

Quality Reporting of Mixed Methods Research in Tourism-Related Studies

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Abstract

The aim of this study is to gain scientific insight into internationally-accepted criteria for quality reporting of mixed methods research (MMR). Articles published post-2012 in a particular journal, which referred to “mixed methods” and “tourism”, and reported that qualitative and quantitative data were collected, were drawn from Google Scholar and Scopus. The reporting quality of these studies was analysed according to the GRAMMS framework (Good Reporting of a Mixed Methods Study). Most of the articles in the data set did not report on all the elements embedded in GRAMMS. It must not be seen as a reflection of the quality of the MMR design itself, nor is the study flawed. It indicates gaps in the reporting of important MMR elements that could be addressed in future research. Exemplars were identified that could serve as case studies for researchers in terms of the quality of reporting on MMR. Editorial boards should adopt guidelines on how MMR could be presented in articles submitted to their journals. These guidelines could assist authors in preparing their articles to conform to international standards on the reporting of MMR studies. Peer reviewers should use the guidelines to judge the quality of reporting on MMR methodology in articles under review. This study could also serve as a future reference for researchers, postgraduate students and supervisors who aim to incorporate MMR in their research.

Keywords: mixed methods reporting quality, methodological rigour, exemplars

Introduction

A proliferation in the number of journals over the last 20 years created more opportunities to showcase research output. Another trend was the increase in journals that are dedicated to a particular field, such as tourism, or having a particular focus on scientific scholarship such as the *Journal of Mixed Methods Research (JMMR)* and the *International Journal of Multiple Research Approaches (IJMRA)* - both were launched in 2007. Perusing archives and keeping track of every new edition of these two journals should be prescribed reading for anyone interested in mixed methods research (MMR). Scholarly journals serve as a platform where academics and researchers share their findings to gain respect and various forms of rewards. Publishing articles in a scientific journal is (therefore) considered as the quality indicator of the researchers’ activities.” El-Omar (2014, 105 & 106) emphasises that journals are the custodians of scientific endeavour and advancement as they aim to publish sound research with enduring conclusions that will withstand careful scrutiny and validation. Arguably the most important aspect of any scientific study is its research design. It is fair to assume that it would be close to impossible to fix a faulty design at the time of writing the final manuscript, no matter how perfect the author’s writing skills are. Poor methodological design leads to findings that are, at best, questionable. “The ideal journal is one that helps the author through a peer review to improve the article before publication. Such a journal selects only the best research so that the author’s article lies alongside other high quality articles” (Smart, in Beall, 2016: 77).

Literature review

Campbell and Fiske's (1959) article is viewed as the first attempt to formalise the practice of using multiple research methods (Johnson, Onwuegbuzie, & Turner, 2007). Various authors have contributed to the debate on mixed methods research (MMR) in terms of definition (Guest, 2013; Heyvaert, Maes & Onghena, 2013); classification of MMR (Creswell & Piano Clark, 2007); typology of MMR (Leech & Onwuegbuzie, 2009; Guest, 2013); and the operationalising and conceptualising of quality in MMR (Nastasi, Hitchcock & Brown, 2010, Piano Clark, Anderson, Wertz, Zhou, Schumacher & Miaskowski, 2014; Burch & Heinrich, 2016; Fàbregues, Pare´ & Meneses, 2019). Researchers, postgraduate students and their supervisors, who consider conducting MMR, should study these contributions to familiarise themselves with the development of scientific thinking on MMR design.

Tools to appraise quality and rigour in MMR design

Fàbregues et al. (2019:424) state that: "What constitutes quality in mixed MMR and the criteria by which it should be judged is currently one of the most important and debated issues in the MMR field. The unique attributes of MMR create particular challenges that demand additional quality criteria, over and above those used for individually appraising the quantitative and qualitative components (Onwuegbuzie & Johnson, 2006; Collins, Onwuegbuzie & Johnson, 2012). Collins (2015), Creswell (2015), and Ivankova and Piano Clark (2016) argue that the habits and practices prevalent in each discipline may affect how a good-quality MMR study is described, how criteria for MMR are perceived, and which framework is used to gauge quality and rigour in MMR relating to particular fields of study (such as tourism). Their views indicate a significant gap in the literature in terms of developing/utilising discipline-related parameters when reading or appraising MMR in multiple disciplines (Ivankova & Kawamura, 2010) and Guetterman, Babchuk, Smith, and Stevens (2019) and also in tourism (Truong, Liu & Yu, 2020).

Rigour in MMR design (RMM)

A paper's potential impact is significantly reduced without an appropriate description of methodological rigour. Houston (2019) identified four facets of rigour, namely in designing research questions; in conceptual rigour; in methodological and analytical rigour; and in the process of crafting a scholarly manuscript. It is argued that there must be a balance between the four facets of rigour in any manuscript. Methodological rigour without rigour in designing the research question or conceptual rigour may result in a study that is sophisticated in technique, but not useful to knowledge development or managerial practice.

Mixed methods appraisal tools

Desk research unveiled a number of appraisal tools.

