

Beyond Tradition: Digitizing Local Food Heritage for Ecosystem Efficiency in Thailand's Eastern Economic Corridor

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ABSTRACT

Food heritage plays a role in destination image, and it is also how tourism spending circulates within local communities, although small food producers and micro-entrepreneurs typically have no lasting digital presence and rather operate through shadowy intermediaries. This paper highlights a design-science study to create and evaluate a cross-platform, human-centered web application connecting local-based food producers and products in Thailand's Eastern Economic Corridor. Based on a user-centered system development life cycle, the requirements were captured by stakeholder interviews, benchmarking existing platforms, and consulting with destination agencies and ICT partners, while they were organized according to the Business Model Canvas and personal-branding concepts. The browser-based artefact that's been put together from this process gives vendors a way to showcase products, provenance stories, and branding assets; travelers to see what's on offer in an area; locals to do the same; and administrators tools for curation and basic governance. Functional and structural testing was completed before pilot testing. An expert-vendor-resident-tourist mixed evaluation revealed high levels of perceived usefulness, information trust, power to use, and aesthetic quality (mean ratings of ≈ 3.8 – 3.9 on a five-point scale), with overall satisfaction falling in the "very good"/"good" ranges and acceptable security perceptions. A searchable operator registry and early cross-vendor collaboration point to the formation of a business network for sharing knowledge and joint marketing. The study provides a reusable method to translate culinary heritage into a light regional platform for SME discoverability and reach, as well as an evaluative framework that connects perceived quality with destination agencies' ecosystem signals.

Keywords: Gastronomic tourism, Human-centered design, Web applications, SMEs, EEC.

INTRODUCTION

Gastronomy is increasingly valued as a strategic mechanism for destination competitiveness, the maintenance of intangible cultural heritage, or even more inclusive local development (Jiang, Yang, Liu, & Huang, 2024). Beyond the signal of who we are, food experiences are gateways to engagement with local supply chains and micro-enterprise upgrading wherever culinary stories and provenance can be made visible at scale, enabling visitors to connect with place via taste, story, and contemporary culture, as well as potentially redistribute tourism spending toward small producers and the informal economy (Barzallo-Neira & Pulido-Fernández, 2023). During the post-Covid travel recovery, more travelers will look online to identify local food options, compare offerings, and assess quality and destinations, and they will search for tools that can disperse demand and keep expenditure local (OECD, 2024). But benefits are not spread evenly: micro-enterprises tend to be informal, seasonal, and weak in bargaining power; without interventions targeted at them, digital platforms could compound inequalities by

favoring the well-resourced and homogenized “globalized” food over region-specific dishes and small producers, so that the design challenge is one of foregrounding local voices, provenance stories, diverse price points, and traceable quality (Peixoto, Martins, Miranda, Matos, & Carvalho, 2025).

In Thailand, the EEC covers Chonburi, Chachoengsao, and Rayong; local food cultures are highly heterogeneous with everything from street vendors to smallholder farms and family-run eateries, but a large number of micro-enterprises are still under digitized such that discoverability & trust don't scale: information is fragmented across social media pages, language barriers prevent search, and peak seasonality exacerbates wayfinding & purchasing difficulty (Office, 2023). Meanwhile, smart/e-tourism and platform architectures have reshuffled the deck in terms of how value is produced and coordinated within tourism ecosystems, to which recommender systems, safe transactions, and reputation mechanisms that link visitors with vendors as well as public authorities are increasingly contributing (Buhalis, 2019; Gössling, 2021). Research also offers deeper insights into what constitutes a "quality" system in these contexts. HCI work gives interaction and usability requirements for cultural heritage apps, whereas in the case of tourism apps, studies determine intention to use and adoption factors (Hamouda, 2022; Ramos Jiménez et al., 2025). Furthermore, recent meta-analyses and combined studies between TAM/UTAUT and TPB have found that perceived usefulness, ease of use, trust, social influence, and facilitating conditions are strong predictors of technology acceptance in the tourism context (Ali et al., 2022; Huang & Looi, 2021; Jiang et al., 2024).

