

THE RISE OF VIRTUAL FOOD TOURISM EXPERIENCES: INTEGRATING DIFFUSION OF INNOVATION THEORY AND SELF-DETERMINATION THEORY

Abstract

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Purpose – The COVID-19 pandemic has had a significant impact on the food tourism industry, leading to business closures and a drop in demand. In response to this challenge, virtual food tourism experiences such as VR have emerged as an alternative to traditional in-person experiences. Aim of this paper is to model consumer adoption of virtual food tourism by integrating the Diffusion of Innovation Theory and the Self-determination Theory.

Methodology/Design/Approach – The Diffusion of Innovation Theory explains the process of innovation adoption, while the Self-determination Theory focuses on consumer motivation. This article proposes that intrinsic (autonomy, relatedness, and competence) and extrinsic (relative advantage, complexity, compatibility, trialability, and observability) motivating factors influence virtual food tourism adoption.

Findings – The study suggests that extrinsic motivators can act as mediators between intrinsic motivation and adoption intention. Integrating these two theories provides a comprehensive understanding of the motivations and mechanisms driving virtual food tourism adoption. It also paves the way for the exploration of intrinsic and extrinsic motivations and specific mechanisms underlying adoption behaviours.

Originality of the research – Destinations, businesses, and policy makers can better navigate the changing landscape of food tourism and leverage the potential of virtual food tourism to create engaging, accessible, and culturally enriching experiences.

Keywords Virtual Reality, Post COVID-19, Online Food Experience; Self-determination Theory, Diffusion of Innovation Theory

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INTRODUCTION

Participation and interest in food tourism is growing worldwide (Fountain et al., 2020). It attracts travellers with the opportunity to immerse themselves in different cultures by sampling their authentic local cuisine (Fountain, 2022). The global food tourism market was worth US\$1.31 billion in 2022 and is expected to be worth US\$3.46 billion by 2028, registering a compound annual growth rate (CAGR) of 17.82% from 2023 to 2028 (Market Data Forecast, 2023). However, the food tourism landscape has undergone profound changes (Lazaridis et al., 2022) due to two major factors: the global impact of COVID-19 and the rise of virtual experiences.

The tourism industry is one of the most affected sectors by the COVID-19 pandemic (Dedeoğlu & Boğan, 2021). According to the World Tourism Organisation, international tourism activities decreased by 74% worldwide, 71% in Europe, 84% in Asia and 69% in North America (UNWTO, 2021). The food tourism industry was severely affected by COVID-19 (Rehman et al., 2022). Social distancing and health concerns have disrupted traditional food practices. In addition, COVID-19 significantly reduced travel intentions due to travel anxiety (Luo & Lam, 2020). This new normal has forced businesses to be creative and to adapt to new ways of operating (Durmaz et al., 2022), such as using innovative technologies to provide virtual food experiences (Leung et al., 2022).

Traditionally, technologies used in the food industry have included a range of tools designed to improve the customer experience and operational efficiency. For example, online review and rating platforms, such as TripAdvisor, allow customers to provide feedback and ratings (Rita et al., 2022). Similarly, food blogs and related websites also serve as valuable resources for sharing culinary experiences, recipes, and restaurant reviews (Mainolfi et al., 2022).

The emergence of virtual food tourism is revolutionising the food and beverage industry (Deliyannis et al., 2022). These technologies engage multiple senses (Guttentag, 2010) and allow people to experience new cultures and cuisines from the comfort of their homes (Paluch & Wittkop, 2021). For example, wine-tasting experiences have evolved to incorporate augmented and virtual reality elements, allowing customers to virtually explore vineyards, inspire wine regions, and learn about wine varieties and production processes (Yung & Khoo-Lattimore, 2019). Similarly, cooking classes have become more interactive through augmented reality (AR) and virtual reality (VR) platforms, allowing participants to follow virtual instructions in a simulated kitchen environment (Gorman et al., 2022). Furthermore, the data obtained can be analysed to identify user preferences, social media reviews and trends, or to create personalised recommendations (Leung & Loo, 2022). This makes gastronomic tourism more accessible, efficient, and personalised. In addition, virtual experiences have the potential to democratise food tourism by making it accessible to a wider audience (Wintergerst, 2023).

