



UNIVERSITI PUTRA MALAYSIA

***SPATIAL-ECONOMIC CHARACTERIZATION OF
RESILIENT URBAN DESTINATIONS***

LEW SHIAN LOONG

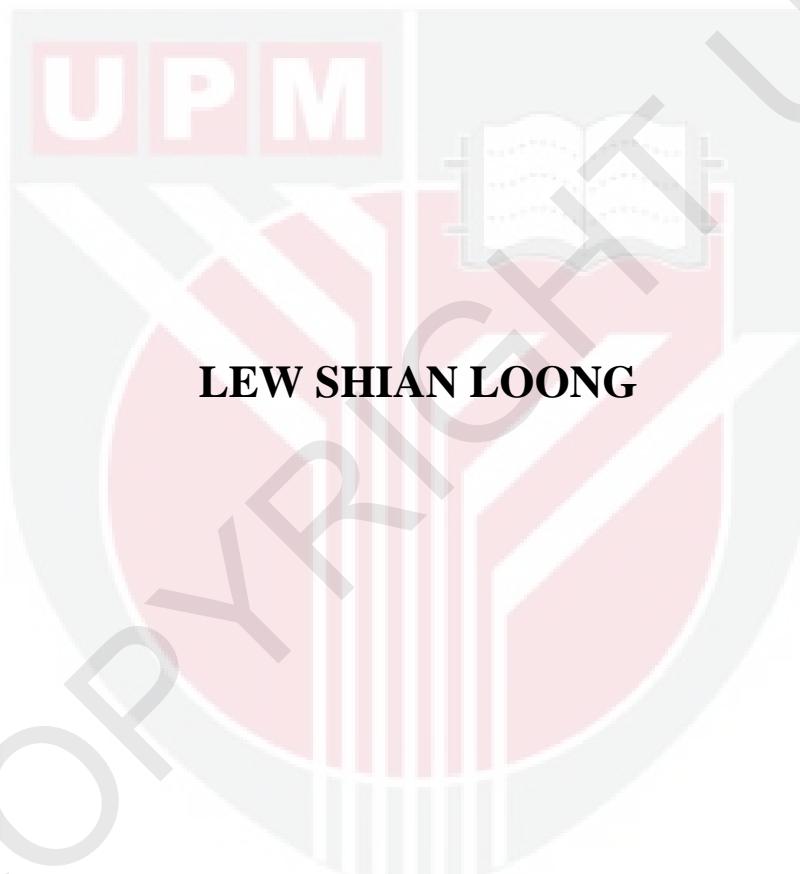
FEP 2012 3

LEW SHIAN LOONG

DOCTOR OF PHILOSOPHY

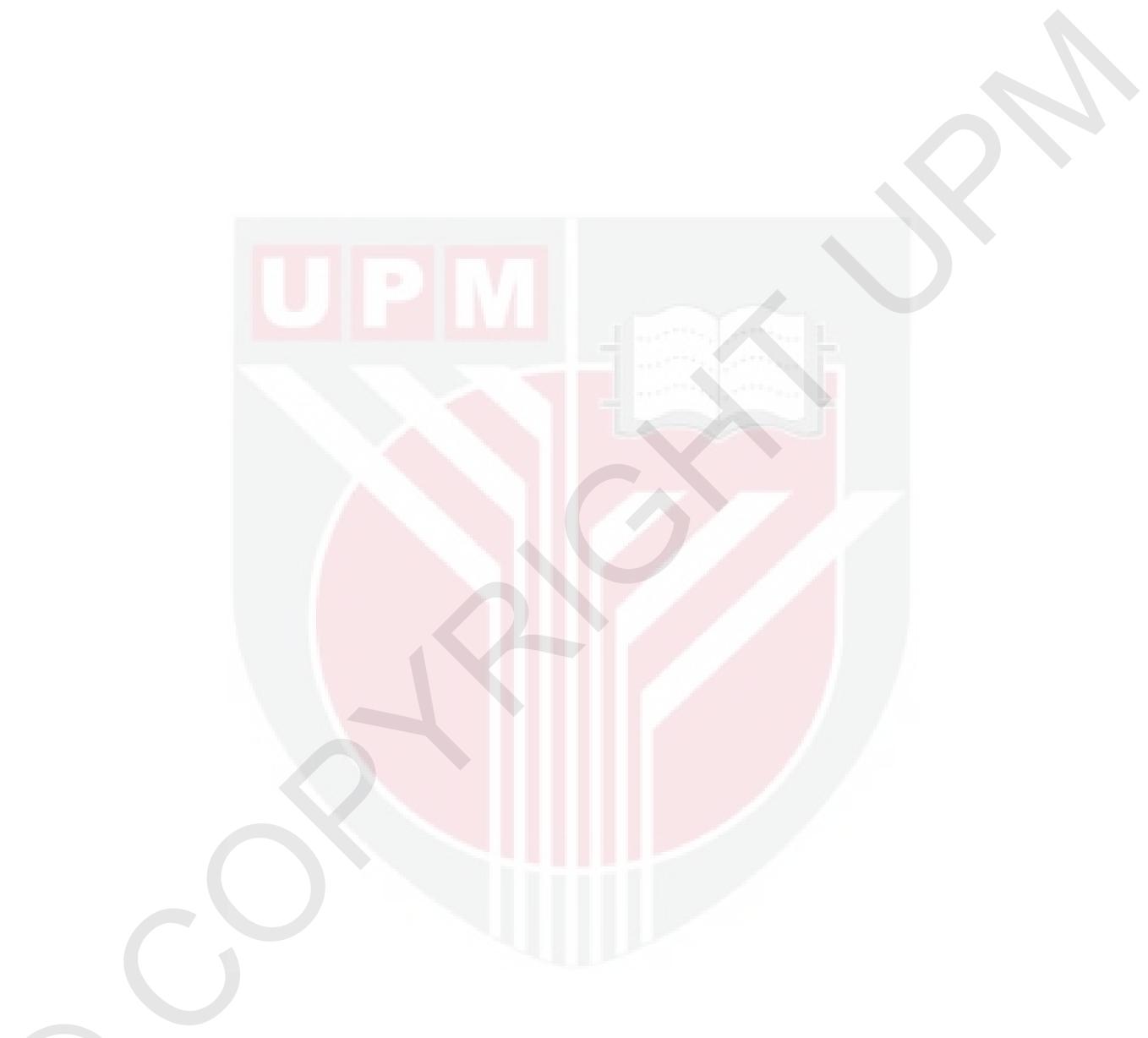
2012

**SPATIAL-ECONOMIC CHARACTERIZATION
OF RESILIENT URBAN DESTINATIONS**

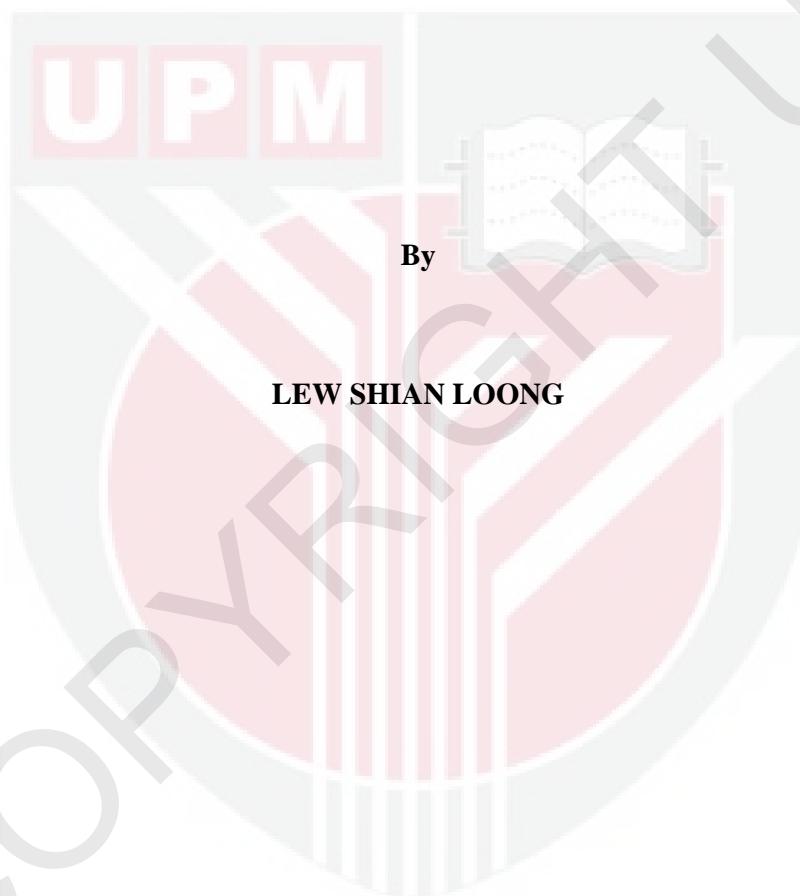


**DOCTOR OF PHILOSOPHY
UNIVERSITI PUTRA MALAYSIA**

2012



**SPATIAL-ECONOMIC CHARACTERIZATION OF
RESILIENT URBAN DESTINATIONS**



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

June 2012

DEDICATIONS

To the glory of the King Immortal, Invisible, the only Wise God

And to my family

With all my love



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

**SPATIAL-ECONOMIC CHARACTERIZATION OF
RESILIENT URBAN DESTINATIONS**

By

LEW SHIAN LOONG

JUNE 2012

Chair: Lee Chin, PhD

Faculty: Economics and Management

Ironically globalization has made a destination's location important but its distance negligible. How do destinations maintain their resilience in such a context? There is a need for a spatial-economic characterization of resilient urban destinations. In a weightless world, demand intangibility must match supply tangibility. Chapter 2 suggests that resilience requires fitness. In the context of tourism this condition of information symmetry is initialized when space acts as an interface, encouraging visitor-destination interactions, and therefore enhances place-making. Computer simulations demonstrated how the right rules