Journal of Supply Chain and Entrepeneurship
2025, VOL. 1, NO. 3, 151-163
https://doi.org/10.64268.v1i3.95

Embedding Local Culture in Digital Branding: A PLS-SEM Study of Teaching Factory Competitiveness in Indonesia

Ratih Puspitorini Yekti Ambarkahi, Fredy Eka Ardhi Pratama, Pascawati Savitri Universitasari, Ponti Primastuti Aulia Nugraheni
Politeknik Negeri Jember, Indonesia

***Corresponding author: ratih.puspitorini@polije.ac.id**

ABSTRACT
Background: Teaching Factories (TEFAs) aim to bridge vocational learning and market demand, yet many units struggle to convert production capability into consistent market acceptance, especially in culturally laden agrifood and floriculture categories where meaning, trust, and discoverability matter.
Aims: This study examines how local cultural values embedded in branding and customer perceived digitalization strengthen brand strategy coherence and, together with perceived product quality, shape market acceptance in TEFA contexts.
Methods: A predictive cross sectional survey was conducted with 100 valid respondents who interacted with at least one of four TEFA units at Politeknik Negeri Jember within the last six months. Five reflective constructs were measured using seven point Likert items with three indicators per construct, local cultural values (NB), customer perceived digitalization (DG), brand strategy coherence (SB), perceived product quality (KP), and market acceptance (PS). Data were analyzed using PLS SEM with bootstrapping and predictive assessment.
Result: The measurement model met reliability and validity criteria. Structural results show that NB and DG significantly increase SB, SB significantly increases PS, and KP directly increases PS. The direct DG to PS path is not significant, indicating that digitalization improves acceptance primarily through strengthening strategy coherence. Mediation tests confirm indirect effects of NB and DG on PS via SB, and predictive checks support model relevance.
Conclusion: Market acceptance in TEFAs rises when cultural meaning and digital capability are organized into a coherent brand strategy and validated by reliable product quality. TEFAs can operationalize these findings by codifying place based identity assets, enforcing a simple digital playbook focused on information findability and responsiveness, and upgrading packaging to make quality cues legible at the point of choice.

ARTICLE HISTORY
Submitted: Oktober 15, 2025
Accepted: November 10, 2025
Published: Desember 15, 2025

KEYWORD
Teaching Factory;
Local Culture;
Digital Branding;
Brand Strategy Coherence;
Perceived Product Quality;
Market Acceptance;
PLS SEM.

INTRODUCTION

Teaching Factories, hereafter TEFAs, have become a pragmatic institutional response to the persistent mismatch between vocational learning outcomes and market expectations in Indonesia, especially in agrifood and creative production settings where students and instructors must operate simultaneously as learners, producers, and market actors. The competitiveness challenge faced by TEFAs is not limited to technical proficiency in production, it also concerns how TEFAs construct recognizable meanings around their products, communicate those meanings credibly to customers, and convert attention into repeatable purchase behavior. Studies on global branding underline that cultural context shapes how consumers interpret brand signals and how brands can build distinctiveness under competitive pressure (Gurhan-Canli et al., 2018), while authenticity and origin cues become especially important when buyers face uncertainty and must rely on symbols, narratives, and institutional credibility to reduce perceived risk (Kim, 2017). In parallel, the growing digitization of discovery and purchase has pushed even small producers into environments where customers evaluate brands through social media cues, influencer content, platform storytelling, and responsiveness in digital service interactions, making “being searchable and persuasive online” a core operational capability rather than a peripheral activity (Abidin, 2019; Kaswengi, 2020; Lin, 2025; Papaioannou et al., 2025). Within this environment, TEFAs that embed local cultural values into digital branding may gain an advantage because

cultural meaning can differentiate offerings in ways that are difficult to imitate quickly, while competent digital execution stabilizes message consistency and service reliability across touchpoints (Rizkita et al., 2025).

The rationale for this study rests on the observation that many vocational production units attempt to "go digital" by increasing posting frequency or opening marketplace accounts, yet the resulting performance often remains fragile because digital activity is not anchored in a coherent brand strategy with culturally grounded identity cues. Work on branding in fragmented environments suggests that attention is increasingly dispersed and contested, which makes strategic clarity more consequential than volume of content alone (Holt, 2025). Evidence from MSMEs shows that culturally adapted digital marketing improves engagement and competitive outcomes because it aligns brand expression with local norms, symbols, and expectations while still leveraging scalable digital channels. Complementary findings indicate that local wisdom can become a strategic resource that strengthens sustainable competitive advantage when reinforced by supportive governance and institutional arrangements, which implies that TEFAs can benefit when cultural resources and institutional support cohere into an actionable capability set rather than isolated initiatives (Ismail et al., 2022; Mahrinasari et al., 2024; Susanto, 2019). Moreover, research on smart village and smart city contexts highlights that digital systems reshape social organization and public-facing identity, meaning that cultural embedding and digital infrastructures must be managed as an integrated socio-technical system, not as separate technical and cultural projects (Angelidou and Stylianidis, 2020; Yuniar and Hasanah, 2021). For TEFAs operating under limited budgets and staff bandwidth, a parsimonious explanatory model is therefore valuable because it can identify a small number of high-leverage drivers that are both theoretically defensible and managerially actionable (Breiby et al., 2026; Hassan, 2022).

