

EXPLORING THE SELECTION AND TRAINING OF TOUR LEADERS: AN EVALUATION MODEL BASED ON THE ANALYTIC HIERARCHY PROCESS

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ABSTRACT

Since the outbreak of the global pandemic in 2020, the tourism industry in various countries has nearly come to a standstill, resulting in many individuals who previously worked as tour leaders shifting to other professions due to financial issues. As the pandemic gradually eases and border controls are progressively relaxed, the outbound travel market is seeing a glimmer of recovery. This signifies that the demand for tour leaders will increase for travel agencies. Tour leaders are not only promoters of business sales but also frontline service personnel who interact directly with customers. Their performance directly affects customer satisfaction with travel itineraries. Therefore, travel agencies must pay special attention to selection criteria when re-selecting tour leaders. This study aims to explore the selection criteria for tour leaders to assist travel agencies in objectively and effectively evaluating suitable candidates. Although tour leaders may not play as central a role in travel activities as tour guides, they remain crucial factors influencing the success or failure of travel activities. This paper collects expert opinions through the Delphi method and employs the Analytic Hierarchy Process (AHP) to categorize the selection criteria for tour leaders into five main dimensions and sixteen indicators, covering aspects such as personal conditions, professional knowledge, professional skills, service attitude, and execution capability. The ultimate goal of this study is to provide travel agencies with a more objective and effective basis for selecting tour leaders.

KEYWORDS

Tour leaders, Delphi method, Analytic Hierarchy Process

1. INTRODUCTION

With the steady growth of Taiwan's economy, the public's attention to quality of life has gradually increased. Since 1979, when the Taiwanese government officially allowed its citizens to travel abroad for tourism, and the subsequent implementation of the five-day workweek in 2017, people's leisure concepts have undergone significant changes, with growing attention to travel and recreation. Due to the relaxation of tourist visa policies in various countries, such as visa-on-arrival or visa-free entry, it has become more convenient for Taiwanese citizens to travel abroad, further driving the rapid development of the tourism industry, especially in terms of the increasing demand for tour leaders year by year [1]. According to the statistics from the Tourism Bureau, Ministry of Transportation and Communications [2], the number of licensed tour leaders who passed the examination and received training increased from 14,039 in 2000 to 64,737 in 2019, indicating a significant growth in demand for tour leaders.

Although global tourism activities were suspended from 2020 to 2023 due to the COVID-19 pandemic, causing many travel agency employees to leave the industry, tourism began to recover

in 2023. This has led to a renewed demand for expanding the recruitment of staff and training of tour leaders in the tourism industry. This research adopts the Delphi Method and Analytic Hierarchy Process (AHP) to establish an evaluation model for selecting tour leaders.

The main objectives of this research are as follows:

- Explore the factors for selecting tour leaders from the perspective of experts using the Delphi Method.
- Establish an evaluation model for selecting tour leaders using the Analytic Hierarchy Process (AHP).

The research process includes the following steps:

- Formulate a preliminary framework table for the evaluation items of the "Evaluation Model for Selecting Tour Leaders Using the Analytic Hierarchy Process."
- Conduct in-depth discussions with experts and scholars to establish and revise the final hierarchical structure diagram.
- Analyze and organize the collected expert AHP questionnaires.
- Propose conclusions and recommendations based on the research results.

2. LITERATURE REVIEW

2.1. Tour Leaders

- Definition of Tour Leaders

According to Article 13, Section 2 of the *Development of Tourism Act* promulgated by the Taiwanese government on June 19, 2019 [3], a tour leader is a professional responsible for guiding outbound tourist groups and is compensated for providing related services. The International Association of Tour Managers also defines tour leaders as primarily responsible for managing and supervising travel agencies to ensure the smooth execution of travel itineraries. They provide useful information on various topics such as geography, culture, climate, history, and socio-economic aspects throughout the journey [3-5].

The professional knowledge and skills of tour leaders need to be built up gradually through various stages of training, which is not something that can be achieved overnight [6-7]. Although independent travel options have become more popular in recent years, there is still a need for professional tour leaders, especially for travel to Europe, America, or destinations rich in cultural heritage. The role of tour leaders is to ensure the quality and rights of the travelers' experiences, requiring them to possess a wide range of professional skills. As the tourism industry continues to thrive, the professional competencies of personnel in the industry have evolved from basic knowledge and technical skills to a comprehensive ability that includes knowledge, skills, and attitude. Although independent travel has gradually increased, group tours still remain a major option for travelers, making the role of tour leaders crucial throughout the trip [8-10].

