

Innovative mixed and multi method approaches to hospitality and tourism research

Welcome to *IJCHM*'s special issue on Innovative mixed and multi method approaches to hospitality and tourism research. I would particularly like to thank our guest editors Dr Hossein Olya, Dr Mathilda Van Niekerk, Professor Babak Taheri and Martin Gannon for putting together this very robust and timely special issue. The articles comprising this special issue should be well received by scholars, students and practicing managers across the hospitality and tourism field.

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Introduction

Traditionally, scholars have felt obliged to decide between using single quantitative or single qualitative methods. However, recent years have seen researchers increasingly challenge methodological norms as innovative studies shift toward adopting multi-method and mixed-method approaches having recognised the dynamic and multifaceted nature of research contexts and subjects. This has led to rapid epistemological and ontological advancements in hospitality and tourism studies over the last 20 years (Hewlett and Brown, 2018). To this end, recognising that solely qualitative or quantitative approaches provide inherently different viewpoints on phenomena, Creswell and Plano Clark (2007, p. 5) highlight the importance of using multi-method and mixed-method design as the “central premise that the use of quantitative and qualitative approaches in combination provides a better understanding of research problems than either approach alone”. Nevertheless, it is important to differentiate mixed-method from multi-method within social science studies. Researchers combine quantitative and qualitative methods when conducting mixed-method research, whereas a multi-method approach synthesises multiple types of quantitative or qualitative methods. For example, there are six main types of mixed-method design including the following:

- (1) convergent parallel;
- (2) explanatory sequential;
- (3) exploratory sequential;
- (4) advanced transformative;
- (5) advanced embedded; and
- (6) multiphase design (Teddlie and Tashakkori, 2009), and researchers select either of these philosophical and design underpinnings based on their main research question.

Innovative data collection and analysis methods have therefore been employed to investigate phenomena across the social sciences, with hospitality and tourism research proving no different. For example, Assaf *et al.* (2018) applied Bayesian methods to model and forecast regional tourism demand. Olya *et al.* (2018) used fuzzy-set qualitative analysis – a bridge between qualitative and quantitative methods – as a pragmatic way of solving



complex phenomena (such as the behaviour of disabled tourists for use by peer-to-peer accommodation providers). [Alaei et al. \(2017\)](#) suggested that sentiment analysis could improve tourism research methods by drawing upon “big data” in order to increase theoretical understanding throughout the field. [Olya and Alipour \(2015\)](#) devised an index for tourism climate by upgrading the conventional tourism climate index using fuzzy logic and validating it using a quantitative approach. Further, [Gannon et al. \(2019\)](#) investigated how experiential purchase quality influences experience self-connection and braggart word-of-mouth, for both first-time and repeat visitors, using a mixed-method approach comprised of: fuzzy-set qualitative comparative analysis (fsQCA), necessary condition analysis (NCA) and in-depth interviews. [Taheri et al. \(2019\)](#) examined, using partial least squares, multi-group analysis (MGA), fsQCA and NCA, whether the impact of social and physical servicescape on international travellers’ dissatisfaction and misbehaviour differs between two characteristically different international airports in Iran.

[Yadegaridehkordi et al. \(2018\)](#) employed a combination of conventional symmetrical analysis (i.e. SEM) with Adaptive Neuro-Fuzzy Inference Systems (ANFIS) to predict the determinants of hotel success. This trend is coupled with an upturn in interest in approaches centred on eliciting data from traditionally under-investigated perspectives, such as the characteristically biographical oral history analysis ([Huber et al., 2017](#)) or through indigenous methodological design ([Whitney-Squire et al., 2018](#)). Further, as contemporary tourism increasingly finds innovative ways of using (and indeed sometimes being beholden to) the internet ([Ryan, 2017](#)), so too has emerged an increased awareness of how researchers can reliably incorporate netnographic data into existing methodological frameworks in order to support or stimulate nascent findings ([Hewer et al., 2017](#); [Thanh and Kirova, 2018](#)). Further, the adoption of techniques limiting the inherent drawback of qualitative research subjectivity has also gained traction in recent years, with studies underpinned by Q Method emerging as robust, reliable and reflective in an attempt to avoid the obfuscation of unanticipated findings ([Huang et al., 2016](#); [Wijngaarden, 2017](#)).

