects
Object (deliverable) from process A is input to process C.
Object (deliverable) from process A is input to process C
Object (deliverable) from process A is input to process C

Processes C and E rely upon same object facility
Object (deliverable) from process A is input to process C

Processes C and E rely upon same object facility
Object (deliverable) from process A is input to process C

Processes B and D rely upon same object resources (people)

Processes C and E rely upon same object facility
Object (deliverable) from process A is input to process C

Processes B and D rely upon same object resources (people)

Processes C and E rely upon same object facility
Object (deliverable) from process A is input to process C

Processes B and D rely upon same object resources (people)

Processes C and E rely upon same object facility

F requires objects (deliverables) from both D and E
Outline

Engineering Drawings
Object Process Method

Example

Other Graphic Tools for Project Management
Curricular Compliance

Admits
Collect students and data
JA, WW

Teaching
RW, RS, BB

PAC feedback and Industry trend(s)

ACCSC SER Report

Student Track data

Student Assessment data

Faculty feedback

ACCSC updates

Board of Trustees recommendations

Inst. Comp. KL, RS

ACCSC Proposals

Annual ACCSC Report

Board of Trustees recommendations

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Board of Trustees recommendations
Among the hundreds of wells drilled in the Tomball Field northwest of Houston in the 1930s, one was found to be leaking oil and gas into an underground aquifer in 1939. Humble Oil & Refining Company attempted to recover the lost hydrocarbons by “backflowing” the well for almost two years.

Forty years later and a half mile to the southeast, a water well was drilled for the Three Lakes subdivision. When the well was first tested for organic chemical contaminants in 1990 (after about 10 years of use), it was discovered to contain benzene. The subdivision's water supply was shifted to an uncontaminated source shortly thereafter.

In 1993, several hundred residents of Three Lakes sued Exxon Corporation, alleging the oilfield leak more than 50 years before involving its predecessor contaminated the water well and caused them various health problems. Six residents were selected for a bellwether trial, which took place over the better part of six weeks.

At the conclusion, the jury found Exxon negligent and grossly negligent, and awarded a total of almost $7 million in actual and punitive damages. In post-judgment proceedings, the trial court reduced or eliminated most of the jury awards, rendering take-nothing judgments against the four adults and reduced judgments for the two minors.
Graduate Student

Benzene GW model

Benzene fugacity analysis

Benzene Fugacity Report

Benzene Report (including C₇)

Risk Assess

Plaintiff Health Risk Report

Oilfield geology analysis

Data-based Discovery: Blowout information

Plaintiff Lawyers

Oil Co. Discovery Response

Oil Co. Lawyers

Plaintiff paralegal staff

Consulting Firm

Plaintiff Data
“I have made this [letter] longer, because I have not had the time to make it shorter.”

Blaise Pascal, French mathematician, physicist (1623 - 1662)
Lettres provinciales", Letter 16, 1657

“If I am to speak ten minutes, I need a week for preparation; if fifteen minutes, three days; if half an hour, two days; if an hour, I am ready now.“

President Woodrow Wilson
Josephus Daniels, The Wilson Era; Years of War and After, 1917-1923, p. 624 (1946)
Briefing

Using Minard and OPM as inspiration, select and "map" a dynamic project, process, event, etc. with which you have direct experience.