Definition of use cases widely recognized (OWASP, 2023; Standardization, 2019) and demonstration of a strong focus on the perceived usefulness Consideration is given to how stickiness or ecosystem effects are measured (very low level; see retention, conversation, network effect, or experimental evaluation as A/B test reports). For small providers, it is essential to be able to manage digital identity in place-based stories as platform logics and algorithms are determining visibility (Buhalis, 2019; Gössling, 2021). In this context, the present article seeks to design and pilot a human-centered, cross-platform web application that collects restaurants, food producers, and province-level directories throughout Thailand (in its November 2023 stage), under the collaborative branding of the Eastern Economic Corridor (2023), aimed at encouraging provenance storytelling as well as hygiene and quality cues in order to secure trust-based growth fast for micro-enterprises in local foods (Office, 2023). Methodologically, to realize the objectives, it is applying the Design Science Research with using SDLC (Software Development Life Cycle), which focuses on the human center and Business Model Canvas guidance in order to connect two modules of technical practice from value proposition and sustainability, which include permanent sustainability in academic stakeholders (Jadán-Altamirano, Boguerin-Tabarini, & Jadán-Guerrero, 2025; Lange & Kunz, 2024; Ramos Jiménez et al., 2025; Saxena, Lo, Hew, & Wong, 2020).

The platform aims for an intuitive interface with fast province filters and category-based browsing, vendor profiles highlighting origin and quality signals (to trust small vendors, preventing content giants), and onboarding of operators and moderation of their content, which are supported by structured black-box & white-box testing and an analytics plan to discern adoption, engagement, retention, and conversion funnels. Align is also used in governance of the accessibility-by-design with WCAG 2.2 and security/privacy by design based on ISO 9241-210, supported by OWASP ASVS controls and reasonably aligned to (Thailand's) PDPA regime (OWASP, 2023; Piper, 2022; Standardization, 2019; W3C, 2023). The added value of the study is (1) a reusable, human-centered SDLC process set within a DSR frame for regional local-food platforms; (2) the testing and analytics process linking perceived quality to KPIs such as discovery, retention, and conversion that support future adoption modelling; and (3) practitioner guidance on standards-based governance for accessibility, security, and ecosystem integration in developing culinary-tourism regions (Jadán-Altamirano et al., 2025; Peixoto et al., 2025).

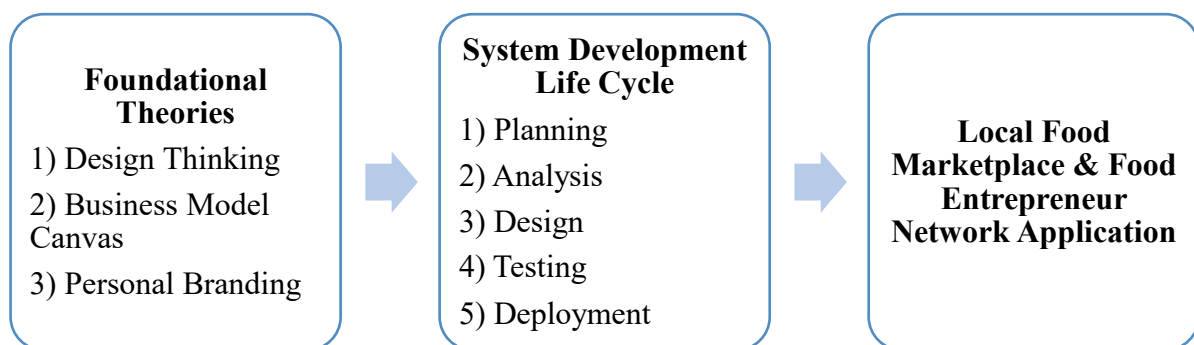


Figure 1. Conceptual and development Framework.

