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From Concept to Instrument: 10 Steps in Developing a Questionnaire for Art and Cultural Tourism Studies

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ABSTRACT

Developing robust research instruments is essential for advancing studies in art and cultural tourism, particularly in multidisciplinary community settings. This study aimed to develop a context-specific questionnaire to assess how art and cultural tourism initiatives contribute to sustainable income generation among senior citizen centres in Malaysia. A systematic 10-step questionnaire development framework was employed, integrating the Triple Bottom Line (TBL) framework, the Socio-Ecological Model (SEM), literature review, expert validation, bilingual adaptation, and pilot testing. The pilot study demonstrated excellent internal consistency, with Cronbach's alpha values ranging from 0.898 to 0.967 and an overall reliability coefficient of 0.977, providing preliminary evidence of the instrument's reliability. By documenting each stage of questionnaire development, the proposed framework enhances methodological transparency and offers a practical, replicable approach for researchers developing context-specific instruments in tourism, gerontology, and sustainable community development. Future studies should further establish the instrument's construct validity through large-scale psychometric validation involving the intended target population.

Keywords: Art and cultural tourism, economic empowerment, gerontology, questionnaire development, senior citizen centres, sustainable income generation

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INTRODUCTION

As Malaysia is currently moving towards an ageing population, there are a few difficulties for senior citizen centres, and one of the difficulties is how to sustain existing financial resources when traditional funding

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methods are not enough to fulfil elderly communities with higher demands, which shows that more innovative approaches are vital to having sustainable income sources. One way to tackle the issue is by developing different initiatives for art and cultural tourism, and they are increasingly seen as solutions that could help provide more opportunities for cultural preservation, income generation, and social engagement. To see whether the initiatives are actually effective, scholars need to have a questionnaire that is carefully developed and can accurately capture different aspects, such as social, economic, and environmental.

Although numerous validated questionnaires have been developed in tourism, sustainability, and gerontology research, most focus on measuring individual constructs rather than the multidimensional factors influencing sustainable income generation through art and cultural tourism in senior citizen centres. In addition, existing studies provide limited guidance on developing context-specific instruments that integrate multidisciplinary theoretical perspectives within a transparent and systematic development process. To address this gap, the present study proposes a systematic 10-step questionnaire development framework that integrates the Triple Bottom Line (TBL) and Socio-Ecological Model (SEM), supported by literature-based item development, bilingual adaptation, expert validation, and pilot testing. By documenting each stage of instrument development, this study enhances methodological transparency and provides a practical, replicable framework for future research in art and cultural tourism.

LITERATURE REVIEW

The triple bottom line (TBL) framework and the socio-ecological model (SEM) were referred to when performing a review on past studies, and both theories were also used to observe how art and cultural tourism initiatives could aid in sustainable income generation among senior citizen communities. On the other hand, the economic, social, and environmental aspects of the TBL framework are consistent with different results related to cultural-tourism activities. On the other hand, the SEM helps categorise the results across individual, interpersonal, organisational, community, and policy levels, allowing for examining both the effects and contextual enablers of cultural-tourism activities. Despite there being some economic and social benefits of cultural tourism for communities, as shown by previous scholars, only some researchers have integrated both the TBL framework and SEM in systematic ways, seeking to evaluate how income can be generated in sustainable ways among senior citizen communities, and the gap would be resolved in the present study through the investigation of outcome areas and the multi-level mechanisms that could support different income sources through art and cultural tourism activities in the long term.

RESEARCH CONTEXT

As part of a larger research project entitled *An Integrated Model of Sustainable Income*

Generation for Gerontological Communities through Art and Cultural Tourism Initiatives, this study aimed to develop a questionnaire for collecting data from administrators and staff responsible for planning and managing art and cultural tourism programmes at senior citizen centres in Malaysia. Their perspectives are essential for understanding how social, economic, and environmental factors contribute to sustainable income generation through art and cultural tourism initiatives. Although the project title uses the term *gerontological communities*, the present study consistently uses *senior citizen centres* to refer to the organisations that provide programmes and services for older adults, as these centres represent the intended unit of analysis and target population.

