SOCIAL SCIENCES & HUMANITIES

Review Article

"Please Stay, Don't Leave!": A Systematic Literature Review of Safeguarding Intangible Cultural Heritage in the Fourth Industrial Revolution

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ABSTRACT

Intangible cultural heritage (ICH) has been recognised as an indicator of the tangible heritage's cultural diversity, which contains inherent characteristics of the community's knowledge, practices, expressions and skills. Thus, various actions of support and collaboration to safeguard the global cultural diversity were conducted, preventing the deterioration and destruction of intangible heritage, which paved the way for the Fourth Industrial Revolution (IR 4.0). This study aimed to examine the safeguarding of ICH relating to a range of heritage objects, including textiles, design motifs, and crafts. Nine papers on ICH published between 2014 and 2020 were collected from several reputable databases. These articles were taken from Scopus (3 articles), Google Scholar (5 articles) and Dimensions (1 article) databases in various subject areas of social sciences using the Preferred Reporting Items Systematic reviews and Meta-Analysis (PRISMA) method. Currently, the most sophisticated means of safeguarding

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ICH comprised eliminating knowledge barriers, incorporating diverse cultures and technology, collaborations between organisations, eco-friendly materials and versatility in promotional strategies. The findings will contribute to the Malaysian Sustainable Development Goals (SDG 4) by providing high-quality education on intangible knowledge to industry players, tourists, and local communities. Moreover, the integration of art, knowledge, and technology have enabled deeper perception among the varied audience, providing a fundamental understanding of intangible knowledge. Lastly, this idea will enhance the sustainability of traditional human values, hoping that cultural heritage will survive and remain long-term.

Keywords: Fourth industrial revolution, intangible cultural heritage, safeguard, systematic literature

INTRODUCTION

An intangible cultural heritage (ICH) is recognised as the primary source of cultural diversity, aiming to safeguard cultural diversity worldwide (Aikawa, 2005). Various debates revolve around who creates and preserves the intangible culture (Laleye, 2005). The questions include whether it is the influence of governments or the people of parties that determine how a community is founded. Governments and non-governmental organisations have made a variety of attempts to address the issue of culture and heritage. For instance, the convention on the World Cultural and Natural Heritage protection was organised in 1972. A few decades later, the 2003 United Nations Educational, Scientific, and Cultural Organisation (UNESCO) Convention for the Safeguarding of ICH was introduced to ensure cultural sustainability.

Accordingly, UNESCO defined ICH as the collective definition of knowledge, practices, expressions, and skills carried by communities that recognise these features as part of their cultural heritage. Also called living cultural heritage, it is usually expressed in one of several forms. These forms include oral traditions, performing arts, social practices, rituals, and festive events. Furthermore, this idea can be extended to the knowledge and practices that concern nature, the universe and traditional craftsmanship (D'Orville, 2005).

Several innovations and systematic methods were implemented under the convention and the Agreement (1972), including a reasonable basis for preserving the various cultural heritage components. Notably, the extinction of any aspect of ICH may affect the growth of the global cultural plurality. Therefore, it is imperative to have more dialogue, collective understanding, and unity on the particular matter (D'orville, 2005). Nevertheless, ICH continues to be at risk and is gradually disappearing due to the lack of protection, dysfunctional government (D'orville, 2005), and accelerated globalisation (Arai, 2005). In Tokyo's International Conference on Globalisation and ICH, Arai revealed that the Japanese government made efforts

to safeguard ICH. Unfortunately, due to globalisation's rapid progress, he claimed that they had lost the 'fight' for maintaining their intangible cultural identity (Arai, 2005).

The latest developments indicate that a new form of media transition occurs through incorporating arts into education, especially into subjects such as Science, Technology, Engineering and Maths (STEM; Bandelli, 2018). Currently, the curricula are becoming increasingly creative in an integrated learning atmosphere (Ho, 2020). According to Adendorff and colleagues (2018), the growth of communication and knowledge-based societies characterises the 21st century. Moreover, the incorporation of Cultural and Creative Industries (CCIs) into the Fourth Industrial Revolution (IR 4.0) has minimised the skill deficit, which encouraged social integration, cultural diversity and human growth (Adendorff et al., 2018). Lastly, digital art designs enable science and art to be integrated, communicated, and complemented. Notably, the possession of digital art, information technology, and art revealed a connection to the expressive arts (Ye, 2016).

The impact of globalisation on the extinction of ICH can now be seen worldwide, especially in developing countries in Asia, Africa, and the Middle East (Arai, 2005). However, globalisation helps culture to develop more effectively in some countries like Korea. In this context, the Koreans have accommodated globalisation by merging digital tools and global networks into their ICH. This initiative reflects a change in attitudes and lifestyles from the conventional to the new (Choe, 2005) by introducing cultural diversity.

According to the 2004 United Nations Development Programme (UNDP; 2004) in Human Development Report, "cultural diversity has its importance because it stimulates customer preference and improves mutual understanding" (p. 147). This topic exposed a fascinating discovery that runs right through human progress into a modernised environment. Our origins in ICH are what finally bring us together. Thus, it is essential to safeguard ICH because of the distinct existence of its equivalents. The critical difference with ICH is its temporary character, implying its loose existence. Instead, ICH is exclusively handed down or represented, which depends heavily on individuals and communities. Nevertheless, this group provides the intangible knowledge and aptitudes to be acquired that are continuously incorporated and disseminated (Smeets, 2005).

