



FIG Working Week 2016



CHRISTCHURCH, NEW ZEALAND
2-6 May 2016

Recovery
from disaster

*Presented at the FIG Working Week 2016,
May 2-6, 2016 in Christchurch, New Zealand*

Developing a Performance Review Questionnaire for Hong Kong Cadastral Survey System

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Backgrounds

1990s ~

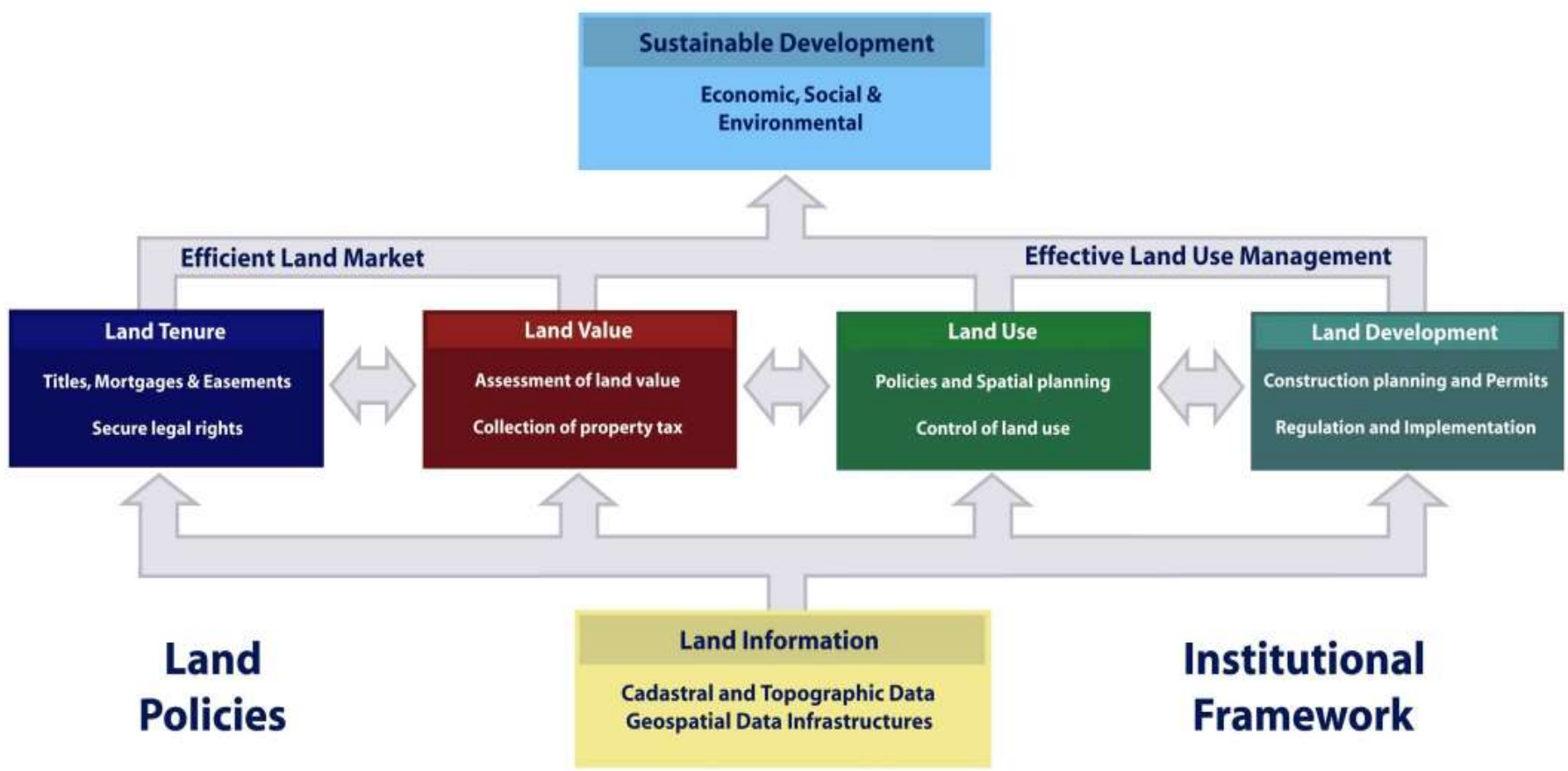
FIG7 continuously benchmarked cadastral systems and land administration system

2014 ~

We build an **self-assessment** platform to

- Evaluate the performance of individual **cadastral survey system**; and
- Compare understandings from **stakeholders**.