Ageing and the Role of Senior Citizen Centres in Malaysia

With the proportion of Malaysians aged 60 years and above projected to reach approximately 23% by 2050, the country is rapidly transitioning towards an ageing society, creating significant challenges for social protection, healthcare services, and income security, particularly for senior citizen centres that provide day-to-day support for older adults (Department of Statistics Malaysia, 2025). Traditionally, these centres have relied on government funding, charitable donations, and community contributions. However, these sources are becoming increasingly insufficient to ensure long-term financial sustainability and the continued delivery of holistic programmes (Phillipson, 2013). Consequently, innovative and sustainable income-generating strategies are required, including partnerships with cultural organisations and participation in art and cultural tourism initiatives to strengthen community resilience.

Participation in art and cultural tourism has also been associated with healthy ageing by promoting active lifestyles, social connectedness, cognitive stimulation, and psychological well-being among older adults. The World Health Organization (WHO) recognises that meaningful social participation and age-friendly community environments are fundamental to healthy ageing, while evidence from a WHO scoping review demonstrates that engagement in arts and cultural activities contributes to improved physical and mental health, reduced social isolation, and enhanced quality of life across the lifespan (Fancourt & Finn, 2019; World Health Organization, 2021). These findings reinforce the role of senior citizen centres as platforms for social participation, cultural preservation, and sustainable community development.

Art and Cultural Tourism as a Driver of Economic Empowerment

To empower society and the economy, it seems art and cultural tourism can become powerful tools for community members by generating more income and fostering efforts to preserve local cultures through interactions among different generations. Some initiatives or programmes, such as traditional performances, handicraft markets, cultural festivals, and heritage exhibitions, could be organised to provide

senior citizens with the opportunities to contribute knowledge and skills and generate more value for local tourists and also visitors from other countries (Buhalis et al., 2023). There are some success cases, such as in Japan, where senior citizens are actively involved in cultural tourism initiatives that are organised by the Silver Human Resource Centres (Nogales-Muriel et al., 2024).

With its rich cultural diversity, Malaysia has strong potential to adopt similar community-based art and cultural tourism initiatives that empower senior citizens as active contributors rather than passive beneficiaries, supporting sustainable development through economic empowerment, cultural continuity, and community participation (Balqis-Ali & Fun, 2024). Heritage destinations such as George Town, Penang, and Melaka UNESCO World Heritage Sites provide opportunities for older adults to contribute their traditional knowledge and skills through handicrafts, storytelling, traditional cuisine, and cultural performances. These initiatives help preserve cultural heritage while promoting intergenerational knowledge transfer, community participation, and sustainable income generation for senior citizen centres (Abdul Rasid et al., 2013; UNESCO World Heritage Centre, 2024).

Theoretical Models for Sustainable Development: TBL and SEM

To guide the development of the questionnaire, this study integrates two complementary theoretical frameworks, the Triple Bottom Line (TBL) framework and the Socio-Ecological Model (SEM). The TBL framework emphasises three sustainability dimensions which are social, economic, and environmental, which provide a holistic basis for assessing the sustainability of art and cultural tourism initiatives (Elkington, 1997). Complementing this perspective, the SEM explains how individual, interpersonal, organisational, and community-level factors influence behaviour and programme outcomes (Bronfenbrenner, 1979). Within the context of senior citizen centres, these frameworks provide a comprehensive theoretical foundation for understanding how community participation, organisational capacity, environmental stewardship, and economic activities contribute to sustainable income generation.

Guided by these frameworks, the questionnaire constructs were developed by aligning the sustainability dimensions of the TBL framework with the multiple levels of influence proposed by the SEM. Social Engagement reflects the social dimension of TBL and the interpersonal and community levels of SEM through participation, social connectedness, and intergenerational relationships. Economic Growth corresponds to the economic dimension of TBL and the organisational level of SEM by measuring income generation, employment opportunities, and financial sustainability. Environmental Effects represent the environmental pillar of TBL by assessing environmental awareness, sustainable practices, and cultural heritage preservation. Operational Factors align with the organisational and community levels of SEM by evaluating management capacity, collaboration, infrastructure, and

