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'AUTHENTIC SABAH': DOES THE LABEL DRIVE PURCHASE OR JUST DRESS THE SHELF ?

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ABSTRACT

Certification labels function as quality signals in markets characterised by information asymmetry, yet their effectiveness in nascent, government-led regional schemes remains empirically underexplored. This study examines whether the 'Authentic Sabah' holographic label influences consumer trust, perceived quality, and purchase intention toward local fast-moving consumer goods (FMCG) products in Sabah, Malaysia. Grounded in Signalling Theory and Labelling Theory, a quantitative cross-sectional design was employed, with data collected from 356 eligible respondents via an online self-administered questionnaire. Partial Least Squares Structural Equation Modelling (PLS-SEM) was applied for hypothesis testing. Results demonstrate that Region of Origin, anchored by label-trust cues, exerted strong positive effects on Perceived Quality (β = 0.835) and Product Evaluation (β = 0.796), with a significant direct effect on Purchase Intention (β = 0.414). Purchase Intention fully mediated the relationship between Region of Origin and Purchase Behaviour (VAF = 100%). These findings confirm that the 'Authentic Sabah' label operates as an effective certification signal in a low-involvement FMCG context. Policymakers and MSMEs are recommended to invest in consumer awareness campaigns, transparent certification governance, and active label communication strategies to sustain signalling effectiveness. Future research should pursue longitudinal designs, explicit measurement of label credibility, willingness-to-pay analyses, and comparative studies across Malaysian regional certification schemes to advance theoretical and practical understanding of regional label effectiveness.

INTRODUCTION

In markets where consumers cannot directly verify product quality before purchase, certification labels serve as powerful heuristic cues that substitute for direct quality inspection. By acting as a visible, credibly endorsed signal of provenance and production standards, a certification label can reduce perceived risk, build consumer trust, and shift purchase intention in favour of the labelled product (Lozej & Visković, 2022; Santeramo & Lamonaca, 2020; Sigurdsson et al., 2023; Wang et al., 2020). These dynamics carry weight in emerging regional economies, where local producers, typically micro, small and medium enterprises (MSMEs), lack the marketing budgets of establishing national or international brands and must rely on institutional trust mechanisms to differentiate their offerings.

Sabah, located on the island of Borneo in eastern part of Malaysia, presents precisely such a context. The state is a home to more than 100,000 MSMEs, with 53,395 MSMEs and cooperatives represents the specific group of entrepreneurs in Sabah that received over RM813 million in financial assistance from the Ministry of Entrepreneur Development and Cooperatives (KUSKOP) in 2025 (Daily Express Malaysia, 2025). Yet, its food and beverage sector faces persistent competitive pressures. The chief among these is the consumer perception that locally produced goods are inferior to mainland or imported alternatives, as tendency that Ragasa et al. (2020), and Cucato et al. (2023) identify as xenocentrism. This bias constrains market growth despite the cultural richness and resource diversity of the region, creating a structural disadvantage for Sabah-based producers that cannot be resolved through product quality improvement alone.

This paper consists of five sections. Following this introductory section, the second section delineates the fundamental tenets of transaction cost economics. The third section assesses the theory of value co-creation. The fourth section is hypothesis development. The final section is the conclusion.

To address this, the Sabah state government introduced the 'Authentic Sabah' holographic label as a regional certification initiative. The label serves three interrelated purposes: to verify the authenticity of goods produced by local MSMEs, to signal product safety and quality to consumers, and to reinforce regional identity as a value proposition (Borneo Post, 2023; Daily Express, 2023). In its design and intent, the label mirrors established international geographical identification (GI) and quality assurance schemes, including the European Union's Protected Designation of Origin (PDO) and various country-specific branding marks, all of which leverage regional provenance as a competitive differentiator (Menozzi et al., 2021; Stranieri et al., 2023; Waehning & Filieri, 2022).

This article maintains a deliberate and narrow focus, treating the 'Authentic Sabah' label as primary analytical lens. It asks specifically to what extent does the "Authentic Sabah' label, functioning as a certification signal, influence consumer trust, perceived quality, and purchase intention toward local Sabah FMCG products? In addressing this question, the study targets a focused gap in the literature concerning the role of nascent, government-led certification schemes in shaping the consumer behaviour within FMCG markets of developing regional economies.

LITERATURE REVIEW

Labeling Theory

Labelling theory in the consumer behaviour literature posits that product labels communicate both intrinsic attributes (e.g., ingredients, nutritional composition), and extrinsic attributes (e.g., brand reputation, regional origin, certification status) (Dumitru et al., 2021). Consumers use these communicated attributes as inputs for quality evaluation and risk reduction, particularly in purchasing contexts where direct quality assessment is not feasible. This function is especially important in the FMCG sector, where purchase decisions are made quickly and with limited cognitive elaboration, leaving consumers highly dependent on visible label cues to form quality judgements (Mahato, 2024). Nutrition disclosures, allergen information, organic certifications, and geographical indications all operate on this principle, as each function as a certification label conveying credence attributes that consumers cannot independently verify at the point of sale (Schrobback et al., 2023). In doing so, they reduce the information gap between producer and consumer by addressing the asymmetric distribution of product knowledge inherent in these markets (Menapace & Moschini, 2024). The result is a credible quality promise made on behalf of a recognised certifying authority in which when trusted by the consumers, has been shown to meaningfully alleviate the informational problems endemic to highly differentiated food and consumer goods markets (Chandra et al., 2025).

