

THE SIGNIFICANCE OF MALAYSIAN REAL ESTATE RESEARCH AGENDA

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Abstract

This paper investigates research agenda by the Malaysian real estate researchers (MRERs). This study adopts a deskwork approach by examining research papers published in leading real estate journals, both international and local and papers presented in main real estate conferences from 1997 to 2010. In addition, the number of research papers published and presented were also assessed from several main real estate research journals in the US, UK, Asia/Australia and Malaysia and conferences such as American Real Estate Society (ARES), European Real Estate Society (ERES), Pacific Rim Real Estate Society (PRRES), Asian Real Estate Society (AsRES) and local conference; International Real Estate Research Symposium (IRERS). The study indicates that the Malaysian real estate researchers (MRERs) have made a positive contribution to the global real estate research agenda. It is anticipated that this trend will change since the Malaysian government has emphasised on improving the quality of higher learning institutions' for which research and publication will be the main agenda. The contribution from MRERs will significantly improve Malaysian universities standing in global ranking.

Keywords: Malaysia, real estate research, researchers

Introduction

The discipline of real estate has seen a tremendous increase in tandem with the rapid growth of the world's economy throughout the world. Thus, the need for professionals in this area is inevitably important. Each country is characterised by different histories of real estate education and research reflecting variations in political systems, land tenure, culture and economic development (Adair *et al.*, 2002). Chan (2008) stressed that one of the essential facts of the present business environment is the globalisation of the production process. In many countries, education gives immense revenue income. Hence, the process of globalisation is significant in institutions.

Real Estate discipline in Malaysia emerged in the early 1960s after a number of students from the College of Estate Management, UK graduated. Since then, the real estate discipline has seen positive growth. The establishment of The Royal Institution of Surveyors, Malaysia (RISM) provides a platform towards the recognition of the discipline by the government. Real estate profession in Malaysia is governed by the Board of Valuers, Estate Agents and Appraisers, Ministry of Finance, Malaysia under the governing act, Valuers, Estate Agents and Appraisers Act 1981. In the move towards providing an adequate number of professionals in the discipline, several universities have established real estate courses. The first undergraduate course was introduced by Universiti Teknologi MARA in 1967; followed by Universiti Teknologi Malaysia (UTM) in 1973 and Universiti Malaya (UM) in 1996. By the year 2003, Universiti Tun Hussein Onn Malaysia (UTHM) had become the fourth university in Malaysia offering real estate course. There are also other universities in Malaysia that offer real estate related courses such as Universiti Sains Malaysia, Universiti Putra Malaysia, Universiti Tuanku Abdul Rahman and Universiti Tun Abdul Razak. These universities also offer postgraduate courses at Masters and PhD levels. These academic programmes indirectly assist in accelerating the growth of real estate industry in Malaysia. In addition, the government also plays a major role by providing a special fund known as the National Property Research Coordinator (NAPREC) grant scheme which is handled by the National Institute of Valuation (INSPEN). INSPEN's staffs are also actively involved doing research as well as publishing and presenting papers. Consequently, the Ministry of Higher

Education also provides several grant schemes for academicians to allow real estate educators and researchers in Malaysia to do research in real estate. The government also sends academic staff and provide scholarships to study real courses overseas. estate Some universities overseas also have quite a number of Malaysians who have graduated in real estate courses such as the University of Reading, University of Aberdeen and University of Salford. The mixture between local and overseas graduates in real estate will improve the quality of real estate knowledge in Malaysia specifically in property research.

In the international arena, the establishment of the regional real estate societies such as the American Real Estate Society (ARES), Asian Real Estate Society (AsRES), Pacific Rim Real Estate Society (PRRES), European Real Estate Society (ERES), African Real Estate Society (AfRES), Latin Real Estate Society (LaRES) and Middle East and North African Real Estate Society (MERES) are the platforms for generating the development of real estate research agenda in Malaysia. In Malaysia, INSPEN has actively organised local conferences, International Real Estate Research and Symposium (IRERS) since 2002. It provides a platform for local academicians and researchers to share knowledge by presenting their research findings and establish networking with international speakers and presenters. MRERs have been actively participating in these conferences and indirectly, this has contributed towards a positive impact on the Malaysian research culture specifically in property research.