The shift towards virtual food tourism experiences has also raised some concerns. Gorman et al. (2022) argue that “there may be limitations due to lack of access to suitable equipment, headsets or fast internet” and that it may not provide the same level of sensory and emotional experience as in-person food tourism. There is also a risk that cultural cuisine will become commercialised, with negative consequences for preserving heritage. Despite the rapid growth, the adoption of new experiential technologies in the food industry varies depending on region, market segment and technological readiness. While there is a growing interest in these technologies and their potential to improve customer experience in tourism (Schiopu et al., 2021), studies specifically focusing on the diffusion and impact of emerging experience-centred technologies in the food industry are relatively limited (De Canio et al., 2021; Garibaldi & Pozzi, 2020). Drawing from the Theory of Diffusion of Innovation (DOI; Rogers, 2003) and Self-Determination Theory of Motivation (SDT; Ryan & Deci, 2000), this study aims to propose a framework that depicts the factors influencing the adoption of virtual technologies in food tourism. Stakeholders in the food tourism industry can develop more innovative and effective strategies to adapt to the changing demands of tourists’ post-COVID-19 behaviour.

1. LITERATURE REVIEW

Food tourism offers travellers the opportunity to explore diverse cultures and culinary experiences around the world (Hall et al., 2003). Its impacts can be observed at multiple levels, including countries, communities, and consumers (Hall & Gossling, 2016). Firstly, countries benefit from food tourism because it promotes economic growth and boosts local industries (Henderson, 2009). By promoting their traditional cuisines, countries can attract tourists, generating revenue and employment opportunities in the food sector (Bowen, 2022) and a positive global image for the destination (Pearce, 1995).

At the community level, food tourism plays a central role in preserving culinary traditions and supporting local producers (Kim & Iwashita, 2016). By emphasising local ingredients, traditional recipes and authentic dining experiences, food tourism helps to sustain local food systems (Feagan, 2007) and provide economic stability for communities (Green & Dougherty, 2014). In addition, food tourism often promotes community engagement as tourists interact with locals, leading to mutual knowledge sharing and cultural appreciation (Park & Kim, 2016).

For consumers, food tourism provides a gateway to discovering new flavours, ingredients, and cooking techniques (Babolian Hendijani, 2016). Travellers indulge in immersive food experiences such as food tours, cooking classes, and dining at local restaurants, expanding their culinary horizons and enriching their travel experiences (Ko et al., 2018). Food tourism also promotes healthier and more sustainable eating habits, as tourists seek out organic and local food and support sustainable agricultural practices (Everett & Slocum, 2013). Food tourism has evolved in recent years to include virtual food tourism.

1.1. Virtual Food Tourism

Virtual food tourism aims to make people feel as if they are physically present in a particular place without having to visit it (Kim et al., 2020). Although there is no clear definition of virtual (food) tourism in the literature (Mura et al., 2017), ‘virtual’ is often associated with immersive technologies such as AR, mixed reality (MR) (Rasimah et al., 2011), VR (Guttentag, 2010) or 360-degree video technology (Slater & Sanchez-Vives, 2016). A key feature of all virtual applications is interaction (Sveistrup, 2004), which in food tourism means real-time interaction with locals who share insights, stories, and recommendations. Participants can ask questions, engage in discussions, and receive recommendations. Virtual experiences also aim to engage multiple senses (Yung & Khoo-Lattimore, 2019). In this paper, the term virtual tourism encompasses all experience-centred technologies such as VR, AR, MR and 360-degree video. Emerging technologies are being utilized to alleviate the impact of the pandemic. The enhancement of information and communication technologies has the potential to streamline innovation performance, brand awareness, and mitigate the safety risks (Lau, 2020). Technology is becoming more ingrained in the tourism experience, and its application in food and wine tourism can play a role in enhancing attractiveness and the competitive advantage of destinations (Kirova, 2021). With the growing influence and utilization of technology in tourism, devices like smartphones, tablets, and digital cameras, are valuable assets that can also enrich participation, interaction (Chathoth et al., 2016), and engagement in the tourism experience (Ponsignon & Derbaix, 2020). Therefore, the digital era generates new opportunities for entrepreneurial endeavours, such as platform solutions that can activate resources not previously directly connected with food and tourism (Hjalager, 2022).

