



The acceptance of mixed methods in business and management research

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Abstract

Purpose – The purpose of this study is to examine the prevalence of mixed methods research across several business and management fields and to gauge the level of acceptance of mixed methods within these fields.

Design/methodology/approach – The methodology employed for this study involved synthesizing the findings from six large-scale methodological scans of business and management discipline journals in seven fields: marketing, international business, strategic management, organizational behaviour, operations management, entrepreneurship and human resource management.

Findings – The study finds that quantitative studies dominate all seven fields (76 per cent of empirical articles) followed by mixed methods (14 per cent of empirical articles) and qualitative studies (10 per cent of empirical articles). In applying the framework for acceptance levels, it would seem there exists minimal acceptance of mixed methods across these fields.

Research limitations/implications – The study has limitations related to the coverage of different disciplines and differences in sample sets. More extensive research is planned for the future and will involve an expanded mixed method prevalence rate study across additional business and management fields.

Practical implications – The growing use of mixed methods has practical implications for research training and capacity building within business schools. The study points to the need to develop research capacity through the introduction of postgraduate courses in mixed methods and advanced research skills training for existing researchers.

Originality/value – Mixed methods is a relatively new and emerging methodological movement. This paper attempts to gauge the use and level of acceptance of mixed methods across a diverse range of business and management discipline areas.

Keywords Mixed methods research, Organizational research, Management research, Qualitative research, Quantitative research

Paper type Research paper



1. Introduction: mixed methods as a methodology

Mixed methods research has now become established as a legitimate methodological choice and is utilised by many academics and researchers from across a variety of discipline areas. However, there would appear to be no one single definition of mixed methods as pointed out by Thurston *et al.* (2008, p. 3) “Mixed methods studies can either combine methods from different paradigms or use multiple methods within the same paradigm, or multiple strategies within methods”. The *Journal of Mixed Methods Research* (2009), in its call for papers defines mixed methods as “research in which

the investigator collects, analyses, mixes, and draws inferences from both quantitative and qualitative data in a single study or a program of inquiry". Creswell and Plano Clark (2007, p. 5) define mixed methods as follows:

Mixed methods research is a research design with philosophical assumptions as well as methods of inquiry. As a methodology, it involves philosophical assumptions that guide the direction of the collection and analysis of data and the mixture of qualitative and quantitative data in a single study or series of studies. Its central premise is that the use of quantitative and qualitative approaches in combination provides a better understanding of research problems than either approach alone.

Creswell and Plano Clark (2007) mapped a brief history of mixed methods research and its evolution to date and have posited four, often overlapping, time periods in the evolution of mixed methods. These four time periods are the: formative period (1950s-1980s), paradigm debate period (1970s-late 1990s), procedural development period (late 1980s-2000) and the advocacy as a separate design period (2000+). Prominent writers and mixed methods theorists have emerged and have been leading the conceptual evolution of the movement (Greene and Caracelli, 1997; Mingers and Gill, 1997; Bazeley, 2008; Creswell, 2003; Tashakkori and Teddlie, 2003; Mertens, 2005; Bergman, 2008; Bryman, 2008). The interest in mixed methods has seen the recent emergence of several publications including academic journals, chapters within research texts and research texts themselves that are dedicated to mixed methods. The most comprehensive publication of mixed methods to date has been the edited *Handbook of Mixed Methods in Social and Behavioural Research* (Tashakkori and Teddlie, 2003, second edition in 2010). In January 2007, the first issue of the *Journal of Mixed Methods Research* was published and this was followed by the first issue of the *International Journal of Multiple Research Approaches* in October 2007. In 2011, a new online journal, *International Journal of Mixed Methods in Applied Business and Policy Research*, will publish its first issue. A very practical guide to the design and conduct of mixed methods research was published in 2007 (Creswell and Plano Clark, 2007) along with other texts focused solely on mixed methods (Greene, 2007; Bergman, 2008; Andrew and Halcomb, 2009; Teddlie and Tashakkori, 2009).

