Universiteit Utrecht

Faculty of Science

Finance for Scientists

course Project Management for Scientists 2009

Pieter Thijssen
Finance & Control, faculty of Science

Introduction

- Aim of presentation
  - Give overview of concepts in finance and systems used
  - Focus on aspects:
    - where scientists and staff from finance will interact
    - of interest for project and grants management
- About myself
  - Name: Pieter Thijssen
  - Education: Business administration and finance
  - Worked for 20 years as head of finance at the (then) Faculty Physics and Astronomy.
  - Now: Senior Projectcontroller at Faculty of Science
    - Support the acquisition of external funding
    - Contracts management

Overview

- Financial Accounting
- Financial Controlling
- Data Entry in Financial systems
- ERP-systems (Enterprise Resource Planning)
- Funding projects from grants
- Auditors

1 Financial Accounting
1.1. Profit & Loss account

A Dutch university's Profit & Loss account

Debits / Costs		Credits/ Revenue	
Salaries	60	Direct Government Funding	70
Housing costs	15	Tuition fees	6
Equipment	4	Project funding NWO	5
Material/Travel	15	Project funding Government	8
Other	6	Project funding Companies	2
Profit/loss	0	Project funding other	9
Total	100	Total	100

1 Financial Accounting
1.2 Balance Sheet

A Dutch university's Balance Sheet

Assets		Equity and liabilities	
Buildings	81	Capital	50
Equipment	5	Provisions for Liabilities	15
Receivables	9	Long Term Debt	10
Cash	5	Short Term Debt	25
Total	100	Total	100

1 Financial Accounting
1.3 Allocation of costs and revenue to periods

- Examples
  - Vacation allowance in May of each year: → allocate 1/12 of costs to each month
  - Investments: →allocate 1/5 of costs to each year
  - Purchased inventory: →allocate to period of actual consumption
- Cost and Revenue arising from projects
  - NWO and EU pay an advance at start project: is this a profit in the first project year ?
  - NWO and EU pay final instalment after a projects end: is this a loss in the final project year ?
  - →Utrecht University puts cost and income of the externally funded part of projects as “work on hand” on the balance sheets and transfers this to the profit and loss accounts at the time of completion of the project. Exception: foreseen losses.

2 Financial Controlling

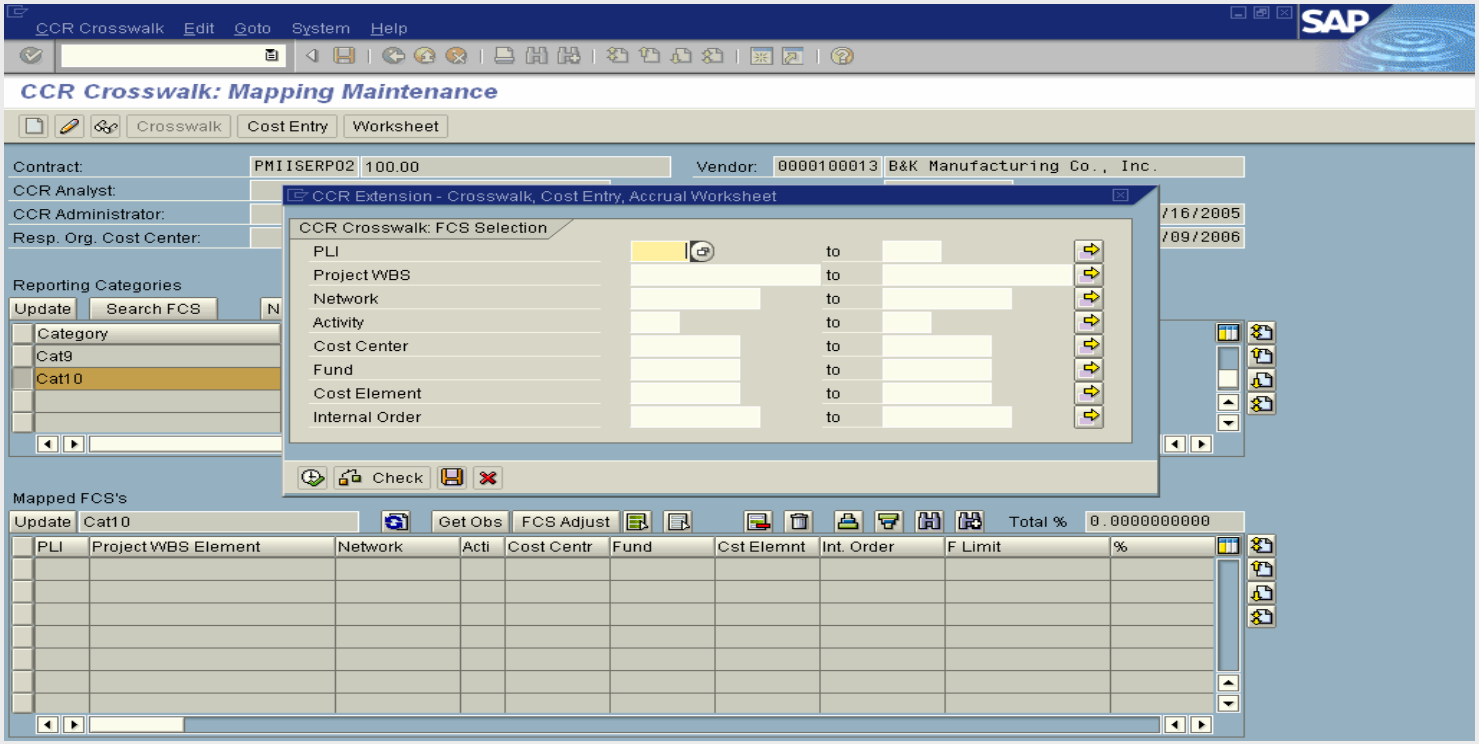
What entities are to be recognized in the financial accounts ?