Prior scholarship offers several interlocking lenses for explaining why local culture and digitalization can jointly strengthen competitiveness through branding. First, cultural meaning-making has been examined through place symbols, foodscape narratives, and identity construction in mediated environments, showing that locality can be translated into recognizable brand cues when storytelling is organized and repeated consistently across channels (Homeghi et al., 2025; Wang, 2016; Yu et al., 2011). In market-facing domains where experience and symbolism influence evaluation, studies on gastronomy branding and culinary traditions show that cultural cues can shape satisfaction, perceived value, and sustainable branding outcomes, which parallels TEFA agrifood contexts where provenance, craft, and local identity matter to buyers (Juliana et al., 2026; Kontis and Gkoumas, 2017; Mishra et al., 2025). Second, the digital environment is not culturally neutral, influencer practices and platform norms can amplify or reshape cultural signals, as demonstrated in research on food influencers, beauty influencers, health and fitness promotion, and narrative cultures, indicating that brand meaning today is often curated through digital intermediaries and community interactions (Abidin, 2019; Lin, 2025; Papaioannou et al., 2025; Salam-Salmaoui et al., 2025). Third, digital branding and identity scholarship in cities and cultural settings shows that coherent digital self-representation can reinforce identity and intention by making value propositions legible and emotionally resonant to audiences, which aligns with TEFA needs to build trust in "institutional production" and reduce uncertainty associated with student-involved goods (Hertzman, 2025; Llmolahti et al., 2021; Ramadania et al., 2025). Fourth, cultural heritage and rural revitalization studies emphasize that integrating traditional culture with contemporary design practice strengthens brand relevance, suggesting that local culture can provide a durable narrative kernel and visual grammar for brand strategy rather than functioning as surface decoration (Lin, 2025; Nurkholis and Sofyan, 2024). Fifth, research on events, festivals, and creative tourism suggests that digital transformation affects how people discover, evaluate, and co-create experiences, highlighting the role of digital consumption patterns, festivalization, and online community dynamics in shaping perceived value and brand attachment (Delisle, 2019; Hassan, 2022; Kostopoulou et al., 2022; Nunes and Birdsall, 2022; Patsiou, 2019; Söderman and Söderman, 2020). Finally, broader work on image construction, transnational narratives, and mediated discourse indicates that branding is also an exercise in discourse

power and symbolic framing, which is relevant for TEFAs that must position vocational products as both credible and meaningful within wider competitive markets (Bernardi and Picarelli, 2021; Cappelletti, 2019; Cook, 2010; Singh, 2024; Zou and Wang, 2025). Across these strands, recent work on digital literacy and communication in stakeholder ecosystems further indicates that capability building in digital coordination, responsiveness, and collaborative platforms can materially influence market-facing performance, supporting the conceptualization of digitalization as a customer-perceived capability rather than merely internal technology adoption (Cho et al., 2017; Rumanti et al., 2025)

Although the literature provides strong support for the value of cultural cues and for the importance of digital transformation, three gaps remain when the context is TEFAs that must compete while also fulfilling learning missions. First, many studies examine cultural branding in destination, event, or influencer-driven settings, but fewer offer a compact mechanism that explains how cultural values translate into brand strategy in production-oriented vocational enterprises where products must meet both educational and commercial standards. Second, digitalization is frequently treated as platform presence or technology deployment, yet evidence from MSMEs and stakeholder-based tourism ecosystems suggests that what customers experience as "digital capability" is more about discoverability, relevance of content, and responsiveness, which may operate as a reinforcement mechanism that stabilizes brand strategy rather than directly driving acceptance on its own. Third, while product quality is widely acknowledged as important, prior work often does not model how functional quality interacts with perceptual-communicative mechanisms like brand strategy, especially in contexts where buyers may initially doubt quality because of producer identity, such as student-involved production and institutional enterprises (Gurhan-Canli et al., 2018; Kim, 2017; Ramadania et al., 2025). These gaps motivate a parsimonious model in which local cultural values and perceived digitalization shape brand strategy, and brand strategy together with perceived product quality drives market acceptance, enabling clearer managerial levers for TEFA administrators and instructors.

The purpose of this study is to test a compact, prediction-oriented framework explaining how embedding local cultural values into digital branding contributes to TEFA competitiveness through market acceptance outcomes. Specifically, the study examines whether local cultural values, conceptualized as NB, strengthen brand strategy, conceptualized as SB, whether customer-perceived digitalization capability, conceptualized as DG, reinforces SB by enabling consistent execution across digital touchpoints, and whether SB and perceived product quality, conceptualized as KP, jointly increase market acceptance, conceptualized as PS. Accordingly, the hypotheses are formulated as follows, NB positively influences SB, DG positively influences SB, SB positively influences PS, KP positively influences PS, and DG is examined for its potential direct influence on PS as a robustness pathway, acknowledging that prior evidence often finds digital content effects on behavior to be mediated by brand image or other perceptual mechanisms rather than purely direct. This hypothesis set is designed to remain theoretically grounded while staying operationally interpretable for TEFAs working under resource constraints and seeking "few big levers" for measurable improvement (Mahrinasari et al., 2024).

METHOD

Research Design

This study uses a predictive, cross sectional survey and estimates the proposed relationships with PLS SEM to explain variance in the endogenous constructs and to assess out of sample predictive performance. PLS SEM is selected because the study prioritizes prediction oriented explanation and actionable variance accounts over global fit optimization, and because it supports robust estimation for reflective perceptual constructs under medium samples. Estimation and reporting follow established PLS SEM guidelines, using bootstrapped inference for measurement and structural parameters and predictive assessment via PLSpredict (Hair et al., 2021a; Shmueli et al., 2025).