In the field of management research, Mingers (1997) and Mingers and Gill (1997) have been strong advocates for multimethodology or pluralism, as have Currall and Towler (2003), Bazeley (2008) and Cameron (2011). This paper analyses six studies which have scanned the use of mixed methods across management disciplines. Similar prevalence studies have been conducted in the fields of counseling psychology (Hanson *et al.*, 2005), qualitative research conducted in Switzerland (Eberle and Elliker, 2005), social and human sciences (Plano Clark, 2005; Bryman, 2008; Alise and Teddlie, 2010) and evaluation research (Greene *et al.*, 1989). All provide empirical evidence of the extent of utilisation of mixed methods in contemporary research across an array of disciplines. "Today, we see cross-cultural international interest, interdisciplinary interest, publication possibilities, and public and private funding opportunities for mixed methods research" (Creswell and Plano Clark, 2007, p. 18).

The aim of this study is to examine the use of mixed methods research across several business and management fields as a means to gauge the level of acceptance of mixed methods within these business and management fields, through a synthesis of mixed methods prevalence rates studies.

2. Acceptance levels of mixed methods

Creswell and Plano Clark (2007) have devised a framework for judging the current level of acceptance of mixed methods within disciplines and across cultures, “researchers can use this list to develop a sense of the level of acceptance of mixed methods research in a specific discipline” (Creswell and Plano Clark, 2007, p. 178). The checklist developed is framed by three levels of acceptance minimal, moderate and major. These three levels are benchmarked by the following:

- (1) Minimal acceptance:
 - awareness within the discipline of qualitative research;
 - publication of actual mixed method studies in discipline-based journals;
 - graduate students using mixed methods in dissertation research;
 - discussions in journals about the need for mixed methods; and
 - mixed methods research discussed at professional conferences.
- (2) Moderate acceptance:
 - leaders in the discipline advocating for the use of mixed methods;
 - workshops on mixed methods research in forums dedicated to the discipline;
 - funding agencies supporting mixed methods research; and
 - methodological discussions of mixed methods in journals devoted to the discipline.
- (3) Maximum acceptance:
 - special issues of a journal focusing on the use of mixed methods in the discipline;
 - publication of mixed methods studies in top discipline-based journals; and
 - course on mixed methods research as part of graduate research training programs (source: Creswell and Plano Clark (2007, p. 179)).

The *International Journal of Multiple Research Approaches* has issued two special issues of the journal with direct relevance to this topic. In 2009, a special issue: Mixed Methods for Novice Researchers was published. Currently, a call for papers for a special issue: Mixed Methods in Business and Management has been made with submissions to be published in 2011. An aim of this paper is to gauge the use and acceptance of mixed methods research within several business and management fields, as represented by the six large-scale studies chosen. In consideration of these issues, the following research questions were posited:

RQ1. What does the current research on the use of mixed methods across management fields reveal?

RQ2. What is the acceptance level of mixed methods across specific management disciplines?

3. Methodology

The methodology employed for this study involved synthesizing secondary data sets from large-scale methodological scans of business and management discipline journals. These studies employed content analysis methods to quantifying the qualitative data

by providing descriptive frequencies of the conceptual (non-empirical), quantitative, qualitative and mixed methods articles within the selected journals. Table I provides details of the business and management fields, number of journals analysed and the total number of years covered by each sample, for each of the studies. Note the Molina-Azorin (2008) study covers two fields, operations management and entrepreneurship. As a result, the six studies cover seven business and management fields.

Table II displays the samples for each business and management field from the six studies for the calendar year time span of the analysis. The studies span a year timeline from 1993 to 2008, which covers two of the time periods identified by Creswell and Plano Clark (2007) in the evolution of mixed methods as a movement: procedural development period (late 1980s-2000) and the advocacy as a separate design period (2000+).

As can be seen from Table II, the studies range across a 16-year time period (1993-2008) with the closest overlap occurring in 2003 where five of the six studies have collected data. Table III documents the coding systems employed by each study to categorise the journal articles. As can be seen from Table III, several authors are replicating their own original studies across other business and management fields. Each of the studies has chosen a four-item coding system with very similar parallels, enabling a more reliable synthesis of the studies.

