IDENTIFYING PERCEPTION GAPS AT THE USPTO

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Project Background

• Required 3rd year project at WPI

• Interdisciplinary Qualifying Project (IQP)

• Washington DC is the oldest Project Center

• Dan Sullivan and Marty Rater are current sponsors for PTO
Why we are here

• Working as part of the Case Studies Team in the Quality Enhancement Initiative

• Exploring the gaps between internal and external perceptions of quality

• Creating an instruction manual for case studies
Roadmap

• Objectives
• Data sources
• Perception Gap Matrix
• Case Study Cookbook
• Bringing it all together
• Acknowledgements
• Questions?
• Sources
Objectives

– Assess the perceptions of patent prosecution
  • Identify gaps to be addressed

– Develop a framework for case study analysis of the quality of patent prosecution
  • Develop strategies for case studies
Our Data Sources

- Six sources of data
  - RQAS Interview
  - Internal Quality Surveys
  - 2014 Quality Brainstorming Sessions
  - External Quality Surveys
  - External Quality Survey Comments
  - Ombudsman
RQAS Interviews

• 15 RQASs Interviews
• Used open-ended questions
• Analyzed responses
• Developed categories for matrix from responses
RQAS Top Categories for Improvement

Instances $N = 88$
Internal Quality Surveys

- Given to 750 patent examiners by OPQA semi-annually
- Analyzed internal and external factors
- Created categories from questions
**Internal Factors Affecting Examiner Quality**

- **Technology Improvements**
  - Unfavorable: 0%
  - Neutral: 10
  - Favorable: 60

- **Training**
  - Unfavorable: 0%
  - Neutral: 20
  - Favorable: 40

- **More Supervisor Interaction**
  - Unfavorable: 0%
  - Neutral: 20
  - Favorable: 60

**External Factors Impacting High Examiner Quality**

- **Low Quality Applications**
  - Not At All/ Small Extent: 40
  - Moderate Extent: 50
  - Large Extent: 20

- **Completeness**
  - Not At All/ Small Extent: 30
  - Moderate Extent: 40
  - Large Extent: 30

- **Interviews**
  - Not At All/ Small Extent: 10
  - Moderate Extent: 50
  - Large Extent: 40

- **Clarity**
  - Not At All/ Small Extent: 20
  - Moderate Extent: 60
  - Large Extent: 20
Internal Quality Surveys Top Categories for Improvement

Instances N = 4203

- Training: 11%
- Technology Improvements: 5%
- More Supervisor Interaction: 2%
- Low Quality Applications: 45%
2014 Quality Brainstorming Sessions

- Data collected by 2014 WPI Team
- Involved internal perspective of quality
- 6 USPTO sessions
  - Approx. 27 participants per session
  - Groups of 5-8 participants discussed 3 questions
- Focused on: “What are the most important aspects that contribute to a quality examination, what are some ideas to improve those aspects, and are there ways to make those aspects more transparent to applicants?”
2014 Focus Group Data Top Categories for Improvement

Instances N = 833
External Quality Surveys

• Given by OPQA to over 3000 frequent patent filers every six months

• Surveys conducted in FY15 Q1 and Q3

• Created categories for matrix
External Quality Survey Top Categories for Improvement

Instances N = 7760

Completeness: 30%
Clarity: 28%
Communication: 18%
Restriction Practice: 13%
Improper Examination: 11%
External Quality Comments

• Looked at open-ended question from FY14 Q3 and FY15 Q1 and Q3:
  – “The USPTO is currently evaluating and refining its patent examination quality measures. What measures/metrics would you like to see the USPTO provide to gauge the quality of work performed by its patent examiners?”

