

Information management functions in national economies

An analysis of the information sector in Austria

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Overview

- 1 Theoretical background
- 2 Motivation
- 3 Definitions
- 4 Assumptions
- 5 Methods & Data sources
- 6 Total model
- 7 Results

1 Theoretical background

Information economy

- Three-sector model:
 - Primary sector: agriculture
 - Secondary sector: manufacturing
 - Tertiary sector: services
 - +
 - Information sector as a fourth sector?

1 Theoretical background

Information workers

- Knowledge producing occupations (Machlup)
- Information worker (Porat)
- OECD information worker scheme
- Knowledge/data occupations (Wolff & Baumol)

2 Motivation

Motivation

- Information specialists in “Knowledge industries”
 - Increasing awareness of demand
- Is there a need for these occupations?
 - IMF are often performed by management or research staff
 - Jobs often better remunerated → less efficiency
 - IMF are often performed inexpertly

3 Definitions

Information management functions

- information selection
- information acquisition
- information description (metadata creation)
- information preservation
- information product creation and
- information services

3 Definitions

Information subsectors (Hayes)

1. **Information technology industries:**
produce hardware and software for telecommunications, computers, and a variety of other technologies that acquire, communicate, and process data.
2. **Information transaction industries:**
in which the primary emphasis is on the processing of transactions which represent actions taken but have substantive value only in that processing.
3. **Knowledge industries:**
in which the substantive content of the information is significant.

4 Assumptions

Assumptions

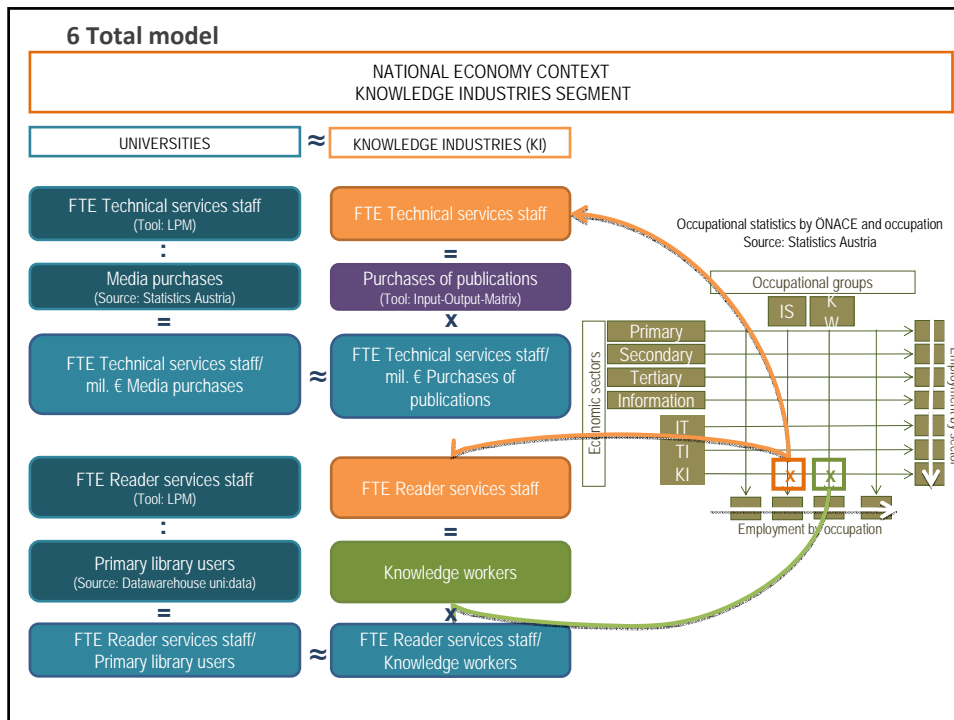
1. Universities are representatives of “Knowledge industries”.
2. At universities IMF are primarily performed by the university library.
3. Data about staffing for information management functions and expenses for media acquisitions are readily provided by university libraries.
4. Knowledge industries and university libraries are comparable with regard to costs for media acquisition and staffing.

Methods

- Library Planning Model (Hayes)
 - a means for estimating staffing requirements to meet identified workloads on information management functions in
 - Media Services (selection, acquisition, metadata creation of journals, data bases, books) and
 - User services (information competence, trainings, etc.) at an average Austrian university library.
- Input output Model
 - Represents the sectoral integration of input and output of goods and industries within a national economy and identifies the relationship between production in a given industry and a given industry's use of the resources from other industries.

