

## Enhancing dine-out decisions: The role of precautionary measures and digital marketing in mitigating perceived risk at small eateries in Bali's tourist hubs

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### ABSTRACT

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Perceived risk is important in home-based restaurant businesses in tourist areas, especially in influencing tourists' views of risk when deciding to eat at a home-based restaurant. This perception of physical and psychological risks can influence tourists' intentions to dine out. This research aims to measure the magnitude of the influence of perceived risk on tourists' intention to dine out, as well as the role of precautionary measures and digital marketing strategies as moderating variables. Data was collected from 143 respondents who were consumers of home restaurants in several tourist areas in Bali, Indonesia. Data analysis used SmartPLS version 4.0 to test the relationship between research variables. The results show that perceived physical risk does not significantly impact tourists' intention to dine out. In contrast, perceived psychological risk has a strong negative influence on the perceived psychological risk the more likely tourists will dine on site. Health prevention measures implemented by restaurants (precautionary measures) and digital marketing strategies directly affect tourists' intention to dine out. Interesting digital content on social media related to food and beverage products has also been proven to increase this intention. However, precautionary measures and digital marketing as moderating variables do not significantly strengthen the relationship between perceived risk and intention to dine out. This research provides insight for home restaurant business owners to pay attention to consumer risk perceptions and utilize digital marketing strategies effectively. Creating interactive and informative content on social media is very important to increase tourist intent. This research also enriches the literature on consumer behavior and service science in tourism.

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### 1. Introduction

The growth of home-based restaurant businesses managed by residents in Bali has increased along with the number of visits from foreign tourists, especially from Australia, Europe, and Asia. The demand for authentic and affordable local culinary experiences makes home-cooked restaurants an attractive alternative for tourists (Abror et al., 2022). This restaurant usually serves authentic local food, which attracts tourists who want to experience the local culinary culture (Mejia, 2024). Customers like tourists always try to find new food to try, especially new food cultures (Yoon & Chung, 2017). Customers at restaurants expect to receive a dining experience with high quality, healthy and unique style food with excellent service (Bonfanti et al., 2023). Perceived risk is important for tourists in purchasing or using services (Najar & Rather, 2023). Perceived risk is a key factor influencing consumers' decisions when choosing a food menu (Choi et al., 2013; Yeung & Yee, 2020). The perceived risk received by customers is closely related to consumers' desire to dine out, if there are preventative measures to maintain health (Wei et al., 2021). The risks consumers perceive include various elements such as health, safety, and food quality (Yeung et al., 2010; Zeng, 2022). Consumer risk perception has become increasingly important in the context of small-scale

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local home-based eating places, especially in tourist areas like Bali, which are now developing into retail tourism destinations. This change encourages consumers to be more selective in choosing where to buy (Loh & Hassan, 2022) and influences how home-based restaurant businesses adapt to consumers' new expectations and needs (Usman et al., 2024). The people's risk perception towards increasingly sensitive health, safety, extensive cultural and social background (Yost & Cheng, 2021; Ha et al., 2021; Palau-Saumell et al., 2021).

In recent years, Bali tourism has experienced rapid development, and small-scale home-based restaurants are increasingly considered an alternative for consumers who want an authentic and affordable culinary experience. However, with consumer behavior changing and becoming more cautious due to concerns about health risks, home restaurants must face the challenge of remaining relevant and attractive to consumers (Pan et al., 2022; Seo et al., 2018). In the past, the decision to eat out was usually based solely on menu choices, price, or the atmosphere of the home restaurant (Teng et al., 2022; Lo et al., 2024). Consumers' risk perceptions regarding cleanliness, implementation of health protocols, and how crowded the eating place are the main factors influencing their decision to dine out (Liu & Tse, 2018; Bonfanti et al., 2023). Consumers have the intention to dine out if they feel safe and can avoid health risks (Ryu et al., 2023). Small-scale home restaurants have the advantages of lower operational costs, flexibility in customizing the menu, and a more personal atmosphere. However, they also face major challenges regarding health risks, such as hygiene (Yoon & Chung, 2017) and sanitation standards may not be as stringent as those of professional home restaurants. Additionally, many home-based eateries as a local food do not yet have a mature marketing strategy or the ability to utilize digital technology effectively (Mejia, 2024). This limitation makes it difficult for them to reach wider consumers, especially when addressing consumer concerns regarding health and safety risks (Pacheco & Pacheco, 2024). Post-pandemic changes in consumer behavior and ongoing concerns about disease transmission further complicate the situation (Yost & Cheng, 2021). Many consumers prefer to order food via takeaway or delivery services as a safer alternative than eating on the spot (Poon & Tung, 2024). Perception of risk is the main barrier for home restaurants in attracting consumers (Gupta et al., 2018). Consumers tend to be reluctant to come if eating places cannot guarantee security through adequate preventive measures (Abror et al., 2022). In this situation, implementing precautionary measures such as maintaining the cleanliness of the dining area and kitchen (Liu & Tse, 2018), using quality food ingredients, and checking the health of staff regularly are important steps that restaurants must take (Usman et al., 2024). However, these preventive measures will not be effective if they are not communicated well to consumers (Chen et al., 2021). This is the important role of digital marketing (Pan et al., 2022). Small-scale home-based restaurants can utilize digital channels such as social media (Instagram, Facebook, TikTok), email marketing, and food delivery applications to inform consumers about the preventive measures implemented (Alghizzawi et al., 2024). Through consistent and transparent communication, consumers will feel safer and confident that the restaurant cares about their health and safety (Ha et al., 2021). Publishing videos or images showing staff using personal protective equipment or adequate sanitation facilities, restaurants can build an image of a safe and hygienic place (Alghizzawi et al., 2024).

