

Article

Competency-Based Training Framework for Hotel Management: A Delphi Study

María del Pilar Puente-Martínez *  and Ángeles Bueno-Villaverde 

Education Sciences, Faculty of Education, Camilo José Cela University, 28692 Madrid, Spain; abueno@ucjc.edu

* Correspondence: martinez.mpm@gmail.com

Highlights

What are the main findings?

- A consensus-based competency model for hotel management was defined through a two-round Delphi study, reducing 64 competencies to a stable core of 43.
- Interpersonal and leadership competencies emerged as the structural core of managerial performance, outweighing purely technical–operational skills.

What are the implications of the main findings?

- The validated competency model enables the alignment of hospitality education, recruitment, and performance evaluation with evolving industry demands.
- A progressive training framework structured around operations, leadership, and strategy is proposed, integrating metacognition as a regulatory axis of learning.

Abstract

The transformation of the hospitality industry has increased the demand for managerial profiles capable of integrating technical, strategic, and socio-emotional competencies. However, a persistent gap remains between the competencies required by the labor market and those developed through formal education. This study aims to identify and validate the core competencies of hotel management and to translate them into a structured training proposal. A two-round Delphi study was conducted with senior hotel management experts ($n = 42$ in round 1; $n = 32$ in round 2), using a competency matrix derived from prior research. Quantitative analysis included frequency distributions, weighted scores, and consensus indicators. The results show a high level of consensus stability (3.1% disagreement), leading to a final matrix of 43 competencies organized into four dimensions: operational, interpersonal, cultural-communicative, and strategic. Interpersonal and leadership competencies emerged as the most prominent, highlighting their structural role in effective managerial performance. Based on these findings, a progressive training framework is proposed, structured around three domains (operations, leadership, and strategy) and supported by a metacognitive pathway that integrates planning, monitoring, and evaluation processes. This study contributes to the professionalization of hotel management by providing an empirically grounded competency model and a coherent framework for aligning educational programs with industry demands.

Keywords: management; competency framework; metacognition; leadership; hospitality education; curriculum design; performance evaluation; hospitality industry



Academic Editor: Lewis Ting
On Cheung

Received: 28 March 2026

Revised: 23 April 2026

Accepted: 3 May 2026

Published: 12 May 2026

Copyright: © 2026 by the authors.

Licensee MDPI, Basel, Switzerland.

This article is an open access article distributed under the terms and

conditions of the [Creative Commons](https://creativecommons.org/licenses/by/4.0/)

[Attribution \(CC BY\)](https://creativecommons.org/licenses/by/4.0/) license.

1. Introduction

In recent decades, the hotel industry has undergone profound transformations driven by digitalization, sustainability pressures, evolving consumer expectations, and changes in labor market dynamics. These shifts have reshaped organizational structures and leadership models, increasing the demand for managerial profiles capable of integrating strategic, interpersonal, digital, and adaptive competencies. Consequently, hotel management has evolved from a primarily operational function into a complex role requiring strategic decision-making, leadership, adaptability, and the ability to operate effectively in uncertain and rapidly changing environments (Li et al., 2025; Silva et al., 2025; Yi et al., 2026).

Within this context, competence can be understood as an integrated and dynamic construct that enables effective professional performance. Beyond technical knowledge, competencies involve the articulation of cognitive, behavioral, and attitudinal dimensions activated in specific contexts and developed through experience, learning, and interaction with organizational environments (Draganidis & Mentzas, 2006; Vogel et al., 2021). This perspective is particularly relevant in hospitality, where effective managerial performance depends on combining knowledge, skills, attitudes, and motivation in response to complex and evolving professional demands.

The increasing complexity of the hospitality sector has stimulated growing academic interest in identifying the competencies required for effective managerial performance. Recent research has examined this issue through the analysis of labor market requirements, graduate competencies, and emerging organizational trends (Silva et al., 2025; Yi et al., 2026). From an educational perspective, competency-based approaches have gained prominence as a means of aligning training processes with professional performance requirements, especially by emphasizing transferable and context-sensitive skills oriented toward real-world problem-solving. In tourism and hospitality education, recent studies highlight the growing importance of integrating digital skills, sustainability competencies, and employability-oriented learning into higher education programs (Elshaer et al., 2025; Huang, 2014; Lampoltshammer et al., 2023; Yi et al., 2026; Williams et al., 2020).

The growing mismatch between educational systems and rapidly evolving societal and industry demands has been widely recognized as a central challenge for competency-based education (Dzhuraev & Tajiev, 2026). Recent systematic research further indicates that, despite its global expansion, competency-based education remains unevenly implemented and insufficiently validated across contexts (Tahirsylaj & Sundberg, 2026). Despite these advances, literature continues to present important limitations. Research on competencies in hospitality remains fragmented, often focusing on isolated dimensions such as labor market mismatch, curriculum analysis, or graduate perceptions, without integrating these perspectives into a coherent framework applicable to hotel management (Lampoltshammer et al., 2023; López et al., 2025; Giousmpasoglou, 2026; Sánchez-Cubo et al., 2023; Yi et al., 2026). Recent models of competency-based curriculum design emphasize the integration of knowledge, skills, values, and attitudes through structured competency tasks aligned with learning outcomes (Lu & Lin, 2025). At the same time, recent studies show a persistent misalignment between educational outcomes and industry requirements: hospitality and tourism programs frequently underrepresent key competencies such as leadership, digital skills, and strategic decision-making, while overemphasizing more traditional or operational content (Giousmpasoglou, 2026; Yi et al., 2026). Although competency-based education has been widely promoted, empirical research rarely moves beyond diagnostic analysis to develop validated competency frameworks and translate them into structured and pedagogically viable training models (Canco et al., 2026; Elshaer et al., 2025; Lampoltshammer et al., 2023; Williams et al., 2020).

This gap is particularly critical in hotel management, where professional performance depends not only on the possession of individual competencies but also on their effective integration and prioritization in complex and dynamic environments. In this sense, metacognition becomes especially relevant, as it enables individuals to monitor, regulate, and adapt their learning and decision-making processes. In contexts characterized by uncertainty, operational pressure, and continuous interaction, metacognitive skills strengthen the application and transfer of competencies into professional performance and support the development of adaptive managerial profiles capable of responding to evolving challenges (Li et al., 2025).

In response to these limitations, this study adopts an integrative approach that connects competency identification, expert validation, and educational design. Accordingly, the aim of this study is to develop and validate a competency framework for hotel management and to translate it into a structured training model aligned with contemporary industry demands. To address this gap, the study pursues three objectives: (1) to validate a competency matrix for hotel management through expert consensus using the Delphi technique; (2) to identify the core competencies that define effective managerial performance in the hotel sector; and (3) to design a competency-based training framework derived from the validated model.

2. Materials and Methods

2.1. Design

This study adopts an exploratory and descriptive research design using the Delphi methodology. The exploratory component focuses on identifying key managerial competencies that can be translated into training proposals, while the descriptive component characterizes expert evaluations regarding the knowledge, skills, and attitudes required for effective hotel management in contemporary contexts. The Delphi technique was employed as the core methodological approach to achieve expert consensus on hotel management competencies. This method is based on iterative rounds of structured expert consultation, ensuring anonymity and controlled feedback to facilitate the convergence of opinions (Hsu & Sandford, 2007; Keeney et al., 2011; Skulmoski et al., 2007; Ramírez Chávez & Ramírez Torres, 2024). A two-round Delphi process was conducted over approximately nine months, allowing sufficient time for expert participation, feedback consolidation, and iterative refinement of the competency matrix. The analysis combined quantitative and qualitative approaches. Descriptive statistics were used to assess the relevance and agreement of each competency, while qualitative data were analyzed through thematic coding to identify patterns and support the refinement of the competency framework (García-Peñalvo et al., 2020; Lara Garrido et al., 2024).

