

Construction of The Professional Competency Evaluation Index System for Flight Attendant Specialty in Chinese Higher Vocational Education

Li Ma¹ & Hsuan-Po Wang¹

¹ Department of Education Management, Chinese International College, Dhurakij Pundit University, Thailand

Correspondence: Hsuan-Po Wang, School of Management, Dhurakij Pundit University, Bangkok, Thailand. E-mail: sam710701@gmail.com

Received: August 15, 2023

Accepted: October 18, 2023

Online Published: October 19, 2023

doi:10.5430/ijhe.v12n5p260

URL: <https://doi.org/10.5430/ijhe.v12n5p260>

Abstract

This study aims to build a comprehensive and scientific Chinese high-vocational airliner professional ability evaluation index system to solve the challenges and needs of the current evaluation system. Based on existing research, this study is based on the understanding and application of the theory of occupational ability evaluation, combined with the DACUM method to conduct initial occupational analysis, use of the Delphi method to integrate the feedback of experts in the field of flight attendants and refer to the successful experience of the relevant flight attendants' vocational capabilities. This study built a framework for the evaluation index system. First, through the optimization and adjustment of the two-round Delphi method, the evaluation index system was clarified, the layer analysis method (AHP) was used for quantitative analysis, the weight of each indicator was finally determined, and a hierarchical structure model was constructed. This study has established a practical evaluation index system for China Airlines' vocational professional capability, covering output services, navigation services, reactions, and other necessary capabilities and qualities, including 4 First-level indicators, 12 second-level indicators, And 51 Third-level indicators. The evaluation indicators constructed by the Institute provide a scientific reference framework for training the professional competency of flight attendants. This study provides substantial guidance for the flight attendant specialty's training content and training scheme in Chinese higher vocational education. Efficiency, reduce training costs, and provide scientific reference for the talent training of the entire flight attendant industry.

Keywords: higher vocational education, flight attendant specialty, professional ability evaluation, index system, comprehensive evaluation

1. Introduction

1.1 Introduce the Problem

The acceleration of the globalization process and the sustainable development of the Chinese economy have promoted the rapid growth of China's aviation industry (Xu et al., 2019). As frontline personnel for aviation services, their occupational capabilities and service quality have become one of the key factors for airlines (Graham, 1997) As the complexity and competitiveness of the aviation industry continue to increase, the role and responsibility of flight attendants are changing. Air passengers not only need to provide high-standard services to ensure the satisfaction of passengers (Herjanto et al., 2022) but also have good emergency treatment and crisis response capabilities (Liu, 2017). In addition, the working environment of flight attendants is highly dynamic and unpredictable, and it is necessary to continue to learn and adapt (Zhao, 2018). However, there are obvious deficiencies in the existing flight attendant professional ability evaluation system (Gao et al., 2011). The current evaluation system mostly focuses on the surface performance of the skills, ignoring the deep-level professional quality and comprehensive ability (Qiao et al., 2016)—effective assessment of response capabilities (Murphy, 2001). Therefore, establishing a more accurate, comprehensive, and scientific hierarchical structure model of the occupational capabilities of flight attendants has become very important. The construction of this model will help to achieve a systematic evaluation of the flight attendant's professional competency evaluation, and then promote the training of aviation professionals in higher vocational colleges, the improvement of industry service quality, and overall competitiveness (Lutte & Mills, 2019).

1.2 Explore the Importance of the Problem

This study intends to thoroughly analyze the professional skills required for air passenger personnel in the airline, navigation, and behind -the -behind services, as well as soft skills such as communication, team cooperation, and

emergency response capabilities (Ford et al., 2014). Moreover, quantitative research methods build Flight attendants' professional competency evaluation index system (Zhang, 2021). In actual application, this system can not only be an important reference for airlines in terms of air passenger training, ability improvement, and talent selection (Wang et al., 2020) but also provides guidelines for education and training institutions to ensure air passenger training. The content is closely linked to the industry's needs (He & Wang, 2020). In addition, as an innovative evaluation method, the model will also help improve and enrich the existing evaluation system and promote the career growth of air passengers and the sustainable development of the aviation industry (Jia, 2022). By achieving the above goals, this study not only solves important issues not fully discussed in the existing literature but also helps improve the accuracy and reliability of flight attendants' professional competency and promotes talent training and service quality improvement in the aviation industry. Innovate aviation education and human resources management.

