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Cross-Cultural Design Process: Solving Conflicts and Emphasizing Local Cultural Values

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Abstract

This article focuses on delivering cross-cultural design processes (CCDP) to resolve disputes in cultural tourism communities. The method used a mixed methods approach based on the pragmatism paradigm. The researcher employed a case study and Inquiry-Based Learning with the design process, leading to more meaningful and culturally sensitive design solutions. The results found that the verification process with stakeholders makes the interior design work that does not cause conflicts, making locals and tourists recognize the value of social-cultural identity in the same direction. Consequently, this process helped better understand communication and interaction with users, locals, tourists, and cross-cultural designers.

Keywords: *Cross-cultural design process, local cultural value, stakeholder, traditional interior design, pragmatism paradigm*

Introduction

The community's cultural identity is significantly impacted by a cultural design that needs more depth and expressiveness, especially noticeable in cultural tourism, such as the Amphawa community in Thailand. Despite receiving international support for cultural conservation, this award-winning community faces the challenge of preserving its cultural heritage (Peerapan 2009). A striking example of this issue can be observed in the stark contrast between the traditional context of the Amphawa community and the styles of luxurious four-star hotels (Online Bangkok Post Newspaper 2012). Additionally, some restaurants in the community fail to acknowledge and embrace the local socio-cultural identity despite having contemporary interior designs. Interestingly, the problem of lacking cultural identity is paradoxically observed in culturally conservative communities.

Local cultures embodying a community's uniqueness can evoke profound nostalgic emotions and leave a positive impression on individuals. These cultures also symbolize culturally significant memories (Cappelletti 2023). When communities showcase their distinctive characteristics, they effectively convey and preserve their socio-cultural identities, with culture often considered the very "spirit" of these distinguishing traits. Incorporating local cultural elements into the design of the physical environment can enhance people's cultural awareness and serve as a means to promote and safeguard cultural heritage. Any community change must

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be mindful not to create misleading perceptions for tourists, as human perceptions are strongly influenced by the context of the physical environment, as supported by the theory of visual perception (Krukaset and Sahachaisaeree 2010). Furthermore, integrating local cultures into the design process helps prevent cultural fatigue, which may arise from cultural modifications that disregard the authentic local context of an area (Anusorntharangkul and Rungwongwan 2021). By respecting and embracing the cultural essence of a place, communities can maintain a genuine and enriching experience for residents and visitors alike.

Designers often face challenges obtaining accurate information that reflects the local identities required for cultural design projects (Dazkir et al. 2013). One approach that can be adopted to address this issue effectively is Inquiry-Based Learning (IBL). Implementing the IBL process can provide valuable insights and essential information about the cultural identity they aim to represent in their designs. This information may be keywords or key concepts that can be integrated into the design process. Moreover, the information gathered through IBL is based on the consensus and input from community stakeholders. In the case of the Amphawa community, such information was recognized as a vital representation of its socio-cultural identity, as discussed by Anusorntharangkul and Rungwongwan (2021). By involving and respecting the perspectives of the local community, designers can ensure that their projects genuinely reflect the authentic cultural identity and fulfill the needs and desires of the community they are designing for. By leveraging the IBL approach and collaborating closely with community stakeholders, designers can overcome the difficulty of finding accurate and relevant information, enriching their cultural design projects, and contributing positively to preserving and celebrating local identities.

The main focus of this article is to introduce and highlight the significance of cross-cultural design processes (CCDP) in addressing conflicts that arise in cultural tourism communities. Unlike the traditional design approach, where designers often rely on their experience-oriented frameworks or styles (Alaswad 2019), CCDP takes a different route by involving the community stakeholders more directly in the cultural interior design process. This active participation of stakeholders allows for reevaluating and confirming a collective perception of cultural identity within the community. By actively engaging stakeholders and reexamining the consensus, CCDP aims to foster a more collaborative and inclusive approach to cultural design, thereby reducing conflicts and ensuring a culturally harmonious outcome. As a result of its effectiveness in resolving conflicts and promoting cultural cohesion, CCDP can be considered a valuable and practical guideline for cultural design in other cultural tourism communities as well. Its emphasis on stakeholder involvement and collective identity development sets it apart as an innovative and promising approach to cross-cultural design challenges.

Aim of Research

This study aimed to find the methodology that reduced conflicts in the cultural tourism community by introducing the cross-cultural design process (CCDP). Utilizing keywords representing the cultural identities of the Amphawa community, which were derived from the researcher's previous report (Anusorntharangkul and Rungwongwan 2021). These keywords were acquired through the data collection process employing the Inquiry-Based Learning method (IBL) from stakeholders. Incorporating these agreed-upon keywords into CCDP has enhanced the cross-cultural design process and reduced the cultural perception conflict between the locals and the stakeholders.