led to information symmetry, scaling up from visitor micromotives to destination-level macrostructures. As an axiom, optimal destination resilience coincides with the highest irreducible complexity. Chapter 3 outlines the rule or heuristic to follow to estimate irreducibility at destinations. In a borderless world, such a condition is met where transitions and convergences coincide in the destination's growth path. A visual phenomenology is used to categorize

transitions; while an index measures convergences. In an interlinked world, destinations need to be locally-authentic while being globally-popular. Chapter 4 suggests that it is sufficient that a resilient destination be poised for change. Venice was chosen as an archetypical case for urban destination accessibility. Two sample administrative regions were chosen to reflect its local-global accessibility. Cannaregio was chosen for its localized authenticity and San Marco for its global popularity. The findings in Chapter 4 demonstrated how, visitor, place-related information, derived from geo-tagged images can be complemented with topographical, geographical information derived from satellite images to serve as reliable proxies for authenticity-popularity levels at urban destinations; allowing us to make inferences concerning an urban destination's resilience. Each chapter offered a different angle to resilience that contributed to the robustness of the characterization. Specific insights were gained with respect to destination design and planning, destination development and positioning; and finally destination resilience. Faced with the challenge of weightlessness, the design and planning of a destination should be guided by visitors-centric information. Visitors act as sensors within the destination space, like pixels on a screen, they highlight the meaningful places embedded within the public space. Faced with the challenge of borderlessness, destination development and positioning should be achieved through a co-evolutionary approach. This adaptive management of destinations recognizes that coordination between visitors and destinations is needed to achieve irreducible complexity. Faced with the challenge of interlinkages, the rule-of-thumb for destination resilience is time-space accessibility, boiling down resilience to a right balance between place and space. The popularity mandate requires a prolonged experience of time at destinations, in spite of the limited destination space. This can be achieved through the creation of microcosms, essentially “one space

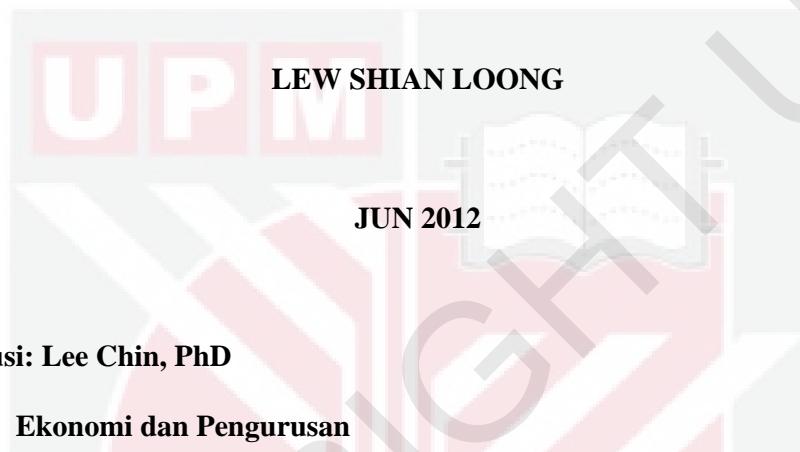
many places”. The authenticity mandate requires shortening the experience of time at destinations in spite of the extensive destination space. This can be achieved through the creation of heterotopias, essentially “one place many spaces”. The resilient destination, having aspects of popularity and authenticity, is a synthesis of the two, allowing heterotopias and microcosms to co-exists in a third place, effectively fusing work and play at destinations.



Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Doktor Falsafah.

PENCIRIAN EKONOMI RUANG DESTINASI BANDAR BERDAYA TAHAN

Oleh



Pengerusi: Lee Chin, PhD

Fakulti: Ekonomi dan Pengurusan

Akibat globalisas, lokasi sesuatu destinasi dijadikan lebih penting daripada jaraknya dari tempat pengunjung. Bagaimakah destinasi pelancongan mengekalkan daya tahan dalam konteks ini? Sejurusnya soalan ini menimbulkan keperluan untuk pencirian ruang-ekonomi destinasi bandar yang berdaya tahan. Dalam dunia nirberat, ciri daya permintaan yang tak ketara harus dijadikan sepadan dengan keketaraan daya penawaran. Bab 2 menunjukkan bagaimana daya tahan berasaskan keadaan sepadan diantara permintaan and penawaran. Dalam konteks pelancongan, keadaan simetri maklumat ini akan dicetuskan apabila ruang bertindak sebagai penggantara sambil meningkatkan interaksi antara pengunjung dan destinasi. Keadaan ini meningkatkan nilai ketempatan sesuatu destinasi. Simulasi komputer menunjukkan bagaimana peraturan yang betul membawa kepada simetri maklumat, menghubungkan motif

pengunjung dengan struktur ruang sesuatu destinasi. Sebagai aksiom, daya tahan destinasi yang optimum bertepatan dengan kerumitan tidak direduksi yang paling tinggi. Bab 3 menggariskan kaedah atau heuristik untuk menganggarkan keadaan kerumitan tidak direduksi yang maksimum ini. Dalam dunia tanpa sempadan, keadaan ini bertepatan dengan fasa peralihan dan penumpuan yang berada dalam trajektori pertumbuhan sesuatu destinasi. Sesuatu fenomenologi visual digunakan untuk mengkategorikan fasa-fasa peralihan; manakala sesuatu indeks disesuaikan untuk menaksir tahap penumpuan dalam kedudukan destinasi. Dalam dunia yang saling berkait, destinasi memerlukan kesahihan lokal sambil populariti global. Bab 4 menunjukkan bagaimana daya tahan ditingkatkan apabila destinasi bandar bersedia untuk perubahan. Venice telah dipilih sebagai kes pola asas dalam mengkaji akses global-lokal. Dua sampel wilayah pentadbiran di Venice telah dipilih untuk mencerminkan aspek akses global-lokal destinasi bandar. Wilayah pentadbiran Cannaregio dipilih untuk menggambarkan kesahihan lokalnya, manakala wilayah San Marco dipilih untuk menggambarkan populariti globalnya. Bab 4 menunjukkan bagaimana maklumat pengunjung dari imej “geo-tag” boleh dilengkapkan dengan maklumat topografi yang berasal dari imej satelit untuk menaksir tahap kesahihan-populariti di destinasi bandar; dan mencapai kesimpulan tentang daya tahan destinasi bandar. Setiap bab memberikan perspektif yang berbeza kepada konsep daya tahan destinasi bandar, dan membolehkan pencirian yang lebih teguh. Bab 2 sampai bab 4 memberi sesuatu pendalaman pengetahuan tentang reka bentuk destinasi dan perancangan, pembangunan dan kedudukan destinasi; dan akhirnya daya tahan destinasi. Berhadapan dengan cabaran nirberat, reka bentuk dan perancangan destinasi harus dipandu oleh maklumat pengunjung. Pelawat berfungsi sebagai sensor dalam ruang destinasi, seperti piksel pada skrin televisyen, pelawat bandar menonjolkan

