1-1-2007

AY 2006/2007 Faculty Survey of Research Resources: Preliminary Report

Greg Teague
Carol Mullen
Uday Murthy

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USF Research Council
Faculty Survey on Research Resources
Preliminary Report

Principal Investigators

Greg Teague, FMHI, Research Council, member/past-chair

Carol Mullen, COE, Research Council, chair

Uday Murthy, COB, Research Council, past vice-chair
Abstract

• Background
  – Research Council sought information to help improve USF research

• Methods
  – Survey of USF faculty re: research support areas - levels of support and importance
  – Quantitative & qualitative

• Results
  – Support consistently rated in medium to low range

• Results (cont’d)
  – Variations by unit, rank
  – Key problem areas include research assistants, post-award grant admin., project support, bureaucratic infrastructure, intellectual climate
  – Tone generally problem-oriented; positives not explicitly solicited

• Conclusion
  – Faculty engaged; priorities and approaches suggested
USF Faculty Survey on Research Resources - Preliminary Report

- Background
- Purpose and goals
- Content and methods
- Respondents
- Empirically derived scales
- Overall view
- Selected differences
  - Support and perceived gaps
  - Across units, ranks, fields
- Qualitative themes
- Conclusions & next steps
Survey planning initiated through Research Council in 2005, intended to
  - Assess types and location of support for research
  - Support RC advisory mission & strengthen credibility through expanded input from faculty

Iterative input and review by RC and Associate Deans for Research

Posted on Web spring 06; optional short version

Direct marketing to faculty via college associate deans and RC members
Purpose and Goals

• Ascertain levels of perceived support to faculty across USF for research, scholarship, & creative activity
  – Overall levels
  – Systematic variations

• Assess relative importance to highlight key areas for improvement efforts

• Strengthen critical components of research infrastructure

• Provide additional preliminary vehicle for faculty input in research strategic planning
Content

- Types of resources rated (on support, importance)
  - Financial resources
  - Material resources
  - Human resources
  - Intellectual/scholarly resources
  - Administrative/academic support
  - Grant support

- Open-ended questions in all sections

- Additional information
  - Overall support rating
  - College/department, rank, tenure status, time at USF
  - Self-ratings of scholarly output
  - Types of current scholarship
  - Ratings of incentive types
Analytic Approach

- Data reduction
  - Latent support scales derived via factor analysis & examination of internal consistency
  - Same structure applied to importance items
  - Difference scales (D) derived to identify areas of needed improvement: \( D = I - S \)
  - Faculty and units grouped by nominal category and by cluster analysis on various dimensions
- Findings based on statistically significant differences
  - Weighted or controlled as appropriate
Respondents

- 305 faculty members
  - All eastern bloc of system: none from St. Pete
  - 245 (80%) chose long form; (75% of these answered more than 75% of rating items)
  - 274 provided at least one open-ended response

- Representation from all colleges
  - Overall, approx. 20%
  - Business Admin, FMHI, & Ed higher; Medicine lower

- Good overall representation by rank, some variation in proportion across colleges

- Good representation from active researchers
Respondents by Field & Rank
(For those who identified department)
Overall Quantitative Results
Overall Rating of Research Support

- Overall research support rating: moderate to low
Overall Rating of Research Support By Field and Rank

- Sci & Eng
- Soc & Beh
- Hlth/Hum Serv
- Bus & Ed
- Arts & Hum

- Ass't
- Assoc
- Full
Overall Ratings of Specific Items

- Mean support ratings (S) are in Medium to Low range (1=low, 2=medium, 3=high)
  \[ \text{Total mean} = 1.67, \text{ s.d.} = .33 \]

- Mean importance ratings (I) are in Medium to High range (1=low, 2=medium, 3=high)
  \[ \text{Mean} = 2.47; \text{ s.d.} = .35 \]

- Mean difference ratings (D=I-S) range from .21 to 1.20
  \[ \text{Mean} = .81; \text{ s.d.} = .43 \]
Empirically Derived Support Scales: 1. Scholarship Resources

- **Items**
  - A2.S  Scheduling of teaching and service activities
  - H6.S  Librarian who can help with research
  - M7.S  Research databases
  - M8.S  Scholarly journals/books (at main or other library)
  - S4.S  Research-active peers in department/unit
  - S9.S  Web-based resources for supporting intellectual/scholarly activities
2. Equipment & Space