Numerous communities and countries have sought other approaches to preserve their intangible heritage, including integrating a digital technology platform. For example, the European Union (EU) has funded research networks with built-in technology of a multimedia environment. This idea enhances music education and promotes a new music training method, which provided essential knowledge to the younger generation (Alivizatou-Barakou et al., 2017). On the same note, the Oral Traditions Project of the Vanuatu Cultural Centre has brilliantly innovated with the

'heritage for development' project for indigenous groups and tribal communities using technologies (Huffman, 1996). This collaborative project is aimed to invent a 'memory bank' of the traditional culture and cultural expressions with various representatives of different communities. Moreover, this project is beneficial to various entities, including the museum and students, offering quality educational programmes for schools and future community development.

In China, motion capture technology was applied to protect China's national dances (Shen et al., 2011), similar to Jamaican dances (Brown et al., 2005). In addition, a study collected 183 Jamaican dancers to evaluate their phenotypical quality, albeit not for ICH preservation purposes. In another study by Dobrian and Bevilacqua (2003), it was found that ICH could be transmitted successfully via game-like applications. In this context, the intangible culture can effectively promote and empower user experiences of culture with a consolidated trend in the technology-enhanced learning field (Dobrian & Bevilacqua, 2003). Given these points, numerous games were created to appeal to the younger generation, such as (i) Icura, a 3D realistic game about Japanese culture and etiquette (Stone, 1990); (ii) Discover Babylon, which highlighted the contributions of cultures from the ancient Mesopotamians to the modern-day (Engwall, 2004); and (iii) Papakwaqa, a game paying tribute to the Atayal minority in Taiwan (Troup et al., 2006).

Various studies and projects have utilised the advantages of digital technology

to sustain the ICH in IR 4.0. Thus, this study aimed to review the approaches in various studies examining the safeguarding of ICH in IR 4.0. This idea aligned with the research question, "How can we safeguard ICH in the Fourth Industrial Revolution (IR 4.0)?". Accordingly, the directions for future studies are outlined at the end of this review paper.

METHODOLOGY

This section outlines the method used to retrieve articles related to safeguarding ICH in IR 4.0 from relevant studies. The reviewers utilised the Preferred Reporting Items Systematic reviews and Meta-Analysis (PRISMA) method from three databases (Scopus, Google Scholar, and Dimensions). This method was used to run the systematic reviews, eligibility and exclusion criteria, review process steps (identification, screening, and eligibility), and data abstraction and analysis.

PRISMA

The review was guided by the PRISMA Statement (Moher et al., 2009), which offers exclusive advantages. These advantages include 1) defining specific research questions that allow for systematic investigation and 2) specifies the criteria for inclusion and exclusion. Lastly, 3) the method attempts to look at a massive database of scientific literature in a certain amount of time (Sierra-Correa & Kintz, 2015). This approach allows for a rigorous search of terms related to safeguarding ICH from different perspectives. Lastly, the method can monitor global practice from

various countries in preserving the ICH in IR 4.0.

Resources

This review relied on Scopus, Google Scholar, and Dimensions as the primary journal databases. In this study, the data was extracted using the keywords, covering over one thousand peer-reviewed literature items. Finally, each database consists of varied subject areas, such as social sciences, art, culture, and humanities.

Eligibility and Exclusion Criteria

The justifications for implementing the eligibility and exclusions criteria includes achieving the core values of a comprehensive literature review and removing unnecessary criteria. Firstly, the early stage of this systematic review comprised the selection of relevant literature, namely, articles published in journals, lectures, and published theses. However, the selection excluded review articles, book series, and book chapters.

Secondly, articles exclusively published in English were selected, and those in other languages were excluded. The reason was to avoid difficulties in understanding and the need to translate the writings. Thirdly, a period of seven years, specifically between 2014 and 2020, was chosen to track the production of research and publications. Finally, since the analysis phase relies on safeguarding intangibles, articles indexed in social sciences that centre on traditional textiles or clothes were selected to align with the objective of this work (Table 1).

Systematic Review Process

The systemic review process involved three primary phases, namely, identification, screening, and eligibility procedures. In May 2020, the search process was conducted with keyword identification in the first phase. Previous studies developed a search string based on keywords close to 'safeguarding', such as 'preserving', 'conserving' and 'protecting'. These items were syndicated

Table 1

Inclusion and exclusion criteria

Database		Inclusion	Exclusion
Scopus, Google Scholar, Dimensions	Year	2020 – 2014	Before 2014
	Language	English	Non-English
	Article type	Article journal, conference proceeding and published thesis	Review article, book series, book and chapter in book, monograph
	Subject area	Social Sciences	Hard Science, Engineering Mathematics

with the terms' ICH' and 'visual art', culminated in 479 published documents from Scopus and 1,100 documents from Google Scholar in 0.08 seconds. The same search terms were used with the Dimensions database, identifying 89 papers (Table 2).

