HALAL COMPETENCIES OF EMPLOYEES IN THE AGRI-FOOD INDUSTRY: PERCEIVED IMPORTANCE, DETERMINANTS AND ASSOCIATION WITH ORGANISATIONAL EFFICIENCY

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ABSTRACT

This study explores how employees assess the importance of 17 halal competencies, how these competencies are structured, and how they relate to organisational efficiency. It draws on responses from 225 employees in 79 halal-certified companies across Bosnia and Herzegovina, Serbia and Croatia; 92% operate in the agri-food sector. Competency ranking, principal component analysis, non-parametric tests and hierarchical regression identified two dimensions: value-normative and technical-behavioural. Employees placed the greatest importance on hygiene requirements and distinguishing between halal, haram and mashbooh, while participation in professional development ranked lowest. Halal team members and quality staff rated competencies more highly than owners and managers. After controlling for employee characteristics, the halal competency index explained additional variation in organisational efficiency. Only the technical-behavioural dimension emerged as an independent predictor, suggesting that training should focus on the practical knowledge, skills and everyday work habits employees need to fulfil their halal-related responsibilities.

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This paper draws on data collected for a master's thesis defended at the Faculty of Economics, University of Tuzla, in 2025. Findings from the same research relating to the validation of the KSAH framework were previously published in the Proceedings of the 9th International Scientific Conference "Economy of Integration" – ICEI 2025 (Umihanić & Sakić, 2025). The present paper reports new analyses that were not included in that publication.

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Introduction

The halal market is one of the fastest-growing segments of the global food industry, serving approximately two billion Muslim consumers (Dinar Standard, 2024). In Islamic dietary principles, *halal* refers to what is permissible, *haram* to what is prohibited, and *mashbooh* to what is doubtful or of uncertain status. For agri-food companies in Southeast Europe, halal certification provides access to international halal markets and enables product differentiation. Approximately 250 companies in Bosnia and Herzegovina, Serbia, and Croatia are halal-certified, mainly in the meat, dairy, bakery, oil, and milling sectors, under BAS 1049, a standard harmonised with OIC/SMIIC standards (Agencija za certificiranje halal kvalitete, n.d.).

Halal production requires preserving product integrity throughout the value chain, from raw materials to the final consumer (Ali et al., 2017; Khan et al., 2018). This involves a preventive, process-oriented approach based on monitoring, risk identification, and preventive and corrective measures. Employees play a key role through their understanding of halal requirements, consistent application of procedures, and commitment to the values underlying the halal system (Talib et al., 2015). Halal standards BAS 1049:2023 (BAS, 2023) and OIC/SMIIC 18:2021 (OIC/SMIIC, 2021) require competent and appropriately trained personnel but do not specify a detailed list of competencies or their assessment methods. This raises two research questions: which knowledge, skills, attitudes, and habits constitute employees' halal competencies, and how are they associated with halal system efficiency?

Research on the human factor in the halal industry has mainly been conducted in Southeast Asia, focusing on employee training needs (Hashim & Shariff, 2016; Jamaludin et al., 2015), the role of human capital in obtaining halal certification (Rafiki & Abdul Wahab, 2016), and factors affecting halal companies' organisational performance (Bidin et al., 2021; Othman et al., 2019).

Recent studies have proposed competency models for halal executives (Rosli et al., 2022) and halal supply chain personnel (Voak et al., 2023). However, research on employee competencies in the halal industry in Europe remains limited, particularly in Southeast European countries. Sakić (2025) developed and operationalised a framework of 17 halal competencies based on the KSAH/KASH approach (knowledge, skills, attitudes, and habits) and the requirements of halal standards. The framework was examined as part of a broader study on human resource management in the halal industry in Bosnia and Herzegovina, Serbia, and Croatia. Data collected in that research were also used in this study.