- Items
  - H2.S Laboratory assistants
  - M1.S Laboratory space
  - M2.S Non-lab space for conducting research, housing grad asst
  - M3.S Laboratory equipment
  - M4.S Computing equipment
  - M5.S Communications equipment
3. Scholarship Facilitation

- A3.S  Awareness/recognition/reward for unique/specialized endeavors
- S1.S  Formally assigned research mentor in your unit or college
- S10.S  General intellectual/scholarly climate
- S2.S  Research mentor in your unit or college not formally assigned
- S3.S  Research mentor in your field for help w/ research problems
- S5.S  Research workshop/seminar series in department/unit
- S7.S  Cross-campus & dept. communications, opportunities
- S6.S  Structured support for advancing your research ideas
4. Project Support

- **Items**
  - F1.S  Project start up funds
  - F2.S  Bridge funds (between funded projects)
  - F3.S  Funds for research related travel
  - F5.S  Funds for non-student research personnel
  - H5.S  Statistical and/or other expert technical support
  - A1.S  Facilitating access to institutions/resources outside USF
5. Grant Preparation & Submission

• Items
  - GPR2.S  Assistance with grant-related budget issues
  - GPR3.S  Assistance with completing grant application forms
  - GPR4.S  Processing submission of grants
  - GPR5.S  Web-based resources for supporting pre-award activities
6. Grant Information & Compliance

• Items
  – GPR1.S Assistance with identification of funding opportunities
  – GC1.S Support for compliance with safety and security rules
  – GC2.S Completing grant compliance/reporting forms etc.
  – GC3.S Clarity of research policies, procedures & guidelines
  – GC4.S Channels for info re: research integrity or compliance
7. Post-Award Administration

- Items
  - GPO1.S  Review and negotiation of contracts and grants
  - GPO2.S  Disbursement of funds
  - GPO3.S  Financial management of grant
  - GPO4.S  Web-based resources for supporting post-award activities
8. Research Assistants

- Items
  - F4.S  Funds for graduate research assistants
  - F6.S  Tuition waivers for student research personnel
  - H1.S  Research assistants
9. Clerical & Business

- **Items**
  - H3.S  Clerical/staff support (non-grant related)
  - H4.S  Clerical/staff support for grant activities (pre, post-award)
  - S8.S  Protection and commercialization of intellectual property
## Correlations Among Support Scales

<table>
<thead>
<tr>
<th>Support Scale Correlations</th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>S4</th>
<th>S5</th>
<th>S6</th>
<th>S7</th>
<th>S8</th>
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<tbody>
<tr>
<td>S1 Scholarship Resources</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>S2 Equipment &amp; Space</td>
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<td>0.43</td>
<td></td>
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<td>S3 Scholarship Facilitation</td>
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<td></td>
<td>0.54</td>
<td>0.42</td>
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<td></td>
<td></td>
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<tr>
<td>S4 Project Support</td>
<td></td>
<td></td>
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<td>0.50</td>
<td>0.45</td>
<td>0.54</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S5 Grant Prep. &amp; Submission</td>
<td>0.24</td>
<td>0.18</td>
<td>0.28</td>
<td>0.32</td>
<td></td>
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<td></td>
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<tr>
<td>S6 Grant Info. &amp; Compliance</td>
<td>0.25</td>
<td>0.25</td>
<td>0.38</td>
<td>0.36</td>
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<tr>
<td>S7 Post-Award Admin.</td>
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<td>0.35</td>
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<td>0.52</td>
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<tr>
<td>S8 Research Assistants</td>
<td>0.23</td>
<td>0.27</td>
<td>0.30</td>
<td>0.36</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>S9 Clerical &amp; Business</td>
<td>0.37</td>
<td>0.32</td>
<td>0.32</td>
<td>0.45</td>
<td>0.32</td>
<td>0.27</td>
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<td>0.39</td>
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# indicates > 0.4
# Support Scale Ratings