Manning *et al.* (2007) pointed out several factors that could benefit all researchers in real estate:

- i. Development of regional real estate society;
- ii. Significant increase in the number of journals available;
- iii. Increased access to property information such as IPD, JLL, UBS and PIR. In Malaysian context, the establishment of National Property Information Centre (NAPIC) provides a full range of information on property database.
- iv. Establishment of new property organisation such as European Real Estate Association (EPRA), Asian Public Real Estate Association (APREA), Asian Real Estate Association (AREA) and Investment Property Forum; these are in addition to the already long-term established players such as NAREIT, ISM, BOVEA and the RICS.
- v. Improved communication, seeing collaborative reports developed via email as well as downloading property industry reports and data from property industry websites.

Over the past decade there has been a significant growth in real estate research throughout the world (Roulac *et al.*, 2004 and Adair *et al.*, 2002). Given the significance of the real estate research throughout the world, this paper aims to assess the contribution of Malaysian real estate researchers to the global real estate agenda. Furthermore, it attempts to look into the current level of real estate research activities among the main real estate education institutions in Malaysia.

There are several researches that have been conducted on real estate research output in terms of ranking and research priorities. Chan et al. (2008) evaluated the internationalisation of real estate research among the top publication in the USA namely; the Real Estate Economics, Journal of Real Estate Finance and Economics, Journal of Real Estate Research, Journal of Housing Economics, Journal of Regional Studies, Journal of Urban Economics, Land Economics, Regional Science and Urban Economics and International Real Estate Review. Newell et al. (2002), Newell et al. (2004i) and Worzala et al. (2002) explored the research priorities in Australia, UK, and USA as well as at the international level. Furthermore, Ong et al. (2001) has conducted a survey on the US and UK real estate journals. The study highlighted the ranking on institutions as well as researchers which was divided into different continents. There were also a number of studies which focused only on researches and publications in USA such as Diaz et al. (1996), Clauretie and Daneshvary (1993), Dumbrow and Turnbull (2000) and Urbancic (2007). While in Asia, Chau (1998) had focused on real estate research performance in Asia. In addition, several authors such as Adair et al. (2000 and 2002) investigated the research agenda from the programme provided by RICS Cutting Edge and ERES. Furthermore, some studies have also evaluated the number of contributions to journals (Newell et al., 2001; Ong et al., 2001; Dombrow and Turnbull, 2000 and Chan et al., 2008), and conferences (Johnson et al., 2001 and Roulac et al., 2004). From the literature findings, Malaysian real estate researchers' contributions were still at a low level. Thus, this study tries to investigate the contribution of local researchers into real estate research agenda from the local context point of view as well as at the international level.

According to a research done by Manning et al. (2007), Malaysia is under the developing markets whereas research must be the main agenda to become as established markets as the UK, Germany, US and Scandinavian countries. From all the above researches and literature, there is a significant need to investigate the achievement of Malaysian real estate researchers especially at the international arena. The purpose of this paper is to critically review the contribution of MRERs over the period of 1997 to 2010 with the aim to assess the main variables in research agenda; conference papers and journals. The questions that are going to be answered in this research include:

- i. What are the contributions of MRERs for the last 10 years towards international real estate agenda?
- ii. Has the focus of MRERs expanded parallel to the international level?
- iii. How far is the contribution of MRERs in the local arena?
- iv. What are the key topic areas of research among MRERs?
- v. How far are the universities in Malaysia progressing in real estate research?

Methodology

In this study, data was obtained from four major universities that offered real estate programmes namely; Universiti Teknologi MARA (UiTM), Universiti Malaya (UM), Universiti Teknologi Malaysia (UTM) and Universiti Tun Hussein Onn Malaysia (UTHM) and one institution, the National Institute of Valuation (INSPEN). These universities and institution are considered as the major real estate research institutions in Malaysia. Data was also attained from major real estate journals and conferences, locals and internationals. The lists of journals as a case study in this survey are as follows:

- 1. US Journals
 - i. Journal of Real Estate Research (JRER)
 - ii. Journal of Real Estate Finance and Economics (JREFE)
 - iii. Journal of Real Estate Literature (JREL)
 - iv. Journal of Real Estate Portfolio Management (JREPM)
 - v. Journal of Real Estate Practice and Education (JREPE)
- 2. UK Journals
 - i. Journal of Property Research (JPR)
 - ii. Journal of Property Investment and Finance (JPIF)
 - iii. Property Management (PM)
 - iv. Journal of Corporate Real Estate (JCRE)
 - v. Urban Studies
 - vi. Facilities
 - vii. Journal of Facilities Management
 - viii. International Journal of Housing Analysis (IJHA)
- 3. Asia/Australia
 - i. Pacific Rim Property Research Journal (PRPRJ)
 - ii. International Real Estate Review (IRER)

