

Qualitative and Quantitative Research Published in the *International Journal of Human Resource Management*, 1998-2007

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ABSTRACT

What is the mix of research methods used in international HRM and does this vary by country of author? This study involved an analysis of 828 articles published between 1998 and 2007 in the International Journal of Human Resource Management. It was found that 23.6% of articles were theory/opinion, 16.3% involved qualitative research, 49.4% involved quantitative research and 10.7% a mix of qualitative and quantitative. No change was seen in the proportions (year by year) of qualitative versus quantitative research published over this period. North American authors strongly favoured quantitative methods, while British and Australian authors were more eclectic.

Keywords: content analysis; qualitative methods; quantitative methods; mixed methods

Human resource management (HRM) is a complex arena for scholarly enquiry given that it focuses, in the end, on the complexity of human behaviour (Hoobler & Johnson 2004; Roehling et al. 2005). Three demands on HRM research can be located. In the first instance, researching issues such as how employees construct and react to their experience of work, what they think are the important personal issues at various stages of work-life and understanding employee mental models for organisational change, involves the researcher immediately in the experience of people in organisations and the meaning they attach to events. This suggests the need for research that can handle nuance and complexity and that can consider issues in multiple contexts (Bell 1999; Roehling et al. 2005). Second, HRM is also engaged in the process of demonstrating the impact of HRM activities on profits and the bottom line, implying a precise approach to the imprecise worlds of people (Boselie, Dietz & Boon 2005; Purcell 1999; Roehling et al. 2005). A third demand for research eventuates because the need for new ideas in HRM comes so quickly, often driven by the fast pace of change in increasingly global organisations, and due to specific needs such as understanding how processes of knowledge creation work (Guest 2001; Van Aken 2005).

The first of these three demands on research is arguably best served by qualitative research. Miles and Huberman (1994: 10) suggest that qualitative research can gain a “strong handle on real life”, while Marshall and Rossman (1995) make the point that it is well suited to the exploration of organisation goals, processes and policies. Essentially, a qualitative approach based on techniques such as interviews and

observation can, if well conducted, unpack at least some of the complexities of human processes in organisations (Prasad & Prasad 2002; Roehling et al. 2005; Skinner, Tagg & Holloway 2000). The second demand, for precision, can best be met by quantitative techniques such as surveys, experimental and quasi-experimental designs (Rose & Fiore 1999; Scandura & Williams 2000). Finally, fast moving areas of interest can be discussed and theorised as they happen, using extensions of existing theory and invention of new theories (Guest 2001; Simon, Sohal & Brown 1996; Weick 1989; Yin 2003). Such theory research can handle the bigger issues while at the same time preparing the ground for later qualitative and quantitative investigations.

In addition to research needs that arise from the various demands of HRM, we recognise that a range of other factors influence the amount of research and research techniques actually used by scholars. For example, what training do scholars have? This will affect what they can do. Also, what kind of research is encouraged in particular institutions and regions of the world? This helps determine what research scholars should do if they wish to build a reputation and advance their careers in their region. Finally, what research is funded and what costs large sums of money to complete? This is part of the system of influence that determines what is actually done (Hanson & Grimmer 2007; Hoobler & Johnson 2004; Scandura & Williams 2000).

What results from this mix of needs and factors of influence eventuates as published HRM research. Quantitative research, in the form of surveys, has come to be regarded as the standard form of HRM research, at least in the United States (Bell 1999; Boselie et al. 2005; Clark, Gospel & Montgomery 1999; Hoobler & Johnson 2004; Purcell 1999). At the same time, there have been calls for more qualitative research, in order to unpack the complexity of HRM as an experienced phenomenon (Boselie et al. 2005; Purcell 1999; Roehling et al. 2005); and specifically, for American HRM researchers to learn from their European counterparts in this regard (Hoobler & Johnson 2004). Guest (2001) has additionally appealed for more progress in theory development. Given the rise of research into international HRM (IHRM) (Caligiuri 1999; Clark et al. 1999; Dowling, Festinger & Engle 2008; Gerhart 2008; Schuler & Jackson 2005), what developments have occurred in the types of research undertaken in this field? Our goal is to

determine the methods, and within these the techniques, used in HRM research over a substantial number of years, and to examine if there are differences between authors from different countries in terms of their preferred research orientations: quantitative or qualitative. We focus on the *International Journal of Human Resource Management*, the flagship journal for research into international HRM, and we analyse all articles published over a ten-year period so as to determine what methods have been used.