CONCEPTUAL BACKGROUND

Food Heritage, Local Ecosystems, and Destination Competitiveness

Culinary heritage encompasses recipes, preparation methods, rituals, and stories passed down through generations, shaping tourist expectations regarding the food and hospitality they will experience. This influences their choice of destination, visitor satisfaction, and loyalty. For resident communities, it can sustain livelihoods, uphold cultural identity, and promote rural development by attracting visitors who seek spaces rooted in local authenticity rather than generic globalism. But the rewards of gastro-island hopping are not equally matched, for where there's an abundance of small businesses competing informally, relying on seasonal spates and without efficacy to negotiate better conditions digital platforms often have a social bias towards attracting larger, more resourced players and at once encourage a world cuisine approach over localized dishes or micro-producers. Systematic reviews and empirical studies denote the taste for the tourist–gastronomy experience to destination image, repeat visitation, and positive word-of-mouth drawing attention to sensory and aesthetic quality, provenance storytelling, and online reputation (Ramos & Pinto, 2024; Sanchez-Garcia, Gallego, Marquez, & Blasco, 2024). At the destination level, “culinary markets” and digital platforms support discovery and transactions between local supply and tourist demand through fragmented intermediation, which displaces tourists from iconic sites and opens participation to micro-operators and informal sellers (Recuero-Virto & Valilla Arróspide, 2024). Within the context of Thailand's Eastern Economic Corridor, this highlights the relevance of a province-aware registry that publishes information about vendors, products, and indicators for trust (such as health or quality signals) through a common interface for browsing.

Innovation Marketing, Smart Tourism, and Digital Platforms

Food heritage such as recipes, techniques, rituals and narratives influences destination image, sets visitors' expectations and drives travel behavior through representing a way to maintain local jobs and cultural identity in host communities (Ramos & Pinto, 2024; Sanchez-Garcia et al., 2024). However, gains from gastro-tourism are uneven, because micro-enterprises and informal street-vendors have less negotiation power and digital visibility, whilst platform logics tend to advantage large, standardized supplies against local specialties and little producers (Recuero-Virto & Valilla Arróspide, 2024; Sanchez-Garcia et al., 2024). Recent reviews and empirical studies point to the capacity of both culinary and digital marketplaces when taking sensory quality, provenance storytelling and strong online reputation systems as their starting points to enhance destination image building repeat visitation and positive word of mouth (Ramos & Pinto, 2024; Sanchez-Garcia et al., 2024). At destination level, modelled “culinary markets (regional platforms)” also facilitate the matching of highly fragmented demand to supply and enable spreading footfall beyond iconic attractions bringing micro-operators into the mix as well (Recuero-Virto & Valilla Arróspide, 2024). In the case of Thailand's EEC, such evidence suggests that there is a benefit to developing just this sort of province-aware registry one in which local vendors and products, together with the primitives of basic trust - (e.g. hygiene or quality cues) are visible (i.e., clearly labelled and tagged), in an easily navigable interface available to residents, visitors and destination agencies.

Design Science Research, SDLC, and Business-Model Logic in Tourism Informatics

Design Science Research (DSR) provides an organized framework for designing and evaluating artifacts in response to real stakeholder problems, emphasizing explicit handling of complexity from problem framing to evaluation and knowledge contribution such that the product is both contextually relevant and theoretically enlightening (Tuunanen, Winter, & Brocke, 2024). Developing the artifact via a phased SDLC from requirements and design to implementation, testing, and maintenance enables traceability, quality assurance, and explicit risk mitigation; recent research has demonstrated that traditional and agile offshoots can be adapted to domain conditions as well as project-level risks (Almeida & Bálint, 2024; Tuunanen et al., 2024). BMC is used to fill the gap of DSR and SDLC through defining the value proposition, customer segment, channel, key partner, and cost structure. BMC also has been increasingly applied in the tourism sector as a reiterative tool aligning destination capabilities with community and market needs including heritage conservation, SME engagement, and visitor experience differentiation (Ferguson & Alarcón, 2015). In this study, DSR frames the challenge of low digital visibility and local-coordination among food-vendors; SDLC provides the structured progression from elicitation of requirements to designing, building and testing a solution; BMC-based analysis positions how value is created and delivered (and captured) for vendors, travelers and destination agencies while human-centered design consisting of co-designing user-journeys/user-content interfaces/vendor-profiles using design-thinking workshops combined with concepts around personal-branding are used in order to foreground provenance, identity and quality cues more than transactional listings alone (Peixoto et al., 2025).