Tour leaders are key intermediaries between group members and travel destinations, constantly interacting with group members to help them achieve a safe, enjoyable, and meaningful travel experience [5-7]. In other words, the performance of the tour leader directly affects the success of the entire journey [8-10]. Despite the increase in independent travel in recent years, approximately 30% of outbound travelers still choose group tour

packages in the current international travel market [11]. The service quality provided by tour leaders is also a part of the travel product itself. A successful journey often relies on the efforts of the tour leader. An outstanding tour leader can impress travelers and provide them with a wealth of knowledge. When a tour group encounters a crisis, the handling abilities of the tour leader become particularly important, and therefore, their job performance directly reflects the quality of service and experience provided [12-16]. According to Article 5, Section 2 of the *Tour Leaders Management Regulations*, only those who pass the examination administered by the Examination Yuan and attend pre-employment training conducted by the Tourism Bureau, Ministry of Transportation and Communications, or its designated agencies are qualified to obtain a license to practice as a tour leader [3]. The cultivation of qualified tour leaders includes four stages: education, examination, training, and employment. Among these, pre-employment training is a critical stage for building professional knowledge and confidence. Liu, Bei-Ling [12] pointed out that the tour leader's role includes both "journey guidance" and "journey companionship," which not only have a high professional value in a spiritual sense but are also crucial for the success of the trip and the satisfaction of group members.

● Characteristics of Tour Leaders

Tour leaders spend extended periods of time with their guests and play multiple roles within a tour group, such as leader, coordinator, service provider, and companion. Thus, they need to possess certain personality traits to meet the demands of the job. Studies on personality traits have shown that different job natures require different personality characteristics [5]. Given that tour leaders work long hours away from home and primarily serve tourists, having an outgoing and lively personality can better leverage their strengths and improve job effectiveness. Different tour leaders' personal charm and sense of humor can have varying impacts on travelers' satisfaction levels [6-8]. This study selects the following personality traits as key indicators for evaluating tour leaders: agreeableness, extraversion, and humor:

- **Agreeableness:** According to Costa and McCrae [17], individuals with agreeableness traits are inclined to praise others, show consideration, cooperate well, and are willing to help others, gaining a sense of achievement from their work. Therefore, tour leaders with a high level of agreeableness tend to have a strong commitment to their work and are more likely to foster positive relationships between travelers and the travel agency [18].
- **Extraversion:** Tour leaders with extraversion traits enjoy social interaction, possess leadership abilities, and are enthusiastic, making it easier for them to handle long and irregular working hours. This enables them to better interact with guests, showcasing their strengths and enhancing service quality [17].
- **Humor:** Humor is not only a manifestation of personality traits but also an effective way of managing interpersonal interactions and resolving emergencies. Tour leaders with a sense of humor can create a more relaxed team atmosphere and enhance travel satisfaction [19, 20].

2.2. Delphi Method

The Delphi Method is a structured decision-support technique that integrates both quantitative and qualitative research approaches. It gathers anonymous written opinions from experts to reach a consensus on solving complex problems. The advantages of the Delphi Method include pooling diverse opinions, maintaining expert independence in judgment, overcoming time and space constraints, and simplifying the statistical process. However, it also has some drawbacks, such as

the inability to predict events, difficulty in addressing ambiguous issues, potential doubts about expert representativeness, and being time-consuming [21-23]. The Delphi Method relies on the mean as the screening and evaluation criterion, which can be affected by outliers, potentially distorting the original intent of the experts [22]. The modified Delphi Method addresses these issues by eliminating the brainstorming phase and using structured questionnaires directly for surveys to save time and focus experts' attention [12]. This method employs a five-point Likert scale for evaluation, which ranges from 1 to 5, and aggregates expert opinions to achieve consensus [21-23].

2.3. Analytic Hierarchy Process (AHP)

The Analytic Hierarchy Process (AHP), developed by Thomas L. Saaty in 1971 [24], aims to solve complex decision-making problems through a systematic hierarchical structure. AHP uses pairwise comparisons to analyze the weights of various dimensions and indicators, providing decision-makers with a basis for selecting the optimal solution. The core of AHP lies in consistency testing, which includes the Consistency Index (C.I.) and Consistency Ratio (C.R.) to ensure the rigor of the analysis.