However, the assumption that labels reliably perform this signalling function merits scrutiny. Gorton et al. (2021) demonstrate empirically that the effect of institutional trust on eco-label use is fully mediated by trust in the label itself, implying

that certification labels do not carry inherent persuasive power but derive the credibility entirely from the consumers' prior confidence in the certifying authority. This conditionality is particularly consequential in developing regional economies, where consumers have been found to exhibit notable scepticism toward certifications issued by their own national or regional bodies (Cook et al., 2023). This dynamic directly challenges the assumed transferability of labelling theory from the Western contexts to nascent schemes such as 'Authentic Sabah'.

Furthermore, the integrity of certification systems themselves is not guaranteed. Nygaard (2023)documents that institutional trust in certification systems can erode over time due to fraud, misrepresentation, and weak enforcement mechanisms, noting that even established schemes have been compromised by scandals that undermine the very credibility they are designed to confer. Thus, these suggest that the relationship between certification labels and consumer trust is not automatic but is contingent on the perceived legitimacy of the certifying institution whereby a condition that nascent, government-led regional marks must actively cultivate rather than assume.

Regional and origin-specific labels represent a particular rich category within this broader framework. Labels such as the European Union's PDO, 'Made in Sabah', and the 'Authentic Sabah' mark encode multiple layers of meaning simultaneously. Beyond identifying geographic provenance, such as labels function as markers of cultural authenticity and economic value, linking products to their region of origin in ways that carry both cultural and reputational significance (Ostojić et al., 2025). Their very design reflects compliance with defined production standards, as evidenced by the strong empirical overlap between PDO certification and cultural heritage indicators across EU food-producing regions (Flinzberger et al., 2022). At the same time, they embody community endorsement through their collective nature which enabling producer communities to jointly certify and sustain quality promises that no single producer could credibly convey alone (Menapace & Moschini, 2024). Furthermore, Pelet et al. (2020) demonstrate that GI strengthen the consumer-product bond by enhancing cultural and regional values, positioning the label as more than an information tool. In this sense, the regional certification mark becomes a crucial identity signal as it connects the consumer's sense of cultural belonging to the purchase action.

Signalling Theory

Signalling theory provides the economic rationale for why certification labels carry credibility (Shahid et al., 2024). In markets characterised by information asymmetry, where sellers process more knowledge about product quality rather than buyers, credible signals must be costly to produce or difficult to imitate. Connelly et al. (2025) confirm this core logic whereby the establishment of the power of a signal lies precisely in its cost because signals that are highly costly for low-quality producers to replicate are more credible to receivers than signals that can be mimicked cheaply. Thus, certification labels certify this condition because obtaining them requires compliance with externally imposed standards, investment in auditing and the verification processes, and sustained adherence to production criteria. These requirements make fraudulent or non-compliant labelling prohibitively expensive, thereby preserving the signal's reliability over time.

When this applied to the 'Authentic Sabah' label, this logic generates a clear prediction as consumers who recognise and trust the label will form more favourable quality perceptions of endorsed products, not because they have evaluated each product's physical attributes in detail, but because the label certifies that a trusted authority has done so on their behalf. Yang et al. (2024) provide empirical support for this mechanism, finding that institutional trust and label knowledge are significant direct drivers of eco-label trust, with institutional trust exerting particularly strong influence on consumers' willingness to act on the certification signals. Extending to this, Liu et al. (2024) demonstrate that traceability label trust exerts a significant positive effect on consumer purchase behaviour, and crucially, that food safety identification awareness acts as a moderating force which amplify the label's influence only when consumers are sufficiently aware of what the certification entails.

This final point raises an important critical qualification for nascent schemes such as 'Authentic Sabah'. Signalling theory presupposes that the signal receiver processes sufficient awareness to interpret the signal correctly; without this, even a well-designed and costly certification label cannot perform its trust-building function. Therefore, for an early-stage, the government-led regional mark operating in a market where consumer familiarity with the scheme may still be limited, the signal's effectiveness is contingent on active investment in label awareness. This is not merely in the rigour of the certification process itself as this represents a boundary condition that theory, as originally framed, does not full address and that the present study is positioned to examine empirically.

Certification, Perceived Quality, and Purchase Intention

There is a growing body of empirical evidence that links certification labels to enhanced perceived quality and positive purchase intentions. Wu et al. (2021) establish through a systematic review that consumer trust in food is directly constructed through product assurance mechanisms which include the packaging certification, food attribute claim, and country or region of origin labels. These confirm that sustainability accreditations embedded in regional marketing strategies increase both consumer loyalty and trust.