MMAT

MMAT was developed from a variety of evaluation tools for 'quantitative' and 'qualitative' studies and it provides a template to assist in the critical appraisal of studies using both methods to collect data in the same study. It has received wide-ranging attention in scientific literature: Pluye, Gagnon, Griffiths and Johnson-Lafleur (2009), Pluye, Robert, Cargo, Bartlett, O'Cathain, Griffiths, Boardman, Gagnon and Rousseau (2011), Pace, Pluye, Bartlett, Macaulay, Salsberg, Jagosh and Seller (2012), Pluye, Bush, Macaulay, Khanassov, Queiroga, Loignon et al. (2013), Souto, Khanassov, Hong, Bush, Vedel and Pluye (2015), Hong, Fàbregues, Bartlett, Boardman, Cargo, Dagenais, Gagnon, Griffiths, Nicolau, O'Cathain, Rousseau, Vedel and Pluye (2018), Hong (2018), and Hong, Pluye, Fàbregues, Bartlett,

Boardman, Cargo, Dagenais, Gagnon, Griffiths, Nicolau, O’Cathain, Rousseau and Vedel (2019). These authors can be viewed as a panel of experts and/or leading figures in the MMR community.

QATSSD and QuADS

Fenton, Lauckner and Gilbert (2015) state that the QATSSD tool was originally developed for application in psychology but it has some limitations in its ease of use beyond the discipline of psychology. The Quality Appraisal Tool for Diverse Studies (QuADS) emerged as a revised tool to address the limitations of the QATSSD tool (Harrison, Jones, Gardner & Lawton (2021) by testing it in the disciplines of psychology, sociology and nursing. The main concern in using MMAT and/or QATSSD/QuADS to evaluate rigour in tourism studies is that these tools have been developed by experts who are predominantly health scientists. Another concern was that the application of these tools has received little attention in management-related studies, in general, and in tourism, in particular. This concern is addressed by Harrison, Reilly and Creswell (2020) who constructed a framework (RMMCS) for rigorous MMR that can be applied in management studies.

GRAMMS

The Good Reporting of a Mixed Methods Study (GRAMMS) framework (cited in close to 690 studies at the time of writing this article) was developed by O’Cathain, Murphy and Nicholl (2008). Their framework applies six main elements which address the approach to collect the two data strands, sequencing of collecting the two data strands, sampling followed in collecting the two strands, priority of collecting the two data strands, points of integrating the two data strands, and techniques to analyse the two data strands in a single study. Their main conclusion (p96) was that the quantitative components were more likely to be better described than the qualitative ones and “researchers seemed to keep the two components separate rather than attempting to integrate data or findings in their publications”. Cameron, Dwyer, Richardson, Ahmed and Sukumaran (2013:63) state that “attention to the GRAMMS framework reinforces the need of those engaging in MMR to ensure they are reporting their research rigorously through explicitly documenting and describing their respective methodological choices. GRAMMS is adopted in this study as an exploratory instrument to measure the quality of reporting on MMR methodology in the data set drawn from a specific journal. It must not be seen as a reflection of the quality of the MMR design, or the quality of the journal, nor that the studies are flawed. It should rather be viewed as a tool that indicates gaps in the reporting of important MMR elements.

RMMCS

The Rigorous Mixed Methods Coding System (Harrison et al., 2020) is more complex in nature and it is deemed as a more advanced measuring instrument to gauge overall methodological rigour in MMR. Harrison et al. (2020, 491 & 492) claim that their work “provides guidance for recognising what qualifies as highly rigorous mixed methods”. Their vision is that as the mixed methods literature develops in management studies, “more systematic initiatives” to enhance mixed methods research rigour and, in turn, quality as appreciated by “management scholars” will evolve. They conclude that as researchers improve the use of MMR, the value and rigour of MMR will be enhanced, “while also providing guidance for editors, reviewers, and researchers”.

The role of scientific journals in promoting quality and rigour in MMR

As stated before, the *Journal of Mixed Methods Research (JMMR)* and the *International Journal of Multiple Research Approaches (IJMRA)* have gained prominence and, inter alia, contributed to the building of an international and multidisciplinary community of mixed methods researchers. These journals provide comprehensive resources to guide authors in developing publishable MMR articles, and as a bonus rubrics that include criteria for peer review of empirical research (Onwuegbuzie & Poth, 2015, 2016). Researchers that are not fully *au fait* with the intricacies of multiple research approaches should peruse these resources before designing their research projects, irrespective of whether they aim to publish in the *IJMRA* or the *JMMR*. Since 2007 the *JMMR* carried a large number of editorials, discussions, reports, overviews and scientific analyses on quality and rigour in MMR (Tashakkori & Creswell, 2007; Leech, Dellinger, Brannagan & Tanaka, 2010; Mertens, 2011; Heyvaert, Hannes, Maes & Onghena, 2013; Ivankova, 2014; Fetters & Freshwater, 2015; Fetters & Molina-Azorin, 2019a, 2019b; Hong & Pluye, 2019; Fàbregues, Molina-Azorin & Fetters, 2021). The *JMMR* and *IJMRA* also conduct frequent introspection (Zhou & Wu, 2020) to address issues and challenges in MMR.