Using this framework, Umihanić and Sakić (2025) examined the relationships between the four KSAH dimensions and organisational efficiency. The results indicated high internal consistency of the measurement scales and strong intercorrelations among the four competency dimensions. Regression analysis identified skills as a statistically significant independent predictor of internal halal audit and habits as a significant predictor of customer satisfaction.

This study continues previous research and methodologically extends the analysis of halal competencies. Instead of examining them through the four composite KSAH dimensions, it analyses the perceived importance and empirical grouping of all 17 halal competencies. It also examines differences by halal team membership, participation in halal training, job position, and educational level. Hierarchical regression assesses the contribution of halal competencies to organisational efficiency while controlling for relevant employee characteristics.

Theoretical Framework and Hypotheses

The concept of competencies has developed through different approaches aimed at explaining why some employees achieve better results than others. McClelland (1973) emphasised the importance of assessing competencies through job-related behaviours, while Boyatzis (1982) focused on individual characteristics contributing to effective performance. Spencer and Spencer (1993) distinguished visible competencies, such as knowledge and skills, from less visible components, including motives, traits, and values. From the resource-based view (RBV), organisation-specific competencies can provide sustained competitive advantage (Lado & Wilson, 1994). More recent approaches also recognise behavioural competencies alongside knowledge and skills (Armstrong & Taylor, 2023).

The widely used KSA and KSAO models describe competencies through knowledge, skills, abilities, and other personal characteristics (Rehmani et al., 2020; Society for Human Resource Management, 2022). However, these models do not fully capture the value-related aspects of halal competencies, which include attitudes, behavioural patterns, and alignment with Islamic values alongside professional knowledge and operational skills. Employees must therefore understand the distinction between halal, haram, and doubtful (mashbooh) status, apply procedures for handling raw materials and halal critical control points (HrCCP), and take personal responsibility for preserving product integrity (Jašić et al., 2022).

In addition to general professional competencies, research by Abu Bakar et al. (2016) highlights the role of religiosity in work engagement. Rafiki and Abdul Wahab (2016) found that employees' experience, motivation, training, and education in the halal industry increase the likelihood of obtaining halal certification, while Voak and Fairman (2020) emphasise knowledge of halal regulations and standards as essential for competent work.

The relationship between employee competencies and organisational efficiency can also be examined through high-performance work systems (HPWS) and quality management. Rehmani et al. (2020) examined HPWS practices covering employee knowledge, skills, abilities, motivation, and opportunities to contribute, alongside quality management practices. They found a statistically significant positive relationship between HPWS practices and organisational effectiveness.

With the aim of proposing a unified model of employee competencies in the halal industry, Sakić (2025) developed a matrix of 17 halal competencies organised into four categories: knowledge, skills, attitudes, and habits, as defined by the KSAH/KASH approach (The Peak Performance Center, 2025). This halal competency model reflects halal standard requirements and the importance of employees' responsibility for their consistent and effective implementation.

Using this competency model, Umihanić and Sakić (2025) found high internal consistency and strong intercorrelations among the four KSAH dimensions. Their associations with organisational efficiency were positive, statistically significant but relatively weak (r = 0.25–0.37), while only some dimensions made an independent statistically significant contribution in the regression models.

These findings provide a basis for further examining the 17 individual halal competencies, their perceived importance, and their relationship with organisational efficiency. On this basis, the following hypotheses were formulated:

H1: Employees who are members of a formal halal team and those who have attended halal training assign greater importance to halal competencies than other employees.

H2: The perceived importance of halal competencies differs according to employees' job positions and educational levels.

H3: The perceived importance of halal competencies is positively associated with the dimensions of organisational efficiency of the halal system, even after controlling for employee characteristics.

Materials and Methods

Employees' halal competencies and their association with organisational efficiency were examined using a quantitative cross-sectional design. The study population comprised 248 halal-certified companies in Bosnia and Herzegovina (115), Serbia (40), and Croatia (93), identified through the registers of the Agency for Halal Quality Certification and the Centre for Halal Quality Certification. Data were collected in July and August 2025 using a structured online questionnaire. A total of 225 complete responses were collected from employees in 79 companies, representing 31.9% of the population of certified companies. Sampling procedures and country coverage are detailed in Umihanić and Sakić (2025), while Table 1 presents employee characteristics used for group comparisons and as control variables.