At the outset it is important to note that we do not privilege any form of research. HRM needs require all methods. In addition, we admit that any distinction between qualitative and quantitative approaches is at best approximate, for both types of research are umbrella categories that cover many different actual methods (Long, White, Friedman & Brazeal 2000; Morgan & Smircich 1980; Wilson & Natale 2001). Additionally, much research, whilst clearly focussed on one main approach, nevertheless uses several techniques that often mix the quantitative with the qualitative (Jick 1979; Prasad & Prasad 2002). This may occur, for example, when a modest number of interviews are used to orient questions used in a survey. Nevertheless, as the following method section indicates, meaningful coding of articles according to method and technique is possible.

METHOD

Sample of Journal Articles

In order to determine the mix, and progression, of both qualitative and quantitative research in the field of international HRM over a significant period of time, a census of all articles published in the *International Journal of Human Resource Management (IJHRM)* was undertaken for the years 1998-2007. This length of time was considered long enough to assess the development and actualisation of trends in what was published. The intention to consider everything published over this decade represents an advance on previous efforts in canvassing HRM research (e.g. Boselie et al. 2005; Clarke et al. 1999; Werner 2002; Wright & Boswell 2002), which have only looked at a sample of articles; have not drilled down into the research methods used; have only reviewed articles on specific HR topics, such as

performance research, or have only considered articles over a short time frame. In addition, the potentially large number of articles published in *IJHRM* over the ten years provides a basis for reasonable suppositions to be made on what is being researched in international HRM.

The selection of a journal for analysis is always a difficult task, as the criteria for choice may vary according to the researcher's emphasis on such issues as expert opinion, citation rates, or suitability for specific research purposes (see Caligiuri 1999; MacRoberts & MacRoberts 1989; Vastag & Montabon 2002). The *IJHRM* is a leading HRM journal with a specialist international HR focus. The journal is well regarded in its field and thus is likely to reflect trends in best practice research (e.g. Australian Business Deans Council 2008; Harzing 2008; Association of Business Schools 2008). The British *Academic Journal Quality Guide* rates the *IJHRM* as a "3*" (out of 4), meaning it is "highly regarded", publishing "original and well executed research papers", and is "very selective" in what is published (Association of Business Schools 2008). In the *Australian Business Deans Council Journal Rankings List*, the journal is given an "A" ranking (the top being "A*"), which also means it is "highly regarded" in its field, "publishes excellent research in terms of originality, significance and rigour", and has "competitive submission and acceptance rates" (Australian Business Deans Council 2008).

First published in 1990 in Britain, *IJHRM* professes to have aims which encourage a mix of research types, as long as the research is empirically sound and defensible and offers a substantive contribution to the field. This is indicated in key passages from the instructions for contributors (sourced from the journal websites and notes to contributors). The *IJHRM* is said to "... focus on future trends in human resource management, drawing on empirical research in the areas of strategic management, international business, organizational behaviour, personnel management and industrial relations". It claims to be "... *the* (sic) forum for HRM scholars and professionals worldwide". The journal includes an explicit emphasis on both scholars and professionals. On an *a priori* basis it could be argued that this should attract articles covering a range of research methods, both qualitative and quantitative, versus distinctly pure research journals that may attract more theoretical, experimental efforts. Articles were accessed using the ProQuest database for the calendar years 1998-2007. The year 2007 was chosen to end the census period as this was

the last available complete year of publication of the journals when coding was being carried out. The resulting selection comprised 828 articles from the *IJHRM* (see Table 1).

Insert Table 1 approximately here

Content Analysis and Data Coding

Articles were coded, first of all, according to year of publication and article type, that is, whether the article was concerned with theory/opinion, quantitative research, qualitative research, or mixed quantitative/qualitative research. For the purposes of coding, research articles were required to be empirical, with qualitative research centred on primary data collection in non-numerical form (words/text, images, symbols, etc), and quantitative research centred on data collection in numerical form. For research articles, the key objective in the coding process was to ascertain the intention of the researcher – was the article/study aimed at quantitative or qualitative data or a mixture? All research articles were then coded according to the *main* data collection method used (i.e. interview, focus group, observation, questionnaire, secondary data, internet/email, case study, content analysis).