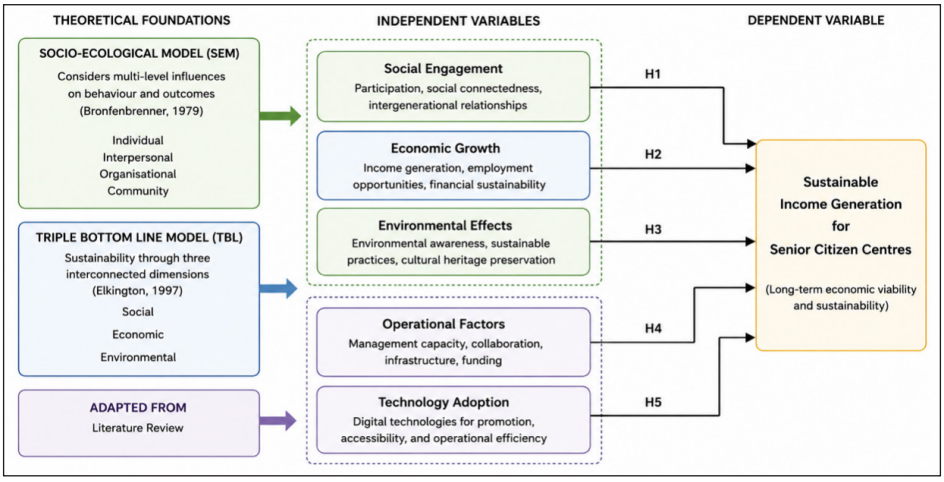

Figure 1. Conceptual Framework of the proposed study
Source: Adapted from Mohammad Mazani et al. (2025)

funding that support tourism initiatives. Finally, Technology Adoption captures organisational innovation and community engagement through digital technologies that enhance tourism promotion, accessibility, and operational efficiency. Collectively, these constructs provide a comprehensive framework for assessing sustainable income generation through art and cultural tourism initiatives in senior citizen centres. The resulting conceptual framework is presented in Figure 1.

Hypothesis Development

Although this study focuses on questionnaire development rather than hypothesis testing, the proposed hypotheses are presented to establish the theoretical relationships underpinning the instrument's constructs. These hypotheses provide the conceptual basis for item development and will be empirically tested in a subsequent large-scale study involving the intended target population.

H1: Social Engagement

Social engagement in art and cultural tourism initiatives has a significant positive impact on sustainable income generation, as involving community members, especially senior citizens, and with their voluntary efforts, it could help promote ownership and local entrepreneurship (Hollands, 2010).

H2: Economic Growth

Economic growth driven by cultural-tourism activities has a significant positive impact on sustainable income generation, and income sources could be different community workshops, events, and product sales (Shahzad et al., 2017; Wahyuni et al., 2022).

H3: Environmental Effects

Positive environmental effects from cultural tourism initiatives can enhance sustainable income generation, and such initiatives could be realised by attempting to protect tourist

attractions and improve destination appeal (McLoughlin et al., 2018; Uslu et al., 2020).

H4: Operational Factors

Strong operational capacity (management, partnerships, and training) has a significant positive impact on sustainable income generation, as the capability can play a profound role in facilitating local resource integration and community member engagement, thereby enhancing scalability, efficiency, and reinvestment in art and cultural tourism initiatives (Ding & Huang, 2021).

H5: Technology Adoption

Technology adoption (digital marketing, online sales, and virtual tours) has a significant positive impact on sustainable income generation, as the efforts may help increase accessibility, reach, and monetisation opportunities on digital platforms, which can aid in improving visibility, promoting local cultures, and engagement with tourists (Zhou & Sotiriadis, 2021).

METHODOLOGY

In the process of creating a questionnaire, there is a structured framework, which involves a few phases and is based on established principles (Creswell, 2014; DeVellis, 2016). Typically, the process starts with having a clear definition of the study objectives and constructs and, at the same time, reviewing existing theories and literature, which are relevant to the topic, to guide the development of questionnaire items (DeVellis, 2016). Usually, the draft version will be iteratively refined through expert review and pre-testing, aiming to have clearer wording and format and also better content clarity, relevance, validity, and reliability (Fraenkel et al., 2011; Oppenheim, 2000). The purpose of all the efforts mentioned above is for robust data collection by following the best practices. Accordingly, this study adopted a systematic 10-step process to develop a questionnaire for assessing sustainable income generation through art and cultural tourism initiatives in senior citizen centres.

Developing a Questionnaire in 10 Steps

To help guarantee that it was valid, reliable, and aligned with the study objectives, the questionnaire was developed in a systematic and rigorous way, which involved 10 sequential steps.

Step 1: Define Objectives

Based on the study objectives, the questionnaire, which was developed in the present study, could help identify which factors could be important to the success of art and cultural tourism initiatives in different gerontological communities. With that, constructs could be tried to be mapped to each questionnaire item as closely as possible, and, at the same time, response formats and analytic plans that were suitable could be chosen. Clearly defining the research objectives provides the foundation for questionnaire development by ensuring that the instrument is aligned

with the intended constructs and research outcomes (Creswell & Creswell, 2018; DeVellis, 2016).

