A COMPARATIVE ANALYSIS OF US, UK AND AUSTRALIAN PUBLISHED PROPERTY RESEARCH METHODOLOGIES AND METHODS

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Abstract

This paper examines the research perspective, methodologies and methods of analysis of a sample of US, UK and Australian property journals over recent years. Content analysis is used to establish the most utilised methodologies and methods embraced by the academic property community over the period from 1990 to 2001. Results indicate that almost exclusively US journals publish papers that contain statistical analysis, and in a majority of cases econometric modeling. UK and Australian journals, although favouring statistical analysis, contain a wider number of approaches.

Introduction

This paper examines the research perspective, methodologies and methods of a sample of US, UK and Australian academic property refereed journals over the period between 1990 and 2001. By utilising content analysis the theoretical perspective, methodological approach and method(s) are identified. After setting out the results of this analysis the authors discuss the implications for the academic community and possible opportunities to expand the creative environment for a broad and deeper understanding of the workings of the property market.

Method and Procedure

A major goal of this paper is to determine the current use of different methodologies and methods used to create the real estate body of knowledge. A full examination of all academic property journals was not possible within the context of this paper, thus a sample of UK and US property journals published between 1990 and 2000 and the Australian journal, Pacific Rim Property Research Journal between 1995 and 2001 were identified. Content analysis was then utilised to identify theoretical perspective, methodology, methods and topic areas. The intention of the research is not to produce an exhaustive review of all property journals but to identify general trends based on a sample as described below. The journals selected for examination were perceived as reflecting the property discipline in the UK, US and Australia. The US Journals were chosen from the group of journals documented by Diaz III, Black and Rabianski (1996) as being amongst the top ranked American academic property journals. The journals utilised for this research are listed below.

UK Journals

- Journal of Property Finance (JPF),
- Journal of Property Investment and Finance (JPIF),
- Journal of Property Research (JPR),
- Journal of Property Valuation and Investment (JPVI),

US Journals

- Journal of Real Estate Research (JRER),
- Real Estate Economics (REE)

Australian Journal

Pacific Rim Property Research Journal (PRPRJ)

Housing Studies (HS) was also included due to the number of property academics regularly publishing in this journal. It was perceived by the authors as a top ranked interdisciplinary academic journal containing a wider range of approaches than other property specific journals, which constitute the core terrain for property academics.

Once the journals were identified, a sample of papers was then taken for analysis. The sample comprised UK and US journal papers published in the first volume in each of the years 1990, 1992, 1994, 1996, 1998, and 2000. Where the first issue consisted of a special edition, the next non-special issue in that volume was chosen. Full runs of papers (1990-2000) were possible for *JPF*, *JPVI*, *JRER*, *REE*, and *HS*, whilst the *JPR* run extended from 1992-2000, and *JPIF* only in 2000 (JPVI and JPF merged in 2000 as JPIF). In total 253 papers were available for analysis. Due to the fact that the PRPRJ was only published since 1995 all papers from editions 1.1,2.1,3.1,4.1,5.1,6.1 and 7.1were considered. The results were acquired through analysing the content of each of the papers contained in these journals. Content analysis has been described as a methodology utilised by researchers seeking to determine the content of textual material through a process of systematic classification and analysis (Berger, 1998; Wright, 1986). In the context of this work each paper within the sample described above was categorised in the following way:

- by the *theoretical perspective* adopted by the author(s),
- by the *methodologies* used to organise the data collection process, and
- by the specific methods used to collect information.

In addition to these three categories two further categories of information were also collected:

- the *gender* of authors, and
- the *institutional affiliation* of authors by country.

Information on gender was collected through an examination of authors' first names, and institutional affiliation through the stated correspondence addresses.

Definitions

The process of generating the research information was based on the interpretation of texts, therefore a number of broad definitions were required in order to guide the classification of papers. These are outlined below:

Theoretical Perspective

Theoretical perspective can be defined as the philosophical stance informing the practice of research (Crotty, 1998). The theoretical perspective for this research was based on whether the paper assumed a positivist or non-positivist perspective. A positivist perspective is defined as an approach that seeks by way of value-free, detached observation, "to identify universal features of humanhood, society and history that offer explanation and hence

control and predictability" (Crotty, 1998, p67). In particular a positivist approach is underpinned with assumptions of objectivity, validity, and generalisability (Crotty, 1998). In contrast, non-positivist approaches were characterised as being primarily concerned with understanding and meaning in human actions (Crotty, 1998). It should be noted that by defining positivism in this way there is no necessary link between it and the use of quantitative techniques (Crotty, 1998).