For those articles classified as qualitative or mixed quantitative/qualitative research, further coding was undertaken to determine more fully the nature of the qualitative research conducted. As well as coding the main method (as mentioned), each of these articles was additionally coded according to whether any other research method was employed *at all* in the research. It was also determined whether qualitative data was analysed using a computer package (e.g. QSR/NUD*IST). These articles were further coded as to whether a justification had been provided for the use of qualitative methods, and the amount of line-space spent on this, and whether the issue of the generalisability of the research had been raised.

All articles were coded according to country of author(s), and research articles were further coded according to country in which data were collected. This also entailed coding the number of countries researched for any given article.

A trained research assistant, whose progress was reviewed on an ongoing basis, initially undertook the coding process. Because the qualitative and mixed research articles were the most problematic for coding purposes, these were all double-coded, that is, those initially selected for these categories were double-checked before a final determination was made. A sample of 10% of all articles not double-coded was checked for coding accuracy, with no significant problems identified.

RESULTS

Type of Article by Year

Of the 828 articles, 23.6% were theory/opinion, 49.4% involved quantitative research, 16.3% qualitative research, and 10.7% mixed qualitative/quantitative. In terms of the research articles by themselves, 64.61% were quantitative, 21.33% were qualitative and 14.06% were mixed qualitative/quantitative. Figure 1 shows a break down of the type of article over the 1998-2007 period. When the proportion of research articles combined was compared to the theory/opinion articles, there was not found to be any significant change over the ten years under investigation ($\chi^2(9) = 10.42, p > .05$). Similarly, when the proportion of quantitative articles published over the ten years was compared to the proportion of qualitative and mixed articles, there was found to be no significant change ($\chi^2(9) = 12.42, p > .05$). Thus, there does not appear to have been any consistent change over time in the style of research being published.

Insert Figure 1 approximately here

Research Methods Used

For all the research articles, the *main* data collection methods reported were, in order of usage, questionnaires, interviews, case studies, and secondary data, followed by a collection of other methods (see Table 2). The main method employed was found to vary significantly according to the type of article

($\chi^2(8) = 462.53, p < .001$). For quantitative articles, questionnaires were by far the most commonly used method (93.40%), followed by interviews (4.89%). For qualitative articles, interviews were the most common method (60.00%) followed by case studies (25.93%). For mixed research, questionnaires (41.57%) and interviews (40.45%) were used equally; not a surprising finding given that mixed method research does not necessarily preference any method.

Insert Table 2 approximately here

The 214 qualitative and mixed qualitative/quantitative research articles were coded further to gain a richer picture of the nature of the qualitative research conducted. As stated above (and shown in Table 2), interviews were reported as the *main* method, followed by case studies and questionnaires. Table 3 expands on this data by showing whether a particular research method was employed *at all* in the research. Interviews (across the four types coded) were again used most commonly, followed by case studies, secondary data, and questionnaires. Of the interview types, semi-structured interviews are by far the most common, as might be expected for the collection of qualitative data. Observation and focus groups appear to gain some usage, however, no articles reported making use of the internet (including email) to collect qualitative data. Only 17 (2.1%) of these articles indicated use of a computer program to assist in the analysis of qualitative data, typically N-Vivo/NUD*IST.

Insert Table 3 approximately here

A justification for the use of qualitative methods was provided in 15% of these articles. The number of lines given to the justification ranged from 1 to 35, with a median and mode of 3.5 and 2 respectively, and a standard deviation of 7.78. The predominant justification centred on the ability of qualitative data to offer more insight and a deeper understanding of the phenomena under investigation than purely quantitative data. Qualitative data was said to be able to answer questions of 'how' and 'why' versus

'what', that is, to address the underlying causes of observed phenomena, to provide more richness of information, to enhance validity, and to allow for more effective sense-making. Some researchers noted the use of qualitative data to complement and assist in the development of questionnaire surveys. The issue of the generalisability of qualitative data was raised in the same 15%. The most common comment related to the need to be cautious in making claims to generalisability due to such issues as small sample size and lack of representativeness, as well as problems with going beyond the scope of a case setting. Nevertheless, many researchers mentioned the ability to generalise certain aspects of their research to like samples, industries or economies. One researcher cogently noted that qualitative research is often not even meant, nor expected to be, representative and generalisable. The need for further research was also raised.