Table 1. Research design and context

Element	Specification
Design	Predictive cross sectional survey
Analytical approach	PLS SEM, variance explanation and prediction oriented assessment
Estimation	Consistent PLS algorithm, path weighting, standardized indicators
Inference	Two tailed bootstrapping, 5,000 resamples
Predictive assessment	PLSpredict, 10 fold cross validation, one repetition, benchmark comparison
Unit of analysis	Individual customer or prospective customer
Setting	Four TEFA units at Politeknik Negeri Jember

Participant

The empirical context consists of four Teaching Factory units at Politeknik Negeri Jember, namely Bakery and Coffee, Feedlot and Dairy, Smart Green House, and Nursery and Floriculture. The population is customers and prospective customers who interacted with at least one unit during the last six months through offline visits or digital touchpoints, ensuring respondents have recent exposure to branding cues, service encounters, and product experience. Sampling combines on site intercept recruitment after purchase and online recruitment through official accounts to include both buyers and followers with recent interaction. The target sample is 100 usable responses, which is consistent with common PLS SEM guidance for prediction oriented models of this size and supports stable bootstrapped inference and predictive evaluation (Hair et al., 2025).

Table 2. Participants and sampling

Element	Specification
Population	Customers and prospective customers with interaction in the last six months
Interaction modes	Offline visits or digital touchpoints
Sampling approach	Mixed recruitment, on site intercept plus online recruitment
Intercept protocol	Approach buyers after purchase, eligibility screening, self completion via QR or tablet
Online protocol	Survey link posted on official accounts to reach followers with recent interaction
Deduplication	Device resubmission restricted, optional initials for cross check
Target sample size	100 usable responses

Instrument

Data are collected using a structured questionnaire with seven point Likert response options from strongly disagree to strongly agree. The model includes five reflective constructs measured with three indicators each. Local cultural values in branding, coded NB, captures clarity of local identity, recognizability of provenance in the narrative, and relevance of cultural cues. Customer perceived digitalization, coded DG, captures online information findability, relevance and cadence of content, and responsiveness of online service. Brand strategy coherence, coded SB, captures clarity of the value promise, message consistency across touchpoints, and alignment between claimed identity and execution. Perceived product quality, coded KP, captures consistency of product performance, adequacy of packaging, and overall quality relative to expectations. Market acceptance, coded PS, captures preference versus alternatives, perceived ease of access or purchase, and willingness to recommend or repurchase. Content validity is established through expert review by academics and TEFA managers who assess clarity, relevance, and redundancy, followed by a pilot test involving 25 respondents to check completion time, response distribution, and wording clarity, with pilot data excluded from the main analysis. Procedural remedies to reduce method related bias follow recommended survey design principles, including neutral wording and questionnaire structure that minimizes artificial consistency motives (Podsakoff et al., 2025).

Table 3. Constructs and example indicators

Construct	Code	Example indicator
Local cultural values in branding	NB1	The brand shows clear local identity in name, visuals, or story
	NB2	The product provenance is easy to recognize in the brand narrative
	NB3	Cultural cues feel relevant to current customer expectations
Customer perceived digitalization	DG1	Product and price information is easy to find online
	DG2	Online content feels timely and relevant to my needs
	DG3	Online inquiries receive fast and helpful responses
Brand strategy coherence	SB1	The brand promise is clear across touchpoints
	SB2	Messages are consistent across platforms
	SB3	Execution aligns with the claimed identity
Perceived product quality	KP1	The product performs consistently over time
	KP2	The packaging is neat and protective
	KP3	Overall quality meets expectations
Market acceptance	PS1	I prefer this product over similar alternatives
	PS2	The product feels easy to access or buy
	PS3	I am willing to recommend or repurchase

Data Analysis Plan

Data preparation begins with eligibility screening and quality checks, followed by removal of responses showing straight lining, high missingness, or unrealistically short completion times defined as less than one third of the median. When missingness is below five percent at the indicator level, mean replacement is used to preserve sample size and maintain estimation stability, and potential outliers are inspected using leverage and standardized residual diagnostics. Common method bias is mitigated procedurally through the instrument design and assessed statistically using full collinearity checks based on variance inflation factors, complemented by sensitivity analysis when needed (Kock, 2025; Podsakoff et al., 2025). Measurement model evaluation follows established PLS SEM criteria, indicator reliability is examined through outer loadings with a practical target around 0.70, internal consistency is assessed using composite reliability, convergent validity is evaluated using average variance extracted, and discriminant validity is examined using both the Fornell Larcker criterion and the HTMT criterion with confidence intervals that do not include one (C. Fornell and D. F. Larcker, 1981; Hair et al., 2025; Henseler, 2025). Structural model evaluation begins with inner VIF checks to mitigate multicollinearity concerns, followed by hypothesis testing using bootstrapped path coefficients with two tailed inference based on 5,000 resamples. Explanatory power is summarized using R squared for SB and PS, local effect sizes are reported using f squared, predictive relevance is examined using Q squared where applicable, predictive performance is evaluated using PLSpredict with 10 fold cross validation and one repetition, comparing prediction errors such as RMSE against a linear benchmark, mediation is tested for NB to PS via SB and DG to PS via SB using bootstrapped confidence intervals, and robustness checks compare the base specification with an alternative model that omits the direct DG to PS path to assess parsimony while preserving explanatory and predictive performance (Hair et al., 2021b; Shmueli et al., 2025).