Limitations

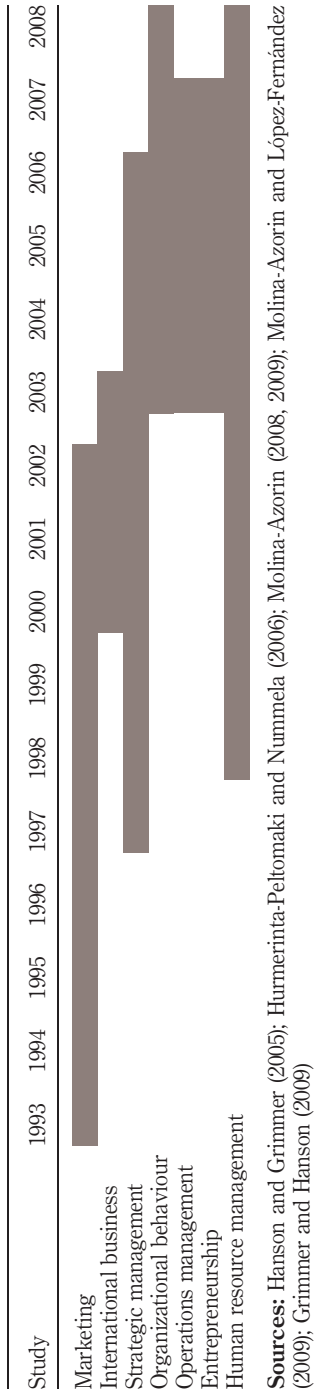
The synthesis of these studies has limitations related to the different discipline coverage and differences in the sample sets. Table I displays the differences in terms of the number of journals utilised in each study and the number of years of coverage for each study. Table II provides a visual depiction of the calendar year coverage of each study. As a consequence, limitations exist for making comparable generalizations. This is further complicated by the fact that mixed methods is an evolving methodological movement and it would be expected that the use of mixed methods may increase from 2000. Nonetheless, a synthesis of the findings from the prevalence studies has provided some insight into the use of mixed methods across business and management fields. As a means of combating some of these limitations, this study could be enhanced by complementary qualitative analysis of the mixed methods articles identified in each

Study	Discipline	No. of journals	Time span	No. years
Hanson and Grimmer (2005)	Marketing	3	1993-2002	10
Hurmerinta-Peltomaki and Nummela (2006)	International business	4	2000-2003	4
Molina-Azorin (2008)	Operations management	1	2003-2007	5
Molina-Azorin (2008)	Entrepreneurship	2	2003-2007	5
Molina-Azorin (2009)	Strategic management	1	1997-2006	10
Molina-Azorin and López-Fernández (2009)	Organizational behaviour	1	2003-2008	6
Grimmer and Hanson (2009)	Human resource management	1	1998-2007	10

Source: Hanson and Grimmer (2005), Hurmerinta-Peltomaki and Nummela (2006), Molina-Azorin (2008, 2009), Molina-Azorin and López-Fernández (2009) and Grimmer and Hanson (2009)

Table I.
Summary of samples
from each study

Table II.
Time span of
study samples



Study	Discipline	Coding categories
Hanson and Grimmer (2005)	Marketing	Theory/opinion/comment Quantitative research
Grimmer and Hanson (2009)	Human resource management	Qualitative research Mixed quantitative/qualitative research
Hurmerinta-Peltomaki and Nummela (2006)	International business	Conceptual articles Quantitative studies Qualitative studies Mixed methods studies
Molina-Azorin (2009)	Strategic management	Non-empirical
Molina-Azorin and López-Fernández (2009)	Organizational behaviour	Empirical:
Molina-Azorin (2008)	Operations management	quantitative
Molina-Azorin (2008)	Entrepreneurship	qualitative
Molina-Azorin (2008)		mixed method

Sources: Hanson and Grimmer (2005); Hurmerinta-Peltomaki and Nummela (2006); Molina-Azorin (2008, 2009); Molina-Azorin and López-Fernández (2009); Grimmer and Hanson (2009)