Internationalisation of Research and Authors

Of the research articles, the vast majority (82.01%) were based on data from a single country only, with 9.87% based on two countries, 2.87% on three countries, and 5.25% on four or more. The most common country from which data was drawn was the United Kingdom, at 24.04% of research articles. This was followed by China at 20.38%, the USA at 11.31%, Australia at 7.80%, and Germany at 5.89%. In terms of authorship, the clear majority of all articles published (including theory/opinion pieces) were single authored or involved authors from the same country (77.42%). A much smaller number (19.69%) were written by authors from two countries, with 2.90% by authors from three or more countries. Authors of *IJHRM* articles were, unsurprisingly, predominantly from the English-speaking world: 36.11% of all articles included authors from the United Kingdom, 17.39% from the USA, 10.51% from Australia, and 4.83% from Canada. However, there was representation from Asia – with 11.47% of all articles including authors from China, 3.38% from Taiwan, and 2.66% from Singapore – and of course from Continental Europe – with 4.59% of all articles including authors from The Netherlands, 3.38% from Spain, and 2.78% from Finland. Table 4 shows the 10 most common countries from which authorships and data for

research were drawn, as well as a list of countries from which research data was drawn for 10 or more research articles.

Insert Table 4 approximately here

Differences were observed in the type of research conducted according to the country of origin of the primary author ($\chi^2(8) = 57.36, p < .001$). As can be seen in Table 5 (which shows data for the five most common countries of origin of authors), research articles by USA authors were most likely to be quantitative in orientation (86.67% of articles). This was also found to be the case for research published by Canadian authors (85.71%). Research articles by UK authors, on the other hand, displayed a more even spread across quantitative (45.20%) and qualitative (33.33%) styles, as well as the highest proportion of mixed research (21.47%). Research by Australian authors was most similar in style to the UK authors. Chinese authors showed a preference for quantitative research (72.06% of articles), but with 17.65% of authors using a mixed research approach.

Insert Table 5 approximately here

DISCUSSION

It is of interest that there was no significant change in the style of research methods used, nor the proportion of research versus theory/opinion articles, over the 1998-2007 period. An argument could be mounted for an expected rise in either broad approach: qualitative or quantitative. The argument for a rise in qualitative research rests on the claim that HRM is fundamentally about people and that qualitative techniques are most suited for such complex, nuanced, multi-influenced concerns (Healey & Rawlinson 1994; Prasad & Prasad 2002; Roehling et al. 2005). Indeed, the predominant justification provided for the use of qualitative methods – the ability to offer insight – fits the general argument we have offered about the nature of research demands in HRM (Voss, Tsikrikis & Frohlich 2002). For quantitative research, the

argument rests on the perceived need for precision in bottom-line driven HRM (Nicholas & Katz 1985; Rose & Fiore 1999). Two lines of argument are possible to account for this finding, and it is likely that both may operate at the same time. The first is that there is a relatively stable culture in the editorial and review groups over the period. This is, in and of itself, worthy of future research since it suggests the power of a geographically dispersed culture, moreover one that reflects a changing and ethnically diverse membership of readers and writers. The second line of argument is that there is a relatively stable mix of sources of inspiration for IHRM research. As alluded to earlier in discussion of the three demands for HRM research in general, these factors are not ones that will necessarily change over time. Thus, while there may be a changing feast of ideas with regard to the content of the research undertaken, the research is always undertaken at the same table and perhaps with the same selection of utensils.

Results for the main research methods were as expected. Questionnaires were the major method for quantitative research, no doubt because paper-based questionnaires are relatively inexpensive and capable of yielding robust data. Personal interviews were the basis of 60% of qualitative research, which is also understandable given they promise to provide depth. The very low percentage (3.16%) of all research articles using secondary data indicates a lack of acceptance of this method, probably from both the broad scholarly IHRM community and the editorial board. Given that secondary data is cheap and can be rich, this is an interesting finding. Secondary research can also be rigorous, and be the basis of seminal management research such as Edith Penrose's (1959) theory of the firm, widely held to be the precursor to resource-based strategy theory.

The number of lines given to justification for the use of qualitative methods indicates a broad acceptance of the method, by this UK-based journal at least (more on the importance of this national location shortly). The words used were routine – a comment on the need for richness of information and then comments about the need for caution when generalising from the research; a flying of the qualitative research flag and then a genuflection to the big-sample advantages of quantitative research. It will be interesting to see if the words change as more qualitative research appears using pseudo-quantitative techniques based on software such as N-Vivo/NUD*IST, since these offer a semblance of quantitative

'rigour'. In this research, we found only 2% of all qualitative articles using such software; this is likely to rise sharply in future as use of the techniques becomes more widespread.