- **Organisational Structure**
  - Group member
  - Experimental Astrophysics
  - Astronomical Institute
  - Department of Physics and Astronomy
  - Faculty of Science
  - Utrecht University
- **Projects**
  - Extreme Polarimeter
  - Small Synoptic Second Solar Spectrum Telescope
  - Spectrapolarimeter for Planetary Exploration Breadboard
  - European Solar Telescope Design Study
  - ……

2 Financial Controlling

- **Grants**
  - NWO VICI grant Polarimetric Imaging of Circumstellar Disks and Exoplanets
  - NIVR PEP grant SPEX Constructing and Testing a Breadboard
  - EU training network grant USO-SP International Graduate School for Solar Physics
  - .....
- **Ongoing Operations**
  - Library
  - .....
- **Policy areas Utrecht University**
  - Research focus areas
    - Foundations of Natural Science
    - Life Sciences and Biocomplexity
    - .....

3 Data Entry in Financial systems



Example: Data entry at NASA

3 Data Entry in Financial systems

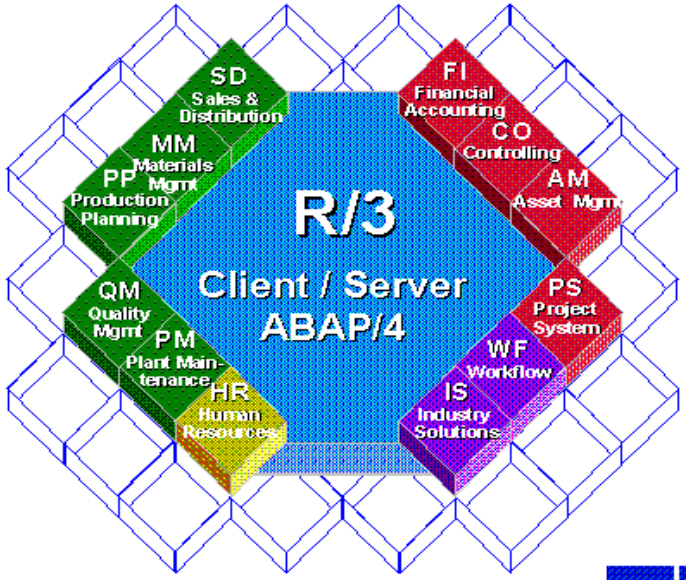
- Define manageable number of codes
- Use of relations to simplify data entry
  - Example: give a specific code to a grant and then connect this code to a PI, connect the PI to an Institute, connect the Institute to a departments etc.
  - Problem: deviations from simplified structure.
    - →Example: a grant in the Smart Optics program of funding organisation STW for a combined project of 2 PI's in the Astronomy and Molecular Biophysics groups
- Transfer information between steps in the process
  - Example: specify article and its account assignments in the purchase order and then transfer this information to goods receipt processing and subsequently to invoice processing.
- → Find right balance between information requirements and transaction costs