Similarly, Yeh and Hirsch (2023) conduct a meta-regression analysis across 74 willingness-to-pay studies and find a consistent, statistically significant premium that consumers are prepared to pay for products bearing credible country or region of origin signals, with the premium amplified when provenance is associated with perceived quality. Truong et al. (2022) specifically note that food quality certifications function as tangible governance signals that reduce uncertainty about product safety and reliability, an effect particularly salient for products from less-established origins that seek to build consumer credibility in competitive markets which, in turn, makes their findings directly relevant to the Sabah FMCG context.

These effects are theoretically grounded in the Theory of Planned Behaviour (TPB) (Ajzen, 1991), where a label-induced improvement in quality perception constitutes a positive attitude towards the product, which strengthens the behavioural intention, and ultimately drives actual purchase behaviour. Tiboni-Oschilewski et al. (2024), in a systematic review of food eco-labelling effectiveness, confirm that behavioural intention consistently mediates the relationship between label-induced attitudinal change and actual purchase behaviour, which is a pathway well-established across the TPB literature applied to food certification contexts.

Truong et al. (2022), however, add an important qualification in which the food quality certification mechanisms have achieved highly varied success in practice, with effectiveness contingent on the reliability of the underlying governance systems and on the degree to which consumers understand what the label represents. Similarly, Yang et al. (2024) corroborate this finding, demonstrating that information acquisition ability and label knowledge are significant prerequisites for eco-label trust to materialise, which means that without active consumer education, the label risks that nascent schemes such as 'Authentic Sabah' must actively manage; a well-designed label alone is insufficient if the quality control infrastructure behind it is opaque or if the target consumer lacks the awareness to interpret the certification signal correctly.

HYPOTHESES AND ONCEPTUAL MODEL

The conceptual model as presented in Figure 1, positions Region of Origin as a formative exogenous construct comprising five (5) dimensions. Three (3) of these dimensions are directly relevant to the 'Authentic Sabah' label: RO3, which captures consumer trust in the safety of label-endorsed products; PQ5, which reflects satisfaction derived from purchasing label-endorsed products; and PE5, which represents the belief that label-endorsed products are of superior quality. These three (3) label-specific items are listed in Table 1. The model's endogenous reflective constructs are Perceived Quality, Product Evaluation, Purchase Intention, and Purchase Behaviour. The label-focused hypotheses are as follows:

- **H1** Region of Origin (including label-trust cues) positively influences Purchase Intention.
- **H2** Region of Origin (including label-trust cues) positively influences Perceived Quality.
- **H3** Region of Origin (including label-trust cues) positively influences Product Evaluation.
- **H4** Perceived Quality positively influences Purchase Intention.
- **H5** Product Evaluation positively influences Purchase Intention.
- **H6** Purchase Intention positively influences Purchase Behaviour.
- **H7** Perceived Quality partially mediates the relationship between Region of Origin and Purchase Intention.
- **H8** Product Evaluation partially mediates the relationship between Region of Origin and Purchase Intention.
- **H9** Purchase Intention fully mediates the relationship between Region of Origin and Purchase Behaviour.

Table 1 Label-Specific Measurement Items from the Survey Instrument

Code	Construct	Dimension	Measurement Item	Source
RO3	Region of Origin	Trust and Safety	I trust the ingredients in local Sabah FMCG food and beverage products with the 'Authentic Sabah' label are safe.	Rupprecht et al. (2020)
PQ5	Perceived Quality	Authenticity and Satisfaction	I feel satisfied when I buy local Sabah FMCG food and beverage products with	Wang and Wu (2016)

Code	Construct	Dimension	Measurement Item	Source
			the 'Authentic Sabah' label.	
PE5	Product Evaluation	Authenticity	I believe local Sabah FMCG food and beverage products with the 'Authentic Sabah' label are of superior quality.	Rupprecht et al. (2020)

Note: Items were measured on a five-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree). These three (3) items explicitly reference the 'Authentic Sabah' label and serve as the focal indicators for this study's analysis. The full measurement instrument is reported in the thesis.

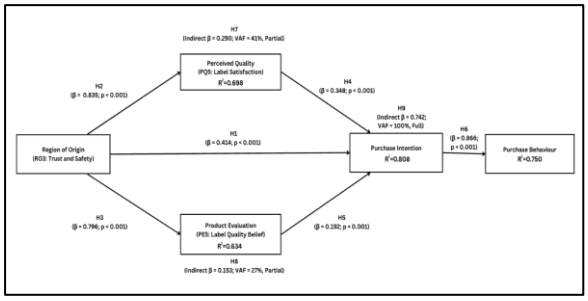

Figure 1 Conceptual Model – The 'Authentic Sabah' Label within the Region of Origin Framework

METHODOLOGY

Research Design and Participants

This study employs a quantitative, cross-sectional design. Primary data were collected via an online self-administered questionnaire (OSAQ) distributed across Sabah through WhatsApp, Facebook, and X, using snowball sampling extended by Facebook's tagging feature to reach participants across the state's geographically dispersed communities. This data collection approach is consistent with established methodological guidelines for quantitative survey research (Memon et al., 2020; Ting et al., 2025). Google Forms served as the survey platform. Single-response authentication was enforced through mandatory Google account sign-in, and daily manual checks were conducted throughout the data collection period to preserve data integrity and detect anomalies (Pinzón et al., 2024).