Table 2

The search string

Database	Keywords used	Findings
Scopus	(("safeguarding" OR "preserving" OR "conserving") AND ("intangible cultural heritage") AND ("textile" OR "cloth"))	479 results
Google Scholar	"safeguarding" OR "preserving" OR "conserving" AND "intangible cultural heritage" AND "textile" OR "cloth"	1,100 results
Dimensions	(("safeguarding" OR "preserving" OR "conserving") AND ("intangible cultural heritage") AND ("textile" OR "cloth"))	89 results

The second phase established the screening procedure to narrow the search string and concentrate on the study's aim. Therefore, keywords similar to 'safeguarding' were removed. At this stage, a total of 36 documents were eligible to be reviewed, with nine documents (Scopus), 12 documents (Google Scholar), and fifteen documents (Dimensions) from the three databases. The screening involved selecting papers published in English from published journals vis-à-vis social sciences, anthropology, arts, culture, and heritage. However, only research journals, conference proceedings, and published theses were selected, excluding review journal articles (Table 3).

Table 3

The search string for screening

Database	Keywords used	Findings
Scopus	(("safeguarding") AND ("intangible cultural heritage") AND ("textile" OR "cloth"))	9 results
Google Scholar	"safeguarding" AND "intangible cultural heritage" AND "textile" OR "cloth"	12 results
Dimensions	(("safeguarding") AND ("intangible cultural heritage") AND ("textile") OR ("cloth"))	15 results

The eligibility of the documents was thoroughly evaluated. In this approach, three articles from Scopus, five from Google Scholar and one from the Dimensions database were examined. The eligibility process found twenty duplicate documents from repositories of Scopus, Google Scholar, and Dimensions. Meanwhile, seven articles were detected in all databases using different eligibility criteria. Thus, these articles were excluded considering that these articles are books, chapters in books, reviews, not in English, restricted access, or covered unnecessary topics. Figure 1 presents a flow diagram of the systematic paper selection under review.
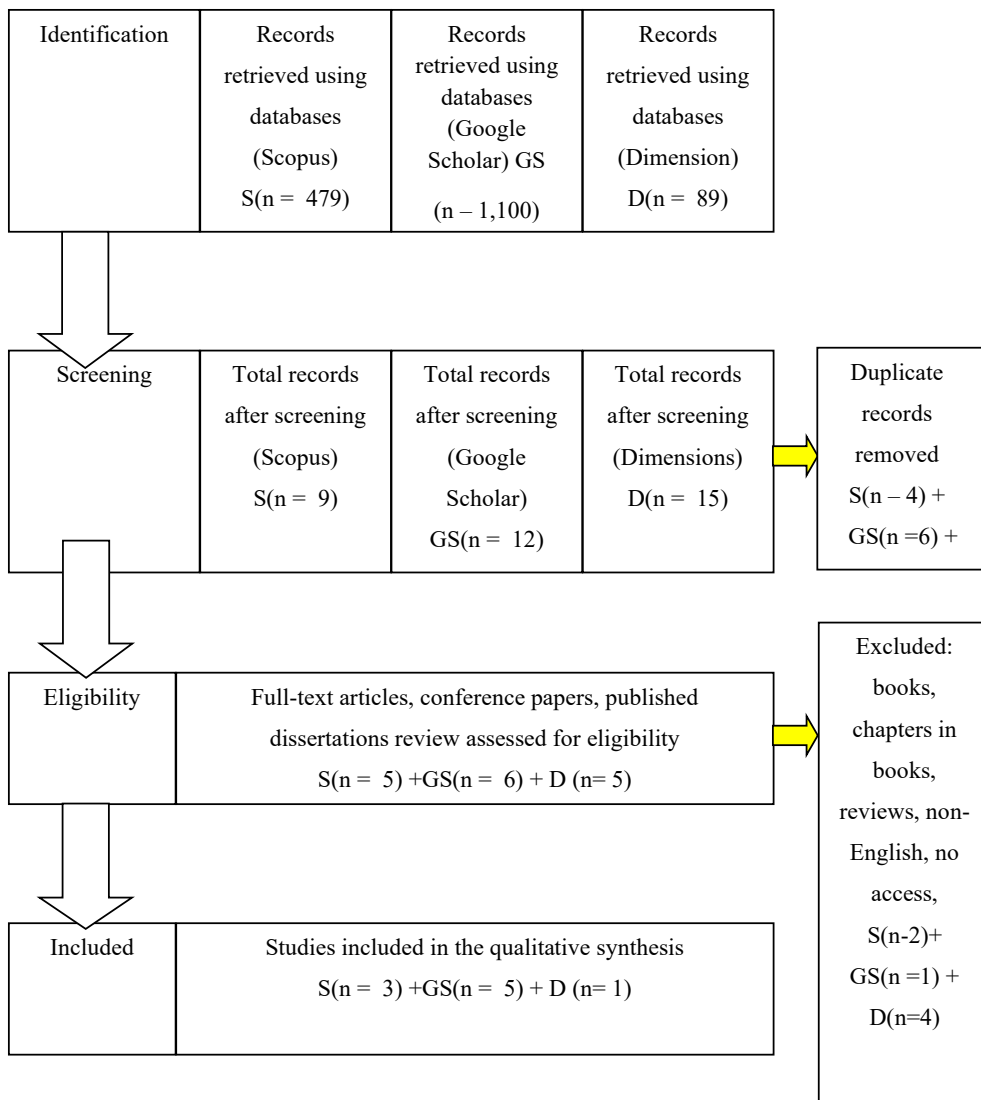
Identification	Records retrieved using databases (Scopus) S(n = 479)	Records retrieved using databases (Google Scholar) GS (n – 1,100)	Records retrieved using databases (Dimension) D(n = 89)	
Screening	Total records after screening (Scopus) S(n = 9)	Total records after screening (Google Scholar) GS(n = 12)	Total records after screening (Dimensions) D(n = 15)	Duplicate records removed S(n – 4) + GS(n =6) +
Eligibility	Full-text articles, conference papers, published dissertations review assessed for eligibility S(n = 5) +GS(n = 6) + D (n= 5)			Excluded: books, chapters in books, reviews, non-English, no access, S(n-2)+ GS(n =1) + D(n=4)
Included	Studies included in the qualitative synthesis S(n = 3) +GS(n = 5) + D (n= 1)			