Table 4. Data analysis decision rules

Stage	What is done	Decision rule or threshold	Output to report
Data screening	Remove low quality responses	Straight lining, high missingness, completion time less than one third of median	Exclusion counts and final sample
Missing values	Impute small missingness	Indicator missingness below five percent, mean replacement	Missingness rates and method
CMV procedural controls	Reduce method bias by design	Neutral wording, reduced evaluation apprehension, random item order	Brief procedural description
CMV statistical check	Diagnose method bias	Full collinearity VIF, sensitivity analysis if needed	VIF values and conclusion
Indicator reliability	Assess item performance	Loadings target around 0.70	Loading table
Internal consistency	Reliability check	Composite reliability 0.70 to 0.95	CR table
Stage	**What is done**	**Decision rule or threshold**	**Output to report**

Convergent validity	Validity check	AVE at least 0.50	AVE table
Discriminant validity	Distinct constructs	HTMT below 0.85 to 0.90, CI excludes 1, Fornell Larcker check	HTMT matrix with CI, Fornell Larcker matrix
Structural paths	Hypothesis tests	Bootstrapping 5,000 resamples, two tailed inference	Paths, t values, CI
Explanatory power	Variance explained	Report R squared for SB and PS, f squared effect sizes	R squared and f squared
Predictive performance	Out of sample prediction	PLSpredict 10 fold, one repetition, RMSE vs linear benchmark	PLSpredict outputs and benchmark comparison
Mediation	Indirect effects	Bootstrap CI for NB to PS via SB and DG to PS via SB	Indirect effects table and interpretation
Robustness	Parsimony test	Compare base model vs model omitting DG to PS	Comparative model metrics and conclusion

The structural model to be estimated is shown in Figure 1.

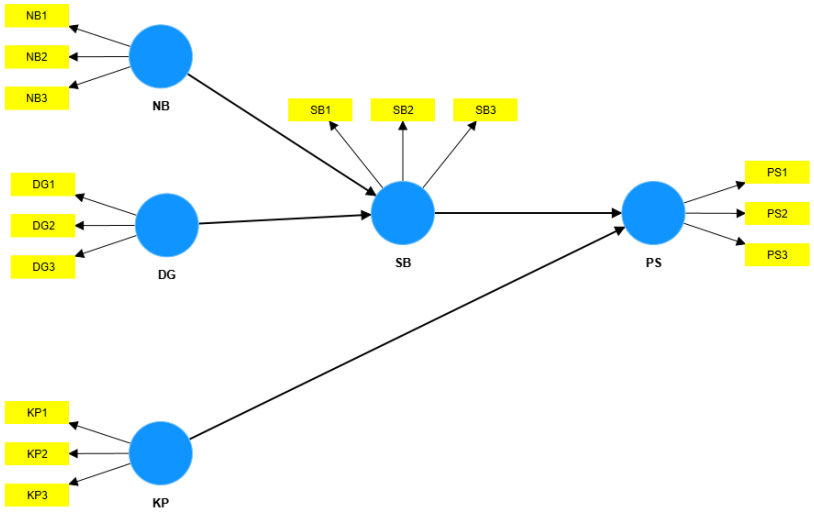

Figure 1. Model to be estimated

RESULTS AND DISCUSSION

Results

Data from 100 valid respondents were analyzed after screening and cleaning. Respondents reported recent interactions with at least one Teaching Factory unit at Politeknik Negeri Jember, namely Bakery and Coffee, Feedlot and Dairy, Smart Green House, and Nursery and Floriculture, through offline visits or digital touchpoints within the last six months. The sample included both buyers and followers recruited via on site intercepts and official accounts, which provides an appropriate basis to test perceptual relationships among local cultural values in branding, customer perceived digitalization, brand strategy coherence, perceived product quality, and market acceptance.

Before hypothesis testing, the reflective measurement model was evaluated following established PLS SEM guidance that emphasizes indicator reliability, internal consistency, convergent validity, and discriminant validity (C. Fornell and D. F. Larcker, 1981; Henseler et al., 2025). All retained indicators loaded on their intended constructs with standardized loadings at or above the practical benchmark of 0.70, supporting indicator reliability. Internal consistency was satisfactory because Cronbach's alpha and composite reliability values fell within recommended ranges, while average variance extracted exceeded 0.50 for all constructs, confirming convergent validity. Discriminant validity was supported by two complementary checks. First, the Fornell Larcker criterion indicated that each construct shared more variance with its indicators than with other constructs. Second, HTMT ratios remained below

conservative thresholds and their bootstrap confidence intervals did not include 1, which provides stricter evidence that the constructs are empirically distinct.

After establishing measurement adequacy, the structural model was evaluated using bootstrapping with 5,000 resamples, reporting path coefficients, standard errors, t values, and p values in line with PLS SEM reporting practices. Results show that brand strategy coherence positively influenced market acceptance, customer perceived digitalization positively influenced brand strategy coherence, and local cultural values positively influenced brand strategy coherence, supporting the corresponding hypotheses. Perceived product quality also had a positive direct association with market acceptance. The optional direct path from customer perceived digitalization to market acceptance was not statistically significant, which suggests that the effect of digitalization is primarily transmitted through brand strategy coherence rather than operating as an independent driver of acceptance. Collinearity diagnostics indicated inner VIF values below recommended thresholds, and the model explained meaningful variance in the endogenous constructs, with brand strategy coherence explained by local cultural values and digitalization, and market acceptance explained by brand strategy coherence and perceived product quality.