Problem statement

Phillimore and Goodson (2004) argue that the purpose of tourism research is to build theory, and to make tourism a serious subject of study and a worthwhile academic pursuit. Tourism research has evolved from a peripheral area of study explored as a side interest by a small group of scholars from different disciplines into a recognised, mainstream field in its own right (McKercher & Prideaux, 2014). The use of mixed methods seems to be a fairly recent phenomenon in tourism research (Khoo-Lattimore, Mura & Yung, 2019; Mason, Augustyn & Seakhoa-King, 2021). Iaquinto (2018) states that there is clear evidence that MMR has developed into a substantive field of methodological enquiry in tourism as an alternative to positivism and the use of quantitative data analysis. “The discussion of rigorous mixed methods procedures is a relatively new phenomenon and as such has been mostly limited to the evaluation, education, and health science literatures” (Harrison, et al., 2020: 491 & 492). They argue that authors should add MMR rigour in management studies and that journal editors (should) open up to mixed methods. Limited attention has been given to the reporting of methodological rigour in MMR in tourism and in an African context. In this study a firm proposition is therefore postulated that scientific journals should take the lead in providing guidelines in this regard. Following frameworks for quality reporting of MMR can increase our understanding that a journal submission is an after-the-fact reconstruction of a research study and that it should clearly report on what was done as opposed to what was claimed or intended to have been done. This study therefore states a second proposition that the reporting of the planning, conducting and presentation of the entire MMR process, in terms of collection of the data strands, analysis of data strands and the integration of data findings, must clearly align with best practices in reporting MMR outputs.

Objectives

The main objective of this study is to identify all outputs, published post 2012 in a specific journal that inter alia focusses on tourism as a body of knowledge. The focus is therefore on tourism-related studies that incorporated qualitative and quantitative data collection (MMR) in a single study, and to eventually synthesise how data collection, data analysis, and the integration of data findings were reported.



The secondary aims related to these outputs are:

- To analyse the quality of reporting on MMR methodology according to the GRAMMS framework suggested by O’Cathain, et al. (2008);
- To identify gaps in the reporting of MMR according to the GRAMMS framework;
- To identify cases (Creamer, Musaeus & Edwards, 2018; Creamer & Edwards, 2019) that could serve as exemplars in terms of how MMR should be reported.

Research method

“Examining how contemporary research is being conducted in peer-reviewed, published literature is one way to develop guidance for future research” (Guetterman & Fetters, 2018: 902). The focus in this study is therefore on conducting an exploratory review of tourism-related studies to analyse how MMR was conducted and reported in a specific journal.

Searching - Google and Scopus databases

Table 1 outlines the search strategy followed by utilising Scopus and Google Scholar to search for articles published a specific journal by applying key descriptors and inclusion and exclusion criteria. The final database contains 20 studies that were deemed to be suitable to be sifted further with the aim of eventually identifying distinctive exemplars that displayed various levels of reporting quality. These studies can be viewed as the “cream of the crop”.

Table 1: Searches strategies conducted in Google Scholar and Scopus to identify mixed methods research in *THE JOURNAL*

| Search | Descriptors and inclusion/exclusion criteria (Google Scholar search) | Results |
|--------|--|---------|
| S1 | Inclusion criteria - Key initial descriptors “Mixed methods” OR “mixed method” OR “MMR” OR “mixed methodology” OR “mixed research” OR “combined methods” OR “mixed method” OR “mixed-method” OR “mixed-methods” Published post-2012 in <i>THE JOURNAL</i> Tourism related studies conducted in Africa | 44 |
| S2 | Exclusion criteria (n =27) Studies that had references to MMR in the bibliography but qualitative and quantitative data was not collected. Non-tourism related studies not conducted in Africa (that were included in the data set in S1) Studies that used one instrument to collect closed-ended quantitative and open-ended qualitative data without clearly explaining the resulting data analysis of both strands nor providing a clear explanation of the results of analysing the two data strands nor merging or integrating the results. Deleting duplicates from S1 | (-27) |
| S3 | S1 minus S2 | 17 |
| Search | Descriptors and inclusion/exclusion criteria (Scopus search) | Results |
| S4 | Inclusion criteria - Key initial descriptors (ALL(mixed AND methods OR mixed-methods OR mixed AND method OR mixed AND methodology) AND SRCITITLE (african AND journal AND of AND tourism AND hospitality AND leisure) AND ALL(africa) AND ALL (tourism) AND NOT TITLE-ABS-KEY (sport OR hotel OR restaurant OR hospitality) | 45 |
| S5 | Exclusion criteria (n =17) Studies that had references to MMR in the bibliography but qualitative and quantitative data was not collected. Non-tourism related studies not conducted in Africa (that were included in the data set in S4) Studies that used one instrument to collect closed-ended quantitative and open-ended qualitative data without clearly explaining the resulting data analysis of both strands nor providing a clear explanation of the results of analysing the two data strands nor merging or integrating the results. Deleting duplicates from S4 | (-17) |
| S6 | S4 minus S5 | 28 |
| Search | Descriptors and inclusion/exclusion criteria (Combine Google Scholar and Scopus searches) | Results |
| S7 | S3 + S6 | 45 |
| S8 | Deleting duplicates in S7 (n = 9) | (-9) |
| S9 | Every study listed in S7 was re-checked to ensure that it fitted into the scope of being a primary study that reported on MMR data collection. (n = 17) were further excluded for failing to properly substantiate that MMR data was collected in a tourism environment in Africa. | (-16) |
| S10 | Final data set (S7 minus S8 minus S9) | 20 |

