Mixed Methods in Management Research: Has the phoenix landed?

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ABSTRACT
Mixed methods research is an emerging methodological movement with a growing body of trans-disciplinary literature. Prominent research methodologists/authorities from across discipline fields are emerging and guiding the commentary and the movements' momentum. This paper reports the findings of a study that has systematically reviewed refereed papers from the 21st Australian and New Zealand Academy of Management (ANZAM) Conference 2007. The aim of the study is to provide a methodological map of the management research reported at the conference, and in particular the use of mixed methods research. The data will be compared to similar research conducted on international business research in four major journals. Implications for management research training and publication are discussed with particular reference to the Academy.

Keywords: mixed methods, content analysis, graduate management education and training

INTRODUCTION
This paper reports findings from a systematic review of refereed conference papers from the annual ANZAM conference held in Sydney, 2007. The research provides a broad based scan of methodological use using the following paper categories: conceptual; qualitative; quantitative; and mixed methods. The study builds on from previous systematic scans of methodological use within management literature that has a particular focus on mixed methods research. The paper will briefly outline the rise of mixed methods as a third methodological movement before detailing the study and its findings. The study reviewed the research methods employed in papers from each of the 16 conference themes and concluded that the number of single method studies (86% of empirical studies) exceeded those utilising mixed methods (14% of empirical studies). The paper concludes by proposing future research in this area and by discussing the implications for future management research training and publication. In the light of these discussions specific recommendations will be made to the Academy. Mixed methods research has been described as the phoenix of the paradigm wars (Cameron & Miller 2007). An aim of this paper is to gauge whether the phoenix has landed in the field of management research.

MIXED METHODS AS A THIRD METHODOLOGICAL MOVEMENT
Mixed method research is a growing area of methodological choice for many academics and researchers from across a variety of discipline areas. The *Journal of Mixed Methods* (2006), 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: 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 that either approach alone.*

Creswell and Plano Clark (2007) have also 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+). It is interesting to note the language that has been expressed around this evolution of mixed methods. For example Buchanan & Bryman (2007: 486) in reference to organisational research, conclude that:

*The paradigm wars of the 1980s have thus turned to paradigm soup, and organisational research today reflects the paradigm diversity of the social sciences in general. It is not surprising that this epistemological eclecticism has involved the development of novel terminology; innovative research methods; non traditional forms of evidence; and fresh approaches to conceptualization, analysis, and theory building.*
Tashakkori and Teddlie call mixed methods the ‘third methodological movement’ (2003: ix) whilst Johnson and Onwuegbuzie (2004: 14) state very clearly that mixed methods research is a ‘research paradigm whose time has come’. Mingers (2004) refers to the ceasefire of the paradigm wars being announced while Cameron and Miller (2007) use the metaphor of the phoenix to illustrate the emergence of mixed methods as the third methodological movement, arising from the ashes of the paradigm wars.

Several authorities have been emerging as mixed methodologist researchers and theorists (Greene and Caracelli 1997; Mingers and Gill 1997; Bazeley 2003; Creswell 2003; Tashakkori and Teddlie 2003; Mertens 2005; Brewer and Hunter 2006; Plano Clark and Creswell 2007; Bergman 2008; Bryman 2008). The interest in mixed methods has seen the recent emergence of several publications including academic journals, chapters within research texts (McMillan & Schumacher 2006) 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 & Teddlie 2003). 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. A very practical guide to the design and conduct of mixed methods research was published last year (Creswell and Plano Clark 2007) along with other texts focused solely on mixed methods (Greene 2007; Teddlie & Tashakkori 2008; Bergman 2008).

In the field of management research, Mingers (1997) and Mingers and Gill (1997) have been strong advocates for multimethodology or pluralism, as has Bazeley (2003, in press). Mixed methods research as a third methodological movement is developing and evolving with recent studies of the use of mixed methods in the fields of counselling (Hanson, Creswell, Clark, Petska & Creswell 2005), qualitative research conducted in Switzerland (Eberle & Elliker 2005), social and human sciences (Plano Clark 2005), the social sciences (Bryman 2008) and evaluation research (Greene, Caracelli & Graham 1989) providing empirical evidence of the extent of utilisation of mixed methods in contemporary research. Creswell and Plano Clark have concluded that ‘today, we see cross-cultural international interest,
interdisciplinary interest, publication possibilities, and public and private funding opportunities for mixed methods research’ (2007: 18). An aim of this paper is to gauge the presence and acceptance of mixed methods research within the management research community, as represented by ANZAM.