Table III.
Coding categories utilised
for each study

of the six studies. Such qualitative analysis could involve investigating each study to determine whether mixed methods theoretical frameworks, concepts and designs were explicitly utilised and what levels of data integration may have been achieved. The Hurmerinta-Peltomaki and Nummela (2006), Molina-Azorin (2008, 2009) and Molina-Azorin and López-Fernández (2009) studies do undertake further analysis of the mixed methods articles by further quantifying the mixed methods articles using different frameworks or classification tools. The Hurmerinta-Peltomaki and Nummela (2006) study also undertook some qualitative analysis of the mixed methods papers by determining the levels of value-added potential for mixed methods studies. The Hanson and Grimmer (2005) study double coded the mixed methods studies to determine the primary orientation of the studies (quantitative or qualitative) or whether they were triangulated. The Grimmer and Hanson (2009) study further analysed the articles according to the main data collection methods used and in addition to this analysed the country of origin of the research being reported and the country of origin of the primary author. The scope of some of the methodological scans could be broadened to encompass more discipline specific journals and the fields covered could also be expanded. An international collaborative project is being planned to undertake this in 2011 across the fields of: human resource development, leadership, operations management, project management, marketing and management education.

4. Studies investigating the use of mixed methods in business and management research

There is a small but growing body of literature that is researching the incidence and usage of mixed methods in management research. The focus of this paper is the synthesis of six large-scale studies of the use of mixed methods across seven business and management fields. All six studies aim to discover the extent and current role mixed methods plays in the business/management fields through a process of content analysis of empirical studies. Alise and Teddlie (2010) refer to these as prevalence rate studies and literature emerging from within the mixed methods research community. The first study was undertaken by Hanson and Grimmer (2005) and focused on three marketing journals.

The second was conducted by Hurmerinta-Peltomaki and Nummela (2006) and involved the review of articles from four major journals in international business. The third study investigated the field of strategic management (Molina-Azorin, 2009). Molina-Azorin (2008) has also studied the use of mixed methods in the fields of operations management and entrepreneurship and joined a colleague to study mixed methods in organizational behaviour research (Molina-Azorin and López-Fernández, 2009). Grimmer and Hanson (2009) teamed up again in 2009 to conduct a methodological scan of articles from a journal in the field of human resource management.

Hanson and Grimmer (2005) undertook a content analysis of 1,195 journal articles from three prominent marketing journals from 1993-2002 (*Journal of Marketing*, *European Journal of Marketing* and *Journal of Services Marketing*). The purpose of this study was to determine the mix of qualitative and quantitative research published in the field of marketing. Of the 1,195 articles, 736 were coded as empirical (quantitative, qualitative and mixed methods). Quantitative articles represented 75 per cent of empirical articles ($n = 553$), qualitative articles represented 11 per cent of empirical articles ($n = 78$) and mixed methods represented 14 per cent of the empirical articles ($n = 105$). The authors identified 105 mixed quantitative/qualitative articles and coded these further to determine the primary orientation of the research as either quantitative, qualitative or triangulated. They found 74 per cent of these mixed methods articles were primarily quantitative (qualitative data not reported but used in design of the quantitative component). The mixed methods articles coded as primarily qualitative represented 12 per cent (quantitative data represented in a secondary manner) and those mixed methods articles coded as triangulated (genuinely multi-method) were 13 per cent. This group of mixed methods articles represented 1.1 per cent of all the articles within the larger sample ($n = 1,195$) (Hanson and Grimmer, 2005, p. 66). The authors conclude that the continued dominance of quantitative research in marketing is linked to historical, social and practical arguments within the field.

The Hurmerinta-Peltomaki and Nummela (2006) study focused on articles within the following four international business journals between 2000 and 2003:

- (1) *International Business Review (IBR)*.
- (2) *Journal of International Business Studies (JIBS)*.
- (3) *Journal of World Business (JWB)*.
- (4) *Management International Review (MIR)*.