Integrated Framework and Review Takeaway

The embedded framework for the artifact, as illustrated in Figure 1, integrates innovation marketing for tourism SMEs, food heritage and destination competitiveness literature, DSR methodology, a staged SDLC (Fang, Ng, Tam, & Yuen, 2025), the BMC, and personal branding logic into a cohesive design paradigm. In this basic structure, the DSR frames the overall research and evaluation effort; the SDLC organizes activities from planning and analysis through design, development, testing, and deployment; the BMC keeps value proposition, channels, and partner roles explicit (and aligned with local food and tourism objectives), while human-centered design/innovation-marketing concepts guide how we actually work out an interface or a narrative or interaction pattern to change visibility of factory-to-outlet routes as well as trust underpinning our vendor coordination. In sum then, this literature indicates that the DSR-guided-SDLC-implemented system interfaced with BMC-based business logic and supported by human-centered design can lead to improved local-food visibility, trust, and vendor coordination in end-user arrangements as found in destination regions of Thailand or the Eastern Economic Corridor (Ku & Chen, 2024; Olin & Mladenović, 2025; Ramos & Pinto, 2024; Recuero-Virto & Valilla Arróspide, 2024; Sanchez-Garcia et al., 2024; Saxena et al., 2020) that has a direct bearing on the web application and on the vendor-network artifact that is investigated in this case.

Research Questions and Propositions

The study is guided by three research questions:

RQ1: How is a cross-platform web app developed to facilitate the discovery of and access to local food vendors and their products within the EEC?

RQ2: To what extent does the artifact satisfy stakeholders in terms of functionality, usability, security, and overall performance?

RQ3: What is the enabler that shapes the platform to facilitate a vendor network for knowledge sharing, referrals, and joint promotion?

Accordingly, the empirical analysis is guided by three propositions (P1–P3):

P1: (Functionality and usability) Stakeholders will score the application as meeting acceptable levels of effectiveness, efficiency, and ease of use.

P2 (Coverage and satisfaction): Perceived sufficiency of province-level coverage is related to high overall satisfaction.

P3 (Network formation): The platform and the operator database will enable identifiable business-network associations of suppliers.

RESEARCH METHODS

Design Science Approach and Context

This study adopts a Design Science Research (DSR) method for designing, developing, and evaluating the cross-platform web application to address the problem of disconnected visibility and low digital reach among local-food producers in the EEC region of Thailand. The EEC example represents part of an overarching spatial dynamic, because heavy urban demand is articulated with hinterland (rural and peri-urban) production zones, and logistics, access, and information flows are at the core of local-food ecosystems (Kusmin, Normak, & Ley, 2024). In this framework, supply-side players are represented by small producers, farmers, food processors, and restaurants; demand-side actors are tourists and local people who require reliable, authentic information; while the third category (destinations), with administrative partners such as local government agencies, tourism offices, and development organizations, concentrates on regional branding, policy alignment, and ecosystem support (de Bruin, Dengerink, & van Vliet, 2021; Kusmin et al., 2024). The DSR method places all three stakeholders in the roles of cocreators and evaluators of the requirement product.

System Development Life Cycle

The DSR process has been 'operationalized' by a System Development Life Cycle (SDLC) which is designed to systematically lead through the steps from problem diagnosis to deployment and whose structure marks elements that are explicitly co-tuned accounting for interaction between urban markets, rural production zones and transport/connectivity restrictions in EEC (de Bruin et al., 2021; Kusmin et al., 2024). Within the planning and analysis phase, needs are identified from document analysis, field observation and semi-structured interviews of producers, restaurateurs, tourists, locals and destination partners then written as user stories or functional/non-functional requirements (Delpont, Von Solms, & Gerber, 2024). The design phase produces information architecture, data models and interface wireframes for use at province-level navigation, thematic browsing and

provenance storytelling, based on design thinking and the Business Model Canvas, which is then developed into a responsive, cross-platform web application that can be used in standard web browsers on mobile smartphones and tablets as well as desktop devices (Balsam & Mishra, 2025). The testing is a mixture of key task functional tests (registration / profile, list, search, map, contact flows) structural checks on code paths and data integrity and error handling as well as PDPA aligned consent and data handling deployment puts pilot onto secure server with role-based access, documentation and training materials for local partners (Delpont et al., 2024; Lange & Kunz, 2024).