Cadastral Survey System:

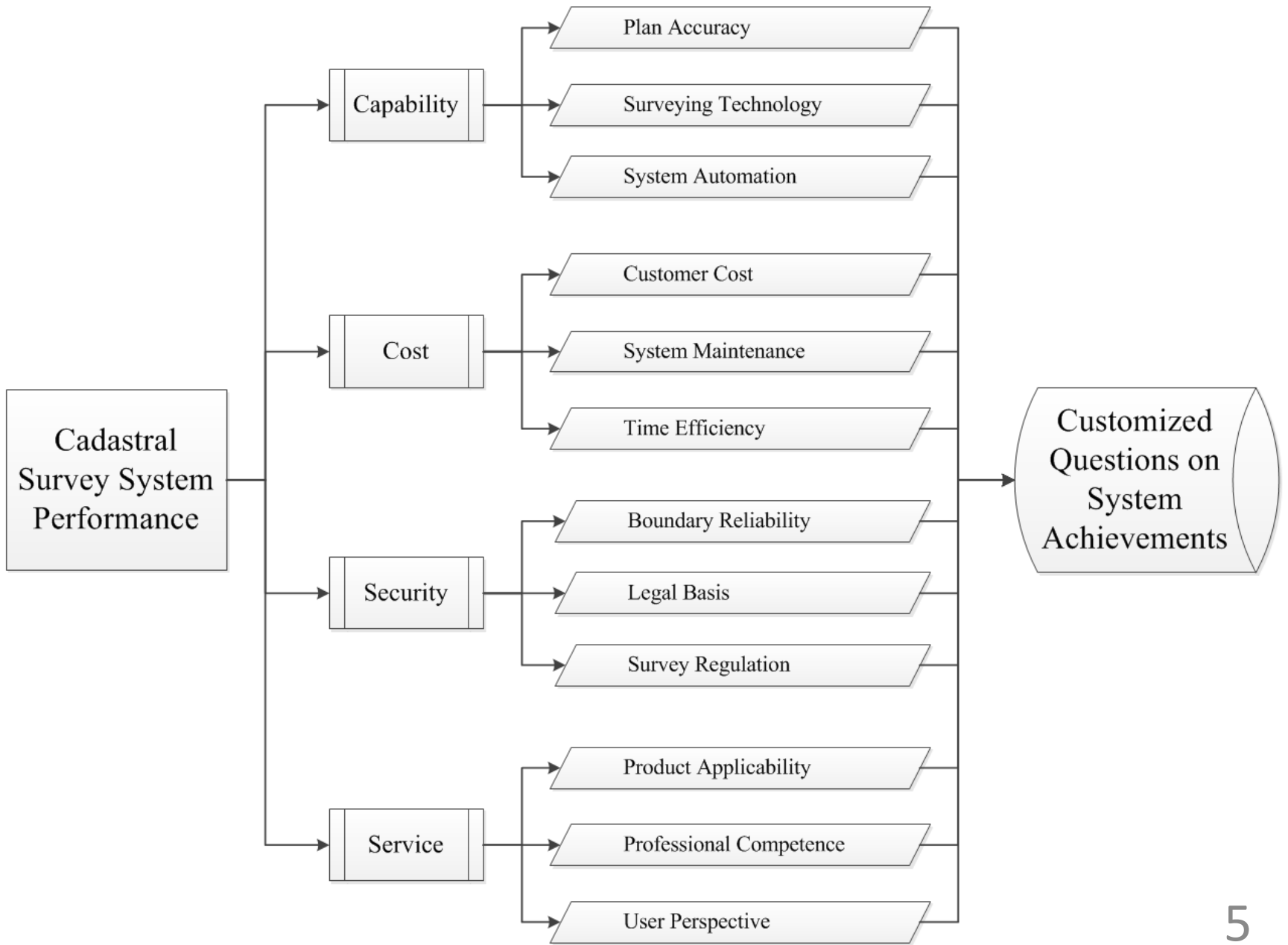
A sub-system to provide spatial-related cadastral information to support land operations.