<table>
<thead>
<tr>
<th>Scale</th>
<th>Mean</th>
<th>s.d.</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1  Scholarship Resources</td>
<td>1.99</td>
<td>.48</td>
</tr>
<tr>
<td>S6  Grant Information &amp; Compliance</td>
<td>1.86</td>
<td>.55</td>
</tr>
<tr>
<td>S5  Grant Preparation &amp; Submission</td>
<td>1.81</td>
<td>.59</td>
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<tr>
<td>S2  Equipment &amp; Space</td>
<td>1.72</td>
<td>.47</td>
</tr>
<tr>
<td>S9  Clerical &amp; Business</td>
<td>1.67</td>
<td>.59</td>
</tr>
<tr>
<td>S7  Post-Award Administration</td>
<td>1.57</td>
<td>.50</td>
</tr>
<tr>
<td>S3  Scholarship Facilitation</td>
<td>1.55</td>
<td>.44</td>
</tr>
<tr>
<td>S8  Research Assistants</td>
<td>1.49</td>
<td>.53</td>
</tr>
<tr>
<td>S4  Project Support</td>
<td>1.44</td>
<td>.41</td>
</tr>
<tr>
<td>Grand Mean, Support</td>
<td>1.66</td>
<td>.34</td>
</tr>
<tr>
<td>Scale</td>
<td>Mean</td>
<td>s.d.</td>
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<tr>
<td>-----------------------------------</td>
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<tr>
<td>IM8 Research Assistants</td>
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<td>.51</td>
</tr>
<tr>
<td>IM1 Scholarship Resources</td>
<td>2.58</td>
<td>.41</td>
</tr>
<tr>
<td>IM7 Post-Award Administration</td>
<td>2.57</td>
<td>.50</td>
</tr>
<tr>
<td>IM5 Grant Preparation &amp; Submission</td>
<td>2.53</td>
<td>.54</td>
</tr>
<tr>
<td>IM2 Equipment &amp; Space</td>
<td>2.46</td>
<td>.48</td>
</tr>
<tr>
<td>IM9 Clerical &amp; Business</td>
<td>2.45</td>
<td>.55</td>
</tr>
<tr>
<td>IM4 Project Support</td>
<td>2.41</td>
<td>.46</td>
</tr>
<tr>
<td>IM6 Grant Information &amp; Compliance</td>
<td>2.41</td>
<td>.52</td>
</tr>
<tr>
<td>IM3 Scholarship Facilitation</td>
<td>2.37</td>
<td>.49</td>
</tr>
<tr>
<td>Grand Mean, Importance</td>
<td>2.47</td>
<td>.37</td>
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## Difference Scale Ratings

<table>
<thead>
<tr>
<th>Scale</th>
<th>Mean</th>
<th>s.d.</th>
</tr>
</thead>
<tbody>
<tr>
<td>D6  Grant Information &amp; Compliance</td>
<td>.55</td>
<td>.66</td>
</tr>
<tr>
<td>D1  Scholarship Resources</td>
<td>.59</td>
<td>.51</td>
</tr>
<tr>
<td>D5  Grant Preparation &amp; Submission</td>
<td>.71</td>
<td>.76</td>
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<td>D2  Equipment &amp; Space</td>
<td>.74</td>
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<td>D9  Clerical &amp; Business</td>
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<td>.77</td>
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<tr>
<td>D3  Scholarship Facilitation</td>
<td>.83</td>
<td>.57</td>
</tr>
<tr>
<td>D4  Project Support</td>
<td>.97</td>
<td>.56</td>
</tr>
<tr>
<td>D7  Post-Award Administration</td>
<td>1.01</td>
<td>.70</td>
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<tr>
<td>D8  Research Assistants</td>
<td>1.08</td>
<td>.69</td>
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<tr>
<td><strong>Grand Mean, Difference</strong></td>
<td>.81</td>
<td>.43</td>
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Support and Difference Scales
(Adjusted for College & Rank)

<table>
<thead>
<tr>
<th></th>
<th>Support (Sup)</th>
<th>Difference (Diff)</th>
<th>Total</th>
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<tr>
<td>1. Schol Resources</td>
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</tr>
<tr>
<td>2. Equipt &amp; Space</td>
<td>2.0</td>
<td>2.5</td>
<td>4.5</td>
</tr>
<tr>
<td>3. Schol Facilitation</td>
<td>2.0</td>
<td>2.5</td>
<td>4.5</td>
</tr>
<tr>
<td>4. Project Support</td>
<td>2.0</td>
<td>2.5</td>
<td>4.5</td>
</tr>
<tr>
<td>5. Grant Prep &amp; Subm</td>
<td>2.0</td>
<td>2.5</td>
<td>4.5</td>
</tr>
<tr>
<td>6. Grant Info &amp; Compl</td>
<td>2.0</td>
<td>2.5</td>
<td>4.5</td>
</tr>
<tr>
<td>7. Post-Award Admin</td>
<td>2.0</td>
<td>2.5</td>
<td>4.5</td>
</tr>
<tr>
<td>8. Res Assistants</td>
<td>2.0</td>
<td>2.5</td>
<td>4.5</td>
</tr>
</tbody>
</table>