tempat-tempat yang bermakna dalam ruang awam. Berhadapan dengan cabaran tanpa sempadan, pembangunan dan kedudukan destinasi harus dicapai melalui pendekatan evolusi bersama. Kaedah pengurusan penyesuaian ini membolehkan penyelarasan antara pelawat dan destinasi untuk mencapai kerumitan tidak direduksi yang paling tinggi. Berhadapan dengan cabaran kesalinghubungan, garis panduan untuk daya tahan ada kaitan dengan akses dari segi ruang-masa. Mandat populariti memerlukan pengunjung yang berpanjangan masa di destinasi, walaupun ruang destinasi terhad. Ini boleh dicapai melalui penciptaan mikrokosma, yang pada asasnya ialah “sesuatu ruang dengan banyak tempat”. Mandat kesahihan memerlukan pemendekan masa di destinasi walaupun ruang destinasi adalah luas. Ini boleh dicapai melalui penciptaan heterotopias, yang pada asasnya adalah “sesuatu tempat dengan banyak ruang”. Destinasi yang berdaya tahan mempunyai pengimbangan populariti dan kesahihan dalam pengabungan mikrokosma dengan heterotopias, ini membolehkan gabungan ini bersama-wujud di “tempat yang ketiga”, yang mana “tempat yang ketiga” berfungsi menggabungkan aktiviti kerja dengan aktiviti main.

ACKNOWLEDGEMENTS

My utmost gratitude goes to my family for their untiring support and understanding during the many years spent in researching and writing up this thesis. I am also thankful to Taylors University's School of Hospitality, Tourism and Culinary Arts for providing me with a stimulating and productive environment for research into tourism-related issues.

My gratefulness and thanks to: Dr. Lee Chin, the chairperson of the supervisory committee, for her patience and wise guidance. Many thanks to Dr. Serene Ng Siew Imm and Dr. Khairil Wahidin Awang, who took time to provide constructive feedback as the research progressed through its stages.

I will definitely miss the green and scholarly atmosphere of UPM where I spent many formative years as a Masters and Ph.D. scholar.

Last but not least, thank you Dr. Wong Kong-Yew, my friend and inspiration.

I certify that a Thesis Examination Committee has met on 29 June 2012 to conduct the final examination of Lew Shian Loong on his thesis entitled "Spatial-Economic Characterization of Resilient Urban Destinations" 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.

Members of the Thesis Examination Committee were as follows:

Muzafar Shah Habibullah, PhD

Professor

Faculty of Economics and Management

Universiti Putra Malaysia

(Chairman)

Khalid b Abdul Rahim, PhD

Professor

Faculty of Economics and Management

Universiti Putra Malaysia

(Internal Examiner)

Sridar a/l Ramachandran, PhD

Senior Lecturer

Faculty of Economics and Management

Universiti Putra Malaysia

(Internal Examiner)

Bihu Wu, PhD

Professor

Peking University

China

(External Examiner)

ZULKARNAIN ZAINAL, PhD

Professor and Deputy Dean

School of Graduate Studies

Universiti Putra Malaysia

Date: 27 August 2012

This thesis was submitted to the Senate of Universiti Putra Malaysia and has been accepted as fulfillment of the requirement for the degree of **Doctor of Philosophy**. The members of the Supervisory Committee were as follows:

Lee Chin, PhD
Senior Lecturer
Faculty of Economics and Management
Universiti Putra Malaysia
(Chairman)

Serene Ng Siew Imm, PhD
Senior Lecturer
Faculty of Economics and Management
Universiti Putra Malaysia
(Member)

Khairil Wahidin Awang, PhD
Senior Lecturer
Faculty of Economics and Management
Universiti Putra Malaysia
(Member)