Social media platforms have a very important role in the digital marketing strategy of home restaurants (Lucas & Sines, 2019). Platforms such as Instagram and Facebook allow restaurants to interact directly with consumers through interesting visual content, such as images or videos that show the cleanliness and health protocols implemented in the restaurant (Lepkowska-White et al., 2019). Short videos showing cleaning the kitchen, setting tables at a safe distance, or packaging food for delivery services can help reduce consumers' concerns regarding perceived risks (Alghizzawi et al., 2024). On the other hand, platforms like TikTok can promote a relaxed and authentic dining atmosphere while conveying the message that the place is safe to visit. An effective digital marketing strategy through social media also allows home restaurants to reach a wider and more diverse target market (Lucas & Sines, 2019; Tarigan et al., 2022; Singh et al., 2024). For example, using Instagram stories or Facebook ads allows local consumers and tourists to look for an affordable and safe place in Bali (Yasa et al., 2024). Active communication via social media helps reduce perceived risk and increases interaction with customers (Ha et al., 2021). By answering consumer questions or concerns quickly and transparently through comments or private messages, business can build customer trust and loyalty (Aljabari et al., 2024). Additionally, using user-generated content (content created by customers such as reviews, photos, or videos) on social media can also be a very effective tool (Lo et al., 2024). Consumers tend to believe more in other customers' direct experiences, which can be used to strengthen the restaurant's positive image (Pan et al., 2022). For example, customers who upload photos of themselves at a restaurant with positive descriptions of cleanliness and safety can increase public perception of the restaurant (Debas et al., 2021). Furthermore, digital marketing also allows home restaurants to promote takeaway or delivery services to consumers who still feel anxious about eating on the spot (Poon & Tung, 2024). With the right promotion through social media, this service can be a safe and practical alternative for consumers (Tarigan et al., 2022), helping restaurants maintain their operations even though the number of customers dining in is decreasing (Lepkowska-White et al., 2019).

Previous research has shown that perceived risk significantly impacts the intention to purchase in various contexts (Najar & Rather, 2023). Research on food trucks targeting millennial consumers found that perceived risk influenced consumers' intention to purchase (Yoon & Chung, 2017; Palau-Saumell et al., 2021; Loh & Hassan, 2022). At home, restaurants in tourist areas like Bali, the synergy between precautionary measures and digital marketing via social media can reduce consumers' perceived risk and encourage them to dine out again. Strengthening communication through digital marketing (Aljabari et al., 2024), restaurants can attract new customers and maintain the loyalty of old customers who feel safe and comfortable with the precautions implemented (Choi, 2016). The successful utilize digital platforms with social media marketing effectively

will be better able to compete with professionals that have greater resources and can increase the sustainability of their business amidst increasingly fierce competition (Tarigan, 2024).

Based on this description, the objectives of this research can be formulated as follows. Measuring the influence of perceived risk (physical and psychological) on the intention to dine out at a small-scale home-based restaurant. Identifying the influence of precautionary measures on the intention to dine out in small-scale home restaurants. Analyze the impact of digital marketing, especially through social media platforms, on intentions to dine out in small-scale home restaurants (Lucas & Sines, 2019). Analyzing the influence of perceived risk (physical and psychological) on dine-out intentions with precautionary measures and digital marketing as moderating variables.

## 2. Literature Review

### 2.1. Theory of Reasoned Action

The theory of Reasoned Action (TRA) is a model widely used to predict consumer intentions or behavior, including in the context of home restaurants for tourists (Zhong et al., 2021; Mejia, 2024; Yeung & Yee, 2020). TRA explains the relationship between attitudes and behavior, emphasizing two main concepts: attitude toward the behavior and subjective norms (Loh & Hassan, 2022; Seo et al., 2018), which shape consumers' intentions to dine out at restaurants. Attitude toward behavior refers to the consumer's evaluation of the advantages or disadvantages of that behavior or the intention to eat at a restaurant (Mejia, 2024). In the tourist context, a positive attitude towards home-based restaurants can be formed if tourists feel the benefits offered, such as authentic food quality, distinctive local atmosphere, and prices that fit their budget (Teng et al., 2022). If a restaurant can provide a positive experience and meet consumer expectations regarding safety, comfort, and food quality, tourists' attitudes will be positive (Choi, 2016; Yost & Cheng, 2021). On the other hand, a negative perception of cleanliness or health risks can weaken tourists' intentions to eat at that place (Liu & Tse, 2018).

