

Transforming Memorable Dining Experiences through Historical Storytelling, Heritage-Inspired Design, And AI-Powered Interactive Services: Evidence from Cultural Tourism Destinations

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ABSTRACT: This study investigates the links among historical storytelling integration, heritage inspired hospitality design, AI-powered interactive services, and memorable dining experience in cultural tourism destinations while assessing the moderating influence of cultural curiosity. Building on Stimulus-Organism-Response Theory and Experience Economy Theory, it frames memorable dining experience as the product of narrative, environmental, and technological stimuli that foster cultural learning, sensory immersion, emotional engagement, personalization, and meaningful recollection. Cultural curiosity acts as a boundary condition that determines whether historically grounded narratives convert into stronger dining memories. A quantitative cross sectional design gathered responses via a five point Likert scale questionnaire from 385 domestic and international diners who had recently visited restaurants situated in or closely tied to cultural tourism destinations in Vietnam. IBM SPSS version 26 handled reliability checks, exploratory factor analysis, and multiple linear regression, whereas Hayes' Process Macro Model 1 tested the moderating effect. Results show that historical storytelling integration ($\beta = 0.550$), heritage inspired hospitality design ($\beta = 0.512$), and AI powered interactive services ($\beta = 0.587$) significantly improve memorable dining experience. AI powered interactive services produce the strongest direct impact, underscoring the experiential worth of personalized, responsive, and interactive cultural engagement. Cultural curiosity further intensifies the positive link between historical storytelling integration and memorable dining experience via a significant interaction coefficient of $B = 0.422$. The outcomes reveal that cultural narratives, heritage settings, and technological novelty by themselves cannot secure lasting dining memories. Cultural tourism restaurants should therefore blend credible historical stories, culturally coherent design, contextually suitable AI services, and genuine chances for diners to explore local heritage.

KEYWORDS: memorable dining experience; historical storytelling integration; heritage-inspired hospitality design; AI-powered interactive services; cultural curiosity; cultural tourism destinations.

1. INTRODUCTION

Memorable dining experiences form a key research challenge, as cultural-destination restaurants vie through emotionally lasting encounters that foster attachment, word-of-mouth, and return visits (Liu et al., 2022; García-Pérez & Castillo-Ortiz, 2024). Memorability itself stays fragmented, with studies treating sensory cues, authenticity, novelty, social ties, local culture, and meaningfulness variously as elements or drivers, which hinders comparison (García-Pérez & Castillo-Ortiz, 2024). Cultural commodification raises further issues: historical stories and heritage settings can heighten educational, emotional, and experiential worth, yet inaccurate or staged portrayals risk eroding authenticity (Bui & Lee, 2015; Leong et al., 2024). Technology adds strain, since AI can tailor service yet hinges on familiarity and ethical perceptions while potentially replacing the human warmth vital to cultural dining (Gonzalez-Jimenez & Costa Pinto, 2024). Scattered geographic evidence and mixed methods leave unclear how these factors interact. Cultural curiosity may account for such differences, as curious guests attend more intently to historical narratives and extract deeper meaning from them. Together, these points call for an integrated look at storytelling, heritage design, AI services, and cultural curiosity.

Earlier work has largely explored memorable dining through food quality, authenticity, novelty, service encounters, and restaurant innovativeness. Kim et al. (2020) showed that authenticity, cultural learning, and sensory engagement deepen tourists' experiences

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in food-museum restaurants, while Tsaur et al. (2024) linked restaurant innovativeness to greater dining memorability via experiential value. A systematic review likewise highlighted local culture, knowledge, novelty, and hedonism as core elements of memorable gastro-tourism experiences (García-Pérez & Castillo-Ortiz, 2024). Within cultural heritage tourism, historical storytelling bolsters perceptions of authentic places and yields educational, emotional, entertainment, and experiential benefits (Leong et al., 2024). AI studies, by contrast, have sorted technology-enabled encounters into AI-supplemented, AI-generated, AI-mediated, or AI-facilitated forms yet focused mainly on operational efficiency, service delivery, and broad customer outcomes rather than culturally meaningful dining memories (Li et al., 2021). As a result, the literature stays fragmented: storytelling, heritage-inspired design, and AI-enabled interaction are usually studied apart, and restaurant research seldom combines cultural and technological stimuli in cultural tourism settings. Individual differences that shape meaningful engagement with historical narratives have also received little notice. This study therefore aims to close these gaps by jointly testing the effects of historical storytelling integration, heritage-inspired hospitality design, and AI-powered interactive services on memorable dining experience, while treating cultural curiosity as a moderator of the storytelling–memorability link.

This study seeks to answer the following research questions: (1) To what extent does historical storytelling integration influence memorable dining experiences in cultural tourism destinations? (2) How does heritage-inspired hospitality design affect memorable dining experiences? (3) How do AI-powered interactive services contribute to memorable dining experiences? (4) How does cultural curiosity moderate the relationship between historical storytelling integration and memorable dining experiences? Accordingly, the study has four objectives: to examine the effect of historical storytelling integration on memorable dining experiences; to evaluate the influence of heritage-inspired hospitality design on memorable dining experiences; to determine the contribution of AI-powered interactive services to memorable dining experiences; and to assess the moderating role of cultural curiosity in the storytelling–experience relationship. Academically, the work unites narrative, environmental-design, technological, and psychological lenses in a single framework, advancing restaurant-experience and cultural-tourism research while clarifying whether AI services can reinforce rather than dilute heritage authenticity. Practically, the results should help restaurant managers, designers, and destination marketers craft historically rooted stories, culturally resonant settings, and tailored AI interactions that strengthen resource use, guest engagement, competitive edge, positive word-of-mouth, and return visits without turning local heritage into mere spectacle.

2. LITERATURE REVIEW

2.1. Memorable Dining Experience

A memorable dining experience (MDE) denotes a restaurant visit that is positively stored and later recalled because the food, servicescape, interpersonal service, sensory cues, and emotional reactions leave distinctive, personally meaningful impressions (Ma et al., 2023). Conceptually, MDE stands apart from immediate satisfaction: the latter judges whether performance matches expectations, while memorability concerns the lasting cognitive and affective imprint left after the meal. Its value therefore reaches beyond the dining occasion itself. MDE bolsters subjective well-being, electronic word-of-mouth, revisit intentions, and longer-term customer–restaurant bonds (Ma et al., 2023; Kim et al., 2025). Restaurant innovativeness can heighten memorability by creating novel experiential value, positioning MDE as a strategic differentiator rather than a mere operational result (Tsaur et al., 2024). In cultural tourism settings, dining also conveys local identity, history, and knowledge. Memorable gastro-tourism encounters arise from local culture, novelty, learning, hedonism, and meaningfulness (García-Pérez & Castillo-Ortiz, 2024), and authentic food environments link visitors to destination heritage beyond flavor alone (Kim et al., 2020). Yet cultural memorability is not inherently beneficial: staged commercial narratives, shallow décor, or intrusive technologies may generate novelty while eroding perceived authenticity. Cultural-destination restaurants must therefore weigh entertainment and technological novelty against credible storytelling, culturally rooted design, and genuine visitor engagement.