• Randomly sampled approx. 600 responses
External Survey Comments Top Categories for Improvement

Instances N = 757

Clarity
Transparency
Interviews
Training
Change Performance Review
Ombudsman

- A system used to record and categorize comments from applicants with issues regarding patent prosecution

- Looked at the past four months of these comments

- Analyzed and categorized comments for matrix
Instances N = 138

Ombudsman Top Categories for Improvement

- Clarity: 18%
- Improper Examination: 16%
- Communication: 14%
- Timeliness: 10%
- Examiner Attitude: 8%
- More Supervisor Interaction: 8%
- Abandonment Problems: 6%
- Interviews: 6%
- Training: 4%
Matrix

• First of two deliverables

• Shows gaps between internal and external

• Inclusion Criterion: categories had to be mentioned by more than 5% of the respondents in at least one of the sources
## Perception Gap Matrix

<table>
<thead>
<tr>
<th>Category</th>
<th>Internal</th>
<th>External</th>
<th>Difference</th>
<th>Significant?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Transparency</strong></td>
<td>8.2%</td>
<td>42.3%</td>
<td>34.1%</td>
<td>Yes</td>
</tr>
<tr>
<td>Clarity**</td>
<td>4.0%</td>
<td>29.8%</td>
<td>25.9%</td>
<td>Yes</td>
</tr>
<tr>
<td>Training**</td>
<td>23.7%</td>
<td>0.7%</td>
<td>22.9%</td>
<td>Yes</td>
</tr>
<tr>
<td>Change Performance Review</td>
<td>31.0%</td>
<td>14.3%</td>
<td>16.7%</td>
<td>Yes</td>
</tr>
<tr>
<td>Completeness**</td>
<td>11.0%</td>
<td>27.7%</td>
<td>16.7%</td>
<td>Yes</td>
</tr>
<tr>
<td>Communication**</td>
<td>1.8%</td>
<td>18.2%</td>
<td>16.4%</td>
<td>Yes</td>
</tr>
<tr>
<td>Timeliness</td>
<td>4.9%</td>
<td>13.1%</td>
<td>8.3%</td>
<td>Yes</td>
</tr>
<tr>
<td>Technology Improvements**</td>
<td>8.5%</td>
<td>0.3%</td>
<td>8.2%</td>
<td>Yes</td>
</tr>
<tr>
<td>Interviews**</td>
<td>4.0%</td>
<td>1.1%</td>
<td>2.9%</td>
<td>Yes</td>
</tr>
<tr>
<td>More Supervisor Interaction**</td>
<td>2.5%</td>
<td>0.5%</td>
<td>1.9%</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Time Restrictions</strong></td>
<td>10.6%</td>
<td>3.5%</td>
<td>7.1%</td>
<td>No</td>
</tr>
<tr>
<td>Multiple Reviews</td>
<td>13.7%</td>
<td>9.3%</td>
<td>4.4%</td>
<td>No</td>
</tr>
<tr>
<td>Consistency</td>
<td>13.4%</td>
<td>11.7%</td>
<td>1.7%</td>
<td>No</td>
</tr>
<tr>
<td>Examiner Attitude</td>
<td>4.6%</td>
<td>3.2%</td>
<td>1.4%</td>
<td>No</td>
</tr>
<tr>
<td><strong>Low Quality Applications</strong>**</td>
<td>44.6%</td>
<td>0.0%</td>
<td>44.6%</td>
<td>--</td>
</tr>
<tr>
<td>Subject Matter Expert</td>
<td>13.7%</td>
<td>0.0%</td>
<td>13.7%</td>
<td>--</td>
</tr>
<tr>
<td>Restriction Practice**</td>
<td>0.0%</td>
<td>11.5%</td>
<td>11.5%</td>
<td>--</td>
</tr>
<tr>
<td>Improper Examination**</td>
<td>0.0%</td>
<td>10.4%</td>
<td>10.4%</td>
<td>--</td>
</tr>
<tr>
<td>Abandonment Problems</td>
<td>0.0%</td>
<td>2.6%</td>
<td>2.6%</td>
<td>--</td>
</tr>
</tbody>
</table>

**Percentages made using 3 sources for internal and 3 for external instead of 2 for each.
Topics for Gap Matrix
Made with Four Sources