**STUDIES INVESTIGATING THE USE OF MIXED METHODS IN MANAGEMENT RESEARCH**

There is a small but growing body of research that is researching the incidents and usage of mixed methods in management research. Rocco, Bliss, Gallagher and Perez-Prado (2002) explored how mixed methods was approached in the fields of human resource development (HRD) and adult education and Mingers (2003) reviewed the information systems literature in reference to the use of multimethod research. Three similar pieces of research have directly informed the study reported in this paper. All three studies aim to discover the extent and current role mixed methods plays in the business/management fields through a process of systematic review of empirical studies. The first is a study undertaken by Hurmerinta-Peltomaki and Nummela (2006) and involved the review of articles from four major journals in international business during the time span of 2000 to 2003. The second study was conducted by Rocco, Bliss, Gallagher and Perez-Prado (2003) and reviewed sixteen online articles from 1999 to 2001 in the *Information Technology, Learning and Performance Journal*. The third study involves the methodological scan of Doctorate of Business Administration (DBA) theses submitted to an Australian university between 1997 and 2007 (Cameron forthcoming).

The Hurmerinta-Peltomaki and Nummela (2006) study focused on articles within the following four international business journals between 2000 to 20033: 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
The study found that 68 (17 %) of the 394 empirical studies utilised a mixed method. These 68 studies were then further categorised/coded according to a classification tool inspired by mixed methods typologies designed by Creswell (2003) and Tashakkori and Teddlie (1998). The classification tool developed is a two-by-two matrix (see Figure 1). Both the classifications and codes used by the Hurmerinta-Peltomaki and Nummela (2006) study have been replicated in the study being reported in this paper and are detailed in the methodology section of this paper. The authors focused on the extent of mixed methods in international business (IB) 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, organisational and personal boundaries, and inspiring complicated research questions’ (2006: 440). They argue that narrow methodological approaches would reveal only a small piece of the reality within this complex field.

The Rocco et al. (2003) study reviewed 16 online articles from 1999 to 2001 in the Information Technology, Learning and Performance Journal. The authors screened the abstracts, methods and findings sections of the articles and found that no authors explicitly stated the use of mixed methods in the abstracts. However, three articles were identified as using mixed methods through closer examination of the methods section of the articles. Nonetheless these authors ‘did not explicitly state their commitment to using mixed methods’ (Rocco et al. 2003: 24) but took a pragmatic approach justifying the use as an issue of suitability their particular study. Rocco et al. (2003) explore these three studies in greater depth and concluded that ‘little explicit discussion of research design decision-making or theoretical support for mixing design components was observed in the examples used’ (Rocco et al. 2003: 27). This is supported by previous research undertaken by the authors in the field of human resource development and adult education (Rocco et al. 2002). The authors call for research courses that specifically deal with instruction on how to mix qualitative and quantitative methods in the stages of research design. They also call for appropriate journals to encourage the inclusion of such discussions in research (Rocco et al. 2003: 27).
The third study by Cameron (forthcoming) was in progress at the time of paper submission. This study is systematically reviewing DBA theses (n=184) over a ten year period in terms of research design, research methods and in particular, the use of mixed methods. The coding system for this review is much more detailed and complex than that employed for this study however, coding systems utilised by the study have informed the present study.

As has been noted, studies that utilise mixed methods approaches may face problems in being published due to dominant paradigmatic views expressed within discipline fields (Welch & Welch 2004; Hurmerinta-Peltomaki and Nummela 2006). Some journals explicitly exclude certain methodological approaches, whereas others imply methodological preferences.

Creswell and Plano Clark (2007) provide a checklist for evaluating the level of acceptance of mixed methods research within disciplines. They categorise three types of acceptance levels: minimal; moderate; and major. Minimal discipline acceptance is categorised by: awareness of qualitative research within the discipline; publication of mixed method studies in discipline based journals; graduate students using mixed methods in dissertation research; discussion in journals about the need for mixed methods; and mixed methods discussed at professional conferences. Major acceptance is characterised by: special issues of a journal on the use of mixed methods within the discipline; publication of mixed methods studies in top discipline-based journals; and courses on mixed methods research as part of graduate research training programs. These three acceptance levels could be considered as a type of continuum for gauging acceptance levels for specific disciplines. An example of major acceptance levels can be found in the discipline fields of evaluation and nursing. These disciplines fields discuss and utilise mixed methods extensively. Journals from the fields of family medicine and counselling psychology have published special issues on qualitative and mixed methods (Creswell & Plano Clark 2007).
In consideration of these issues, the present study sought to investigate the use of mixed methods research within the management research represented at the 21st ANZAM conference 2007. In particular, the following research questions were posited:

RQ1: What is the frequency of use of mixed methods within management research?