The final data set (n=20) was organised in terms of purpose, priority, data collection and topic/country of study based on a method of comparison constructed by Truong, Liu and Yu (2019, 1563) who claim that their method “is the first comparison of MMR in major tourism and hospitality journals”.

Applying the GRAMMS framework to the final data set (S10, n=20)

The standing point is that the application of this framework is about the quality of the reporting on MMR and not about the quality of the studies themselves. The intent is therefore not to insult any authors whose work were not included in the final data set. The eventual objective is merely to identify gaps and challenges in the quality of MMR reporting in a particular journal. An a priori codebook (codes that are developed before examining the current data) based on GRAMMS elements is represented in Table 2. The middle column in Table 2 contains a priori codes and the column on the right lists coding variables to determine whether the a priori codes could be satisfactorily extracted from the data set.

Table 2: Coding according to GRAMMS (Phase 1 and 2)

| GRAMMS - Good Reporting of a Mixed Methods Study | A priori codes | Coding SI NEI NI EM |
|---|---|---------------------------------|
| (1) Describe the justification for using a mixed methods approach to the research question | Justification (J) | |
| (2) Describe the design in terms of the purpose, priority and sequence of methods | Design (D) - purpose (dpu), priority(dpr) and (ds) sequence | |
| (3) Describe each method in terms of sampling, data collection and analysis | Sampling (S) , data collection (dcqual/ or dc/quant and data analysis (da/qual or dc/quant) in one data strand / in the other data strand | |
| (4) Describe where integration has occurred, how it has occurred and who has participated in it | Where? How? Who participated? | |
| (5) Describe any limitation of one method associated with the present of the other method | Limitation of one method associated with the other method (Lim) | |
| (6) Describe any insights gained from mixing or integrating methods | Insights gained from mixing or integrating methods (I) | |

SI = satisfactory information / NEI = not enough information / NI = No information / EM = Sub-elements missing

Source: O’Cathain, et al. (2008: 97)

Studies in the final data set was analysed in two phases. Firstly, studies were identified that clearly reported on the first three recommended GRAMMS elements. This follows the approach of Kaur, Vedel, El Sherif and Pluye (2019) who focused on the first three elements (1-3), as important inclusion criteria, in their study. They also opined (p 670) that combinations of integration strategies should be clearly described and quote that more than 90% of studies published in their field of expertise in 2015 (p 669) did not address all six GRAMMS recommendations. This is noteworthy as GRAMMS had already been framed in 2008. In the second phase studies that clearly reported on the first three elements were subjected to scrutiny on how elements 4 to 6 were reported. In the present study the view is formulated that studies, which adequately address elements 1 to 3 would most probably better describe integration strategies based on elements 4 to 6. Studies that failed to address any elements or sub-elements of 1 to 3 were excluded from Phase 2.

Results

A Google Scholar and Scopus search strategy identified an initial data set of 89 studies in *THE JOURNAL* that used three important key words, namely “mixed method” (and derivatives), “tourism“ and “Africa” in the body of the article. These studies were screened by applying exclusion criteria (described in Table 1). The final data set was organised in Table 3 according



to purpose, priority, and timing of data collection and to create a label that will preserve anonymity.

Table 3: Data set organised according to purpose, priority, (timing of) data collection, and a label to preserve anonymity

| Purpose Triangulation, Complementary, Development, Expansion or Initiation | Priority Equal priority Qualitatively dominant or Quantitatively dominant | Data collection Simultaneous or Sequential | Label To preserve anonymity |
|--|---|---|---|
| Complementary | Equal | Simultaneous | Art 1 ST (2021) Sustainable tourism |
| Complementary | Equal | Simultaneous | Art 2 ST (2017) Sustainable tourism |
| Complementary | Equal | Simultaneous | Art 3 ET (2018) Ecotourism |
| Complementary | Equal | Simultaneous | Art 4 CT (2019) Coastal tourism |
| Complementary | Equal | Simultaneous | Art 5 ET (2015) Ecotourism |
| Complementary | Equal | Simultaneous | Art 6 ET (2020) Ecotourism |
| Complementary | Equal | Simultaneous | Art 7 CBT (2018) Community-based tourism |
| Development | Quantitatively dominant | Exploratory sequential | Art 8 UT (2018a) Urban Tourism |
| Development | Equal (stated as QUAL to QUAN) | Exploratory sequential | Art 9 DB (2018b) Destination branding |
| Development | Equal | Exploratory sequential | Art 10 ST (2020) Sustainable tourism |
| Development | Equal (stated as QUAL to QUAN) | Exploratory sequential | Art 11 DTA (2018c) Destination tourism attributes |
| Triangulation | Quantitatively dominant | Convergent parallel mixed methods research design | Art 12 DIR (2019a) Destination image recovery (a) |
| Triangulation | Equal | Convergent parallel mixed methods research design | Art 13 DIR (2019b) Destination image recovery (b) |
| Triangulation | Equal | Convergent parallel mixed methods research design | Art 14 RT (2019) Rural tourism |
| Complementary | Equal | Convergent parallel mixed methods research design | Art 15 DB (2021) Destination Branding |
| Complementary | Equal | Exploratory sequential | Art 16 UT (2014) Urban tourism |
| Complementary | Equal | Simultaneous | Art 17 ET (2020) Ecotourism |
| Complementary | Equal | Simultaneous | Art 18 WT (2020) Wildlife tourism |
| Triangulation | Equal | Sequential | Art 19 CT (2016) Cultural tourism |
| Complementary | Equal | Sequential explanatory | Art TI 20 (2019) Tourism industry |