- 4. Malaysia
 - i. Journal of Design and Built Environment
 - ii. International Journal of Real Estate Studies (previously known as Malaysian Journal of Real Estate)
 - iii. Journal of Property and Valuation Services (JPVS)

Data from the various institutions from the period 1997 to 2010 was compiled and analysed to assess whether Malaysian real estate researchers have given a significant contribution in terms of real estate research agenda. The concepts of unadjusted and adjusted number of publications were used in order to identify whether the article is single authored or co-authored. According to Ong et al. (2001) if an article has three authors, then each author receives a weight of 1/3. As for this analysis, if the Malaysian author represents two authors out of four, thus it receives 2/4 or 0.5. They added that the number of authors contributing to a paper weighs the adjusted number of publications.

A similar method of analysis was adopted for the conference papers over the same period. Four major real estate conferences and one local conference were reviewed to get an overview of the Malaysian real estate participation in these conferences. The concepts of unadjusted and adjusted number of publications were also used in this analysis. The conferences that are being analysed are;

- i. American Real Estate Society Conference (ARES)
- ii. European Real Estate Society Conference (ERES)

- iii. Pacific Rim Real Estate Society Conference (PRRES)
- iv. Asian Real Estate Society Conference (AsRES)
- v. International Real Estate Research Symposium (IRERS)

According to Roulac et al. (2004) PRRES was established in 1993 to provide a formal focus for real estate researchers, educators and practitioners in the Pacific Rim region. Meanwhile ERES was established in 1993 with a similar objective which is to create a network between real estate academics and professionals across Europe. Earlier than PRRES and ERES, ARES was founded in 1985 to establish knowledge network in the field of real estate in United States and abroad. With the assistance of academia from ARES, AsRES was formed in 1996. At the local level, the National Institute of Valuation or INSPEN progressively promotes real estate research environment and culture through the International Real Estate Symposium (IRERS), which was established in 2002. INSPEN invested a lot of money to organise this conference and as a result Malaysia is recognised as one of the major real estate conferences destinations in the world. This conference also managed to attract foreign academicians and keynote speakers to share and transfer their knowledge through activities and networking in this conference.

This study will also explore the correlation between papers presented in conferences and published in the various journals. This is to assess the relationship between conference papers and journal papers and whether local researchers upgrade their conference papers to a high level and get them published in journals. Thus, the number of conference and journal papers was analysed to know the level of research culture among Malaysian real estate researchers. In general, an author's aim would be to upgrade conference papers and make it publishable in journal. Further, acceptance for publication in journals will show the quality of the articles and researches that have been done.

Additionally, this paper examines the MRERs choices of topic for their paper in conferences and journals. This is to identify the preferences of local researchers in terms of global research topics whether the topics are aligned with global favourite topics. The common topics for the analysis are based on a research done by Newell *et al.* (2002), Worzala *et al.* (2002), Newell *et al.* (2004i), and Newell *et al.* (2004ii). With some modifications made to suit the

Malaysians, the common topics are depicted in Table 1.

Results and discussions

Journal Analysis

Table 2 presents the analysis of papers by Malaysian authors from 18 journals over the period of 1997- 2010. Over this period, a total of 47 papers have been published in international journals. From the analysis, it was clear that for US journals, only the Journal of Real Estate Literature has Malaysian real estate appearances (4 papers; 1.50 adjusted). The low adjusted score showed that most of these papers were collaborated with foreign researchers. It was a good strategy in terms of knowledge transfer to encourage local researchers to publish more in US journals. In the UK journals,

Table 1: General Research Topics	Table 1:	General I	Research	Topics
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No.	Topics
1.	Performance measures of property
2.	Macroeconomic factors affecting property
3.	Diversification in valuation technique and process
4.	Property investment strategies
5.	Portfolio management
6.	Technological changes affecting property
7.	Role of international real estate
8.	Regulatory changes affecting property
9.	Demographic changes affecting property
10.	Microeconomic factors affecting property
11.	Housing
12.	Facilities Management

Adapted from Newell *et al.* (2002), Worzala *et al.* (2002), Newell *et al.* (2004), and Newell *et al.* (2004)