However, there are several difficulties in undertaking innovative multi-method, mixed-method and multi-source research, including building a conceptual model from multi-source data; the high cost; require researchers to work in multiple teams or projects; the danger of personal bias; the possibility of generating different answers for the same phenomenon which could lead to the interpretation of different results at the qualitative and quantitative level; use of rigorous quantitative and qualitative research to assess the magnitude and meaning of concepts; and the need for systematic and robust reliability and validity assessment techniques. Nonetheless, recent studies ([Cordina et al., 2019](#); [Huang et al., 2016](#); [Lee et al., 2017](#); [Li et al., 2017](#); [tom Dieck et al., 2017](#); [Rasoolimanesh et al., 2019](#); [Xue and Kerstetter, 2017](#); [Wells et al., 2015](#); [Xie et al., 2016](#)) demonstrate that hospitality and tourism research continues to advance through the application of multi-method, mixed-method, and multi-source approaches. Hence, the goal of this special issue was to encourage theoretical and empirical development to foster better understanding of the potential benefits and strengths of multi-method, mixed-method and multi-source approaches within the field. This special issue therefore offers a collection of pragmatic methods that have the potential to advance the future of hospitality and tourism research.

The papers in this special issue

This special issue contains 15 articles that offer insights into innovative mixed and multi-method approaches to hospitality and tourism research. A brief summary of the papers in the special issue follows.

In the first paper, [Hajibaba *et al.* \(2020\)](#) explore an overview of market segmentation analysis and suggest a new procedure to enhance the stability of market segmentation solutions resulting from binary data. The authors use k -means as base algorithm and combine the variable selection method and global stability analysis. This approach enhances the stability of segmentation solutions by concurrently choosing variables and numbers of segments. In the second paper, [Arbogast *et al.* \(2010\)](#) use a multiphase methodology. This includes quantitative and qualitative research in the initial stage (i.e. interviews, survey, economic impact analysis), which subsequently informed the “social design activities” stage (i.e. landscape design/visualization of opportunities and sites targeted for development, asset mapping, and cultural identity design). Applying generative design tools, the authors identify how to enable co-design with communities to help destinations undertake sequential steps toward accomplishing their goals and objectives. The third paper by [Assaf and Tsionas \(2010\)](#) presents Bayesian equivalents to the frequentist approach for testing heteroscedasticity, autocorrelation, and functional form specification. For out-of-sample diagnostics, they consider several tests to evaluate the predictive ability of a model. The results demonstrate the performance of such tests using an application on the relationship between price and occupancy rate from the hotel industry. For comparison, they also offer evidence from traditional frequentist tests.

In the next paper, [MacKenzie *et al.* \(2020\)](#) propose that an historical approach to hospitality and tourism studies could be similarly beneficial. Three principal historical approaches are proposed: (I) the systematic study of historical archives; (II) oral history; and (III) biography and prosopography. Extending upon [MacKenzie and Gannon's \(2019\)](#) recent research, the paper proposes that such work should align with [Andrews and Burke's \(2007\)](#) framework of the five Cs: context, change over time, causality, complexity and contingency to help situate research appropriately and effectively. The five Cs of historical research offer the potential for deeper understanding of phenomena within the field of hospitality and tourism by identifying temporal dynamics hitherto insufficiently explored by contemporaneous data. In the fifth paper, guided by social impact theory, [Rosenbaum and Ramirez \(2020\)](#) explore how the social presence of others in a lifestyle centre influences six different cognitive responses. They evaluate consumers' cognitive responses by using the Emotiv EPOC+ headset to attain electroencephalogram recordings. To interpret these recordings, they use EmotivPro software, which provides readings on six emotional states: excitement, interest, stress, engagement, attention, and relaxation. Regarding the sixth paper, [Dogan *et al.* \(2020\)](#) applies fuzzy rule-based systems: a combination of fuzzy set theory and fuzzy logic. Drawing upon 1,137 observations collected from the website HolidayCheck.de, the findings demonstrate that no attribute alone plays a vital role in price-performance assessment. Instead, two or more interrelated combinations have different impacts on the perceived connection between price and performance. In the seventh paper, [Moro *et al.* \(2020\)](#) use a data mining approach to assess a guest satisfaction model, encompassing a large dataset characterised by dimensions grounded in existing literature. In doing so, 84,000 online reviews and 31 features were collected from TripAdvisor. The results highlight that previous users' experiences with the online platform, individual preferences, and hotel prestige were the most relevant dimensions shaping guest satisfaction.