Out of a total of 404 response collected, 7 were excluded as ineligible on the grounds that participants were neither residents of Sabah nor purchasers of local FMCG products. A further of 41 responses were identified as multivariate outliers using the Mahalanobis distance criterion ($D^2 > 42.98$) and were removed accordingly (Cabana et al., 2021). The final analysable sample comprised n = 356 participants, which exceeded the minimum required sample of 176 computed via a priori power analysis (Hair et al., 2017). The sample was predominantly female (53.7%), aged between 36 and 50 years (40.7%), and of Kadazan/Dusun ethnicity (51.7%). Participation was concentrated in the West Coast Division of Sabah (72.8%), which includes the state capital, Kota Kinabalu.

Scope of the Analysis

The full measurement model, encompassing Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA), convergent and discriminant validity assessments, and the complete nine (9) hypotheses structural model, is reported in the thesis. The present article only draws selectively on those validated results, extracting and interpreting only the paths and constructs most directly relevant to the 'Authentic Sabah' label and its certification signalling role. This approach is consistent with the established and growing practice of the thesis by publication in doctoral research programmes, in which a collection of standalone, theoretically coherent articles in which each addressing a distinct research question arising from the same doctoral project is produced alongside an integrative narrative, rather than a single omnibus report (Mason et al., 2025; Solli & Nygaard, 2023).

Analytical Approach

PLS-SEM was conducted using SmartPLS v4.0 (Ringle et al., 2022), following the guidelines of Hair et al. (2017). Region of Origin was modelled as a formative construct, consistent with its multidimensional, non-interchangeable indicator structure, whilst all remaining constructs were treated as reflective. The path coefficient significance was assessed via bootstrapping with 5,000 resamples. Meditation effects were evaluated using bias-corrected bootstrap confidence intervals at the 95% level and the Variance Accounted For (VAF) metric, following Hair et al. (2017). Overall model fit was assessed using the Standardised Root Mean Square Residual (SRMR = 0.074), which fell below the accepted threshold of 0.08 (Hu & Bentler, 1999), confirming adequate fit.

RESULT AND ANALYSIS

Psychometric Properties of Label-Specific Items

The three (3) label-specific measurement items (RO3, PQ5, PE5) demonstrated strong psychometric properties within their respective constructs. RO3 registered a statistically significant formative indicator weight of 0.239 ($t = 4.510$, $p < 0.001$), confirming that consumer trust in the safety of label-endorsed products makes a meaningful and independent contribution to the Region of Origin construct. Within the Perceived Quality construct, PQ5 recorded an outer loading of 0.862 by which, whilst the lowest of the five (5)

perceived quality indicators, remains well above the acceptable threshold of 0.70 (Hair et al., 2017). PE5 exhibited an outer loading of 0.880 within the Product Evaluation construct, placing it among the stronger indicators in the scale. Collectively, these values confirm that the label-referencing items are psychometrically sound and are meaningfully embedded within the theoretical constructs which are intended to represent.

Label-Relevant Structural Paths

Table 2 presents the five (5) direct paths and three (3) indirect paths most relevant to the label's signalling role. All paths were statistically significant at $p < 0.001$ based on bootstrapping with 5,000 resamples. Figure 1 provides a visual summary of the structural relationships.

Table 2 Label-Relevant Structural Paths — Path Coefficients and Hypothesis Outcomes (n = 356)

H	Path	β	t	p	Result
H1	Region of Origin → Purchase Intention	0.414	6.957	< 0.001	Supported
H2	Region of Origin → Perceived Quality	0.835	41.462	< 0.001	Supported
H3	Region of Origin → Product Evaluation	0.796	35.364	< 0.001	Supported
H4	Perceived Quality → Purchase Intention	0.348	5.261	< 0.001	Supported
H5	Product Evaluation Quality → Purchase Intention	0.192	3.512	< 0.001	Supported
H6	Purchase Intention → Purchase Behaviour	0.866	55.789	< 0.001	Supported
H7	Region of Origin → Perceived Quality → Purchase Intention (indirect)	0.290	-	< 0.001	Partial mediation
H8	Region of Origin → Product Evaluation → Purchase Intention (indirect)	0.153	-	< 0.001	Partial mediation
H9	Region of Origin → Purchase Intention → Purchase Behaviour (indirect)	0.742	-	< 0.001	Full mediation

Note: β = standardised path coefficient. Direct paths are unshaded; indirect (mediated) paths are shaded. All effects are significant at $p < 0.001$, two-tailed bootstrapping, 5,000 subsamples. VAF = Variance Accounted For. The complete nine-hypothesis model is reported in the thesis.