In this day and age, the flight attendant's professional competency evaluation research focuses on flight attendant's professional competency evaluation index theory, The flight attendant's professional competency indicator weight, and the attendant's layer model. First, in the theoretical research of flight attendant's Professional competency: Kraiger et al. (1993) analyzed the development of vocational ability evaluation indicators through analysis of the development and application of vocational education, The necessity of a comprehensive and more accurate evaluation system; (Paethrangsi & Worasuwannarak, 2021; Williams, 2003) believes that the air passenger occupation puts forward higher requirements for the comprehensive quality and skills of personnel due to the particularity and complexity of its service. Secondly, in the aspects of flight attendant's Professional Competency Index: Wang et al. (2022). Harvey et al. (2007) believes that light attendant's professional competency evaluates the reasonable determination of weights to ensure the science and reliability of the assessment results and reliability. The key part is different ability indicators in the overall evaluation. The proportion of the occupation directly reflects the importance of the ability to occupational performance; Vogus & Welbourne (2003) emphasizes the importance of weight settings, pointing out that the setting of the weight of weight may lead to distortion of the evaluation results. Thirdly, in discussing the flight attendants' professional competency hierarchical model, Gilbert and Wong (2003) believe that constructing a light attendant's professional competency evaluation index system is complicated to understand and evaluate air passenger personnel. Important ways to occupational ability system; (Ritzmann et al., 2014) Some studies pointed out that universal occupational capabilities level structure models are completely unsuitable for air passenger occupation (Bielby & Baron, 1986; Christal, 1974). The model must depict the ability and skills that the air passenger personnel must have hierarchically and gradually expand from the foundation to the advanced level. Wang and Zhang (2021) pointed out that the ability that flight attendants need not only involves technical and services but also includes cross-cultural communication and emergency processing; (Heuven & Bakker, 2003)The importance and challenge of hierarchical structure models of professional characteristics (Saleem, 2021).

Professional ability is a collection of various skills that should be possessed in a certain profession (Gerard, 2009). Professional competence evaluation is a systematic and continuous process that determines the level of professional competence of individuals or teams by measuring and evaluating their technical abilities and professional qualities in specific occupational fields. Vocational ability evaluation not only includes quantitative indicators, such as empirical measurement of technical ability, but also includes qualitative evaluation, combining qualitative and quantitative indicators (Lambert et al., 2012). The objective is to accurately evaluate the professional competence level of individuals or teams, and understand how they can apply these abilities in actual work environments. In aviation enterprises, the professional competence evaluation of flight attendants is an important consideration factor. This evaluation typically covers key aspects such as preflight service, inflight service, post flight service, and other skills and qualities. It refers to the evaluation of the abilities, proficiency, and experience of flight attendants, as well as their ability to understand passenger needs and solve problems (Yamaki, 2013). In terms of preflight services, the tasks of flight attendants mainly involve receiving and guiding passengers (Ghosh, 2022). Must possess good physical fitness, service awareness, communication and coordination skills, have a basic understanding of air transportation knowledge and relevant laws and regulations, and be able to execute them

Appropriate cabin service etiquette. In terms of in-flight services, one of the main responsibilities of flight attendants is to take care of and ensure the safety of passengers during flight (Kim et al., 2022).

With the increasingly diverse research fields of vocational ability evaluation, the application of diversified evaluation methods in flight attendant professional education has attracted widespread attention (Kim et al., 2022). From competency model evaluation methods to task based evaluation methods, to Delphi and 360 degree evaluation methods, various evaluation methods are combined to comprehensively and objectively evaluate the professional abilities of flight attendants (Kim&Park, 2014). The evaluation method of competency models provides a new perspective for understanding and evaluating the abilities of flight attendants. This method analyzes professional

abilities from multiple dimensions (Lee, 2021), helping educators more accurately understand the advantages and disadvantages of flight attendants in professional ethics, professional knowledge, communication skills, and other aspects (Li, 2020).

However, the current research reveals many challenges and deficiencies in flight attendants' professional competency assessment. First, existing air passenger assessment research often focuses on ability evaluations of one or several aspects, such as customer service skills or security operation capabilities, and lack of assessment perspectives of air passenger comprehensive professional capabilities. This limitation highlights the theoretical gap in the current flight attendant's professional competency evaluation index system. Especially in the context of the fierce competition in the global aviation industry, how to accurately evaluate the overall quality of air passengers has become an urgent issue. Secondly, the existing research on the weight issues in the Flight Attendant's Professional Competency evaluation system still needs to be improved. It cannot achieve a systematic assessment of flight attendants' professional competency. Finally, exploring the capability hierarchical structural model must be based on the actual flight attendant environment and task needs. It should have considered the specific requirements of different airlines and regional markets, multi-language and cross-cultural communication skills, teamwork, and leadership capabilities (Sarkar, 2010). The purpose of this study is to fill this gap. Establishing a flight attendants' professional competency evaluation index system provides theoretical and method support for systematically evaluating flight attendants' professional competency. Based on the above research questions, this study proposed three research objectives. Firstly, to develop vocational competence evaluation indicators for Chinese higher vocational flight attendants, and to provide a theoretical basis for vocational competence evaluation of flight attendants. Secondly, constructing the weight of the professional competence indicators for flight attendants in higher vocational colleges in China, providing a quantitative basis for evaluating the professional competence of flight attendants. The third objective is to establish a hierarchical structure model for the professional competence of flight attendants in higher vocational colleges in China, in order to achieve a systematic evaluation of the professional competence of flight attendants.

