Cost-Benefit Analysis of Electronic Information Resources: An Evaluation of the Middle East Technical University Library

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OUTLINE

• Purpose of Cost-Benefit Analysis

• Overview of METU

• Data Sources and Methods

• Findings

• Conclusions and Recommendations
Purpose of the Cost-Benefit Analysis

- Provide Assessment for new trends
  - Increasing
    - number of electronic resources
    - amount of budget allocations to electronic resources
    - usage

- Informed/qualified services
  - collection management
  - user education
  - subscription/licensing of electronic resources
Overview of Middle East Technical University
(For the year 2005)

Background
- Founded at 1956
- 12,269 Undergraduate students
- 3,980 Graduate students
- 2,860 Academic staff

E-Resources Collection
- Founder and Member of ANKOS
- 22,844 electronic journals
- 772,581 full text downloads
METU Evolution of Electronic Journals and Usage

Number of E-Journals

Number of Usage

- **E-Journals**
- **Usage**

- 2000: 3091
- 2001: 64.501
- 2002: 7741
- 2003: 194.537
- 2004: 265.239
- 2005: 433.472

- 2000: 772.581
- 2001: 629.303
- 2002: 145.28
- 2003: 228.44
- 2004: 0
- 2005: 0
Data Sources and Methods

Databases Analysed
- ScienceDirect
- EbscoHost
- Web of Science

Standards Methods
- COUNTER
- Bradford’s Law of Scattering
  - Distribution of journal usage
FINDINGS
ScienceDirect

Cost
- Based on print/electronic subscription
- Average cost of annual subscription: $501,269

Usage
- Total number of full text downloads between 2001-2005: 865,875

Unit Cost
- Average unit cost by years (2001-2005): $3.44
ScienceDirect Usage and Unit Cost By Years

Full Text Usage

Unit Cost

2001 2002 2003 2004 2005

78,872 114,553 194,160 239,145 263,529

$6.34 $4.11 $2.72 $2.34 $1.69

0 50,000 100,000 150,000 200,000 250,000 300,000

0 $1 $2 $3 $4 $5 $6 $7

Full Text Usage  Unit Cost
EbscoHost

Cost
- Fixed Prices for packages
- Average cost of annual subscription: $40,386

Usage
- Total number of full text downloads between 2000-2005: 671,893

Unit Cost
- Average unit cost by years (2000-2005): $0.38
EbscoHost Usage and Unit Cost By Years

- **Full Text Usage**
  - 2000: 64,501
  - 2001: 101,557
  - 2002: 109,794
  - 2003: 127,088
  - 2004: 123,583
  - 2005: 145,370

- **Unit Cost**
  - 2000: $0.60
  - 2001: $0.38
  - 2002: $0.37
  - 2003: $0.32
  - 2004: $0.33
  - 2005: $0.29
Web of Science

Cost
- Based on FTE numbers of universities
- Average cost of annual subscription: $24,150

Usage
- Total number of searches between 2000-2005: 578,842

Unit Cost
- Average unit cost by years (2000-2005): $0.32
Web of Science Usage and Unit Cost By Years

![Graph showing the relationship between the number of searches and unit cost for Web of Science from 2000 to 2005. The graph includes data points for the number of searches and unit cost for each year, with the number of searches ranging from 44,892 to 150,817 and the unit cost ranging from $0.17 to $0.57.]}
The Effects of Cost and Usage of Universities within the ANKOS Consortium

Cost
- Print/electronic holding value
- Size of universities

Usage
- Subject areas of universities
- User services
- Usage patterns
Cost Distribution Among the Universities within ANKOS (%)

Universities

- METU: 11%
- METU: 4%
- METU: 3%

Percentage of Cost (%)
Usage Distribution Among Universities within ANKOS (%)

Universities

METU: 9%

METU: 5%

METU: 18%

EBSCO  SD  WOS
Comparison of Unit Costs of METU and ANKOS Member Libraries

- **ScienceDirect**
  - Average Unit Cost of ANKOS members: $1.79
  - Unit Cost of METU: $1.69

- **EbscoHost**
  - Average Unit Cost of ANKOS members: $3.09
  - Unit Cost of METU: $0.29

- **Web of Science**
  - Average Unit Cost of ANKOS members: $1.24
  - Unit Cost of METU: $0.17
Average Unit Costs of ANKOS Member Libraries by Databases
Distribution of Electronic Journal Usage

- Core journals satisfy the majority of usage
  - 34 journals (2%) 53,663 usage (22.4%)

- Majority of journals are used infrequently
  - 884 journals (52.9%) 16,169 full-text usage (6.7%)

- For Subject Areas
  - Chemistry, Chemical Engineering, Energy, Engineering has the highest usage
  - Nursing, Psychology, Medicine has the lowest usage
ScienceDirect Number of Journals By Cumulative Usage (Bradford’s Law of Scattering)

- 65 Journals
- 255 Journals
- 1782 Journals
Distribution of METU Usage by Subject Area (ScienceDirect, 2004)

- Chemistry 10%
- Chemical Engineering 10%
- Energy 9%
- Earth Sciences 9%
- Engineering 7%
- Environmental Sciences 6%
- Physics 6%
- Decisions Sciences 5%
- Materials Sciences 5%
- Agriculture 4%
- Mathematics 4%
- Biochemistry 4%
- Computer Sciences 3%
- Business 3%
- Economy 3%
- Pharmacology 2%
- Immunology 2%
- Neurology 2%
- Art 2%
- Veterinary 2%
- Social Sciences 1%
- Medicine 1%
- Psychology 1%
- Nursing 0%
CONCLUSIONS

Cost/Usage

- METU pays the highest license fees among ANKOS member libraries
- METU has the highest number of use among ANKOS member libraries.
- Unit cost of METU is below than those of ANKOS member libraries

Collection Management

- Few highly used journal titles satisfy the majority of use
RECOMMENDATIONS

Consortium
- Justification for Cost Distribution Among ANKOS Member Libraries
- Usage Based Decisions
  - Title based usage
  - Unit cost

Institutional
- Long Term Evaluation
- Usage Based Services Development
  - License/Acquisition Services
  - User Services
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