2.2. Critical Analysis of Theoretical Frameworks

2.2.1. Stimulus–Organism–Response (S–O–R) theory

Stimulus–Organism–Response (S–O–R) Theory was originally developed by Mehrabian & Russell (1974) within environmental psychology to explain how environmental stimuli affect individuals' internal cognitive and emotional states, which subsequently produce approach or avoidance responses. This theory proposes a sequential mechanism involving stimulus, organism, and response. Contemporary restaurant research conceptualizes stimuli as attributes related to the environment and service that customers encounter; the body represents the cognitive and emotional states generated when customers evaluate these attributes; and the response captures the subsequent experiential and behavioral outcomes, including memorable experiences, loyalty, and electronic word-of-mouth (Chinelato et al., 2023). This theoretical sequence is consistent with current models because memorable dining experiences are not solely generated by restaurant attributes. Instead, customers interpret historical narratives, heritage-inspired environments, and AI-assisted interactions, transforming these external cues into attention, imagination, perceptions of authenticity, emotional engagement, and meaning before retaining the dining experience in memory.

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Integrating historical storytelling constitutes a narrative stimulus because stories connect foods, traditions, people, and places with culturally structured meanings over time. Historical storytelling can enhance the perceived value of tourists and destination image by activating cognitive learning and emotional engagement (Yuxin et al., 2024). Similarly, Leong et al. (2024) found that historical storytelling strengthens the interaction between tour guides and perceptions of authentic places, thereby generating educational, entertainment, experiential, and emotional value. In the S–O–R chain, these intrinsic responses explain why a story becomes more than just information: diners recreate the past in their minds, relate the story to the food and context, and encode the acquired meaning into a lasting memory. Therefore, integrating historical storytelling positively impacts memorable dining experiences. Heritage-inspired restaurant design acts as a spatial and sensory stimulus. Architecture, decor, artifacts, lighting, materials, staff presentation, and culturally symbolic layout convey the restaurant's identity before and during the dining experience. The culinary tourism experience combines sensory, service, and environmental aspects that influence the attitudes, satisfaction, and well-being of travelers (Yang et al., 2024). Authentic cultural context can also connect food consumption to local identity and place-specific knowledge, enriching the dining experience beyond mere taste (Kim et al., 2020). Therefore, a coherent heritage design needs to stimulate authenticity, aesthetic enjoyment, immersion, and place attachment, reinforcing the cognitive and emotional encoding processes necessary for memorability. AI-powered interactive services represent technological stimuli delivered through conversational systems, personalized recommendations, augmented interpretation, smart menus, or interactive cultural content. AI-powered encounters can complement, generate, mediate, or facilitate hotel services, thereby changing how customers access information and participate in service creation (Li et al., 2021). In this model, AI enhances memorization by personalizing cultural information, enabling active exploration and connecting personal preferences to dishes and stories. The biological element is particularly important because technology only creates memorable value when diners perceive it as engaging, useful, novel, and culturally relevant. Cultural curiosity acts as a limiting condition in this process. Curious diners have a stronger desire to acquire cultural knowledge and explore unknown meanings; therefore, they should devote more attention and cognitive effort to historical narratives. Storytelling thus generates stronger imagination, emotional engagement, a sense of authenticity, and better memory formation in highly curious diners. For customers with lower cultural curiosity, the same story may still remain secondary information. The S-O-R theory thus explains both the direct relationships and the moderating role of cultural curiosity by recognizing that environmental stimuli are psychologically interpreted rather than uniformly received.

This model assumes that the integration of historical storytelling, heritage-inspired hotel service design, and AI-powered interactive services act as prominent stimuli in restaurants, activating diners' cognitive and emotional processing, creating memorable dining experiences. It also assumes that customers actively interpret rather than passively receive these stimuli, and that the stronger the cultural curiosity, the greater the attention, analysis, imagination, and emotional engagement with historical narratives. Therefore, cultural curiosity reinforces the positive impact of storytelling integration on the memorability of dining experiences at cultural tourism destinations.

2.2.2. Experience Economy Theory

Experience Economics Theory was introduced by Pine & Gilmore (1998) and later developed in detail in their foundational book, "The Experience Economy" (Pine & Gilmore, 1999). This theory posits that economic value progresses from goods and products to services and ultimately to staged experiences that engage customers personally and leave a lasting impression. Pine & Gilmore (1998, 1999) conceptualized four domains of experience: education, entertainment, aesthetics, and escapism. Education involves active learning; entertainment involves enjoyable immersion; aesthetics reflects immersion in an engaging environment; and escapism encompasses active participation in another experiential world. The hospitality and tourism industry is particularly well-suited to this perspective because its value emerges through multisensory, emotional, and cultural encounters that are co-created (Chang, 2018; Richards, 2021). Therefore, a restaurant at a cultural tourism destination should not be understood merely as a place to consume food. It represents an experiential phase where cuisine, storytelling, physical design, social interaction, and technology combine to transform local heritage into personally meaningful memories.

Integrating historical storytelling primarily provides educational and entertainment value. It allows diners to learn about the origins of the dishes, historical communities, rituals, ingredients, and culinary practices while experiencing the story in an emotionally engaging way. Storytelling can also foster imagination, interaction, and a sense of authentic place, creating educational, emotional, entertaining, and experiential value (Leong et al., 2024). When stories are incorporated into menus, staff communication, food presentation, and interactive interpretation, diners become participants in creating cultural meaning rather than recipients of isolated historical events. This combination of learning and enjoyment enhances meaning and supports the formation of stronger memories. Heritage-inspired design primarily creates aesthetic value and escapism. Architecture, artifacts, colors, spatial layout, music, lighting, and staff presentation carry cultural significance, creating an environment where diners can temporarily step into a historical world characteristic of the location. The setting provides the physical form for a restaurant's story and allows customers to experience heritage through sensory and physical interaction. Research on culinary tourism confirms that location, context, local culture, novelty, knowledge, and authenticity contribute significantly to memorable dining experiences (García-Pérez & Castillo-Ortiz,

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2024). Therefore, heritage design is not merely decorative: it integrates the dining experience into the cultural identity of the destination and supports immersion, emotional connection, and coherence within the experience. Interactive services supported by artificial intelligence (AI) can activate all four experiential domains. Intelligent interfaces can educate diners through personalized historical explanations, entertain them through conversational interaction or gamification, enhance aesthetics through augmented visual content, and facilitate escapism through vivid digital narratives. Research on mixed reality dining shows that interactive narrative design can simultaneously create different forms of immersion, while novelty and curiosity help maintain customer engagement (Han et al., 2022). Therefore, AI should be conceptualized as a resource that supports the experience, not just an effective mechanism. When combined with credible heritage content, it allows customers to select, explore, and co-create relevant information according to their preferences. Memorable dining experiences are theorized as an expected outcome because multi-disciplinary integrated experiences create deeper cognitive, sensory, and emotional impressions than standardized service. Restaurant recall is linked to emotions, subjective happiness, positive word-of-mouth online, and future behavioral responses (Ma et al., 2023). Cultural curiosity further explains the differences in the experiential value of storytelling. Highly curious diners actively seek cultural knowledge and novel perspectives; therefore, historical narratives offer them greater educational, entertaining, and escapist value. Their increased engagement transforms storytelling into a more personally meaningful experience and reinforces its memorability. Therefore, Experiential Economics Theory unifies three independent variables as complementary mechanisms for creating story-driven dining experiences, while positioning cultural curiosity as the psychological intensity through which customers interact with narrative content.