Figure 1. The flow diagram of the systematic review

RESULTS

There are certain similarities and differences in the nine studies. These similarities and differences were divided into five outcome sections: subjects, categories, and locations; identification of the issues and study objective; methods; research findings; and gaps between all studies.

Subjects, Categories, and Locations

The meta-analysis of the nine articles identified that the subject is divided into two categories, namely, textiles and craft. For textiles, a range of types has been identified in the studies, which include Sumba weaving (Untari et al., 2020), Indian sarees (Mathew, 2018), design motifs (Mawuli, 2019), and batik (Hidayat & Fatmahwaty, 2014; Sardjono et al., 2015; Tresnadi & Sachari, 2015). Meanwhile, the craft product was categorised as leathercraft (Sugiarti et al., 2019) or anonymous handicraft (Y. Yang et al., 2018). These research projects examining cultural heritage originate from different nations, including Indonesia (Hidayat & Fatmahwaty, 2014; Sardjono et al., 2015; Sugiarti et al., 2019; Tresnadi & Sachari, 2015; Untari et al., 2020); Jordan (Siamwalla, 2019), Ghana (Mawuli, 2019), Pakistan (Y. Yang et al., 2018), and India (Mathew, 2018).

In Mathew (2018) and Mawuli's (2019) study, the use of African and Ghana Adinkra design motifs were discussed to safeguard the knowledge of its design motifs by adapting them into different mediums. Furthermore, 700 Adinkra symbols were identified, enriched by a complex set of narratives based on ritual, tradition, and belief. Additionally, a similar study on safeguarding design motifs reported integrating Indonesian batik ornaments as part of the content in the interactive game, Nitiki (Tresnadi & Sachari, 2015). These studies highlighted the importance of assessing design motifs accurately by correcting aesthetic perceptions and instilling proper knowledge.

Identification of the Issues and Study Objective

Overall, in the Table 4, the nine studies identified several critical issues related to heritage, which were the primary reasons for conducting the studies. One of these issues is the knowledge barrier that exists between ICH and the perceivers. In addition, according to Mawuli (2019), the younger generations' growing usage of Adinkra design motifs disconnected them from their roots, contributing to the misuse of the motifs. Therefore, the study was performed to correct an aesthetic perception so that ICH could be retained.

The second study highlighted the knowledge barrier as a similar issue associated with the Indonesian batik ornaments (Tresnadi & Sachari, 2015). Therefore, public appreciation of batik's ICH was required to understand the interpretation, beliefs, and symbols transmitted through the ornaments. Specifically, this appreciation is vital to disseminate specific values to the millennial generation. Hence, the adaptation of batik ornaments as visual content in the online game Nikiti was studied.

A study by Y. Yang et al. (2018) discovered that handicraft heritage is gradually losing its existence. Hence, urgent attention is needed to preserve its cultural heritage and transfer its art knowledge to the next generation (T. Yang et al., 2019). Next, Siamwalla (2019) revealed a knowledge barrier in the products' development by established companies without the help of craftsmen. Therefore, the study was carried out to build a collaborative design that unites the manufacturing skills of craftsmen, the Jordan River Foundation (JRF), and renowned companies such as IKEA (Siamwalla, 2019).

The EU market has rejected imported Indonesian batik seeing that they were an environmentally unfriendly product made from artificial dyes. As a result, a study examined the making of an ecologically friendly batik, ensuring that the problem was resolved (Hidayat & Fatmahwaty, 2014). Meanwhile, Mathew (2018) found that the handloom sector in India faced high competition from the advancement of electronic looms. In this context, it was suggested that the Adinkra African design motif is to be revived by applying them to the traditional Indian saree. Therefore, such efforts would perceivably enable the commercialisation of the Adinkra design motifs and stimulate the aesthetic values of the Indian saree.

A lack of marketing strategy has become an issue in safeguarding ICH. One such case was exposed in Kampung Batik Laweyan, Solo, Indonesia, where most batik artisans did not establish their collective trademarks.

These trademarks are critical as a strategy to compete with imported printed batik and preserve its traditional batik cultural heritage (Sardjono et al., 2015). Similarly, in Magetan, east of Java, Indonesia, the leather industry's tourism development and stakeholders did not take advantage of the opportunity to establish craft tourism. This approach includes tourists searching for leathercraft in educational tourism (Sugiarti et al., 2019).