3. RESEARCH METHODOLOGY

3.1. Research Framework

Based on the literature review and inductive analysis, this study has formulated a research framework to achieve its research objectives. The main components of the research framework are as follows [24, 25]:

- Literature Review: Analyze the roles and related characteristics of tour leaders, as well as the applications of the Delphi Method and Analytic Hierarchy Process (AHP).
- Expert Interviews: Conduct interviews with experts in the relevant fields to confirm the hierarchical dimensions and evaluation indicators.
- Analytic Hierarchy Process (AHP): Construct an evaluation model and perform data analysis and ranking of importance based on expert opinions and the literature review.

3.2. Research Participants

The research participants include experts who have long been engaged in tourism business, tour leaders, and professionals from the industry, government, and academia with in-depth knowledge of tourism. The participants are involved in expert interviews and questionnaire surveys. The participating experts are listed in Table 1:

Table 1. Expert Interview Consultation and Questionnaire Participants

Expert	Organization	Relevant Experience
Expert 1	Director, Hsinchu County Government	Responsible for planning, implementing, and innovating tourism development projects in Hsinchu County. Experienced in the field.
Expert 2	Section Chief, Ministry of Transportation and Communications, Tourism Bureau	Experienced in the development and implementation of major tourism industry projects in Taiwan.
Expert 3	Former Director, Science and Technology Development Bureau, Ministry of Science and Technology	Responsible for personnel selection, evaluation, professional training programs, and operations.
Expert 4	University Dean	Promotes education and research projects in tourism and travel industries.
Expert 5	Director, University Tourism Center	Promotes education and research projects in the tourism and transportation industries.
Expert 6	Associate Professor, University	Promotes education and research projects in tourism and travel industries.
Expert 7	Travel Agency Director	Responsible for planning, implementing, and developing domestic and international tourism business.
Expert 8	Deputy General Manager, Travel Agency	Responsible for planning, implementing, and developing domestic and international tourism business.
Expert 9	Deputy Manager, Travel Agency	Responsible for planning, implementing, and selecting tour leaders for international tourism business.
Expert 10	Deputy Director, Travel Agency	Responsible for planning, implementing, and selecting tour leaders for international tourism business.
Expert 11	Dedicated Tour Leader, Travel Agency	Senior tour leader with over 20 years of practical experience in leading tours.
Expert 12	Dedicated Tour Leader, Travel Agency	Senior tour leader with over 10 years of practical experience in leading tours.
Expert 13	Dedicated Tour Leader, Travel Agency	Senior tour leader with over 10 years of practical experience in leading tours.
Expert 14	Dedicated Tour Leader, Travel Agency	Senior tour leader with over 10 years of practical experience in leading tours.
Expert 15	Dedicated Tour Leader, Travel Agency	Senior tour leader with over 10 years of practical experience in leading tours.
Expert 16	Dedicated Tour Leader, Travel Agency	Senior tour leader with over 10 years of practical experience in leading tours.

3.3. Research Tools and Implementation

- Literature Review: This study first conducted a literature review [4-10, 12-20], compiling relevant literature and refining the hierarchical framework to establish the dimensions and indicators for constructing an evaluation model using the Analytic Hierarchy Process (AHP) for selecting tour leaders. Subsequently, the AHP was employed to organize the ranking of the importance of each evaluation item.
- Confirmation of Hierarchical Dimensions and Evaluation Items

- **Consultation with Experts and Scholars:** To ensure the appropriateness of the initial evaluation table, professors and 16 experts were invited to review the dimensions and evaluation items. After gathering expert opinions, a consensus was reached, forming the AHP questionnaire.
- **Research Tools:** The questionnaire content is structured into the following five dimensions, through expert consultation and AHP, data analysis is conducted to confirm the ranking of the importance of each item to construct an effective evaluation model:
 - Personal Qualities
 - Professional Knowledge
 - Professional Skills
 - Service Attitude
 - Execution Ability
- **Evaluation Scale:** This study uses a five-level nominal scale to perform pairwise comparisons, evaluating the importance of each item relative to the subject. The evaluation scale table, shown as Table 2, is mainly used for comparing the relative importance of each factor.

Table 2. AHP Questionnaire Evaluation Scale

Relative Importance of Factor A vs. Factor B	Meaning	Explanation
1	Equally important	A and B contribute equally to the subject.
3	Slightly more important	A is slightly more important than B.
5	Fairly more important	A is fairly more important than B.
7	Significantly more important	A is significantly more important than B.
9	Absolutely more important	A is absolutely more important than B.