The Region of Origin exerted its strongest effects on Perceived Quality ($\beta = 0.835$, $f^2 = 2.310$) and Product Evaluation ($\beta = 0.796$, $f^2 = 1.735$), both of which represent large effect sizes by conventional benchmarks (Cohen, 1988). These effect magnitudes are notably larger than those typically reported in the country of origin literature, where quality-inference effects generally range from moderate to large (Martins et al., 2023). This suggests that in a local FMCG context where consumers possess limited intrinsic product information, the 'Authentic Sabah' label, including consumer trust in label-endorsed product safety as captured by RO3, operates as a dominant evaluative heuristic, amplifying origin cue salience to a degree commensurate with its certification function.

Crucially, the direct effect of Region of Origin on Purchase Intention was also significant ($\beta = 0.414$), indicating that origin-based signals carry both cognitive (quality inference) and motivational dimensions that simultaneously influence consumer intention through parallel routes in which the dual-route pattern consistent with evidence that country of origin shapes purchase intention through trust and perceived quality as distinct but complementary pathways (Kim et al., 2024). The strongest path in the model was that from Purchase Intention to Purchase Behaviour ($\beta = 0.866$, $f^2 = 2.992$), confirming that behavioural intention serves as the critical proximal mechanism through which all upstream perceptual influences are ultimately converted into actual purchase decisions, consistent with the foundational propositions of the Theory of Planned Behaviour (Ajzen, 1991), and its empirical confirmation in food consumer contexts (Tiboni-Oschilewski et al., 2024).

Explanatory Power of the Model

Table 3 presents the coefficient of determination (R2) and predictive relevance (Q2) for all endogenous constructs. Purchase Intention achieved the highest explanatory power in the model, with an R2 of 0.808, indicating that Region of Origin (including label-trust cues), Perceived Quality, and Product Evaluation jointly account for 80.8% of its variance, a value that substantially exceeds the 0.50 threshold for moderate explanatory power and approaches the 0.75 benchmark for substantial explanatory power as established in the PLS-SEM literature. All Q^2 values exceeded the 0.35 threshold for large predictive relevance (Hair et al., 2017), confirming that the model demonstrates strong out-of-sample predictive relevance across all endogenous

constructs.

Table 1 Explanatory Power and Predictive Relevance of Label-Relevant Constructs

Construct	R^2	Q^2	Interpretation
Perceived Quality	0.698	0.554	Region of Origin is the dominant driver
Product Evaluation	0.634	0.467	Moderate to strong predictive relevance
Purchase Intention	0.808	0.572	80.8% of variance explained
Purchase Behaviour	0.750	0.613	Strongly predicted by purchase intention

Note. R^2 = coefficient of determination; Q^2 = predictive relevance assessed via the Stone-Geisser criterion. Values above 0.35 indicate strong predictive relevance (Hair et al., 2017).

Mediation Pathway from Label Signal to Purchase Behaviour

The mediation analysis reveals the specific mechanism through which label-driven quality perceptions translate into purchase decisions. Perceived Quality was found to partially mediate the relationship between Region of Origin and Purchase Intention, with an indirect effect of β = 0.290 and VAF of 41.19%. Similarly, Product Evaluation served as a partial mediator in the same relationship, yielding an indirect effect of β = 0.153 and a VAF of 26.98%. Importantly, the direct effect of Region of Origin on Purchase Intention remained statistically significant (β = 0.414) after accounting for both mediators, indicating that the label's influence on intention operates not only through cognitive quality evaluation but also through affective and cultural pathways. These residual affective channels likely reflect constructs such as regional pride, place identity, and consumer ethnocentrism, all of which have been demonstrated to independently motivate purchase intention for local products without requiring deliberate quality comparison as operating instead through consumers' sense of belonging and territorial identity (Sabina del Castillo et al., 2024; Waehning & Filieri, 2022).

The most theoretically significant finding concerns the relationship between Region of Origin and Purchase Behaviour. Purchase Intention was found to fully mediate this relationship, with a total indirect effect of β = 0.742 and a VAF of 100%. However, no significant direct path from Region of Origin to Purchase Behaviour was observed. This outcome confirms that the 'Authentic Sabah' label's trust-building influence does not operate directly on behaviour but works by shaping quality perceptions and product evaluations, which crystallise into purchase intentions that subsequently convert into actual purchasing decisions. This sequential process is wholly consistent with the Theory of Planned Behaviour (Ajzen, 1991), which positions intentions as the immediate and necessary antecedent of behaviour, a proposition that has received consistent empirical confirmation in food consumer research, including certification-label contexts (Tiboni-Oschilewski et al., 2024).

DISCUSSION

The 'Authentic Sabah' Label as an Effective Signalling Device

The empirical results provide robust support for a signalling theory interpretation of how the 'Authentic Sabah' label operates in the marketplace. The very high path coefficient from Region of Origin to Perceived Quality (β = 0.835, f^2 = 2.310) indicates that consumers who engage positively with regional provenance cues, anchored in this study by label-trust and label-satisfaction items, form dramatically more favourable quality perceptions. This finding is consistent with the core proposition of signalling theory, which holds that a credible and costly-to-fake signal efficiently transmits quality information in an environment where buyers cannot directly verify product attributes (Connelly et al., 2025).