2.2. Participants

The sample consisted of professionals with extensive experience in hotel management. The inclusion criteria for participation were: (a) participation in an initial exploratory phase of the research, in which preliminary data on competency requirements were collected (Puente-Martínez & Bueno-Villaverde, *in press*), (b) a minimum of 10 years of professional experience in hotel management positions, and (c) formal academic training in hotel management or related fields. A total of 105 experts who met these criteria and expressed their willingness to participate in subsequent phases of the study were invited to take part in the Delphi process. Of these, 42 experts participated in the first round (response rate: 40.0%), and 32 experts completed the second round (response rate: 76.2%), forming the final expert panel. The panel included professionals occupying diverse roles within the hotel industry, such as general managers, heads of key departments (e.g., food and

beverage, revenue management, human resources, marketing, and operations), and specialized consultants. This diversity ensured the inclusion of multiple perspectives on hotel management competencies and contributed to the robustness of the results.

For clarity and methodological consistency, the demographic characteristics reported here correspond to the experts who completed the second round ($n = 32$), as this group constitutes the final validated panel in the Delphi process. The average age of participants was 49.31 years ($SD = 7.17$), with a mean professional experience of 17.75 years ($SD = 5.78$). In terms of gender distribution, 67.2% of participants were men and 32.8% were women. Regarding educational background, 59.4% of participants held a Master's or postgraduate degree. The most represented professional roles were General Manager (31.3%) and Consultant (28.1%).

A non-probabilistic snowball sampling strategy was used to identify and recruit participants, which is appropriate for accessing highly specialized professional profiles. However, this approach may introduce selection bias, as participants tend to recruit individuals within their own professional networks, potentially limiting heterogeneity. To mitigate this limitation, efforts were made to include experts from different functional areas and organizational roles within the hotel industry. Despite these limitations, the use of expert-based sampling is consistent with Delphi methodology, where the relevance and expertise of participants are prioritized over statistical representativeness.

2.3. Instruments

The study is based on the HICA model, an integrative framework designed to define the competency profile required for effective hotel management (Puentes-Martínez & Bueno-Villaverde, *in press*). The model was developed through a multi-stage process combining prior empirical research and theoretical grounding in hospitality management and competency-based education.

Specifically, the initial pool of competencies was derived from a previous exploratory study (Puentes-Martínez & Bueno-Villaverde, *in press*), which involved the analysis of 200 job postings published on 22 specialized recruitment platforms between 2020 and 2025. This analysis allowed for the identification of recurring competency patterns demanded by the labor market, ensuring that the model reflects current industry requirements.

The competencies identified were subsequently systematized and organized into four core dimensions, forming the HICA framework (Figure 1): (1) Hospitality/Operations (HOS), which includes technical and operational competencies related to service delivery and hotel management processes; (2) Interpersonal/Leadership (INT), which encompasses socio-emotional, relational, and team management competencies; (3) Cultural/Communication (CUL), which refers to communication skills, multicultural awareness, and contextual adaptability; and (4) Analysis, Innovation, and Entrepreneurship (AND), which integrates strategic, analytical, and decision-making competencies oriented toward business development.

This four-dimensional structure is consistent with recent approaches in hospitality and tourism research that emphasize the need to combine operational expertise, interpersonal capabilities, communication skills, and strategic thinking in managerial roles (Li et al., 2025; Silva et al., 2025; Yi et al., 2026). In this sense, the HICA model provides a comprehensive and structured representation of the competencies required in contemporary hotel management.

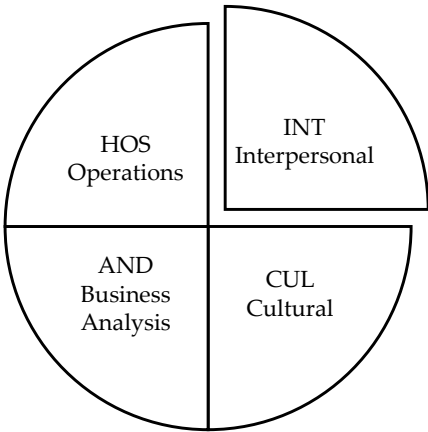


Figure 1. The research theoretical framework HICA Matrix (Puente-Martínez & Bueno-Villaverde, in press). Source: Prepared by the researcher.

The resulting competency matrix included 80 competencies distributed across the four dimensions. This initial set was used as the analytical framework guiding the first round of the Delphi process (Table 1). Rather than functioning as a standardized questionnaire, the matrix served as a reference structure to support in-depth expert interviews, allowing participants to discuss, prioritize, and critically evaluate competencies within each dimension. Given the exploratory nature of the study, the inclusion of a broad set of competencies was intended to capture the diversity and complexity of managerial requirements in the sector, enabling subsequent refinement through expert judgment.

Table 1. HICA matrix used in the first wave. Source: Prepared by the researcher.

Dimension	Competencies
HOS	F&B (Food & Beverage)
	Tourism agents, TTOOs (Tour Operators)
	Openness
	Quality (evaluation department)
	Purchasing
	Concierge
	Current knowledge and trends
	Department-specific expertise
	Space and tourist destination
	Finance—Accounting
	Infrastructure and facilities (maintenance)
	Housekeeping (Housekeeping Department)
	MICE (Meetings, Incentives, Conferences & Events)
	Operations and Business Management
	Front Desk
	Reservations
	Revenue
	Safety and hygiene
	External services
	Jobs & Schedules
	Sales & Marketing

Table 1. Cont.

Dimension	Competencies
INT	Adapting to Change
	Supporting the team
	Customer service
	Autonomy
	Organizational skills
	Commitment
	Creativity
	Delegate
	Empathy
	Stability
	Ethics
	Team management
	Independent Hotels
	Initiative and entrepreneurial spirit
	Emotional Intelligence
	Leadership
	Motivation
	Negotiation
	Business opportunity
	Focus on achieving goals and results (as a team)
	Profitability-oriented
	Strategic thinking
	Versatility
	Presence (Body Language)
	Proactivity (Active/Bold)
	Public Relations
	Problem-Solving
	Frustration and stress tolerance
	Decision-making
	Teamwork
CUL	Work Environment
	Oral and written communication in English
	Oral and written communication in another foreign language
	Oral and written communication in your native language
	Expert-level written communication in the native language
	Willingness to travel
	Critical analysis of a situation
	Supplier management
	Conducting meetings and briefings
	Mastery of communication techniques
	Computer skills
	Local market
	Networking
	PMS (Property Management System), CRM (Customer Relationship Management)
	Luxury products
	Working in different multicultural (sociocultural) contexts
	Brand value
	Social Media

Table 1. Cont.