1.3 State Hypotheses and Their Correspondence to Research Design

The existing professional competency evaluation index system for flight attendant specialty ignores the professional skills requirements in different flight stages (pre-flight, mid-flight, after-flight) (Hillier, 2021) Especially a lack of evaluation of key soft skills (Wan et al., 2016). Exploring a more accurate and comprehensive evaluation index system is necessary to solve these key challenges. Therefore, this study proposes core issues: How to build an evaluation index system to evaluate China's higher vocational airline professional ability? The first is how to build a new hierarchical structure model. Second, the environment and tasks at different stages have unique requirements for the professional skills of air passengers. How can the evaluation indicator system consider the professional skills of the aircraft's front, middle, and rear service? Air passengers' working environments and tasks in different flight stages are very different. The navigation phase focuses on preparing work with passenger reception, and the mid-range phase focuses on passenger service and emergency response. (Kanki, 2019) Third, how to evaluate communication, teamwork, and emergency response capabilities? The work of flight attendants involves technical skills and requires a series of soft skills to ensure service quality and flight safety (Ford et al., 2014). Communication skills, team cooperation, and emergency response capabilities are particularly critical (Thamhain, 2013), and effective communication can ensure that passenger needs are met. Team cooperation helps improve work efficiency (Mearns & Connor, 2001), and emergency response ability is a key factor in dealing with emergencies (Ford et al., 2014).

2. Method

2.1 Identify Subsections

This study will use expert interviews and questionnaires to conduct qualitative and quantitative research to build a flight attendant's professional competence evaluation index system to evaluate flight attendants' professional competence systematically.

2.2 Sampling Procedures and Participant Characteristics

Expert interviews include the DACUM analysis method and the Delphi method. DACUM (Developing A Curriculum) analysis is widely used in vocational competency assessment and curriculum development (Wyrostek & Downey, 2017)– Through DACUM analysis, this study refined the key areas and specific skills of flight attendants' professional competence (Kearns & Mavin, 2017), laying a solid foundation for subsequent hierarchical model construction. In this study, 12 experts with flight attendant backgrounds were selected by convenience sampling. These experts come from different airlines and training institutions with rich professional experience and unique insights. By organizing expert seminars, information about flight attendants' core tasks and competency components

is collected. The Delphi method is used as an iterative expert consultation process to reach a consensus in a field (Linstone & Turoff, 1975). This study uses the Delphi method to jointly discuss and refine the evaluation index system of flight attendants' professional competence. The first round mainly collects the initial insights and suggestions of experts on the flight attendant's professional competence evaluation indicators; In the second round, based on the feedback from the first round, the indicators were further discussed and refined, and the logical rigor and practicality of the indicator system were ensured through iteration (Crouch & DeStefano, 2017). This study selected 10 experts from different fields (such as aviation management, human resource management, education, training, etc.) to conduct two rounds of Delphi consultation to ensure the scientificity and practicality of the flight attendant's professional competence evaluation index system.

In this study, a questionnaire survey was used to collect the weights of the flight attendant's professional competence evaluation index system from actual practitioners of the flight attendant profession. Based on the results of expert interviews, especially the results obtained through DACUM and Delphi methods, this study used AHP (Analytic et al.) to design a questionnaire for further analysis and verification of the hierarchy of flight attendant's professional competence (Darko et al., 2019). The questionnaire respondents were selected through convenience sampling, including airline flight attendants, teachers, and professionals, ensuring the representativeness and diversity of the survey samples. 168 questionnaires were distributed, and 121 valid questionnaires were recovered, with an effective recovery rate of 72.02%. The AHP questionnaire mainly includes a series of paired comparisons, requiring respondents to evaluate the relative importance of different flight attendants' professional competence indicators based on their experience and professional judgment. Appropriate mathematical manipulation of this data can result in a consistent set of weights reflecting the relative importance of various aspects of a flight attendant's professional competence (Campbell, 2017).