Two (2) contributions to the existing literature emerge from this finding. First, the study replicates label signalling effects that have previously been documented primarily for premium, high-involvement product categories, such as geographically indicated food products and artisan goods (Menapace & Moschini, 2024; Waehning & Filieri, 2022), and extends them to a high-frequency, low-involvement FMCG context. In this setting, consumer typically make fast, habitual decisions with minimal deliberation, which makes the size of the certification effect particularly noteworthy. It suggests that label signals operate at least partly through heuristic processing, where the mere presence of a recognised certification mark activates a quality inference schema without requiring deliberate product evaluation. This mechanism consistent with the evidence that labels function as information cues that reduce the perceived risk and simplify consumer decision-making (Gorton et al., 2021).

Second, the findings confirm that a nascent, government-led certification programme can achieve signalling effectiveness comparable to that established GI schemes, provided that consumers perceived it as credible. The outer loadings of PQ5 (0.862) and PE5 (0.880), both of which reference the 'Authentic Sabah' label directly, indicate that satisfaction with label-endorsed products and belief in their superior quality are genuine, reliable components of the quality perception and product evaluation constructs. This outcome is consistent with the proposition that it is institutional

credibility, rather than label maturity or international recognition, that ultimately determines the certification scheme's signalling power. Mosier (2023) empirically supported this as consumers' trust in the certifying authority, whether government or third-party, is the critical precondition for a label's ability to influence purchase behaviour.

The Affective Dimension: Label Identity Beyond Quality Signalling

The partial mediation results, specifically VAF = 41% for Perceived Quality and VAF = 27% for Product Evaluation, indicate that the Region of Origin construct influence Purchase Intention through two (2) distinct pathways simultaneously. The first is cognitive pathway, operating through quality and product evaluation, where the label's certification function provides rational grounds for preferring the product. The second is an affective pathway that bypasses cognitive mediation entirely, operating through constructs such as regional pride, community identity, and consumer ethnocentrism. Theses affective forces motivate purchase not based on a quality comparison but because the act of purchasing a label-endorsed product expresses a valued social and cultural identity (Waehning & Filieri, 2022). Similarly, Sabina del Castillo et al. (2024) empirically evidenced that both place identity and consumer ethnocentrism independently predict local product purchase intention through attitudinal channels that are distinct from quality evaluation.

The dual-channel mechanism has a clear practical implication. The 'Authentic Sabah' label must be positioned to speak to both rational and emotional consumer registers if it is to maximise its influence on purchase intention. Purely informational certification messaging, which communicates only that a product meets a particular quality standard, will capture the cognitive channel but leave the affective channel largely unused. Moreover, marketing communications that additionally emphasise cultural heritage, community solidarity, indigenous identity, and the social meaning of supporting local producers will activate both channels concurrently, thus, amplifies the label's aggregate influence beyond what quality signalling alone can achieve. This is consistent with Ostojić et al. (2025) in the study on GI food labelling which demonstrates cultural provenance and territorial values embedded in certification messaging generate consumer engagement that quality claims alone cannot be replicated.

IMPLICATIONS

Policy Implications

For the Sabah state government and its relevant agencies, the findings validate the certification investment and confirm that it is generating measurable returns on the consumer side. The label is demonstrably influencing quality perceptions and purchase intentions, which is precisely the market-shaping objective the initiative was designed to achieve. However, the present study can only confirm the label's current effectiveness, not its long-term sustainability. Nygaard (2023) cautions that certification effectiveness is conditional on the reliability of the quality control systems that underpin it, warning that free-riding and selective compliance can erode institutional trust and undermine the credibility of the signal. Should consumers begin to encounter label-endorsed products that fail to meet quality expectations, the signal will rapidly lose credibility, and the accumulated trust will erode.

Policymakers should, therefore, treat label effectiveness as a dynamic outcome requiring ongoing stewardship rather than a static achievement. This stewardship involves investing simultaneously in supply-side enforcement, through rigorous compliance monitoring and deterrent penalties for misuse, and demand-side promotion, through consumer education campaigns that explain what the label means, what standards must be met to obtain it, and how compliance is monitored and enforced. The importance of such dual investment is supported by evidence by Mosier (2023) where consumer trust in a certification label is only as durable as the perceived credibility of the institution behind it, and that even well-designed labels lose their behavioural influence when consumers lack adequate knowledge of what the certification guarantees.

Thus, the full mediation finding for Purchase Behaviour (VAF = 100%) is particularly instructive in this regard because the label's entire influence on purchasing decisions flows through Purchase Intention, any policy intervention that successfully increases label awareness and generates positive attitudes towards the label will translate fully into behaviour change. This is consistent with Yang et al. (2024) where the role of label knowledge as a prerequisite for label-driven purchase intention effects documented in the consumer certification literature.