4 ERP-systems (Enterprise Resource Planning)
4.1 Functions of ERP

- Tool for executing business processes
  - Human Resources
  - Payroll
  - Time recording
  - Purchasing
  - Outgoing payments
  - Incoming payments
  - Inventory
  - Projects
  - .....
- Accounting and management reporting
- Characteristic of ERP systems: integration of functions in one system

4 ERP-systems (Enterprise Resource Planning)
4.2 ERP system SAP

The R/3 Integration Model



4 ERP-systems (Enterprise Resource Planning)
4.3 SAP-Project System (PS)

- Define a project with its Work Breakdown Structure in the system
- Map the flow of a project in a Network
- Plan resources needed (costs, quantities) on WBS elements
- Scheduling material requirements
- Accounting of actual use of resources on WBS elements
- Assigning costs and revenue on projects to the financial accounts
- Utrecht University is implementing SAP-PS as:
  - grants management system, and
  - system to assign project costs and revenue to financial accounts

4 ERP-systems (Enterprise Resource Planning)
4.4 Integration ERP systems and Office systems

- Standard functionality in ERP systems to produce output in Excel format
- Use Excel functionality to analyse and structure data (and in the process get to “understand” costs of your project)

5 Funding projects from grants
5.1 Level of funding that can be obtained

- Funding organisations usually only pay part of the full costs of an activity
  - By paying marginal costs (example: NWO)
  - By paying marginal costs + surcharge for other direct and indirect costs (example: EU Marie Curie program)
  - By paying a percentage of the full costs of the activities covered by the Grant.
    - Full costs calculated according the funders definition of full costs (example: Dutch BSIK program)
    - Full costs calculated according the organisations own definition of full costs (example:EU KP7 cooperation program)
- Funding organisations can exclude specific costs: example 4th year of a PHD project in EU Marie Curie programs
- An individual grant can cover a project, part of a project or several projects.

5 Funding projects from grants
5.2 Definitions

- Marginal costs = extra expenditure incurred by a specific (research) activity
- Direct costs = all costs that can be directly attributed to a specific (research) activity
- Indirect costs or overheads = costs that cannot be directly related to a specific (research) activity
- Full costs = direct costs of an activity + indirect costs allocated to that (research) acitivity

5 Funding projects from grants
5.3 Internal funding

Securing additional internal funding from own organisation

- Funding available for the lifetime of the project
- Funding available for a defined period (quarter, year)

5 Funding projects from grants
5.4 Financial cycle grants

- Example: NWO-EW open competition PhD grant
  - Get selected
  - Receive grant letter NWO with specification of the fixed amounts NWO will pay
  - Find PHD student (at maximum ... Months after date of grant letter)
  - Send NWO Personnel Information Form including specification of starting date
  - From that starting date NWO will pay 4 installments (.. % of total budget)
  - After completion of the project submit final scientific report + financial report to NWO
  - After acceptance of the reports NWO pays final installment

5 Funding projects from grants
5.4 Financial cycle grants

- Example EU FP6 Marie Curie Training network grant
  - Get selected
  - Contract negotiations that include fixing budgets and starting dates
  - Sign contract (which includes financial regulations applicable to the project)
  - Receive advance
  - Yearly scientific and financial reporting and at 2 yearly intervals submission of audit certicate
  - Receive additional funding based on acceptance of reports
  - After completion of the project submit final reporting
  - After acceptance EU will pay final amounts due
  - All previously listed steps to be taken through the coordinator of the project

6 Auditors
6.1 Auditing the financial accounts

- **Standards and requirements**
  - Law
  - Standards bodies
  - Government instructions
  - Funding organisations instructions
- **The auditing process**
  - Planning and risk assessment
  - Internal controls testing
  - Sample survey
    - Audit trail
  - Evaluate results, form opinion and report

6 Auditors
6.2 Auditing projects and grants

- Will it result in a profit or a loss ?
- Basis: project management system
- Financial risk assessment depends on type of project: can scope or time be changed to fit budget ?
  - Due effort type projects
  - Specified results type projects

6 Auditors
6.2 Auditing projects and grants

Auditing ongoing operations

Auditing projects

6 Auditors
6.2 Auditing projects and grants

Specific requirements of funding organisations

Example: article from EU contracts

- The following costs shall be considered as non-eligible and may not be charged to the project:
  - a) identifiable indirect taxes including value added tax,
  - b) duties,
  - c) interest owed,
  - d) provisions for possible future losses or charges,
  - e) exchange losses, cost related to return on capital,
  - f) costs declared or incurred, or reimbursed in respect of another Community project,
  - g) debt and debt service charges, excessive or reckless expenditure.

END

- Any questions ?