3. Results

3.1 Statistics and Data Analysis

Through the in-depth study of DACUM analysis of 12 flight attendant background experts and two rounds of Delphi consultation conducted by 10 experts in different fields, the research team constructed a preliminary hierarchical model of flight attendants' professional competence. Analysis at this stage emphasizes the understanding and classification of the core tasks and competency components of the flight attendant's professional competence. Researchers used content analysis to identify and generalize major themes and patterns in expert interviews. This analysis provides insight into the complexity of flight attendants' professional competence and reveals the core elements and interconnections of flight attendants' professional competence.

The quantitative analysis focused on analyzing questionnaire data through AHP (Gilbert, 1996). This approach allows the researchers to quantify the relative importance of various aspects of a flight attendant's professional competence and further refine and validate the preliminary hierarchical mode (Daimi & Rebai, 2023). Through the analysis of 121 valid questionnaires, the research team confirmed and revised the weights and connections in the preliminary model. In addition, AHP's consistency check also ensures the reliability and consistency of the questionnaire responses (Cheng & Li, 2001). This comprehensive analytical approach combines qualitative depth with quantitative precision to provide a comprehensive and powerful analytical framework (Ding & Zhou, 2023). Through such multivariate analysis, this study successfully constructed a model reflecting the complex hierarchical structure of flight attendants' professional competence, supporting the systematic evaluation of flight attendants' professional competence. Through qualitative and quantitative comprehensive analysis, it reflects the complex structure of flight attendants' professional competence accurately and profoundly. It provides a solid scientific basis for constructing flight attendants' professional competence hierarchy model.

3.2 Evaluation Index System Construction and Verification

This study's important purpose is to construct and verify the flight attendant's professional competence evaluation index system. The first is the construction of the indicator system. The construction of the flight attendant's professional competence evaluation index system is based on the results of the previous qualitative and quantitative analysis stages. This study successfully constructed a comprehensive evaluation index system by integrating the expert opinions of DACUM analysis, the Delphi method, and the quantitative analysis of the AHP analytic hierarchy process (Mack, 2011). This evaluation index system depicts flight attendants' professional competence levels and dimensions and identifies the relationship and weight of key capabilities and tasks.

The construction of the evaluation index system follows the existing theories and best practices. It adopts an iterative method (Tracy, 2019) which is constantly revised and improved to ensure that it reflects the actual needs and

characteristics of the flight attendant industry.

The second is model validation. The practicability and effectiveness of the model need to be verified by empirical research. The verification process involves various methods of field observation and practical application. First, the research team gained insight into how flight attendants' professional competence performs in real-world settings through field observations. The observation aims to ensure the model's consistency with the actual working scenarios, thereby enhancing its practical application value (Grandey et al., 2004). Second, the applicability and flexibility of the model in different environments and conditions are further tested through case studies combined with practical applications (Elsenrath, 2021). The comprehensive use of these verification methods ensures the reliability and validity of the constructed model, enabling it to play a key role in the systematic evaluation of flight attendants' professional competence. This study elaborates on constructing and validating a flight attendant's professional competence hierarchy model, showing how the model reflects the complexity and diversity of the flight attendant profession from theoretical and practical perspectives.

3.3 Evaluation Indicator System Construction

3.3.1 Determine the Evaluation Index Framework

Through multi-level analysis, this study constructs a professional competency evaluation index framework for flight attendants, including four first-level indicators, 12 second-level indicators, and 51 third-level indicators. A rich framework of indicators comprehensively reveals the complex skills and competencies required of a flight attendant career. The first-level indicators, as the basic level of the model, cover the main functional areas of the flight attendant profession: A. Pre-flight service; B. In-flight service; C. After-flight service; D. Other abilities and qualities. This level provides the main direction for the subdivision of the next level and corresponds to the main responsibilities of the flight attendant occupation (Ball et al., 2007). The second-level indicators further refine the content of the first-level indicators, involving specific service processes and responsibilities, such as crew preparation, passenger boarding services, and in-flight catering services. This level's setting reflects flight attendants' tasks in different flight phases and is consistent with international aviation service standards. The third-level indicators provide a microscopic perspective of flight attendants' professional competence, describing in detail the skills and behaviors required during the execution of specific tasks, such as flight task confirmation, personal preparation, etc. This level provides practical guidance on assessment and is the focus of vocational training and development.

3.3.2 Determine the Weight of the Evaluation Index

Based on the questionnaire survey and AHP analysis, the weights of 4 first-level indicators, 12 second-level indicators, and 51 third-level indicators are determined, as shown in Table 1.