Journals	No. of	No. of
	publication	publication
	(non-adj.)	(adj.)
USA		
JRER	0.0	0.0
JREFE	0.0	0.0
JREL	4.0	1.5
JREPM	0.0	0.0
REE	0.0	0.0
JREPE	0.0	0.0
TOTAL	4.0	1.5
UK		
JPR	2.0	0.7
JPIF	0.0	0.0
PM	1.0	1.0
JCRE	6.0	4.42
Urban Studies	1.0	1.0
Facilities	4.0	4.0
JFM	7.0	6.5
IJHA	4.0	4.0
TOTAL	25.0	21.62
Asia/ Australia		
PRPRJ	18.0	16.25
IRER	0.0	0
TOTAL	18.0	16.25
GRAND TOTAL	47	39.37

Table 2: Number of Papers Published inInternational Journals 1997-2010

most of the Malaysian real estate researchers published in the Journal of Facilities Management (7 papers; 6.5 adjusted). This is followed by the Journal of Corporate Real Estate (6 papers; 4.43 adjusted) and four papers with both Facilities and International Journal of Housing Analysis. Interestingly, for most of the UK journals, the differences between the non-adjusted and adjusted scores were small to indicate that most of the papers published were done by local researchers. For the analysis on Australia/ Asia journals (PRPRJ and IRER), there were 18 papers (16.3 adjusted) published in PRPRJ but no publication was recorded in IRER which is the Asian Real Estate Society official journal.

The findings show that Malaysian real estate researchers published more in the Pacific Rim Property Research Journal (PRPRJ) which make up 18 papers (16.3 adjusted). In conclusion, the levels of publication amongst the Malaysian real estate researchers are still low in the international journals over this period. Between the regions, Malaysian real estate researchers have favoured to publish in PRPRJ as compared to UK and US journals. The acceptance rate for each journal influenced the number of publication. The US journals seem to have very low percentage of acceptance of papers, 25% (ARES Newsletter, 2007). On the other hand, PRPRJ seem to have a very high percentage of acceptance, 62% (Newell, 2003). In addition, each journal has a different scope and style of writing. For example, US journals seem to emphasise on mathematical modelling and in-depth analysis, while for UK and other journals, conceptual papers and case study approaches are still acceptable. It was notable that all of the papers published by Malaysian in US journals were collaborated with US academicians such as Ali et al. (2008a and 2008b) except for Shakir (2009). To compare in terms of countries origin journals, it seems that more Malaysians preferred to publish in UK journals. This is due to the availability of several numbers of high profile journals available in UK (see Figure 1).

At the local level, there are several institutions actively publishing real estate journals to encourage local academicians to publish and to create a research culture among them. These journals also welcome foreign researchers' articles and some of these journals are able to attract foreign researchers to publish in their journals. A total of 80 papers have been published in local journals over the period 1997 to 2010. Among these, only 6 papers were jointly authored by local and international researchers. This indicates that local researchers dominate 93% of the papers published in local journals. The findings also signify an average of 6 papers published every year from 1997 to 2010 in local journals. This indicates a very low number in terms of publication compared to the number of real estate researchers all over Malaysia which comprises 4 major universities in real estate and one institution. The full results of publication in local journals are tabulated in Table 3.



Figure 1: Comparison of US, UK and Asia/Australia Journals

No.	Journals	No. of papers	International collaboration	Publisher	Year of established
1.	Journal of Design and Built Environment	34	4	Universiti Malaya	2005
2.	Journal of Valuation and Property Services	32	1	National Institute of Valuation	1998
3.	International Journal of Real Estate Studies	14	1	Universiti Teknologi Malaysia	2006
	Total	80	6		

Table 3: Number of papers published in local journals

Figure 1 outlines the trend of authorship of journals published from 1997-2010. It is obvious that the trend of single authorship papers is the most favourable among MRERs compared to two or more authors. The trend of single authorship has demonstrated that most of MRERs prefer to work on their own initiative in order to publish a paper in the journals. In contrast, their counterparts in Singapore have published most of their papers internationally in collaboration with foreign researchers especially from US. This strategy is to ensure that their articles have a high percentage of acceptances if they build collaboration with any researchers in the US especially with high profile researchers. Most local universities appointed visiting professors from international universities and this will be a good opportunity for MRERs to create a smart partnership in terms of research and publication. Local researchers must also know how to grab

this opportunity. Furthermore most of MRERs graduates are from overseas universities, as such the partnership with their former supervisors should be able to generate more research and publication with international collaboration.