Instruments and Validation

Content validity for the scale was ensured by a panel of five domain experts in tourism, ICT, and local-enterprise development, which judged item clarity and relevance using Item–Objective Congruence (IOC); items not achieving the acceptable IOC threshold were modified/removed prior to field testing. Stakeholder evaluation was further addressed via four criteria: effectiveness (perceived relevance and confidence in authenticity) (Almanasreh, Moles, & Chen, 2019), overall satisfaction, usability (ease of use, navigation, and aesthetics), and perceived security (notices for consent, method to contact/order, and basic data protection features), all rated out of 5 points as in Likert scales anchored from “Poor” to “Excellent,” supplemented with open-ended questions concerning strengths/weaknesses that need improvement (e.g., multilingual labels, clearer price, and enhanced categories) (Braun & Clarke, 2021). Means and standard deviations were calculated and interpreted in relation to the five-level quality bands for each item and dimension, and qualitative comments were also summarized thematically to elucidate quantitative pattern insights and provide direction on refinements, providing a triangulated account of the effectiveness, usability satisfaction, and perceived security of the artifact in the pilot context.

Ethical Considerations

The study complied with human-research standards at Burapha University. The protocol was approved by the Human Research Ethics Committee, Burapha University (Approval No. IRB2-067/2567, project code HU032/2567). All participants were informed about the study’s aims, the voluntary nature of participation, data-handling practices under the PDPA, and their rights to withdraw. Written informed consent was obtained prior to data collection. Identifiable information in the operator registry is used solely for platform operation and communication authorized by participants.

RESEARCH RESULTS

Functional Verification

Black-box tests indicated that all key user flows of the pilot build worked as expected: browsing by province and category, search and filters, vendor registration and log-in, profile creation and edition, product or menu listings and updates, map display, contact/enquiry submission, and vendor & admin authentication (log in/out) enabled controlled access based on role, restricting privileged functions only to authorized users. Overall, my experience with initializing contact and ordering and the use of requests and notifications was relatively intuitive, as were cross-platform tests for Android, iOS, and Windows devices in Chrome, Safari, and Firefox; edge cases like dropping images on a form, not completing all form fields, or flaky connectivity (perhaps during file upload) are handled appropriately with meaningful error messages rather than exceptions being thrown.

Structural Verification

White-box testing also checked internal code paths of main modules such as search, listing, profile management, and notification handling, wherein it verified that the application maintained referential integrity between root entities (Customer, Vendor, Product Order Shipment, and Address), including the Order–Product relationship, which are connected through executing action ORDERS items with fine-grain audit decoration for create and update metadata. Client-side input validation and sanitization prevented malformed data from reaching the database. We had server-side sanity checks that enforced client-side validation, and any integrity check on these entities passed. Logging routes caught exceptions and fixed logic for optional, missing fields without revealing private data, and transient notification failures were successfully retried. Security-oriented tests also tested authentication flows, role-based permissions, and handling of contact forms, while the structural validation determined that the system respected the technical quality requirements established for an open pilot.

Stakeholder Evaluation

For evaluation, stakeholders were classified as expert reviewers (tourism and ICT professionals), operator users (local vendors), and a minor group of tourist and resident users to address effectiveness and usability, satisfaction, and perceived security. Responses for perceived effectiveness and usability across the tasks were high

(average ratings 3.8–3.9 on a five-point scale), with participants indicating that it made it easier to find vendors, understand what they offer, and navigate between pages, and the highest score was given for perceived usefulness and trust in the information. The overall satisfaction dropped primarily in the “very good” and the “good” bands, with respondents seeing value in the alignment with destination-branding goals and a focus on provenance storytelling. However, a few noted that province-level navigation could seem opaque and recommended thematic groupings or map-based shortcuts. Security perceptions were acceptable for a pilot and were primarily associated with attitudes toward visible consent notices, clear explanations of how data is being used, and the perceived safety of communication and ordering channels; suggested improvements were proposed, including clearer price display conventions, explicit “verified vendor” labels, and optional multilingual interfaces.