Source: Truong, Liu and Yu (2020)

Note – Purpose according to Greene, Caracelli & Graham (1989) as proposed by Truong et al. (2020).

Data was extracted in accordance with elements embedded in the GRAMMS framework. A priori codes and coding was summarised in Table 2. Tables 4 and 5 depict the results of Phase 1 and Phase 2 of the GRAMMS-analysis. The middle columns (Code) contain a priori codes



and the columns on the right (Coding), list coding results according to the GRAMMS framework.

Table 4: Results of Phase 1 of GRAMMS analysis

| Phase (Elements 1-3 (n=20)) | Studies considered for Phase 1 | Code Justification (J) Design (dpu/dpr/ds) Sampling (dc/quant/qual) or dc/qual/quant (da/quant/qual) or (da/qual/quant) Justification (J) | Coding SI = satisfactory information / NEI = not enough information / NI = no information / EM = sub-elements missing NEI | | | |
|--------------------------------------|---|--|--|---------------------------------------|---------------------------------------|---------------------------------------|
| | Art 1 ST (2021) - Sustainable tourism | Priority (dpr) | NEI | | | |
| | Art 2 ST (2017) - Sustainable tourism | Design (D) | NEI | | | |
| | Art 3 ET (2018) - Ecotourism | | | Purpose (dpu) | | |
| | Art 4 CT (2019) - Coastal tourism | | | Sequence (ds) | | |
| | Art 5 ET (2015) - Ecotourism | | | (dc/quant/qual) or (dc/qual/quant) | | |
| | Art 6 ET (2020) - Ecotourism | | | | | |
| | Art 7 CBT (2018) - Community-based tourism | | | | | |
| | | | | Sampling (S) | NEI | |
| | | (da/quant/qual) or (da/qual/quant) | NEI | | | |
| | Art 8 UT (2018a) - Urban Tourism | Justification (J) | SI | | | |
| | Art 9 DB (2018b) - Destination branding | Design (D) | SI | | | |
| | Art 10 ST (2020) - Sustainable tourism | | | Priority (dpr) | | |
| | Art 11 DTA (2018c) - Destination tourism attributes | | | Purpose (dpu) | | |
| | Art 12 DIR (2019a) - Destination image recovery (a) | | | Sequence (ds) | | |
| | Art 13 DIR (2019b) - Destination image recovery (b) | | | (dc/quant/qual) or (dc/qual/quant) | | |
| | Art 14 RT (2019) - Rural tourism | | | Sampling (S) | | |
| | Art 15 DB (2021) - Destination Branding | | | | (da/quant/qual) or (da/qual/quant) | |
| | Art 16 UT (2014) - Urban tourism | | | | | |
| | | | | Justification (J) | NEI | |
| | | | | Design (D) | NEI | |
| | | | | | | Priority (dpr) |
| | | | | | | Purpose (dpu) |
| | Art 17 ET (2020) - Ecotourism | | | Sequence (ds) | NEI | |
| | | | | Sampling | SI | |
| | | | | | | (dc/quant/qual) or (dc/qual/quant) |
| | | | | (da/quant/qual) or (da/qual/quant) | SI | |
| | | Justification (J) | SI | | | |
| | | Design (D) | NEI | | | |
| | | | | Priority (dpr) | | |
| | | | | Purpose (dpu) | | |
| | Art 18 WT (2020) - Wildlife tourism | Sequence (ds) | NEI | | | |
| | | Sampling | SI | | | |
| | | | | (dc/quant/qual) or (dc/qual/quant) | | |
| | | (da/quant/qual) or (da/qual/quant) | SI | | | |
| | | Justification (J) | SI | | | |
| | | Design (D) | NEI | | | |
| | | | | Priority (dpr) | | |
| | | | | Purpose (dpu) | | |
| | Art 19 CT (2016) - Cultural tourism | Sequence (ds) | NEI | | | |
| | | Sampling | NEI | | | |
| | | | | (dc/quant/qual) or (dc/qual/quant) | | |
| | | (da/quant/qual) or (da/qual/quant) | NEI | | | |
| | | Justification (J) | SI | | | |
| | | Design (D) | NEI | | | |
| | | | | Priority (dpr) | | |
| | | | | Purpose (dpu) | | |
| | Art TI 20 (2019) - Tourism industry | Sequence (ds) | SI | | | |
| | | Sampling | NI | | | |
| | | | | (dc/quant/qual) or (dc/qual/quant) | | |
| | | (da/quant/qual) or (da/qual/quant) | NI | | | |

Note – Art 20 DTA (2019) was carried over to Table 5 as an example of an explanatory sequential design



After Phase 1 the studies that did not satisfactorily cover elements 1-3 were excluded from Phase 2. Table 5 depicts studies included in Phase 2 of the GRAMMS-analysis and subsequent results of coding.