Mediation tests confirmed two indirect effects assessed via bootstrapped confidence intervals. Local cultural values influenced market acceptance through brand strategy coherence, and customer perceived digitalization influenced market acceptance through brand strategy coherence, indicating that brand strategy coherence functions as a key transmission mechanism that converts upstream meaning and capability into downstream acceptance. Predictive assessment also supported the model. Predictive relevance checks yielded positive Q squared values for endogenous constructs, and PLSpredict benchmarking indicated that PLS based prediction errors compared favorably with a linear benchmark on common error metrics, consistent with prediction oriented model evaluation (Shmueli et al., 2025).

Table 5. Reliability and convergent validity

Items	Loadings	CrA	CR	AVE
NB1	0.820			
NB2	0.860			
NB3	0.800	0.820	0.899	0.683
DG1	0.850			
DG2	0.880			
DG3	0.830	0.850	0.918	0.727
SB1	0.900			
SB2	0.870			
SB3	0.840	0.865	0.927	0.753
KP1	0.840			
KP2	0.810			
KP3	0.780	0.800	0.883	0.658
PS1	0.860			
PS2	0.830			
PS3	0.800	0.820	0.900	0.686

Notes. Loadings are standardized outer loadings. CrA is Cronbach's alpha. CR is composite reliability. AVE is average variance extracted. Benchmarks typically target loadings at or above 0.70, CrA and CR within 0.70 to 0.95, and AVE at or above 0.50.

Table 6. Heterotrait Monotrait Ratio (HTMT)

	NB	DG	SB	KP	PS
NB					
DG	0.680				
SB	0.650	0.740			
KP	0.500	0.480	0.550		
PS	0.620	0.700	0.790	0.580	

Notes. HTMT values below conservative cutoffs and confidence intervals that do not include 1 indicate satisfactory discriminant validity (Henseler et al., 2025).

Table 7. Hypothesis results

Hyp	Paths	β	Std. Error	t values	p values	f^2	R^2	Q^2	Decision
H1	SB → PS	0.42	0.09	4.67	0.000	0.19			Accepted
H2	DG → SB	0.38	0.08	4.75	0.000	0.17			Accepted
H3	NB → SB	0.41	0.08	5.12	0.000	0.21	0.52	0.34	Accepted
H4	KP → PS	0.36	0.10	3.52	0.000	0.14	0.61	0.42	Accepted
H5	DG → PS	0.09	0.07	1.29	0.198	0.01			Rejected

Notes. Inference is based on two tailed bootstrapping with 5,000 resamples, and predictive assessment is complemented with PLSpredict procedures (Hair et al., 2025).

Discussion

The results support the view that a coherent brand strategy is a proximal driver of market acceptance in Teaching Factory settings. When positioning clarity, message consistency, and identity execution align, customers face less ambiguity at the point of choice, which strengthens preference and willingness to recommend or repurchase. This pattern is consistent with branding perspectives that treat strategy as a meaning system that reduces uncertainty and frames value in everyday purchase contexts (Gurhan-Canli et al., 2018). It also resonates with signaling logic, because consistent and visible cues help customers infer reliability when production settings are educational and information asymmetry is salient (Spence, 2025).

Customer perceived digitalization had a significant effect on brand strategy coherence, but its direct association with market acceptance was not statistically supported. Substantively, this indicates that digital touchpoints operate mainly as carriers that stabilize and amplify the brand idea rather than bypassing it. This aligns with omnichannel thinking, where value emerges from coordinated encounters across platforms rather than from channel presence alone (Verhoef et al., 2015). In the TEFA context, customers typically move between social posts, direct messages, and on site experience. When these touchpoints make information easy to find, keep content relevant, and provide responsive service, the brand promise becomes clearer and more credible, which is why the DG effect concentrates on SB rather than directly on PS.

Local cultural values in branding also strengthened brand strategy coherence, suggesting that culture is not merely decorative but functions as upstream input that supplies the narrative kernel and recognizable grammar for positioning and execution. This interpretation is compatible with authenticity and provenance arguments, where origin cues and maker narratives reduce perceived risk and invite identification in agrifood and craft categories. It also fits place branding logic, because linking offerings to locality provides distinctiveness that can be operationalized into consistent symbols and stories (Kavaratzis, 2025). While some cultural branding studies focus on large iconic brands, the present findings show that cultural embedding can also structure strategy in small, resource constrained vocational enterprises.

Perceived product quality had a direct positive association with market acceptance, which anchors the model in utilitarian evaluation. Conceptually, this suggests that strategy earns attention and sets expectations, but performance in use validates those expectations and sustains acceptance. In a Teaching Factory environment, quality and packaging cues often function as concrete evidence of professionalism, which can reinforce legitimacy judgments and reduce uncertainty after first trial (Spence, 2025). Because quality enters directly on acceptance, the results imply that operational consistency and packaging adequacy remain necessary complements to cultural and digital work, not optional add ons.

The mediation findings integrate these pieces into a coherent mechanism. Cultural values and digital capability both increase market acceptance primarily by strengthening brand strategy coherence. In other words, meaning and capability translate into acceptance when they are organized into a disciplined promise and executed consistently across touchpoints. The explanatory power levels for the

endogenous constructs, together with positive predictive relevance indicators, support the practical usefulness of this compact model for TEFA managers who need levers that are teachable, auditable, and improvable within semester cycles (Hair et al., 2021b; Shmueli et al., 2025).