Dimension	Competencies
AND	Strategy and business plan development
	Commercial Dimension
	HR (Human Resources) Dimension
	Economic and Financial Aspect
	Legal and Regulatory Dimension
	Organizational Asset Dimension (Investments)
	Political–Administrative Dimension
	Feasibility and operational study
	Spatial, social, cultural, political, labor, and economic ontology and epistemology (influential actors) in business
	Sustainability Principles
	COVID-19 Protocol

2.4. Procedure

The Delphi process was organized into four sequential phases, following established recommendations for expert-based consensus studies emphasizing iterative consultation, controlled feedback, and explicit decision rules (Dalkey & Helmer, 1963; Hasson et al., 2000; Hsu & Sandford, 2007; Keeney et al., 2011; Looor-Carvajal et al., 2020; Ramírez Chávez & Ramírez Torres, 2024; Skulmoski et al., 2007).

Phase 1: Definition of the problem and construction of the initial competency framework.

The study began by identifying the competencies considered essential for effective hotel management and translating them into a training-oriented framework. This phase was grounded in prior research conducted by the authors, based on the analysis of hotel management job postings from specialized employment platforms (Puente-Martínez & Bueno-Villaverde, in press). This empirical work supported the construction of the preliminary HICA matrix, composed of 80 competencies grouped into four dimensions, ensuring that item selection was evidence-based and subsequently subject to expert validation (Hasson et al., 2000; Ramírez Chávez & Ramírez Torres, 2024).

Phase 2: Recruitment of the expert panel.

A purposive, non-probabilistic sampling strategy with snowball logic was used to recruit experts with substantial professional experience in hotel management. In line with Delphi methodology, the selection prioritized expertise over statistical representativeness (Hsu & Sandford, 2007; Keeney et al., 2011; Ramírez Chávez & Ramírez Torres, 2024). Experts were recruited from a previous stage of the research and included professionals from diverse functional areas, such as general management, operations, food and beverage, marketing, revenue management, human resources, and consultancy. Although snowball sampling may introduce selection bias, efforts were made to ensure heterogeneity in roles and professional trajectories.

Phase 3: First-round data collection and matrix reduction.

The Delphi process was conducted through structured expert interviews in the first round. Participants received the interview guide (Appendix A) in advance and took part in individual videoconference sessions lasting approximately 90 min. During these sessions, experts reviewed the initial HICA matrix, discussed the relevance of competencies in depth, and identified the most important ones within each dimension. All interviews were audio-recorded with informed consent and transcribed verbatim for qualitative analysis. This phase followed a qualitative, exploratory logic aimed at capturing expert judgment in a contextualized and reflective manner.

Qualitative data were analyzed through thematic coding to identify patterns related to relevance, redundancy, and clarity, while quantitative analysis included frequency counts,

weighted scores, and agreement indicators (Llor-Carvajal et al., 2020). To ensure analytical rigor, a minimum inclusion threshold was established using the 30th percentile (P30) of weighted scores within each competency dimension. Competencies with values equal to or below this threshold were excluded from the matrix. This criterion is consistent with Delphi-based reduction strategies that combine frequency and weighting to filter low-consensus items while preserving those with substantive expert endorsement (Yáñez et al., 2016; Ramírez Chávez & Ramírez Torres, 2024).

In addition, the selection of the P30 threshold was contrasted with alternative percentile cut-offs commonly used in exploratory Delphi studies (e.g., P25 and P40), yielding comparable structural patterns in the resulting competency matrix. This supports the robustness of the reduction process and reinforces the use of percentile-based thresholds as flexible decision rules rather than fixed statistical criteria in Delphi designs (Hasson et al., 2000; Hsu & Sandford, 2007; Keeney et al., 2011; Ramírez Chávez & Ramírez Torres, 2024; Yáñez et al., 2016).

Phase 4: Second-round validation and consensus confirmation.

The second Delphi round followed a structured validation approach. Experts were provided with a reduced competency matrix derived from the first round and were asked to confirm or reject the inclusion of each competency (yes/no), providing comments only in cases of disagreement. This phase introduced a structured confirmation process that complements the qualitative insights obtained during the first round, strengthening consensus measurement and decision-making transparency. The interview questions for round two are included in Appendix B.

Consensus was assessed through percentage agreement. Competencies supported by at least 70% of the panel were retained in the final framework, in line with commonly accepted thresholds in Delphi studies (Hasson et al., 2000; Hsu & Sandford, 2007; Ramírez Chávez & Ramírez Torres, 2024). Competencies below this threshold were excluded or reconsidered based on qualitative feedback.

The complete Delphi process was conducted over approximately nine months, allowing sufficient time for participation, feedback integration, and iterative refinement. To ensure methodological rigor, several measures were implemented: explicit inclusion criteria for expert selection, preservation of anonymity to reduce bias, use of structured instruments across rounds, incorporation of controlled feedback, and integration of quantitative and qualitative data to strengthen the validity of the results (Dalkey & Helmer, 1963; Hasson et al., 2000; Keeney et al., 2011; Lara Garrido et al., 2024).

The outcome of this process was a refined and validated competency matrix that served as the empirical basis for the design of the proposed training framework. Overall, the Delphi design combined qualitative data collection through in-depth interviews in the first round with a structured consensus validation in the second round.

3. Results

The results of the Delphi process reflect the progressive refinement of the initial HICA competency matrix, moving from an exploratory set of 80 competencies to a validated framework based on expert consensus.

3.1. Expert Competence Assessment

The coefficient of expert competence (CCE) was calculated to assess the suitability of the expert panel. This coefficient integrates the expert's level of knowledge (K_c), based on self-assessment and researcher evaluation, and the argumentation coefficient (K_a), reflecting the strength of justification supported by professional experience, theoretical knowledge, and evidence-based reasoning. It is defined as: $K = \frac{1}{2} (K_c + K_a)$, where K ranges from 0 to

1. Each component was evaluated using predefined criteria with weighted contributions, assigning greater importance to professional experience (0.5) due to its applied relevance in Delphi studies, followed by theoretical knowledge (0.3), while additional criteria (0.05 each) complemented the overall assessment. Based on the resulting values, experts were classified into three levels: high ($K \geq 0.8$), medium ($0.5 \leq K < 0.8$), and low ($K < 0.5$). Only experts meeting the minimum threshold ($K \geq 0.5$) were retained in the study. All participants exceeded this threshold ($CCE \geq 0.600$), confirming the adequacy of the expert panel. The mean CCE was 0.872 ($SD = 0.078$), with values ranging from 0.750 to 1.000. Most experts were classified as highly competent, ensuring consistency and reliability in the expert-based evaluation process.

3.2. First Delphi Round: Initial Reduction in Competencies

In the first Delphi round, the initial HICA matrix comprising 80 competencies was systematically evaluated by the expert panel. The analysis combined qualitative feedback and quantitative indicators, including frequency of selection and weighted scores derived from expert prioritization.

Table 2 presents the distribution of frequencies and weighted scores obtained in the first Delphi round, together with the selection frequencies in the second round for each competency across the four dimensions of the HICA model.

Table 2. Frequencies and total scores for Wave 1, and frequencies for Wave 2, by competency, according to the HICA matrix dimension. Source: Prepared by the researcher.