In terms of academic institution appearances in journals, Universiti Malaya (UM) was the leading institution in Malaysia which has the highest score (non adjusted and adjusted). Universiti Teknologi MARA (UiTM), Universiti Teknologi Malaysia (UTM) together with Universiti Putra Malaysia (UPM) followed in second and third place. For adjusted and non-adjusted rankings, all institutions seem to be in the same position with the exception of Universiti Putra Malaysia (UPM) in fourth place for adjusted scores. Other universities also contributed to the journal appearances in international journals over the period 1997 to 2010 period. The summary is provided in Table 4.



Figure 2: Authorship Trend by MRERs in International Journals

Institution	Non-adj.	Ranking	Adj.	Ranking
UiTM	10	2	7.05	2
UM	14	1	12.25	1
UTM	6	3	5.50	3
USM	3	6	2	5
UPM	6	3	2.95	5
INSPEN	1	7	1	6
The University of				
Nottingham Malaysia	1	7	1	6
UMS	1	7	1	6
UTHM	4	5	3.2	4

Table 4: Academic Institution Based on Article Appearances in Journal

Type of papers

The type of papers is crucial in order to publish in international journals. Many journals are likely to be inclined towards empirical testing papers. Based on classification made by Ong *et al.* (2001), the type of papers can be categorised as follows:

- *i. Theoretical modelling.* Empirical work, it is contended, should always be guided by theory. So the development of theory through mathematical models is essential to understand and explain phenomena and observations.
- *ii. Empirical testing*. Statistical inference is carried out to test clearly specified hypothesis.
- *iii. Case study.* Where a phenomenon is unique and rare in occurrence, empirical testing cannot be done. The alternative is to conduct case studies.

iv. Descriptive evaluation. This is the catch-all category for research work that cannot be classified under any of the above categories. It is included to differentiate from empirical-statistical papers.

Figure 3 illustrates the category of papers based on the 47 papers that have been published by MRERs in leading real estate journals over the period 1997-2010. It was observed that most of the papers fall under the empirical category. This is followed by case study, descriptive and case and theory. It is known that most of the high reputable journals prefer empirical analysis with in depth discussion. As such, MRERs seems to follow the trend for most of the high ranked international journals. What has to be done is to improve the quality of papers by referring these papers that have been published to highly reputable journals. Nevertheless some journals also welcome other types of papers such as



Figure 3: Type of Journal Papers by MRERs

case study, merely descriptive and theory and discussion. Case study papers with comprehensive discussion were also popular among MRERs published in the journals. Facilities, Journal of Facilities Management and Journal of Corporate Real Estate are some of the journals that accept these types of paper besides the empirical type of analysis.

Conference analysis

At the international level, there are several conferences that have served as a platform for researchers to share knowledge and build networking. The establishment of the International Real Estate Society that has regional real estate societies has provided a good platform for MRERs to be exposed globally. This section will examine the contribution of MRERs to these international conferences. Four major real estate conferences and one local conference were examined (see Table 5). The overall comparison of these main conferences shows that PRRES conference scores the highest number of papers in terms of adjusted and non-adjusted numbers for international conferences (42 papers, 31.5 adjusted). For local conferences organised by INSPEN, a total of 189 papers were presented since the establishment of this conference in 2002. Out of these, 40 papers or 27% were international papers or collaborated with foreign researchers. This percentage

Table 5: Number of Papers Published inConferences 1997-2010

Conference	No of Paper (non-adj.)	No. of paper (adj.)
ARES	6	5.0
ERES	21	18.5
PRRES	42	31.50
AsRES	22	20.30
IRERS	189	186.2
TOTAL	280	261.5

showed that IRERS has already been recognised by international real estate researchers' community.