Table 1. The Professional Competency Evaluation Index System

First-level indicators	W	Second-level indicators	W	Third-level indicators	W	CW	No		
A.Pre-flight service	0.198	A1Crew preparation	0.333	A11Flight mission confirmation	0.299	0.019	19		
				A12 Personal preparation	0.099	0.006	45		
				A13 Participated in the pre-flight preparation meeting	0.211	0.014	28		
				A14 Flight inspection and reporting	0.134	0.008	41		
				A15 Inventory of Meals and Aircraft Supplies	0.074	0.004	49		
				A16 Cabin hygiene inspection	0.181	0.012	35		
		A2 Passenger boarding service	0.666			A21 Welcome service	0.186	0.024	15
						A22 Emergency Exit Confirmation	0.242	0.032	8

			A23 Service for VIP members	0.143	0.018	21	
			A24 Closes the hatch and bows	0.107	0.014	29	
			A25 Security Demo	0.320	0.042	4	
			B11 Beverage and meal preparation	0.490	0.026	11	
		B1 Sky Catering Service	0.138	B12 Catering Distribution and Recycling	0.311	0.016	26
			B13 Special meal service	0.197	0.010	37	
			B21 First Class VIP Service	0.285	0.020	18	
			B22 Economy Class VIP Service	0.094	0.006	46	
		B2 Special Passenger Service	0.181	B23 Unaccompanied Minor Services	0.109	0.007	44
			B24 Services for Pregnant Passengers	0.197	0.013	31	
			B25 Services for Elderly Passengers	0.197	0.013	32	
B. Mid-flight service	0.387		B26 Special group services	0.115	0.008	42	
			B31 Sales of duty-free goods	0.040	0.001	51	
		B3 Aerial Product Promotion	0.087	B32 Member recruitment	0.387	0.013	33
			B33 Event promotion	0.274	0.009	39	
			B34 Joint promotion	0.139	0.004	50	
			B41 Inflight First Aid	0.274	0.035	7	
		B4 Emergency handling capacity	0.337	B42 Bump handling	0.139	0.018	22
			B43 Misfire Treatment	0.387	0.050	2	
			B44 Cabin decompression treatment	0.198	0.025	14	
			B51 Land Evacuation	0.197	0.019	20	
		B5 Plane emergency evacuation	0.256	B52 Water Evacuation	0.311	0.030	10
			B53 Unprepared Evacuation Procedures	0.490	0.048	3	
Judgment layer			Solution layer				

Table 2. The Professional Competency Evaluation Index System (Refer to Table 1 continued)

First-level indicators	W	Second-level indicators	W	Third-level indicators	Weight	CW	No		
C. After-flight service	0.139	C1 Aircraft Arrival Service	0.666	C11 Aircraft landing	0.140	0.013	34		
				C12 VIP Reception	0.184	0.017	25		
				C13 Transit service	0.239	0.022	16		
				C14 Inquiry Service	0.339	0.031	9		
		C2 After Flight Service Summary	0.333	D1 communication skills	0.311	C15 Clearance and Handover	0.095	0.008	43
						C21 Post-flight handover	0.139	0.006	47
						C22 Post-flight commentary work	0.274	0.012	36
						C23 Work Summary	0.198	0.009	40
						C24 Question Feedback	0.387	0.018	23
						D11 Listening ability	0.490	0.042	5
						D12 Wxpression ability	0.311	0.026	12
						D13 Comprehension ability	0.197	0.016	27
		D2 International cultural knowledge and language ability	0.490	D21 English communication skills	0.387	D21 English communication skills	0.387	0.052	1
						D22 Communication skills in other foreign languages	0.198	0.026	13
D23 Knowledge of International Etiquette	0.274					0.037	6		
D24 Cultural Adaptability	0.139					0.018	24		
D31 Honesty and responsibility	0.416					0.022	17		
D32 Professional image	0.269					0.014	30		
D3 Professional ethics and image	0.197	D33 Awareness of teamwork	0.192	D33 Awareness of teamwork	0.192	0.010	38		
				D34 Customer-Oriented Awareness	0.120	0.006	48		
D. Other abilities and qualities	0.274								
Judgment layer				Solution layer					

Note: W=Weigh, CW=Combined weight, No= Rank number based on the importance.