Results on the countries for authorship and research approach used by country of author were expected. The *IJHRM* comes out of the UK and it is therefore unsurprising that 36.11% of authors come for that country. At the same time, it is a tribute to the editors over the decade that nine other countries have at least twenty authors appearing in the journal over the period. In terms of the country of focus for research, the clear majority of researchers appear to have investigated their own country, for example, 24.04% of research articles were about UK issues. This is no doubt related to the convenience of doing research on your own country. That said, those that did not follow this trend tended to write about China, a reflection of the growth of Chinese business over the decade.

Perhaps the most note-worthy finding relates to the type of research by country of origin of primary author. 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 USA authors published quantitative studies and only 5.33% were quantitative 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. The preference for quantitative research in the USA is an observation made by other authors (e.g. Bell 1999; Boselie et al. 2005; Clark et al. 1999; Hoobler & Johnson 2004; Purcell 1999), but our research has provided empirical support.

It is evident, therefore, that there are two camps in IHRM research: a USA/Canada/China camp and a UK/Australia camp. While this observation has been made in the past (e.g. Clark, Gospel & Montgomery 1999; Hoobler & Johnson 2004; Purcell 1999), it has not been supported by actual evidence from content analysis of published research, and this paper is the first to provide such evidence. There are important implications here for both new and experienced researchers. For safety, a scholar intent on transfer between camps will need to concentrate on quantitative research, and it could be argued that this

should be even more advised for the novice researcher trying to establish their research career. This finding makes the relative stability of methods used in IHRM even more interesting. The USA pattern is, on the theory we have put forward, fixed, but the UK camp has the capacity for change because the proportions of methods may vary over time. Nevertheless, it has not done so in this decade of publications we analysed in the *IJHRM*.

REFERENCES

- Association of Business Schools (2008) *Academic Journal Quality Guide, Version 2*, accessed at <http://www.the-abs.org.uk/?id=257> on 27 November, 2008.
- Australian Business Deans Council (2008) *ABDC Journal List*, accessed at <http://www.abdc.edu.au/3.36.0.0.1.0.htm> on 27 November, 2008.
- Bell E (1999) Changing the 'line of sight' on payment systems: a study of shop-floor workers and managers within the British chemical industry, *International Journal of Human Resource Management* 10(5): 924-940.
- Boselie P, Dietz G and Boon C (2005) Commonalities and contradictions in HRM and performance research, *Human Resource Management Journal* 15(3): 67-94.
- Caligiuri PM (1999) The ranking of scholarly journals in international human resource management, *International Journal of Human Resource Management* 10: 515-519.
- Clark T, Gospel H and Montgomery J (1999) Running on the spot? A review of twenty years of research on the management of human resources in comparative and international perspective, *International Journal of Human Resource Management* 10(3): 520-544.
- Dowling PJ, Festing M and Engle A Sr (2008) *International human resource management: Managing people in a multinational context* (5th ed.), Thomson Learning, London.
- Gerhart B (2008) The growth of international human resource management, *International Journal of Human Resource Management* 19(10): 1989-1994.
- Guest DE (2001) Human resource management: when research confronts theory, *International Journal of Human Resource Management* 12(7): 1092-1106.
- Hanson D and Grimmer M (2007) The mix of qualitative and quantitative research in major marketing journals, 1993-2002, *European Journal of Marketing* 41(1/2): 58-70.
- Harzing A (2008) *Journal Quality List* (32nd ed.), Department of Management, University of Melbourne, accessed at <http://www.harzing.com/resources.htm#/pop.htm> on 27 November, 2008.
- Healey M and Rawlinson M (1994) Interviewing techniques in business and management research, in Wass V and Wells P (Eds.), *Principles and practice in business and management research*, pp123-145, Aldershot, Dartmouth UK.
- Hoobler JM and Johnson NB (2004) An analysis of current human resource management publications, *Personnel Review* 33(5/6): 665-676.
- Jick TD (1979) Mixing qualitative and quantitative methods: triangulation in action, *Administrative Science Quarterly* 24(4): 602-611.
- Long RG, White MC, Friedman WH and Brazeal DV (2000) The "qualitative" versus "quantitative" research debate: A question of metaphorical assumptions, *International Journal of Value-Based Management* 13(2): 189-197.

