Displaying NSICP (Delaware Study) Data

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National Study of Instructional Costs and Productivity (NSICP, or “Delaware Study”) data from a major Midwestern U.S. public university system for a recent ten-consecutive-year period are summarized using statistical graphs. Considerations underlying the final choice of graphics are discussed.
Outline

- Introduction
  - Project
  - People

- Motivation

- Graphs

- Summary

- Next Steps

- Q & A
### UM Departments with Historical NSICP Data

<table>
<thead>
<tr>
<th>UM Campus</th>
<th>No. Departments</th>
</tr>
</thead>
<tbody>
<tr>
<td>MU</td>
<td>51</td>
</tr>
<tr>
<td>UMKC</td>
<td>23</td>
</tr>
<tr>
<td>Missouri S&amp;T</td>
<td>15</td>
</tr>
<tr>
<td>UMSL</td>
<td>24</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>113</strong></td>
</tr>
</tbody>
</table>

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Mid-America Association for Institutional Research (MidAIR)
28th Annual Conference
November 12-14, 2008
MidAIRTalk_20081114_umdepts
[Insert Delaware “Sample Departmental Data” page here.]
NSICP-Based Metrics

FS Total SCH
----------------------------------
FS Total FTE Instructional Faculty

FY Total Direct Expenditures for Instruction
-----------------------------------------------
AY Total SCH supported by Department’s Instructional Budget

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MidAIRTalk_20081114_metrics
[Insert Delaware “Sample Departmental Data” page showing example productivity and cost calculations here.]
Direct Expenditures per SCH and SCH per FTE Comparisons
University of Missouri - XXXX
FY2006  DRAFT 01/07/2008

Source: NSICP
More NSICP-Based Metrics

FS Total SCH

FS Total FTE Instructional Faculty

FS Total SCH taught by Regular TTE [Instructional] Faculty

FS Total FTE Regular TTE Instructional Faculty

FY Total Direct Expenditures for Instruction

AY Total SCH supported by Department’s Instructional Budget

FY Total Direct Expend for Separately Budgeted Rsrch & Service

FS Total FTE Regular TTE Faculty
More NSICP-Based Metrics

FS Total SCH

FS Total FTE Instructional Faculty

Fig 1. Fall Semester SCH per FTE Instr Faculty
Campus = Missouri S&T Department = CHEMISTRY

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More NSICP-Based Metrics

FY Total Direct Expenditures for Instruction

AY Total SCH supported by Department’s Instructional Budget

Fig 5. AY Rel Direct Instr Expend for SCH (in $/SCH, infl adj)

Campus = Missouri S&T Department = CHEMISTRY

- - - Dir Exp for Instr per SCH  ▲ ▲ 3—Yr Average

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FY Total Direct Expend for Separately Budgeted Rsrch & Service

FS Total FTE Regular TTE Faculty

Fig 6. AY Rel Direct Expend ($/FTE Student, $/FTE Reg TTE Fac, Infl adj)
Campus= Missouri S&T Department= CHEMISTRY

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![Graph showing relative change (%) between FY2001 and FY2006 3-Yr Ave Productivity and 3-Yr Ave Direct Expenditures (Infl Adj), various UMx Depts.](image)

**Fig 5.** Rel Change (%) between FY2001 and FY2006 3-Yr Ave Productivity and 3-Yr Ave Direct Expenditures (Infl Adj), various UMx Depts

- SCH / FTE Instr Faculty
- SCH / FTE Reg TTE Instr Fac
- Instr $$ / SCH$$
- R&S $$ / FTE Reg TTE Fac$$

**Department/School/College**

* SOURCES: UM IR&P NSICP Submission Files and US Dept of Labor (for CPI)

**NOTE:** Department names in uppercase indicate lack of data

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Fig 5. Rel Change (%) between FY2001 and FY2006 3-Yr Ave Productivity and 3-Yr Ave Direct Expenditures (Infl Adj), various UMx Depts

Sources: UM IR&P NSICP Submission Files and US Dept of Labor (for CPI)

Note: Department names in uppercase indicate lack of data
More NSICP-Based Metrics

Fig 6. Rel Change (%) between FY2001 and FY2006 3-Yr Ave Productivity and 3-Yr Ave Direct Expenditures (Infl Adj), UM Chemistry Depts

SOURCES: UM IR&P NSICP Submission Files and US Dept of Labor (for CPI)
NOTE: Department names in uppercase indicate lack of data
Fig 6. Rel Change (%) between FY2001 and FY2006 3-Yr Ave Productivity and 3-Yr Ave Direct Expenditures (Infl Adj), UM Chemistry Depts

SOURCES: UM IR&P NSICP Submission Files and US Dept of Labor (for CPI)

NOTE: Department names in uppercase indicate lack of data
Summary

- **Objective:** Longitudinally summarize Delaware data

- **Key decisions:**
  - Use statistical graphics
  - Use SAS
  - Choose meaningful statistics (etc.)
  - Choose appropriate graphs (etc.)

- **Outcome:** Obtained useful graphs (meant for “30K ft” view)
Next Steps

- Incorporate national norms on time series plots
- Incorporate national norms on relative change bar charts
- Create cost-productivity relative change scatter plots
More NSICP Metrics Relative to Norms

Fig 7. Rel Percent Difference In Actual vs. Norm ($ Inflation adjusted)
Campus = Missouri, S&T Department = CHEMISTRY

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**Fig 8.** Rel Change (%) between FY2001 and FY2006 3-Yr Ave Productivity and 3-Yr Ave Direct Expenditures for Instruction (Infl Adj), MU Depts

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[Q & A]