3.3.3 Integrated Hierarchical Structure Model

This study creates a comprehensive assessment framework by integrating first-level, second-level, and third-level indexes into a hierarchical model. The model's hierarchical structure includes the target, judgment, and program layers. Among them, the target layer represents the overall purpose of the research, which is to build a flight attendant's professional competence evaluation index system; The judgment layer includes primary, secondary, and tertiary indicators; the index weight is the program layer, which involves the distribution of index weights and is used to quantify the importance of each index (Saaty, 2008). As shown in Table 1. This model reflects the complexity and diversity of the flight attendant profession and emphasizes the applicability and flexibility in different environments and cultural backgrounds. Compared with the existing flight attendant career assessment methods, this model is more comprehensive and systematic and can effectively guide the training and development of flight attendants (Ko et al., 2021). In summary, through this hierarchical model, this study can provide a scientific, comprehensive, and flexible tool for the systematic evaluation of flight attendants' professional competence.

Additionally, it can be generalized to other customer service-related career fields, providing a new approach to assessment and training.

4. Discussion

4.1 Evaluation Indicators are Comprehensive and Refined

As mentioned earlier, the evaluation metrics comprehensively cover a variety of situations and tasks that flight attendants may encounter (Kim & Park, 2014). From the preparation before the flight to the service during the flight to the work and personal quality requirements after landing, This model ensures that the skills and qualities of flight attendants can be comprehensively and granularly assessed (Daigle, 2021). This granular approach aligns with modern human resource management and training trends, providing airlines with detailed information on workforce capabilities and development needs.

4.2 Evaluation Indicators are Practical and Feasible

Evaluation indicators are comprehensive and detailed and emphasize practicality and feasibility. In different aspects of the flight attendant's role, these indicators can be used as a guiding tool to ensure the successful execution of the role. First, practicality. Thanks to the granular categorization of metrics, flight attendants and managers can understand exactly which skills and qualities are necessary, which helps clarify job responsibilities and focus training and development resources on key areas— Second, feasibility. These metrics can be used for assessment and training in real-world settings, helping flight attendants identify and fill skill gaps and improving service quality and customer satisfaction.

4.3 Evaluation Indicators are Innovative and International

Another important aspect of this evaluation index system is its innovative and international nature. First innovation. The model employs advanced assessment methods and analytical tools, such as data mining and machine learning techniques, to identify and optimize flight attendants' key skills and qualities This innovative approach ensures that evaluation indicators are closely integrated with actual needs and business goals, providing a reliable basis for continuous improvement. Second, it is international. The system also reflects a global perspective, covering aspects such as multilingual communication skills, knowledge of international etiquette, and cultural adaptability. In the context of globalization, these factors are crucial to ensure the satisfaction of international travelers.

By constructing a comprehensive, precise, practical, feasible, innovative, and international vision flight attendant's professional competence evaluation index system, this study provides strong support for the airline's human resource management and training. This system can not only fully reflect the professional competence of flight attendants but also adapt to different situations and needs and help improve the quality and efficiency of aviation services. From the perspective of theory and practice, this model has a profound impact on the research and management of aviation human resources, and it is worthy of further exploration and application.

5. Conclusion

5.1 Conclusion

This study aims to construct a flight attendant's professional competence evaluation index system to evaluate flight attendants' professional competence systematically. The study presents a comprehensive and flexible vocational competency assessment framework by exploring multiple three-level indicators, including but not limited to flight task confirmation, personal preparation, cabin service, first aid treatment, cultural adaptation, etc. First, the structured design of the model not only makes it highly applicable in the flight attendant profession and has cross-field potential, especially in the hotel and tourism industry. Besides, the model highlights generally important aspects such as work ethics and image, intercultural communication skills, etc., which are relevant to the flight attendant career and consistent with trends and challenges in the global service industry. Moreover, the flexibility and customizability of this model make it a tool worth exploring and implementing, not only to assess the professional competence of flight attendants but also to promote innovation and development in other fields.

5.2 Recommendations

Based on the conclusions of this study, the following are some suggestions for industry. For the flight attendants major in Chinese vocational colleges, it should be fully recognized that the vocational ability training for flight attendants is not limited to traditional preflight, midflight, and post flight service abilities, but also includes other abilities and qualities. Therefore, vocational colleges should adjust the training content and methods of flight attendants to focus more on emergency response capabilities, aircraft emergency evacuation capabilities, foreign language skills, etc., in order to ensure that flight attendants have the comprehensive ability to efficiently serve

passengers. At the same time, vocational colleges should also encourage flight attendants to actively master new technologies to adapt to the technological trend of aviation services. For the training of flight attendants in Chinese vocational colleges, the focus is on the following indicators: strengthening English communication training (D21); Strengthen emergency response training (B43, B53); Enhance safety demonstration education (A25); Cultivate good listening skills (D11)

Based on the conclusions of this study, the following are some suggestions for academic research. First, further quantitative analysis of the validity and reliability of the model can be considered in future research. Empirical research with large samples verifies its applicability in different cultural and industrial settings. Second, airlines and other service industry organizations could consider adopting or adapting this model for personnel training and assessment to achieve greater standardization and customer satisfaction. Finally, educational and vocational training institutions can integrate this model into their curricula and training programs to develop globally competitive professionals.

