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DIGITAL-HALAL ECONOMY IN MARKETING FINANCE: EMBODYING SPIRITUAL RESPONSIBILITY THROUGH STRATEGIC BEHAVIORAL ACCOUNTING

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ABSTRACT

Purpose: This study aims to examine the role of the artificial intelligence-based application digital-halal as a catalyst in financial management. The application represents a form of spiritual corporate responsibility, emphasizing the delivery of added value to consumers. This consumer value reflects the implementation of strategic behavioral accounting principles rooted in digital-halal practices, particularly within the marketing finance context of food and beverage products in Indonesia.
Methodology/approach: A quantitative causality design was employed to analyze the relationship between digital-halal marketing finance practices and spiritual responsibility. The study operationalized specific criteria for the utilization of the digital-halal economy as a measurable construct in corporate financial strategies. Data were collected from 25 food and beverage companies listed on the Indonesian Stock Exchange.
Findings: The study reveals a two-way causal relationship between the digital-halal economy and spiritual responsibility among food and beverage companies listed on the Indonesia Stock Exchange. This reflects the application of strategic behavioral accounting in marketing finance, where digital-halal practices embody consumer-driven values and reinforce spiritual responsibility as a foundation for core advantage.
Practical implications: Integrating digital-halal aspects into product marketing reflects strategic behavioral accounting that enhances consumer value. These aspects highlight the benefits of food and beverage products while

reinforcing spiritual responsibility as a basis for achieving core advantage.

Originality/value: This study offers originality by framing product marketing as a core value within strategic behavioral accounting, guided by digital-halal principles as a form of spiritual responsibility. This connection enhances consumer value and strengthens the link between accounting and marketing in achieving core advantage.

Keywords: Digital-Halal; Marketing Finance; Spiritual Responsibility; Strategic Behavioral Accounting.

ABSTRAK

Tujuan penelitian: *Penelitian ini bertujuan untuk mengkaji peran aplikasi berbasis kecerdasan buatan digital-halal sebagai penggerak dalam manajemen keuangan. Aplikasi ini merupakan bentuk tanggung jawab spiritual perusahaan, yang menekankan pada pemberian nilai tambah kepada konsumen. Nilai konsumen ini mencerminkan penerapan prinsip akuntansi perilaku strategis berbasis praktik digital-halal, khususnya dalam konteks keuangan pemasaran produk makanan dan minuman di Indonesia.*

Metode/pendekatan: *Desain kuantitatif kausalitas digunakan untuk menganalisis hubungan antara praktik keuangan pemasaran digital-halal dan tanggung jawab spiritual. Penelitian ini mengoperasionalisasikan kriteria tertentu untuk pemanfaatan ekonomi digital-halal sebagai konstruk yang dapat diukur dalam strategi keuangan perusahaan. Data dikumpulkan dari 25 perusahaan makanan dan minuman yang terdaftar di Bursa Efek Indonesia.*

Hasil: *Penelitian ini mengungkap adanya hubungan kausalitas dua arah antara ekonomi digital-halal dan tanggung jawab spiritual pada perusahaan makanan dan minuman yang terdaftar di Bursa Efek Indonesia. Temuan ini mencerminkan penerapan akuntansi perilaku strategis dalam keuangan pemasaran, di mana praktik digital-halal mewujudkan nilai-nilai konsumen dan memperkuat tanggung jawab spiritual sebagai dasar untuk mencapai keunggulan inti.*

Implikasi praktik: *Mengintegrasikan aspek digital-halal ke dalam pemasaran produk mencerminkan akuntansi perilaku strategis yang meningkatkan nilai konsumen. Aspek-aspek ini menyoroti manfaat produk makanan dan minuman sambil memperkuat tanggung jawab spiritual sebagai dasar untuk mencapai keunggulan inti.*

Orisinalitas/kebaharuan: *Penelitian ini menawarkan orisinalitas dengan memosisikan pemasaran produk sebagai nilai inti dalam akuntansi perilaku strategis, yang dipandu oleh prinsip-prinsip digital-halal sebagai bentuk tanggung jawab spiritual. Keterkaitan ini meningkatkan nilai konsumen dan memperkuat hubungan antara akuntansi dan pemasaran dalam mencapai keunggulan inti.*