CCDP aims to minimize conflicts arising from cultural interpretations not collectively endorsed during the cultural design work by involving stakeholders in this agreement. This collaborative approach ensures that the design process aligns with the community's authentic cultural identity and values, fostering a more harmonious and respectful outcome. Using these community-verified keywords in CCDP strengthens the connection between designers and the cultural tourism community, leading to more meaningful and culturally sensitive design solutions.

Hypothesis

The interior design uses the guidelines for using the local social and cultural identity presented by the researcher, making local residents and tourists recognize the value of social-cultural identity in the same direction. This will make the community sustainable in terms of being a tourist attraction capable of transferring cultural knowledge with a statistical significance of .05.

Literature Reviews

According to the literature, the social and sociocultural contexts and the social environment are associated with physical and social settings that relate to human lifestyle and development. This includes the culture in which each individual involves and interacts with each other through communicating media, and the meaning of various built environments is generated through inherited personalization. Further, other studies have available multiple methods regarding the built environment (Csikszentmihalyi and Rochberg-Halton 1981; Rapoport 1990). In architecture, the built environment is defined as a human-made landscape distinguished from the natural environment (Anusorntharangkul and Rugwongwan 2018). To illustrate this, traditional housing exemplifies the human-made environment with a symbolic meaning (Korunovski and Marinoski 2012). This example shows that the built environment influences human lifestyles in terms of the physical environment created by humans, such as material, style, and orientation. It has been demonstrated in the literature that this can facilitate lifestyles (Krukaset and Sahachaisaeree 2010).

Therefore, designers are vital people responsible for the design of the physical environment. To understand the relationship between local socio-cultural identity and the interior environment, architectural design studies should consider the crucial elements of the environment's cultural, physical, and social contexts as well as insight into the local socio-cultural identity that belongs to the selected region. Typically, cross-cultural designers rely on their intuition and creativity. For example, some designers only receive superficial information about the local socio-cultural identity in that region and have yet to visit or visit the region a few times. Therefore, these designers must rely on their intuitions, which may result in cultural misunderstanding and develop a design that does not represent the local socio-cultural identity. The way designers perceive and define meaning using a logically rational reconstruction process heavily relies on their memory. People learning by storing symbolic representations in their memories are archetypes of the physical environment. People react similarly to the physical environments in the same archetypal category. By making associations within the same category, they experience meaning (Smets and Overbeeke 1995). However, the question is, "Can people in the community grasp notions like intuition and creativity?" In other words, can people in the community identify 1) how designers put 'meaning' into objects and 2) the perception of people who experience this 'meaning'? Quite often, designers themselves answer this question in negative and assaultive ways. Accordingly, assessment and in-depth understanding of the cultural dimensions provide researchers with various attractive opportunities for this study.

This process has an impact on the work of interior environmental design. The interior environment in each region reflects the perceptions, behaviors, and specific solutions to the environment that form the regional-specific culture. Thus, this study examines the importance of the local socio-cultural identity imprinted in the physical environment through the design stage conducted by the designer. This concept integrates multifaceted aspects of design and the local socio-cultural identity (Anusorntharangkul and Rugwongwan 2018). From a quality management perspective, the speed of new design indicates the importance of the local socio-cultural identity issues to the design quality because information and design management efforts involve long-term work and involve different physical environments as one of the significant competitive priorities. Since design efforts often have inherent drivers for people's perceptions through the optimized design (Krukaset and Sahachaisaeree 2010), a cross-cultural design experience of a cross-cultural designer has to give importance to the notion of design details. They are required to select crucial attributes of the interior environment designs that 1) influence the subjective impressions of the native and outsider's design perceptions, 2) convey local socio-cultural identity, and 3) explain the importance of the local identity that relates to society and the way of life in the past (Anusorntharangkul and Rugwongwan 2018).