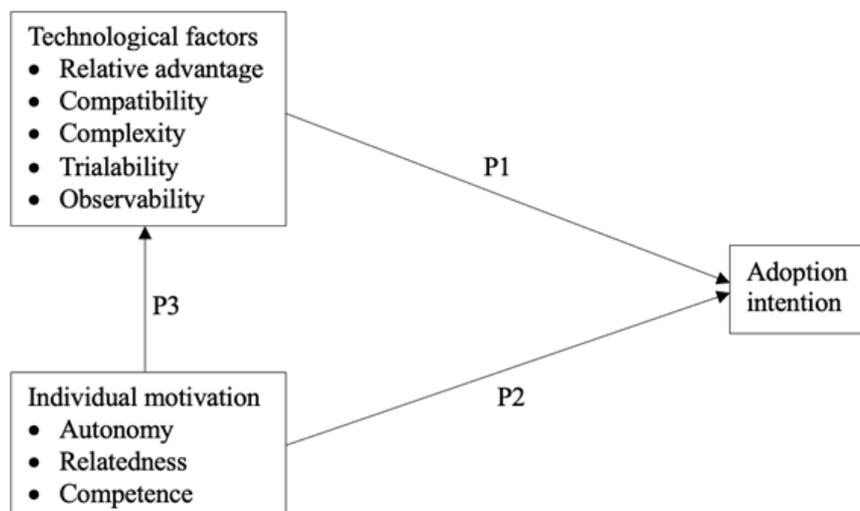
While experience-driven applications have opened exciting possibilities, there are limitations that need to be considered, particularly when adopting experience-centred technologies in food tourism from a consumer perspective. In the real world, perception is generally a multisensory experience. It includes visual, auditory, tactile, olfactory, and gustatory elements. Current technological advances still limit multisensory integration in a virtual environment and the use of all senses. Most virtual experiences focus on sight and sound, sometimes touch. Taste and smell experiences cannot be (fully) replicated in a virtual environment (Gallace et al., 2012). Taste and smell play a critical role in both the psychological and physiological aspects of eating, especially when eating outside of one’s comfort zone (Kim et al., 2021). Both senses are crucial to our expectations of the likely taste of food and drink, how good it tastes to us, or whether or not a food is still edible (Spence, 2015). If these aspects are missing due to a lack of technological capabilities, the gastronomic experience can only be perceived to a limited extent. Furthermore, the cost and accessibility of virtual tourism pose a challenge to widespread consumer adoption (Ozdemir, 2021).

Equipment can be expensive, and not everyone has access to the necessary hardware or stable internet connections. Moreover, for many people, the appeal of food tourism lies in physically exploring new places, interacting with locals, and indulging in authentic food (Dixit, 2020). While virtual tourism can provide a glimpse of these experiences, it cannot fully replace the joy and spontaneity of being physically present.

1.2. Overview of the Conceptual Framework

Based on SDT and the DOI, the current study aims to explain and predict the intention to adopt virtual food tourism by integrating the individual and technological aspects. The underlying conceptual framework is illustrated in Figure 1. Although rarely used in the literature, the combination of these two theories is well-suited to identify facilitators and challenges in the diffusion of new technologies (Krainer et al., 2019).

Figure 1: Conceptual Framework for the Adoption Intention of Virtual Food Tourism



Source: Roger, 2003; Ryan & Deci, 2000; 2017

In recent years, virtual technology as a game-changing technological innovation has revolutionised the way information is disseminated and knowledge is shared (Ahmed et al., 2019). In the tourism industry, it has received considerable attention for its potential to revolutionise various aspects of the travel experience (Hobson & Williams, 1995). Numerous studies and research have shown that the adoption of virtual technologies in tourism is influenced by various factors (Gibson & O’Rawe, 2018). This growing adoption of virtual technologies highlights the crucial link between people’s motivation to use technology and their willingness to engage in immersive digital experiences (Han et al., 2022).