5.3 Prospect

While this research has made important progress, many unexplored possibilities still need to be explored in flight attendants' professional competence assessment. Future research can be carried out from the following aspects: Regarding technology integration. Explore how modern technologies, such as artificial intelligence and big data analytics, can be integrated into this model to improve the accuracy and efficiency of the assessment. Second, in terms of cross-domain applications. Further research on how to adapt this model to other service-oriented domains similar to flight attendants, such as healthcare and retail. Finally, in terms of globalization trends. Understanding how to adapt this model to different cultures and market needs will be a key challenge and opportunity as globalization grows.

References

- Darko, A., Chan, A. P. C., Ameyaw, E. E., Owusu, E. K., Pärn, E., & Edwards, D. J. (2019). Review of application of analytic hierarchy process (AHP) in construction. *International Journal of Construction Management*, 19(5), 436-452. <https://doi.org/10.1080/15623599.2018.1452098>
- Elsenrath, M. C. (2021). The Effects of Tablet-Based Electronic Grading on Airline Evaluator Performance. *The International Journal of Aerospace Psychology*, 31(1), 25-42. <https://doi.org/10.1080/24721840.2020.1841563>
- Ford, J., Henderson, R., & O'Hare, D. (2014). The effects of Crew Resource Management (CRM) training on flight attendants' safety attitudes. *Journal of Safety Research*, 48, 49-56. <https://doi.org/10.1016/j.jsr.2013.11.003>
- Gerard, L. (2009). *Vocational and Professional Capability*. Continuum. <https://www.logobook.ru/nf.php>
- Gilbert, D. C. (1996). Relationship marketing and airline loyalty schemes. *Tourism Management*, 17(8), 575-582. [https://doi.org/10.1016/S0261-5177\(96\)00078-7](https://doi.org/10.1016/S0261-5177(96)00078-7)
- Graham, B. (1997). Regional airline services in the liberalized European Union single aviation market. *Journal of Air Transport Management*, 3(4), 227-238. [https://doi.org/10.1016/S0969-6997\(97\)00032-X](https://doi.org/10.1016/S0969-6997(97)00032-X)
- Grandey, A. A., Dickter, D. N., & Sin, H. P. (2004). The customer is not always right: Customer aggression and emotion regulation of service employees. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior*, 25(3), 397-418. <https://doi.org/10.1002/job.252>
- He, M., Li, C., & Wang, Y. (2020, June). Construction and application of teaching resources library regarding flight attendant specialty. In *2020 IEEE 2nd International Conference on Computer Science and Educational Informatization (CSEI)* (pp. 87-94). IEEE. <https://doi.org/10.1109/CSEI50228.2020.9142540>
- Heuven, E., & Bakker, A. (2003). Emotional dissonance and burnout among cabin attendants. *European Journal of Work and Organizational Psychology*, 12(1), 81-100. <https://doi.org/10.1080/13594320344000039>
- Jia, C. (2022). New Teaching Method of Body Training Course for Flight Attendants Based on Computer Multimedia Technology. *Scientific Programming*, 2022. <https://doi.org/10.1155/2022/3918186>
- Kanki, B. G. (2019). Communication and crew resource management. In *Crew resource management* (pp. 103-137). Academic Press. <https://doi.org/10.1016/B978-0-12-812995-1.00004-X>
- Kim, H., Yu, M., & Hyun, S. S. (2022). Strategies to Improve Work Attitude and Mental Health of Problem Employees: Focusing on Airline Cabin Crew. *International Journal of Environmental Research and Public Health*, 19(2), 768. <https://doi.org/10.3390/ijerph19020768>