Another study has highlighted a further issue, namely, the gender disparity in the Indonesian Sumba weaving production. Women have long been identified as the primary gender that continues their societies' traditional knowledge and development skills. Contrastingly, the men's capacity to lead local entrepreneurship, economic growth, and preserve intangible heritage was not recognised. Hence, the modern forces of globalisation on local gender norms are viewed as a complex relationship that empowers women. Finally, Untari et al. (2020) reported that while females are recognised locally for their expertise and experience, it is crucial to examine the integration and effect of Sumbanes cloth makers in world markets and gender roles in various societies.

Method

All nine studies used a qualitative approach, three of them conducted fieldwork (Mawuli, 2019; Untari et al., 2020), and two studies were descriptive (Sugiarti et al., 2019; Tresnadi & Sachari, 2015). Meanwhile, another two utilised case studies (Hidayat

& Fatmahwaty, 2014; Sardjono et al., 2015), one being experimental (Mathew, 2018) and another with a narrative approach (Siamwalla, 2019).

For data collection, all the studies used an observational approach. Furthermore, five studies employed interviews (Hidayat & Fatmahwaty, 2014; Siamwalla, 2019; Sugiarti et al., 2019; Tresnadi & Sachari, 2015; Untari et al., 2020; Y. Yang et al., 2018), and one used a survey (Sardjono et al., 2015). Additionally, three studies conducted focus group discussions (Mawuli, 2019; Siamwalla, 2019; Sugiarti et al., 2019), while two studies referred to documents as secondary data collection (Sugiarti et al., 2019; Y. Yang et al., 2018).

Research Findings

Untari et al. (2020) identified a change from domestic to small-scale weaving, which required a move from consumption value to global market value. Nevertheless, the differences in gender concerning cloth production have led to possible shifts in cultural expectations vis-à-vis gender roles and processes. For example, even though women were locally respected and honoured for their expertise and knowledge, they were not appreciated as men in leading and managing businesses and organisations. Moreover, cell phone usage and social networking by young women and men can help raise global awareness of cultural heritage products (Untari et al., 2020).

In addition, Siamwalla's (2019) study highlighted the knowledge of collaborative design development in textile crafts, linking multiple new spaces in textile management and transforming knowledge of specific skills into a competitive advantage for the organisations involved. Findings also determined that tangible and intangible qualities can be enhanced through collective research in the production of textile crafts (Siamwalla, 2019).

The results of the Mawuli's (2019) study found that more effective ways to protect the intangible cultural heritage of Adinkra motifs were needed, in collaboration with the Adinkra fabric manufacturers and academics, such as organising exhibitions and workshops to foster knowledge and raise awareness among audiences. However, it was noted that more funding from the government and stakeholders was needed to ensure that the intangible cultural heritage of Ghana could be preserved in perpetuity (Mawuli, 2019). Another study by Mathew (2018) revealed the adaptation of Adinkra design motifs in silk linen sarees, a traditional Indian costume. It was suggested that the values of aesthetic appearance had been increased by the embodiment of two different cultural values in one medium. This idea, it was suggested, became an innovative, handcrafted, eco-friendly traditional attire that matched every mood, occasion and budget (Mathew, 2018).

Moreover, Siamwalla's (2019) study highlighted the knowledge of collaborative design development in textile crafts, linking multiple new spaces in textile management. This idea transformed the understanding of specific skills into a competitive advantage for the organisations involved. Additionally,

the findings determined that the tangible and intangible qualities can be enhanced through collaborative research in the production of textile crafts (Siamwalla, 2019).

Another study suggested that more effective ways to protect ICH of Adinkra motifs were needed (Mawuli 2019). One approach can be achieved by collaborating with the Adinkra fabric manufacturers and academics, such as organising exhibitions and workshops to raise awareness among audiences. However, more funding from the government and stakeholders was needed to ensure the perpetual preservation of Ghana's ICH (Mawuli, 2019). Similarly, Mathew (2018) revealed the adaptation of Adinkra design motifs in silk linen sarees, a traditional Indian costume. It was suggested that the values of aesthetic appearance were increased by the embodiment of two different cultural values in one medium. This idea became an innovative, handcrafted, eco-friendly traditional attire that matched every mood, occasion, and budget (Mathew, 2018).

Sugiarti et al. (2019) found that local government, craftsmen, and entrepreneurs supported tourists who bought leather goods. However, no recent leathercraft design has met market trends and high-quality demand. Even though locals can serve as entrepreneurs by establishing leather home industries that manufacture souvenirs for tourists and improve the local economy. Therefore, it was suggested to involve stakeholders by including tourists seeking local leather goods in educational tourism, which would later lead to the

remarkable preservation of tangible cultures globally (Sugiarti et al., 2019).