Respondents were grouped according to their companies' business activities. The majority (92.4%) were employed in the agri-food sector, including meat and poultry processing (34.2%), bakery products (15.1%), prepared foods and other food products (15.6%), dairy products (8.4%), oils and fats (5.3%), fruit and vegetable processing (4.4%), milling (2.7%), primary agriculture and aquaculture (5.8%), and beverages (0.9%). The remaining 7.6% of respondents were employed in trade, catering, hospitality, packaging production, and service activities.

Table 1. Sample characteristics (N = 225)

Characteristic	n	%	Characteristic	n	%
Country			**Job position**		
Bosnia and Herzegovina	168	74,7	Owner / management	27	12,0
Serbia	33	14,7	Quality, technology and control	87	38,7
Croatia	24	10,7	Production	51	22,7
Halal team member			Other functions	60	26,7
Yes	135	60,0	**Education**		
No	90	40,0	Secondary education or lower	50	22,2
Number of halal training sessions			University degree	116	51,6
None	44	19,6	Master's degree / doctorate	59	26,2
One	63	28,0	**Length of service in the company**		
Two	40	17,8	1–5 years	84	37,3
Three or more	78	34,7	6–10 years	54	24,0
Gender			11–20 years	61	27,1
Male	107	47,6	More than 20 years	26	11,6
Female	116	51,6			
Not disclosed	2	0,9			

Source: Authors' calculations

The study used the questionnaire described in Umihanić and Sakić (2025), comprising 17 halal competency items derived from BAS 1049:2023 and OIC/SMIIC 18:2021 (OIC/SMIIC, 2021), rated on a five-point importance scale (1 = not at all important; 5 = very important). Organisational efficiency was assessed through 15 statements on a five-point Likert scale (1 = strongly disagree; 5 = strongly agree), covering four dimensions: process management, internal halal audit, non-conformity management, and customer satisfaction.

Unlike the previous study, which analysed competencies as four composite dimensions, this study analyses competencies at the level of individual items, dimensions derived from factor analysis, and an overall halal competency index calculated as the mean of all 17 items (Cronbach's $\alpha = 0.970$). Two items concerning HrCCP analysis and hygiene requirements were assigned according to the conceptual logic of the KSAH framework, resulting in slightly different reliability coefficients for the knowledge and skills categories compared with those previously published. The overall organisational efficiency index was calculated as the mean of all 15 statements ($\alpha = 0.967$).

Data were analysed in several stages. The perceived importance of competencies was ranked using the mean, standard deviation, and proportion of "very important" ratings. The structure of halal competencies was examined using Principal Component Analysis (PCA) and varimax rotation, with the Kaiser–Meyer–Olkin measure and Bartlett's test of sphericity used to assess the suitability of the data (Hair et al., 2019). As the distributions of ratings deviated from normality and showed pronounced negative skewness, differences between groups were tested using the Mann–Whitney U test and the Kruskal–Wallis H test, with effect sizes reported.

The association between halal competencies and organisational efficiency was examined using hierarchical regression analysis. The first step included country, halal team membership, number of training sessions, job position, and tertiary education as control variables. The second step added either the overall halal competency index or the two PCA-derived dimensions (Tabachnick & Fidell, 2007), allowing assessment of their additional explanatory contribution after controlling for employee characteristics.

Results

The descriptive analysis of the perceived importance of individual competencies (Table 2) shows that all competencies received high ratings (mean values from 4.17 to 4.65), while the proportion of "very important" ratings ranged from 44.0% to 76.9%. The highest mean ratings were recorded for knowledge of hygiene and food safety requirements (4.65), knowledge of halal standards and the distinction between *halal*, *haram*, and *mashbooh* status (4.62), a sense of responsibility for the integrity of halal processes (4.58), knowledge of halal processes and procedures (4.57), and adherence to Islamic work ethics (4.57).