This theory suggests that diners seek value beyond mere service and food, and memorable experiences emerge when restaurants incorporate educational, entertaining, aesthetic, and escapist elements. Historical storytelling provides knowledge and enjoyment through narrative, heritage-inspired design creates aesthetic immersion, and AI-powered services facilitate personalized engagement. Cultural curiosity is thought to increase customers' willingness to step into and interpret the story world; therefore, curious diners derive greater experiential value and memorability from dining experiences that integrate historical elements.

2.3. The Impact of Historical Storytelling Integration

Historical storytelling integration means systematically embedding historically grounded accounts of local people, events, culinary traditions, ingredients, rituals, and places into a restaurant's food, service, design, and guest interactions. Instead of merely stating facts, these accounts should link smoothly with the dishes and cultural setting so that diners may read cuisine as an expression of destination heritage (Leong et al., 2024; Richards, 2021). From an interpretive viewpoint, historical meaning arises through diners' involvement with narratives, places, cuisine, and existing cultural knowledge. Heritage is, therefore, not simply passed on as a fixed record of the past but is continually co created through storytelling, visitor interpretation, and participation (Campos et al., 2025; Chronis, 2005). In this process, concrete dishes and restaurant settings turn into meaningful vehicles of collective identity, cultural knowledge, and place based heritage (Richards, 2021).

Research shows that storytelling fosters imagination, emotional engagement, authenticity, co-creation, and memorability in heritage contexts (Campos et al., 2023), while also strengthening interactions with interpreters and perceptions of authentic places, thereby generating educational, entertainment, emotional, and experiential value (Leong et al., 2024). Within gastronomy, food experiences gain meaning when tourists link cuisine to local heritage, identity, and place rather than treating it as an isolated product (Park et al., 2023; Richards, 2021). Consequently, greater historical storytelling integration should enhance memorable dining experiences by supplying cognitive frameworks that help diners understand, feel, and later recall the cuisine. By linking food to characters, events, traditions, and places, storytelling generates meaning, novelty, imagination, and narrative transportation, which strengthen memory encoding because narratively organized information is retained as a coherent episode. Phenomenologically, dining memorability emerges from the lived, embodied interplay of taste, place, emotion, and story; a critical-realist lens sees storytelling as a generative mechanism whose effects appear through perceived authenticity, emotional engagement, learning, and value creation. Supporting evidence includes Campos et al. (2023), who found heritage storytelling intensified imagination, emotional engagement, and memorability; Leong et al. (2024), who showed it enhanced interaction and authentic-place perceptions that produced multiple experiential values; and Feng et al. (2024), who linked effective historical storytelling to improved destination image, perceived value, participation, and revisit intention. These processes matter for cultural restaurants, where memorable gastro-tourism experiences are shaped by local culture, knowledge, novelty, and meaningfulness (García-Pérez & Castillo-Ortiz, 2024). The effect is not automatic, however. Storytelling yields value only when language, presenter, authenticity, and purpose align: Wang et al. (2025) observed that figurative language suited digital presenters and recreational settings, while literal language worked better for human presenters and educational ones. Thus inaccurate, staged, or mismatched narratives may remain superficial, whereas credible, culturally grounded stories integrated across dishes, services, and settings deepen cognitive and emotional involvement and foster more lasting memories. Thus, this study proposes the first hypothesis as follows:

H1: Historical storytelling integration has a positive impact on memorable dining experiences in cultural tourism destinations.

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2.4. The Impact of Heritage-Inspired Hospitality Design

Heritage-inspired hospitality design involves the intentional blending of historically and culturally resonant architectural forms, spatial layouts, materials, artifacts, colours, lighting, music, decorative motifs, staff presentation, and other servicescape features into hospitality environments. Going beyond surface level theming, it aims for harmony among the restaurant's physical surroundings, local culinary traditions, cultural identity, and historical background (Kim & Lee, 2022; Wang & Mattila, 2015). From a semiotic standpoint, these design features operate as cultural signals through which diners judge the venue's authenticity and cultural importance. Physical surroundings, service staff, and fellow guests can together convey ethnicity and influence authenticity judgments, though their interpretations may differ according to diners' cultural backgrounds (Wang & Mattila, 2015). From a social constructivist viewpoint, heritage is not fixed forever in material objects but is continually rebuilt through exchanges among cultural symbols, hospitality providers, local communities, and visitors (Chronis, 2005). Consequently, heritage inspired design gains significance when physical and communicative servicescape features strengthen authenticity, place attachment, and culturally rooted hospitality experiences (Elshaer et al., 2022; Kim & Lee, 2022). The servicescape, thus, becomes a medium of cultural communication. Wang & Mattila (2015) showed that physical settings, service providers, and fellow customers supply ethnic cues that shape assessments of restaurant authenticity, and Kim & Lee (2022) found that substantive and communicative servicescapes heightened exoticism and authenticity, thereby strengthening place attachment and experiential intensity. Such design therefore preserves and conveys local identity, differentiates cultural restaurants, fosters immersion, and links cuisine with place, while offering sensory and symbolic continuity between historical storytelling, food presentation, and the wider destination.

Greater heritage-inspired hospitality design should enhance memorable dining experiences because culturally meaningful servicescapes stimulate sensory attention, aesthetic pleasure, perceived authenticity, nostalgia, immersion, and place attachment (Kim & Lee, 2022; Han & Bae, 2022). Phenomenologically, diners encounter heritage through embodied experiences of sight, sound, touch, smell, movement, taste, and spatial atmosphere; consistent with this, Liu et al. (2022) framed memorable dining as a multisensory phenomenon spanning visual, auditory, tactile, gustatory, and olfactory dimensions, and Kim et al. (2025) demonstrated that sensory stimuli foster memorability via meaningfulness, novelty, and emotion. Memorability thus arises from the lived integration of food, bodily sensation, cultural meaning, and place rather than décor alone. From a critical-realist standpoint, heritage design constitutes an observable environmental configuration that activates underlying psychological mechanisms, such as perceived authenticity, emotion, imagination, nostalgia, and place attachment, thereby generating enduring memories, in line with the principle that observable outcomes emerge when contextual conditions trigger causal mechanisms (Stutchbury, 2022). Empirical support is robust: Kim & Lee (2022) reported that substantive servicescape cues enhanced authenticity and exoticism, which in turn strengthened place attachment and prolonged experiences; Elshaer et al. (2022) found that adaptive reuse of heritage houses significantly improved memorable tourism and hospitality experiences and subsequent loyalty; and authentic restaurant environments influence repurchase intentions when service, setting, and food jointly convey cultural credibility (Tsai & Lu, 2012). Architecture, artifacts, spatial symbolism, and atmosphere can therefore transform dining into an immersive cultural episode that is more deeply encoded and recalled. The influence remains moderate or conditional, however. Wang & Mattila (2015) showed that customers' ethnicity, cosmopolitanism, and familiarity shape interpretations of ethnic servicescape cues, so identical designs do not yield equivalent authenticity judgments; Elshaer et al. (2022) further observed that digital technology can attenuate the positive effects of heritage adaptive reuse. This aligns with a relativist view of authenticity, in which design meaning depends partly on the diner's cultural frame rather than residing solely in objects. Superficial, stereotypical, commercially staged, or historically incongruent environments may produce novelty without lasting memorability. When heritage design is culturally credible, coherent with cuisine and storytelling, and sensorially engaging, it intensifies authenticity and emotional immersion, thereby fostering stronger dining memories. Accordingly:

H2: Heritage-inspired hospitality design has a positive impact on memorable dining experiences in cultural tourism destinations.