* Boxes separate significantly different groups of Difference scales

Total = Importance

USF
Individual Items Where Diff ≠ .60

- Librarian for res (1)
- Safety/sec compl (6)
- Commerc int prop (9)
- Communique equipt (2)
- Web schol sup (1)
- Identif funding (6)
- Schol jour/bks (1)
- Info: res integ (6)
- Dept sem (3)

(#{}) = Scale

1.0  1.5  2.0  2.5  3.0

Total = Importance

USF
Individual Items Where Diff ≥ 1.00

- Rec/reward (3)
- Cler/staff, grant (9)
- Int/schol clim (3)
- Disburs of funds (7)
- Bridge funds (4)
- Proj startup (4)
- GRA funds (8)
- Fin mgt, grant (7)
- Res ass'ts (8)

(#{}) = Scale

Sup
Diff
Total = Importance

1.0 1.5 2.0 2.5 3.0
Variations
## Variations in Difference Scales By Rank

<table>
<thead>
<tr>
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<th></th>
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<tbody>
<tr>
<td>Assist.</td>
<td>L</td>
<td>L</td>
<td></td>
<td>L</td>
<td>H</td>
</tr>
<tr>
<td>Assoc.</td>
<td>M</td>
<td>M</td>
<td>L</td>
<td>H</td>
<td>M</td>
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<tr>
<td>Full</td>
<td>H</td>
<td>H</td>
<td></td>
<td>L</td>
<td>L</td>
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</table>

**mean**

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td></td>
<td>1.01</td>
<td>0.97</td>
<td>0.83</td>
<td>0.59</td>
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</tbody>
</table>

**Legend:**

- **L** = Lower
- **H** = Higher
### Variations in Difference Scales By Sector controlling for Rank

<table>
<thead>
<tr>
<th></th>
<th>1. Schol Resources</th>
<th>3. Schol Facilitat</th>
<th>5. Grant Prep</th>
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</thead>
<tbody>
<tr>
<td>Health</td>
<td>L</td>
<td>L</td>
<td>L</td>
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<tr>
<td>Research</td>
<td>H</td>
<td>H</td>
<td>H</td>
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</table>

*mean* .59 .83 .71
### Variations in Difference Scales By College controlling for Rank

<table>
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<tbody>
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<td>Arts &amp; Sci</td>
<td></td>
<td></td>
<td>L</td>
<td></td>
</tr>
<tr>
<td>Bus Admin</td>
<td>H</td>
<td>H</td>
<td>H</td>
<td></td>
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<tr>
<td>Education</td>
<td></td>
<td>L</td>
<td></td>
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<tr>
<td>Engineering</td>
<td></td>
<td>L</td>
<td></td>
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<tr>
<td>FL Ment Hlth</td>
<td></td>
<td>H</td>
<td>H</td>
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<tr>
<td>Medicine</td>
<td></td>
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<tr>
<td>Marine Sci</td>
<td>H</td>
<td></td>
<td></td>
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<tr>
<td>Nursing</td>
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<td>L</td>
<td>L</td>
<td></td>
</tr>
<tr>
<td>Public Hlth</td>
<td></td>
<td>L</td>
<td></td>
<td></td>
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<tr>
<td>Vis Perf Arts</td>
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</tbody>
</table>

**mean** | .59 | .74 | 1.01 | .79
## Variations in Difference Scales
### By Field controlling for Rank

<table>
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<tbody>
<tr>
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<td>Soc &amp; Behav</td>
<td>L</td>
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<tr>
<td>Hlth/Hum Serv</td>
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<td>L</td>
<td>L</td>
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<td>Bus &amp; Ed</td>
<td>H</td>
<td>H</td>
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<td>H</td>
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<tr>
<td>Arts &amp; Hum</td>
<td>H</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