Methodology

Methodology comprises the strategy or plan of action, it is the research design that shapes choices and the use of particular methods, and links them to the desired outcomes (Crotty, 1998). For the purpose of this research four broad methodological categories were constructed; *modelling*, *survey*, *heuristic inquiry*, and *textual*, again there is no necessary relationship between the choice of theoretical perspective and defined methodology. An explanation of each methodology is set out as follows;

Modelling was broadly classified for the purpose of this paper as those attempts to either construct, or use, structured abstractions of reality. This definition did not limit the use of modelling methodology to simply mathematically formulated models e.g. econometric modelling. Examples of papers classified in this way included the Colwell and Yavas (1992) study modelling the effects of building codes in achieving safe buildings and Thompson and Tscolacos (2000) that made projections in the industrial property market using simultaneous equation modelling.

The process of *survey* relates to those various procedures involved in the collection and analysis of data from individuals and/or groups. Rather than potentially include all those papers that utilised survey data, the analysis limited the survey methodology to those papers that directly reported upon survey practice (problem generation, sampling, data collection and analysis) as the explicit intent of the paper (Frankfort-Nachmias and Nachmias, 1992). Examples of such articles include Gallimore and Wolverton's (2000) survey of valuers to gauge their perceived role and their clients' role, in the valuation process and Stockdale and Lloyd's (1998) survey carried out in two free-standing settlements in the Grampian area of Scotland.

Heuristic methodologies referred to those approaches that relied on the incremental, but guided, exploration of research questions rather than upon the application of formally stated models (Moustakas, 1990). Moustakas (1990) defined this as a process of open-ended and exploratory research. The following articles were characterised as utilising heuristic methodologies, Malpass (2000), which examined the relationships between existing Housing Associations and their historical antecedents, and McCulloch (1990), which examined the extension, and regulation, of mortgages during the 1930s.

In contrast with the methodologies outlined above, *textual methodology* was taken as referring to those approaches that were more than simply reflections of an external, and *a priori*, world (Barnes and Duncan, 1992). In this respect, textual methodologies were defined as strategies that explicitly considered texts as an object of research in their own right rather than simply mediums of communication. Examples of textual methodology included, Mean's work (1996), which addressed the issue 'From Special Needs Housing to Independent Living', and Chapman and Hunt's (1996) policy review on housing and the European Union.

Given the lack of self-definition by the majority of papers' authors' regarding their theoretical and methodological perspectives, the results as set out below are based on the interpretation of the research material. Finally, no attempt was made to limit the potential number of methods that could be attributed to a paper.

Papers sampled

Table 1, breakdowns the 253 papers sampled. This can be classified into 95 papers from US academic property journals, 83 papers from UK Property journals 36 from Australia and 39 from Housing Studies.

Table 1 Breakdown of papers by journal

Year	1990	1992	1994	1996	1998	2000
Journal of Property Finance (UK)	-	9	8	6	-	-
Journal of Property Investment and Finance (UK)	-	-	-	-	-	6
Journal of Property Research (UK)	-	4	4	7	4	4
Journal of Property Valuation and Investment (UK)	7	7	5	5	7	-
Journal of Real Estate Research (US)	10	10	9	7	8	9
Real Estate Economics (US)	7	6	8	7	7	7
Housing Studies (UK)	6	5	7	7	7	7
Total	30	41	41	39	33	33

Year	1995	1996	1997	1998	1999	2000	2001
Pacific Rim Property Research Journal (Australia)	5	5	5	5	5	6	5

Results

The following section sets out the results of the content analysis. These results are then discussed in more detail together with their implications in the following section.

Gender

Table 2 highlights the reflection of the small number of female authors represented in the journals under study. From the total number of articles sampled women represented approximately 7%, thus highlighting the dominance of male authors publishing in the internationally refereed property journals sampled for this paper.