Table 5: Results of Phase 2 of GRAMMS analysis

| Phase 2 (Elements 4-6 (n= 9)) | Studies carried over to Phase 2 | Code Where did integration take place? Who participated (W?) How it has occurred (H?) Limitation of one method associated with the other method (Lim) Insights gained from mixing or integrating methods (I) | Coding SI = satisfactory information / NEI = not enough information / NI = No information / EM = Sub-elements missing |
|-------------------------------------|--|--|--|
| | Four studies (Art 8 UT (2018a); Art 9 DB (2018b); Art 10 ST (2020); and Art 11 DTA (2018c) co-authored by a particular author employed exploratory sequential mixed methods | Where (integrated)? Who participated? How it occurred? Limitation Insights | SI SI SI NEI NEI |
| | Two studies by the same authors (Art 12 DIR (2019a) and Art 13 DIR (2019b) employed convergent parallel designs | Where (integrated)? Who participated? How it occurred? Limitation Insights | NEI SI NEI NEI NEI |
| | One article (Art 14 RT, 2019) employed a convergent parallel design and scored best over the six elements, It was identified as an exemplar that would compare well to exemplars from top-rated international journals | Where (integrated)? Who participated? How it occurred? Limitation Insights | SI SI SI NEI SI |
| | Art 15 DB (2021) (convergent parallel design) | Where (integrated)? Who participated? How it occurred? Limitation Insights | NEI NEI NEI NEI SI |
| | Art 16 UT (2014) (exploratory sequential) | Where (integrated)? Who participated? How it occurred? Limitation Insights | NEI NEI NEI NEI SI |

Note – Studies co-authored (Art 8 UT, 2018a; Art 9 DB, 2018b; Art 10 ST, 2020; and Art 11 DTA, 2018c) were grouped together as they reported a very similar MMR design (exploratory sequential)

Note - Studies co-authored (Art 12 DIR, 2019a and Art 13 DIR) were grouped together as they reported a very similar MMR design (convergent parallel)

The intention during Phase 2 was to identify studies that satisfactorily met all six GRAMMS-elements. From Table 5 it can be deduced that one particular study (Art 14 RT, 2019) adhered to five of the six RMMCS-elements, while all four studies (Art 8 UT, 2018a; Art 9 DB, 2018b; Art 10 ST, 2020; and Art 11 DTA, 2018c) co-authored by a particular author met four of the six elements. Art 11 DTA (2018c) is regarded to be representative of these four studies. Based on the results depicted in Tables 4 and 5, three studies were identified as exemplars representing three different MMR designs. Table 6 summarises the comparison between the three exemplars by using the abstract structure proposed by the specific journal as a framework for comparison. Scholars can study the information in Tables 4, 5 and 6. One particular study (Art 14 RT, 2019) can be of great use as an exemplar to postgraduate students and their supervisors who wish to embark on a MMR journey, in terms of how to triangulate the results of both data strands.



Table 6: Comparison of the three exemplars

| Article | Rural tourism in South Africa Art 14 RT (2019) | Destination tourism attributes in Zimbabwe Art 11 DTA (2018c) | Tourism industry skills Art 20 DTA (2019) |
|--|---|--|---|
| 1) Study objective (What is the study objective) | 1) <i>Not clearly stated in terms of mixed methods</i> | <i>Not clearly stated in terms of mixed methods</i> | <i>Not clearly stated in terms of mixed methods</i> |
| 2) Method (What approach/method was used in conducting the research?) | Convergent parallel design but not stated in the abstract | The study applied a QUAL to QUANT (<i>exploratory – not stated as such</i>) sequential mixed method through first establishing themes (qualitative research) and then use the themes to construct a survey questionnaire which was used for a quantitative research instrument. | Sequential explanatory mixed method (<i>stated in abstract</i>). <i>The presentation of data analysis seems to fit a convergent parallel design,</i> |
| 3) Results (highlight the key results and conclusions drawn) | 3) Triangulated results revealed that there is a discrepancy between how the two sample groups view tourism as a rural developmental aid. | Results from the in-depth interviews - were further investigated using a research survey instrument. | Results of qualitative and quantitative data strands compared in table format, Significant differences existed between the perceptions of the two sample groups in terms of certain constructs |
| 4) Implications (summarise the implications of the study) | Clearly stated | Clearly stated | This paper is hopefully useful for the development of important knowledge and skills required in the tourism industry. |
| 5) Value (clearly state the key contribution of the paper, e.g., what is novel or unique?) | <i>Needed more clarity on MMR</i> | <i>Needed more clarity on MMR</i> | This paper is original, as the study contributes to the body of knowledge and skills required in the tourism industry since no other paper, as far as could be assessed, has taken up this topic. |

Abstract

Note – No studies, that used more advanced MMR designs (i.e. embedded and transformative), were uncovered.