Cadastral Surveying:

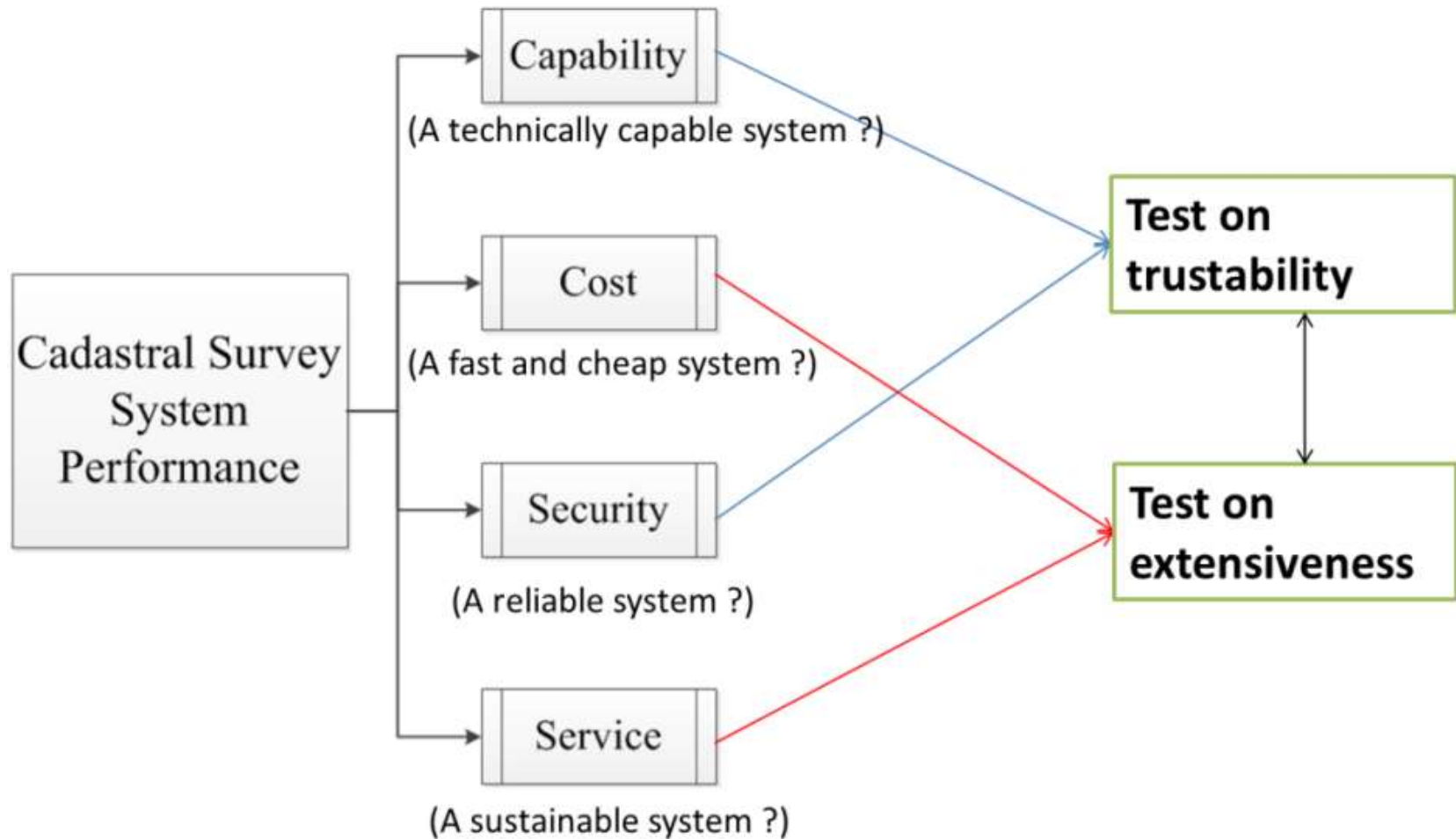
- Should-be: Fit-for-Purpose
- Influenced by jurisdictional settings
- A performance indicator of land administration system
- Key player: cadastral surveyors and the users