The next paper by [Shen *et al.* \(2020\)](#) uses eye-tracking technology in combination with surveys and in-depth interviews. Eye-tracking technology uncovered the elements of a visitor guide that attracted attention, while surveys and interviews provided deeper insights into individuals' attitudes. The results indicate that individuals do not pay equal attention to each page of a visitor guide. Instead, they look at reference points (e.g. photo credits, photos,

headings, and bolded words) *then* read adjacent areas if this information triggers their interest. In paper nine, [Truong et al. \(2020\)](#) review the use of mixed methods research (MMR) across eight leading tourism and hospitality journals (“*Annals of Tourism Research*”, “*Tourism Management*”, “*Journal of Travel Research*”, “*Journal of Sustainable Tourism*”, “*International Journal of Contemporary Hospitality Management*”, “*International Journal of Hospitality Management*”, “*Journal of Hospitality Marketing and Management*”, and “*Journal of Hospitality and Tourism Research*”) from 1998 to 2019. This review article indicated that specific methods (61%) outnumbered those with an equal focus on the qualitative and quantitative parts (39%). Where one method was dominant, this was typically quantitative. In the tenth paper of this special issue [Hyun et al. \(2020\)](#) use a mixed-method approach to uncover the determinants of pro-environmental consumption for green hotels and green restaurants. In the qualitative stage, textual data collected via an open-ended question was analysed using a unit of analysis and the categorization method. In the quantitative stage, psychometric measurement items were prepared and validated through a series of tests. A structural equation modelling and structural invariance test were utilised to assess the hypothesised relationships and differences between green hotels and green restaurants.

In 11th paper, [Wengel \(2020\)](#) employs a powerful tool which uses toys to solve problems, explore ideas, and achieve objectives in business, research, and community work. The paper provides insights into qualitative multimethod approaches (through unstructured interviews, observation, reflexive notes and LEGO® Serious Play® workshops with 32 participants) to achieve a deeper understanding of hosts-guest experiences in a volunteer tourism exchange programme. In the next paper, [Xu et al. \(2020\)](#) provide a critical discussion for deeper understanding of the experience sampling method. In doing so, this study selects an empirical example in the context of hotel employees’ surface acting, tiredness and sleep quality. The paper conducts two-level modelling in Mplus, including a cross-level mediation analysis and mean centring. In Paper 13, [Mariani and Baggio \(2020\)](#) discuss why using either quantitative or qualitative approaches to examine social networks can be misleading and potentially generate biased findings. To this end, the study consists of an analysis and critical discussion of the methods employed in several articles leveraging social network approaches in tourism and hospitality. In the penultimate paper, [Johnstone et al. \(2020\)](#) assess the *go-along* technique and how mobile qualitative methods can augment traditional qualitative methods in developing an understanding of multifaceted organisations. The findings indicate that mobile methods can broaden the scope of interviews through presenting heightened meaning and spontaneity, provide opportunities to explore and verify interview results in informal settings and widen participation through the ongoing recruitment of participants. In the final paper by [Leoni et al. \(2020\)](#), the authors identify key drivers of occupancy rates in peer-to-peer accommodation. The results show that the occupancy rate of properties in the Balearic Islands depends on their geographical location and online reputation. There is also a difference between two groups: listings with positive occupancy rates, where demand tends to be inelastic, and listings with zero occupancy. The authors found that price is a not a statistically significant determinant of group membership.

Concluding remarks

The 15 articles in this special issue offer insight and guidance to hospitality and tourism managers and scholars with regards to the growing move towards adopting innovative mixed and multi method approaches to research within the field. The articles in this special issue speak to the variety of mixed and multi method approaches and methods that can be

used to answer business management and hospitality-related questions including: the variable selection method, global stability analysis, social design activities, historical approaches, Emotiv EPOC+ headset methods, fuzzy rule-based systems, data mining, eye-tracking technology, psychometric measurement, unit of analysis and categorization methods, Serious Play, experience sampling method, and the *go-along* technique.

There are many people to thank for their efforts on this special issue. However, this special issue is dedicated to the memory of Dr Mathilda Van Niekerk. A prolific scholar, Mathilda was the author of over 100 published papers, with scholarly emphasis often placed on the area of festival and event management. As managing editor of *International Journal of Contemporary Hospitality Management* and guest editor of this special issue, Mathilda was fundamental in designing the initial call for papers into innovative mixed and multi-method approaches to hospitality and tourism research. The guest editors hope that the final composition of the special issue is reflective of Mathilda's fondness for robust, novel and interesting research.

Finally, the guest editors would like to thank all authors for their efforts to "move the needle" of hospitality and tourism research in the direction of innovative mixed and multi methods. The guest editors are particularly grateful to the authors of the articles in this special issue and to the many anonymous reviewers who supported the rigorous review process – a heartfelt thank you to you all. The guest editors are delighted with the diverse range research method approaches represented in the special issue, and hope that readers and practitioners use the articles herein to adopt novel methodological approaches to improve their practice.

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Further reading

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