The articles were classified under four main categories: conceptual articles, qualitative studies, quantitative studies, and mixed method studies. The researchers screened 484 articles and found 394 articles contained empirical research designs (qualitative, quantitative and mixed method). Quantitative studies represented 68 per cent of empirical articles ($n = 269$) and qualitative studies represented 15 per cent of empirical studies ($n = 57$). The study found that 68 (17 per cent) of the 394 empirical studies utilised a mixed method. The 68 mixed methods studies were then further coded according to a classification tool inspired by mixed methods typologies designed by Creswell (2003) and Tashakkori and Teddlie (1998). The authors focused on the extent of mixed methods in international business research and the potential of mixed methods to add value. The authors state that "International business is a multi-faceted area of research, crossing national, cultural, organizational and personal boundaries,

and inspiring complicated research questions” (Hurmerinta-Peltomaki and Nummela, 2006, p. 440). They argue that narrow methodological approaches would reveal only a small piece of the reality within this complex field.

Molina-Azorin (2009) studied the use of mixed methods in strategy research as represented in articles from all issues of the *Strategic Management Journal* from 1997 to 2006. A total of 676 journal articles were reviewed and of these 570 (84 per cent) were categorized as empirical. Of these empirical articles over three quarters were quantitative 78 per cent ($n = 441$), 17 per cent ($n = 99$) of articles were mixed methods and 5 per cent ($n = 30$) were qualitative. The majority of mixed methods articles were dominated by the quantitative aspect of the research with the qualitative methods playing a supportive role (Molina-Azorin, 2009, p. 51). Nonetheless, this study illustrates that there is a level of usage and acceptance of mixed methods within the strategic management field. In addition, the author coded the mixed methods studies identified to determine priority (equivalent importance of the quantitative and qualitative parts, or different importance with one method dominating), implementation of data collection (simultaneous or sequential), design type using the two previous characteristics and purpose using the Greene *et al.* (1989) classification.

Molina-Azorin (2008) reviewed three journals: *Journal of Operations Management*, *Entrepreneurship Theory and Practice* and the *Journal of Business Venturing* from 2003 to 2007. The results of the findings for the latter two were combined to represent the field of entrepreneurship. In the field of operations management, of the total number of 227 articles, 187 (82 per cent) were coded as empirical (quantitative, qualitative, mixed methods). Quantitative articles represented 78 per cent of empirical articles ($n = 146$), qualitative articles represented 12 per cent of empirical articles ($n = 23$) and mixed methods represented 10 per cent of empirical articles ($n = 18$). In the field of entrepreneurship, taking into account the two journals, of the 338 articles published, 235 (70 per cent) were empirical studies (quantitative, qualitative, mixed methods). Specifically, quantitative articles represented 76 per cent of empirical articles ($n = 178$), qualitative articles represented 16 per cent of empirical articles ($n = 37$) and mixed methods represented 8 per cent of empirical articles ($n = 20$). In addition, the author coded the mixed methods studies identified to determine priority, implementation of data collection, design type and the main mixed methods purpose.

The Molina-Azorin and López-Fernández (2009) study covered two journals: *Journal of Organizational Behaviour* and the *Journal of Addictive Behaviours*. The findings from the latter have not been included in this study as it represents a very specific area of research within the broader field of behavioural psychology. A total of 318 journal articles were reviewed for the *Journal of Organizational Behaviour*, from 2003 to 2008. Non-empirical articles represented 28 per cent ($n = 87$), quantitative articles were in the majority at 62 per cent ($n = 197$), followed by qualitative and mixed methods both at 5 per cent ($n = 17$). The analysis of the empirical articles ($n = 231$) found that quantitative articles were the most frequent (85 per cent), followed by qualitative and mixed methods both at 7.5 per cent. The authors undertook further analysis of the mixed methods articles utilizing the same characteristics as undertaken by Molina-Azorin (2008, 2009) in the two previous studies mentioned.