The lowest ratings were recorded for actively improving one's knowledge through participation in training (4.17), the ability to independently apply procedures and manage non-conformities (4.32), and effective communication and cooperation (4.34). Across the four categories, knowledge (4.57) and attitudes (4.56) were rated as more important than skills (4.41) and habits (4.36).

Table 2. Perceived importance of halal competencies

Competency	Mean	SD	% very important	Rank	α
Knowledge	**4,57**	**0,67**			**0,894**
Knowledge of Islamic teachings on halal	4,43	0,86	62,2	12	
Knowledge of halal standards (halal, haram, mashbooh)	4,62	0,72	72,9	2	
Knowledge of halal processes, procedures, and raw materials	4,57	0,77	71,1	4	
Knowledge of hygiene and food safety requirements	4,65	0,72	76,9	1	
Skills	**4,41**	**0,75**			**0,910**
Application of HrCCP analysis in production	4,47	0,86	66,2	8	
Management of halal documentation	4,47	0,81	63,1	8	
Planning and conducting internal audits	4,38	0,88	57,8	13	
Independent application of procedures and management of non-conformities	4,32	0,80	50,2	16	
Attitudes	**4,56**	**0,70**			**0,931**
Acting in accordance with religious values (amanah)	4,52	0,80	67,1	7	
Sense of responsibility for the integrity of halal processes	4,58	0,73	70,2	3	
Adherence to Islamic work ethics	4,57	0,79	72,4	4	
Awareness of the importance of personal contribution to halal integrity	4,56	0,75	68,0	6	

Competency	Mean	SD	% very important	Rank	α
Habits	**4,36**	**0,74**			**0,929**
Active improvement of knowledge (participation in training)	4,17	0,91	44,0	17	
Effective communication and cooperation	4,34	0,84	53,3	15	
Consulting responsible personnel in cases of uncertainty	4,46	0,83	62,7	10	
Active contribution to the implementation and improvement of procedures	4,38	0,85	57,3	13	
Adaptability and willingness to make additional efforts	4,45	0,77	59,1	11	
Overall halal competency index	**4,47**	**0,67**			**0,970**

Source: Authors' calculations

Principal component analysis (PCA) identified two substantively interpretable dimensions of halal competencies. The first, the technical-behavioural dimension (F1), comprises technical knowledge of processes and hygiene, all four skills, and all habits, totalling 11 items, with high internal consistency (α = 0.959). The second, the value-normative dimension (F2), comprises knowledge of Islamic teachings, the distinction between *halal*, *haram*, and *mashbooh* status, and all four attitudes, totalling six items, also with high internal consistency (α = 0.945).

Before rotation, the first component explained 68.5% of the total variance and the second an additional 6.8%. Together, the two components explained 75.3% of the variance (Table 3). The suitability of the data for PCA was confirmed by a high KMO value (0.952) and a statistically significant Bartlett's test ($\chi^2 = 4177.2$; df = 136; $p < 0.001$).

The composite measures formed on the basis of this classification were strongly correlated (r = 0.825), indicating that the two dimensions represent closely related components of a single halal competency construct, but with distinct substantive characteristics.