2.5. The Impact of AI-powered Interactive Services

AI-powered interactive services consist of customer facing systems that apply artificial intelligence to handle user inputs, draw on available data, generate context sensitive replies, and engage dynamically with diners. In hospitality contexts these systems can encompass chatbots, recommendation engines, intelligent menus, service robots, voice assistants, augmented interfaces, and other AI-mediated service applications (Li et al., 2021). Differing from ordinary digital tools that rely mainly on fixed commands, AI-powered services enable adaptive, personalized, and interactive exchanges throughout various phases of the customer journey. Service robots, for instance, blend functional performance with cognitive, emotional, sensory, social, and behavioural dimensions of customer experience (Huang et al., 2021). In cultural tourism restaurants AI can also supply personalized historical explanations, interactive cultural narratives, and immersive heritage material that moves visitors from passive information intake toward active cultural exploration (Lai et al., 2025). Therefore, AI-powered interactive services are best viewed as customer facing technological systems that shape how diners obtain information, engage with hospitality providers, and grasp the cultural meaning of food and place. Unlike conventional digital tools that follow fixed scripts, these services adapt information and assistance to customers'

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preferences, questions, and behaviour, and may supplement, generate, mediate, or facilitate interactions among guests, staff, and hospitality organizations (Li et al., 2021). From a postphenomenological standpoint, AI is not a neutral instrument but actively mediates how diners perceive cuisine, heritage, and the restaurant setting; it can translate unfamiliar cultural content, personalize historical explanations, recommend locally meaningful dishes, and support interactive learning. Customer–robot experiences integrate cognitive, affective, sensory, social, and behavioural dimensions (Huang et al., 2021), rendering such services valuable for enhancing accessibility, responsiveness, personalization, consistency, and participation. In cultural tourism destinations they convert static heritage information into interactive encounters while enabling restaurants to serve diverse visitors. Sociotechnical pragmatism evaluates AI according to its context-dependent real-world consequences and the human agency it enables rather than technical sophistication alone (Watson et al., 2025); applied to cultural dining, these services prove worthwhile when interactive narratives improve cultural understanding, engagement, participation, and heritage connection, as evidence from AI-generated cultural-heritage platforms shows that creative and narrative experiences raise perceived benefits and cultural participation intentions (Lai et al., 2025).

Greater use of well-designed AI-powered interactive services should therefore enhance memorable dining experiences by boosting novelty, personalization, immersion, convenience, and active participation. AI can align narratives and recommendations with diners' cultural interests, dietary needs, language, and prior knowledge, rendering the experience personally relevant and easier to encode cognitively. Mixed-reality dining research indicates that interactive narrative technologies generate concurrent forms of immersion, while novelty and curiosity sustain engagement (Han et al., 2022). From a critical-realist perspective, AI functions as an observable technological stimulus whose effect on memorability operates through mechanisms such as perceived usefulness, enjoyment, coolness, emotion, personalization, and narrative transportation. Empirical support is clear: El-Said & Al Hajri (2022) found that service usefulness, speed, and novelty significantly raised satisfaction in robot-service restaurants, with enjoyment and satisfaction extending the experience beyond mere consumption; Chen & Girish (2023) likewise showed that robot competence and coolness strengthened emotions and satisfaction, which in turn encouraged approach behaviour. These results imply that AI becomes memorable when it combines functional value with emotional and experiential stimulation, and in cultural restaurants conversational or immersive AI can render history explorable, allowing diners to pose questions, visualize past practices, and co-create cultural learning. The influence remains moderate or conditional, however. A humanistic philosophical view stresses hospitality as relational care involving empathy, warmth, and recognition; AI may raise efficiency while diminishing these interpersonal qualities. Lv et al. (2025) observed that AI service reduced perceived warmth and continued-use intention relative to human service because customers attributed less experiential and agentic capacity to AI. Restaurant-robot satisfaction likewise depends on novelty seeking, trust, usefulness, enjoyment, and perceived risk rather than technology presence alone (El-Said & Al Hajri, 2022). Excessive automation, inaccurate cultural content, privacy concerns, technical failures, or culturally incongruent interfaces may therefore neutralize or even reverse memorability. When AI complements rather than replaces human hospitality and delivers accurate, transparent, culturally grounded, and personalized interaction, it deepens engagement and fosters distinctive memories. Accordingly:

H3: AI-powered interactive services have a positive impact on memorable dining experiences in cultural tourism destinations.

2.6. The moderating role of Cultural Curiosity

Cultural curiosity denotes an individual's cognitive–affective drive to seek knowledge about, interpret, and emotionally engage with the traditions, histories, values, and practices of cultures other than their own; in gastronomic settings it centres on interest in the origins, rituals, preparation methods, and symbolic meanings of food rather than mere consumption of unfamiliar dishes (Rashidin et al., 2026). This notion aligns with epistemic curiosity, the intrinsic urge to close information gaps and gain knowledge (Kidd & Hayden, 2015), yet remains culturally specific and distinct from cultural intelligence, which concerns the ability to function effectively across cultures.

The construct is theoretically significant because it focuses attention, promotes exploratory information processing, and heightens tolerance for cultural unfamiliarity. Curiosity is multidimensional: joyous exploration supports discovery, deprivation sensitivity motivates the resolution of knowledge gaps, and stress tolerance permits engagement with ambiguous situations (Kashdan et al., 2020). Tourism scholarship similarly views curiosity as a dispositional motive, a situational psychological state, or a mechanism that fosters exploration and learning (Langmann et al., 2026). Empirically, Rashidin et al. (2026) showed that cultural curiosity strongly predicted culinary reproduction intention, destination visitation intention, and support for food-culture sustainability, implying that culturally curious diners are more inclined to treat historical restaurant narratives as meaningful occasions for learning and connection. From a constructivist–hermeneutic standpoint, historical meaning is not simply transmitted from restaurant to guest but is interpreted through the diner's prior knowledge, interests, and cultural horizon; Cultural curiosity should therefore amplify the impact of historical storytelling integration by prompting attention to narrative detail, linkage of stories with dishes and settings, questioning, and the construction of personally relevant interpretations. Phenomenologically, curiosity opens diners to the lived cultural world embodied in the meal; from a critical-realist angle, storytelling constitutes an observable stimulus while curiosity acts as an individual-level condition that activates underlying mechanisms, such as attention, imagination, narrative elaboration, and