The DOI can be used to explain how new ideas, products, technologies, or practices are spread and adopted by people (Mahajan et al., 1990). This theory helps to understand the process by which innovations are accepted and diffused (Valente, 2010) and to predict a possible rejection of new ideas (Krainer et al., 2019). The rate of adoption of an innovation can be explained by five characteristics: relative advantage, compatibility, complexity, trialability and observability.

People are motivated to use technology due to its relative advantage (Walker & Johnson, 2006), which refers to the extent to how individuals perceive the innovation’s clear and tangible benefits compared to existing alternatives (Herbig & Day, 1992). When a technology is perceived to be superior in terms of efficiency, effectiveness, cost-effectiveness, or overall performance, it becomes more attractive to potential adopters (Ali et al., 2023). Previous studies have used different models, such as TAM to support utility (Scherer et al., 2019) or DOI to demonstrate the relative advantage of a technology (Pan et al., 2022) and found a significant and positive relationship between relative advantage and intention to use a service or product (Kaur et al., 2020). Several researchers concluded that users’ adoption intentions are highly influenced by relative advantage (Tan et al., 2014), such as e-learning systems (Agudo-Peregrina et al., 2014), mobile coupons (Agarwal & Karim, 2015), and mobile entertainment (Leong et al., 2017). In the area of tourism and e-commerce, a significant and positive relationship between perceived relative benefits and consumer behaviour intentions is also supported by previous studies (e.g. Amaro & Duarte, 2015).

Another aspect of technology adoption is how easy or complex it is to use. It represents the perceived complexity, uncertainty or novelty of an innovation and the challenges it poses to potential adopters (Rogers, 2003). Based on TAM, usability is a key factor in the adoption of any new product or service (Venkatesh & Bala, 2008). People are more likely to adopt technology that is intuitive, easy to use and easy to learn (Sun & Nakajima, 2023). Providing training, clear documentation and customer support can improve usability and thus encourage more people to adopt the technology (Patel & Patel, 2018). Most studies highlight low complexity positively related to usage intention (Kaur et al., 2020; Longyara & Van, 2015). In the case of mobile

learning, PEOU was found to be positively associated with behavioural intention to use the technology (Tan et al., 2014). In the context of virtual food tourism, if individuals find the technology intuitive, user-friendly, and accessible, they are more likely to perceive it as easy to use, and this perception increases their confidence in engaging in virtual food tourism experiences.

Compatibility refers to the extent to which a new technology is consistent with existing systems, practices, and values (Verma & Bhattacharyya, 2017). Previous research suggests that the greater the compatibility between the new technology and the users' current context, the more likely it is that the technology will be successfully adopted (Rogers, 2003). By promoting a sense of familiarity and comfort, compatibility allows individuals to use their existing knowledge, thereby reducing the learning curve (Featherman et al., 2021). Furthermore, research on consumer behaviour related to experience sharing suggests that individuals are more likely to share their experiences when they perceive a high level of compatibility between their interests and those experiences (Cheung & Thadani, 2012; Oliveira et al., 2020). Another aspect of compatibility is how well the new technology aligns with users' values and goals (Wilson et al., 2015). If a technology is perceived as relevant it increases the likelihood of adoption (Sun et al., 2016). Previous studies have shown a positive relationship between compatibility and people's adoption of new information technologies (Zhang et al., 2008). In the context of tourism, perceived compatibility positively influences consumers' behavioural intentions (Amaro & Duarte, 2015). When tourists perceive virtual technologies as compatible with their interests, such as their interest in food, culinary exploration or interest in different cuisines, their satisfaction increases (Buhalis et al., 2019) and they are more likely to engage in these experiences. This is in line with previous studies that show that the perceived usefulness and compatibility of a technology significantly influence users' adoption behaviour (Al-Rahmi et al., 2019; Davis, 1989).