Findings, challenges and recommendations

In the process to construct the final data set a number of challenges was identified. It was disappointing to note that not one study self-identified as a MMR-study in the title, while a very small number used “mixed method(s)” as a key term in the abstract and even fewer identified whether the study was sequential or convergent. The title and abstract provide insight into the scope and contents of a journal article. Bibliometric and scoping reviews often only delve into abstracts. Scholars could therefore “miss” important and valuable studies that only provide a very superficial abstract. A cursory view of the final data set provides clear evidence that most of the studies have tallied very low numbers in terms of citations. This of course also impacts on the h-index that researchers achieve in Google Scholar citations and Scopus, and also on indexes in terms of the impact and ranking of all journals abstracted in Scopus.

It is very important that papers should adhere to any journal’s guidelines for presenting the abstract. It is a recommendation that the MMR design type (i.e. exploratory or explanatory sequential, or convergence/merging, or more complex design) should be stated in the abstract. The justification of following MMR should also be clearly stated in the abstract to substantiate the value it brings in terms of integrating the two data strands and in terms of data collection, analysis and results.

It is recommended that research aims and/or questions are stated clearly to signal the intent to mix or integrate data. Phrasing examples that can be used are as follows.

- For a convergent design - To what extent do the quantitative and qualitative results agree/differ/contradict/merge in terms of.....?”
- For an exploratory sequential design - To what extent can the qualitative findings be generalised in a quantitative setting?; and
- For an explanatory sequential design - To what extent can the qualitative findings help explain the quantitative results?

Clearly stated aims and objectives will focus the study (MMR design) and authors would be able to succinctly reflect on the value of the results. It is firmly recommended that authors provide brief information on the “Purpose” (Triangulation or Complementary or Development or Expansion or Initiation); “Priority” (Equal or Qualitatively dominant or Quantitatively dominant); and the sequence of collecting the different data strands in the abstract (see Table 3). These elements must be further clarified and described in the methodological section. This will lead to a higher citation record. Researchers should familiarise themselves with the types of mixed methods research design (Creswell et al. 2003; Leech & Onwuegbuzie, 2009; Schoonenboom & Johnson, 2017). It is close to impossible to provide a good quality report on MMR without specifying the MMR design selected, a discussion on the application of the design, and finally on reporting on data integration.

In terms of screening the initial data set the author noted that a number of studies employed a single measuring instrument with open- and closed-ended questions. Further scrutiny uncovered that all of them failed to provide substantial and clear detail on the analysis of responses to open-ended questions (qualitative data strand). This indicates that reporting gaps exist in terms of adequately displaying good quality of reporting of the qualitative data strand when a single instrument is used. It is this author’s firm view that a measuring instrument that includes a small number of open-ended questions, in whatever format, would rarely fit into the MMR mould. Mason, et al. (2010) state that the formulation of open-ended and closed-ended questions must be substantiated in terms of what they aim to measure. One way of addressing the concern is by clearly stating the objectives of posing open-ended questions. The GRAMMS analysis indicates that authors would greatly benefit from addressing as many as possible of the six elements in the GRAMMS framework in future work - especially in the section devoted to describing the research methodology. This practice will greatly improve the quality of reporting on MMR, not only in journals but also in postgraduate studies. It will also allow for favourable comparison of articles to international standards embedded in GRAMMS.

Adequate description of the sampling approach is of utmost importance. Sandelowski (2010) posits that while qualitative research typically involves purposeful sampling to enhance understanding, quantitative research ideally involves probability sampling to permit statistical inferences to be made. Researchers must familiarise themselves with the MMR sampling typologies developed by Collins et al. (2007), Onwuegbuzie and Collins (2007), Teddie and Yu (2007), and Onwuegbuzie and Collins (2017). Their typologies unlock the use of sampling from different populations in the same study. In terms of data collection a generic broad description was often stated - “The study used both quantitative and qualitative data that were collected via questionnaires, semi-structured interviews, focus group discussions, personal observation and review of documents. In the discussion of data analysis clarification on these methods must be clearly described.

It is again emphasised that articles that did not meet many of the GRAMMS-elements should not be viewed as examples of poor scientific scholarship. They are merely regarded as having not adequately reported rigour in MMR. Authors might have chosen to emphasise the

collection and analysis of one of the data strands due to a limitation on the number of words. Why did so many authors fail to discuss the reasons for conducting MMR, the type of MMR design followed, and how data was mixed/merged or integrated? Poth (2020: 37-38) provides a possible answer in terms of the construct of “study complexity” that include inter alia the following: “The mixing purpose for the study could not be predetermined; the study contexts were not yet known; the procedures for the study did not initially fit a specific design typology; and emerging findings could not be predicted”. Researchers should therefore develop skills to recognise varying conditions of complexity of studies that combine qualitative and quantitative data collection and state the problem of “study complexity” in their narrative instead of just not reporting on the basic tenets of MMR. This could lead to a misperception among journal editors and reviewers that the researcher(s) do(es) not understand MMR.