Kata kunci: *Digital-Halal; Keuangan Pemasaran; Tanggung Jawab Spiritual; Akuntansi Perilaku Strategis.*

INTRODUCTIONS

Strategic behavioral accounting plays a vital role in aligning cost management with human behavior and ethical decision-making. However, recent studies have emphasized a persistent gap between theory and practice in this field (e.g., Rashid, 2020; Bassani et al., 2021; Ojra et al., 2021; Chang et al., 2022). Although this gap appears to be narrowing in some areas Wibbeke & Lachmann, (2020), and Lau et al., (2022), it remains substantial in core domains such as cost behavioral analysis. Bridging this gap requires integrative research that links theoretical models with real-world application for sustainable and ethically grounded (Halal) progress.

In this context, the digital perspective of new institutional strategic management offers a valuable framework for understanding this gap. The transition to a digital economy is accompanied by institutional changes—commonly referred to as the "rules of the game"—which involve shifts in both informal elements (such as norms and traditions) and formal structures (such as regulations and policies) that shape socio-economic interactions and influence development paths (Pigatto et al., 2023). These institutional transitions directly impact the applicability of strategic behavioral accounting, necessitating further empirical research to explore how such frameworks adapt within evolving digital-halal functions, particularly in areas like green finance, marketing, and cost behavior analysis.

Industry was for a longtime production-center. This meant that a product was created, and then the selling function was given the job of getting the customer to want what the company had. This worked well in earlier times because: (a) sources and supply of goods were limited; (b) customer demands were relatively unsophisticated; and (c) limited competition meant that goods were generally bought and not sold. The thinking was that companies could attract customers simply by increasing production efficiency and technical excellence (Nguyen et al., 2022). Companies that still subscribe to such a view of industry are termed to have a selling orientation.

After Covid-19 is competition between the industrial nations intensified. More attention had to be paid to the needs of the customers. It was realization that customers do not want a product for its own sake. A product is purchased in order to satisfy some need. For example, digital are needed not for themselves, but instead, to handle information. Therefore Prospera, (2021) did not try to sell computers; they sold "management information systems". The thinking was that the digital concept should start with the customers by identifying and anticipating their needs and desires, and only then should industry food and beverage (or manufacture) the products to meet such needs. Companies that subscribe to such a view of industry are said to have a "digital orientation" (Söderholm, 2020; Lichtenthaler, 2021;

Rubino et al., 2021; Sari et al., 2021; Pigatto et al., 2023). Some writers term this new line of thinking the digital concept.

This digital concept has radically changed the information requirements of Information Technology (IT) managers. They now need to define and examine the generic needs of the consumers in order to identify an advantage for their products. For example, accurate information is an advantage offered by Intel Technology. But, because other firms may be able to offer consumers the same advantage, the product must also have a differential, that is, something that will make consumers buy it rather than a competitor's product. Such a product is said to have a differential advantage. The differential is provided by manipulating various elements of strategic spiritual accounting, namely cost determination and financial control, information for customer planning and control, reduction of resource waste in business processes, and the creation of value through effective resource utilization. These elements are integrated with spiritual values, aligning financial decision-making with ethical considerations, sustainability, and stakeholder well-being (Prasetyo, 2021).

Previous research in strategic behavioral accounting has primarily focused on traditional models of responsibility accounting, where cost control is tied to managerial authority (Prasetyo, 2020; Lichtenthaler, 2021; Ojra et al., 2021; Oktavendi et al., 2023). While these models were effective in past organizational contexts, they have become increasingly inadequate in addressing the challenges of cost and quality competition, rapid innovation cycles, and complex product lifecycles (Rashid, 2020; Bassani et al., 2021). Moreover, traditional accounting approaches often fail to provide real-time, actionable insights for strategic decision-making in highly dynamic and digitalized business environments (Pigatto et al., 2023; Nair et al., 2022; Aini & Susilowati, 2022).
The literature has suggested the need for strategic techniques such as activity-based costing, value chain analysis, and product life cycle costing (Lau et al., 2022; Nguyen et al., 2022; Nair et al., 2022; Jannah & Hatimah, 2022; Nasution et al., 2024). However, most studies have not explicitly addressed how these strategic tools can be adapted or integrated within the framework of digital and halal-oriented economies, especially in emerging markets like Indonesia's food and beverage industry. Furthermore, there remains a significant lack of empirical studies that examine the role of spiritual responsibility as a moderating or reinforcing factor in strategic accounting behavior.