Assessment Model



Assessment Scheme



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

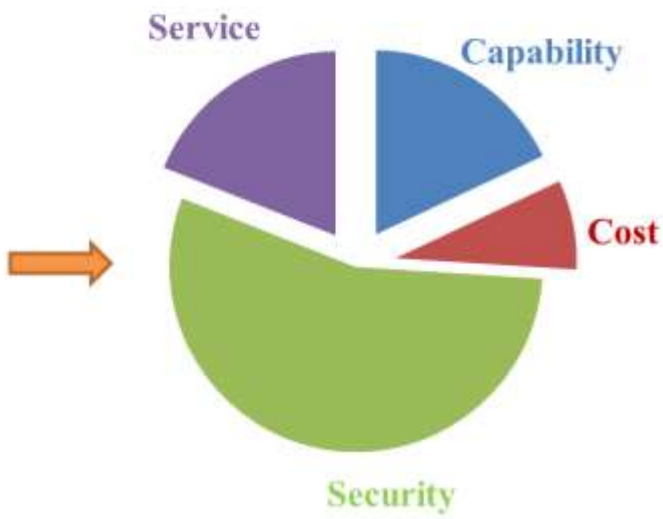
Calculated based Analytic Hierarchy Process (AHP) algorithm

Pairwise Comparisons

Please the appropriate value

	← Increasing Importance	1	→ Increasing Importance	
Capability	9 8 7 6 5 4 3 2	1	2 3 4 5 6 7 8 9	Cost
Capability	9 8 7 6 5 4 3 2	1	2 3 4 5 6 7 8 9	Security
Capability	9 8 7 6 5 4 3 2	1	2 3 4 5 6 7 8 9	Service
Cost	9 8 7 6 5 4 3 2	1	2 3 4 5 6 7 8 9	Security
Cost	9 8 7 6 5 4 3 2	1	2 3 4 5 6 7 8 9	Service
Security	9 8 7 6 5 4 3 2	1	2 3 4 5 6 7 8 9	Service

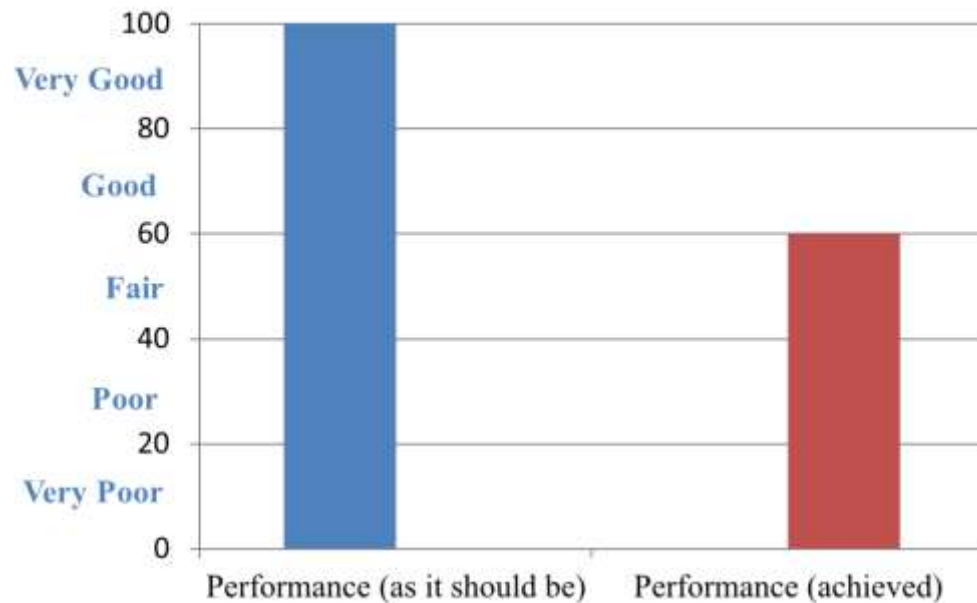
Weights



2) System performance level under each criterion

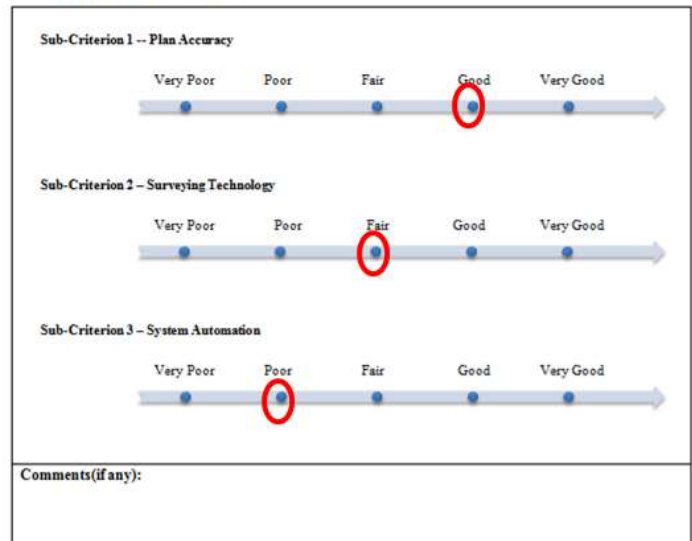
Benchmarking with the *Should-be Performance*, evaluate the *Achieved Performance*

Performance Scale



Performance Evaluation

Performance Level – Capability



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

	mm level	cm level	sub-meter level	1m to 2m	2m to 4m	larger than 4m
Urban:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rural:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Comments (if any):						

.....