Trialability refers to the extent to which an innovation can be experimented with before a full adoption decision is made. It is one of the key characteristics that influence the rate of adoption and diffusion of an innovation (Rogers, 2003). A study of m-banking found that allowing potential adopters to try the technology before committing to full adoption can significantly motivate them to adopt (Farzin et al., 2021). Thakur and Srivastava (2014), in their study on m-payment, found a positive relationship between the trialability of a new technology and the intention to use it. Free trials and demonstrations allow individuals to experience the benefits and assess the fit of the technology with their needs and preferences (West, 2016). A study on the adoption of AR by tour operators found a significant and positive relationship between trialability and intention to adopt (Alam et al., 2022). Another study on tourism mobile guides also found a significant and positive relationship between trialability and intention to adopt the technology (Trakulmaykee & Benrit, 2015). Consumer anxiety about a newly developed product or service can be minimised by providing an opportunity to try it (Tan & Teo, 2000). Reducing perceived risk through trialability can positively influence adoption decisions (Wang et al., 2021) and therefore plays a crucial role in technology adoption by increasing user familiarity (Su et al., 2018), facilitating informed decision making (Tanye, 2016), promoting social influence (Hsieh, 2021), and encouraging commitment (Al-Rahmi et al., 2021).

The observability of the benefits of the technology can play an important role in motivating adoption (Zolkepli & Kamarulzaman, 2015). The easier it is for individuals to see the results and the more opportunities they must observe the potential impact, the more likely they are to adopt the innovation (Rogers, 2003). When potential adopters see others successfully using the technology, it creates social proof and builds trust and confidence (Badi et al., 2021). Testimonials, and success stories can effectively demonstrate the benefits and thus inspire more people to adopt (Takahashi et al., 2020). Even though most researchers (e.g. Quinting et al., 2017) describe a significant positive effect of observability on adoption intentions, potential adopters may be sceptical about using it (Busulwa & Bbuye, 2018) if the benefits are not easily observable. Kaur et al. (2020), in their study on m-wallets, revealed that observability was associated with users' intentions to use and recommend. In the tourism context, Cheng, and Cho (2011) found that observability emerged as a significant factor influencing employees' attitudes towards the adoption of innovative information and communication technologies in travel agencies. Another study on smart tourism technologies showed a positive relationship between observability and intentional adoption (Wang & Lin, 2022). The Diffusion of Innovations (DOI) framework, extensively utilized in comprehending technology adoption, has faced critiques for being overly simplistic (García-Aviles, 2020), and frequently overlooking post-adoption dynamics (Lesar & Weaver, 2022). Critics posit that DOI may not comprehensively capture the complexities of adoption behaviours and external influences (Montes de Oca Munguia et al., 2021). Similarly, Self-Determination Theory (SDT), initially designed for broader motivational contexts, confronts challenges when applied to technology adoption. Its excessive emphasis on individual autonomy (Luria et al., 2021), and limited attention to technology-specific dynamics (Gagne et al., 2022) prompt inquiries into its relevance in diverse technological adoption scenarios. Acknowledging these critiques is important for recognizing the strengths of these theories while acknowledging their limitations within specific research contexts.

Therefore, this study proposes:

Proposition 1: Technological factors (relative advantage, compatibility, complexity, trialability, observability) significantly influence the adoption intention of virtual food tourism.

SDT is a psychological framework that focuses on human motivation and behaviour. It is a macro theory of motivation, emotion, and personality that is used to understand and explain why people engage in activities, pursue goals, and make decisions (Ryan & Deci, 2000 & 2017). In the context of innovation, SDT theory can help explain which factors influence individuals' motivation to innovate and how fostering certain conditions can lead to innovative behaviour.

The basis for the development of SDT was primarily the study of intrinsic motivation: intrinsic motivation means that something is done because it is intrinsically interesting and satisfying. The opposite is extrinsic motivation, where something is done to achieve an external goal (Deci, 1971). In 2000, Deci and Ryan expanded the model to include the three psychological needs: autonomy, competence, and relatedness, which contribute to intrinsic motivation and thus self-determination. Autonomy is defined as “acting volitionally, with a sense of choice” (Deci & Ryan, 2008, 16). If we do not see ourselves as autonomous, external control will be perceived as interfering with self-determined motivation. The need to be competent is fulfilled when a person is confronted with situations in which they need to perform and which can be successfully managed (Krainer et al., 2019). The experience of mutual concern and care for significant others is referred to as the need for relatedness (Baumeister & Leary, 1995). If the three needs are satisfied and supported, positive outcomes such as innovation adoption will follow (Jeno et al., 2019). A distinctive feature of the SDT model is that it focuses on intrinsic motivation, whereas many other models such as TAM, Technology-organisation-environment Framework (TOE) and Task-Technology Fit Model (TTF) only focus on extrinsic motivation (Hew & Kadir, 2016). In recent research, SDT is widely used and applied, for example, to discuss technology adoption or innovations in online games (Linares et al., 2021), m-learning tools (Gupta, 2020; Jeno et al., 2019) or mobile payments (Chung & Liang, 2020). In tourism, there are few studies that use SDT to explain technological adaptation. For example, Soltani et al., (2022) examine the characteristics of mobile e-leisure applications (MAOEL) that lead to tourist engagement.