The findings of T. Yang et al. (2019) found a way to protect cultural heritage by having specific policies that can promote, develop, and maintain traditional heritage skills and practices. Moreover, these policies may benefit artists by reviving their businesses, generating sustainable income and employment opportunities. Furthermore, a study revealed that tourists who bought leather goods supported the local government, craftsmen, and entrepreneurs (Sugiarti et al., 2019). The locals can potentially serve as entrepreneurs by establishing leather home industries that manufacture souvenirs for tourists and improve the local economy. However, no recent leathercraft design has met market trends and high-quality demand. Therefore, the stakeholder's engagement in this process is suggested. This idea may increase tourists seeking local leather goods in educational tourism, subsequently preserving tangible cultures globally (Sugiarti et al., 2019).

Next, Tresnadi and Sachari (2015) suggested two key findings to preserve the batik ornaments' ICH. This idea can be achieved by integrating traditional or heritage content into the online game, Nitiki's digital interface. The findings can be summed up as (i) the principles of the batik ornaments in the game that demonstrate the survival of traditional batik heritage in Indonesian society. Furthermore, the game features the versatility of batik in the digital environment. The preservation method is extended (ii) by incorporating cultural ideals

into the game features such as identity, life, and social integrity (Tresnadi & Sachari, 2015).

In a study by Sardjono et al. (2015), it was suggested that a collective trademark for the batik makers should be established. This approach could then protect and strengthen the local batik industry while competing with imported batik goods. Moreover, the trademark would indicate the batik's origins, allowing consumers to fully appreciate its cultural values (Sardjono et al., 2015). Finally, Hidayat and Fatmahwaty (2014) showed that while UNESCO recognised Indonesian batik as a form of national ICH, its export to the European market was rejected due to the ecologically unfriendly use of artificial dyes. Consequently, the harmful batik waste substances from chemical colourings were removed and substituted with naturally derived dyes. For instance, the Kanawida batik (Green batik) was named after the invention of natural batik dyes. Moreover, the street children were taught how to turn Kanawida batik into an environmentally friendly means of gaining awareness and knowledge of their cultural heritage (Hidayat & Fatmahwaty, 2014). In essence, this method is idealised to ensure that the understanding of Kanawida batik can last for the next generations.

The Gaps Between the Studies

After reviewing the papers, five significant correlations were discovered between those and previous studies, which are shown as follows:

i. The knowledge barrier between perceivers should first be eliminated to preserve intangible forms of cultural heritage and to ensure that the perceivers can effectively reach the values and principles of their cultural heritage (Siamwalla, 2019; Sugiarti et al., 2019; Tresnadi & Sachari, 2015; Y. Yang et al., 2018).

ii. Another alternative for supporting the ICH's sustainability was introducing different motifs from other cultures and integrating them with the digital technological approach (Mathew, 2018; Tresnadi & Sachari, 2015).

iii. Safeguarding tangible and ICH is not one person's mission but includes collaboration with multiple organisations, stakeholders and governments (Mawuli, 2019; Sardjono et al., 2015; Siamwalla, 2019; Sugiarti et al., 2019; Untari et al., 2020; Y. Yang et al., 2018).

iv. The sustainability of cultural heritage products should be based on environmentally friendly materials (Hidayat & Fatmahwaty, 2014; Mathew, 2018).

v. The versatility of promotional approaches, such as exhibitions, workshops, social media, knowledge sharing, and tourism education, will foster knowledge and safeguard the cultural heritage for future generations (Mawuli, 2019; Sugiarti et al., 2019; Untari et al., 2020; Y. Yang et al., 2018).

The gaps in these nine studies highlighted the growth of the ICH's dissolution in every piece of art. Initially, policymakers, industry players, and communities can minimise knowledge barriers, encourage social

integration and cultural diversity, and enrich tourists' experiences with the government's support. This idea can be achieved through cultural tourism with a proper promotional approach. As a result, tourism has positively affected cultural exchange, improving the levels of understanding and direct participation of local communities in safeguarding their traditional values. These positive impacts will gradually lead to their global preservation and the protection of the intellectual property rights of communities concerning ICH.

Table 4

Data extraction table referring to included studies

Author	Issue and Objective	Method	Findings
Untari et al., 2020	*Issue:* Women are not chosen to lead and manage businesses, although they are known locally for their skills and experience. *Objective:* Examine the integration and impact of Sumbanese cloth makers in world markets and gender roles in the community.	*Study Design*: Qualitative, fieldwork. *Data collection:* Observation, interview. *Subject:* Sumba weaving. *Location*: Indonesia.	1.Changes in the context of gender in cloth production led to possible shifts in cultural expectations about gender roles and processes. 2. The use of cell phones and social networking by a variety of young women and men.
Siamwalla, 2019	*Issue:* Lack of knowledge of what form of collaborative design to use in the development of goods. *Objective:* Investigate and recognise the collaborative production of craft makers, the Jordan River Foundation (JRF) and IKEA.	*Study Design*: Qualitative and narrative. *Data collection:* Observation, interview and focus group. *Subject:* Textiles. *Location*: Jordan.	1.The collaborative design in textile crafts connects multiple new spaces in management and transforms skills knowledge into a competitive advantage for the organisations involved.