Network Formation

The curated operator registry tracked vendors and product lines across Chonburi, Chachoengsao, and Rayong, and during the pilot clear links among local vendors were observed (e.g., mutual referrals of complementary products, cross-promotion opportunities including joint social media posts drawing attention to combined offerings, and cross-listing of items from one provider’s menu into another’s). These patterns suggest the development of an initial business network for knowledge transfer, collaborative product work, and joint marketing efforts, whereas coverage in the registry grew incrementally as new operators joined and existing profiles were enriched with re-edited images, narrations, and categories; hence, it served both as a user-facing directory and as a structural backbone to analyze and stimulate vendor-to-vendor links.

Result Synthesis

Collectively, they suggest the artifact fulfilled its core functional parameters, satisfied structural and data-integrity tests, and was deemed by participants as useful, usable, and satisfactory. Precursors to vendor networking were observed in the operator registry and cross-vendor interactions, indicating that a conscientiously designed digital platform can help accelerate relationships between small food businesses. In general, the findings provide support for Proposition 1 (the acceptability levels of functionality and usability are fine), while we can only find limited support for Proposition 2 (province-level coverage and representation has high satisfaction levels) and Proposition 3 (the platform strengthens links between business networks among participating suppliers).

Table 1. Descriptive statistics by evaluation dimension (pilot).

Dimension	Items (n)	Mean	SD	Interpretation band*
Effectiveness (usefulness, trust)	8	3.87	0.74	Good
Usability (ease of use, aesthetics)	5	3.89	0.94	Good
Satisfaction (overall)	1	3.80	0.92	Good
Security perception (pilot)	1	3.30	1.18	Moderate

Notes: Use the report’s five-level scale (e.g., Very Good / Good / Moderate / Fair / Poor).

Province-level platform coverage for Chonburi, Chachoengsao and Rayong (Table 2) during the pilot is summarized; these numbers are reported by number of vendors and products listed; content-completeness indicators % profile with provenance notes and % profiles with photos, for user comparison; respondents’ perceived adequacy for each province as Mean/SD on the same five-level scale as Table 1 (Very Good, Good, Moderate, Fair, Poor). As counts and percentages at the province level were not available in this pilot report, we document this separately (NR) as a table for monitoring over time (e.g., identifying provinces with low frequency/statistical disparity in vendor onboarding, photography/provenance campaigns, and content improvement).

Table 2. Province-level coverage and perceived adequacy.

Province	Vendors listed	Products listed	% profiles with provenance notes	% profiles with photos	Perceived adequacy (Mean/SD)
Chonburi	NR	NR	NR	NR	NR
Chachoengsao	NR	NR	NR	NR	NR
Rayong	NR	NR	NR	NR	NR

Notes: Add any local categories (e.g., subdistricts). “Perceived adequacy” can reflect users’ ratings of coverage sufficiency by province.

Table 3 shows vendor–network linkages that were observed across Chonburi, Chachoengsao, and Rayong during the pilot. Heuristic evidence from registry data and focus-group notes suggests five common linkage types: referral (vendor→vendor), co-promotion (posting jointly), cross-listing (products on two or more pages), collaboration (al events/bundles), and knowledge exchange (sourcing/production tips) between them the early

evidence reflects basic network-forming conditions awareness formation, demand creation, and knowledge sharing. While counts were not systematically documented at this stage (NR = not reported), we believe the categories provide a useful point of departure for instrumenting the notion in subsequent releases, where, e.g., per-type frequencies and province-specific patterns will be measured (e.g., tagged cross-mentions, shared posts, co-bundled SKUs).

Table 3. Vendor-network linkages observed during pilot.