This research addresses these gaps by introducing a Digital-Halal Economy and Spiritual Responsibility (DHESR) framework, which positions digital innovation and ethical-spiritual values as strategic levers for managerial decision-making. The novelty of this study lies in its conceptual and empirical integration of Islamic ethical principles (spiritual responsibility) with digital transformation strategies to form a new approach to strategic behavioral accounting. This dual integration is particularly relevant in the context of halal industries, where both performance and spiritual accountability are critical for sustaining competitive advantage.

This research applies the strategic behavioral accounting framework within the Indonesian food and beverage sector, contributing to both theoretical development and practical relevance. It offers valuable insights for managers operating in halal markets, where the integration of digital adoption and spiritual responsibility enhances the strategic value of accounting information and promotes more ethical, effective, and competitive decision-making.

Empirical research however seems to support the product manager's max-market-share objective as this is shown to lead to increased profitability for the firm. The "learning curve"

phenomenon of labor cost declining predictably as more units are produced is well known to strategic management accountants (Ojra et al., 2021). Thus, the competitor who has produced the most units will probably have the lowest unit costs. Furthermore, since the products of all competitors in a certain segment have about the same market price, the competitor with the most "unit experience", should enjoy the greatest profit, and therefore the highest behavioral management (Bassani et al., 2021; Ojra et al., 2021; Chang et al., 2022). This line of reasoning leads one to hypothesis the existence of an experience curve (figure 1) which shows a close relationship between market share and profitability.

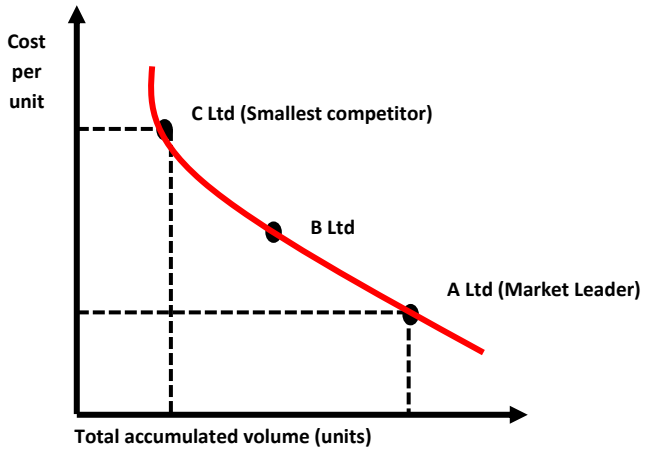

Figure 1. The Experience Curve

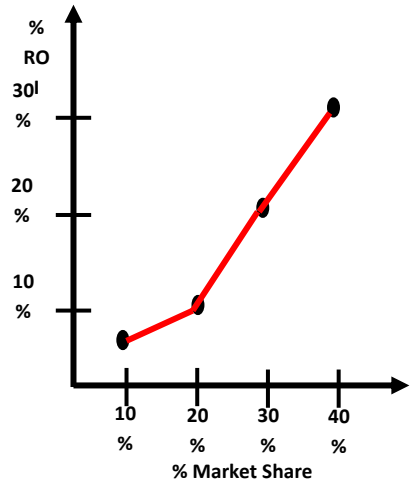

Figure 2. The SBA Study

Source: The analysis from Prospera, (2021) developed by the researchers (2024).