The importance of Thai cultural heritage management is an intellect combining architecture conservation, community conservation, heritage, tradition, and culture. All of the above focus on the knowledge integration of inheritance and preservation in order to improve the position and capability of people in the country. It also creates a valuable knowledge base that can be applied to develop the appropriate technology in various areas of the country, for example, the acquisition of wisdom of the local people and the utilization of this wisdom for commercial and public benefits such as the development of quality of life using resources and local area networks effectively as bases. It also focuses on the development of industrial productivity and service. This covers tourism through the development of sustainable tourism resources, eco-tourism, and creative tourism based on the philosophy of Sufficient Economy. Thailand has many regional-specific cultures. The Tourism Authority of Thailand (TAT) divides Thailand into five regions for tourism purposes: Northern, North-eastern, Central, Eastern and Southern regions. All places have environmental diversities with various natural attractions and enriched history. Many places in Thailand are ancient civilizations of the community in the ASEAN neighborhood. The environment also possesses local religions, arts, cultures, and traditions that give the uniqueness of each place and community. The result is more spatial tourism in Thailand, and it affects the community's economic development as well (Anusorntharangkul and Rugwongwan 2018).

However, from such development, it is found that there are problems and obstacles regarding the identity of the place where tourism developed in the local community. This may be attributed to unbalanced lifestyle changes and, subsequently, changes in culture and society in the community. As a result, the social model is changing. Moreover, we found that people in the community are not involved in the design of their place. Primarily, participants involved in the design are designers and investors who are not native. These people may lack the factual knowledge of local socio-cultural identity, which affects 1) the process of understanding and 2) the recognition of the importance of the culture. Lack of this knowledge may prevent them from identifying their unique identity. Thus, it is crucial to find a well-balanced approach.

Research Paradigm

In this research, a mixed methods approach was employed, guided by the paradigm of Pragmatism. This approach focused on achieving practical results and solving real-world

problems rather than solely constructing theoretical frameworks. As a result, the researchers sought to add a verification step to the traditional design process aimed at testing the effectiveness of this newly developed design process in mitigating conflicts commonly observed in cultural designs within the community. By incorporating the verification step, the researchers aimed to evaluate whether the CCDP implemented in this study could effectively address and reduce conflicts during cultural design endeavors within the community. This practical approach allows for a more thorough and robust assessment of the CCDP's impact, ensuring it aligns with the community's cultural identities and values. Ultimately, the research aimed to provide valuable insights and tangible solutions that can be applied in real-world settings, fostering better cultural design practices and more harmonious community experiences.

The concept of sustainable tourism development, utilizing cultural capital, emphasizes incorporating cultural keywords in interior environment design for cross-cultural design. This enables the design to effectively communicate meaning to tourists, a crucial aspect in ensuring tourist satisfaction while preserving existing resources and cultures (Waridin, and Astawa 2021). Furthermore, this approach caters to the needs of tourists and the local community, safeguarding and creating opportunities for the future (World Tourism Organization, 2016).

Consequently, the researcher employed a case study and experimental research method to attain the cross-cultural design outcomes, followed by a collaborative process to reach a consensus with the stakeholders in the Amphawa community, effectively achieving the study's objectives.

Methodology

The method used a mixed methods approach based on the pragmatism paradigm. It is the pursuit of knowledge emphasizing results focused on solving actual problems rather than building a theory. The research tool was the data collection and interview of the Amphawa community stakeholders. These reduce the chance of conflict between the community villagers and outsiders. The researcher chose to use Inquiry-Based Learning in conjunction with the design process, focusing on the research process and data collection of designers. In this situation, the designers interacted between the informant and the environment while collecting information. They could extract and show the essential and accurate information of the cultural identity. This method will follow the participatory design paradigm (Anusorntharangkul and Rungwongwan 2021).

Using a qualitative research method in searching for local socio-cultural identity factors that would be used as a guide in the design of the internal environment. This research studied the concept of cultural heritage conservation, the concept of social-identity capital of culture, and the development of sustainable tourism concerning the concept of inheritance of social identity and local culture, then linked them to a design of an environment of the case study. The researcher not only wanted to find out the answer to one phenomenon – regardless of the number of sites, participants, and documents – but also focused on systematically analyzing more than one event or situation in depth, such as social groups, communities, individuals, or others. Using only one case may be compared to similar cases, called micro-macro problems.

Research Case Study

The Amphawa Floating Market community is a tourist attraction that has been popular as a robust community in the growth of various traditional festivals such as architecture, fine arts, foods, and Thai desserts. Therefore, it has been regarded as a community of cultural heritage.

The Amphawa floating market community has been promoted as a tourist attraction with guidelines for furthering social capital and cultural identity as essential to creating tourist activities for solving community economic problems. This is a result of the tourism development policy in the Amphawa floating market community, which had reduced the value of social identity and local culture because they were growing and expanding rapidly (Sayanon 2009). It is not consistent with the development of tourism and sustainable development, where good development must be coupled with the conservation of local environmental resources, which should consider proper usage and planning to promote the use of public resources to provide the very best value (Phuwanatwichit 2014).