RQ2: What forms of mixed methods research within management research are most common?

RQ3: What evidence exists to gauge the level of acceptance of mixed methods research within management research?

METHODOLOGY

The methodology employed in this research is content analysis and involved the systematic review of conference papers from the 21st ANZAM Conference, 2007. The sample includes 281 refereed papers across 16 conference themes (refer to Table 1 for a list of the themes). Papers were reviewed using a coding sheet and system. Data was collected from each refereed paper and included conference stream, demographic data, research approach/design and methods used. Data collected included details of the paper presenter (gender, title, doctoral qualifications and position), paper type (conceptual, qualitative, quantitative or mixed), research design, research methods utilised and mixed method design type, if applicable.

Data codes were developed from the literature review and in some cases replicated aspects of other research. For example, the data codes for paper types and the mixed method matrix from the Hurmerinta-Peltomaki and Nummela (2006) study was employed and specific codes for mixed method typologies was replicated from the Cameron study (forthcoming).

The categories for research paper type included: conceptual; quantitative; qualitative; and mixed method. Coding decisions for what constituted each paper type followed the protocol outlined by the
Hurmerinta-Peltomaki and Nummela (2006) study. Conceptual papers included general themes, literature reviews and conceptual/analytical papers without empirical data. Some papers reported on an empirical study/ies that the author/s had not conducted themself/theselves, and these were also included in the conceptual paper category. Quantitative papers were judged to be so if they were in numerical form and analysis was based only on this data. Qualitative papers were considered to be those with data mainly in textual form and where the data was analysed by employing qualitative techniques. Mixed method studies were categorised as such if the same researcher/s was involved in both qualitative and quantitative phases. The use of mixed methods need to be expressed within the paper, or at least the reader needed to be able to infer it.

Further analysis of those papers considered to be mixed methods followed. Each of the 28 mixed method studies were evaluated according to the classification tool designed by the Hurmerinta-Peltomaki and Nummela (2006: 446) study and depicted in Figure 1. The classification involves labelling a study with one letter (A or C), two letters (AB, AC, AD, BC, BD, CD), three letters (ABC, ABD, ACD, BCD) or four letters (ABCD). Please note that the types A and D were not included as these do not represent a mixed method study. The classification tool for the mixed methods studies is depicted by Figure 1. Descriptions of these classifications are listed in Table 2.

[Insert Figure 1]

Numerical codes for each paper were entered into the SPSS statistical package. It must be noted that limitations exist in attempting to compare different forms of academic literature. Refereed conference papers, journal articles and theses are all very different in terms of length, review processes and academic rigour. Future research is anticipated for both management conference papers and journal articles to combat this limitation.

The current study reported in this paper is a mixed method study. Qualitative data has been analysed quantitatively and is reported in this paper. What is not reported in this paper is the qualitative analysis of the qualitative data due to the limitations placed upon conference paper length. This aspect of the study will involve a content analysis of the 28 mixed method papers identified in the quantitative
analysis utilising qualitative analysis techniques. Themes identified in the qualitative analysis methodology of the Bryman (2008) study will be used as a guide, however the approach will be exploratory and will allow for themes to emerge.

**FINDINGS**

The quantitative data analysis employed utilised descriptive and univariate statistics. Table 1 depicts the frequency distribution of research paper types across the 16 conference streams. Quantitative papers represented just under one third of the papers (32%), followed by conceptual papers (30%). Qualitative papers represented 28% of the papers and mixed methods represented 10%. Papers were categorised as either conceptual or empirical (qualitative, quantitative and mixed methods). This process identified a total of 197 papers with an empirical research design. Of these empirical studies 28 (14%) utilised a mixed method. From Table 1 it can be concluded that the number of single method studies exceeded those utilising mixed methods. Four research streams did not have any mixed methods papers:

- Critical Management Studies;
- International Management
- Networks, Clusters, Collaboration and Social Capital
- Sustainability and Social Issues in Management.

The streams with the most mixed methods papers were:

- Management Education and Development (n=8)
- Research Methods 9 (n=4).