Interestingly, a study done by Adair et al. (2002) has placed Malaysia among the top countries in term of contribution for PRRES conference (valuation theme). In addition, Roulac et al. (2004) study on global real estate agenda has put Malaysia at number 5 (unadjusted) and number 4 (adjusted) for the appraisal theme. Besides PRRES conference, Malaysian real estate researchers also portraved interest in other major real estate conferences. The significant number of papers contributed was shown in the other real estate conferences such as ERES and AsRES conferences (see figure 4). However, ARES conference showed very low participation from Malaysian real estate researchers. Since 1997, only 6 papers were presented in ARES conference (with 5 adjusted). This is due to the distance factor and other factors such as immigration and visa requirement

for Malaysians which put US at a relative disadvantage as conferences destinations when most European and Asian countries as well as Australia/New Zealand do away with visa requirements for Malaysians. It is believed that the main reason has to do with the limited budget approval from the ministry or universities for travel to US due to the high costs.

breakdown of MRERs The contribution in the four main real estate conferences is shown in Figure 4. Noticeably from 1997 to 2002, only PRRES conference showed active participation from MRERs. For the ERES conference, the number of papers has steadily increased since 2004. The highest was at ERES conference in London and Stockholm with 5 papers respectively. With the increased cost of travelling and accommodation, this number is quite astonishing. However for the AsRES conference, the papers from MRERs show a changing trend. The venue of the conference which was mostly located in



Figure 4: Major real estate conferences (non-adjusted) score from 1997 to 2010

Asian countries attracted MRERs to submit their papers. From the perspective of a total number of papers, it clearly shows a sharp increase starting from the year 2005 in participation for AsRES conference. In general, from the year 1997, the number of papers had increased for all international conferences although it is still low compared to other countries.

As for institution appearances in conference proceedings within the same period, UiTM seems to lead in the conference category (26 papers for non-adjusted). This is followed by UM, UTHM, UTM and other institutions. The ranking position for both unadjusted and adjusted is the same except for adjusted; UTM is in the 3rd place and UTHM is in 4th place. The ranking for institution appearances in conferences is slightly different from the ranking on institution appearances in journals. The summary of institution appearances is shown in Table 6.

Research topic analysis

In term of research and development, the Malaysian government had introduced numerous grant schemes through various channels of government agencies. In addition, private sectors are also encouraged to be involved in R&D activities. This is possible through contract research scheme. Consequently, they will receive some benefit such as tax deduction or exemption, awards, and other scheme. As mentioned earlier, general topic researches were identified to determine whether real estate research topics in Malaysia are on par with international level. From the keywords and title, the research topics are grouped by 12 general research topics from the period 1997- 2010 (see Figure 5).

From the analysis it is clear that the top three (3) topics by Malaysian real estate researchers for the past twelve (12) years were demographic changes affecting property, housing and facilities management. Several topics show a sensible number of projects such as regulatory changes affecting property, technology changes affecting property and diversification in valuation technique. However, a very small number of projects shown in topics such as are microeconomics affecting property, the role of international real estate and portfolio management. Ironically these topics are the most preferable topics in

Table 6: Institution Based on Article Appearances in Conference: 1997-201	ased on Article Appearances in Conference: 1997-2010
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Institution	Non-adj.	Ranking	Institution	Adj.	Ranking
UiTM	26	1	UiTM	22.60	1
UTM	16	4	UTM	15.30	3
UM	20	2	UM	18.50	2
UTHM	17	3	UTHM	14.10	4
Others	12	5	Others	10.25	5
Total	91		Total	80.75	



Figure 5: General Topic Research 1997-2007

high rank journals such as Real Estate Economics, Journal of Real Estate Research and Journal of Real Estate and Portfolio Management.

The implications to Malaysian Real Estate Research Agenda

This section will discuss the implications to real estate research agenda by assessing all research agenda indicators; publications in journals and conferences. Between these two indicators, most MRERs preferred to contribute towards research agenda through conference papers which constitute 69% of research agenda contribution. However, journals contribution has increased in recent years and managed to contribute 31% of the research agenda contribution (see Figure 6). Although the percentage in journal publications were lower compared to conferences, this number is quite good since the awareness of publication in Malaysia has just come about recently.

The performance over the period 1997-2010 of MRERs indicators is shown in Figure 7. The trend of publication has steadily increased over this period for both indicators. Support from the government through several incentives such as research grant schemes whether from the federal government or universities and institutions, the special budgets for conference travel and money incentives for those published in high reputable journals improved the numbers of MRERs indicators performance. Although this performance was mostly contributed from local conference and journals, it was a good start for local researchers in order to expose them to higher level of conferences and publishing in high rank journals. The Malaysian government is devoting a sizeable budget allocation to promoting a culture of research in Malaysia as part of the agenda to achieve a high-income nation through research and publication. However, MRERs performance is still far



Figure 6: Comparison between Journals, Conferences



Figure 7: MRERs Indicators: 1997-2010

behind compared to other universities in the neighbouring countries. A survey by Ong *et al.* (2001) revealed that over the period of 1993-1998, the National University of Singapore managed to publish 38 papers in high ranked journals in UK and US and the University of Hong Kong was able to publish 25 papers over the same period. The summary of the performance of other universities overseas is tabulated in Table 7.