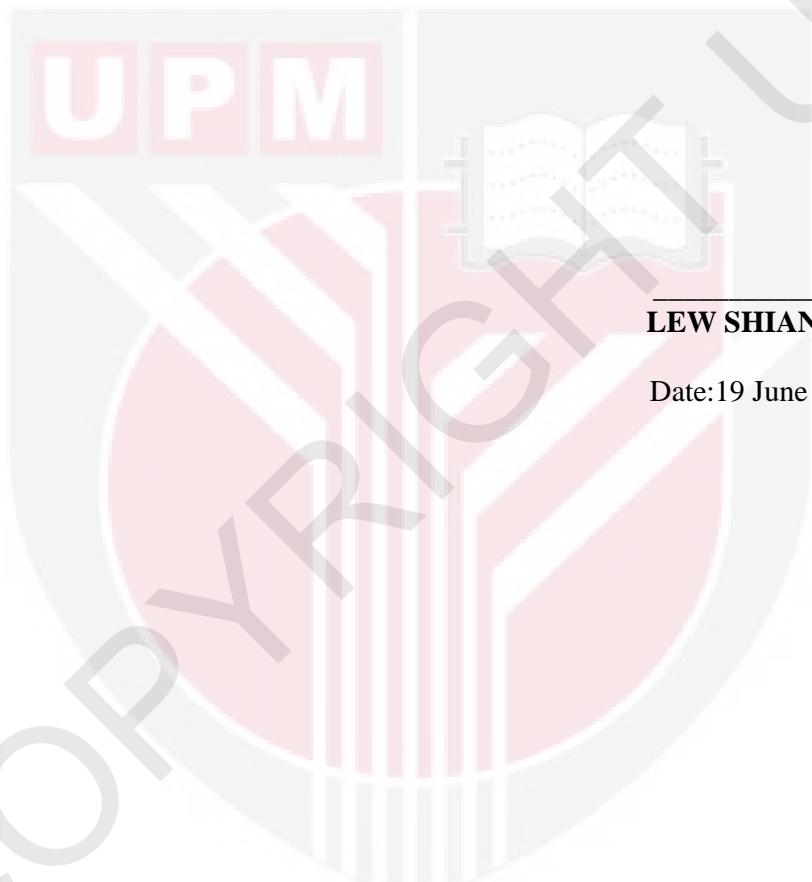
Wong Kong-Yew, PhD
Associate Professor
Faculty of Hospitality and Management
UCSI University
(Member)

BUJANG BIN KIM HUAT, PhD
Professor and Dean
School of Graduate Studies
Universiti Putra Malaysia

Date:

DECLARATION

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



LEW SHIAN LOONG

Date: 19 June 2012

TABLE OF CONTENTS

	Page
ABSTRACT	iii
ABSTRAK	vi
ACKNOWLEDGEMENTS	ix
APPROVAL	x
DECLARATION	xii
LIST OF TABLES	xvii
LIST OF FIGURES	xviii
LIST OF APPENDICES	xxii
LIST OF ABBREVIATIONS	xxiii
 CHAPTER	
1 INTRODUCTION	1
1.1 Introduction	1
1.2 Demand-Based, Micro Perspectives on Places	3
1.3 Supply-Based, Macro Perspectives on Spaces	5
1.4 Complex Adaptive Destination Systems (CADS)	6
1.5 Problem Definition	7
1.6 Objectives	13
1.7 Significance of the Study	14
1.7.1 Simulation of Tourism Contagion	15
1.7.2 Phenomenology and Index	17
1.7.3 Heterotopias, Microcosms and Third Places	19
1.8 Organization of Thesis	21
1.9 Chapter Summary	21
 2 COMPLEX ADAPTIVE DESTINATION SYSTEMS: GENERATING EMERGENT DESTINATIONS	26
2.1 Destination Genesis: Demand vs. Supply	26
2.1.1 Homogenous Supply: the Standardization Thesis	29
2.1.2 Heterogenous Demand: the Customization Thesis	30
2.1.3 Paradox of Rationality: Artifacts and Interface	33
2.1.4 Spatially-Embedded Knowledge (SEK): the Synthesis	34
2.2. Problem and Objectives	37
2.2.1 Problem Definition	37
2.2.2 Research Objectives	40
2.3. The General Theoretical Architecture (GTA)	40
2.3.1 Demand: the Geometry of Knowledge	40
2.3.2 Supply: the Geography of Knowledge Supply Aspects	43
2.4 Theoretical Framework and Constructs	45