This hypothesis has now been accepted as a result of the work done by Söderholm, (2020) and discussed by Rashid, (2020), Bassani et al., (2021), Lichtenthaler, (2021), Jannah & Hatimah, (2022). They explain is indicated that if a company maximum its market share, then it will maximum its behavioral management as well (figure 2). Thus, for the strategic behavioral accounting, the implications of the market research study seem to be "forget all controls initially and allow the new product manager to go for increased market share at all costs. There are, however, reasons why this would be a recipe for disaster.

Conventional cost accounting systems, such as absorption and marginal costing, remain rooted in production-oriented logic, often beginning with the cost of the product rather than the needs of the customer. These traditional approaches fail to provide managers with the necessary insights to analyze profitability across customer segments, products, and marketing territories. As a result, they inadequately support marketing strategies, particularly in industries where customer differentiation and product positioning are critical. The inability of these methods to handle segment-specific information and resource allocation creates a significant gap in strategic behavioral accounting practice (Nair et al., 2022; Bassani et al., 2021; Ojra et al., 2021; Chang et al., 2022; Mulyadi et al., 2023).

Addressing the existing gap in strategic behavioral accounting requires a more market-oriented approach—one that integrates customer value, innovation, and resource optimization at its core. The rise of the digital-halal economy, which blends ethical and spiritual principles into modern business practices, offers a timely opportunity to enrich accounting systems with socially responsible dimensions. In response, this study proposes a strategic behavioral accounting model that incorporates digital-halal principles and spiritual responsibility, aligning financial decision-making with both economic performance and ethical integrity.

In this context, the research aims to examine the causal relationship between the digital-halal economy and spiritual responsibility, particularly within the Indonesian food and beverage sector. The study explores how digital-halal practices function both as a marketing finance tool and as a form of spiritual accountability, offering potential for long-term competitive advantage. This objective aligns with the increasing demand for accounting systems that transcend mere efficiency and profitability, emphasizing instead transparency, stakeholder trust, and sustainable business practices (Sari et al., 2021; Aini & Susilowati, 2022; Guesmi & Gil., 2021).

Theoretically, this research builds on the foundation of the product portfolio matrix, which highlights the strategic relationship between market share, market growth, and cash flow. Strategic behavioral accounting plays a crucial role in identifying which products act as cash generators and which as cash absorbers. In highly segmented markets, such as the beverage industry, managers require detailed cost information tailored to various consumer groups—categorized by income, preferences, function, or image (Aini & Susilowati, 2022). Digital-halal principles provide a spiritual lens through which this segmentation can be ethically aligned. By refining cost allocation through more accurate and purpose-driven segmentation, the model offers a more comprehensive view of value creation, reinforcing spiritual responsibility as a central driver of financial and marketing strategy.

H: Digital-Halal Economy and Spiritual Responsibility have a positive influence on each other through the framework of Strategic Behavioral Accounting.

METHOD

The relationship between the use of Digital-Halal Economy and Spiritual Responsibility uses quantitative descriptive research with a causality approach. Approach for 25 food and beverage companies listed on the Indonesian Stock Exchange. Businesses were selected based on a previous pilot test with the criteria of utilizing the Digital-Halal Economy in its marketing finance as a basis for realizing spiritual responsibility which was used (utilized) as the research population, with purposive random sampling. Research data was collected through questionnaires with direct interaction from researchers in taking the answers results. Preparing a questionnaire regarding determining the relationship between Digital-Halal Economy variables using the research of Prospera, (2021), Odel, (2022), Lau et al., (2022), and Spiritual Responsibility using the research results of Pigatto et al., (2023), Sari et al., (2021), and Wibbeke & Lachmann, (2020) as the focus of questionnaire development in the formulation of this research. Variable measurements are as follows:

The variable for implementing digital-halal economy in this research is a behavioral instrument (changing behavior) in shifting its activities towards a technology, in the form of a generative language model to predict the probability of sentences, or the next words in a conversation or text command that can be executed accordingly with employee performance achievements. The implementation variables of the Digital-Halal Economy (DHE) were measured using a self-rating instrument developed by Prospera, (2021), Odel, (2022), and Lau et al., (2022). In this research, each respondent was asked to assess their own performance after using the product, by selecting a scale from one to ten to reflect their level of adaptation to digital technology. Additionally, the DHE measurement included indicators such as compliance with halal standards in digital transactions, ethical use of technology, transparency in digital business processes, and the alignment of digital practices with Islamic values. Furthermore, it was also developed based on the Government Regulation (GR) Number 39/2021 Article 148, that the halal implementation service system uses integrated

electronic-based services. The scale consists of points (1) for performance below average (low) and points (10) for performance above average (high).