- **Data Processing and Analysis:** The processing and analysis of the AHP questionnaire data follow the suggestions of Saaty [24], using the Consistency Index (C.I.) and Consistency Ratio (C.R.) to test the consistency of the pairwise comparison matrix. The screening criteria are Consistency Index $C.I. < 0.1$, Consistency Ratio $C.R. < 0.1$. If the data do not meet these standards, further examination and adjustment are required.
 - **Consistency Index (C.I.):** Used to measure the consistency of the comparison matrix. The calculation formula is $C.I. = (\lambda_{max} - n) / (n - 1)$, Where λ_{max} is the largest eigenvalue of the comparison matrix, and n is the order of the matrix.
 - **Consistency Ratio (C.R.):** Used to assess the rationality of the Consistency Index. The calculation formula is $C.R. = C.I. / R.I.$, Where R.I. is the Random Index, which is determined based on the order of the matrix (e.g., when $n=3$, R.I. is typically set to 0.58).

4. RESEARCH RESULTS AND DISCUSSION

4.1. Establishment of the Hierarchical Framework

Based on the feedback and modifications from expert opinions, this study has established a hierarchical framework comprising five dimensions and sixteen indicator items:

- Personal Qualities
- Professional Knowledge
- Professional Skills
- Service Attitude
- Execution Ability

These dimensions and indicator items are used for hierarchical analysis to evaluate the criteria for selecting tourism industry professionals, particularly tour leaders.

4.2. Collection and Analysis of AHP Questionnaires

A total of 14 valid questionnaires were collected for this study. Using the Analytic Hierarchy Process (AHP), the relative weights and rankings of the dimensions and evaluation items were obtained, helping to identify the key factors of the study.

- AHP Questionnaire Consistency Test: The data from the valid questionnaires show that the Consistency Index (C.I.) and Consistency Ratio (C.R.) of all dimensions and items are less than 0.1 (Table 3), indicating that the viewpoints and judgments of the experts and scholars were consistent throughout the completion of the questionnaire.

Table 3. Consistency Test of the AHP Questionnaire

Level	Consistency Index (C.I.)	Consistency Ratio (C.R.)	Pass/Fail
Overall Level	0.05477	0.07668	Pass
A Dimension	0.06241	0.06011	Pass
B Dimension	0.07125	0.07362	Pass
C Dimension	0.04502	0.03652	Pass
D Dimension	0.07112	0.09178	Pass
E Dimension	0.08411	0.03687	Pass

- All items have acceptable C.I. and C.R. values
Indicating good consistency of the model's judgment and reliability of the results.
- Overall Weight Ranking and Discussion of Tour Leader Selection Evaluation Model: Based on the data collected from the questionnaires and the AHP calculations, the overall weight ranking of each major dimension and its key indicator items are shown in Table 4:

Table 4. Overall Weight Ranking of Key Evaluation Factors

Dimension	Dimension Weight	Dimension Rank	Evaluation Item	Local Weight of Evaluation Item	Overall Weight of Evaluation Item	Overall Rank of Evaluation Item
A. Personal Qualities	0.2011	2	A-1. Holding a qualified tour leader certificate, possessing traits such as humor, affinity, and extroversion	0.5416	0.10891576	2
			A-2. Having good physical fitness	0.3014	0.06061154	8
			A-3. No habits of heavy drinking, smoking, or chewing betel nut	0.157	0.0315727	14
B. Professional Knowledge	0.2971	1	B-1. Understanding the history, geography, and customs of the tourist area	0.5846	0.17368466	1
			B-2. Possessing basic legal knowledge	0.1874	0.05567654	10
			B-3. Familiarity with basic first-aid knowledge	0.228	0.0677388	6
C. Professional Skills	0.1689	4	C-1. Having good group-leading skills	0.4768	0.08053152	3
			C-2. Having good communication skills	0.4012	0.06776268	5
			C-3. Having foreign language skills	0.122	0.0206058	16
D. Service Attitude	0.2347	3	D-1. Understanding guests' backgrounds before leading a group	0.2487	0.05836989	9
			D-2. Meticulousness in handling tasks	0.3417	0.08019699	4
			D-3. Ability to quickly address guest issues	0.2588	0.06074036	7
			D-4. Possessing high levels of enthusiasm for work	0.1508	0.03539276	11
E. Execution Ability	0.0982	5	E-1. Ability to faithfully execute assigned tasks	0.3374	0.03313268	13
			E-2. Ability to quickly report and coordinate emergency situations	0.3501	0.03437982	12
			E-3. Ability to handle crises and emergencies	0.3125	0.0306875	15

4.3. Discussion

▪ Dimension Weight Ranking

- Professional Knowledge (B) has the highest weight (0.2971), indicating that professional knowledge is the most critical factor when selecting tour leaders. Particularly, understanding the history, geography, and customs of the tourist area (B-1) is regarded as the most important factor.