Linkage type	Description/example	Count	Province(s) involved	Notes
Referral (vendor→vendor)	Vendor A recommends Vendor B	NR	Chonburi; Chachoengsao; Rayong	Linkages of this type are stated as observed during the pilot registry activities (qualitative record).
Co-promotion (joint posts)	Shared promotion across two vendors	NR	Chonburi; Chachoengsao; Rayong	Co-promotion opportunities and cross-mentions were recorded; not tabulated as counts.
Cross-listing	Product from Vendor A featured on Vendor B page	NR	Chonburi; Chachoengsao; Rayong	“Content cross-mentions” noted during pilot; no per-type totals provided.
Collaboration (events/kits)	Joint tasting event / product bundle	NR	Chonburi; Chachoengsao; Rayong	Collaboration is implied in the network formation narrative; no numeric breakdown.
Knowledge exchange	Shared sourcing/production tips	NR	Chonburi; Chachoengsao; Rayong	Focus group notes explicitly mention exchange and training on promotion techniques.

Note: These are illustrative categories; adapt to the network behaviors you recorded (e.g., shared logistics or co-packaging).

DISCUSSION

Theoretical Contributions and Comparison to Prior Work

This research demonstrates how DSR, employed through an adapted SDLC and informed by the BMC, can mitigate local food tourism market discovery and coordination failures by encoding stakeholder requirements in a human-centered artifact that is sequentially tested for perceived effects, addressing calls for culturally embedded destination-generic alternatives (Buhalis, 2019; Ramos & Pinto, 2024; Ramos Jiménez et al., 2025). The assessment framework aligns user-level perceptions (usefulness, trust, usability, satisfaction, and security) with platform-level indicators (coverage, profile richness, province-based curation, and emerging vendor linkages), providing a template for replication of the evaluation in other geographic contexts (Ramos & Pinto, 2024; Sanchez-Garcia et al., 2024). Early evidence from networks also indicates that these platforms can support referrals, co-promotion, and cross-listing, and as such extend past directory functions to be sites for the collaborative production of value (Ramos Jiménez et al., 2025; Recuero-Virto & Valilla Arróspide, 2024). Relative to previous work with culinary heritage and human-centered tourism apps, the study offers a reproducible build-and-evaluate loop in the EEC (Dickersin & Rennie, 2003) and showcases how lean web applications that are responsive to device form factors can provide tangible benefits (discoverability, trust cues, nascent network ties) in advance of fully fledged marketplace or ‘super-app’ capabilities common with staged innovation trajectories seen among SMEs as well as destination agencies (Gössling, 2021).

Practical Implications and Contextual Insight

Within this context, the EEC case implies that province-level collection of curation can strike a balance between coverage (across Chonburi, Chachoengsao, and Rayong) and depth (e.g., vendors’ stories, place of origin, and hygiene/quality imagery), while strengthening perceptions of authenticity and trust, key factors that are known to be associated with gastronomic competitiveness and revisit intention (as well as positive word-of-mouth) (Ramos & Pinto, 2024; Sanchez-Garcia et al., 2024). For policymakers and destination management organizations, this model offers a concrete way of supporting micro- and small food producers without replicating the dominance of large commercial platforms: ergo, a regionally curated marketplace with inclusive onboarding, provenance storytelling, and PDPA-compliant data practices can enhance vendor visibility (and therefore bargaining power) as well as offer travelers more reliable, interpretable information (Piper, 2022; Thailand, 2022). From a practitioner and ICT team perspective, the results suggest that involving operators early in requirement collection is essential, but with practical templates and guidance to ensure coordinated storytelling and profile updates (and moderating these by building local capacity so that content quality is sustainable); in operational terms, combining SDLC discipline with design-thinking workshops enables multi-faceted requirements from diverse stakeholders to be translated into modular technical deliverables, whereas the BMC acts as a guarantor of ongoing clarity about implementation choices (based on business case and partner role) (Peixoto et al., 2025; Saxena et al., 2020).

Boundary Conditions and Limitations

The current deployment is to be interpreted as early-stage: results are from a pilot window, with convenient sampling and high use of expert operator raters, and the behavioral telemetry coverage is low. The observed network states are therefore of an indicative rather than causative nature, as they were inferred from visible behaviors (referrals and cross-mentions, but not longitudinal transaction or revenue trails). For transferability beyond just interface features, the types of scalable transfers (across regions) rely less on specific interface characteristics and more on the stability of content governance and alignment with established accessibility and security/privacy standards, such as WCAG 2.2 for accessibility, privacy-and-security-by-design guidance (ISO 9241-210 and related), application-security controls aligned with OWASP ASVS, and compliance with Thailand's PDPA regime (OWASP, 2023; Piper, 2022; Standardization, 2019; Thailand, 2022; W3C, 2023). Given the platform's development to fit into the EEC cultural, legislative, and operational environment, modification would also be necessary for other countries, types of heritage, or legal environments. Finally, the current iteration emphasizes discovery and storytelling instead of end-to-end transaction processing, which may restrict near-term monetization opportunities for vendors. Additionally, marketing efforts outside of participating provinces have been limited, hindering potential growth in the user base and reducing the applicability of pilot results (Peixoto et al., 2025).