- Transparency
- Change Performance Review
- Timeliness
- Consistency
- Multiple Reviews
- Time Restrictions
- Examiner Attitude
- Abandonment Problems
- Subject Matter Expert

Instances

- Internal
- External
Topics for Gap Matrix
Made with Six Sources

Clarity
Communication
Completeness
Improper Examination
Interviews
Low Quality Applications
More Supervisor Interaction
Restriction Practice
Technology Improvements
Training

Percent of Instances

Internal
External
The Cookbook

- Second deliverable
- Case Studies team in early stages of development
- Tool for designing/conducting case studies
- Introduces OPQA to using case study method
Sources Used

• *Case Study Evaluations* by the Government Accountability Office

• *Case Study Research: Principles and Practices* by John Gerring

• *What Researchers Mean By... Cross-sectional and longitudinal studies* by the Institute for Work & Health
  – [http://www.iwh.on.ca/at-work/81](http://www.iwh.on.ca/at-work/81)

• “Case Studies” by Colorado State University

• *Case Studies* by Harvard University

• *Preparing a case study: A guide for designing and conducting a case study for evaluation input* by Palena Neale, Shyam Thapa, and Carolyn Boyce
What is a Case Study?

• No general agreement

• Form of observational study that…
  – focuses on collection of data from a single or multiple cases
  – is used to gather data from one or more sites
  – takes place at a single point in time or over a period of time
  – used either in the study of a specific instance or generalized over a population
Cross Case and Types of Case Studies

• Cross-Case Studies
• GAO-recognized Case Studies
  – Illustrative
  – Exploratory
  – Critical Instance
  – Program Implementation
  – Program Effects
  – Cumulative
## Case Study Type Priority

<table>
<thead>
<tr>
<th>Case Study Type</th>
<th>Young</th>
<th>Middle</th>
<th>Old</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cross Case</td>
<td>Low</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Critical Instance</td>
<td>Mid</td>
<td>High</td>
<td>Mid</td>
</tr>
<tr>
<td>Cumulative Prospective</td>
<td>Low</td>
<td>Mid</td>
<td>Low</td>
</tr>
<tr>
<td>Cumulative Retrospective</td>
<td>Very Low</td>
<td>Mid</td>
<td>High</td>
</tr>
<tr>
<td>Exploratory</td>
<td>High</td>
<td>Mid</td>
<td>Low</td>
</tr>
<tr>
<td>Illustrative</td>
<td>High</td>
<td>Mid</td>
<td>Low</td>
</tr>
<tr>
<td>Program Effects</td>
<td>Mid</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Program Implementation</td>
<td>Low</td>
<td>High</td>
<td>Low</td>
</tr>
</tbody>
</table>
Bringing it all Together

• Developed a chart using our matrix

• Could help prioritize public case study suggestions

• Cookbook can be used to design the case study
Importance of Perception Gaps

High Importance/ Small Gap: Maintain

- Interviews
- More Supervisor Interaction
- Consistency
- Technology Improvements

High Importance/ Large Gap: Improve

- Clarity
- Completeness
- Training
- Communication

Low Importance/ Small Gap: Strengths

- Timeliness
- Time Restrictions
- Examiner Attitude
- Multiple Reviews
- Abandonment Problems

Low Importance/ Large Gap: Monitor

- Change Performance Review
- Low Quality Applications
- Restriction Practice
- Transparency
- Improper Examination
- Subject Matter Expert
Acknowledgements and Thanks

• Brigitte Servatius
• Fred Looft
• Marty Rater
• Dan Sullivan
• Anthony Caputa
• Steve Ricks
• Brian Hanlon
• Paul Rodriguez
• Dale Shaw
• The RQASs
Any Questions?

[Image of a stuffed goat with a sweater labeled WPI]
Sources


Request for Comments on Enhancing Patent Quality; Request For Comments; Notice of Meeting, 80 Federal Register 24 (05 February 2015), pp. 6475-6481.

Request for Submissions of Topics for the USPTO Quality Case Studies; Notice of Program and Request for Program Topics, Federal Register (2015, unpublished).