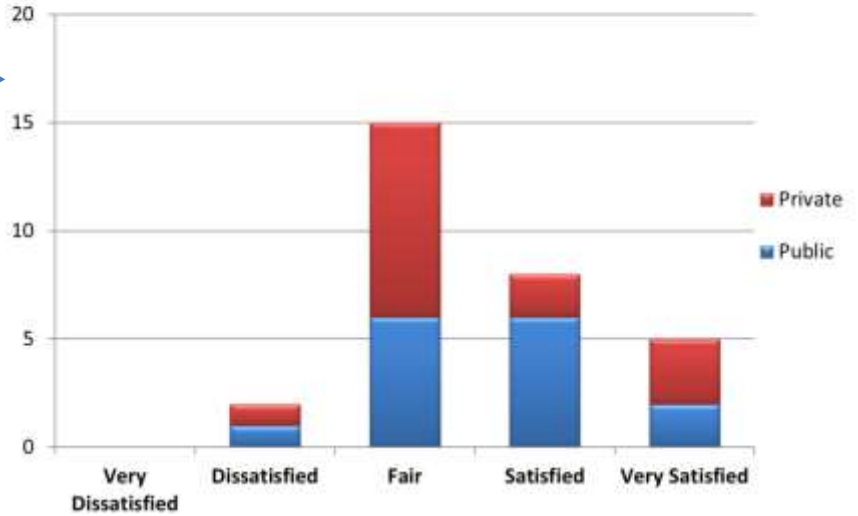
3.1 Averaged number of land boundary dispute cases per year?

	Less than 5	5-10	10-20	20-30	30-40	50 or more
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Comments(if any):						

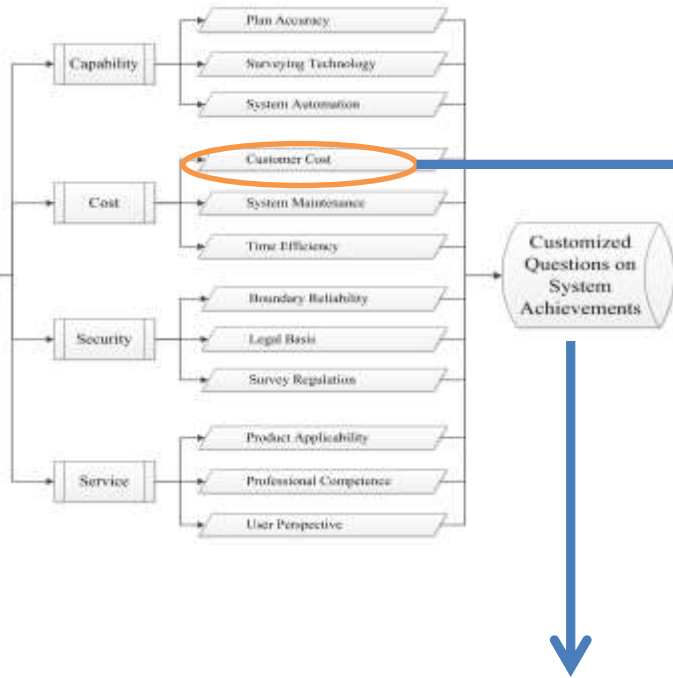
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Cost – Customer Cost

Votes on the Satisfaction Scores (2 groups)