Grimmer and Hanson (2009) undertook a similar study to their 2005 study and analysed 828 journal articles from the *International Journal of Human Resource Management* from 1998 to 2007. Of the 828 articles reviewed, theory/opinion (conceptual) articles

represented 24 per cent, quantitative articles represented 49 per cent, qualitative articles represented 16 per cent and mixed methods represented 11 per cent of all articles. Raw numbers were not provided only percentages. The authors also conducted further analysis of the articles by determining the main data collection method used, the justification for the use of qualitative data collection methods, in which country(s) the research was conducted and the country of origin of the primary author. A major finding of the study relates to these latter analyses. Two camps in human resource management research were posited: the USA/Canada/China camp and the UK/Australia camp. The USA/Canada/China camp is characterised by authors from these countries predominantly publishing quantitative studies and the UK/Australia camp is characterised by authors from these countries who mix quantitative, qualitative and mixed research methods:

For the UK, there was found to be a mix of quantitative, qualitative and mixed research methods (45.20%, 33.33% and 21.47%, respectively). A broadly similar pattern was evident for Australia. In stark contrast, 86.67% of US authors published quantitative studies and only 5.33% were qualitative and 8% were mixed. Broadly, similar patterns were evident in China and Canada. The USA numbers are quite remarkable and indicate an extremely tight research culture that seems to reject qualitative and mixed research: a culture no doubt held together in a very large country by training and the desire for publication-related tenure in a highly competitive system (Grimmer and Hanson, 2009, p. 12).

In addition to the large-scale methodological scan studies of journals synthesised here are smaller journal-based studies covering: various fields in business and management (Rocco *et al.*, 2003; Bazeley, 2008; Cameron, 2010), methodological scans of management conference papers (Cameron, 2008) and Doctor of Business Administration (DBA) theses (Cameron, 2008; Cameron and Miller, 2010). Molina-Azorin (2007) reviewed the use of mixed methods research in a specific strategic theory, the resource-based view.

5. Findings and discussion

Results from the six studies have been synthesised in Tables IV and V. Table IV presents the results from the six studies using the four code categories: conceptual (non-empirical), quantitative (QUANT), qualitative (QUAL) and mixed methods (MM). The Grimmer and Hanson (2009) study in the field of human resource management could not be included in the overall total as no raw figures were provided.

Quantitative studies were the most frequent in each of the six studies, ranging from 46 to 65 per cent and with an overall 55 per cent across the five studies (Grimmer and Hanson (2009) study excluded). Conceptual/non-empirical studies were the second most frequent ranging from 16 to 38 per cent and with an overall 27 per cent for the five studies. The overall frequency of mixed methods articles across the five studies was 10 per cent and for qualitative articles the frequency was 8 per cent.

Table V provides a synthesis of the empirical studies (quantitative, qualitative, mixed methods) for each of the studies, excepting the Grimmer and Hanson (2009) study due to no raw figures being available.

From Table V, it can be concluded that quantitative methods dominate the methodological choice of those empirical articles reported in the journal samples from the chosen disciplines. Overall, quantitative studies represent the most frequent at 76 per cent, followed by mixed method studies at 14 per cent and qualitative studies at 10 per cent. The highest percentage of quantitative articles was in the field of organizational behaviour (85 per cent), followed by strategic management and operations

Paper	Journal/discipline	Conceptual	QUANT	QUAL	MM	Total
Hanson and Grimmer (2005)	<i>Journal of Marketing</i> (n = 305) <i>European Journal of Marketing</i> (n = 544) <i>Journal of Services Marketing</i> (n = 286) 1993-2002	459 (38%)	553 (46%)	78 (7%)	105 (9%)	1,195 (100%)
Hurmerinta-Peltomaki and Nummela (2006)	<i>IBR</i> <i>JIBS</i> <i>JWB</i> <i>MIR</i> 2000-2003	30 26 25 9	82 117 28 42	14 5 30 8	17 17 16 18	143 165 99 77
Molina-Azorin (2009)	<i>Strategic Management Journal</i> 1997-2006	90 (19%)	269 (55%)	57 (12%)	68 (14%)	484 (100%)
Molina-Azorin and López-Fernández (2009)	<i>Journal of Organizational Behaviour</i> 2003-2008	106 (16%)	441 (65%)	30 (4%)	99 (15%)	676 (100%)
Molina-Azorin (2008)	<i>Journal of Operations Management</i> 2003-2007 <i>Entrepreneurship Theory and Practice</i> and <i>Journal of Business Venturing</i> combined 2003-2007	40 103 143 (25%)	146 178 324 (57%)	23 37 60 (11%)	18 20 38 (7%)	227 338 565 (100%)
Total all Grimmer and Hanson (2009)	^a <i>International Journal of Human Resource Management</i> 1998-2007	885 (27%) (24%)	1,784 (55%) (49%)	242 (8%) (16%)	327 (10%) (11%)	3,238 (100%) 828 (100%)