The selection of the Amphawa Tourism Community for this research was highly suitable due to its status as a cultural tourism community facing significant challenges. Consequently, in the initial investigation (comprising interaction and verification steps), the researcher conducted on-site research within the Amphawa community. This phase led to acquiring keywords representing the community's identities, as outlined in the preceding article (Anusorntharangkul and Rungwongwan 2021).

Participants

We experimented using a specific selection method with three groups of participants:

- 1) An designers' group who were volunteers or interested in participating in the research. Members of this group had no experience in design related to local socio-cultural identity. They had never lived in the Amphawa community.
- 2) A group of experts on local socio-cultural identity of local populations, which was divided into three groups: (1) a group of experts who had owned a homestay in Amphawa and were born there, (2) instructors in the field of local socio-cultural identity of local populations, and (3) interior designers who were experienced in design related to local socio-cultural identity. Three members were chosen from each group; these experts had no working relationship with each other and were independent.
- 3) The stakeholders are local residents and tourists.

Research Tools

We determined the research tools and divided them into two main parts: an interview and a model of the environment in tourist accommodations that promotes local socio-cultural identity. The details are as follows.

- 1) The field note was for designers who were volunteers and interested in participating in a research project. The field note was used to record important information about the prominent representative of local socio-cultural identity in the community and the Amphawa floating market, which was derived.
- 2) A worksheet for designers who were volunteers or interested in participating in the research project. This was used to design the internal environment from the local socio-cultural identity in the community and the Amphawa floating market to obtain a visual simulation of the environment within the three-dimensional simulation (3D simulation).
- 3) The interview forms in this research were divided into 3 parts, consisting of
 - (1) Interviews with experts on identity, society, and culture. This interview tool was created with the design of the built environment by a cross-cultural group of designers who had yet to experience design related to social identity and culture and had never lived in the floating

market. Using three-dimensional visual simulation environment awareness (3D simulation), together with the responses to the questionnaire. This questionnaire had a five-point rating scale, measuring perceptions and including open-ended questions.

(2) Interviews of the stakeholders: The research instruments used were interviewing form and three-dimensional visual simulation environment awareness by different issues through controlling other design factors. During the consensus-finding interview, the researcher presented the design work to gather perceptions from local residents and tourists regarding the interior environment design. The interview involved 72 participants, 12 locals and 60 tourists.

(3) The researcher has evaluated the perceptions and feelings of the stakeholders towards the design of the tourist accommodation located in Amphawa by using the interview form along with the 3D stimuli. The questions included choosing the materials, colors, furniture and decoration, and lighting. Due to the stimuli, empirical research instruments affected perception measurement were used. Simulations are many ways to imitate natural conditions (Chind and Sahachaisaeree 2012), meaning in this research are visual perception conditions. Re-creating a design or other features by scale-model or other media is possible “in the press.” Pires Gonçalves (2008) used three-dimensional picture stimuli from computer-generated façade stimuli as a research tool. The interview forms are constructed as a comparison between the left and right images to compare the attitudes and satisfaction of the area users. Moreover, they use the points semantic differential Likert scale to indicate perception. Each side has five levels of popularity.

Research Procedure and Results

As Anusorntharangkul and Rugwongwan (2021) discussed, it can be summarized according to seven main factors and one additional factor: color, material and surface, lighting, decorative items, decoration, void, interior space, and other factors. The seven key factors in the design and decoration can be summarized as follows:

Guidelines for using color in interior environment design: The color that represents the identity of the environment is the brown color of real wood, which can be seen in wood such as teak, makha, rang, rosewood, etc. It should be treated with teak to preserve and protect the wood. Suppose the desired wood is not available or has a high price. In that case, it may be possible to use other valuable and economical types of wood instead. However, oil must be used to preserve the wood so that the wood used instead has a color similar to the desired wood.

Guidelines for materials and surfaces in interior environment design: The materials and surfaces that show the social identity and the local culture of the Amphawa community are real wood surfaces that are glossy from rubbing and at the most outstanding level. Some houses are more than 100 years old, so walking regularly on the wood and wiping and rubbing the wood for such a long time has made the wood, especially the floor, have a luster of smooth, clear skin.

Guidelines for using light in interior environment design: The use of light that shows the social identity and the local culture of the Amphawa community is the use of natural light during the daytime to create vitality. If you want to use artificial light, you should use warm light to help create a warm atmosphere and various lamps – such as kerosene lamps, lanterns, or hurricane lamps – to create a suitable atmosphere.