[Insert Table 1]

Table 2 plots the frequencies of the identified mixed methods papers across a classification system for mixed methods studies. The large majority of mixed method type papers were in the AD classification.
This classification analyzes qualitative data qualitatively and analyses quantitative data quantitatively.

[Insert Table 2]

CONCLUSION

The reported findings address each of the three research questions identified at the conclusion of the literature review. Each of these questions is addressed in turn before overall conclusions are drawn.

Research Question 1 asked, What is the frequency of use of mixed methods within management research?

The findings of the research indicate that mixed methods research represents 10% of all the refereed conference papers and 14% of all the empirical refereed conference papers. When these figures are compared with the Hurmerinta-Peltomaki and Nummela (2006) study there are slight differences. In the Hurmerinta-Peltomaki and Nummela (2006) study 14% of all the journal articles and 17% of all the empirical journal articles were mixed method studies. The representation of mixed methods research in the 21st ANZAM Conference 2007 refereed papers is slightly less than for International Business journal articles from four major journals during the time span of 2000 to 2003. The numbers in the Rocco et al. (2003) study are too small to callow for a comparative analysis. The findings of the research indicate that there are differences between discipline-based streams with the Management Education and Development (n=8) and Research Methods (n=4) streams containing the majority of mixed method papers. This result may provide partial evidence to answer the third research question.

Research Question 2 asked, What forms of mixed methods research within management research are most common?
The findings of the research indicate that the most popular form of mixed methods research is the AD classification. Just over three quarters (n=22 or 82%) of the mixed methods studies utilised this form of mixed method research. The AD classification of mixed method research study is that which uses qualitative data analyzed qualitatively and quantitative data analysed quantitatively. When these figures are compared with the Hurmerinta-Peltomaki and Nummela (2006) study there are slight differences. In the Hurmerinta-Peltomaki and Nummela (2006) study two thirds (n=45 or 66%) of all the mixed method journal articles were classified as AD. The overall numbers were larger in this study and allowed for a greater range of classifications. The representation of AD classified mixed methods studies in the 21st ANZAM Conference 2007 refereed papers is slightly higher than those classified in the International Business journal articles from four major journals during the time span of 2000 to 2003. This data points to an over reliance of mixed methods research types which maintain the quantitative qualitative divide and the non use of more integrated mixed method designs. How can this be addressed? Is this a result of a lack of training in mixed methods or the politics of paradigms, or both?

Research Question 3 asked, *What evidence exists to gauge the level of acceptance of mixed methods research within management research? (Has the phoenix landed?)*

The data from this study thus far provides some evidence to answer this question. The fact that the majority of mixed method studies were located in two streams (Management Education and Development and Research Methods) indicates that the broader field of management, as represented by ANZAM, is beginning to utilise mixed methods in areas considered linked to future management research training. It would seem that mixed methods is beginning to be discussed in these forums and streams. Further evidence needs to be collected to allow for a comprehensive response to the research question posed. Is the broader management field, as represented by ANZAM, at the minimal acceptance end of the continuum of mixed method acceptance proposed by Creswell and Plano Cark (2007)? What implications does this have for future management research, research training and
publication? What could ANZAM be doing to encourage a wider acceptance level of mixed methods research?

It is hoped that this paper will begin a dialogue of possibilities for increasing the acceptance level of mixed methods research within management fields.
REFERENCES


Cameron R (forthcoming), Mixed methods research designs in DBA research, Southern Cross University, Lismore.