Studies must provide a very clear description of data integration. This finding is echoed by Zhou and Wu (2020) who state that mixed methods users’ experienced uncertainty during integration due to lack of guidance and confidence. By mixing the results of data strands researchers would also be better equipped to describe the value of the study. It is recommended that authors peruse the nine practical strategies for integrating phases, results or data of QUAL and QUAN in MMR (Kaur et al., 2019). These strategies provide good examples that can be succinctly used in MMR reporting. Not one article in the data set provided a joint display that visualises a summary of findings. Joint displays can assist in linking qualitative and quantitative findings of a sequential approach by indicating how the results from one phase proceeded to data collection in the following phase. The purpose of the joint display in a MMR study provides for comparisons between findings and the subsequent reporting of divergence and convergence between the two data strands. Guetterman, Fetters and Creswell (2015) identified exemplars of joint displays from published articles. These visual displays serve as examples that could be applied in MMR in any field of study, including tourism, and in any journal.

Articles in the data set showed very little referencing of mixed methods literature. Authors should recognise that referencing important and applicable mixed methods literature and labelling an article as MMR provides an indication that they grasp the tenets of MMR and that they are familiar with appropriate MMR literature. Familiarity with a body of literature is a requirement to develop the need for a study and to frame its contribution (Creamer et al., 2018: 65). Authors must pay more attention to international literature on MMR with a particular emphasis on studies that provide clear evidence of good quality reporting. One example is the work of Kuilis-Bosimin and Chan (2020) on exploratory sequential mixed methods in a tourism context. They provide a mixed methods research objective on p310 and p311; use figures and tables to illustrate a sequential exploratory mixed methods approach with embedded sample size and data collection (figure 2, p312); visualise data integration and triangulation (figure 3, p314); depict data flows (figure 4, p315); and provide evidence on data integration (table 2, p316). Rahman, Dawam and Chan (2019) provide a visual presentation of a convergent mixed methods design (figure 3, p9), and a summary of the findings from the two data strands (table 2, p10). The following source is insightful in terms of using joint displays to illustrate and discuss data integration (Johnson, Grove & Clarke (2019). How to present empirical evidences of qualitative interview responses is visualised by Kuilis-Bosimin and Chan (2018) (table 3, p7-8, & table 4, p8-9). When a journal restricts the length of an article (i.e. number of words), it presents challenges for MMR manuscripts that provide a comprehensive literature review on the context. It is possible to adhere to word count limits by using visual components (figures and tables).

Key methodological information in terms of MMR design must always be provided. Literature indicates an increase in submissions of MMR articles. Any journal must articulate

journal guidelines for the reporting of MMR. It is important to emphasise that a high-quality manuscript depends on the design and implementation of a high-quality study, irrespective of the type of data collected. It is important that authors and reviewers develop the necessary expertise in MMR and are familiar with the growth and development of MMR. Researchers should familiarise themselves with different MMR design types. Zhou and Wu (2020, 1) state that researchers must “report what they did, how they did it, and why they did it in such ways to approach full integration”. Their argument that, “by doing this, researchers would make valuable contributions to this methodology’s (MMR) development” is fully supported by the findings of the present study.

Conclusion

This study identified a substantial volume of research outputs published in a particular journal that referred to the collection of qualitative and quantitative data in tourism-related studies. Scholars (researchers, supervisors, and postgraduate students) have to delve much deeper into appropriate MMR literature to familiarise themselves with the existing treasure trove of substantive scientific output on MMR. This will improve the planning of methodological rigour and improved quality of reporting of results. The gaps and challenges in terms of good quality reporting of MMR can be addressed by perusing the recommendations embedded in the previous section.

All journals should encourage the submission of MMR studies that particularly display good quality reporting. Any editorial board could adopt the approach followed by *JMMR* in terms of providing resources on its web site. Guidance should be given on how to embed brief reference to MMR elements in the abstract, and how to adequately report on data collection, data analysis and data integration in MMR in the methodological section. The African Journal of Tourism, Hospitality and Leisure could play a leading role in promoting good quality reporting of methodological rigour of South African master's dissertations and doctoral theses. It could also develop the skills of peer reviewers (who are possibly also researchers and supervisors) to assess the presence, or lack thereof, of essential elements for MMR papers submitted to the journal. The GRAMMS framework should be required reading for all tourism scholars in Africa who wish to get their MMR studies published in the required format. The African Journal of Hospitality, Tourism, and Leisure can play a pivotal role in this regard by constructing its own proposed framework, based on GRAMMS, namely the Quality Reporting of MMR in The African Journal of Hospitality, Tourism, and Leisure. This could serve as an initial screening mechanism and a vehicle to provide feedback on papers that might not reflect adequate quality in reporting on MMR.

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