Table 4 *(Continued)*

Author	Issue and Objective	Method	Findings
Mawuli, 2019	***Issue:*** Knowledge barrier to the usage of Adinkra symbols among the young generations. ***Objective:*** To investigate the Adinkra symbols in modern Ghana and their usage and to safeguard the knowledge of Adinkra.	***Study Design***: Qualitative, fieldworks. ***Data collection:*** Participants' observation, Group discussion. ***Subject:*** Design motif. ***Location***: Ntansa and Asante, Ghana.	1. Adinkra fabric manufacturers and academics may organise exhibitions to foster knowledge of the Adinkra symbol. 2. Organised workshops to increase awareness. 3. Further funds are required.
Sugiarti et al., 2019	***Issue:*** Stakeholders did not use the opportunity to establish craft tourism by including tourists seeking leathercraft goods in educational tourism. ***Objective:*** To examine how the leathercraft industry contributes to tourism development in Magetan, East Java, Indonesia.	***Study Design***: Qualitative, descriptive. ***Data collection:*** Site observation, interview, document review, focus group discussion. ***Subject:*** Leathercraft industry. ***Location***: Magetan East Java Indonesia.	1.Tourists support the industry by purchasing the products. 2. No latest design that meets the market trend and the quality demand. 3. Locals can serve as entrepreneurs by establishing leather home industries that manufacture tourist souvenirs.
Y. Yang et al., 2018	***Issue:*** Handicraft heritage is gradually losing its existence and needs urgent attention. ***Objective:*** Explore traditional craft in developing countries so that traditional craft traditions and knowledge can be transferred.	***Study Design***: Qualitative, fieldwork. ***Data collection:*** document review, observation. ***Subject:*** Pakistani handicraft. ***Location***: Pakistan.	They suggest policies to promote, develop and maintain traditional heritage skills and practices, as well as helping artisans revive their businesses and generate sustainable income and employment opportunities.

Table 4 *(Continued)*

Author	Issue and Objective	Method	Findings
Mathew, 2018	*Issue:* The handloom sector confronts intense competition from the electronic loom, which means handloom weavers need to introduce innovative and attractive patterns. *Objective:* To revive the African and Indian traditional wear while popularising the African motifs and aesthetical values in the Indian saree.	*Study Design*: Experimental. *Data collection:* Ten Adinkra motifs and five saree layouts were developed with different placement of motifs. *Subject:* Indian saree. *Location*: India.	1. Embodied cultural values in silk linen sarees through the adaptation of Adinkra motifs. 2. Incorporated aesthetic innovation based on the traditional with additions from other traditions. 3. The saree became a handcrafted, eco-friendly traditional form of attire to match every occasion and budget.
Tresnadi & Sachari, 2015	*Issue:* Knowledge barrier among the public, especially in appreciation. *Objective:* Identify the values found in Indonesian batik ornaments adapted to the Nitiki game as visual content.	*Study Design*: Qualitative descriptive. *Data collection:* Observation, interview. *Subject:* Indonesian batik ornaments. *Location*: Indonesia.	1. The integration of batik ornaments in the Nitiki game demonstrates versatility in the digital world. 2. Incorporating cultural ideals into the game symbolises the ideological concept of contemporary tradition.
Sardjono et al., 2015	*Issue:* Prior research has shown that the respective trademark was not used efficiently to support Small Medium Enterprises (SMEs) batik in Java. *Objective:* Establish collective trademarks as a strategy to compete with imported printed batik and preserve local products.	*Study Design*: Qualitative, Case study. *Data collection:* Survey. *Subject:* Batik. *Location*: Kampung Batik Laweyan, Solo, Indonesia.	1. The mutual trademark system has benefits at the lowest expense of registration and promotion. 2. By having a collective trademark, local batiks can use an indicator of their origins and also be protected and strengthened while competing with imported batik.

Table 4 *(Continued)*

Author	Issue and Objective	Method	Findings
Hidayat & Fatmahwaty, 2014	*Issue:* The European Union market has rejected importing Indonesian batik due to the environmentally unfriendly way the product is made. *Objective:* To make an ecologically friendly batik.	*Study Design*: A case study. *Data collection:* In-depth interview. *Subject:* Kanawida batik (Green batik). *Location*: Banten & Jakarta, Indonesia.	1. Toxic batik waste production had been eliminated and replaced with natural dyes. 2. Street children were taught to turn Kanawida batik into an environmentally friendly way to gain knowledge of their heritage.

DISCUSSION

This review identified a growing body of literature engaged in various types of research into safeguarding the intangible and, to a lesser extent, tangible cultural heritage. The studies on ICH require a different approach than the studies on the tangible method. Various issues were established concerning the findings of this study, signifying the practical strategies to match any ICH object at its finest. Scholars have touched on this issue, albeit there remains a lack of research to investigate the safeguarding of intangible heritage. Hence, to bridge this gap, this paper offers two sophisticated approaches to safeguard Malaysia's ICH, in line with those suggested in this review by several scholars.

Art Knowledge Contributes to a Greater Aesthetic Perception

Most barriers occur due to the lack of art knowledge, misleading the aesthetic perception of heritage objects. In this sense, any misconception about ICH objects

would have a long-term beneficial or detrimental impact on future generations. In the challenging and advancing era, so-called "good taste" is considered a combination of the intellectual and personal taste of the beholder (Myszkowski et al., 2018).