In terms of research topic preferences, it seems that most of

MRERs preferred topics such as demographic changes affecting property, housing and facilities management. However none of these topics were the top priority topics at international level whether in UK, Australia or Germany. These priority topics in these countries should be useful for real estate fund managers, as well as for real estate researchers regarding potential priority real estate research topics that are suitable for research funding from the leading real estate groups such as the Pension Real

	University	Number of publications
US		
1.	University of Pennsylvania	32
2.	University of California, Berkeley	29
3.	Georgia State University	31
UK		
1.	University of Reading	106
2.	University of Ulster	52
3.	University of Glasgow	36
Aust	ralia/ New Zealand	
1.	University of Western Sydney	31
2.	University of Auckland	10
3.	University of Birmingham, Australia	8
Asia		
1.	National University of Singapore	38
2.	University of Hong Kong	29
3.	University of Sogang	5

Table 7. Global University Ranking by Publication in Real Estate: 1993-1998*

Authors' calculation from Ong et al. (2001)

* Above calculation were from leading UK and US property journals namely, JREFE, Real Estate Finance, JRER, Journal of Urban Economics, REE, Land Economics (US), JPR, JPIF, Journal of Property Finance and Urban Studies (UK)

Estate Association (U.S.), Real Estate Research Institute (U.S), Royal Institution of Chartered Surveyors (RICS), Investment Property Forum (U.K), German Society of Property Researchers (Germany) and Property Council of Australia (Australia) (Newell et al., 2004). These topics were also topics preferred in most high rank journals such as REE, JRER and JREPM. Publication in high rank journals is not merely for promotion and reward but more importantly, for the dissemination of knowledge. The development of knowledge in an applied field such as real estate typically proceeds through five stages, which can be characterised as follows:

- i. Accumulation of data pertinent to the field of study
- ii. Systematic examination of these data to determine the important facts that require formal explanation through the development of economic and/or financial models
- iii. Formulation of models that are thought to be capable of accounting for the important facts. This stage often involves adapting models that have been successful in related fields (e.g., option pricing in finance, hedonic modelling from economics, search theory from labour economics)
- iv. Use of models for forecasting, policy analysis, and normative analysis.

Table 8 presents the specific real estate research priorities in US, UK, Germany and Australia.

Table 8: Specific Real Estate Research Priorities in US, UK, Germany and Australia: PCA Dimensions

U	Κ

- 1. Changing real estate environment
- 2. Specific real estate market dynamics
- 3. Liquidity/international real estate
- 4. Appraisal reliability and accuracy
- 5. Real estate disposal issues
- 6-8. Not readily interpretability
- 9. Diversification in portfolio.

Australia

- 1. Changing real estate environment
- 2. Specific real estate market dynamics
- 3. Diversification in portfolio
- 4. Capital flows/liquidity
- 5. Appraisal reliability and accuracy
- 6. Appraisal reliability and accuracy
- 7-8. Not readily interpretability
- 9. Indirect real estate in portfolio

Germany

- 1-2. Not readily interpretable
- 3. Specific real estate market dynamics
- 4. International real estate management
- 5. Diversification in portfolio
- 6-7. Not readily interpretable
- 8. Real estate investment strategy

U.S.

- 1. Not readily interpretable
- 2. Changing real estate environment
- 3. Not readily interpretable
- 4. Indirect real estate in portfolio
- 5. Diversification in portfolio
- 6. International real estate investment
- 7. Real estate liquidity/market capitalisation
- 8. Real estate investment strategy

*Some PCA dimensions were not readily interpretable in a real estate context. (Newell *et al.*, 2004)