- Personal Qualities (A) ranks second (0.2011), with holding a qualified tour leader certificate and possessing traits such as humor and affinity (A-1) considered highly important.
 - Service Attitude (D) ranks third (0.2347), with meticulousness in handling tasks (D-2) and the ability to quickly address guest issues (D-3) being highly valued.
 - Professional Skills (C) and Execution Ability (E) rank fourth and fifth, respectively, indicating that while these factors are important, they carry relatively lower weights compared to other dimensions.
- Overall Ranking of Evaluation Items
- B-1 (Understanding the history, geography, and customs of the tourist area) has the highest weight among all evaluation items, highlighting that professional knowledge is the most crucial consideration when selecting tour leaders.
 - A-1 (Holding a qualified tour leader certificate, possessing traits such as humor, affinity, and extroversion) ranks second, emphasizing the importance of personal qualities for tour leaders.
 - C-1 (Having good group-leading skills) and D-2 (Meticulousness in handling tasks) rank third and fourth, indicating that these skills are essential for the performance of tour leaders.

These results provide a guiding basis for selecting tour leaders and help travel agencies and related organizations make more scientific and objective decisions during the recruitment process.

5. CONCLUSION AND RECOMMENDATIONS

5.1. Conclusion

- Weight Proportions of the Five Key Dimensions in the Tour Leader Selection Evaluation Model: Based on the questionnaire results, the weight rankings of the five key dimensions for selecting tour leaders are as follows:
- B. Professional Knowledge: This dimension holds the highest weight, indicating that professional knowledge is considered the most critical factor in selecting tour leaders.
 - A. Personal Qualities: The second most important dimension, emphasizing that tour leaders should possess a qualified certificate and good personality traits.
 - D. Service Attitude: The third most important dimension, demonstrating the importance of service attitude in actual work settings.
 - C. Professional Skills: Ranked fourth, showing the significance of the skill level of tour leaders in their job performance.
 - E. Execution Ability: Although this dimension holds the lowest weight, it remains a factor to be considered when selecting tour leaders.
- Importance of Key Indicator Items
- "Understanding the history, geography, and customs of the tourist area" (B-1) is rated as the most important factor, indicating the significance of regional knowledge within the professional knowledge dimension for the role of a tour leader.
 - "Holding a qualified tour leader certificate and possessing traits such as humor, affinity, and extroversion" (A-1) is the second most important factor, highlighting the importance of qualifications and personality traits for tour leaders.

- "Having good group-leading skills" (C-1) and "Meticulousness in handling tasks" (D-2) rank third and fourth, respectively, indicating that these abilities significantly influence the job performance of tour leaders.

In summary, professional knowledge and personal qualities are the most critical factors when selecting tour leaders, especially in terms of regional knowledge and holding a qualified tour leader certificate. While service attitude and professional skills are important, they hold slightly less weight overall. These results provide specific guidelines for travel agencies and recruitment organizations when selecting tour leaders.

Based on the overall weight ranking in the tour leader selection evaluation model, the following ten factors are considered the most important:

1. Understanding the history, geography, and customs of the tourist area.
2. Holding a qualified tour leader certificate and possessing traits such as humor, affinity, and extroversion.
3. Having good group-leading skills.
4. Meticulousness in handling tasks.
5. Excellent communication skills.
6. Familiarity with basic first-aid knowledge.
7. Ability to quickly address guest issues.
8. Good physical health.
9. Ability to understand guests' backgrounds before leading a group.
10. Basic legal knowledge.

5.2. Recommendations

The nature of tour leaders' work poses challenges due to long hours of service, and tour leaders often lack additional time for self-improvement. To address this issue, the study suggests the following measures for travel industry practitioners:

- Experience Sharing: Encourage experience sharing among tour leaders through activities organized by the company or industry associations. This allows for sharing and learning of new knowledge, thereby enhancing professional capabilities.
- Training Reference: Use the key indicators identified in this study as a focus for training new tour leaders. Provide targeted training based on these indicators to help new recruits quickly acquire the necessary professional skills and knowledge.

These measures will contribute to enhancing the professional level of tour leaders, providing better service quality to travelers.

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