- MacRoberts MH and MacRoberts BR (1989) Problems of citation analysis: a critical review, *Journal of American Social Information Science* 40: 342-349.
- Marshall C and Rossman GB (1995) *Designing qualitative research*, Sage, Thousand Oaks CA.
- Miles MB and Huberman AM (1994) *Qualitative data analysis*, Sage, Thousand Oaks CA.
- Morgan G and Smircich L (1980) The case for qualitative research, *Academy of Management Review* 5(4): 491-500.
- Nicholas JM and Katz M (1985) Research methods and reporting practices in organization development: A review and some guidelines, *Academy of Management Review* 10(4): 737-749.
- Penrose ET (1959) *The theory of the growth of the firm*, Basil Blackwell, Oxford UK.
- Prasad A and Prasad P (2002) The coming of age of interpretive organizational research, *Organizational Research Methods* 5(1): 4-11.
- Purcell J (1999) Best practice or best fit: chimera or cul-de-sac? *Human Resource Management Journal* 9(3): 26-41.
- Rose DS and Fiore KE (1999) Practical considerations and alternative methods for evaluating HR programs *Journal of Business and Psychology* 14(2): 235-251.
- Scandura TA and Williams EA (2000) Research methodology in management: Current practices, trends, and implications for future research, *Academy of Management Journal* 43(6): 1248-1264.
- Schuler RS and Jackson SE (2005) A quarter-century review of human resource management in the U.S.: the growth in importance of the international perspective, *Management Review* 16(1): 11-35.
- Roehling MV, Boswell WR, Caligiuro P, Feldman D, Graham ME, Guthrie JP, Morishima M and Tansky JW (2005) The future of HR management: research needs and directions, *Human Resource Management* 44(2): 207-216.
- Simon A, Sohal A and Brown A (1996) Generative and case study research in quality management, part I: Theoretical considerations, *International Journal of Quality and Reliability Management* 13(1): 32-42.
- Skinner D, Tagg C and Holloway J (2000) Managers and research: The pros and cons of qualitative approaches, *Management Learning* 31(2): 163-179.
- Van Aken JE (2005) Management research as a design science: articulating the research products of mode 2 knowledge production in management, *British Journal of Management* 16: 19-36.
- Vastag G and Montabon F (2002) Journal characteristics, rankings and social acculturation in operations management, *Omega* 30: 109.
- Voss C, Tsikriktsis N and Frohlich M (2002) Case research in operations management, *International Journal of Operations and Production Management* 22(2): 195-220.

- Weick K (1989) Theory construction as disciplined imagination, *Academy of Management Review* 14(4): 516-531.
- Werner S (2002) Recent developments in international management research: a review of 20 top management journals, *Journal of Management* 28(3): 277-306.
- Wilson JB and Natale SM (2001) “Quantitative” and “qualitative” research: An analysis, *International Journal of Value-Based Management* 14(1): 1-10.
- Wright PM and Boswell WR (2002) Desegregating HRM: a review and synthesis of micro and macro human resource management research, *Journal of Management* 28(3): 247-276.
- Yin R (2003) *Case study research: Design and methods* (3rd ed.), Sage, Thousand Oaks CA.

Table 1: Number of Articles Examined by Year of Publication

Year	Volume Number	Issues / Year	Articles / Year
1998	9	6	59
1999	10	6	60
2000	11	6	59
2001	12	8	77
2002	13	8	70
2003	14	8	76
2004	15	8	80
2005	16	12	119
2006	17	12	110
2007	18	12	118

