Developing a Performance Review Questionnaire for Hong Kong Cadastral Survey System

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Backgrounds

1990s ~
FIG7 continuously benchmarked cadastral systems and land administration system

2014 ~
We build an self-assessment platform to

• Evaluate the performance of individual cadastral survey system; and

• Compare understandings from stakeholders.
Cadastral Survey System:
A sub-system to provide spatial-related cadastral information to support land operations.

Cadastral Surveying:

- Should-be: Fit-for-Purpose
- Influenced by jurisdictional settings
- A performance indicator of land administration system
- Key player: cadastral surveyors and the users
Assessment Model

Cadastral Survey System Performance

Capability
- Plan Accuracy
- Surveying Technology
- System Automation

Cost
- Customer Cost
- System Maintenance
- Time Efficiency

Security
- Boundary Reliability
- Legal Basis
- Survey Regulation

Service
- Product Applicability
- Professional Competence
- User Perspective

Customized Questions on System Achievements
Assessment Scheme

Cadastral Survey System Performance

- Capability
  - (A technically capable system ?)
- Cost
  - (A fast and cheap system ?)
- Security
  - (A reliable system ?)
- Service
  - (A sustainable system ?)

Test on trustability
Test on extensiveness
Assessment Methodology

→ Case Study:
  • Hong Kong Cadastral Survey System

→ Questionnaire Survey:
  • Collect inputs from involved stakeholders
  • Online distribution & Interview
  • Land surveyors and system users
Collected Judgements – Land Surveyors

1) Relative importance of the proposed criteria

Calculated based Analytic Hierarchy Process (AHP) algorithm
2) System performance level under each criterion

Benchmarking with the *Should-be Performance*, evaluate the *Achieved Performance*
3) Information datasets on the *Should-be Performance* and *Achieved Performance*

1.1 What is the **user required** level of plan accuracy (ability to locate boundary features)? Please circle the appropriate accuracy level

<table>
<thead>
<tr>
<th>mm level</th>
<th>cm level</th>
<th>sub-meter level</th>
<th>1m to 2m</th>
<th>2m to 4m</th>
<th>larger than 4m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Rural:</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**Comments (if any):**

3.1 Averaged number of land boundary dispute cases per year?

<table>
<thead>
<tr>
<th>Less than 5</th>
<th>5-10</th>
<th>10-20</th>
<th>20-30</th>
<th>30-40</th>
<th>50 or more</th>
</tr>
</thead>
</table>

**Comments (if any):**
Collected Judgements – Land Users

1) Total 4 Multiple Choice Questions on the performance:

- Accuracy of cadastral survey results
- Efficiency of cadastral survey services
- Legal significance of cadastral survey results
- Quality of cadastral survey services

An online version of the questionnaire for HK land users can be found:
Current Implementation in HK

Under the coordination of The Hong Kong Institute of Surveyors, we are collecting opinions from land surveyors

- Sending Questionnaire to its members
- Arranging Interview with its council members
- Analyzing and Summarizing collected feedbacks
Results in HK (by April 2016)

1) Relative importance of the proposed criteria

Legend:
- Capability
- Cost
- Security
- Service

Public Sector: 39% Capability, 22% Cost, 9% Security, 10% Service
Private Sector: 38% Capability, 26% Cost, 19% Security, 17% Service
Young Surveyor: 40% Capability, 22% Cost, 9% Security, 29% Service
2) Performance Scores

*Should-be Performance = 100*

1) Overall weighted Score

2) Score on each criterion
Further Steps -- Land Surveyors

Performance Datasets Correlation:

• Based on each performance indicator
• Performance data & rated performance scores
• Give clues on: 1) what is the “Purpose” of the system and 2) how well current system fits for the purpose
Further Steps -- Land users

Collect judgements from customer of system:

- Collaborate with the private sector (survey firms)
- Distribute questionnaire to the customer
- Correlate with land surveyors’ judgments
Conclusions

• A study on the *Performance* and *Purpose* of the current cadastral survey system

• Benchmarking understandings from both service provider and system user

• Served as an indicator of the performance of the land administration system
THANK YOU

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Online Questionnaire:  
- HK Version
- International Version