Dimension	Competencies	First Wave		Second Wave
		n	Rating (Total Score)	n
HOS	F&B	10	44	33
	Travel agents, TTOO	1	5	3
	Quality (evaluation department)	5	20	33
	Current knowledge and trends	6	28	33
	Department-specific knowledge	5	21	33
	Tourism destinations	2	7	6
	Finance—Accounting	11	51	33
	Infrastructure and Facilities (Maintenance)	7	29	32
	Cleaning (Floors Department)	2	9	4
	MICE (Meetings, Incentives, Conferences & Events)	2	9	5
	Operations and Business Management	9	39	33
	Reception	4	19	33
	Revenue	8	34	33
	External services	1	3	0
	Sales & Marketing	8	34	33
INT	Adapting to Change	10	50	33
	Support and back up the team	5	25	33
	Customer service and support	2	10	8
	Range	2	10	3
	Organizational Skills	8	39	33
	Commitment	3	15	33
	Creativity	3	14	31
	Delegate	4	18	32
	Empathy	5	22	33
	Stability	1	5	2
	Ethics	4	20	33
	Team Management	4	19	33
	Initiative and entrepreneurial spirit	2	9	5
	Emotional Intelligence	5	24	33
	Leadership	6	30	33
	Profitability Focus	3	15	33
	Strategic Thinking	5	25	33
	Proactivity (Active/Bold)	1	5	3
	Problem Solving	1	5	6
	Frustration, tolerance and stress	3	13	33
	Decision-making	2	10	33
	Teamwork	1	5	8

Table 2. *Cont.*

Dimension	Competencies	First Wave		Second Wave
		n	Rating (Total Score)	n
CUL	Work Environment	6	26	32
	Oral and Written Communication in English	4	19	33
	Oral and written communication in another foreign language	5	23	32
	Oral and written communication in their native language	2	10	2
	Communicating in writing in one's native language at an expert level	1	5	2
	Critical commentary on a situation	3	14	33
	Supplier management	6	28	33
	Meeting and Briefing Management	8	38	33
	Communication skills	12	53	33
	Computer skills	2	8	3
	Local market	4	19	32
	Networking	2	10	5
	PMS, CRM	1	5	0
	Working in different multicultural (sociocultural) contexts	5	24	33
	Brand value	5	22	33
	Social Media	2	8	0
AND	Strategy and business plan development	15	72	33
	Commercial Dimension	12	54	33
	HR Dimension	9	41	33
	Economic and Financial Dimension	12	54	33
	Legal and Regulatory Dimension	2	8	3
	Organizational financial dimension (investments)	3	11	1
	Political-administrative dimension	4	15	33
	Feasibility and operational study	11	50	33
	Spatial, social, cultural, political, labor, and economic ontology and epistemology (influential agents) in business	4	16	32
	Principles of Sustainability	5	22	33
	COVID-19 Protocol	1	5	0

The results presented in Table 2 show the distribution of expert evaluations in terms of frequency of selection and weighted scores for each competency across the four dimensions of the HICA model.

Based on these results, a reduced matrix of 64 competencies was obtained for the second Delphi round. The reduction process followed predefined decision rules aimed at identifying competencies with stronger expert endorsement.

In particular, competencies with low relative support were excluded using a threshold based on the 30th percentile (P30) of the distribution of total scores within each dimension. This approach allowed for the identification of competencies with comparatively lower levels of relevance, facilitating a structured and transparent reduction in the initial matrix.

The use of percentile-based thresholds is consistent with exploratory Delphi studies (Yáñez et al., 2016). In this study, the application of the P30 threshold should be understood as an operational decision rule aimed at balancing inclusiveness and discrimination in the early stages of competency modelling, allowing the retention of competencies with sufficient expert support while systematically filtering out those with comparatively lower relevance.

To ensure internal consistency, the P30 threshold was calculated independently for each competency dimension.

In addition to the quantitative criteria, qualitative feedback provided by experts during the first round contributed to the refinement process by identifying redundancy, conceptual overlap, and opportunities for clarification of certain competencies.

3.3. Second Delphi Round: Validation and Consensus

The cut-off point was established using the 30th percentile (P30) within each competency dimension in both Delphi waves.

As shown in Table 3, the P30 cut-off points vary across competency dimensions and between Delphi waves, reflecting differences in the distribution of total scores assigned by the expert panel. This variability supports the decision to apply the threshold independently within each dimension.

Table 3. Cut-off points (P30) for total scores by competency dimension for both waves. Source: Prepared by the researcher.

Dimension	P30	
	Wave 1	Wave 2
HOS	9.0	5.8
INT	10.0	8.0
CUL	10.0	3.2
AND	13.4	20.4

Rather than representing a fixed statistical boundary, these percentile-based thresholds function as operational decision criteria within the iterative logic of the Delphi method, facilitating the identification of competencies with comparatively lower levels of support.

The second Delphi round focused on the validation of the reduced competency matrix derived from the first round. Experts reassessed the 64 competencies, evaluating their inclusion or exclusion and providing qualitative justification where necessary.

Consensus was established based on percentage agreement. Competencies supported by at least 70% of the expert panel were retained in the final framework.

As a result of this process, the competency matrix was further reduced to a final set of 43 competencies. Differences between rounds were minimal, affecting only two competencies (3.1%), indicating a high level of stability and consistency in expert evaluations.

This progression—from 80 initial competencies to 64 in the first round, and finally to 43—reflects the iterative and convergent nature of the Delphi method.

3.4. Final Competency Framework

The final validated competency framework resulting from the two rounds of the Delphi study is presented in Table 4.

Table 4. Final HICA matrix resulting from the two rounds of the Delphi study. Source: Prepared by the researcher.

Dimension	Competencies
HOS	F&B
	Quality (evaluating department)
	Current knowledge and trends
	Department-specific knowledge
	Finance—Accounting
	Infrastructure and facilities (maintenance)
	Operations and business management
	Reception
	Revenue
	Sales & Marketing
INT	Adapting to Change
	Supporting and backing the team
	Organizational Skills
	Commitment
	Creativity
	Delegating
	Empathy
	Ethics

Table 4. Cont.

Dimension	Competencies
INT	Team Management Emotional Intelligence Leadership Profitability Focus Strategic Thinking Frustration and Stress Tolerance Decision-making
CUL	Workplace Environment Oral and written communication in English Oral and written communication in another foreign language Critical analysis of a situation Supplier Management Conducting meetings and briefings Mastery of communication techniques Local market Working in different multicultural (sociocultural) contexts Brand value
AND	Development of business strategy and plan Commercial Dimension HR Dimension Economic and Financial Dimension Political and Administrative Aspect Feasibility and operational study Spatial, social, cultural, political, labor, and economic ontology and epistemology (influential actors) in business Principles of Sustainability

The final set of 43 competencies represents a consolidated and validated model of the key capabilities required for effective hotel management.

This framework reflects both the empirical foundation of the initial competency identification process and the structured consensus achieved through the Delphi method.

It provides a coherent and operational representation of the competency profile expected of hotel managers and supports the development of training proposals aligned with current industry demands (López et al., 2025). Although metacognition did not emerge as an explicit standalone competency in the Delphi rounds, several of the validated competencies—particularly strategic thinking, decision-making, adaptability, and organizational skills—implicitly involve regulatory processes related to planning, monitoring, and evaluation. This provides an empirical basis for incorporating metacognition in the discussion as a cross-cutting explanatory dimension of competency development and application.

4. Discussion

The effective participation of experts (42 in round 1 and 32 in round 2) and the increase in response rate (from 40.0% to 76.2%) indicate panel consolidation and progressive convergence, a defining feature of the Delphi method (Dalkey & Helmer, 1963; Hsu & Sandford, 2007). All participants exceeded the minimum competence threshold ($CCE \geq 0.600$), with an average of 0.872, supporting panel consistency and the validity of the results in line with established methodological standards (Skulmoski et al., 2007).