Implications for MSMEs

For individual MSMEs, the results justify a clear and actionable strategic priority whereby the 'Authentic Sabah' label should be displayed prominently and communicated actively, rather than treated as a passive compliance mark. Evidence from systematic review research by Marion et al. (2023) indicates that origin-related label adoption by SMEs in the food sector is consistently low, with most eligible producers failing to deploy these labels as active marketing tools, primarily due to knowledge gaps about label meaning, consumer perception, and strategic potential.

Given that label-referencing items contributed meaningfully to the Region of Origin construct, which alone explains 69.8% of the variance in Perceived Quality, the label is already performing substantial quality signalling work. Thus, MSMEs can amplify this effect by contextualising the label within their broader marketing communications, articulating what standards their products meet, how their ingredients are sourced, and what the regional heritage of their production processes entails. This approach is well-supported by research demonstrating that region of origin cues generate stronger and more favourable quality inferences than generic country of origin signals, particularly for food products with an identifiable territorial character, because the geographic specificity allows consumers to form more concrete and confident quality expectations (Ho et al., 2024; Tarabashkina et al., 2024).

This educational framing transforms the label from a symbol that consumers must already understand into one whose meaning is transmitted actively alongside the product, reducing the cognitive burden on consumers and increasing the label's persuasive reach. Thøgersen (2023) confirms this in a systematic review that origin information on food packaging substantially influences consumer product evaluation and purchase choices, and that this influence is strongest when consumers are provided with contextual cues that help them interpret what the origin designation guarantees.

Critically, however, the persuasive value of such framing depends on consumers already possessing or being given adequate knowledge of the label's meaning and governance standards, since label knowledge has been demonstrated to be a prerequisite for label-driven trust and purchase intention effects across certified food categories (Yang et al., 2024).

RECOMMENDATIONS

Increasing Consumer Awareness of the Label

Raising consumer awareness of the 'Authentic Sabah' label is the highest-leverage intervention available to both government and MSMEs, given that the full mediation of Purchase Intention means that any increase in positive label attitudes will translate directly into behaviour change. This direct linkage is consistent with evidence showing that label knowledge functions as a prerequisite for certification-driven purchase intention: without consumer awareness of what a label stands for and what standards it guarantees, the label's signalling capacity remains latent rather than active (Tiboni-Oschilewski et al., 2024; Yang et al., 2024). The following strategies are recommended.

Integrated Digital and Broadcast Campaigns

State-funded campaigns across social media platforms, local television, and radio should explain the label's purpose, eligibility criteria, and quality guarantees in Malay language and local indigenous languages. Research on origin labelling in developing country contexts consistently demonstrates that consumer awareness of certification schemes must be actively cultivated through public communication rather than assumed, particularly among linguistically and ethnically diverse populations for whom label meaning cannot be taken for granted (Lambarraa-Lehnhardt et al., 2021; Thøgersen, 2023). This multilingual approach is essential for maximising accessibility across Sabah's linguistically and culturally diverse communities.

Dedicated In-Store Product Sections and Point-of-Purchase Signage

Retailers should be encouraged, and where feasible incentivised, to create dedicated shelf sections for 'Authentic Sabah' certified products accompanied by clear explanatory signage. Visibility at the point-of-purchase is a particularly effective awareness intervention because it reaches consumers at the moment of decision, activating heuristic label processing precisely when purchase choices are being made. Studies by Delapedra et al. (2025) and Zafar et al. (2022) on food labelling have confirmed that in-store and front-of-pack cues operate through both rapid affective and deliberative cognitive routes to shape purchase behaviour.

Influencer and Food Blogger Partnerships

Given Sabah's high household internet connectivity of 99.4%(DOSM, 2024), local digital influencers and food content creators represent cost-effective intermediaries for communicating the label's value proposition to younger consumer segments. A systematic review of 76 peer-reviewed studies confirms that social media influencers significantly shape purchase intentions, with effects particularly

pronounced among younger consumers who engage with influencer-generated content through both credibility-based heuristic processing and direct parasocial identification with the source (Sardar & Vijay, 2025). These mechanisms make influencer-led label communication well-suited to segments who may be less receptive to formal government broadcast messaging.

Label Communication Training within MSME Capacity-Building Programmes

The government-funded MSME development programmes should incorporate modules on how to communicate the label effectively through product packaging, digital storefronts, and in-store promotions, ensuring that producers are equipped to leverage the label's signalling value rather than simply displaying it. This supply-side intervention is critical: systematic review by Marion et al. (2023) has evidenced on origin label adoption by SMEs identifies lack of producer knowledge about label meaning, certification mechanisms, and consumer-facing communication strategies as primary barrier to effective label utilisation, meaning that certification adoption alone does not guarantee signalling effectiveness if producers cannot articulate the label's value to consumers.

Maintaining Label Credibility

The long-term effectiveness of the 'Authentic Sabah' label depends entirely on the robustness of its verification architecture. A label perceived to be weakly enforced will lose its signalling value as consumers learn that it no longer reliably predicts quality. This risk is not hypothetical as Nygaard (2023) demonstrates that certification systems globally are vulnerable to free-riding, where non-compliant producers exploit collectively build consumer trust without bearing the compliance costs that underpin it, producing a lemon problem dynamic in which the presence of non-compliant users gradually devalues the label for legitimate producers. Thus, the scheme must be designed with credibility architecture build in from the outset, not retrofitted after trust has eroded. The following measures are recommended to safeguard credibility.