Table 3. Factor structure of halal competencies
(principal component analysis, varimax rotation)

Competency	F1 Technical-behavioural	F2 Value-normative
Halal documentation management	0,81	0,32
Independent application of procedures and management of non-conformities	0,81	0,32
Active contribution to the implementation and improvement of procedures	0,78	0,40
Application of HrCCP analysis in production	0,76	0,29
Effective communication and cooperation	0,76	0,43
Consulting responsible personnel in cases of uncertainty	0,76	0,42
Planning and conducting internal audits	0,75	0,41
Knowledge of halal processes, procedures, and raw materials	0,70	0,51
Knowledge of hygiene and food safety requirements	0,70	0,46
Active improvement of knowledge (participation in training)	0,65	0,38

Competency	F1 Technical-behavioural	F2 Value-normative
Adaptability and willingness to make additional efforts	0,63	0,58
Adherence to Islamic work ethics	0,28	0,87
Acting in accordance with religious values (amanah)	0,32	0,85
Knowledge of Islamic teachings on halal	0,26	0,82
Knowledge of halal standards (halal, haram, mashbooh)	0,48	0,76
Sense of responsibility for the integrity of halal processes	0,58	0,71
Awareness of the importance of personal contribution to halal integrity	0,55	0,70
Initial Eigenvalue / % of variance before rotation	11,65 / 68,5	1,15 / 6,8

Source: Authors' calculations. Factor loadings greater than 0.60 determine the assignment of items to factors.

The results of tests for differences between groups are presented in Table 4. Halal team members assigned greater importance to halal competencies than other employees, both for the overall index (4.57 versus 4.31; $p < 0.001$) and for both dimensions. The difference was more pronounced for the technical-behavioural dimension ($r = 0.31$) than for the value-normative dimension ($r = 0.23$). Employees who had attended at least one halal training session also rated competencies more highly than those who had not attended training (4.49 versus 4.38; $p = 0.045$), although the effect size was small ($r = 0.13$). The number of halal training sessions attended was not associated with statistically significant differences in competency ratings (Kruskal–Wallis $p = 0.249$). Based on these results, H1 was supported, with halal team membership showing a larger effect than participation in halal training.

Perceptions of the importance of halal competencies differed significantly by job position ($H = 19.39$; $p < 0.001$; $\eta^2 = 0.07$). The highest ratings were given by employees working in quality, technology, and control functions (4.62), followed by production employees (4.50), while owners and managers gave the lowest ratings (4.22). The difference was particularly pronounced for the technical-behavioural dimension, which employees in quality, technology, and control functions rated at a mean of 4.61, compared with 4.15 among owners and managers. Tertiary education was associated with higher ratings of the technical-behavioural dimension (4.48 versus 4.22; $p = 0.007$), while the difference for the value-normative dimension was not statistically significant ($p = 0.364$). As differences were identified according to both job position and level of education, H2 was supported. Respondents from Serbia and Croatia rated the technical-behavioural dimension more highly than respondents from Bosnia and Herzegovina ($p = 0.001$). Differences by length of service ($p = 0.617$) and gender ($p = 0.247$) were not statistically significant.

Table 4. Differences in the perceived importance of halal competencies according to employee characteristics

Characteristic	Overall index	p (r / η²)	Technical-behavioural	Value-normative
Halal team member: yes / no	4,57 / 4,31	<0,001 (0,31)	4,55 / 4,24 ***	4,62 / 4,44 ***
Halal training: yes / no	4,49 / 4,38	0,045 (0,13)	4,45 / 4,33 *	4,56 / 4,47 *
Tertiary education: yes / no	4,51 / 4,32	0,026 (0,15)	4,48 / 4,22 **	4,56 / 4,50
Job position		<0,001 (0,07)	***	**
Owner / management	4,22		4,15	4,35
Quality, technology, control	4,62		4,61	4,65
Production	4,50		4,44	4,61
Other functions	4,33		4,27	4,44
Country		0,004 (0,04)	**	
Bosnia and Herzegovina	4,42		4,35	4,53
Serbia	4,64		4,63	4,67
Croatia	4,59		4,66	4,46

Source: Authors' calculations. *Mean* values are presented. *P-values* are based on the Mann–Whitney U test (two groups) and the Kruskal–Wallis H test (multiple groups); effect sizes are reported as *r* for two groups and η^2 for multiple groups. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

The associations of the overall halal competency index and the two identified dimensions with organisational efficiency were examined before conducting the regression analysis. The overall halal competency index was positively correlated with the overall organisational efficiency index ($r = 0.379$; $p < 0.001$). This correlation was slightly stronger than those previously reported for the individual KSAH dimensions (Umihanić & Sakić, 2025). The technical-behavioural dimension was consistently more strongly associated with all dimensions of organisational efficiency (*r* ranging from 0.347 for customer satisfaction to 0.400 for overall organisational efficiency) than the value-normative dimension (*r* ranging from 0.250 to 0.295).