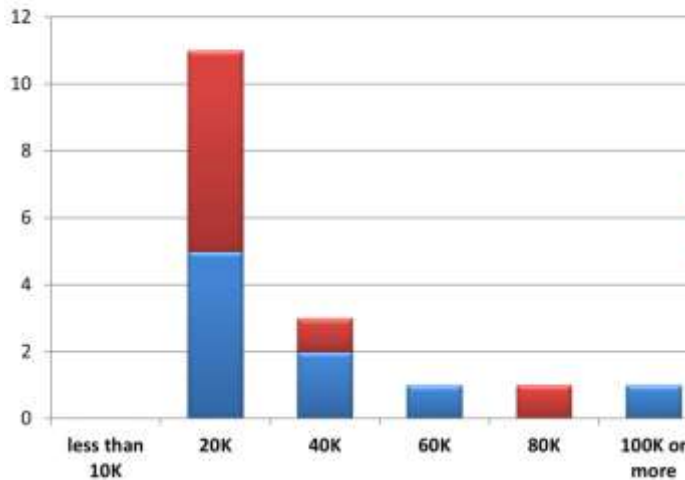


Cadastral Survey System Performance

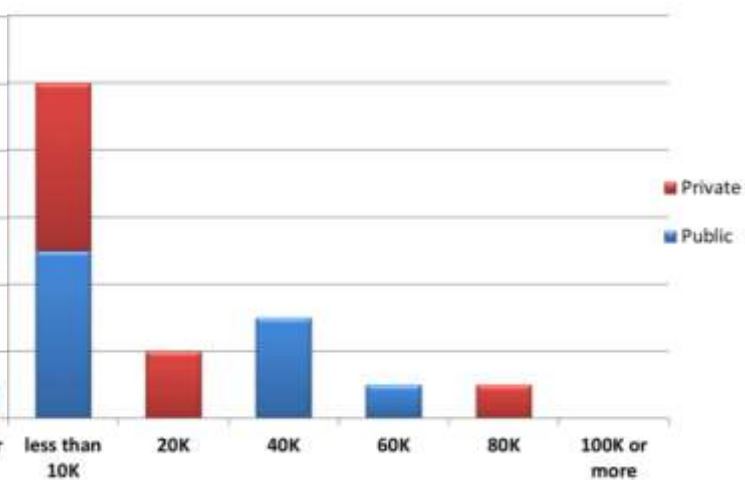


Survey Questions on Customer Cost

Survey Cost per lot -- Urban



Survey Cost per lot -- Rural



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 collect opinions from land surveyors

Public Sector

Private Sector

Young Surveyor

- Sending Questionnaire to its members
- Arranging Interview with its council members
- Analyzing and Summarizing collected feedbacks

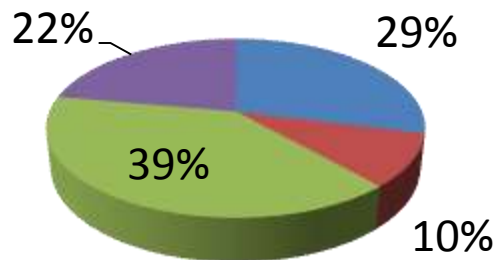
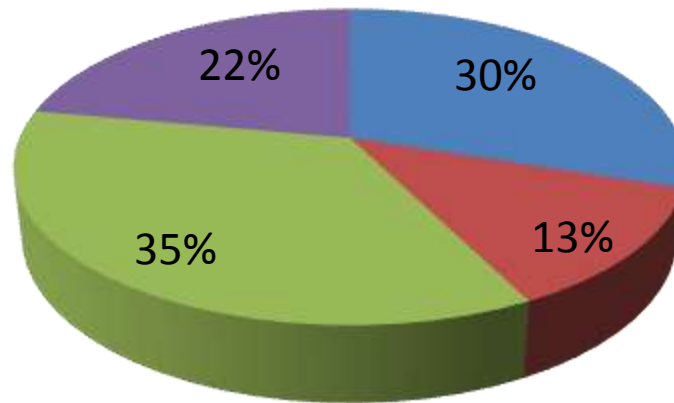


Results in HK (by April 2016)

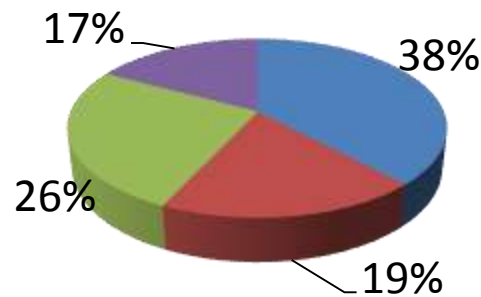
1) Relative importance of the proposed criteria

Legend:

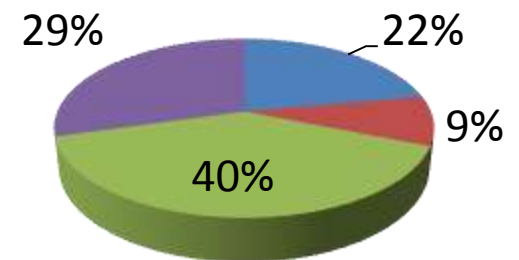
- Capability
- Cost
- Security
- Service



Public Sector



Private Sector

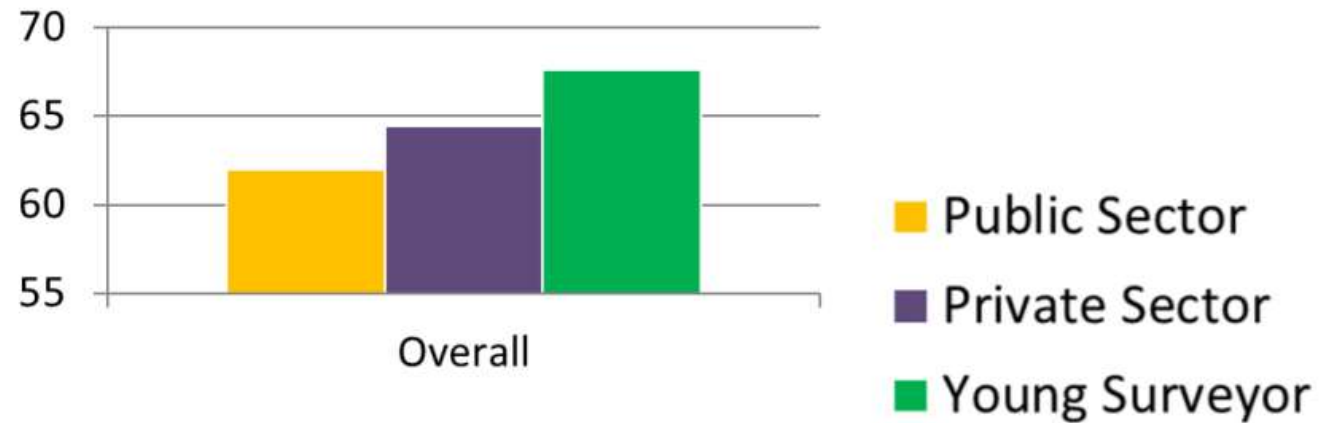


Young Surveyor

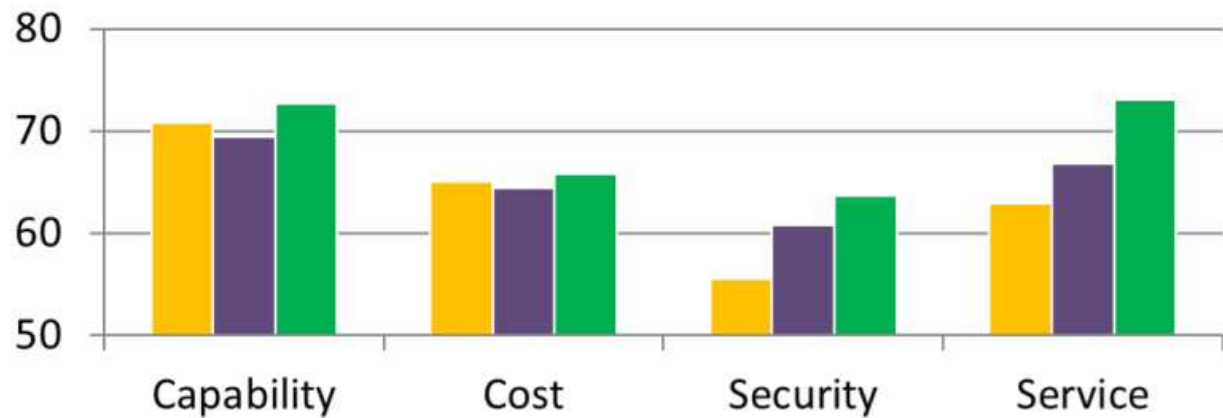
2) Performance Scores

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





International Federation of Surveyors
Fédération Internationale des Géomètres
Internationale Vereinigung der Vermessungsingenieure

FIG COMMISSION 7
Cadastre & Land Management



THE HONG KONG INSTITUTE OF
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香港測量師學會



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THANK YOU

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**Online
Questionnaire:**



HK Version



International Version