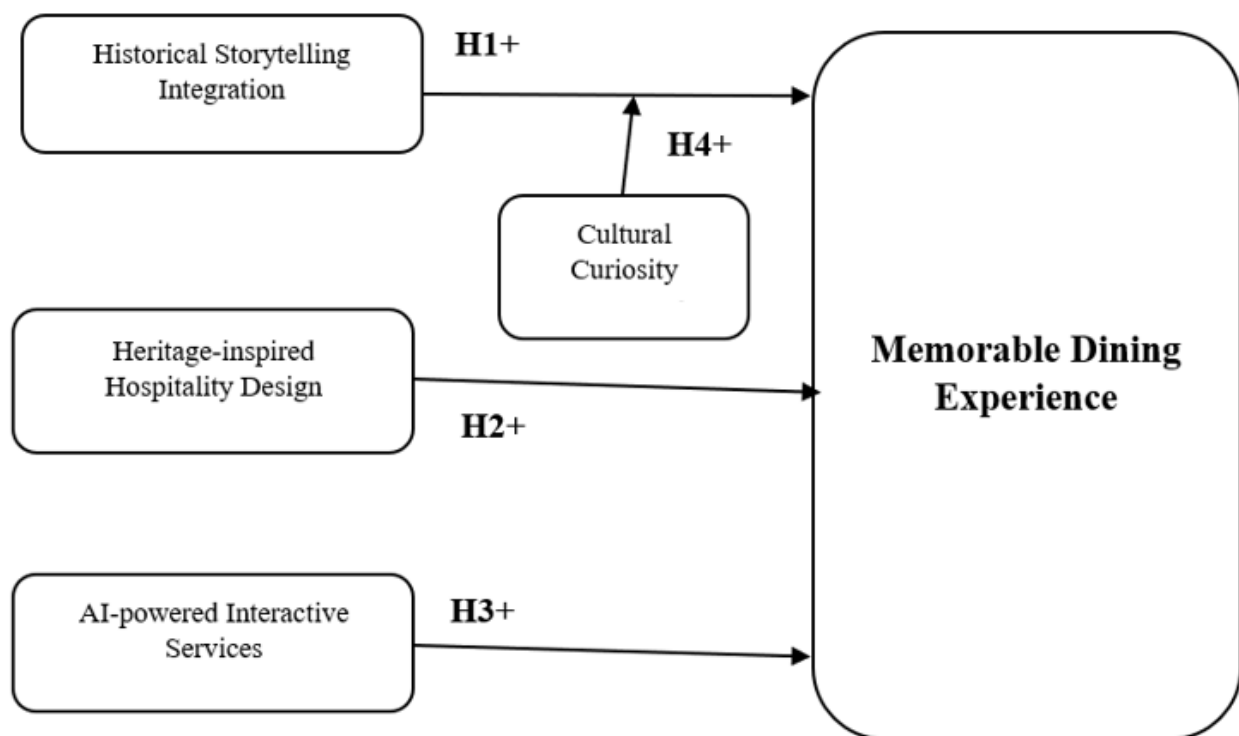
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emotional engagement, that render experiences memorable, a view consistent with evidence that mindful story processing shapes tourist understanding and experience (Moscardo, 2017). The moderating influence, however, should not be presumed universally robust. Related heritage-tourism findings indicate that only the cognitive and behavioural dimensions of cultural intelligence strengthened the authenticity–psychological-ownership link, whereas motivational and metacognitive dimensions did not (Liu et al., 2023); curiosity profiles likewise vary markedly in stress tolerance and exploratory willingness (Kashdan et al., 2020). Even highly curious diners may therefore remain unaffected when storytelling is inaccurate, superficial, commercially staged, cognitively overloaded, or mismatched with the food and setting. Pragmatically, cultural curiosity holds value only when it enables storytelling to produce meaningful experiential outcomes. Notably, no existing study has directly examined cultural curiosity as a moderator between restaurant-based historical storytelling and memorable dining experience; the proposed relationship thus represents a theoretically grounded empirical extension.

H4: Cultural curiosity positively moderates the relationship between historical storytelling integration and memorable dining experience in cultural tourism destinations.

Drawing on well-established theoretical foundations, this study extends the existing literature by proposing the following conceptual framework:

Figure 1: The Paper Conceptual Framework



3. METHODS

3.1. Sampling Strategy

This study employs a quantitative cross-sectional design to investigate how the integration of historical storytelling, heritage-inspired restaurant design, and AI-powered interactive services influences memorable dining experiences, while also examining the moderating role of cultural curiosity. Data were collected in Vietnam, a country boasting diverse cultural tourism destinations, distinctive culinary traditions, and numerous restaurants that incorporate local history, heritage architecture, cultural symbols, and digital services into the dining experience. The quantitative approach enables systematic hypothesis testing and the estimation of both direct and interaction effects based on standardized survey responses. Meanwhile, the cross-sectional design captures diners' perceptions of the study variables at a specific point in time (Bryman, 2016). The unit of analysis in this study is the individual diner.

Purposive sampling was used to recruit domestic and international diners who had eaten at restaurants located within, or closely linked to, cultural tourism destinations in Vietnam. Eligible participants were required to be at least 18 years old and to have dined within the past six months at an establishment that integrates experiential elements related to history, culture, heritage, or technology.

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Participants also needed to possess a certain level of familiarity with the restaurant's historical narrative, physical environment, or interactive services to evaluate the relevant variables. Participant recruitment was conducted in big cities such as Hanoi, Ho Chi Minh, Hue, Hoi An, Da Nang, Ninh Binh, and other culturally significant sites. The study focuses on collecting data from diverse groups including university students, young professionals, the general workforce, domestic and international tourists, and diners with varied demographic backgrounds and experiences. Screening questions were used to verify participants' recent dining experiences and their exposure to at least one relevant element, such as historical storytelling, heritage-inspired décor, culturally distinctive food presentation, smart menus, chatbots, service robots, augmented reality (AR) interfaces, or personalized digital recommendations.

Data were collected via structured, self-administered questionnaires developed based on published academic literature. Historical storytelling integration measured the extent to which restaurants coherently embedded historically grounded narratives about local communities, events, culinary traditions, ingredients, rituals, and places into menus, food presentation, employee communication, and guest interactions (Campos et al., 2023; Leong et al., 2024). Heritage-inspired service space design was assessed based on the integration of culturally significant architecture, artifacts, colors, lighting, music, spatial layout, decorative motifs, and staff demeanor into the restaurant environment (Kim & Lee, 2022; Wang & Mattila, 2015). AI-powered interactive services were evaluated through diners' experiences with smart menus, recommendation systems, conversational interfaces, service robots, augmented reality (AR) content, and personalized cultural information. The evaluation focuses on usefulness, responsiveness, level of interaction, and cultural appropriateness (El-Said & Al Hajri, 2022; Li et al., 2021).

The factor of cultural curiosity measures participants' willingness to explore, learn about, and engage with cultural histories, customs, culinary traditions, and symbolic meanings that are new to them (Kashdan et al., 2020; Rashidin et al., 2026). Memorable dining experience assessed whether the restaurant visit produced distinctive, meaningful, emotionally engaging, and enduring cognitive and sensory impressions that respondents could recall after the meal (Liu et al., 2022; Ma et al., 2023).

All measurement items utilize a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). The questionnaire was initially drafted in English and translated into Vietnamese, then back-translated to ensure conceptual equivalence. Five experts in the fields of service management, cultural tourism, restaurant experiences, artificial intelligence, and quantitative research evaluated the questionnaire for clarity, relevance, cultural appropriateness, and theoretical consistency. Their feedback helped refine ambiguous wording, improve the sequencing of questions, and clearly distinguish between AI-powered interactions and conventional digital services. Responses from the pilot survey phase were excluded from the formal analysis.

The finalized survey was distributed via tourism and hospitality networks, universities, cultural organizations, restaurants, online travel communities, and social media channels. Participation was entirely voluntary, anonymous, and confidential. The questionnaire included sections on informed consent, eligibility screening questions, and attention-check questions. Responses that were incomplete, duplicated, exhibited patterned answering, were completed too quickly, or showed a lack of focus were excluded during the data screening process. Following this procedure, 385 valid surveys were retained for statistical analysis.