A key finding is the high stability of the consensus achieved. Of the 64 competencies evaluated, discrepancies were observed in only two cases (3.1%), resulting in a final matrix of 43 competencies. This low level of disagreement suggests the identification of a stable and cross-cutting core of competencies for contemporary hotel management.

The final matrix is structured into four dimensions—HOS, INT, CUL, and AND—reflecting a balanced distribution across operational, interpersonal, communicative, and strategic domains. Notably, the predominance of interpersonal and leadership competencies (INT) confirms their structural role in managerial performance. While previous research has emphasized emotional intelligence, communication, and team management (Baum et al., 2016; Testa & Sipe, 2012), these findings reinforce their central relevance in increasingly complex and dynamic hospitality environments (Elshaer et al., 2025; Li et al., 2025; Yi et al., 2026).

From an educational perspective, the distribution of competencies (10–15–10–8) indicates that hotel management extends beyond technical expertise and requires relational and strategic capabilities. The prominence of adaptability, strategic thinking, and decision-making suggests that effective performance depends on complex cognitive processes involving planning, monitoring, and evaluation (Elshaer et al., 2025; Canco et al., 2026).

The results indicate the need for a regulatory dimension that enables the integration and contextual application of competencies. This dimension can be interpreted through metacognition, understood as the capacity to plan, monitor, and evaluate one's actions (Elshaer et al., 2025; Li et al., 2025; Seraj et al., 2025). This interpretation is supported by recent empirical evidence showing that metacognitive processes enhance both technical and socio-emotional skill development in vocational and professional training contexts (Aalioui et al., 2025).

The variation in inclusion thresholds between Delphi rounds, particularly in the CUL dimension, suggests a process of expert recalibration in which communicative and cultural competencies are recognized as baseline requirements rather than differentiating factors. This aligns with ongoing transformations in the hospitality sector, including digitalization, multicultural interaction, and the growing relevance of branding and sustainability (Canco et al., 2026; Giousmpasoglou, 2026). This finding indicates a normalization of communication competencies as baseline requirements rather than differentiating capabilities, reflecting their institutionalization within contemporary hospitality practice.

At a more specific level, competencies such as Finance–Accounting, Adaptation to Change, Organizational Skills, and Mastery of Communication Techniques show consistently high relevance, reinforcing the need for integrated profiles combining business, leadership, and communication capabilities.

Beyond competency identification, this study proposes a training framework grounded in competency-based education, where competencies are understood as situated performances integrating knowledge, skills, and attitudes (Baartman & de Bruijn, 2011; Mulder, 2019). This is consistent with broader evidence indicating that competency-based education frameworks often face challenges in implementation and contextual adaptation across different educational systems (Tahirsylaj & Sundberg, 2026). Accordingly, training should prioritize experiential and problem-based learning contexts that enable integrated performance in complex situations.

From an applied perspective, curricula should reflect the integrated nature of competencies, prioritizing active learning strategies and performance-based assessment aligned with real-world challenges. The integration of metacognitive processes enhances self-regulation and facilitates learning transfer (Aalioui et al., 2025; Panadero, 2017). The progression from operational (HOS) to leadership (INT) and strategic competencies (AND) provides a coherent developmental pathway aligned with increasing levels of professional complexity. Overall, the identified competency profile reflects the transformation of the hospitality sector, where managerial roles require the integration of technical, strategic, and socio-emotional competencies. In this context, the HICA model offers a structured framework for aligning professional requirements with educational design in dynamic environments (Arjona-Granados et al., 2025; Menzala-Peralta et al., 2023). These findings

align with broader concerns regarding the mismatch between educational systems and rapidly evolving professional environments, particularly in competence-based education contexts (Dzhuraev & Tajiev, 2026).

Finally, the HICA model should be understood not as a static list of competencies, but as a progressive and flexible framework for competency development articulated across the domains of operations, leadership, and strategy. Its structure enables translation into higher education through the integration of generic and specific competencies and the use of assessable descriptors aligned with learning outcomes (Mulder, 2019; Jackson, 2015), providing a coherent basis for bridging the gap between academic training and professional performance in hotel management.

4.1. Block 1: Organization of the Educational Pathway

The competency matrix validated through the Delphi process can be structured as a progressive educational pathway organized around three domains of increasing complexity: operations (HOS), leadership (INT), and strategy (AND). This three-level configuration reflects competency-based education approaches in which learning evolves from the execution of defined tasks to decision-making in complex organizational contexts (Mulder, 2019; Elshaer et al., 2025).

The results indicate that competency development in hotel management requires the integration of cognitive, relational, and strategic capacities. The progression from operational to leadership and strategic competencies reflects increasing levels of decision-making complexity and organizational responsibility, consistent with recent research on adaptive professional profiles in dynamic environments (Li et al., 2025; Yi et al., 2026).

From an educational perspective, this structure implies that early stages should prioritize the acquisition and contextual application of technical knowledge, while subsequent stages should focus on interpersonal coordination, adaptability, and strategic integration. This developmental logic aligns with emerging models of professional learning centered on problem-solving and performance in complex contexts. As outlined in Section 4.4, this progression is supported by a metacognitive pathway. This pattern suggests that current educational approaches may underestimate the centrality of interpersonal competencies, reinforcing the need to rebalance curricula toward relational and strategic dimensions of managerial performance.

4.2. Block 2: Translation of the HICA Model into the Higher Education Framework

The HICA model can be translated into higher education by organizing competencies into generic and specific categories within competency-based curricula. Interpersonal and leadership competencies (INT) function as generic competencies, as they are transferable across roles and contexts and closely associated with employability and organizational effectiveness (Yi et al., 2026).

In contrast, operational (HOS) and strategic (AND) competencies correspond to specific competencies linked to domain knowledge and professional practice, including financial analysis, operations management, and strategic planning (Canco et al., 2026). The cultural and communicative dimension (CUL) plays a transversal role, enabling the integration of competencies across domains by embedding communication, intercultural awareness, and digital interaction within operational, leadership, and strategic learning activities. This reflects current transformations in hospitality, where communication and cultural competence are integral to performance rather than complementary (Giousmpasoglou, 2026).

From a curricular perspective, this translation implies designing learning experiences in which students develop technical expertise, interpersonal capabilities, and strategic thinking through integrated tasks rather than fragmented content. Structured curriculum

design models, such as the System of Competency-based Curriculum Design (SCCD), highlight the importance of aligning learning objectives, assessment, and activities through competency tasks that integrate knowledge, skills, values, and attitudes (Lu & Lin, 2025). This approach aligns with recent evidence emphasizing the need to connect competency frameworks, industry expectations, and educational design (Silva et al., 2025).

4.3. Block 3: System of Descriptors and Competency Assessment

A central contribution of the HICA model lies in its operationalization through a system of descriptors that translate competencies into observable and assessable learning outcomes. In line with competency-based education principles, each competency can be defined through behavioral indicators and progressive levels of achievement, facilitating the evaluation of performance in context rather than isolated knowledge acquisition (Baartman & de Bruijn, 2011; Menzala-Peralta et al., 2023).

This approach supports the shift from content-based assessment toward performance-based evaluation, which is increasingly recognized as essential in professional education. The use of descriptors enhances transparency in assessment, reduces interpretive ambiguity, and enables alignment between learning outcomes, teaching strategies, and evaluation processes.

Furthermore, the integration of metacognitive processes into assessment—particularly planning, monitoring, and evaluation—contributes to the development of self-regulated learning and adaptive performance. Recent research highlights that reflective capacity and self-regulation are critical factors in sustaining professional effectiveness in complex and rapidly changing environments (Seraj et al., 2025).