Step 2: Identify Variables

The five independent variables, which were social engagement, economic growth, environmental effects, operational factors, and technology adoption, and the dependent variable, which was sustainable income generation, were operationalised from the study constructs, and the variables could aid in capturing income stability, diversification, and revenue through the organisation of cultural-tourism activities. At the same time, information related to demographic characteristics and organisational profiles was collected. On the other hand, definitions, sample items, and the hypothesised directions of effects were also recorded in the codebook of the current study, reducing measurement bias, guaranteeing consistent interpretation, and allowing for calculating composite scores for each construct in the following analyses. The identification and operationalisation of variables are essential to ensure conceptual clarity and measurement consistency throughout the instrument development process (Boateng et al., 2018; DeVellis, 2016).

Step 3: Review Literature

The questionnaire items were created only after having an extensive review of validated instruments and empirical studies, spanning gerontology, tourism, cultural management, and sustainability, and the items were adapted to fit the context of Malaysian senior citizen centres and offered special attention to indicators related to art and cultural tourism initiatives. As such, it could ensure good theoretical validity, and the developed questionnaire items could be more accurate in reflecting local cultural practices and the typical activities of senior citizens. A comprehensive literature review is fundamental for identifying validated measurement items and establishing content relevance, thereby enhancing the validity and reliability of the questionnaire (Boateng et al., 2018).

Step 4: Draft Questions

The questionnaire items were developed by adapting measurement items from previously validated instruments where available and by referring to conceptual discussions in the relevant literature where validated measurement items were unavailable. Item selection was guided by the study objectives, the operational definitions of each construct, and their alignment with the Triple Bottom Line (TBL) framework and the Socio-Ecological Model (SEM). Minor modifications were made to ensure relevance to the Malaysian context and senior citizen centres while preserving the original conceptual meaning of the items. The questionnaire was designed to balance factual information, such as senior citizen centre demographics, membership size, tourism activities, and funding sources, with perceptual measures related to social engagement, economic growth, environmental effects, operational factors, technology adoption, and sustainable

income generation. To improve clarity and minimise response bias, all items were written in clear, neutral language, avoiding technical jargon, ambiguous wording, and double-barrelled questions. Items belonging to the same construct were grouped together to facilitate subsequent reliability and statistical analyses.

Table 1 presents the proposed questionnaire items, their corresponding constructs, and the references that informed the development of each item. The supporting references include both validated measurement instruments and conceptual literature that informed the development of the questionnaire items.

Table 1
Draft questionnaire items

Dependent Variable				
Variable	**Code**	**Measurement Item**	**Questions**	**Supporting Reference**
Sustainable Income Generation	SI1	Income Stability	I believe revenue from art and cultural tourism initiatives can contribute to a stable income for senior citizens.	Dillard et al. (2008)
	SI2	Financial Independence	I expect these initiatives to provide financial opportunities that may reduce dependency on external support.	Kennedy et al. (2013)
	SI3	Job Creation	I anticipate that such programmes could generate job opportunities for elderly individuals and their communities.	Converso et al. (2018)
	SI4	Revenue Growth	I think participation in cultural tourism could potentially increase financial returns for senior citizen centres.	Gayeta and Ylagan (2022)
	SI5	Long-term Sustainability	I believe the economic benefits from these initiatives could be sustainable over the long term.	Michalos et al. (2012)
Independent Variable				
Variable	**Code**	**Measurement Item**	**Questions**	**Supporting Reference**
Social Engagement	SE1	Community Bonding	I believe participating in art and cultural tourism can help senior citizens feel more connected.	Oe and Tadaka (2023)
	SE2	Sense of Belonging	I expect cultural tourism events to create a stronger sense of belonging for the elderly.	
	SE3	Well-being and Quality of Life	I think social interactions in cultural tourism activities could improve seniors' well-being.	
	SE4	Social Networking	I believe joining cultural tourism activities can help elderly individuals build social connections.	
	SE5	Intergenerational Relationships	I expect these activities to encourage relationships between different generations in the community.	