Hierarchical regression analysis (Table 5) shows that the control variables explain between 8.6% and 15.7% of the variance in the individual dimensions of organisational efficiency. The number of halal training sessions and employment in quality-related functions were consistently associated with positive and statistically significant regression coefficients, while the coefficients for management positions were negative but not statistically significant. In the second step of the analysis, the overall halal competency index, reflecting employees' perceived importance of the competencies, was included in the regression models, increasing the explained variance by an additional 7.1 to 9.2 percentage points. All changes were statistically significant ($p < 0.001$). The standardised coefficient of the competency index ranged from 0.278 for process management to 0.317 for overall organisational efficiency, making it the strongest individual predictor in all models.

Unlike the previously published models based on the four KSAH dimensions of halal competencies, in which no predictors were statistically significant for process

management or non-conformity management, the present analysis found a statistically significant contribution of halal competencies to all four dimensions of organisational efficiency. When the two dimensions of halal competencies were introduced instead of the overall index, the technical-behavioural dimension remained a significant predictor of all outcomes (β ranging from 0.243 to 0.399), while the value-normative dimension made no independent statistically significant contribution (β ranging from −0.098 to 0.045; $p > 0.39$). Based on these results, H3 was supported, with the independent contribution of halal competencies to organisational efficiency being associated with the technical-behavioural dimension.

Table 5. Hierarchical regression of organisational efficiency dimensions on halal competencies

Predictor	Process management	Internal halal audit	Non-conformity management	Customer satisfaction	Overall efficiency
Step 1: Control variables (R^2)	0,157	0,144	0,131	0,086	0,151
Step 2: Model with competency index					
Number of halal training sessions (β)	0,161 *	0,202 **	0,193 **	0,150 *	0,192 **
Quality-related function (β)	0,161 *	0,171 *	0,150 *	0,141 *	0,172 *
Management (β)	–0,085	–0,094	–0,113	–0,107	–0,108
Halal team member (β)	0,075	0,026	0,024	–0,030	0,029
Halal competency index (β)	**0,278** ***	**0,288** ***	**0,299** ***	**0,292** ***	**0,317** ***
ΔR^2	0,071 ***	0,077 ***	0,082 ***	0,079 ***	0,092 ***
R^2 / Adjusted R^2	0,228 / 0,199	0,220 / 0,191	0,213 / 0,184	0,164 / 0,133	0,244 / 0,216
F	7,96 ***	7,63 ***	7,32 ***	5,31 ***	8,70 ***
Alternative Step 2: Two dimensions					
Technical-behavioural (β)	0,243 *	0,372 **	0,337 **	0,399 **	0,367 **
Value-normative (β)	0,045	–0,074	–0,028	–0,098	–0,039
Adjusted R^2	0,196	0,198	0,186	0,142	0,220

Source: Authors' calculations. Control variables also include country (Serbia and Croatia) and tertiary education, whose coefficients were not statistically significant in any model. β – standardised coefficient. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Discussion

The results confirm that employees in halal-certified agri-food companies consider halal competencies highly important, although the relative importance assigned to individual competencies varies. The highest ratings were given to competencies relating to the fundamental distinction between what is permitted and prohibited (*halal and haram*), hygiene requirements, and a personal sense of responsibility. These competencies are closely linked to the essence of halal integrity and are readily recognised in everyday work. The lowest ratings were given to competencies requiring proactivity and continuous effort, particularly participation in training, independent management of

non-conformities and communication. This pattern indicates that employees attach greater importance to competencies directly related to compliance with halal rules and values than to those involving continuous development, independence, and cooperation. These results are consistent with the observations of Voak and Fairman (2020), who highlighted the challenges of human resource development in halal supply chains and the need for competency-based training.