Notes: ^aOnly percentages were provided for each category of article; the results from this article could not be included in the total figures

Sources: Hanson and Grimmer (2005); Hurmerinta-Peltomaki and Nummela (2006); Molina-Azorin (2008, 2009); Molina-Azorin and López-Fernández (2009); Grimmer and Hanson (2009)

Table IV.
Summary of
methodological scans
of business and
management discipline
journals

management (78 per cent), then entrepreneurship (76 per cent), marketing (75 per cent) and international business (68 per cent). Six of these seven discipline fields had proportions of three quarters or more for quantitative studies. Mixed methods came a second to quantitative methods for three of the disciplines: international business and strategic management (both 17 per cent) and marketing (14 per cent). Qualitative methods came second for operations management (12 per cent) and entrepreneurship (16 per cent) and organizational behaviour had mixed methods and qualitative methods at equal second. The disciplines with the lowest percentages for qualitative methods were strategic management (5 per cent), organizational behaviour (7.5 per cent), marketing (15 per cent) and international business (17 per cent). Mixed methods had the lowest percentage for organizational behaviour (7.5 per cent), entrepreneurship (8 per cent) and operations management (10 per cent).

Discipline	QUANT	QUAL	MM	Total
Marketing (three journals)	553 (75%)	78 (11%)	105 (14%)	736 (100%) (31%)
International business (four journals)	269 (68%)	57 (15%)	68 (17%)	394 (100%) (17%)
Strategic management (one journal)	441 (78%)	30 (5%)	99 (17%)	570 (100%) (24%)
Organizational behaviour (one journal)	197 (85%)	17 (7.5%)	17 (7.5%)	231 (100%) (10%)
Operations management (one journal)	146 (78%)	23 (12%)	18 (10%)	187 (100%) (8%)
Entrepreneurship (two journals)	178 (76%)	37 (16%)	20 (8%)	235 (100%) (10%)
Total	1,784 (76%)	242 (10%)	327 (14%)	2,353 (100%)

Table V.

Summary of empirical papers aligned with discipline fields

Note: Empirical articles – quantitative, qualitative and mixed methods (not conceptual)

Sources: Hanson and Grimmer (2005); Hurmerinta-Peltomaki and Nummela (2006); Molina-Azorin (2008, 2009); Molina-Azorin and López-Fernández (2009)

As a means of discussing the findings the two research questions will be answered:

RQ1. What does the current research on the use of mixed methods across management fields reveal?

The findings from this synthesis of the six studies across seven business and management fields demonstrates that quantitative studies dominate all seven fields (55 per cent of all articles and 76 per cent of empirical articles in five of the six studies). Nonetheless, mixed methods represents 10 per cent of all articles and 14 per cent of empirical articles in five of the six studies. This is followed by qualitative studies, which represents 8 per cent of all articles and 10 per cent of empirical articles in five of the six studies. Mixed methods would seem to be more frequent in the strategic management and international business (both 17 per cent) and marketing (14 per cent) fields and the least frequent in entrepreneurship (8 per cent) and organizational behaviour (7.5 per cent). Factors which may need to be considered here are the paradigmatic traditions, age and theoretical foundations of specific research fields and whether qualitative research methods are accepted within the field. The philosophy and paradigmatic preferences of the individual journals and journal editorial boards may also need to be considered as variables in respect to this question:

RQ2. What is the acceptance level of mixed methods across specific management disciplines?

The first two benchmarks for minimal acceptance of mixed methods from the Creswell and Plano Clark (2007) framework are: awareness within the discipline of

qualitative research and publication of actual mixed method studies in discipline-based journals. The studies synthesised in this paper provide evidence to meet these two benchmarks. Although quantitative methods dominate all fields, mixed methods and qualitative methods represent 14 and 10 per cent, respectively, of all empirical articles.