*mean* | .74 | .55 | 1.01 | .79 |
Other Differences

• Mean of ratings on specific items is lower than on global rating
• Most scale means differ significantly from one another
• Untenured faculty on tenure track rate overall support significantly higher than other faculty
• Support ratings are most strongly related to number of years at USF
• Faculty in health & human services field are more likely to use funding and social issues in choosing research topics
Self-Ratings of Scholarly Output By College (Adjusted for Differences by Rank)
# Research Incentive Preferences

<table>
<thead>
<tr>
<th>Preference Group</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Favor recognition and all incentives: financial (salary, bonus, research expenses)</td>
<td>121</td>
<td>46%</td>
</tr>
<tr>
<td>Favor recognition as well as financial incentives for scholarly achievement, not grants</td>
<td>74</td>
<td>28%</td>
</tr>
<tr>
<td>Favor financial incentives only</td>
<td>68</td>
<td>26%</td>
</tr>
</tbody>
</table>
Open-Ended Questions
Qualitative Findings

- Faculty provided approximately 50 pages of comments in response to open-ended questions
- Both general (e.g., time, money, communication, fairness) and research-specific concerns identified
- Themes were consistent across range of items for specific sections
- Generative computer analysis by Elizabeth Tuten, Ed.D., still underway
General Issues

• Time
  – Adjustment of responsibilities would permit more research
  – Support and relief from burden of corollary tasks

• Funding
  – More or reallocated resources for specific needs

• Communication
  – Collegial, intra- & interdepartmental

• Parity
  – Fair access to resources & rewards
Selected Specifics: Infrastructure

- Bureaucratic systems
  - Very frequently mentioned, impede research
  - Also impede inter-unit collaboration
  - Financial systems still inefficient and error-prone
  - Ancillary research functions often experienced as rigid, complicated, or suboptimal (e.g., IRB, patents/licensing)

- Policies & Procedures
  - Cited as cumbersome & redundant, time-consuming, not user-friendly, and fragmented
  - Processes need simplification
Personnel & General Support

- Personnel support
  - Call for more clerical support throughout
  - Faculty cite need for bigger/better intellectual labor force for help with research/scholarship tasks
  - High level of bureaucracy in absence of support personnel diverts effort and reduces faculty research potential

- GA/RA support
  - Not enough, underpaid, not always adequately trained

- General support
  - Not evenly/fairly distributed
  - Little incentive or reward/acknowledgement for research
  - Little feeling of general support from University
Collaboration & Training

• Collegial/intellectual collaboration & support
  – Generally at low level
  – Culture & structure do not support team efforts
  – Lack of sounding boards
  – Lack of mentoring

• Training
  – Needed for faculty in necessary methodology (e.g., statistics) and procedures (grant preparation & submission)
  – Needed for support staff in all arenas, e.g. re: grants
Material Resources

• Space
  – Limitations in research space (both lab and other) limit research productivity

• Technology/equipment
  – Too often lacking or outdated, not rapidly repaired

• Library
  – Some faculty wish for more and more up-to-date holdings, expanded subscriptions, better access to electronic databases
Sample Narrative Responses (1)

- **Infrastructure & grant support**
  - “An adequate financial structure that aids instead of hinders research.”
  - “Experience has shows that major financial management errors are likely to occur unless the PI spends considerable time and effort monitoring financial transactions”
  - “We desperately need more pre-award people in the Research office.”

- **Personnel**
  - “I do all of my own statistical work, my own literature reviews, grant applications and paper submissions.”
  - “No secretarial help available to help with paperwork, follow-up etc issues”
  - “It’s amazing that research gets done here with the support that is available.”
  - “It is not possible to build a research organization without the participation of postdoctoral fellows.”
Sample Narrative Responses (2)

• Collegial collaboration & intellectual climate
  - “Need some mechanism by which there is more communication among faculty members across colleges for interdisciplinary research.”
  - “Faculty compete jealously for resources but seldom engage in any sort of intellectual community or cooperation.”
  - “A factory mentality prevails in my academic unit and productive scholars are held back, even ostracized.”

• Reward/acknowledgement
  - “Incentives for faculty to increase extramural funding.”
  - “Rewarding non-funded scholarly publications, which are the primary focus of most humanities and social science disciplines.”