The way forward

The findings revealed that Malaysian real estate researchers are way behind compared to Singapore, Australia, UK and US. Nevertheless, the performance in terms of publication in journals can be considered to be at a developing stage. The awareness to publish in journals has just come about recently when global universities attempt to be the best in terms of ranking where publications is one of the important criteria considered. Although real estate programme at the National University of Singapore was established almost the same year with some universities in Malaysia such as Universiti Teknologi Malaysia, Singaporean real estate researchers have performed much better, conceivably due to the greater advantages they enjoy in terms of more advantages in terms of resources, awareness and reward scheme. With 47 papers published in international journals, this number is believed to increase in future years. The federal government has introduced research universities status scheme that only focuses on research and publications. Research universities will be allocated an amount of money by the federal government to concentrate on these areas. As such, the impact of this scheme will be seen in future years. Internationalisation programme has also been introduced in some universities. For example, UTM has introduced the global outreach programme specifically to ensure that the knowledge transfer programme is successful. UTHM has also allocated some funds for students and staff mobility programme for staff and students attachment in foreign universities. These programmes are believed to give significant impact in the development of Malaysian universities to become major contributors in research and development. Hence it will improve the universities ranking as well.

The high number of conference papers in international conferences also showed that the government has a special allocation for MRERs to travel for conferences. It is also a good sign for MRERs in terms of publication awareness. What needs to be done is to upgrade all these conference papers into journal papers. Many universities also have the visiting professor programme, visiting associate professor programme and external examiners. Their roles are to help local universities in any way to improve the academic curriculum as well as for research and publication. As such, local universities should exploit their expertise to help MRERs improve conference papers to high quality journal papers. The high number of conference was a good indicator for MRERS to move forward especially in terms of quality. The high quality of articles is shown by publishing in international journals.

The government through the National Institute of Valuation (INSPEN) also has special funds to do research specifically on real estate. INSPEN also organises international conference every two years to stimulate MRERs publish quality papers. This is also a platform for participants to build networks among themselves as well as with international keynote speakers. Recently, IRERS also provided a platform for post-graduate students to learn how to do their research guide by inviting well-known keynote speakers. However IRERS also should give opportunities for MRERs to be keynote speakers alongside with international speakers to prove local knowledge capabilities in the international arena. Besides IRERS, the Royal Institution of Surveyors Malaysia (RISM) is also very active in organising workshops, seminars and conferences. Although RISM focus more on industrial players, MRERs also actively participates in their activities in order to link between academics to industry. This connection will also give a better idea for MRERs to do research on current issues in real estate.

Conclusions

The analysis of main indicators in international real estate research agenda namely conference papers and journals provide a useful view of the contribution of MRERs for the past 13 years. The results indicated that there has been a significant contribution by MRERs towards real estate research agenda. This was determined through the numbers of papers presented at international conferences and the publication in major real estate journals. Nevertheless, it is clear from the analysis MRERs are still lagging behind in terms of publication in leading real estate journals compared to universities in neighbouring countries such as the National University of Singapore which was established almost the same year with certain local universities here. According to the survey done by Ong et al. (2001), from the period 1993 to 1998, NUS already published 38 papers in leading UK and US journals. This number is believed to

significantly increase if the survey is taken within the same period. Furthermore, there is an imbalance between the number of conference papers and papers published in journals. Theoretically, conference papers are able to produce or be upgraded for journal publication. This indicates that publication awareness among MRERs is still at the early stage.

In terms of research topics, the analysis reveals that most of MRERs do not seem to be interested in the topic related to the role of international real estate. The study done by Newell et al. (2004), found out that this topic is among the top four topics in research priorities. Most of the MRERs are still paying attention to the specific topics such as demographic changes affecting property, facilities management and housing which are not in the list of top priorities at international level. The importance of synchronising with international topics is to get a chance to publish in highly reputable journals. With this awareness, the MRERs must put some interest in the priorities of the research area. This strategy would assist MRERs towards the achievement of getting papers published in leading real estate journals. Interestingly, the journals analysis had specified that MRERs are more interested in the empirical type of papers. Ong et al. (2001) had revealed that most of the journals are empirical type of papers. This showed that MRERs has good fundamental type of papers which needs to be linked with the research priorities in real estate especially at international levels.

It is known that MRERs are trailing behind their counterparts in Singapore.

However, several actions have been taken to accelerate the contribution of MRERs especially at international levels. It is believed that programmes such as visiting professors programme, adjunct professor, external examiner, organising conference and seminars, joint venture research project will step up the MRERs into international real estate agenda. The government has put a lot of effort to assist Malaysian universities to become of world class standard. In order to achieve this, MRERs have to play a big role in the research agenda to put real estate institutions in Malaysia at the same level with other top universities in real estate. It is hoped that the results of this research on the significance of Malaysian real estate research agendas will be the catalyst for future research and publication initiatives in the crucial area of local real estate research.

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