3.2. Data analysis

Data analysis was conducted using IBM SPSS version 26 and Hayes' Process Macro. Descriptive statistics summarized information regarding the survey participants' gender, age, education level, nationality, employment status, dining frequency, visited destinations, and familiarity with restaurant services incorporating cultural elements or artificial intelligence (AI) applications. Cronbach's alpha was used to assess internal reliability; values of 0.70 or higher, combined with corrected item-total correlation coefficients exceeding 0.30, were considered acceptable (Tavakol & Dennick, 2011). Exploratory Factor Analysis (EFA) was performed using principal component extraction and Varimax rotation. Observed variables were retained if they exhibited factor loadings greater than 0.50 and showed no significant cross-loading (Hair et al., 2009).

Multiple linear regression was employed to test the direct effects of historical storytelling integration, heritage-inspired restaurant design, and AI-supported interactive services on memorable dining experiences. Statistical significance was set at $p < 0.05$. Finally, Model 1 of Hayes' Process Macro was applied to examine whether cultural curiosity moderates the relationship between historical storytelling integration and memorable dining experiences (Hayes, 2022). An interaction effect was considered statistically significant if the 95% confidence interval did not include zero.

4. RESULTS

4.1. Descriptive Statistical Analysis

The survey sample comprised diners who had visited restaurants offering cultural tourism experiences across Vietnam's key geographical regions. Specifically, 37.1% of participants reported that their most recent dining experience took place in the Central region, which includes culturally rich destinations such as Hue, Hoi An, and Da Nang. This was followed by 31.9% who visited restaurants in the North, while 31.0% had experiences in the South. Regarding the participant profile, domestic tourists accounted

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for the largest segment (29.9%), followed by working professionals (24.9%), young professionals (21.0%), university students (14.3%), and international tourists (9.9%).

In terms of dining frequency, 38.2% of respondents had visited restaurants featuring cultural or heritage elements two to three times over the past 12 months, while 28.1% reported visiting four to five times. Those who visited only once made up 20.0% of the total sample, whereas those who visited more than five times accounted for 13.7%. Additionally, 36.9% of participants indicated a good understanding of elements such as historical storytelling, heritage-inspired design, or AI-supported interactive services within the restaurants. Another 20.8% reported a very high level of understanding, while 31.2% possessed a moderate level. Only 11.1% reported limited knowledge regarding these experiential features. Overall, the descriptive statistics indicate that the survey sample consisted of diners with diverse demographic, geographical, and experiential backgrounds. Most participants also possess sufficient exposure and understanding to evaluate aspects such as the integration of historical storytelling, heritage-inspired spatial design, AI-powered interactive services, cultural curiosity, and memorable culinary experiences.

4.2. Reliability analysis

Table 1 summarizes the measurement items employed to operationalize the study constructs. Four items were used to assess each construct, drawing on established academic sources to maintain theoretical consistency and capture its essential dimensions. Respondents evaluated all statements using a five-point Likert scale ranging from 1, strongly disagree, to 5, strongly agree.

Table 1: Measurement Items

Code	Survey item	Theoretical source
Memorable dining experience		
MDE1	I can clearly recall my dining experience at this restaurant.	Ma et al. (2023); Kim et al. (2025)
MDE2	This dining experience left a lasting emotional impression on me.	Ma et al. (2023); Kim et al. (2025)
MDE3	I found this dining experience personally meaningful.	García-Pérez & Castillo-Ortiz (2024); Kim et al. (2025)
MDE4	The sensory aspects of this dining experience remain vivid in my memory.	Liu et al. (2022); Kim et al. (2025)
Historical storytelling integration		
HSI1	The restaurant presents historically grounded stories about local culinary traditions.	Campos et al. (2023); Leong et al. (2024)
HSI2	The historical stories presented at the restaurant are clearly connected to its dishes.	Park et al. (2023); Richards (2021)
HSI3	Historical narratives are consistently incorporated into the restaurant experience.	Leong et al. (2024); Feng et al. (2024)
HSI4	The restaurant's historical stories provide meaningful knowledge about the destination's cultural heritage.	Campos et al. (2023); García-Pérez & Castillo-Ortiz (2024)
Heritage-inspired hospitality design		
HIHD1	The restaurant's physical setting reflects the cultural heritage of the destination.	Wang & Mattila (2015); Kim & Lee (2022)
HIHD2	The architectural and decorative features appear culturally authentic.	Kim & Lee (2022); Elshaer et al. (2022)
HIHD3	The restaurant's atmosphere creates a sense of immersion in the local culture.	Han & Bae (2022); Elshaer et al. (2022)
HIHD4	The restaurant's design elements are consistent with its cultural identity.	Wang & Mattila (2015); Kim & Lee (2022)
AI-powered interactive services		
AIPIS1	The restaurant's AI-powered services provide information that is relevant to my preferences.	Li et al. (2021); Huang et al. (2021)
AIPIS2	The restaurant's AI-powered services respond appropriately to my requests.	Li et al. (2021); El-Said & Al Hajri (2022)
AIPIS3	The restaurant's AI-powered services allow me	Han et al. (2022); Lai et al. (2025)

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	to explore cultural content interactively.	
AIPIS4	The restaurant's AI-powered services are easy to use during the dining experience.	El-Said & Al Hajri (2022); Chen & Girish (2023)
Cultural curiosity		
CC1	I am interested in learning about the cultural meanings associated with local food.	Rashidin et al. (2026); Kidd & Hayden (2015)
CC2	I actively seek information about unfamiliar culinary traditions.	Rashidin et al. (2026); Kashdan et al. (2020)
CC3	I enjoy exploring the histories behind local dishes.	Rashidin et al. (2026); Langmann et al. (2026)
CC4	I am willing to engage with cultural practices that are unfamiliar to me.	Kashdan et al. (2020); Langmann et al. (2026)

Table 2: Reliability analysis of “Memorable dining experience”.

Reliability Statistics				
Cronbach's Alpha		N of Items		
.797		4		
Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
MDE1	11.340	2.486	0.681	0.729
MDE2	11.210	2.574	0.574	0.775
MDE3	11.280	2.618	0.552	0.781
MDE4	11.160	2.503	0.654	0.740

Source: (The authors, 2026)

As presented in Table 2, all four items recorded corrected item–total correlation values ranging from 0.552 to 0.681, substantially exceeding the recommended threshold of 0.30. The overall scale achieved a Cronbach's alpha of 0.797, surpassing the minimum acceptable level of 0.70 and confirming satisfactory internal consistency. Moreover, the Cronbach's alpha values obtained after deleting individual items ranged from 0.729 to 0.781, all of which remained lower than the overall alpha. This finding indicates that removing any item would reduce the reliability of the scale. Therefore, MDE1 to MDE4 contributed meaningfully to the measurement of memorable dining experience and were retained for subsequent analyses. Comparable reliability levels were also observed across the other measurement scales included in the study (Hair et al., 2009; Tavakol & Dennick, 2011).

4.3. Exploratory factor analysis (EFA)

Table 3: Factor Loading Matrix.

Rotated Component Matrix ^a							
Component with loading factors							
1		2		3		4	
HSI1	0.784	HIHD1	0.751	AIPIS1	0.772	CC1	0.738
HSI2	0.826	HIHD2	0.803	AIPIS2	0.815	CC2	0.791
HSI3	0.769	HIHD3	0.837	AIPIS3	0.842	CC3	0.823
HSI4	0.741	HIHD4	0.776	AIPIS4	0.758	CC4	0.764
Extraction Method: Principal Component Analysis.							
Rotation Method: Varimax with Kaiser Normalization.							
a. Rotation converged in 7 iterations.							