In this context, the success of an innovation such as virtual food tourism is highly dependent on the motivation and initiative of the people involved. If people do not have the motivation or initiative to use new technology or to change the technology they use, virtual tourism will not be successful. According to Chung and Liang (2020), only autonomously motivated users can act as drivers of innovative ideas and technologies, as they do not depend on external factors to disseminate new ideas. People are motivated to participate in activities when they feel competent and empowered. Acceptance of new technologies depends on the extent to which individuals believe they can use the technology to achieve their goals (Appolloni et al., 2023). Targeted training, support and resources can increase users’ confidence in their ability to use technology effectively and thus increase uptake (Kaur et al., 2020; Longyara & Van, 2015). In the context of relatedness, technology is more likely to be adopted if it improves communication, collaboration, and social relationships. On the other hand, if the technology is perceived as limiting or negative for personal relationships, it is less likely to be adopted (Morrison-Smith & Ruiz, 2020).

Based on the above paragraph, the model suggests that:

Proposition 2: Intrinsic motivations (autonomy, relatedness, competence) significantly impact the adoption intention of virtual food tourism.

To explain the further diffusion of virtual food tourism experiences, DOI and SDT can be combined as they offer complementary perspectives and help to identify mediators in the case of innovation adoption. The process of technology adoption is a dynamic interplay between internal motivation and external factors (Peters et al., 2018). Internal motivation, which is driven by individual beliefs, attitudes, and perceived usefulness, plays an important role in influencing technology adoption (Taherdoost, 2018). However, external motivation, which encompasses various technology-related aspects (Virtanen et al., 2015), can mediate this process and either reinforce or counterbalance an individual’s internal motivation (Chung & Liang, 2020).

Perceived usefulness and ease of use are internal motivating factors as key constructs in technology adoption models (Joo et al., 2018). When individuals find a technology useful and easy to use, they are intrinsically motivated to adopt it (Al-Marroof et al., 2023). This intrinsic motivation can be reinforced by factors such as positive past experiences with similar technologies (Min et al., 2019), self-efficacy in using technology (Ozturk et al., 2016), and a desire for personal efficiency and productivity (Tam & Oliveira, 2016).

External motivation, influenced by aspects of the technology, can play a pivotal role in shaping an individual’s decision to adopt the technology (Maruping et al., 2017). An important external motivator is the availability and accessibility of technology (Almathami et al., 2024). In the study about smart tourism applications, technological factors were found to mediate the effect of intrinsic motivation on adoption intention of technology (Guo, 2021). Conversely, limited access, lack of user-friendly interfaces, or technical challenges can hinder adoption, even if individuals are internally motivated (Ghobakhloo et al., 2022). In addition, external motivation can be conveyed through effective marketing and communication strategies. Clear and compelling messages, coupled with informative demonstrations or free trials, can stimulate curiosity and interest, bridging the gap between internal motivation and adoption (Tormala, 2016). In contrast, inadequate information dissemination or misaligned marketing efforts can lead to misunderstanding or scepticism, hindering the adoption process (Tan & Leby Lau, 2016). Therefore, this study proposes:

Proposition 3: Technological factors (relative advantage, compatibility, complexity, trialability, observability) mediate the relationship between intrinsic motivations (autonomy, relatedness, competence) and the intention to adopt virtual food tourism.

CONCLUSION

The convergence of food and technology continues to redefine the way people perceive, experience, and interact with food.