Guidelines for using decorative items in interior environment design: The decorative items that show the social identity and the local culture of the Amphawa community are the images used

to decorate an area with either the atmosphere of Amphawa in mind or the market, the traditions, the garden atmosphere or even the way of life in professions. In addition, past items such as antique lamps, utensils, and utensils made of brass can be used to decorate an environment with the atmosphere.

Guidelines for decoration in interior environment design: The decoration that shows the social identity and the local culture of the Amphawa community is the use of simple furniture with uncomplicated shapes, including seats and folding mattresses. Furniture used in the trading days – such as cabinets, tables, chairs, and wooden benches – may be used.

Guidelines for void in interior environment design: The void that shows the social identity and the local culture of the Amphawa community is the large wooden folding doors that open and face the Amphawa Canal. If the room is off the canal, guests may open doors and see a garden, open space, or street, which is open and bright. To replicate the atmosphere along the canal and above the folding door, including the upper part of the wall, there must be a box that looks like an open-air vent that may be used as an additional technique to hide the light so that it looks like there is light from the outside that is ready to come through. This is done in order to eliminate opacity.

Guidelines for using Interior space in interior environment design: The Interior space, which shows the social identity and the local culture of the Amphawa community, must be a cube-shaped open space with a short entrance wall, side wall, plane, floor, wall, and ceiling. It should be smooth and paneled with wood material, with a narrow but long face plate, and have simple furniture as per the usage schedule of the area, which can be easily adjusted to the living space.

In the first procedure, the sample group comprised interior designers, as agents of a cross-cultural designer, who volunteer or are interested in participating in this research. Their ages ranged from 28 to 32, with three females and three males. Firstly, they gathered data from the area and compiled the information, including the consensus keywords identified in the previous seven key factors. Subsequently, in the second stage of development, transformation, design, and verification, they incorporated these cultural keywords into the cross-cultural design process. The interior environment design process showcased the incorporation of the local socio-cultural identity. This process comprised four distinct steps: investigation, interaction, development or transformation, and design (Lin 2007). Significantly, this work introduced a verification step to strengthen the design process. Below are further elaborations on the details of each step in this design process.

Step 1) The investigation: This stage was the initial and crucial step, entailing the exploration of traditional socio-cultural identities such as environmental, economic, social, and cultural conditions, as well as technological aspects. During this phase, the designer meticulously analyzed the gathered data to identify and comprehend the most relevant representations of the local socio-cultural identities for incorporation into the design.

Step 2) Engaging with the locals and tourists: This crucial step enabled designers to acquire profound insights that may not be readily apparent through simple observation. The interviews yielded valuable information, illuminating hidden phenomena and backgrounds of the locals, ultimately leading to the accurate identification of local socio-cultural identities.

Step 3) Verification: Following the analysis of the acquired data (pre-design verification), this step aimed to establish a consensus based on the analyzed information. Moreover, once the design was completed, the designer reverified the work to ensure its alignment with the consensus (post-design verification).

Step 4) Development or Transformation: The primary goal during this step involved creating an "Idea-Sketch" derived from the cultural identities' keywords of the Amphawa community. Consequently, the essence and cultural elements were translated into a fitting interior environment design, effectively expressing the local socio-cultural identities of the Amphawa community.

Step 5) The Design: The outcome showcased intricate details reflecting the physical characteristics of the local socio-cultural identities of the Amphawa community within the interior environment design, as indicated by the keywords. This facilitated a comprehensive exploration of the cultural objects prominently presented through the design.

Please note that Steps 1 and 2 were already accomplished in the prior work (Anusorntharangkul and Rugwongwan 2021). The process yielded essential keywords encompassing seven identity aspects: lifestyle, colors, materials and textures, lighting, decoration items, decorations, and void ventilation. The validation of these keywords (Step 3) was carried out during the pre-design phase. However, the validation for the design work (post-design) was deferred, as it could be performed after the design was fully completed. Consequently, this research demonstrates integrating identity aspects into the interior design process.

This research study was conducted collaboratively as a team, emphasizing the significance of brainstorming and idea generation within the design process. The interior environment design, reflecting the local socio-cultural identity, focused on evoking emotions, feelings, impressions, and interactions with visualizable objects and past experiences. After the designers collected data in the Amphawa area and summarized the information, they then processed the information. This information was used in conjunction with a social identity approach – the researcher concluded from an interview with experts that the local culture of the single wooden row houses on the Amphawa Canal should be used in the design of the environment in the tourist accommodation located in Amphawa. Concepts from the identity of a wooden row house on the Amphawa Canal were used as the main ideas in the design. Finally, the interior environment of tourist accommodation located in Amphawa was designed, as depicted in Figures 1.

