



UNIVERSITI PUTRA MALAYSIA

***THE IMPLEMENTATION OF SPATIAL DATA INFRASTRUCTURE FOR
INFORMATION SHARING TOWARDS SPATIALLY ENABLED LAND
ADMINISTRATION IN MALAYSIA***

ABD. HALIM BIN HAMZAH

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SPATIAL DATA INFRASTRUCTURE
FOR INFORMATION SHARING
TOWARDS SPATIALLY ENABLED
LAND ADMINISTRATION IN MALAYSIA**

ABD. HALIM BIN HAMZAH

**DOCTOR OF PHILOSOPHY
UNIVERSITI PUTRA MALAYSIA**

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By

ABD. HALIM BIN HAMZAH

**Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia,
in Fulfilment of the Requirements for the Degree of Doctor of Philosophy**

July 2013

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DEDICATION

I would like to extend my heartfelt thanks to my wife Hajjah Norhabibah binti Haji Abu Bakar; my daughter Nur Ismahani, Nur Insyirah, Nur Iffah and Nur Izzah; and my son Nur Muhammad for giving me continuous spirit especially in moral and mental support and love as a one family forever.



Abstract of thesis presented to the Senate of Universiti Putra Malaysia
in fulfilment of the requirement for the degree of Doctor of Philosophy

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July 2013

Chair : Associate Professor Abdul Rashid bin Mohamed Shariff, PhD

Faculty : Faculty of Engineering

The land administration activities related on land tenures, land values and land use towards computerised system aims to improve the land administration information sharing. Meanwhile, that activities need towards 2nd generation of spatial data infrastructure (process based model involve knowledge infrastructure, information sharing and more coordination). Non-technical integration issues such as institutional, legislation and jurisdiction, structure and cultural human resources management practices, land information delivery services, and cross-government collaboration model also play an important role in information sharing. These issues have turned out to be the main problems in land administration information sharing between multiple level of government land administration agencies and also in countries with multiple level of government administration (federal, state

and local). The idea is to implement the spatial data infrastructure concept to reduce issues of information sharing and produce better decision making towards spatial enabled land administration. This research chooses the qualitative method (interpretive research with ethnographic approach) and involves interview, observation and questionnaire. Analysis (with frequency statistic analysis and likert scale analysis) of the relevant issues in land administration information sharing practices with spatial data infrastructure was done. The targeted respondents were land administration (land use, land value and land ownership) government staff involved in the land administration information application and sharing practices. The major contribution of this research is the proposed Integrated Land Administration Information Sharing (ILaIS) model. Integrated with the capability information system, cooperation and steering committee, legislation and jurisdiction also spatially enabled land administration in ILaIS model is very helpful for land administrative purpose in the multiple level of government administration. The research findings based on the Delphi Method to validating the research contribution could act as a guideline for the making of policy, strategy and management for current land administration information sharing between the multiple level of government land administration agencies. It can modify the current policy and management strategy for greater effectiveness and efficiency; help to improve the integrated capability of information systems towards spatial enabled land administration.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia
Sebagai memenuhi keperluan untuk Ijazah Doktor Falsafah

**PERLAKSANAAN INFRASTRUKTUR DATA RUANG BAGI
PERKONGSIAN MAKLUMAT KEARAH PENGGUNAAN
MAKLUMAT PEMETAAN PENTADBIRAN TANAH DI MALAYSIA**

Oleh

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Aktiviti pentadbiran tanah berkaitan dengan hakmilik tanah, nilai tanah dan kegunaan tanah mula kearah gunapakai sistem berkomputer bagi mewujudkan perkongsian maklumat pentadbiran tanah. Namun, ia memerlukan anjakan paradigma infrastruktur data ruang generasi kedua (model pemprosesan seperti pengetahuan terhadap infrastruktur, perkongsian maklumat dan lebih selaras). Seterusnya ditambah dengan beberapa isu berkaitan dengan integrasi bukan teknikal di dalam perkongsian maklumat seperti amalan institusi, amalan perundangan dan bidang kuasa serta struktur, budaya dan amalan pengurusan sumber manusia, penyampaian perkhidmatan maklumat; dan penyelarasan model kerjasama pentadbiran diantara kerajaan. Ia dikenalpasti sebagai masalah utama di dalam perkongsian maklumat pentadbiran tanah di pelbagai agensi