- Kim, Y., & Park, H. (2014). An investigation of the competencies required of airline cabin crew members: The case of a Korean airline. *Journal of Human Resources in Hospitality & Tourism*, 13(1), 34-62. <https://doi.org/10.1080/15332845.2013.807393>
- Kraiger, K., Ford, J. K., & Salas, E. (1993). Application of cognitive, skill-based, and affective theories of learning outcomes to new methods of training evaluation. *Journal of Applied Psychology*, 78(2), 311. <https://doi.org/10.1037/0021-9010.78.2.311>
- Lambert, M., Vero, J., & Bénédicte Zimmermann. (2012). Vocational training and professional development: a capability perspective. *International Journal of Training and Development*, 16(3), 164-182. <https://doi.org/10.1111/j.1468-2419.2012.00402.x>
- Landeta, J., Barrutia, J., & Lertxundi, A. (2011). Hybrid Delphi: A methodology to facilitate contribution from experts in professional contexts. *Technological Forecasting and Social Change*, 78(9), 1629-1641. <https://doi.org/10.1016/j.techfore.2011.03.009>
- Lee, S. (2021). A Study on the Professionalism of Cabin Crew Applying the Professionalism Perspective. *Public Value*, 6(1), 72-82. <https://doi.org/10.22471/value.2021.6.1.72>
- Li, P. (2020, May). An Analysis of the Causes of Job Burnout Among Flight Attendants. In *6th International Conference on Humanities and Social Science Research (ICHSSR 2020)* (pp. 289-292). Atlantis Press. <https://doi.org/10.2991/assehr.k.200428.062>
- Linstone, H. A., & Turoff, M. (Eds.). (1975). *The delphi method* (pp. 3-12). Reading, MA: Addison-Wesley.
- Meunmany, S., Khammounty, B., Maruanaya, R. F., & Haryanto, D. (2021). DACUM in Terms of Industry-Driven Oriented Training Curriculum on Garment-Related Training Programme in Laos. *Koli Journal*, 2(2), 12-19. <https://doi.org/10.30598/koli.v2i2.7627>
- Murphy, A. (2001). The flight attendant dilemma: An analysis of communication and sensemaking during in-flight emergencies. *Journal of Applied Communication Research*, 29(1), 30-53. <https://doi.org/10.1080/00909880128100>
- Paethrangsi, N., & Worasuwannarak, B. (2021). Airline service Quality: The Easy Understanding for Elementary school to choose the Airline. *Elementary Education Online*, 20(4), 816-816.
- Ritzmann, S., Hagemann, V., & Kluge, A. (2014). The Training Evaluation Inventory (TEI)-evaluation of training design and measurement of training outcomes for predicting training success. *Vocations and Learning*, 7, 41-73. <https://doi.org/10.1007/s12186-013-9106-4>
- Saaty, T. L. (2008). Decision making with the analytic hierarchy process. *International journal of services sciences*, 1(1), 83-98. <https://doi.org/10.1504/IJSSCI.2008.017590>
- Thamhain, H. (2013). Managing risks in complex projects. *Project Management Journal*, 44(2), 20-35. <https://doi.org/10.1002/pmj.21325>
- Vogus, T. J., & Welbourne, T. M. (2003). Structuring for high reliability: HR practices and mindful processes in reliability-seeking organizations. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior*, 24(7), 877-903. <https://doi.org/10.1002/job.221>
- Wan, Y., Ha, H. K., Yoshida, Y., & Zhang, A. (2016). Airlines' reaction to high-speed rail entries: Empirical study of the Northeast Asian market. *Transportation Research Part A: Policy and Practice*, 94, 532-557. <https://doi.org/10.1016/j.tra.2016.10.014>
- Wang, J., Liu, C., Zheng, L., Jin, M., & Joseph, N. R. (2022). Research on evaluation of intercultural competence of civil aviation college students based on language operator. *Applied Mathematics and Nonlinear Sciences*, 7(1), 61-72. <https://doi.org/10.2478/amns.2021.2.00030>
- Williams, C. (2003). Sky service: The demands of emotional labour in the airline industry. *Gender, Work & Organization*, 10(5), 513-550. <https://doi.org/10.1111/1468-0432.00210>
- Wyrostek, W., & Downey, S. (2017). Compatibility of common instructional models with the DACUM process. *Adult Learning*, 28(2), 69-75. <https://doi.org/10.1177/1045159516669702>

- Xu, S., Chan, H. K., & Zhang, T. (2019). Forecasting the demand of the aviation industry using hybrid time series SARIMA-SVR approach. *Transportation Research Part E: Logistics and Transportation Review*, 122, 169-180. <https://doi.org/10.1016/j.tre.2018.12.005>
- Yamaki, K. (2013). Transnational Workspace on International Flights: Japanese Flight Attendants on Non-Japanese Airlines. *Senri ethnological studies*, 82, 79-85. https://minpaku.repo.nii.ac.jp/?action=repository_action_common_download&item_id=2472&item_no=1&attribute_id=18&file_no=1
- Zhang, P. (2021). Research on the Cultivation of Professional Quality of Female College Students Majoring in Flight Attendants. *Asian Education Studies*, 6(2), 6. <https://doi.org/10.20849/aes.v6i2.970>

Copyrights

Copyright for this article is retained by the author(s), with first publication rights granted to the journal.

This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by/4.0/>).