• Training
  - “I say that the start-up [burden on] an assistant professor to learn about possible grant and USF’s support [is] prohibitive.”
Sample Narrative Responses (3)

- **Space**
  - “The lack of space to house research projects is a major concern.”

- **Technology**
  - “An inventory of equipment and funds set aside for repair or upgrade is essential.”

- **Library**
  - “The library needs to be improved for research in the humanities.”

- **Funding**
  - “Providing support (financial or otherwise) for pilot projects aimed at attracting and capturing external funds should be a high priority.”
  - “Be willing to commit funds to improve the research infrastructure at USF. This needs to be a significant investment.”

- **Time**
  - “They should be giving time off and financial support for faculty to put together large program grants.”
Summary, Conclusions, Plans
Summary: Overview

• Relatively substantial and representative response to a long survey – faculty view these issues as important
• Mean support ratings are in the medium to low range – significant room for improvement in all areas
• General university-wide themes underlie variations in specific areas across units, ranks, and other groups
• Limitations: response rate; problem orientation; no differentiation of sources of support
Critical Areas Identified Via Ratings

• Increasing the availability of research assistants
• Strengthening post-award administration
• Initiating, maintaining, and nurturing specific research capacities (project support)
• Making scholarship resources more available and facilitating scholarship, esp. for newer faculty and in USF Health
• Expanding space and equipment in the sciences
• Providing the necessary clerical support to optimize investment of faculty effort
Qualitative Additions

• Qualitative responses
  – Reinforce and expand on themes in quantitative data
  – Provide coverage of areas not explicitly addressed
  – Illustrate importance of thinking both globally and locally to optimize investments in research
  – Magnitude & scope show faculty commitment to improving research & intellectual climate

• Additional areas highlighted
  – Addressing general infrastructure limitations
  – Improving communication & collaboration
Implied Goals:
1. Efficiency/Effectiveness

• Implicit goal: Efficiency & effectiveness
  – Existing systems & structures function too often as obstacles rather than as pathways, impede progress, and waste precious resources (time, money, intellectual capital, and morale)

• Informing principle: Transformation (e.g.s in private sector, DOD, human services)
  – Align key systems, processes, incentives, organizational structure, and technologies with mission, strategy and objectives – emphasize rapid development & learning
  – Coordinate ongoing efforts and create partnerships that promote effective and efficient cross-organizational and cross-functional process improvements
2. Organizational Culture Change

- Implicit goal: Culture change
  - Organizational culture needs to express collegiality, nurturance of scholarly/research growth, team orientation, facilitative rather than obstructive style

- Informing principle: Complexity
  - Prediction- & control-oriented hierarchies have limitations: change can be facilitated but not driven from the top
  - Complex adaptive systems model useful for university
  - Cf. community-building: asset-based, internally focused, and relationship driven (Kretzmann & McKnight)
Plans

- Continue qualitative analysis, link qualitative findings to quantitative data
- Use findings to inform Research Council deliberations
- Develop article(s) for publication

- Final report to Dr. Chang & Provost Khator (12/06)
- …
Supplemental Material: Complexity & Organizations
# Contrasting Assumptions
*(Olson EE & Eoyang GH, 2001)*

<table>
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<tr>
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<th>Complexity Approach</th>
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<td>Complex Adaptive Systems develop via:</td>
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Complexity Framework: Introduction
(Axelrod & Cohen, 1999)

- **Elements**
  - Agent in environment
  - Strategy
  - Copying
  - Population
  - Variation in strategies
  - Selection
  - Adaptation

- **Complex system**: strong interactions among elements; current events influence $p$ of later events

- **Complex adaptive system**: contains agents that seek to adapt

- **Coevolution**: multiple populations of agents adapt to each other

- **Harnessing complexity**: changing the structure of a system to increase performance via exploiting the understanding that the system is complex
The Core of Adaptive Organizations
Lewin & Regine (in Mittelton-Kelly, 2003)

- Leadership
  - Allowing rather than imposing
  - Accessibility, authenticity & care (making work meaningful)
  - Being attuned: listening, keeping systems open

- Culture of care & connection
  - Engenders trust; feeling of belonging; emphasis on relationships

- Human-oriented management is not just being nice
  - “Engaging the dynamics of a complex adaptive system (by) enhancing interactions & allowing mutual effect… leads to emergence of a creative and adaptable organization”