kerajaan dan negara pelbagai peringkat kerajaan (persekutuan, negeri dan tempatan). Pelaksanaan konsep infrastruktur data ruang akan dapat mengurangkan dan menyelesaikan beberapa isu di dalam perkongsian maklumat dan mewujudkan pembuat keputusan yang lebih baik kearah membenarkan penggunaan ruang pemetaan pentadbiran tanah. Kajian ini menggunakan kaedah kualitatif (kajian tafsiran dengan pendekatan ethnografik) dan melibatkan temubual, pemerhatian dan borang soalselidik. Bahagian analisis (melibatkan analisis statistik kekerapan dan analisis pengukuran likert) dilakukan keatas isu yang berkaitan dengan amalan perkongsian sistem maklumat pentadbiran tanah dengan infrastruktur data ruang. Sasaran responden tertumpu kepada kakitangan kerajaan yang terlibat di dalam melaksanakan perkongsian serta aplikasi maklumat pentadbiran tanah (guna tanah, nilai tanah dan hakmilik tanah). Sumbangan utama kajian ini adalah mencadangkan model Integrasi Perkongsian Maklumat Pentadbiran Tanah (ILaIS). Penyatupaduan keupayaan sistem maklumat, kerjasama dan jawatankuasa pemandu, perundangan dan bidang kuasa serta penggunaan maklumat ruang pemetaan pentadbiran tanah di dalam model ILaIS adalah sangat membantu di dalam pelbagai peringkat kerajaan. Penemuan hasil kajian berlandaskan pengesahan dengan menggunakan Kaedah Delphi dapat dijadikan panduan di dalam pengurusan strategi dan pembentukan polisi perkongsian maklumat pentadbiran tanah diantara pelbagai agensi kerajaan pentadbiran tanah. Ia juga akan menjadikan pengurusan strategi dan polisi semasa lebih cekap dan

berkesan serta membantu di dalam meningkatkan keupayaan integrasi sistem maklumat kearah membenarkan penggunaan maklumat ruang pemetaan pentadbiran tanah.



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I certify that a Thesis Examination Committee has met on 22 July 2013 to conduct the final examination of Abd. Halim Bin Hamzah on his thesis entitled "The Implementation Of Spatial Data Infrastructure For Information Sharing Towards Spatially Enabled Land Administration In Malaysia" in accordance with the Universities and University Colleges Act 1971 and the Constitution of the Universiti Putra Malaysia [P.U.(A) 106] 15 March 1998. The Committee recommends that the student be awarded the Doctor of Philosophy.

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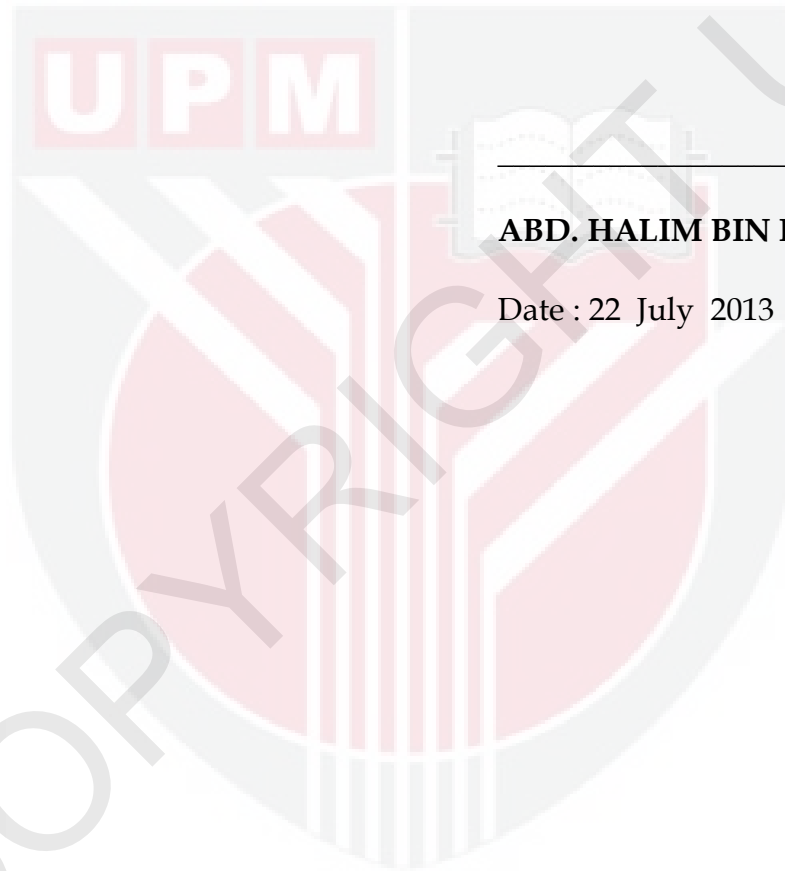
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DECLARATION

I declare that the thesis is my original work expect for quotations and citations which have been duly acknowledged. I also declare that it has not been previously, and it not concurrently, submitted for any other degree at Universiti Putra Malaysia or at any other institution.



ABD. HALIM BIN HAMZAH

Date : 22 July 2013

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