By enabling consumers to embark on immersive culinary adventures, virtual food tourism has proven to be a powerful tool for enhancing cultural understanding and promoting sustainable and responsible tourism. This transformative approach to food exploration also has the potential to support the economies by creating opportunities for food producers and sellers to showcase their offerings on a global stage. This study explored the emerging trend of virtual food tourism through the lens of two prominent theoretical frameworks, Diffusion of Innovation Theory and Self-determination Theory. The propositions sought to illuminate the changing realm of food tourism and the transformative power of virtual experiences in influencing consumer behaviour and adoption intentions.

DOI has been applied to discover virtual food tourism as an innovative and transformative concept. By focusing on the adoption process, the theory sheds light on how consumers gradually incorporate this technology-driven approach into their lives, allowing them to explore cultures and gastronomy across geographical boundaries. Perceived complexity and technological competence are important factors in individuals' adoption decisions (Nikou, 2019). When individuals feel competent to engage with virtual tourism, they are more likely to adopt and disseminate it (Goibert & Greenhalgh, 2020). This highlights the importance of designing user-friendly virtual reality platforms. Providing opportunities for trial experiences in virtual tourism or the possibility to observe the new technology can significantly influence an individual's intention to adopt. As consumers recognise the relative advantage of virtual tourism in facilitating more convenient, cost-effective, and culturally enriching culinary explorations, their intention to adopt and integrate appropriate technologies into their virtual food tourism experiences is likely to increase.

In addition, SDT has provided valuable insights into the psychological aspects underlying the appeal of virtual food tourism. By highlighting the importance of intrinsic motivation and psychological needs, the theory explains how engaging in these virtual experiences can satisfy individuals' needs for autonomy, competence, and relatedness. With virtual food tourism, tourists are empowered to curate their culinary journeys. In addition, the ability to share these experiences with others through digital platforms fosters a sense of belonging and deepens an appreciation of cultural diversity. Understanding the impact of intrinsic motivations on uptake can prove instrumental in the design and implementation of innovative virtual food tourism platforms.

Furthermore, this conceptual paper explored the mediating influence of the DOI model between SDT and the adoption of virtual food tourism experiences. Through the lens of DOI, it becomes apparent that individuals' intrinsic motivation and need for autonomy significantly influence their willingness to adopt virtual food tourism. As DOI mediates this relationship, it highlights the importance of technological innovation and its seamless integration into the tourism industry. Understanding the underlying psychological mechanisms can help businesses and policy makers formulate targeted strategies to foster greater acceptance and engagement with virtual food tourism, paving the way for immersive and transformative culinary experiences in the digital age.

The adoption and diffusion of virtual experiences can open new opportunities for destinations and related businesses. Virtual tourism allows individuals to explore different culinary traditions and immerse themselves in cultural experiences from anywhere. It enables greater accessibility by removing the barriers of physical distance, cost, and time. It also enables destinations, businesses, and policy makers to better navigate the changing landscape of food tourism and harness the potential of virtual reality. With a better understanding of behaviour change, marketers can develop more effective strategies to attract tourists and meet their needs. Integrating these two theories also allows for a fuller understanding of the underlying motivations and mechanisms driving the adoption and diffusion of virtual experiences in the food tourism industry. By combining DOI, which focuses on the diffusion of innovations, and SDT, which focuses on human motivation, researchers can gain insights into the social and psychological factors that influence individuals' decisions to adopt and diffuse virtual food tourism experiences. Executing practical approaches for the virtual experiences within the food tourism sector includes utilizing social media and influencers to generate captivating content, improving virtual platforms through AR and VR technologies, and employing analytics for ongoing enhancements. Advocating for local sourcing by businesses, endorsing eco-friendly packaging, and offering guidance on sustainable practices resonate with the autonomy emphasis of SDT. Policymakers have the opportunity to stimulate innovation, set quality benchmarks, and endorse training initiatives to facilitate businesses in navigating the dynamic realm of virtual food tourism effectively.

Further research is needed to test and validate the propositions put forward in this study and to gain a deeper understanding of the specific mechanisms that influence intentions to use virtual reality in food tourism. As with all technological innovation, there are challenges and limitations. Ensuring equitable access to virtual reality food tourism experiences across different socio-economic groups and addressing privacy and security concerns are critical factors to consider for their widespread adoption.

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