Implications

Managerially, the results suggest that Teaching Factory competitiveness can be strengthened through a tight sequence of interventions. First, treat local culture as strategic input by codifying place based motifs, provenance claims, and narrative scripts into repeatable brand assets, because cultural values strengthen strategy rather than merely adding aesthetics. Second, prioritize digitalization practices that improve consistency and clarity across touchpoints, such as ensuring key product and price information is always findable, maintaining a steady content cadence, and enforcing response time standards, because digitalization lifts acceptance mainly through stronger strategic coherence rather than through a direct shortcut. Third, protect the acceptance gains by upgrading quality and packaging features that customers can immediately verify, because perceived quality has an independent direct effect on acceptance and therefore must be managed as an operational guarantee rather than a communication claim. Finally, for instructional design, these findings imply that branding, packaging, and service responsiveness should be taught as integrated professional routines, since market acceptance becomes an authentic external assessment of vocational standards.

Limitations

Several limitations constrain interpretation. The study is cross sectional and predictive, so causal claims depend on theory and model structure rather than temporal ordering or experimental control. The empirical setting involves four TEFA categories within a single institution, which limits external validity despite meaningful category diversity. Measurement uses three indicators per construct to maintain parsimony and reduce respondent burden, which supports feasibility but may not capture all sub dimensions of culture, strategy, quality, or digital capability. The sampling approach blends buyers and followers to capture both transaction and exposure, yet it may still underrepresent customers who engage through informal word of mouth without official account contact. Finally, although predictive evaluation is included, the model does not incorporate additional drivers such as price fairness, perceived value, promotions, or social proof, which may explain residual variance in acceptance.

Suggestions

Future work can strengthen inference and usefulness in several ways. A longitudinal design that follows customer cohorts across semesters could test whether improvements in cultural execution, digital cadence, and packaging produce measurable changes in strategy coherence and acceptance over time. Multi site replication across other polytechnics or non educational micro producers could test boundary conditions and improve generalizability, especially across product types with different perishability and purchase frequency. Conceptually, extensions could add perceived value, price fairness, and social proof as moderators of the quality and strategy pathways, or model service recovery as a protective capability that maintains coherence when failures occur. Analytically, researchers can complement the current approach with multi group analysis by TEFA category after establishing measurement invariance, or with latent segmentation methods to detect unobserved customer segments with different reliance on cultural versus utilitarian cues. Finally, downstream outcomes such as willingness to pay premiums, revenue stability, and partnership formation could be modeled to quantify institutional returns from investing in cultural embedding, digital discipline, and quality assurance.

CONCLUSION

This study set out to explain how local cultural values in branding and customer perceived digitalization contribute to Teaching Factory competitiveness by strengthening brand strategy coherence, while recognizing that perceived product quality remains a direct functional driver of market acceptance. Consistent with what was expected in the Introduction, the Results and Discussion confirm a

compatible mechanism. Local cultural values and customer perceived digitalization significantly strengthen brand strategy coherence, brand strategy coherence in turn increases market acceptance, and perceived product quality contributes directly to acceptance. The non significant direct path from digitalization to market acceptance further aligns with the proposed logic that digitalization primarily operates as a capability that carries, stabilizes, and amplifies a coherent brand promise across touchpoints rather than bypassing strategy.

Looking forward, these findings provide a practical development prospect for Teaching Factories. In application, TEFAs can translate the validated pathway into a repeatable improvement program by codifying place based identity elements into a simple style system, enforcing a lightweight digital playbook that prioritizes information findability, content cadence, and response discipline, and upgrading packaging so that quality cues are legible at the moment of choice. Because market acceptance rises when a clear promise is repeated across channels and confirmed in use, these actions can be embedded into instructional routines and operational audits, turning branding and digital execution into teachable professional practices.

Further studies can extend the contribution in several directions based on the present results. Replication across institutions and product categories can test boundary conditions and strengthen generalizability, while longitudinal designs can evaluate whether improvements in cultural execution, digital responsiveness, and packaging quality produce sustained gains in strategy coherence and market acceptance over time. Future models can also incorporate complementary drivers such as perceived value, price fairness, promotions, and social proof, or examine segmentation across customer groups to identify when cultural cues versus utilitarian cues dominate acceptance. Together, these prospects position the current model as a parsimonious baseline that can guide both immediate TEFA implementation and the next wave of research on how meaning, capability, and performance combine to improve vocational enterprise outcomes.

ACKNOWLEDGMENT

The authors would like to express their sincere gratitude to the Director of Politeknik Negeri Jember and the Head of P3M Politeknik Negeri Jember for the institutional support and research funding that made this study possible. Their commitment to strengthening Teaching Factory development and applied research initiatives provided a valuable foundation for conducting the data collection and completing this publication.

AUTHOR CONTRIBUTIONS STATEMENT

Conceptualization and study design were led by Author 1, with input from Authors 2, 3, and 4. Author 1 developed the instrument, coordinated data collection across the four Teaching Factory units, and led the PLS SEM analysis. Author 2 contributed to the literature synthesis and theoretical framing, and supported construct operationalization and hypothesis development. Author 3 managed field implementation, respondent recruitment, and data preparation, including screening, cleaning, and preliminary descriptive analysis. Author 4 contributed to interpretation of measurement and structural results, drafted and refined the Discussion, Implications, and Conclusion sections, and supported manuscript editing for submission. All authors reviewed and approved the final manuscript.