### Table 1 The Dataset of the Study

<table>
<thead>
<tr>
<th>Conference Theme/Stream</th>
<th>Conceptual</th>
<th>QUAL</th>
<th>QUANT</th>
<th>Mixed Methods</th>
<th>Total</th>
</tr>
</thead>
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<td>3</td>
<td>0</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>2. Entrepreneurship and Small Business</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>3</td>
<td>15</td>
</tr>
<tr>
<td>3. Gender and Diversity in Organisations</td>
<td>4</td>
<td>6</td>
<td>6</td>
<td>1</td>
<td>17</td>
</tr>
<tr>
<td>4. Human Resource Management and Development</td>
<td>13</td>
<td>13</td>
<td>9</td>
<td>1</td>
<td>36</td>
</tr>
<tr>
<td>5. International Management</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>6. Knowledge Management and Intellectual Capital</td>
<td>9</td>
<td>3</td>
<td>8</td>
<td>3</td>
<td>23</td>
</tr>
<tr>
<td>7. Management Education and Development</td>
<td>1</td>
<td>5</td>
<td>4</td>
<td>8</td>
<td>18</td>
</tr>
<tr>
<td>8. Marketing and Communication</td>
<td>3</td>
<td>2</td>
<td>6</td>
<td>3</td>
<td>14</td>
</tr>
<tr>
<td>9. Networks, Clusters, Collaboration and Social Capital</td>
<td>10</td>
<td>3</td>
<td>8</td>
<td>0</td>
<td>21</td>
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<td>10. Organisational Change</td>
<td>3</td>
<td>4</td>
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<td>1</td>
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<td>11. Organisational Behaviour</td>
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<td>9</td>
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<td>37</td>
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<tr>
<td>12. Public Sector and Non-profit</td>
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<td>3</td>
<td>5</td>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>13. Research Methods</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>14. Strategic Management</td>
<td>9</td>
<td>1</td>
<td>4</td>
<td>1</td>
<td>15</td>
</tr>
<tr>
<td>15. Sustainability and Social Issues in Management</td>
<td>6</td>
<td>3</td>
<td>9</td>
<td>0</td>
<td>18</td>
</tr>
<tr>
<td>16. Technology, Quality and Operations Management</td>
<td>1</td>
<td>8</td>
<td>6</td>
<td>2</td>
<td>17</td>
</tr>
<tr>
<td>TOTALS</td>
<td><strong>83</strong></td>
<td><strong>79</strong></td>
<td><strong>90</strong></td>
<td><strong>28</strong></td>
<td><strong>281</strong></td>
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<tr>
<td><strong>(30%)</strong></td>
<td><strong>(28%)</strong></td>
<td><strong>(32%)</strong></td>
<td><strong>(10%)</strong></td>
<td><strong>(100%)</strong></td>
<td></td>
</tr>
</tbody>
</table>

### Figure 1 Classification Tool or Mixed Methods Studies

#### Data Analysis

<table>
<thead>
<tr>
<th>Qualitative</th>
<th>Quantitative</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A</strong></td>
<td><strong>B</strong></td>
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</tbody>
</table>

#### Data Collection

<table>
<thead>
<tr>
<th>Qualitative</th>
<th>Quantitative</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>C</strong></td>
<td><strong>D</strong></td>
</tr>
</tbody>
</table>
Table 2: Mixed Methods Studies According to Classification

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Number of Studies in the Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>Qualitative data analyzed quantitatively</td>
<td>0</td>
</tr>
<tr>
<td>C</td>
<td>Quantitative data analyzed qualitatively</td>
<td>0</td>
</tr>
<tr>
<td>AB</td>
<td>Qualitative data analyzed qualitatively and quantitatively</td>
<td>2</td>
</tr>
<tr>
<td>AC</td>
<td>Qualitative and quantitative data, both analyzed qualitatively</td>
<td>1</td>
</tr>
<tr>
<td>AD</td>
<td>Qualitative data analyzed qualitatively, quantitative data analysed quantitively</td>
<td>23</td>
</tr>
<tr>
<td>BC</td>
<td>Qualitative data analyzed quantitatively, quantitative data analysed qualitatively</td>
<td>0</td>
</tr>
<tr>
<td>BD</td>
<td>Qualitative and quantitative data, both analyzed quantitatively</td>
<td>1</td>
</tr>
<tr>
<td>CD</td>
<td>Quantitative data analyzed qualitatively and quantitatively</td>
<td>0</td>
</tr>
<tr>
<td>ABC</td>
<td>Qualitative and quantitative data, both analyzed qualitatively, qualitative data also analysed qualitatively</td>
<td>0</td>
</tr>
<tr>
<td>ABD</td>
<td>Qualitative and quantitative data, both analyzed quantitatively, qualitative data also analysed qualitatively</td>
<td>1</td>
</tr>
<tr>
<td>ACD</td>
<td>Qualitative and quantitative data, both analyzed qualitatively, quantitative data also analysed quantitatively</td>
<td>0</td>
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<tr>
<td>BCD</td>
<td>Qualitative and quantitative data, both analyzed quantitatively, quantitative data also analysed quantitatively</td>
<td>0</td>
</tr>
<tr>
<td>ABCD</td>
<td>Qualitative and quantitative data, both analyzed concurrently with qualitative and quantitative research methods</td>
<td>0</td>
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<td>TOTAL</td>
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<td>28</td>
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