2.4.1 Dopfer and Potts' General Theory of Economic Evolution	46
2.4.2 Spatial Complexity Trajectory (SCT)	48
2.4.3 Economies of Scale and Scope	51
2.5 Methodology	53
2.5.1 Plog's Conjectures	55
2.5.2 Operationalization of Tourism Contagion	58
2.5.3 The Three Laws of Epidemics	61
2.5.4 Functional Specification of Transition Rules	62
2.5.5 Rules as Structure: Constitutional and Operational Aspects	66
2.5.6 Model Parameterization and Empirical Basis for Unit Measurements	74
2.5.7 Model Calibration: Operational Considerations	78
2.6 Findings	88
2.6.1 The Ideal SPM Specification	89
2.6.2 The GTA Specification	91
2.7 SPM Robustness with Respect to Plog conjectures	104
2.8 Chapter Summary	106
3 EMERGENT DESTINATION COMPETITIVENESS: REPRESENTATIONS OF VISITOR-DESTINATION CO-EVOLUTION	110
3.1 Destination Development and Positioning: Investments vs. Mindsets	110
3.1.1 Lifecycle Development: the Investment Thesis	110
3.1.2 Psychographic Positioning: the Mindset Antithesis	111
3.1.3 The Plog-Butler-Holling Superimposition (PBHS): the Synthesis	115
3.1.4 Paradox of Marginalism: Threshold Effects	116
3.2 Problem Definition	118
3.2.1 The Meso Hinge	121
3.2.2 The Representative Scheme	121
3.3 Methodology	124
3.3.1 Research Objectives	126
3.3.2 Irreducibly Methodologically Complex Phenomenon	127
3.4 Findings	128
3.4.1 Visualizing Generic Systems	129
3.4.2 Visualizing Methodological Populationism	139
3.4.3 Visualizing Generic Methodological Individualism	143
3.4.4 Phenomenology of Methodological Individualism	149
3.4.5 Index Measures for Emergent Destination Competitiveness	153
3.4.6 GTA Specification as Work horse Model	161
3.5 Tourism Opportunity Costs and Destination Typology	171
3.6 Conclusion	176

DESTINATION RESILIENCE:	
INTERPRETING EMERGENT URBAN DESTINATIONS	180
4.1 Destination Resilience: Global Imperatives, Local Expectations	180
4.1.1 Multiplier: Localized Diversification Thesis	180
4.1.2 Lifecycles: Globalized Intensification Antithesis	181
4.1.3 Spatially-Integrated Destination Economics (SIDE): the Spatial Synthesis	184
4.1.4 The Paradox of Control: Edge of Chaos	185
4.2 Problem and Objectives	186
4.3 The Interpretive Scheme	188
4.3.1 Economic Resilience: History vs. Expectations	189
4.3.2 Destination Resilience: Objective and Subjective Dimensions	190
4.3.3 Global, Objective Dimensions: History and Regional Science	191
4.3.4 Global, Subjective Dimensions: Expectations and World Systems Theory	192
4.3.5 Local, Subjective Dimensions: Expectations and Urban Tourism	194
4.3.6 Local, Objective Dimension: History and Urban Tourism	196
4.4 Edge of Chaos and Conjectures	198
4.5 Methodology	200
4.5.1 "Galapagos" Sampling and Filtered Images	203
4.5.2 Excitations: "a" Parameter and Localized Effects	207
4.5.3 Edge of Chaos: "a=g"	209
4.5.4 Affordance: "g" Parameter and Globalized Effects	211
4.6 Analytical Principles for Policy Evaluation	214
4.6.1 Policy Rules and Transformation Rules	214
4.6.2 Transformation Rules on Random Systems	216
4.6.3 Irreducible Complexity and Destination Resilience	218
4.7 Findings	223
4.7.1 Phenomenology of Resilience for Entire Venice	224
4.7.2 Resilience of Destinations within Venetian Zones	231
4.7.3 Index of Resilience for Venetian Zones	231
4.7.4 Destination Resilience: Authenticity vs. Popularity	236
4.8 Generalizing Destination Resilience: a,g Parameters	242
4.8.1 Unstructured Complexity and Popularity	243
4.8.2 Edge of Chaos and Resilience	244
4.8.3 Structured Complexity and Authenticity	244
4.9 Conclusion	245

5	SUMMARY, GENERAL CONCLUSION AND RECOMMENDATION FOR FUTURE RESEARCH	247
5.1	Characterization Schemes	247
5.1.1	From Lloyd's Scheme to the Integrative Scheme	247
5.1.2	Generative, Representative and Interpretive Schemes	250
5.2	Emergence and the Generative Scheme	251
5.2.1	The Geometry and Geography of Tourism Knowledge	252
5.2.2	Future Direction: Revisiting Methodological Individualism	253
5.3	Entropy and the Representative Scheme	254
5.3.1	Meso as Transition	254
5.3.2	Meso as Convergence	255
5.3.3	Future Direction: Composite Index in Terms of a/g	258
5.4	Resilience and the Interpretive Scheme	259
5.4.1	Theoretical Contributions	260
5.4.2	Practical Contributions	262
5.5	General Conclusion	264
5.6	Future Research Agenda	268
	REFERENCES	271
	APPENDICES	308
	BIODATA OF STUDENT	337
	LIST OF PUBLICATIONS	338