Table 2 Breakdown of papers by gender

Journal	Male	Male	Female	Female	D/K	D/K
	Total	%	Total	%	Total	%
Journal of Property Finance	33	89	1	3	3	8
Journal of Property Investment and Finance	9	82	2	18	0	0
Journal of Property Research	33	89	3	8	1	3
Journal of Property Valuation and Investment	55	92	2	3	3	5
Journal of Real Estate Research	103	88	9	8	5	4
Real Estate Economics	79	90	3	3	6	7
Pacific Rim Property Research Journal	54	93	4	7	0	0
Housing Studies	37	89	13	3	2	8
Total	403	88	35	7	20	5

Institutional affiliation by country

Table 3 highlights that the majority of authors tend to publish in journals in the country of their institutional affiliation. This is particularly evident in US journals where above 90% of papers analysed were written by authors with institutional affiliations to the US and Canada. These results correspond with the findings of a study by Ong, Ooi and Wong (2001) where they reveal a home bias exists in US and UK property journals between 1993 and 1998.

Table 3
Breakdown of papers by institutional affiliation

Journal	USA/	USA/	UK/	UK/	Europe	Europe	Aus/NZ	Aus/NZ	Other	Other
	Can	Can	N.	N.	•	·%		%		%
		%	Ireland/	Ireland/						
			Ireland	Ireland						
				%						
JPF	0	0	31	81	4	11	2	5	1	3
JPIF	0	0	11	85	0	0	1	8	1	8
JPVI	8	13	47	80	1	2	1	2	2	3
JPR	4	11	28	74	2	5	2	5	2	5
JRER	109	90	1	1	5	4	5	4	1	1
REE	87	97	0	0	1	1	1	1	1	1
HS	6	11	27	49	9	16	7	13	6	11
PRPRJ	3	5	11	19	0	0	35	60	9	16
Total	217	46	156	33	22	5	54	11	23	5

Theoretical Perspective

The results relating to theoretical perspective have been examined both in terms of the inclusion and exclusion of Housing Studies (Table 4).

Table 4
Theoretical perspective

	Positivist	Positivist	Non	Non
			Positivist	Positivist
	Total	%	Total	%
Journal of Property Finance (UK)	15	65	8	35
Journal of Property Investment and Finance (UK)	6	100	0	0
Journal of Property Research (UK)	17	74	6	26
Journal of Property Valuation and Investment (UK)	21	68	10	32
Journal of Real Estate Research (US)	53	100	0	0
Real Estate Economics (US)	42	100	0	0
Pacific Rim Property Research Journal (Australia)	25	69	11	31
Housing Studies	19	4 9	20	51
Total (including Housing Studies)	198	<i>7</i> 9	<i>5</i> 5	21
Total (excluding Housing Studies)	179	84	35	16

It is clear from Table 4 that the majority (84%) of property journals under examination take a positivist standpoint to their research. The results further highlight the purely positivist approach of the two US Journals where every published article is written from a positivist perspective. Housing Studies, as anticipated contained approximately a 50% split between positivist and non-positivist papers.

Table 5
Methodology (total number of papers)

	Econ	Econ	Survey	Survey	Heur	Heur	Text	Text
	Model	Model			istic	istic	ual	ual
	Total	%	Total	%	Total	%	Total	%
JPF (UK)	7	30	5	22	5	22	6	33
JPIF (UK)	2	33	0	0	0	0	4	67
JPR (UK)	14	61	3	13	5	22	1	5
JPVI (UK)	9	29	2	6	16	52	4	13
JRER (US)	36	68	7	13	9	17	1	2
REE (US)	39	93	2	5	0	0	1	0
PRPRJ (Australia)	15	42	2	5	13	36	6	17
HS	1	2	11	28	20	51	7	17
Total (including HS)	123	49	32	13	68	26	30	12
Total (excluding HS)	122	57	21	10	48	22	23	11

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The results relating to methodology as set out in Table 5 indicate a preference towards econometric modelling in property academic journals, with 57% of articles categorised as using this method. This is even more evident when analysing the US journals which have a substantially higher bias towards this approach, (JRER 68% and REE 93%). The authors publishing in Housing Studies during the 1990 and 2000 time period indicated a preference towards heuristic at 51%. with only 2% of articles utilising econometric modelling.

Table 6 Statistical analysis

	Statistical Analysis	% of papers sampled
Journal of Property Finance (UK)	13	57
Journal of Property Investment and Finance (UK)	2	33
Journal of Property Research (UK)	16	70
Journal of Property Valuation and Investment (UK)	15	48
Journal of Real Estate Research (US)	49	94
Real Estate Economics (US)	41	98
Pacific Rim Property Research Journal (Australia)	19	43
Housing Studies	17	44
Total (including Housing Studies)	172	68
Total (excluding Housing Studies)	155	73

Table 6 sets out the results indicating the number of articles incorporating statistical analysis. It was concluded that US property journals are heavily biased in this respect with 98% of articles found in REE, and 94% in JRER utilising some form of statistical analysis. A smaller percentage of UK and Australian articles rely on this approach with the maximum percentage found in JPR at 70%. In contrast Housing Studies reflects only 44% of articles using some form of statistical analysis.