The third benchmark for minimal acceptance of mixed methods is: graduate students using mixed methods in dissertation research. Although no research has been reported in this paper to enable an answer or response to this benchmark there does exist a study on business doctorates from an Australian university which may shed some light. The research undertaken by Cameron (2009) and Cameron and Miller (2010) into the use of mixed methods in DBAs at an Australian university found that 40 per cent of DBA theses from 1997 to 2008 utilised mixed methods. This is of course one small study and cannot be assumed to be representative of all business doctorates in Australia and beyond. However, it provides some evidence to support this benchmark. Plano Clark (2010) undertook a search of dissertation abstract databases and identified an exponential increase in mixed methods dissertations between 1997 and 2008.

The fourth benchmark for minimal acceptance of mixed methods is: discussions in journals about the need for mixed methods. A broad scoping study involving qualitative analysis would have to be undertaken to be able to address this benchmark. The last benchmark relates to professional conferences: mixed methods research discussed at professional conferences. There is evidence that mixed methods is being discussed at professional management conferences. The European Conference on Research Methodology has had a conference track for mixed methods for the last three years (2009-2011) and has acknowledged mixed methods in conferences previous to this. The European Academy of Management (EURAM) 2010 Conference had a track and special interest group (SIG) for research methods and research practice. The call for papers for this track is inclusive of papers that address new applications of mixed methods. At the 2009 Australian and New Zealand Academy of Management (ANZAM) conference, there was a conference workshop on mixed methods and the establishment of a ANZAM SIG for mixed methods research was sanctioned in 2011.

6. Conclusion

The use of mixed methods across disciplines is growing, especially in applied disciplines in the social and behavioural sciences and in nursing, health and medicine. The aim of this study was to explore the prevalence rates of mixed methods across specific business and management fields and to gauge the level of acceptance mixed methods has within these fields. It can be concluded that quantitative methods (76 per cent) overwhelmingly dominates the methodological choice of the empirical articles reported in the journal samples across the fields reported. Nonetheless, mixed method studies represent 14 per cent of empirical articles followed by qualitative studies at 10 per cent. If the framework for acceptance levels devised by Creswell and Plano Clark (2007) is applied it would seem, for the business and management fields covered in this synthesis of mixed methods prevalence rates studies, there exists at the least, minimal signs of acceptance of mixed methods. There may even be a possible movement towards moderate acceptance of mixed methods given: the special issue of the journal mentioned earlier (*International Journal of Multiple Research Approaches*: 2011 special issue: Mixed Methods in Business and Management); the inclusion of mixed methods within management conferences, establishment of MMR SIGs and

supplementary evidence from other smaller studies (Rocco *et al.*, 2003; Bazeley, 2008; Cameron, 2008, 2010; Cameron and Miller, 2010).

Future research is planned through an international collaboration to further expand on these studies by broadening the scope of the business and management fields covered in this paper. The additional fields will include: operations management, project management, human resource development, marketing, leadership and management education. In addition, qualitative analysis of the mixed methods articles identified will be undertaken and the philosophical and paradigmatic preferences and traditions of the specific fields and associated journals will also be examined through qualitative analysis of journal aims, scope and editorial composition. The evolution of mixed methods as a third methodological movement and its growing acceptance has implications for research training and building capacity within business and management disciplines for new researchers and established researchers alike. The development of postgraduate courses in mixed methods research and the teaching and pedagogy of mixed methods research is an area of growing interest in the mixed methods research community with several postgraduate courses appearing in the USA and the UK-based universities. Prevalence rates studies on the use of mixed methods research across business and management disciplines will assist the business academy in making decisions about future mixed methods research capacity building in business schools across the globe.

Mixed methods is here to stay and it is argued here will become increasingly used by business and management researchers especially those continually trying to innovate, add value and gain greater insights into increasingly complex business and management phenomena and discipline-based inquiry. The almost straightjacket constraints felt by researchers during the paradigm wars have slowly but steadily been loosened and contemporary and relevant business and management researchers are beginning to see the benefits that a mixed methods research approach offers. However, like any form of change it will be the early adopters who will have the hard task of laying the ground open for those who wish to follow into the brave new world of mixed methods.

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