Table 1 (*continued*)

Independent Variable				
Variable	**Code**	**Measurement Item**	**Questions**	**Supporting Reference**
Economic Growth	EG1	Business Growth	I believe cultural tourism can help increase revenue for local businesses that support senior centres.	Gursoy et al. (2010)
	EG2	Job Creation	I expect cultural tourism to create job opportunities for senior citizens.	Nunkoo and Ramkissoon (2011)
	EG3	Tourism Expansion	I think cultural tourism could help seniors expand handicrafts, performances, and guided tours.	Stylidis and Terzidou (2014)
	EG4	Investment Support	I believe cultural tourism may attract government and private sector investments in senior centres.	Sharpley and Telfer (2015)
	EG5	Financial Sustainability	I expect cultural tourism to provide a sustainable income for senior communities.	Mihalic (2016)
Environmental Effects	EE1	Environmental Conservation	I believe cultural tourism can help raise environmental awareness among visitors and local communities.	Choi and Sirakaya (2006)
	EE2	Sustainable Practices	I expect tourism initiatives to encourage eco-friendly practices in senior centres.	Lee and Jan (2019)
	EE3	Preservation of Cultural Sites	I think cultural tourism could support the preservation of historical and cultural sites.	Kim et al. (2013)
	EE4	Community Involvement	I believe local communities may engage in sustainable tourism activities that benefit senior centres.	Miller et al. (2010)
	EE5	Long-term Environmental Benefits	I expect eco-friendly tourism to contribute to long-term environmental sustainability for senior communities.	Dolnicar and Leisch (2008)
Operational Factors	OF1	Infrastructure	I believe good infrastructure can help cultural tourism succeed.	Chhabra (2010)
	OF2	Management	I expect strong management to improve tourism programmes.	Timothy and Boyd (2003)
	OF3	Funding	I think financial support is important for sustaining cultural tourism.	Ritchie and Crouch (2003)
	OF4	Marketing	I believe good promotions can attract more visitors.	Buhalis (2000)
	OF5	Collaboration	I expect collaboration to contribute to the success of cultural tourism.	Bramwell and Lane (2000)

Table 1 (*continued*)

Independent Variable				
Variable	**Code**	**Measurement Item**	**Questions**	**Supporting Reference**
Technology Adoption	TA1	Digital Presence	I believe technology can help promote cultural tourism.	Buhalis and Law (2008)
	TA2	Convenience	I expect online systems to make tourism more accessible.	Kim et al. (2009)
	TA3	Visitor Experience	I think technology could improve tourism experience.	Tussyadiah et al. (2018)
	TA4	Information Access	I believe technology can make cultural information easier to find.	Gretzel et al. (2015)
	TA5	Efficiency	I expect technology to help manage tourism operations more effectively.	Sigala (2018)

Step 5: Choose Response Format

The five-point Likert scale, ranging from 1 as 'strongly disagree' to 5 as 'strongly agree', was selected as the main format for collecting responses for items measuring attitudes, as the scale would be more sensitive and could be easily used by respondents. There were categorical questions, such as the type of centre and main funding sources; numerical questions, such as approximate monthly income from tourism activities; and open-ended questions capturing emergent themes to complement the attitudinal items. Using a mixed response format could increase the robustness of quantitative analyses, especially descriptive statistics and regression, and, at the same time, retain qualitative perspectives for better development of the current conceptual framework.

Step 6: Check Language

The questionnaire was translated from English into Malay using a forward-translation and back-translation procedure to ensure conceptual equivalence between both language versions. Parallel bilingual review and back-translation checks were conducted to minimise translation drift and maintain consistency in meaning, language level, and terminology. Any discrepancies identified during the translation process were discussed and resolved through consensus among the research team, resulting in a questionnaire that was clear, culturally appropriate, and easily understood by the intended respondents.

Step 7: Face Validation

Five academicians from Malaysian public universities with expertise in research methodology, questionnaire development, and psychometrics were invited through formal letters to participate in the face validation process. They evaluated the draft questionnaire in terms of clarity, wording, logical flow, readability, respondent burden, and overall suitability for the intended

respondents. Their feedback led to several refinements, including simplifying item wording, rearranging demographic and organisational profile questions to the beginning of the questionnaire, removing ambiguous or overly technical expressions, and improving the overall layout and instructions to enhance readability and cultural appropriateness for administrators and staff of senior citizen centres.