Figure 1: Expression of local socio-cultural identity in interior design



Source: Organized by this research (Participant as designers, 2023)

Then, we used a three-dimensional (3D simulation) portion of the interior environment design scenario to examine the evaluation task from the internal environment. This was done to know whether the design could match the design guidelines obtained from the summary of information provided in the process. The researcher used a method of checking the accuracy

of the design work by providing experts on the socio-cultural identity of local populations. The results were based on the opinions of three groups of experts, or nine people in total: the group of experts who were homestay owners and were born in Amphawa, the group of experts who were teachers of local socio-cultural identities, and the group of experts who were designers using local socio-cultural identity.

Table 1: Nine experts' results of the design assessment of tourist accommodation.

Perception of the Meaning	\bar{X}	S.D.	The clarity of design level
Color	5.00	0.00	Highest
Materials and surfaces	5.00	0.00	Highest
light	4.33	0.58	High
Decorative items	4.00	0.00	High
Decoration	3.67	1.15	High
Void	5.00	0.00	Highest
Interior space	3.33	0.58	Moderate
Other information	4.00	0.00	High

From the results provided in Table 1, it was found that the accommodation was designed according to the design guidelines in terms of color, material, and surface. The scenario of the 3D interior environment was used to create the room atmosphere. The experts can give the score immediately without the inquiry. The section on light, decorative items, decoration, and other information such as facilities and equipment for everyone, the experts commented that due to various issues. It may be necessary to require an explanation for clarity. Thus, four issues were high-level. The experts argue that the explanations in the design guidelines, which describe the use of furniture to block part of the room, communicate blocking or obscuring something for usage. However, in the three-dimensional simulation scenario of the interior environment design in the room, such tourists do not use the furniture to block something but use furniture to determine the use of the area only. Therefore, such issues only receive a moderate rating about clarity.

In the second procedure, once completed, the design work underwent verification with the stakeholders to ensure its alignment with the agreed-upon consensus. The stakeholders had the opportunity to observe and assess the design's utility, effectiveness, and the cultural significance of the elements incorporated. As a result, the design's features were crucial in optimizing the interior environment, considering the sentiments, emotions, and cognition associated with past experiences involving cultural objects (Choi and Kim 2016).

The consensus on the interior environment design was assessed by seeking feedback from both Amphawa locals and tourists through environmental simulations (3D) and a questionnaire employing a 5-point Likert scale, following the S-O-R (Stimulus-Organism-Response) framework theory to collect data. This framework emphasized studying the relationships between variables from diverse perspectives, encompassing physical characteristics and perception outcomes (Krukaset, 2011). The interview involved 72 respondents, comprising 12 locals and 60 tourists, each providing valuable insights into the evaluation process.

In the consensus-finding interview, the researcher brought the design work to interview the locals and the tourists about their perceptions of the interior environment design. There were 72 interviewers, 12 locals (16.7%), and 60 tourists (83.3%). The questionnaire results are shown in Table 2 with the 5-point Likert scale.

Table 2: The consensus conclusion of the interior environment design perception

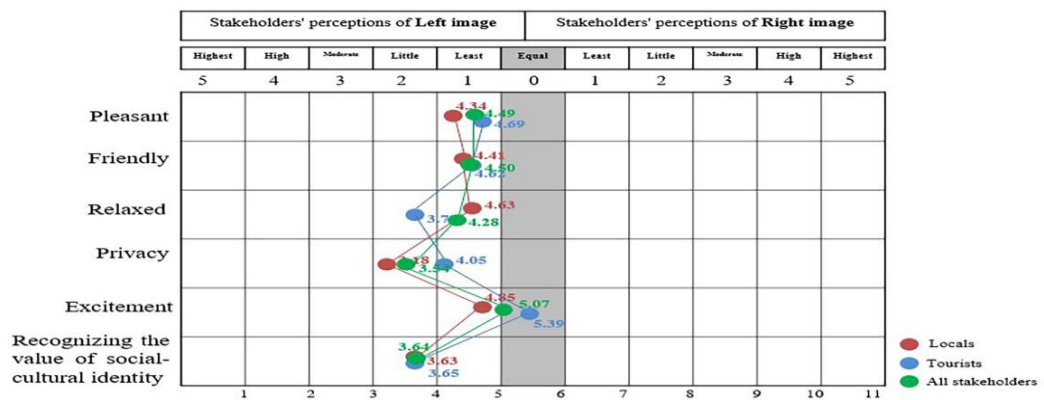
The meaning of perception	\bar{X}	S.D.
The design is apparent and can make an initial impression.	4.45	1.04
The design can convey emotion, feeling, and perception. It affects the original experience of the social-cultural identity. Therefore, it can be used as a design guideline.	4.19	1.47
The design represents a representation of the Social-Cultural Identity that uses as a design guideline.	4.73	0.65
Traditional social-cultural identity can be used to guide modern designs to convey a conventional identity.	4.45	0.69
An interior environment design that applies the social-cultural identity can help preserve cultural values.	4.00	0.89
Modern interior design can promote the social-cultural identity.	4.89	0.60
The design guideline of the Interior environment conveying social-cultural identity can promote pride and appreciation of the social-cultural identity.	4.64	0.67