Source: (The authors, 2026)

Table 3 presents the exploratory factor analysis results, which identified four distinct factors representing historical storytelling integration, heritage-inspired hospitality design, AI-powered interactive services, and cultural curiosity. All 16 measurement items loaded strongly on their intended factors, with coefficients ranging from 0.738 to 0.842, exceeding the recommended threshold of 0.50 (Hair et al., 2009). The Varimax rotation converged after six iterations, indicating a stable factor solution. Consequently, no

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measurement items were removed, and all 16 indicators were retained for subsequent statistical analyses. Overall, the results provide satisfactory evidence supporting the proposed four-factor structure and the construct validity of the measurement model.

4.4. Multiple linear regression model

Table 4: Coefficients^a.

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Constant	0.436	0.143		3.049	0.002
HSI	0.524	0.034	0.550	15.412	0.000
HIHD	0.486	0.036	0.512	13.500	0.000
AIPIS	0.559	0.031	0.587	18.032	0.000

a. Dependent Variable: MDE

Source: (The authors, 2026)

Where HSI represents the mean of HSI1 to HSI4, HIHD represents the mean of HIHD1 to HIHD4, AIPIS represents the mean of AIPIS1 to AIPIS4, and MDE represents the mean of MDE1 to MDE4.

As shown in Table 4, the significance values for the relationships between historical storytelling integration, heritage-inspired hospitality design, AI-powered interactive services, and memorable dining experience were all 0.000, which is well below the 0.05 threshold. Historical storytelling integration had a significant positive effect on memorable dining experience, with $\beta = 0.550$, $t = 15.412$, and $p < 0.001$. Heritage-inspired hospitality design also exerted a significant positive effect, with $\beta = 0.512$, $t = 13.500$, and $p < 0.001$. Similarly, AI-powered interactive services produced the strongest positive effect on memorable dining experience, with $\beta = 0.587$, $t = 18.032$, and $p < 0.001$. These findings provide strong empirical support for accepting H1, H2, and H3.

4.5. Moderator analysis

Table 5: Results analysis of “Cultural curiosity”.

Model: 1 Y: MDE X: HSI W: CC Sample size: 385

OUTCOME VARIABLE: MDE Model Summary

R	R-sq	MSE	F	dl1	dl2	p
.703	.494	0.238	123.988	3.000	381.000	.000

Model

	Coeff.	SE	t	p	LLCI	ULCI
Constant	0.397	0.112	3.545	0.000	0.177	0.617
HSI	0.488	0.040	12.200	0.000	0.409	0.567
CC	0.425	0.043	9.884	0.000	0.340	0.510
Int_1	0.422	0.037	11.405	0.000	0.349	0.495

Source: (The authors, 2026)

Where CC was calculated as the mean score of items CC1 to CC4.

Cultural curiosity functions as a vital moderator that amplifies the positive impact of integrating historical storytelling on memorable dining experiences, supported by a significant interaction coefficient ($B = 0.422$). While narrative elements naturally anchor culinary offerings to local heritage, community roots, and traditional settings, their ability to leave a lasting impression expands when diners possess an active desire to embrace novel cultural contexts. Enthusiastic visitors tend to absorb historical details more attentively, uncover symbolic meanings within each dish, and build richer emotional connections throughout their meal, ultimately forging deeper and more unique personal memories. Because the confidence interval ranging from 0.349 to 0.495 completely excludes zero, this moderating dynamic proves statistically robust and reliable. Consequently, the findings confirm that cultural curiosity acts as a critical boundary condition enhancing the value of historical narratives in cultural destination dining, offering solid empirical validation for hypothesis H4.

5. DISCUSSION

5.1. Result Summary

Historical storytelling integration, heritage-inspired hospitality design, and AI-powered interactive services each exert significant positive effects on memorable dining experience in cultural tourism destinations, as reflected in the standardized regression

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coefficients of 0.550, 0.512, and 0.587, respectively. These results indicate that historically grounded narratives, culturally authentic physical environments, and interactive AI services help create meaningful, immersive, personalized, and enduring dining memories. Among the three predictors, AI-powered interactive services demonstrate the strongest effect, followed by historical storytelling integration and heritage-inspired hospitality design. At the same time, cultural curiosity functions as a significant positive moderator that strengthens the relationship between historical storytelling integration and memorable dining experience, as confirmed by the interaction coefficient of $B = 0.422$ and the confidence interval ranging from 0.349 to 0.495. This pattern suggests that historical narratives generate stronger experiential benefits when diners possess a greater desire to explore local traditions, understand cultural meanings, and connect stories with dishes and restaurant settings. Overall, the empirical evidence supports all four hypotheses and validates the theoretical framework connecting historical storytelling integration, heritage-inspired hospitality design, AI-powered interactive services, cultural curiosity, and memorable dining experience.

Regarding the research questions, the findings answer the first by confirming that historical storytelling integration significantly enhances memorable dining experience. They address the second by demonstrating that heritage-inspired hospitality design also produces a significant positive effect through cultural authenticity and sensory immersion. They resolve the third by establishing that AI-powered interactive services make the strongest contribution to memorable dining experience through personalization, responsiveness, novelty, and active engagement. Finally, they answer the fourth by showing that greater cultural curiosity meaningfully amplifies the positive influence of historical storytelling integration on dining memorability. In short, these results indicate that cultural tourism restaurants benefit most when they combine credible historical narratives, culturally coherent design, engaging AI services, and opportunities for culturally curious diners to explore local heritage. Strengthening memorable dining experience therefore requires restaurants to integrate stories consistently across dishes and services, create authentic heritage environments, apply AI in culturally appropriate ways, and offer guests meaningful opportunities for cultural learning and participation.

5.2. Theoretical Implications

Empirical findings provide firm support for H1 since historical storytelling integration significantly strengthens memorable dining experience with $\beta = 0.550$. This outcome aligns closely with Campos et al. (2023), who link heritage storytelling to imagination, emotional engagement, and memorability, and with Leong et al. (2024), who contend that historically grounded narratives generate educational, emotional, entertainment, and experiential value. It further reinforces Feng et al. (2024), who relate effective historical storytelling to perceived value and participation. Yet the study does not endorse the deterministic view that merely adding historical information automatically produces memorable experiences. Wang et al. (2025) show that storytelling effectiveness hinges on the alignment of language, presenter, and experiential purpose, implying that inaccurate or poorly integrated narratives may stay superficial. The sizable coefficient therefore indicates that storytelling gains value when it coherently links cuisine, place, people, and historical meaning. Theoretically, this research extends Stimulus Organism Response Theory by framing storytelling as a narrative stimulus whose influence arises through interpretation, imagination, authenticity, and emotional engagement. It also advances Experience Economy Theory by illustrating that educational and entertainment value can together convert dining into a lasting cultural memory.