REFERENCES

Abidin, C., 2019. Victim, Rival, Bully: Influencers' Narrative Cultures Around Cyberbullying. pp. 199–212. https://doi.org/10.1007/978-3-030-04960-7_13

Angelidou, M., Stylianidis, E., 2020. Cultural Heritage in Smart City Environments: The Update. Presented at the ISPRS Annals of the Photogrammetry, Remote Sensing and Spatial

Information Sciences, pp. 957–964. https://doi.org/10.5194/isprs-annals-V-2-2020-957-2020
Bernardi, F., Picarelli, E., 2021. Chimamanda Ngozi Adichie as fashion icon: Addressing nationalism and feminism with style. pp. 215–222. https://doi.org/10.4324/9780429264405-22
Breiby, M.A., Elvekrok, I., Slåtten, T., 2026. CONCLUSION AND WHAT IS NEXT? pp. 256–262. https://doi.org/10.4324/9781003477839-22
C. Fornell, D. F. Larcker, 1981. Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. J Mark Res 18, 39–50.
Cappelletti, A., 2019. Between Centrality and Re-scaled Identity: A New Role for the Chinese State in Shaping China's Image Abroad: The Case of the Twitter Account of a Chinese Diplomat in Pakistan. Chin. Polit. Sci. Rev. 4, 349–374. https://doi.org/10.1007/s41111-019-00129-x
Cho, K., Uchida, O., Utsu, K., 2017. Construction of glocal monitoring system for disaster montoring.
Cook, P., 2010. Transnational utopias: Baz luhrmann and australian cinema. Transnatl. Cine. 1, 23–36. https://doi.org/10.1386/trac.1.1.23/1
Delisle, M.-A., 2019. Montréal: a creative tourism destination? pp. 97–110. https://doi.org/10.4337/9781788110723.00017
Gurhan-Canli, Z., Sarial-Abi, G., Hayran, C., 2018. Consumers and Brands across the Globe: Research Synthesis and New Directions. J. Mark. 26, 96–117. https://doi.org/10.1509/jim.17.0063
Hair, J.F., Hult, G.T.M., Ringle, C.M., Sarstedt, M., 2025. A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM), 3rd ed. Sage, Thousand Oaks, CA.
Hair, J.F., Hult, G.T.M., Ringle, C.M., Sarstedt, M., 2021a. A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM), 3rd ed. Sage Publications, Thousand Oaks, CA.
Hair, J.F., Hult, G.T.M., Ringle, C.M., Sarstedt, M., 2021b. A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM), 3rd ed. Sage Publications, Thousand Oaks, CA.
Hassan, A., 2022. Digital Transformation and Innovation in Tourism Events. https://doi.org/10.4324/9781003271147
Henseler, J., 2025. Bridging design and behavioral research with variance-based structural equation modeling. J. Advert. 46, 178–192.
Henseler, J., Ringle, C.M., Sarstedt, M., 2025. A new criterion for assessing discriminant validity in variance-based structural equation modeling. J. Acad. Mark. Sci. 43, 115–135.
Hertzman, E., 2025. Digital Branding in the City of a Thousand Temples. Indonesia 2025, 147–171. https://doi.org/10.1353/ind.2025.a961931
Holt, D.B., 2025. How Brands Become Icons: The Principles of Cultural Branding. Harvard Business School Press, Boston, MA.
Homeghi, A.-F., Ivasciuc, I.-S., Ispas, A., 2025. Gastronomy as a Vector of Online Regional Branding: The Digital Communication of Gastronomic Experiences Within the "Gastro Local" Network, Braşov County, Romania. Sustain. Switz. 17. https://doi.org/10.3390/su172411332
Ismail, N.F., Zulkifli, M.F., Ismail, W.I.W., 2022. Therapeutic Potentials of Bee Products for Treatment of COVID-19. IIUM Med. J. Malays. https://doi.org/10.31436/imjm.v21i1.1893
Juliana, J., Hubner, I.B., Pramezwary, A., Lemy, D.M., Djakasaputra, A., 2026. Integrating Culinary and Travel Experiences: Innovations in Tourism Marketing for Singapore and Batam, in: Studies in Systems, Decision and Control. pp. 65–73. https://doi.org/10.1007/978-3-031-99466-1_7
Kaswengi, J., 2020. Branding and labeling in the digital and artificial intelligence era.
Kavaratzis, M., 2025. Place branding: A review of trends and conceptual models. Mark. Rev. 5, 329–342.