According to Table 2, it was observed that the beauty of traditional culture still had excellent potential to add value and enhance the interior design. The results also showed that social-cultural identities were essential to future design. Therefore, the cross-cultural design, which was undertaken through the Inquiry-Based Learning (IBL) method to gain helpful information during the design process, increased the experience and knowledge of the social-cultural identities in the designed works. The IBL method was, therefore, crucial for understanding and realizing the transformation of traditional identities into modernized designs. In addition, the verification step (e.g., pre- and post-design) was also crucial since conflicts in the new designs that might appear in the community were minimized.

Then, the researcher re-examined by studying and comparing design factors affecting stakeholders' perceptions. We hypothesize that the guidelines for using the researcher's local social and cultural identity make local residents and tourists recognize the value of social-cultural identity in the same direction. This method was exploratory, and interviews of the stakeholders' perceptions, as the same group as the group that answered the previous questionnaire. The research instruments used were interviewing form and physical environment modeling by different issues, through controlling other design factors to reduce the attention of interview respondents and not stimulate their feelings. The questionnaires were used to collect two issues. There are the personal data and the correlation of perception between the two groups and the response of groups: pleasant, friendly, relaxed, privacy, excitement, recognizing the value of social-cultural identity, and overall satisfaction. The research tool is divided into 2: interview forms design and modeling the physical environment in different issues. Interview design: In this section, we set the questions to be divided into two groups, locals and tourists, to find the relationship between the two groups' awareness levels and the sensory response to the physical environment. The indicators for evaluating the design approach concern four factors: materials, colors, furniture and decoration, and lighting (Krukaset, 2011). The interview forms were constructed to compare the left and right images and the participants' attitudes and satisfaction by experimenting with Stimuli (3D) in a related environment with different factors, as in Figures 2 and 3. Each side has five levels of popularity.

Figure 2: Interview forms constructed as a comparison between the left and right image

Source: Organized by this research (Participant as designers, 2023)

Figure 3: Interview forms constructed as a comparison between the left and right image

The analysis results of participants' satisfaction; the researcher used a set of simulated paired photographs embedded with opposite design approaches. All photos—four factors: materials (natural and synthetic material usage), colors (light and dark color), furniture and decoration (traditional and modern style of interior design), and lighting (daylighting and artificial light sources; spot and diffused lighting)—were generated to be tested with a number of positive perception measurements—pleasant, friendly, relaxed, privacy, excitement, recognizing the value of social-cultural identity, and overall satisfaction. The results of the study are detailed in each issue as follows.

Materials—natural and synthetic material—the result found that natural material gives a pleasant, friendly, relaxed, stimulating, and exciting feeling than synthetic material. Based on the analysis of Scheffe's method, it was found that the tourist group was different from a group of locals regarding recognizing the value of social-cultural identity.

The color Value—light and dark color—The result found that the dark shade gives a relaxed, private feeling and recognizes the value of social-cultural identity than a light color. The analysis of Scheffe's method found that tourists had different feelings regarding relaxation and excitement of the color value.

Furniture and decoration—traditional and modern style—The result found that the traditional style gives a pleasant and relaxed feeling than the modern style. However, the modern style gives an exciting feeling than the traditional style. This result is fascinating information for the design issues.

The type of lighting—daylighting and artificial light sources—the result found that daylighting gives a pleasant, relaxed feeling than artificial light sources. However, the tourist group has commented that artificial light sources would have a sense of excitement rather than daylighting and can use warm light from artificial light sources regarding recognizing the value of social-cultural identity.