Findings offer strong confirmation of H2 because heritage inspired hospitality design positively shapes memorable dining experience with $\beta = 0.512$. This result corresponds well with Kim & Lee (2022), who argue that substantive and communicative servicescapes heighten authenticity, exoticism, and place attachment, and with Elshaer et al. (2022), who connect heritage adaptive reuse to memorable tourism and hospitality experiences. It likewise backs Liu et al. (2022), whose multisensory view holds that visual, auditory, tactile, gustatory, and olfactory cues jointly influence dining memorability. Still, the research only partly accepts assertions that heritage symbolism carries universally fixed meanings. Wang & Mattila (2015) reveal that ethnicity, familiarity, and cosmopolitanism mold interpretations of ethnic servicescapes, while Elshaer et al. (2022) note that digital technology may weaken heritage related experiential benefits. The relatively modest coefficient, thus, questions design determinism and implies that cultural décor by itself cannot ensure memorability. Theoretically, this study broadens Stimulus-Organism-Response Theory by treating heritage design as a sensory and symbolic stimulus processed through authenticity, immersion, and place attachment. It also refines Experience Economy Theory by showing that aesthetic and escapist value rests on cultural coherence rather than decorative intensity.

Empirical evidence firmly supports H3, given that AI powered interactive services yield the strongest positive influence on memorable dining experience with $\beta = 0.587$. This finding agrees closely with El-Said & Al Hajri (2022), who demonstrate that usefulness, speed, novelty, and enjoyment shape robot service evaluations, and with Chen & Girish (2023), who connect robot competence and perceived coolness to favorable emotional responses. It also concurs with Han et al. (2022), whose mixed reality dining work highlights interactive narratives, immersion, novelty, and curiosity. Even so, the result does not embrace technological determinism. Lv et al. (2025) caution that AI services may lower perceived warmth and continued use intentions, while Li et al. (2021) differentiate multiple AI enabled service roles instead of assuming uniform experiential gains. The robust coefficient should

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therefore be read as support for culturally relevant and complementary AI rather than full substitution of human hospitality. Theoretically, this inquiry expands Stimulus-Organism-Response Theory by casting interactive AI as a technological stimulus that works through personalization, enjoyment, usefulness, and immersion. It further develops Experience Economy Theory by revealing that AI can activate educational, entertainment, aesthetic, and escapist value at once when placed within credible heritage content.

5.3. Practical Implications

The support for H1 shows that restaurant managers ought to regard historical storytelling as a central element of experience design instead of optional amusement. Historical narratives need consistent integration into menus, dish presentation, staff communication, and digital interpretation. Restaurants should work with historians, local communities, cultural institutions, and culinary experts to confirm stories and prevent distorted or commercially staged versions. Staff should receive training in narrative delivery, audience engagement, and culturally sensitive communication. Stories can center on dish origins, local communities, historical events, ingredients, and culinary rituals while inviting diners to pose questions and share personal readings. This participatory style matches evidence that storytelling sparks imagination, emotional engagement, personal meaning, and memorability (Campos et al., 2023). Managers should still adapt narrative depth and style to varied visitor profiles because storytelling creates value through interaction and sensed authentic place rather than sheer volume of facts (Leong et al., 2024).

Confirmation of H2 implies that heritage inspired hospitality design must convey cultural meaning throughout the whole servicescape. Managers need to secure coherence among architecture, materials, artifacts, colours, lighting, music, staff appearance, spatial layout, and food presentation. Decorative choices should stem from credible local traditions rather than simply looking exotic. Kim & Lee (2022) demonstrate that substantive and communicative servicescapes influence authenticity, exoticism, and place attachment, which justifies investment in both physical design and employee mediated cultural exchange. Restaurants should therefore involve local artisans, heritage specialists, architects, and community representatives in design and renovation work. Every design feature should also carry brief interpretation that clarifies its cultural role. Managers must still steer clear of overcrowded decoration and stereotypical symbols because visual novelty without cultural coherence can undermine authenticity. Regular customer feedback and cultural audits can check whether the setting stays clear, immersive, respectful, and aligned with the cuisine and historical narratives.

Support for H3, paired with its strongest standardized effect, reveals that AI powered interactive services can serve as a valuable experiential asset. Restaurants may use intelligent menus, conversational interfaces, multilingual cultural guides, personalized dish suggestions, and augmented historical material to render heritage more reachable and open to exploration. AI should supply accurate details, reply quickly, meet dietary and language requirements, and let diners choose the level of cultural interpretation. Perceived usefulness, service speed, novelty, and enjoyment matter especially for customer satisfaction in robot service restaurants (El-Said & Al Hajri, 2022). Managers should not, however, treat the result as reason to displace staff. AI service may lower perceived warmth when guests credit technological providers with less experiential and emotional capacity (Lv et al., 2025). A hybrid arrangement is therefore better, letting AI handle information and personalization while employees keep charge of empathy, hospitality, cultural explanation, and service recovery. Restaurants must also check cultural content, reveal AI use, safeguard customer data, and offer prompt human help when systems break down.

5.4. Limitations

This paper's cross sectional design records perceptions at a single moment and thus cannot show whether memorable dining experiences stay stable or later drive revisit and recommendation behaviour. Purposive sampling and the focus on restaurants linked to Vietnamese cultural tourism destinations restrict generalizability to other national, cultural, and hospitality settings. Self-reported Likert scale answers may also suffer from common method bias, social desirability, and faulty recall. In addition, participants assessed varied restaurants, destinations, historical narratives, design settings, and AI applications, producing contextual differences the model could not fully manage. The study tests cultural curiosity solely as a moderator of the storytelling link and does not check whether it likewise moderates responses to heritage design or AI services. Lastly, memorable dining experience is handled as a single overall construct, which may hide variation among its cognitive, emotional, sensory, and cultural facets.

5.5. Future Research Directions

Future work should employ longitudinal or experimental designs to test whether storytelling, heritage design, and AI services produce lasting memories and later shape electronic word of mouth, place attachment, revisit intention, and destination loyalty. Cross-national comparisons could explore whether the proposed links differ between Asian and non Asian cultural tourism destinations. Scholars should separate AI formats such as chatbots, service robots, intelligent menus, augmented reality, and personalized recommendation systems because their experiential impacts may vary. Multilevel studies could place restaurant traits, destination heritage intensity, and visitor level characteristics in one model. Future frameworks should also examine perceived authenticity, narrative transportation, emotional engagement, immersion, and place attachment as mediating paths. Cultural curiosity could be assessed as a moderator of heritage design and AI-enabled interaction, while technology readiness, prior cultural

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knowledge, privacy concern, and preference for human contact may supply further boundary conditions. Merging survey data with observations, interviews, behavioural records, and delayed memory tests would deepen explanatory power.

5.6. CONCLUSION

This study shows that historical storytelling integration, heritage inspired hospitality design, and AI-powered interactive services markedly improve memorable dining experience in cultural tourism destinations. AI-powered interactive services produce the strongest direct effect, followed by historical storytelling and heritage inspired design. Cultural curiosity further boosts the role of historical storytelling, confirming that diners' drive to explore cultural meaning influences how narratives turn into lasting memories. These results uphold all four hypotheses and bring narrative, spatial, technological, and psychological processes into a single hospitality framework. The work reveals that memorability does not stem from food quality or novelty alone but from coherent interplay among cultural meaning, sensory immersion, personalization, and active visitor interpretation. Therefore, cultural tourism restaurants should blend credible narratives, authentic settings, carefully shaped AI applications, and human hospitality. When these elements reinforce one another, dining can shift beyond mere consumption and become a meaningful meeting with local history, identity, and heritage.

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