The concept of *Spiritual Responsibility (SR)* in business draws upon stakeholder theory and stewardship theory, both of which emphasize accountability that transcends economic returns. In Islamic business ethics, this notion is further rooted in the *Halal value system* and *maqasid al-shariah*, which promote moral integrity, social justice, and divine alignment in economic behavior. Within this framework, SR refers to the provision of information that reflects not only the financial outcomes of business decisions but also their alignment with ethical, spiritual, and societal values. This perspective becomes increasingly relevant in the era of behavioral artificial intelligence, where technologies such as transformer models are used not only to predict consumer behavior but also to support value-driven marketing strategies. These technologies, when applied with purpose, have the potential to align automated decision-making with broader goals of social harmony and spiritual accountability.

This variable was measured using instruments adapted from of Wibbeke & Lachmann, (2020), Prospera, (2021), Sari et al., (2021), Odel, (2022), Lau et al., (2022), and Pigatto et al., (2023), with modifications developed by the researchers to fit the study context. The measurement employed a 10-point Likert-type scale, where 1 indicates the lowest level of agreement or intensity and 10 represents the highest level.

No.	Indicator	Description	Source / Notes	Scale
1.	Integration of AI in business processes	Measures how well employees use AI applications to improve task performance and decision-making	Prospera, (2021), Odel, (2022), Lau et al., (2022), adapted and developed	1 (low) – 10 (high)
2.	Ethical implementation of AI tools	Assesses commitment to ethical standards when applying AI in work-related tasks	Pigatto et al., (2023), Sari et al., (2021), adapted and developed	1 (low) – 10 (high)
3.	Adoption of digital-halal principles	Evaluates incorporation of halal values in digital business activities	Odel, (2022), Lau et al., (2022), adapted and developed	1 (low) – 10 (high)
4.	Spiritual accountability in decision-making	Measures awareness and responsibility toward spiritual and moral values in business decisions	Pigatto et al., (2023), Sari et al., (2021), Wibbeke & Lachmann, (2020), adapted and developed	1 (low) – 10 (high)
5.	Creativity and innovation in halal marketing	Assesses ability to creatively apply digital tools within halal marketing frameworks	Prospera, (2021), Odel, (2022), Lau et al., (2022), adapted and developed	1 (low) – 10 (high)

Table 1. Indicators for Variables

This causality test is to determine the relationship between variables that influence one direction or influence each other (Kuncoro, 2023). In this research, we will test whether the use of the artificial intelligence-based application Digital-Halal Economy influences Spiritual

Responsibility or otherwise. The decision on the outcome will be determined by looking at the probability value. To see the causal relationship from this Granger causality test, it is seen by comparing the probability value with the significance level at the specified lag length. If a variable has a probability value < 5 % (percent) significance level at a predetermined lag length, then the two variables have two-way causality. According to Granger from Kuncoro, (2023), is proposing that a variable X be considered the cause of variable Y. However, if the past values of variable X can better predict variable Y at present. In this research, variable X is the use of Digital-Halal Economy (DHE) and variable Y is Spiritual Responsibility (SR).