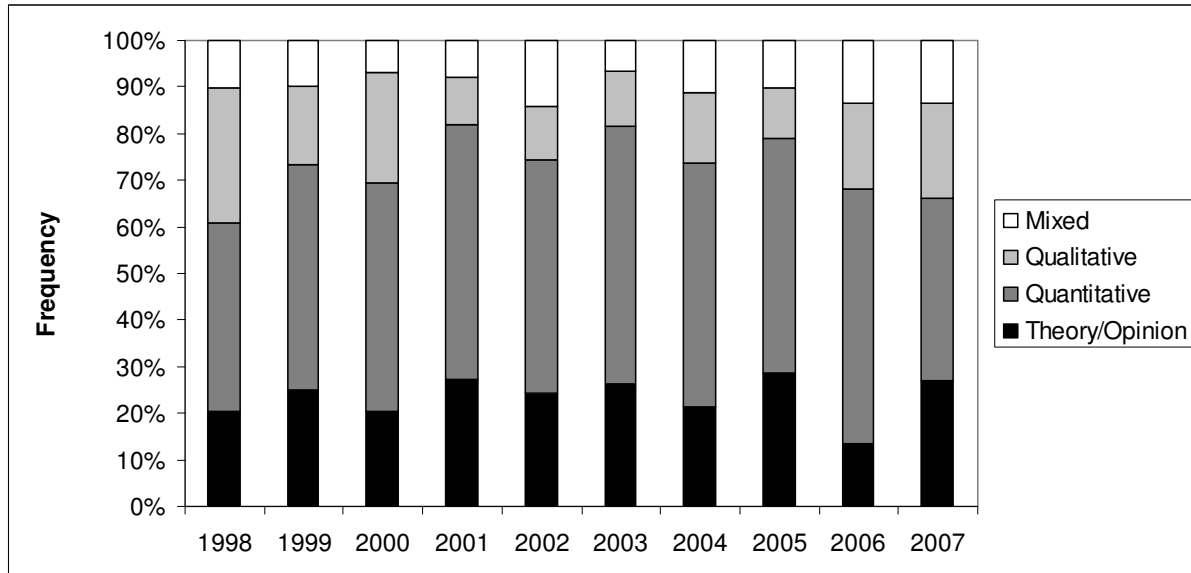
Figure 1: Type of Article by Year of Publication

Table 2: Main Type of Research Method by Article Type (Column Percentage)

	Quantitative	Qualitative	Mixed	Total
Questionnaire	382 (93.40%)	3 (2.22%)	37 (41.57%)	422 (66.67%)
Case Study	1 (0.24%)	35 (25.93%)	6 (6.74%)	42 (6.64%)
Interview	20 (4.89%)	81 (60.00%)	36 (40.45%)	137 (21.64%)
Secondary Data	5 (1.22%)	14 (10.37%)	1 (1.12%)	20 (3.16%)
Other¹	1 (0.24%)	2 (1.48%)	9 (10.11%)	12 (1.90%)

¹Includes: observation, focus group, content analysis

Table 3: Usage of Research Methods in Qualitative and Mixed Research

Research Method	Number of Articles Reporting Usage (Percentage)
Interview – Structured	31 (3.7%)
Interview – Semi-structured	144 (17.4%)
Interview – Unstructured	5 (0.6%)
Interview – Depth	30 (3.6%)
Case Study	153 (18.5%)
Secondary Data	86 (10.4%)
Questionnaire	58 (7.0%)
Observation	18 (2.2%)
Focus Group	10 (1.2%)
Internet/email	0 (0.0%)

Table 4: Most Common Countries for Authorships and Research Data

Authorships (any author)¹		Research Data²	
United Kingdom	299 (36.11%)	United Kingdom	151 (24.04%)
USA	144 (17.39%)	China	128 (20.38%)
China	95 (11.47%)	USA	71 (11.31%)
Australia	87 (10.51%)	Australia	49 (7.80%)
Canada	40 (4.83%)	Germany	37 (5.89%)
The Netherlands	38 (4.59%)	Spain	31 (4.94%)
Taiwan	28 (3.38%)	Taiwan	30 (4.77%)
Spain	28 (3.38%)	The Netherlands	26 (4.14%)
Finland	23 (2.78%)	Canada	25 (3.98%)
Singapore	22 (2.66%)	Singapore	24 (3.82%)
Other countries from which research data was drawn (for 10 or more articles): Finland, France, Greece, India, Ireland, Japan, Korea, Malaysia, New Zealand, Russia, South Africa, Sweden			

¹ Percentage of all articles

² Percentage of research articles

Table 5: Type of Research by Country of Origin of Primary Author (Row Percentage)¹

	Quantitative	Qualitative	Mixed	Total
United Kingdom	80 (45.20%)	59 (33.33%)	38 (21.47%)	177
United States of America	65 (86.67%)	4 (5.33%)	6 (8.00%)	75
China	49 (72.06%)	7 (10.29%)	12 (17.65%)	68
Australia	26 (52.00%)	17 (34.00%)	7 (14.00%)	50
Canada	24 (85.71%)	3 (10.71%)	1 (3.57%)	28

¹ Includes the five most common countries of origin of primary author