Future Research and Concluding Remarks

To enhance the depth of evidence and build on the causal nexus between most constructs, future research may include usage patterns (analytics) and experimental designs activating adoption-related or ad hoc developed content and conduct intervention studies/manipulation studies. A/B testing recommendation-type functionalities or messaging to disentangle effects on acquisition, activation, retention, and revenue generation impact from a health sector perspective using, e.g., TAM/UTAUT-TPB modelled separations as perceived usefulness/ease to use/trust/social influence/facilitating conditions/satisfaction/continued use beyond this focus on word-of-mouth (Ali et al., 2022; Jiang et al., 2024; Rejali, Aghabayk, Esmali, & Shiwakoti, 2023). Design and governance work should also focus on inclusive multilingual and low-literacy interfaces and assess the viability of sustainable operating models (public-led, cooperative, or private) regionally to understand how institutional and infrastructure contexts influence adoption and trust. In sum, the findings suggest that a human-centered SDLC artifact based on BMC logic could offer lightweight yet practical digital infrastructure, e.g., via enhanced discoverability, trust-building provenance cues, and seeding of plant communities for culinary-tourism destinations like Thailand EEC.

Implications

Future assessments could be improved by including longitudinal analytics and controlled experiments (e.g., A/B tests), enhanced reliability and validity testing of measurement scales, richer behavioral and economic telemetry, quasi-experimental designs for estimating dispersion and revenue impacts, cross-seasonal/geographic sampling with multilingual options, and equity audits to maintain onboard inclusivity and data quality over time. Policy and ecosystem partners can support participation by reducing the barriers to entry with micro-grants, onboarding and imagery resources, food safety labeling, basic digital marketing training, or APIs that let event/transport/culture systems reuse vendor data based upon local rules for accessibility, security, and privacy obligations across programs, so the right cars go in the air at scale. In summary, we would like to see the next round of studies better buttressed by longitudinal analytics and controlled experiments (i.e., A/B tests), more rigorous testing of measurement scale reliability/validity, enhanced treatments of behavioral and economic telemetry, quasi-experiments to estimate spending spread and revenue impacts or larger seasonal/geographic samples with multilingual sampling options, and equity audits that support inclusivity in onboarding and data quality over time.

CONCLUSION

To address these problems, this research developed and assessed Thailand's ECC local-food cross-platform web application, a type of application for ecosystems, using design-science methodology and a staged SDLC with the guidance of Business Model Canvas logic. Inspired by design thinking and personal branding principles, the platform digitalizes local food heritage, increases small food entrepreneurs' market opportunities, and centralizes origin storytelling while respecting data protection of users. Pilot study shows that the platform is feasible and efficient. It satisfies functionality and structural objectives and achieves high stakeholder ratings in terms of usefulness, trustworthiness, ease of use, look-and-feel, and overall satisfaction. Security sentiment is fine for a pilot, and initial referral, co-promotion, and cross-content references are already showing signs of the birth of a digital vendor ecosystem. In turn, the platform enables not only enhanced discoverability and trust but also nascent inter-

vendor linkages that could enhance destination competitiveness and ecosystem performance. First next steps include broadening the reach across and outside of EEC; integration of behavioral data telemetry (e.g., order/payment flows, cohort tracking); and longitudinal analysis combined with controlled field experiments to relate design options to outcomes, including, e.g., retention, conversion, tourism spending dispersion, and vendor revenue. In summary, the platform serves as a working foundation for destination agencies looking for agile, community-first digital infrastructure to help culinary tourism and local food heritage in Thailand and similar destinations.

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