Step 8: Content Validation

Following face validation, the revised questionnaire underwent content validation by a panel of five subject matter experts from Malaysian public universities with expertise in art and cultural tourism, community development, sustainable tourism, and older adult studies. The experts evaluated the relevance, representativeness, and adequacy of the questionnaire items in measuring each construct, as well as their alignment with the study objectives and theoretical framework. Based on their recommendations, redundant items were removed, the coverage of accessibility and inclusion within the Operational Factors construct was strengthened, and several items were reworded to improve their relevance to the responsibilities and experiences of administrators and staff of senior citizen centres.

Step 9: Questionnaire Revision

Based on the recommendations from the face and content validation processes, the questionnaire was revised to improve its clarity, relevance, and overall usability before pilot testing. The revisions included simplifying item wording, refining response instructions, rearranging the sequence of demographic and organisational profile questions, removing redundant or overly technical items, and strengthening under-represented aspects, particularly accessibility and inclusion within the Operational Factors construct. These refinements enhanced the questionnaire's readability, cultural appropriateness, and alignment with the study objectives while preserving the conceptual meaning of each construct.

Step 10: Pilot Testing

The revised questionnaire was pilot tested with 30 university lecturers to evaluate its clarity, readability, completion time, and preliminary reliability before administration to the intended target population. The lecturers were purposively selected because of their expertise in research methodology, questionnaire development, tourism, community development, and social sciences. Although they did not represent the actual target population, the pilot study aimed to identify any remaining issues with the instrument and assess its preliminary internal consistency. A sample of 30 respondents was considered appropriate for this purpose, as the adequacy of pilot sample size depends on the study objectives rather than a universal rule of thumb (Johanson & Brooks, 2010; Martínez-Abraín, 2014; Mascha & Vetter, 2018). The pilot results indicated an acceptable questionnaire completion time and excellent internal consistency, with

Table 2
Cronbach's alpha

Dependent Variable		
Variable	**Number of Items**	**Cronbach's Alpha**
Sustainable Income Generation	5	0.946
Independent Variable		
Variable	**Number of items**	**Cronbach's Alpha**
Social Engagement	5	0.961
Economic Growth	5	0.898
Environmental Effects	5	0.952
Operational Factors	5	0.917
Technology Adoption	5	0.967

Table 3
Overall Cronbach's alpha

Reliability Statistics	
Number of Items	**Cronbach's Alpha**
30	0.977

Cronbach's alpha values ranging from 0.898 to 0.967 (Table 2) and an overall reliability coefficient of 0.977 (Table 3). These findings provide preliminary evidence that the questionnaire is suitable for administration in the main study.

RESULTS AND DISCUSSION

The pilot testing demonstrated excellent internal consistency across all constructs, with Cronbach's alpha values ranging from 0.898 to 0.967 and an overall reliability coefficient of 0.977. These findings indicate that the questionnaire items consistently measured their intended constructs and provide preliminary evidence of the instrument's reliability. According to DeVellis (2016), reliability coefficients above 0.70 indicate acceptable internal consistency for newly developed instruments. Although the overall Cronbach's alpha value of 0.977 may suggest potential item redundancy, the instrument comprises six theoretically distinct constructs that were systematically developed through literature-based item adaptation, bilingual translation, expert validation, and pilot testing. This rigorous 10-step questionnaire development process enhances methodological transparency and supports the development of contextually appropriate instruments, consistent with the recommendations of DeVellis (2016) and Boateng et al. (2018).

Beyond its methodological contribution, the proposed questionnaire offers practical value for researchers, practitioners, and policymakers involved in tourism, community development, and active

ageing initiatives. It provides a structured approach for assessing factors influencing sustainable income generation through art and cultural tourism programmes in senior citizen centres and may assist government agencies, local authorities, and community organisations in designing, monitoring, and evaluating tourism-based economic empowerment initiatives. Nevertheless, further psychometric validation using a larger sample from the intended target population is required to establish construct validity before the instrument is widely adopted in empirical research and policy evaluation.

CONCLUSION

This study proposed a systematic 10-step questionnaire development framework for art and cultural tourism research. On the one hand, it could contribute to methodological scholarships. On the other hand, there were some practical benefits for researchers seeking to examine how senior citizen centres could generate income in sustainable ways. With a transparent process described by the current researchers, it could help foster replication, adaptation, and improvement in methodological standards in different contexts in upcoming studies. One limitation of this study is that the pilot testing involved university lecturers rather than the intended respondents from senior citizen centres. Although appropriate for preliminary instrument evaluation, future studies should validate the instrument using the actual target population to further establish its psychometric properties.

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