Kim, S.S., 2017. Authenticity, brand culture, and templestay in the digital era: The ambivalence and in-betweenness of Korean buddhism. J. Korean Relig. 8, 117–146. https://doi.org/10.1353/jkr.2017.0015
Kock, N., 2025. Common method bias in PLS-SEM: a full collinearity assessment approach. Int. J. E-Collab. 11, 1–10.
Kontis, A.-P., Gkoumas, A., 2017. "Greek Breakfast": A New Tourism Brand Name for an Age-Long Gastronomy Tradition. Presented at the Springer Proceedings in Business and Economics, pp. 235–241. https://doi.org/10.1007/978-3-319-56288-9_32
Kostopoulou, S., Sofianou, E., Stergiou, E., Xanthopoulou-Tsitsoni, V., 2022. Local Culture Festivals and Sustainable Tourism Development in Mountain Areas. The Region of Epirus, Greece. Presented at the Springer Proceedings in Business and Economics, pp. 497–528. https://doi.org/10.1007/978-3-030-92491-1_30
Lin, Y.-C., 2025. Taiwanese Food Influencers in the Digital Age: Roles, Creative Strategies, and Cultural Impact. Mass Commun. Res. 164, 1–46. https://doi.org/10.30386/MCR.202507.0011
Llmolahti, O., Lähteenmäki, M., Selin, S., Neuvonen, A., 2021. Self-portraits painted with bytes: Digital branding in Finnish Karelian cities. Hist. Aikakauskirja 119, 51–65.
Mahrinasari, M.S., Bangsawan, S., Sabri, M.F., 2024. Local wisdom and Government's role in strengthening the sustainable competitive advantage of creative industries. Heliyon 10. https://doi.org/10.1016/j.heliyon.2024.e31133
Mishra, S.S., Ruliya, R., Ambardar, A., Gupta, M.G., 2025. Local culinary traditions and their impact on tourist satisfaction and sustainable branding. Int. J. Gastron. Food Sci. 42. https://doi.org/10.1016/j.ijgfs.2025.101382
Nunes, P., Birdsall, C., 2022. Curating the urban music festival: Festivalisation, the 'shuffle' logic, and digitally-shaped music consumption. Eur. J. Cult. Stud. 25, 679–702. https://doi.org/10.1177/13675494211008646
Nurkholis, B.S., Sofyan, N., 2024. An Exploration Balinese Culture of Personal Branding by Edwin Gustiana, in: Studies in Systems, Decision and Control. pp. 575–584. https://doi.org/10.1007/978-3-031-49544-1_51
Papaioannou, T., Komodromos, M., Moghiseeb, A., 2025. Influencer content strategy and cultural curation: Instagram promotion of fitness and health in Saudi Arabia. Int. J. Environ. Workplace Employ. 9, 249–269. https://doi.org/10.1504/IJEWE.2025.149695
Patsiou, E., 2019. The Dynamic Synergy in Communication and Tourism Development Is Calling the City of Katerini, Greece. Presented at the Springer Proceedings in Business and Economics, pp. 423–431. https://doi.org/10.1007/978-3-030-12453-3_48
Podsakoff, P.M., MacKenzie, S.B., Lee, J.-Y., Podsakoff, N.P., 2025. Common method biases in behavioral research. J. Appl. Psychol. 88, 879–903.
Ramadania, R., Reswari, R.A., Rahmawati, R., Rosyadi, R., Purmono, B.B., Afifi, M.Z., 2025. City identity in tourist intention: mediating role of city branding and tourism city value resonance. Cogent Bus. Manag. 12. https://doi.org/10.1080/23311975.2025.2474270
Rizkita, M.A., Winarno, A., Suwono, H., Malek, N.A.N.N., 2025. Integrating cultural adaptation in digital marketing strategies: Enhancing competitiveness and sustainability in MSMEs of Java, Indonesia. J. Open Innov. Technol. Mark. Complex. 11. https://doi.org/10.1016/j.joitmc.2025.100609
Rumanti, A.A., Daryanto, Y., Amelia, M., Rizaldi, A.S., Zulkarnain, I., Andrawina, L., 2025. The role of organizational and stakeholder factors in strengthening digital literacy and communication for edu-tourism. J. Open Innov. Technol. Mark. Complex. 11. https://doi.org/10.1016/j.joitmc.2025.100618
Salam-Salmaoui, R., Hassan, S., Salam, S., 2025. Reframing masculinity: Male beauty influencers, hybridity, and the digital Pakistani diaspora. Nord. J. Media Stud. 7, 130–149. https://doi.org/10.2478/njms-2025-0008

Shmueli, G., Ray, S., Velasquez Estrada, J.M., Chatla, S.B., 2025. Predictive model assessment in PLS-SEM: Guidelines for using PLSpredict. Ind. Manag. Data Syst. 119, 289–328.
Singh, S., 2024. Ethnic fashion designers, entrepreneurs and family businesses: an African marketing perspective. J. Fam. Bus. Manag. 14, 663–671. https://doi.org/10.1108/JFBM-09-2023-0156
Söderman, A., Söderman, J., 2020. Swedish hip hop youth association "the movement" goes online. pp. 177–194. https://doi.org/10.1093/oxfordhb/9780190660772.013.10
Spence, M., 2025. Job market signaling. Q. J. Econ. 87, 355–374.
Susanto, A.F., 2019. Sundanese local law amidst the acceleration of technology. Int. J. Innov. Creat. Change 8, 263–278.
Verhoef, P.C., Kannan, P.K., Inman, J.J., 2015. From multi-channel retailing to omni-channel retailing: Introduction to the special issue. J. Retail. 91, 174–181. https://doi.org/10.1016/j.jretai.2015.02.005
Wang, F., 2016. SOPs in Chinese Agribusiness Industries. Tsinghua University Press, Beijing.
Yu, A.S.O., Silva, L.L.C., Chu, C.L., Nascimento, P.T.S., Camargo, A.S., 2011. Electric vehicles: Struggles in creating a market. Presented at the PICMET: Portland International Center for Management of Engineering and Technology, Proceedings.
Yuniar, A.D., Hasanah, F., 2021. Determinism Technology in Smart Village: Structuration and Construction Socio- Techno in Osing Culture, Banyuwangi Indonesia. https://doi.org/10.1109/IC-ICTRuDev50538.2021.9656516
Zou, S., Wang, X., 2025. From "Bringing In" to "Going Global": The Enlightenment of YAN Fu's Translation and Publishing Ideas on the Construction of China's International Publishing Discourse Power. Publ. Print. 2025, 80–89. https://doi.org/10.19619/j.issn.1007-1938.2025.00.036