In this sense, the descriptor system functions not only as an external evaluation tool but also as a mechanism for internal regulation, supporting the development of autonomous and reflective professionals.

4.4. Metacognition as the Regulatory Axis of the Educational Pathway

The HICA model is complemented by a metacognitive perspective that operates as a regulatory axis across all stages of competency development. Rather than constituting an additional competency, metacognition functions as a cross-cutting mechanism that enables the integration and application of competencies in professional contexts.

In hospitality environments characterized by uncertainty, rapid decision-making, and continuous interaction, effective performance depends on the regulation of cognitive and behavioral processes. Metacognition—understood as the capacity to plan, monitor, and evaluate one's actions—provides a framework for explaining how competencies are activated, coordinated, and adapted in practice (Panadero, 2017). Recent empirical evidence shows that metacognitive interventions significantly improve both technical and socio-emotional skills, with positive correlations between metacognitive knowledge and performance outcomes (Aalioui et al., 2025). It is conceptually integrated as a complementary explanatory layer to interpret how the validated competencies are mobilized in practice.

To illustrate this progression, the “Teamwork” competency is used as a representative example (see Tables 5 and 6). Table 5 defines teamwork through observable indicators such as coordination, communication, conflict management, and collective goal orientation, while Table 6 presents its development across three levels: operational, leadership, and strategic.

Table 5. Example of the Metacognitive Pathway with a Generic Competency from the HICA Matrix: Definition and Descriptors. Source: Prepared by the researcher.

Generic Teamwork (TW) Competency
Ability to foster, promote, and maintain an environment of collaboration, communication, and trust among team members, participating in the achievement of objectives by promoting a sense of group identity or directly fostering group cohesion.
Operational Descriptors (learning outcomes)
Observable indicators: This competency involves fostering an atmosphere of trust among team members (assessment criterion 1), as well as maintaining a collaborative environment to achieve group objectives (assessment criterion 2).

Table 6. Example of the Metacognitive Pathway with Generic Competency from the HICA Matrix: Progressive Pathway. Source: Prepared by the researcher.

Upon Completing Operations Education (Knowing) Understands and Recognizes	Upon Completing Leadership Education (Know-How) Designs and Applies	Upon Completing Education in Strategy (How to Be) Integrates and Embodies
TW1. Coordinates and energizes work teams in the hospitality industry, fostering cooperation and the achievement of common goals.	TW1. Consciously applies strategies for coordination and team building in real-world work contexts.	TW1. Integrates teamwork as part of their professional identity and as a strategic pillar for organizational success.
TW2. Recognizes and understands the fundamentals of teamwork and its impact on the hotel’s operational performance.	TW2. Designs and implements coordination mechanisms that strengthen cooperation and collective performance.	TW2. Adopts a systemic view of the hotel, promoting organizational structures oriented toward collective commitment.
TW3. Develops an understanding of how teams function and of one’s own role within them by studying teamwork models, group dynamics, interpersonal communication, and functional roles.	TW3. Facilitates effective meetings, coordinates tasks, resolves internal conflicts, and promotes active participation, fostering group cohesion.	TW3. Positions themselves as a strategic facilitator of the organizational climate, acting as a model of cohesion, collaboration, and commitment to the common good.

This progression shows how a single competency evolves in complexity, requiring increasing levels of cognitive, relational, and metacognitive regulation, and highlighting the role of planning, monitoring, and evaluation in both individual and collective performance.

This interpretation aligns with recent research linking self-regulation, adaptive expertise, and managerial effectiveness in complex environments (Elshaer et al., 2025; Li et al., 2025; Seraj et al., 2025). Accordingly, integrating a metacognitive pathway into training supports the development of reflective professionals capable of adapting to new contexts and making informed decisions under uncertainty, positioning the HICA model as a framework for self-regulated professional development.

This framework is not an isolated sequence but a replicable matrix applicable across the competencies of the HICA model. Each competency can be associated with a metacognitive pathway that structures its development through planning, monitoring, and evaluation processes, enabling progression from initial understanding to strategic integration in professional performance.

In this sense, the Metacognitive Pathway functions both as a regulatory mechanism and as a structuring principle for competency development, allowing competencies to unfold across progressive levels of cognitive, relational, and strategic complexity. This reinforces the internal coherence of the HICA model and supports its application as an integrated educational framework.

Overall, the articulation of the HICA model, its curricular translation, its system of assessable descriptors, and the incorporation of the Metacognitive Pathway form a coherent

structure that connects professional profile, curriculum design, and self-regulated learning within competency-based higher education.

5. Conclusions

The findings of this study provide empirical evidence for defining a structured competency profile for contemporary hotel management. The Delphi process resulted in a validated matrix of 43 competencies, with minimal disagreement (3.1%), indicating a stable and cross-cutting core of competencies within the sector (Keeney et al., 2011; Skulmoski et al., 2007; Ramírez Chávez & Ramírez Torres, 2024). These results respond to the growing mismatch between educational systems and the evolving demands of professional environments identified in recent research (Dzhuraev & Tajiev, 2026).

The predominance of interpersonal and leadership competencies confirms that hotel management extends beyond technical–operational functions and requires relational and strategic capabilities in complex organizational contexts (Baum et al., 2016; Elshaer et al., 2025; Testa & Sipe, 2012). The integration of technical, strategic, and socio-emotional competencies supports the view that effective performance depends on the articulation of cognitive, emotional, and metacognitive dimensions.

The main contribution of this study lies in translating this consensus-based profile into a progressive training framework structured around operations, leadership, and strategy, aligned with competency-based education approaches (Baartman & de Bruijn, 2011; Mulder, 2019). This structure enables the sequencing of competency development and its operationalization through observable learning outcomes and assessable descriptors.

A distinctive feature of the model is the incorporation of a metacognitive pathway as a cross-cutting regulatory axis. Metacognition—understood as the regulation of cognitive processes (Aalioui et al., 2025; Seraj et al., 2025; Zimmerman, 2002)—supports planning, monitoring, and evaluation in professional action and enhances learning transfer in contexts of uncertainty and complex decision-making (Pintrich, 2000; Arjona-Granados et al., 2025). This approach is consistent with recent empirical evidence linking metacognitive regulation to improved performance across technical and interpersonal domains (Aalioui et al., 2025).

Accordingly, the HICA model should be understood not only as a descriptive framework but as an integrated system for self-regulated competency development, connecting professional requirements, curriculum design, and performance evaluation.

This study presents several limitations. First, the use of non-probabilistic and snowball sampling may introduce selection bias (Hsu & Sandford, 2007). Second, the competency profile reflects the consensus of a specific expert panel within a defined period, which may limit its transferability across contexts. Third, the absence of external or longitudinal validation restricts the assessment of long-term educational impact.

From an applied perspective, training programs should incorporate performance-based assessment systems—such as simulations, case studies, and integrative projects—while embedding metacognitive strategies to foster self-regulation and learning transfer (Baartman & de Bruijn, 2011). Recent empirical research supports this approach, showing that metacognitive interventions enhance both technical and socio-emotional competencies in vocational training contexts (Aalioui et al., 2025). Strengthening collaboration between academia and industry is also recommended (Baum et al., 2016).

Future research should focus on validating the proposed training pathway through longitudinal studies, replicating the model across different hotel contexts, and advancing measurement instruments for assessing competencies and metacognition in hotel management.