Data sources

- Austrian library statistics (Statistics Austria)
- Data warehouse uni:data (Austrian Federal Ministry of Science and Research)
- Input output tables (Statistics Austria)
- Occupational statistics by ISCO and NACE (Statistics Austria)



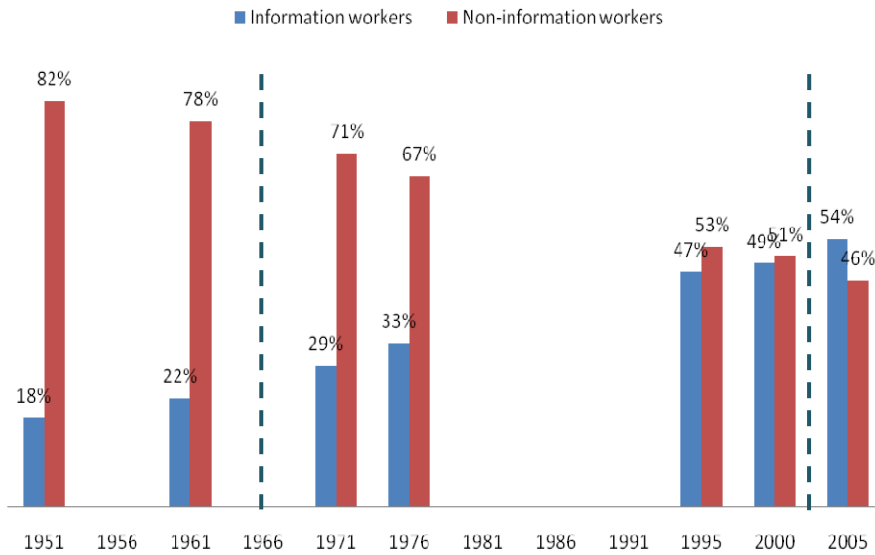
7 Results

Results – Occupational part

- Development of information workers
- Share of knowledge workers
- Shortcomings

7 Results

Information vs. Non-information workers



7 Results

Knowledge workers

	1951	KW*	1995	KW*	2005	KW*
Knowledge workers	102,704		397,546		461,656	
Information workers	599,251	17%	1,739,220	23%	2,068,526	22%
Total workforce	3,347,115	3%	3,664,680	11%	3,816,211	12%

7 Results

Knowledge workers by economic sector

	1995	%	2005	%
Agriculture	521	0.1%	1,214	0.3%
Manufacturing	23,856	6.0%	33,411	7.2%
Services	53,930	13.6%	57,025	12.4%
Information technology industries	9,830	2.5%	17,066	3.7%
Information transaction industries	6,028	1.5%	15,185	3.3%
Knowledge industries	303,381	76.3%	337,755	73.2%
Total knowledge workers	397,546	100%	461,656	100%

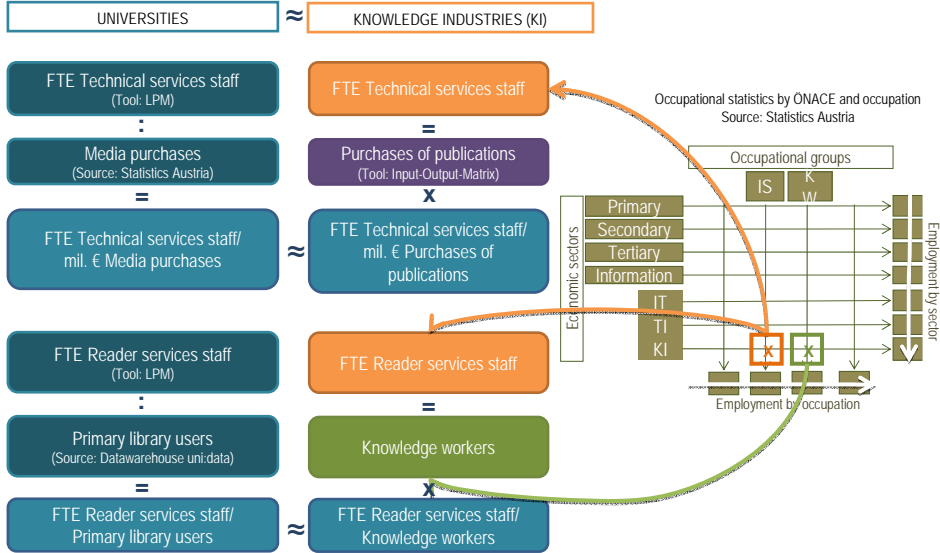
7 Results

Shortcomings

- Micro census – labor force survey
- Change of survey design
- ISCO limitations

6 Total model

NATIONAL ECONOMY CONTEXT
KNOWLEDGE INDUSTRIES SEGMENT



Thank you very much for your attention.