Discussion and Implications

The purpose of this paper was to examine the theoretical perspective, methodologies and methods utilised in a number of US, UK and Australian internationally refereed property journals. The results in themselves are not surprising but contribute to the identification of the current approaches to real estate research. The study has indicated a number of trends, and highlights the different emphasis between UK, Australian and US journals. The US journals considered, tend to publish articles exclusively from a positivist standpoint, favour econometric modelling and other forms of quantitative statistical analysis. The UK and Australian journals also tend to publish articles from a positivist perspective but contain a wider range of analysis. Housing Studies however was found to be far more wide ranging in methodologies, methods and theoretical standpoint. The question therefore is whether the property discipline should be widening its approaches in line with other disciplines or continue to concentrate primarily on econometric modelling and other forms of statistical analysis.

Gerald Brown identified in his 1995 editorial for The *Journal of Property Finance* "an *important shift towards rigorous quantitative analysis*". The question that this paper poses is; has this shift been to the exclusion of exploring the benefits of rigorous *qualitative* analysis? The authors argue that the property academic community should again consider whether the limited number of methodologies and theoretical perspectives are conducive to the growth of a creative environment for a broad and deep understanding of the workings of the property market.

The results of this study highlight the emphasis on quantitative research methods based on econometric modelling and a dearth of research utilising qualitative methods. In property studies as in other similar disciplines the quantitative approach to research is perceived by many as objective relying heavily on statistics and figures, whereas the qualitative approach is perceived as subjective and uses language and description (Khun, 1970). It is argued that they can both contribute to understanding reality (Jean Lee, 1992) as no single approach has a total view of reality. The results of this study should encourage property researchers to investigate different approaches available to them, in order to foster a deeper understanding of property and the wider markets they form.

The next section of this paper examines the potential for qualitative research within the property academic discipline, it commences with a short description of qualitative research, it then discusses a number of misconceptions regarding its lack of rigour. Finally, it considers how it can be utilised in conjunction with quantitative approaches by way of triangulation and thereby inform quantitative methods.

Qualitative Research

There are many definitions of qualitative research, Strauss and Corbin (1990, p17) define it as any kind of research that produces findings not arrived at by means of statistical procedures or other means of quantification. Berg (2001) differentiates between qualitative and quantitative research by identifying qualitative research as referring to meanings, concepts, definitions, characteristics, metaphors, symbols, and descriptions of things, whereas quantitative research as referring to counts and measures of things. Denzin and Lincoln (1994, p 4) state that qualitative researchers stress the socially constructed nature of reality, the intimate relationship between the researcher and what is studied, and the situational constraints that shape inquiry. They seek answers to questions that stress how social experience is created and given meaning. In contrast, quantitative studies emphasise the measurement and analysis of causal relationships between variables, not processes. Inquiry is purported to be within a value-free framework. These definitions suggest that many researchers identify quantitative research with numbers and relationships between variables whereas qualitative research more with the exploration of ideas, concepts and meanings. This differentiation often results in qualitative research being criticised for it being nonscientific and thus invalid. As in any research approach if careful and rigorous design is not accomplished, qualitative research can be wrong (Miles and Huberman, 1994), and of course, some qualitative research projects have been poorly conducted (as have some quantitative studies), but it would be disturbing if property academics dismiss the entire qualitative school of thought just because some studies inadequately applied the paradigms and the methods (Berg, 2001).

It is a common misconception that reliability and validity cannot be achieved in qualitative research. Reliability and validity within this context make up the components of qualitative objectivity. "Reliability" is defined as "the degree to which the finding is independent of accidental circumstances of the research" and "validity" the degree to which the finding is interpreted in the correct way". Good qualitative as with quantitative research can be rigorous and if carried out correctly should be extremely systematic and have the ability to be reproduced by subsequent researchers (Berg, 2001). There is now a plethora of academic literature informing of systematic processes that ensure valid meaning and reliable knowledge can be drawn from qualitative data (Miles and Huberman, 1994). It is therefore argued that within this framework, qualitative research has the ability to answer a wideranging number of research questions, which may not be effectively addressed by traditional quantitative analysis. Table 7 highlights how different qualitative research techniques can assist in exploration, explanation, description and prediction. This further demonstrates the opportunities available to property academics in widening the types of research questions being addressed by the discipline by embracing an expanded methodological base.