In a sector characterized by volatility and complexity, training hotel managers requires not only knowledge acquisition but also the development of professionals capable of

regulating and adapting their performance. The HICA model provides an integrative framework to support the development of adaptive and strategically oriented leaders.

Author Contributions: Conceptualization, M.d.P.P.-M.; Methodology, M.d.P.P.-M.; Software, M.d.P.P.-M.; Validation, M.d.P.P.-M.; Formal analysis, M.d.P.P.-M.; Investigation, M.d.P.P.-M.; Resources, M.d.P.P.-M.; Data curation, M.d.P.P.-M.; Writing—original draft, M.d.P.P.-M.; Writing—review & editing, M.d.P.P.-M. and Á.B.-V.; Visualization, M.d.P.P.-M.; Supervision, Á.B.-V.; Project administration, M.d.P.P.-M.; Funding acquisition, M.d.P.P.-M. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Ethical review and approval were waived for this study due to the absence of clinical experimentation with human subjects, invasive procedures, or the handling of biological samples, in accordance with Law 14/2007 on Biomedical Research. The study was reviewed by the Research Ethics Committee of Camilo José Cela University (CEI-UCJC), Madrid, Spain (reference code: 19_HICA; report date: 8 November 2021), and was conducted in accordance with institutional ethical guidelines and the principles of the Declaration of Helsinki.

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: The original contributions presented in the study are included in the article, further inquiries can be directed to the corresponding author.

Acknowledgments: The authors would like to thank the professionals from the hotel sector who voluntarily participated as members of the Delphi expert panel. Their experience, insights, and collaboration were essential to the development of this study.

Conflicts of Interest: The authors declare no conflicts of interest.

Abbreviations

The following abbreviations are used in this manuscript:

AND	Business Analysis, Innovation, and Entrepreneurship dimension
CCE	Coefficient of Expert Competence
CRM	Customer Relationship Management
CUL	Cultural/Communication dimension
EAC	Expert Agreement Coefficient
F&B	Food and Beverage
HICA	Matrix/Model: HOS + INT + CUL + AND
HOS	Hospitality/Operations dimension
HR	Human Resources
INT	Interpersonal/Leadership dimension
MICE	Meetings, Incentives, Conferences, and Events
P30	30th percentile (cut-off point used for competency selection)
PMS	Property Management System
TTOO	Tour Operators

Appendix A

Table A1 presents the interview guide used in the first Delphi round, structured to facilitate in-depth expert reflection across key analytical domains.

Table A1. Interview guide, first Delphi round.

Domain	Analytical Focus	Guiding Questions
Professional Role	Role definition and evolution	What is the value and mission of the hotel manager's role? How has it evolved over the past 10 years, and what are its future directions? What impact have recent changes (e.g., COVID-19) had? What new competencies are required, and which have become obsolete?
Recruitment Criteria	Competency prioritization	What should be prioritized when hiring a hotel manager across the competency dimensions (HOS, INT, CUL, AND)? How do you evaluate key hiring criteria such as team cohesion, operational involvement, experience, training, and education?
Education & Training	Alignment with industry needs	Are graduates adequately prepared for management roles? What recommendations would you provide for training future hotel managers? What balance should exist between general and specialized training? What gaps exist in current educational programs?
Competency Framework (HICA)	Validation and applicability	What is your assessment of the HICA competency matrix? Which are the five most important competencies within each dimension? Can this framework be applied to other roles within the hotel sector?
Leadership	Managerial development	What advice would you give to aspiring hotel managers? How important is international or multi-location experience? How are managers perceived by their teams? Should recruitment prioritize internal promotion or external hiring?
Final Input	Open reflection	Do you have any additional comments or reflections regarding the competencies and training of hotel managers?

Appendix B

Table A2 summarizes the validation process used in the second Delphi round, which focused on confirming the inclusion of competencies identified in the first round.

Table A2. Interview guide, second Delphi round.

Domain	Analytical Focus	Validation Task
Competency Framework (HICA)	Confirmation of competency selection	Review the reduced competency matrix derived from Round 1 and indicate whether each competency should be included or excluded
Consensus Validation	Agreement and justification	Provide comments only in cases of disagreement with the proposed inclusion or exclusion of competencies
Dimensional Structure	Validation across competency dimensions	Assess competencies within each dimension (HOS, INT, CUL, AND) to ensure coherence and representativeness
Process Integration	Qualitative–quantitative alignment	Confirm that the resulting matrix adequately reflects both the qualitative insights from interviews and the quantitative prioritization process
Participant Information	Sociodemographic data	Provide updated sociodemographic information (age, gender, education, professional role, years of experience)