RESULTS AND DISCUSSION

The research results used descriptive statistical tests to provide a general description of the data being studied, and this analysis was carried out using the SPSS 25 application. Descriptive statistics applied in research include minimum value, maximum value, mean, and standard deviation. Below are the results of descriptive statistical tests in this research:

Table 2. Descriptive Statistical Test

	N	Minimum	Maximum	Mean	Std. Deviation
DHE	25	-1.72	12.33	2.6415	4.64024
SR	25	0.27	0.96	0.9755	0.25653
Valid N (listwise)	25				

Source: Secondary Data Processing by Eviews 12 (2024)

This study employs a questionnaire-based survey method, in which each research variable is operationalized through several indicators. In descriptive analysis, variables are typically described by aggregating responses to their respective indicators, often using statistical measures such as the minimum, maximum, mean, and standard deviation. However, it is important to note that these statistics primarily reflect respondent responses at the indicator level, and any interpretation at the variable level should be based on the collective pattern of all related indicators.

The dataset used in this study consists of 25 research samples, encompassing two main variables: Digital-Halal Economy (DHE) and Spiritual Responsibility (SR). The first variable, Digital-Halal Economy (DHE), reflects the extent to which employees in the Indonesian Food and Beverage industry integrate artificial intelligence-based applications to enhance business responsibility and creativity in task execution. The descriptive result indicates an average score of 2.6415 for DHE, suggesting a moderate level of technological adaptation, with a need for ongoing digital training through the Digital-Halal Application Model (DHAM). However, the standard deviation of 4.64024 implies a wide variation in employees' ability to utilize DHE, potentially influenced by differing perceptions of task difficulty across the food and beverage sector.

Furthermore, individual company data reveals that PT Mayora Indah Tbk recorded the lowest DHE value at 0.27, indicating minimal use of AI-based applications to support business responsibility. In contrast, PT Sekar Laut Tbk and PT Garudafood Putra Putri Jaya Tbk showed a relatively high DHE awareness score of 0.96, reflecting a greater commitment to consumer value through digital-halal practices.

The second variable, Spiritual Responsibility (SR), also displayed variability in respondent attitudes, as evidenced by a standard deviation of 0.25653. This suggests differing degrees of internalized ethical and spiritual commitment among employees. To examine causal relationships between these variables, the Granger causality test was employed using the

EViews 12 software. This test involves several steps to determine whether one time series can predict another, thereby identifying the directional influence between DHE and SR.

1. Optimal Determination

The optimal determination in the Granger causality test is carried out by looking at the minimum Akaike Information Criterion (AIC) value, which shows that the length of influence is determined by looking at the Akaike Info Criterion (AIC) number. The optimal AIC value for the Digital-Halal Economy (DHE) and Spiritual Responsibility (SR) variables is 5.675243. In the Granger causality test, the minimum AIC number is required, therefore further tests are required, namely test 2 and so on until the smallest AIC number is obtained. Furthermore, test 2 shows the variable results in this research, namely Digital-Halal Economy (DHE) and Spiritual Responsibility (SR). The results show the AIC value is 5.549355. The AIC value shows that test 2 is more optimal than test 1, so this research will not use test 1. To determine the use of test 2, it must be compared with test 3. If the results of test 3 have an AIC value > than the results of test 2, then this study uses test 2.

Determination of test results 3 which displays an AIC value of 5.501921. The AIC value in test 3 < the AIC value in test 2. Therefore, the AIC value in test 3 is more optimal than test 2. Therefore, is necessary to carry out further tests to prove that in this research test 3 is the most optimal test, namely by testing in step 4. This test will continue until the minimum AIC value is found when compared with the value. Because the results of test 3 show that the AIC value is at the optimum, it is necessary to compare it with the next test, namely test 4, which shows that the AIC value is 5.351274. Just like the previous comparison, because test 4 is smaller than tests 1, 2, and 3, therefore 4 is the most optimal test period length so far. So, it is necessary to carry out further tests as a continuation of these 4. As stated in table 3 below:

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DHE(-1)	0.139512	0.362128	0.385257	0.7074
DHE(-2)	-0.6122972	0.329454	-1.860572	0.0897
DHE(-3)	-0.418022	0.276373	-1.512529	0.1586
DHE(-4)	0.421417	0.480687	0.876699	0.3994
DHE(-5)	-0.447105	0.460263	-0.971412	0.3522
SR(-1)	13.53109	9.266549	1.460209	0.1722
SR(-2)	-1.062147	11.42083	-0.093001	0.9276
SR(-3)	10.21209	5.670761	1.800832	0.0992
SR(-4)	12.37941	5.972537	2.072723	0.0625
SR(-5)	6.420014	6.400510	1.003047	0.3374
C	-27.29982	18.35446	-1487367	0.1650
R-squared	0.703568	Mean dependent var		1.583636
Adjustued R-Squared	0.434084	S.D. dependent var		4.131651
S.E. of Regression	3.108132	Akaike info criterion		5.412774
Sum squared resid	106.2653	Schwarz criterion		5.958295
likeilihood	-48.54051	Hanan-Quinn criter		5.541282
F-statistic	2.610801	Durbin-Watson stat		1.094475
Prob (F-statistic)	0.065488			

Table 3. Test Results 5

Source: Secondary Data Processing by Eviews 12 (2024)

If the results test 1 to 5 are summarized, they will be presented as in table 3. can be seen that from tests 1 to 4 the results show that the AIC value continues to decrease until test 5 shows the results of a greater AIC value. Therefore, in this study test 4 was used as the most optimal length value because it showed the lowest AIC value, namely 5.31274.

2. Granger Causality Test

After determining the optimal value to be used, the Granger causality test can then be carried out. Similar determining the optimal value, this causality test also uses the Eviews 12 application. The following are the Granger causality test results with Digital-Halal Economy (DHE) and Spiritual Responsibility (SR) variables with a test tool length of 4, with the following test results:

Table 4. Granger Causality Test Results

Hypothesis:	Obs	F-Statistic	Prob.
SR does not Granger Cause DHE	27	3.50478	0.0350
DHE does not Granger Cause SR		6.35285	0.0039

Source: Secondary Data Processing by Eviews 12 (2024)

Table 4 shows the results of the Granger causality test on Digital-Halal Economy (DHE) and Spiritual Responsibility (SR). on the two samples, namely PT Wilmar Cahaya Indonesia Tbk, PT Mayora Indah Tbk**,** PT Indofood Sukses Makmur Tbk, and PT Ultrajaya Milk Industry Co. Tbk**.** These results were obtained using data from the questionnaire results that had been determined based on the researcher's criteria, so that the amount of data collected was 25 data in this study. These results show that there is a two-way causality relationship between Digital-Halal Economy (DHE) and Spiritual Responsibility (SR) in both companies, namely food and beverage listed on the Indonesia Stock Exchange shown with a probability value <0.05. In the first direction the estimate is with a probability value of 0.0350 and likewise in the second direction the estimate shows a probability value of <0.05, namely 0.0039.

Based on research that has been conducted, it is known that the DHE variable as a guide to the use of artificial intelligence-based applications has a two-way relationship with SR in both food and beverage companies in Indonesia. The results of the Granger causality test calculation using the *Eviews 12* application show that the DHE variable (artificial intelligence-based application) and Spiritual Responsibility (SR) have a two-way causal relationship. This can be assessed by comparing the probability values. If the probability value from the Granger causality test results has a value less than the significance value, namely 5 % (percent), then the variable has a causal relationship (Kuncoro, 2023). In this research, it can be seen in table 3 which shows the probability value in the first estimate, namely DHE influencing SR has a probability value of 0.0350, with a probability value that is less than a significant value, it is proven that DHE can influence SR and vice versa. In the second estimated direction, namely SR influencing DHE, it has a probability value of 0.0039 and this value is also a value that shows a figure less than the significant value, namely 5 % (percent), so it is the same as the first estimate, namely it is proven that DHE and SR also have a causal relationship.

Spiritual Responsibility (SR) is related to increasing the abilities of an employee. Ability to accept the development and use of digital technology in work activities. Support for faster task completion with better quality results, with creativity or innovation. The process is in line with the statement of the Government Regulation (GR) Number 39/2021 Article 148,

that the halal implementation service system uses integrated electronic-based services. The values of using artificial intelligence-based applications can support business responsibility results to complete tasks in accordance with established standards, or better vary widely. This relationship able to foster a work culture of inclusiveness, humanity, security, accessibility, transparency, credibility and accountability, protection of personal data, sustainable development and environment, and intellectual property. Better employee performance can result in completing tasks more quickly with higher quality results.