The two-dimensional structure of halal competencies conceptually corresponds to the distinction between hidden and visible components of competency discussed by Spencer and Spencer (1993). A similar distinction was proposed by Voak, Fairman, and Wahyuni (2023), who differentiated socio-cultural and ethical competencies from technical and operational competencies, although their model was not empirically tested. Unlike the original four-dimensional KSAH structure, knowledge competencies were distributed between the two dimensions according to their value-related or operational content. This suggests that employee development should integrate an understanding of halal values with their practical application. A similar perspective is presented by Harahap et al. (2024), who link human resource development in the halal industry to technical skills, knowledge, attitudes, and work ethics.

The difference in the predictive value of the two dimensions has important implications for halal system management. Although employees assigned greater importance to value-normative competencies, only the technical-behavioural dimension made an independent statistically significant contribution to organisational efficiency when both dimensions were included in the regression models. This is consistent with Umihanić and Sakić (2025), who identified skills and habits, but not knowledge and attitudes, as independent predictors of selected efficiency dimensions. The findings also correspond with Rehmani et al. (2020) on the relationship between high-performance work systems and organisational effectiveness, and Rafiki and Abdul Wahab (2016) on the importance of training and education for halal certification. They suggest that commitment to halal values needs to be supported by operational knowledge, skills, and consistent work habits to contribute to organisational efficiency.

The greater importance assigned to competencies by halal team members suggests that direct involvement in halal system activities may be more influential than participation in training alone. Particularly concerning is the lower importance assigned by owners and managers, given their responsibility for employee development and halal team organisation. Voak, Fairman, and Helmy (2024) also emphasise the need for systematic development of leadership competencies in halal supply chains. Greater management involvement may therefore support the long-term effectiveness of halal systems.

The results should be interpreted in light of several limitations. The cross-sectional design does not allow causal conclusions, and it is also possible that well-developed halal systems shape employees' awareness of competencies rather than the reverse. The study measured perceived importance rather than actual competency levels, indicating a need to confirm the findings through objective assessments. All variables were

collected using the same instrument at the same point in time, creating the possibility of common method bias. In addition, pronounced negative skewness may limit variability and affect the estimated strength of associations. The sample was not proportionally distributed across countries, so differences between countries should be interpreted with caution.

Conclusions

This study extends the previously developed halal competency framework based on the four-dimensional KSAH approach by analysing individual competencies, their structure, and their association with organisational efficiency. The results show that employees assign high importance to halal competencies. The analysis of the 17 individual competencies identified two interrelated dimensions: value-normative and technical-behavioural. Competencies related to halal integrity, hygiene requirements, and personal responsibility received the highest ratings, while continuous training, independent management of non-conformities, and communication received lower ratings.

The perceived importance of competencies was higher among halal team members and employees working in quality-related functions, while owners and managers assigned the least importance to these competencies. The overall halal competency index made an additional contribution to explaining organisational efficiency, while the technical-behavioural dimension made an independent statistically significant contribution when both dimensions were included in the model simultaneously.

The results suggest that employee development should place greater emphasis on operational knowledge, skills, and work habits, alongside an understanding of the values underlying halal. The analysis also highlights the need for greater involvement of management and employees in halal system activities. Future research should confirm the two-factor structure using an independent sample and examine actual, rather than merely perceived, competencies and their contribution to measurable outcomes of halal system efficiency.

Conflict of Interest

The authors declare that there is no conflict of interest. The second author was previously employed by the Agency for Halal Quality Certification, which certifies some of the companies included in the sample. Data were collected anonymously and were not used for certification purposes.

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