References

- Aalioui, L., Labeye, E., & Huet, N. (2025). Learning technical skills and soft skills in vocational training: Metacognition and self-regulated learning approaches. In C. Nägele, B. E. Stalder, F. Kaiser, M. Malloch, & N. Kersh (Eds.), *Trends in vocational education and training research* (Vol. 8, pp. 26–34). VETNET/OAPublishing. [\[CrossRef\]](#)
- Arjona-Granados, M. P., Galván-Vera, A., Sevilla-Morales, J. A., & Legarreta González, M. A. (2025). Cross-Cultural competence in tourism and hospitality: A case study of Quintana Roo, Mexico. *World*, 6, 108. [\[CrossRef\]](#)
- Baartman, L. K. J., & de Bruijn, E. (2011). Integrating knowledge, skills, and attitudes: Conceptualizing learning processes toward vocational competence. *Educational Research Review*, 6(2), 125–134. [\[CrossRef\]](#)
- Baum, T., Kralj, A., Robinson, R. N. S., & Solnet, D. (2016). Tourism workforce research: A review, taxonomy and agenda. *Annals of Tourism Research*, 60, 1–22. [\[CrossRef\]](#)
- Canco, I., Kruja, D., & Kola, F. (2026). Digital skills and workforce segmentation in tourism and hospitality. *Tourism and Hospitality*, 7(3), 63. [\[CrossRef\]](#)
- Dalkey, N. C., & Helmer, O. (1963). An experimental application of the DELPHI method to the use of experts. *Management Science*, 9(3), 458–467. [\[CrossRef\]](#)
- Draganidis, F., & Mentzas, G. (2006). Competency-based management: A review of systems and approaches. *Information Management & Computer Security*, 14(1), 51–64. [\[CrossRef\]](#)
- Dzhuraev, R. K., & Tajiev, N. M. (2026). Competence-based approach in the modern education system. *European International Journal of Pedagogics*, 6(1), 52–56. [\[CrossRef\]](#)
- Elshaer, I. A., Azazz, A. M. S., Mohammad, A. A. A., & Fayyad, S. (2025). Decoding success: The role of E-learning readiness in linking technological skills and employability in hospitality management graduates. *Information*, 16(1), 47. [\[CrossRef\]](#)
- García-Peñalvo, F. J., Corell, A., Abella-García, V., & Grande, M. (2020). La evaluación online en la educación superior en tiempos de la COVID-19 [Online assessment in higher education in times of COVID-19]. *Education in the Knowledge Society (EKS)*, 21, 26. [\[CrossRef\]](#)
- Giousmpasoglou, C. (2026). Cognitive intelligence as a core competency for hospitality managers: A conceptual approach. *Sustainability*, 18, 3146. [\[CrossRef\]](#)
- Hasson, F., Keeney, S., & McKenna, H. (2000). Research guidelines for the Delphi survey technique. *Journal of Advanced Nursing*, 32(4), 1008–1015. [\[CrossRef\]](#)
- Hsu, C. C., & Sandford, B. A. (2007). The Delphi technique: Making sense of consensus. *Practical Assessment, Research, and Evaluation*, 12(10), 1–8. [\[CrossRef\]](#)
- Huang, R. (2014). Industry engagement with tourism and hospitality education: An examination of the students' perspective. In D. Dredge, D. Airey, & M. J. Gross (Eds.), *The Routledge handbook of tourism and hospitality education* (pp. 408–421). Routledge.
- Jackson, D. (2015). Employability skill development in work-integrated learning: Barriers and best practice. *Studies in Higher Education*, 40(2), 350–367. [\[CrossRef\]](#)
- Keeney, S., Hasson, F., & McKenna, H. P. (2011). *The Delphi technique in nursing and health research*. Wiley-Blackwell.
- Lampoltshammer, T. J., Wallinger, S., & Scholz, J. (2023). Bridging disciplinary divides through computational social sciences and transdisciplinarity in tourism education in higher educational institutions: An Austrian case study. *Sustainability*, 15(10), 8133. [\[CrossRef\]](#)
- Lara Garrido, A. S., Rodríguez-Carrillo, J., Mérida-Serrano, R., & González-Alfaya, E. (2024). Aplicación del método Delphi en el diseño de un perfil competencial para el profesorado de calidad en Educación Infantil [Application of the Delphi method in the design of a competency profile for high-quality Early Childhood Education teachers]. *Profesorado, Journal of Curriculum and Teacher Education*, 28(1), 25–49. [\[CrossRef\]](#)
- Li, Y., Marneros, S., Efstathiades, A., & Papageorgiou, G. (2025). A Framework of core competencies for effective hotel management in an era of turbulent economic fluctuations and digital transformation: The case of Shanghai, China. *Tourism and Hospitality*, 6(3), 130. [\[CrossRef\]](#)
- Loor-Carvajal, G. I., Rezabala-Encalada, Y. A., Sánchez-Briones, Y. A., & Pozo-Rodríguez, J. M. (2020). El método Delphi: Una aproximación a su utilización en la evaluación del desempeño en Ecuador [The Delphi method: An approach to its use in performance evaluation in Ecuador]. *Dominio de las Ciencias*, 6(4), 1462–1483.
- López, S. M. C., Guerra, I. R., & Barreal, J. (2025). Theoretical framework and preliminary evaluation of a model for analysing the qualified personnel needing's in the hotel accommodation sector. *Tourism and Hospitality*, 6(1), 21. [\[CrossRef\]](#)
- Lu, H.-L., & Lin, H.-F. (2025). A concept model of competency tasks in competency-based education. *Technology, Pedagogy and Education*, 34(4), 463–481. [\[CrossRef\]](#)
- Menzala-Peralta, C. C., Ortega-Menzala, E., Menzala Peralta, R. M., & Solís Trujillo, B. P. (2023). Evaluación basada en competencias en educación superior [Competency-Based Assessment in Higher Education]. *Horizontes, Journal of Research in Educational Sciences*, 7(28), 836–851. [\[CrossRef\]](#)

- Mulder, M. (2019). Foundations of competence-based vocational education and training. In S. McGrath, M. Mulder, J. Papier, & R. Suart (Eds.), *Handbook of vocational education and training: Developments in the changing world of work* (pp. 1–23). Springer. [\[CrossRef\]](#)
- Panadero, E. (2017). A review of self-regulated learning: Six models and four directions for research. *Frontiers in Psychology*, 8, 422. [\[CrossRef\]](#)
- Pintrich, P. R. (2000). Chapter 14—The role of goal orientation in self-regulated learning. In M. Boekaerts, P. R. Pintrich, & M. Zeidner (Eds.), *Handbook of self-regulation* (pp. 451–502). Academic Press. [\[CrossRef\]](#)
- Puente-Martínez, M. P., & Bueno-Villaverde, A. (in press). Proposal for a competency matrix for hotel management based on the validation of a survey on key skills [Propuesta de una matriz competencial para la dirección hotelera a partir de la validación de una encuesta sobre competencias clave]. *Journal of Tourism Analysis (JTA)*.
- Ramírez Chávez, M. A., & Ramírez Torres, T. Z. (2024). El método DELPHI como herramienta de investigación. Una revisión [The DELPHI method as a research tool. A review]. *LATAM: Latin American Journal of Social Sciences and Humanities*, 5(1), 3368–3383. [\[CrossRef\]](#)
- Sánchez-Cubo, F., Mondéjar-Jiménez, J., & García-Pozo, A. (2023). Assessing educational mismatch in the Spanish hospitality industry [Evaluación del desajuste educativo en la industria hostelera española]. *Investigaciones Turísticas*, (26), 235–250. [\[CrossRef\]](#)
- Seraj, A. H. A., Hasanein, A. M., Al-Romeedy, B. S., & Elziny, M. N. (2025). Redefining the digital frontier: Digital leadership, AI, and innovation driving next-generation tourism and hospitality. *Administrative Sciences*, 15(9), 369. [\[CrossRef\]](#)
- Silva, S., Silva, C., & Oliveira, M. (2025). The value of skills for a sustainable tourism and hospitality industry. *Tourism and Hospitality*, 6(1), 14. [\[CrossRef\]](#)
- Skulmoski, G. J., Hartman, F. T., & Krahn, J. (2007). The Delphi method for graduate research. *Journal of Information Technology Education: Research*, 6, 1–21. [\[CrossRef\]](#)
- Tahirsylaj, A., & Sundberg, D. (2026). Five visions of competence-based education and curricula as travelling policies: A systematic research review 1997–2022. *Journal of Curriculum Studies*, 58(1), 1–26. [\[CrossRef\]](#)
- Testa, M. R., & Sipe, L. J. (2012). Service-leadership competencies for hospitality and tourism management. *International Journal of Hospitality Management*, 31(3), 648–658. [\[CrossRef\]](#)
- Vogel, D., Sohn, A. P., & Gomes, K. (2021). Analysis of competency models in culinary arts higher education. *Journal of Culinary Science & Technology*, 19(2), 171–186. [\[CrossRef\]](#)
- Williams, J., Benjamin, S., Kitterlin, M., & Jung, E. (2020). Developing self-efficacy: Does switching to a hospitality major matter? *Journal of Teaching in Travel & Tourism*, 20(2), 121–134. [\[CrossRef\]](#)
- Yáñez, M. R., Avila, J. A., Bermudez, M. I., De Miguel, I., Bellver, V., Guilabert, M., & Mira, J. J. (2016). Estudio delphi para identificar las competencias en gestión del directivo de enfermería [Delphi study to identify the management competencies of nursing managers]. *Revista de Calidad Asistencial*, 31(2), 113–121. [\[CrossRef\]](#) [\[PubMed\]](#)
- Yi, E., Warokka, A., & Aqmar, A. Z. (2026). Bridging the gap: Competency alignment in tourism and hospitality education across South Korea, Singapore, and Hong Kong. *Tourism and Hospitality*, 7(3), 74. [\[CrossRef\]](#)
- Zimmerman, B. J. (2002). Becoming a self-regulated learner: An overview. *Theory Into Practice*, 41(2), 64–70. [\[CrossRef\]](#) [\[PubMed\]](#)

Disclaimer/Publisher’s Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.