The results of this research are in line with the results of research conducted by Pigatto et al., (2023); Sari et al., (2021), Lichtenthaler, (2021), and Odel, (2022) which shows that employees who use DHE significantly outperform their colleagues. Employees in this study were asked to complete tasks in accordance with the core business they were working on, then asked to create solutions to business problems explaining that a company with a high's performance culture would have an impact on the smooth running of company activities in utilizing DHE Artificial Intelligence (AI)-based applications. DHE is an AI chatbot in the form of a generative language model that uses transformer technology to predict sentence probabilities. Therefore, the results of research on Spiritual Responsibility (SR) which influences DHE to behavioral accounting are in line with research Ojra et al., (2021), Söderholm, (2020), Aini & Susilowati, (2022), Lau et al., (2022), and Oktavendi et al., (2023). Marginal analysis has also been suggested in other marketing mix areas such as advertising (Bassani et al., 2021), distribution (Lichtenthaler, 2021) and credit management (Pigatto et al., 2023). Which states that employee performance has an influence on the use of artificial intelligence-based applications. This research explains that employee performance culture, which is a performance responsibility activity with the aim of increasing creativity and performance innovation, can increase employee performance assessments. This is due to the belief in technology as a driver of performance in facing competition. Artificial intelligence competition to develop, train and operate generative artificial intelligence as core competency and value provided as the company's core.

As well as according to research conducted by Nguyen et al., (2022), Jannah & Hatimah, (2022), Nair et al., (2022), Nasution et al., (2024), and Guesmi & Gil, (2021). This research examines the influence of employee performance in using artificial intelligence as an industrial transformation, service to be able to respond quickly, strong and precisely in strengthening the company resources quality. The research explains that artificial intelligence-based applications are a strategic step for companies regarding the work carried out by organizations and employee tasks that can benefit from generative intelligence. Furthermore, Pigatto et al., (2023), Wibbeke & Lachmann, (2020), Bassani & Pfister, (2021), Ojra et al., (2021), Rubino et al., (2021), Odel, (2022), Mulyadi et al., (2023), and Söderholm, (2020) stated that technology publications show better customer value in the growing culture of creativity and innovation to complete tasks according to product standards or better, which varies widely.

Thus, when considering the use of strategic behavioral accounting techniques in an overall sense, no significant differences could be found between the high-fliers and the also-rans. However, such differences were found in the more searching questions asked elsewhere in the questionnaire (for example, as already noted, better performing companies were more likely to use fully the range of digital-halal economy techniques), but with regard to the general questions asked (Table 4) one cannot say that using a particular strategic behavioral accounting technique more frequently has any significant association with better performance.

CONCLUSION

This study concludes that the formulation of strategic behavioral accounting can be effectively realized through the integration of artificial intelligence-based digital-halal applications as a key driver of ethical and value-oriented management practices. The findings indicate that such integration reflects a company's spiritual responsibility, particularly in delivering consumer value within the Indonesian food and beverage sector. This spiritual responsibility serves as a core advantage by aligning digital innovations with consumer-centered marketing finance strategies.

The implementation of digital-halal practices contributes to the emotional and functional aspects of product use, emphasizing openness, usefulness, and safety. These dimensions highlight the strategic role of digital-halal not merely as a policy, but as a manifestation of ethical marketing grounded in spiritual responsibility. The results suggest that strategic behavioral accounting can strengthen the relationship between digitalization, marketing, and business core advantage when driven by spiritual values.

Implications of this research include the need for continued investment in digital-halal training, the adoption of spiritually-aligned AI systems, and the formulation of marketing strategies that prioritize consumer value. However, this study is limited by its focus on the food and beverage industry and its reliance on quantitative self-assessment instruments. Future research is encouraged to explore other sectors, utilize broader input-output modeling, and incorporate qualitative methodologies such as case studies, phenomenology, or ethnomethodology to deepen the understanding of spiritual responsibility in digital business practices.

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