Grüner and colleagues (2019) stated that the perceivers' art knowledge possessed is treated as a foundation to help them form a better understanding of art. Those without basic art knowledge require extra effort to comprehend the visual art displayed to them (Grüner et al., 2019). Furthermore, in any culture, a passionate feeling for art combines a person's knowledge and appreciation for art (Bourdieu et al., 1991). Therefore, the earlier a person's exposed to arts, the more dynamic relationships can be built, resulting in better constructions of aesthetic perception.

The analysis of a cultural heritage object through observation and to achieve some form of understanding, which can be inherently understood. The aesthetic expression of human feelings is related to

the mechanism of perception (Ellsworth & Scherer, 2003). When the sensation is evaluated as something that can be grasped, it forms a point of human interest (Silvia, 2005). Notably, human understanding and sensitivity led to positive perceptions (Fayn et al., 2015). By having the appropriate knowledge of a particular subject, one's interest and curiosity can be explored. Additionally, those with exposure to art possess a greater degree of aesthetic perception. The knowledge of cultural heritage objects should be shared with the younger generations so their appreciation does not disappear with time.

ICH on Digital Platform

In recent years, digital technology has exponentially increased and has invaded every aspect of life. Thus, it has often affected how developing societies experience heritage, be it their own or others. Moreover, cultural heritage has always been a relevant subject. However, the general awareness of and disposition towards this subject form our sense of placing it. It also shapes our understanding, especially in the increasingly globalised world (Economou, 2015). Due to their inherent nature, the elements of ICH are constantly evolving. They combine with their surroundings and sometimes disappear without enjoying an appropriate level of recognition and appreciation (Smeets, 2005).

People experience sites and monuments gradually and learn about the past through digital media in the context of visual reconstructions, digital artefact documentation, online images (Economou, 2015), higher education (Kong, 2020), and many more. This idea is consistent with the IR 4.0 theory, which explains developments such as artificial intelligence, quantum physics, 3D printing, and the internet (Schulze, 2019), especially younger generations. In tandem with the creative innovation or 'creativity capital' of 2020, this idea will become the third significant capability required to thrive and prosper in the IR 4.0 (Adendorff et al., 2018).

In a 2012 survey conducted by the Pew Research Centre into the Internet and American life, it was suggested that technology would efficiently enhance people's lives, boosting engagement among perceivers. For example, in art, technology could attract larger audiences to appreciate drawings, paintings, and sculptures while simultaneously diversifying its audiences. It is understood that the internet plays a significant contribution in breaking the barriers that once blocked art from numerous people's views (Thomson et al., 2013).

Information and communication technology (ICT) and visual culture are two essential elements of modern life that affect and mould professional and personal identity (Bajardi et al., 2015). Therefore, the medium used to deliver knowledge on the cultural heritage object was transmitted using a digital technology approach, in line with IR 4.0. A popular modern belief is that digital technology is the easiest way of transferring knowledge and delivering information to people (Sedera et al., 2016). According to Adendorff et al. (2018), the 21st century has

been marked by expanding information and knowledge-based economies. Therefore, implementing Cultural and Creative Industries (CCIs) in IR 4.0 can decrease the skill gap while promoting social inclusion, cultural diversity, and human development (Adendorff et al., 2018).

Many factors cause the knowledge gap faced by most perceivers when dealing with ICH art pieces. The correct method of managing this gap will contribute to the richness of the knowledge pool, eliminate unresolved barriers, and contribute to positive aesthetic perceptions. Moreover, ICH is closely related to every culture, as it encapsulates customs, origins, thinking, taboos and legends. Nevertheless, these elements are slowly being forgotten by many due to the lack of understanding, knowledge, and exposure. Therefore, positive aesthetic perceptions form the foundation of an effective way of preserving ICH, using digital technology as the medium to channel information. With the help of the cultural tourism sector, the ICH of all communities can be preserved.

CONCLUSION

This concept paper outlined the pattern of recent studies on safeguarding multiple forms of ICH from various global angles and significant cultural heritage objects. Researchers have attempted to find the optimal and most effective formula to implement the approach. Moreover, this safeguard method can ultimately maximise the benefit for future generations. However, the most critical issue is the correct aesthetic

perceptions that must be transferred to the perceivers to ensure that ICH endures long-term. Hence, the authentication of ICH would bridge the gaps in perceivers' art knowledge, safeguarding this form of intangible heritage in the IR 4.0 and contribute to the existing knowledge pool. Furthermore, it is believed that the justification of every perception varies, and it is either a pleasant or unpleasant feeling depending on the perceiver's art knowledge. Therefore, possessing accurate ICH knowledge can eliminate the knowledge gap concerning the art piece. In other words, everyone will perceivably have the same thoughts, opinions and aesthetic perceptions when assessing a tangible cultural heritage product.

Safeguarding the tangible and ICH is not one person's mission but must involve collaboration between multiple organisations, stakeholders, and governments. Therefore, cooperation between communities and the tourism and heritage sectors is required to preserve ICH worldwide. Moreover, science and technology mapped the way to keep 'unspoken' knowledge using blockchain certificates for copyright protection, preventing the piracy of digital media content. These methods will lead to the global preservation of 'unspoken' knowledge and the intellectual property rights of communities over their cultural heritage. Finally, this issue should be dealt with immediately for the sustainability of traditional human values, ensuring the critical conservation of the various forms of ICH.

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