Table 7
Qualitative Research - matching research questions with research strategy

Purpose of the study	Research question	Research strategy	Example of collection techniques
To investigate little understood phenomena To identify/discover important variables To generate hypotheses for further research	What is happening in the industry? What are salient themes, patters, categories in participants' meaning structures? How are these patterns linked with one another?	Case studyField study	 Participant observation In-depth interviewing Expert opinion Focus groups
To explain the forces causing the phenomenon in question To identify plausible causal networks shaping the phenomenon DESCRIPTIVE	 What events, beliefs, attitudes, policies are shaping this phenomenon? How do these forces interact to result in the phenomenon? 	Multisite case studyHistoryField studyEthnography	 Participant observation In-depth interviewing Survey questionnaire Document analysis
To document the phenomenon of interest	What are the salient behaviours, events, attitudes, structures, processes occurring in this phenomenon?	Case studyField studyEthnography	 Participant observation In-depth interviewing Document analysis Unobtrusive measures Survey questionnaire
PREDICTIVE To predict the outcomes of the phenomenon To forecast the events and behaviours resulting from the phenomenon	What will occur as a result of this phenomenon? Who will be affected? In what ways?	ExperimentQuasi experiment	 Survey questionnaire (large sample) Kinesics Content analysis

Source: Marshall and Rossman, 1989

Not only can qualitative research be used alone to answer specific research questions but there are a growing number of academics that are now recognising the advantages of integrating both qualitative and quantitative research methods by way of triangulation. Triangulation is broadly defined by Denzin (1978, p291) as "the combination of methodologies in the study of the same phenomenon". It is largely a vehicle for cross validation when two or more distinct methods are found to be congruent and yield comparable data. Triangulation may not be suitable for all research purposes, however, it is argued that it heightens qualitative methods to their deserved prominence and at the same time, demonstrates that quantitative methods can and should be utilised in complementary fashion (Jick, 1979).

Max Kummerow is one property academic who has recognised the benefits of such an approach and published the following in an essay examining "Graaskamp on Research Methods":

"My personal view is that qualitative and quantitative methods are complementary and that methodological mutual respect is as valuable as racial or religious tolerance. Not only are diverse methods interesting in themselves, combining methods may lead to greater understanding and better outcomes both in research and practice. Most real-world decisions would be improved by information from both qualitative and quantitative research" (Kummerow, 2000)

In this essay Kummerow recommends a problem-solving research approach combining both qualitative and quantitative approaches. He comes to this conclusion by recognising the inherent limitations of econometric models in particular highlights issues relating to data limitations, misspecification, pretest bias, structural change and "other concerns that impose

limits on what models can tell us" he recognises these limits to be inherent in the nature of reality. (Kummerow, 2000)

Other areas where econometricians recognise qualitative research as being useful is in seeking out "left-out variables" Rao and Miller clearly state that "the true regression specification can be estimated only when the researcher knows the truth and has data on all variables to estimate it. A common situation is one in which the researcher has "left out" variables either because he is unaware of their presence in the true specification or because he does not have data for including them in the estimated equation" (Rao and Miller1971, p29).

Current models in many cases still have a certain amount left unexplained, could qualitative approaches assist in clarifying these issues? An example of this is the issue of appraisal smoothing, in-depth interviews with valuers and clients have allowed academics to understand more fully the valuation process, which may account for one aspect of appraisal smoothing (Levy and Schuck, 1999). It would have been difficult to uncover this process without the use of in-depth interviews with the players involved in the process. Forecasting models are another area where qualitative approaches may be of benefit. In many cases forecasting models capture past trends in order to forecast, this will inevitably lead to purely quantitative approaches being slow to reflect behavioural changes in the market. Qualitative methods allow the researcher to explore more deeply possible issues for change, which may be effective in shedding light on potential changes.

Summary

This paper, through the content analysis of 253 academic papers between 1990-2001, has highlighted the limited number of methodologies and methods represented in a number of internationally refereed academic property journals. The authors argue that in order to foster a deeper understanding of property markets and the behaviour of players within them, property academics should look to embrace alternative methods and methodologies and as Kummerow states "Journals should be more open to more diverse papers" (Kummerow 2000). There seems to be evidence of a change of view towards qualitative approaches and hopefully a similar study in the future will reflect an important shift towards rigorous qualitative research.

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