Transparent, Publicly Accessible Certification Standards

Publishing the eligibility criteria and compliance requirements for the label on a readily accessible government portal enables consumers and producers to verify the scheme's integrity independently, which reinforces institutional trust. Studies on food certification governance consistently identifies transparency in standard-setting as a foundational prerequisite for consumer confidence. In this instance, consumers must be able to evaluate what a certification scheme guarantees before they assign it credibility, and opaque standards invite scepticism even among consumers who are otherwise positively predisposed toward certified products (Schrobback et al., 2023; Truong et al., 2022).

Periodic Independent Auditing of Certified Producers

Third party or government audits conducted on a rotating, unannounced basis provide a credible enforcement mechanism that extends verification beyond initial certification and self-declaration. Empirical research on ethical certification schemes by Lindley et al. (2023) demonstrates that the absence of independent enforcement creates structural opportunities for fraud and misrepresentation, and that crimes including mislabelling and standards non-compliance can remain undetected within formally certified supply chains when oversight relies solely on self-reported compliance.

Consumer-Facing Digital Verification Channels

The QR code which is linked to verification portal embedded on certified product packaging would allow consumers to confirm the certification status in real-time and report suspected violations. This approach is empirically supported by Bradford et al. (2022) and Tran et al. (2024) where QR code-based traceability systems on food packaging have been shown to generate positive consumer attitudes and significantly increase purchase intention, with trust in the traceability system itself emerging as a key driver of willingness to engage with and act on certification information. This approach simultaneously reinforces trust and enables a form of crowdsourced compliance monitoring.

Graduated and Deterrent Penalties for Non-Compliance Use

Scalable sanctions, including temporary suspension and permanent removal of certification rights are necessary to deter non-compliant producers from misusing the label. Without credible penalties, the scheme's enforcement signal loses its deterrent effect. In fact, studies on certification governance document that weak or absent sanctions structurally incentivise free-riding, rendering the certification mark susceptible to misuse that delegitimises the scheme as a whole and undermines the competitive advantage that compliant producers have invested in earning (Lindley et al., 2023; Nygaard, 2023). Thus, legitimate producers lose the competitive advantage the label is intended to confer.

LIMITATIONS AND FUTURE RESEARCH

Several limitations of the present study should be noted. The cross-sectional design captures consumer attitudes and intentions at a single point in time and cannot be establish how the label's effectiveness evolves as the certification programme matures and publice awareness grows. Furthermore, the geographic concentration of participants in the West Coast Division may underrepresent rural and interior consumers, whose purchasing environments and exposure to the label may differ substantially from those of urban Kota Kinabalu residents. Additionally, because label awareness and credibility are operationalised through items embedded within broader constructs rather than measured as standalone variables, the study cannot isolate the specific contribution of the label recognition from the wider Region of Origin signal.

These limitations point to four (4) productive directions for future research. Longitudinal studies tracking how label awareness, quality perceptions, and purchase behaviour co-evolve as the certification programme develops would offer causal clarity that cross-sectional designs cannot provide. Studies that measure label credibility as an explicit mediating construct between label awareness and perceived quality would yield a more granular account of the signalling mechanism and help identify at what point in the trust-building process the label's influence is strongest. In addition, the willingness-to-pay analyses would enable policymakers to quantify the economic premium consumers are prepared to attribute to label-endorsed products, providing a concrete return-on-investment metric for the certification programme. Finally, comparative studies examining the 'Authentic Sabah' label alongside other Malaysian regional certification schemes, such as 'Made in Sabah, Malaysia', would illuminate the relative effectiveness of competing regional signals across different consumer segments, product categories, and geographical markets within Malaysia.

CONCLUSION

This study set out to examine whether the 'Authentic Sabah' holographic label functions as a credible certification signal capable of shaping consumer trust, perceived quality, and purchase intention in Sabah's local FMCG markets. The evidence supports an affirmative answer. Moreover, regional provenance cues anchored by the label generated strong quality perceptions and favourable product evaluations among consumers, which shaped purchase intentions and ultimately drove purchase behaviour. The label is not merely a government branding exercise; it is demonstrably performing the trust-building function it was designed to serve.

Three (3) contributions to the broader literature on certification and regional branding emerge from these findings. The study extends the signalling theory to the high-frequency, low-involvement FMCG context in an emerging regional economy, a setting that has received considerably less scholarly attention than premium product categories. It demonstrates that a nascent, government-led certification scheme can generate consumer trust and quality perceptions comparable to those of mature geographical indication systems, provided institutional credibility is maintained. And it shows that the label's influence on behaviour awareness campaigns translate fully into purchasing decisions. Thus, for policymakers and MSMEs alike, the message is clear: the 'Authentic Sabah' label is working, and investing in its reach and credibility will yield proportionate returns.

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