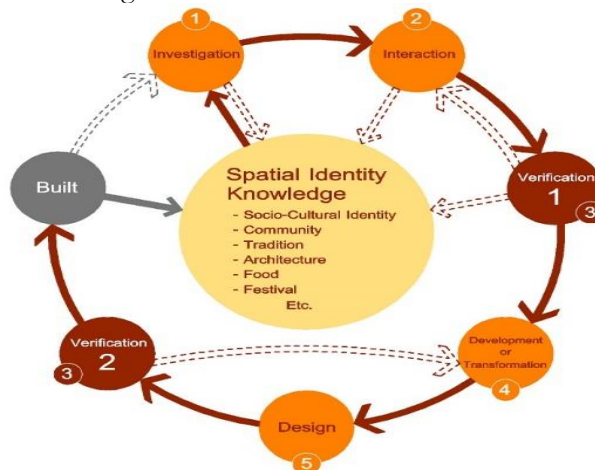
The patterns of lighting—spot and diffused lighting—the result found that the stakeholders commented that the diffused lighting style gives a friendly, exciting feeling and recognizes the value of social-cultural identity than spot lighting. Based on the analysis of Scheffe's method, it was found that the tourist group was different from a group of locals regarding recognizing the value of social-cultural identity. The locals commented that spot lighting can recognize the value of social-cultural identity than diffused lighting.

In conclusion, the physical environment design should focus on creating an atmosphere that provides relaxation and pleasantness rather than excitement—using artificial light and diffused lighting to decorate the surrounding area with warm lighting to recognize the value of social-cultural identity. The use of color should emphasize recognizing the value of social-cultural identity for decorating walls and furniture, namely dark shades. The design style guidelines should focus on the traditional oriental style. However, the modern style is fascinating information for design issues in the future. Furniture design is a natural material. The above guidelines are consistent with all stakeholders.

The interior-environment design, which was modernized and capable of expressing the local social-cultural identities, had the concept of maintaining and respecting originality. Such designs represented the understanding of cultural objects through the design procedure that people could perceive and understand. Furthermore, it could change the traditional form of cultural objects that seemed outdated and compatible with modernized technology and styles. The results of this research are consistent with the research hypotheses set by the researcher, with a statistical significance of .05.

Accordingly, the cross-cultural design process model of the 5-step process, including the investigation, the interaction, the verification, the development or transformation, and the design, is depicted in Figure 4. In particular, the interaction between the designers and the stakeholders and the verification step (pre- and post-design) were undertaken to ensure the attainment of an accurate consensus reflecting the identities of the community.

Figure 4: Cross-Cultural Design Process Model



Conclusions and Suggestions

This study aimed to find the methodology that reduced conflicts in the cultural tourism community. First, IBL was applied to obtain keywords that led to the cultural design work. Then, those keywords were brought back to the people involved to find a consensus again to prevent conflicts in cultural design works. This process reduced the conflict of cultural perception between the locals and the stakeholders.

The design that highlighted the local cultural values had become a vital issue in the design process (Lin 2007). The cultural design should be extended beyond materials and phenomena into the invisible and intangible aspects of the cultural design, such as users' interaction with the designs (Lee 2004). The unequal participation of participants in the community often led to problems of appropriateness and sustainability of the design process (Wang, Bryan-Kinns, and Ji 2016). Therefore, three elements including 1) the design that considered the consensus of the locals in the community, 2) the development of effective design guidelines, and 3) the empowerment by the learn-together concept of participation of the locals (Winschiers-Theophilus, Bidwell, and Blake 2012) should result in the tourism community not losing cultural or natural resources. This would eventually lead to sustainability in the cultural tourism community (Blancas et al. 2018).

Tourism was one of the powerful drivers of economic growth and development (Wardana et al. 2020). Sustainable tourism development was not only a holistic model for the future but also an inner vision that included all aspects of the economy, environment, and society for achieving the goal (Sharpley 2000). Therefore, we required a better understanding of cross-cultural communication – not only for participation in the global market but also for the development of local design. Cross-cultural issues were essential to the design of everything in the global economy. The intersection of design and culture had become a vital issue that made the local design and the global market worth further in-depth study (Lin 2007; Lin et al. 2018).

Every designer should consider a challenge, not only knowledge and creativity but also understanding the complexity of local cultural contexts that differed from their original cultures. Enabling culturally diverse people to participate in the design process (both the information searching process and the design process) would eliminate conflicts in new designs that may appear in the community. These were recognized and influenced not only as stimuli in the environment but also the values, feelings, inspirations, emotions, knowledge, beauty, and understanding formed apart from their own.

Research relating to the local socio-cultural identity was complex and tended to present continuous design work. Therefore, cross-cultural designers were highly required to gain essential insights into the design process. Furthermore, this process helped better understand communication and interaction with users, locals, tourists, and cross-cultural designers. This process would eliminate conflicts in the design work if designers followed the cross-cultural design model presented in this work.

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