Subjective norms refer to the social influence that tourists feel from the people around them, such as travel friends, family, or the tourist community (Najar & Rather, 2023). In the context of home restaurants, tourists' decisions to dine in are often influenced by opinions or recommendations from people close to them, online reviews (Siagian et al., 2022; Chen et al., 2021; Pan et al., 2022; Lo et al., 2024). The social environment supports and recommends a particular restaurant to have a stronger intention to visit it (Yeung et al., 2010). Conversely, if there is social pressure not to eat in places that are considered unsafe or unhygienic, tourists' intentions may weaken, even if they have positive attitudes towards restaurants (Yeung & Yee, 2020). Perceived risk can influence subjective norms (Osman et al., 2024), especially if tourists hear concerns from people around them regarding health or safety risks (Usman et al., 2024). In this case, social pressure from the surrounding environment can strengthen or weaken tourists' intentions to eat at the restaurant (Abror et al., 2022). Home-based restaurants can adapt their services and communication strategies to reduce perceived risks and increase social support, encouraging more tourists to dine out at their establishments (Ahmed et al., 2023).

### 2.2. Perceived risk

Perceived risk is a perception or view consumers hold regarding the potential risks they may face when deciding to buy a product or use a particular service (Choi et al., 2013; Thongpalad et al., 2022). This concept is closely related to consumer uncertainty and fear regarding the results or consequences of purchasing decisions (Yeung et al., 2010; Najar & Rather, 2023). Perceived risk is important because consumers tend to be careful when estimating risk (Wei et al., 2021). The risks that consumers face come from various aspects that consumers consider important (Palau-Saumell et al., 2021; Ryu et al., 2023). The physical aspects of the product function to consumer expectations (Zeng, 2022). The product price paid by consumers is based on the benefits obtained (Loh & Hassan, 2022). Consumers will always assess all purchasing decisions with the overall value received (Bhukya & Singh, 2015; Teng et al., 2022). Consumer concerns about consuming food served by restaurants can result in the food being perceived as having increased physical risks (Wang, 2015). In the context of home-based restaurant businesses in tourist areas, the perceived risk is tourists' perception of the potential risks they may face when deciding to eat at that place (Zhong et al., 2021). Tourists tend to be careful when choosing where to eat, especially if they feel there are risks related to cleanliness, health, price, or food quality (Abror et al., 2022). Perceived risk is an important factor influencing their decision to eat at a home restaurant. Several dimensions of perceived risk are relevant to in-home restaurants in tourist areas (Yeung & Yee, 2020). Tourists may worry that their price is not commensurate with the quality of food and service received. If the price is too high or does not meet expectations, this can reduce their intention to eat at the place (Teng et al., 2022). Physical risk related to food hygiene and safety (Yoon & Chung, 2017; Ahmed et al., 2023). Travelers may be concerned about the quality of sanitation or cleanliness of the kitchen and staff, as well as health risks such as food that is not fresh or contaminated. This concern has especially increased in the post-pandemic era (Pacheco & Pacheco, 2024). Social risk for tourists may consider how their decision to eat at a home-based restaurant may affect other people's views, such as friends or family traveling with them (Osman et al., 2024). They may choose places that are considered better regarding their social reputation or are popular with other tourists. Psychological risk: tourists may worry that they will regret choosing the wrong place to eat, for example, if the food or service does not meet their expectations, which could ruin their tourist experience (Matiza, 2022). The people's risk perception towards security and safety which is interpreted as psychological risk will

influence consumer attitudes and purchasing behavior (Yost & Cheng, 2021; Thongpalad et al., 2022; Lanciano et al., 2020). Time risk tourists may be worried about wasting time at a place to eat that does not meet expectations, either because of slow service or unsatisfactory food, which could disrupt their travel schedule.

### *2.3. Precautionary measures*

Precautionary measures are implemented to reduce or avoid possible risks, especially those related to the health and safety of tourists. These steps are very important to provide a sense of security to customers, especially in the post-pandemic era, where hygiene and health are major concerns for visiting tourists (Ryu et al., 2023). Home-based restaurant businesses in tourist areas must ensure high standards of cleanliness and sanitation (Matiza, 2022). This involves keeping the kitchen, equipment, and dining area consistently clean (Liu & Tse, 2018). Regular disinfection, especially of frequently touched areas, is mandatory (Matiza, 2022). Staff use of personal protective equipment, such as masks and gloves, can also provide more comfort to customers who care about their safety. Quality control of food ingredients is very important to prevent contamination by ensuring raw materials are stored and processed properly (Osman et al., 2024). In addition, providing hand washing facilities and hand sanitizers at various points that are easily accessible to customers will provide additional comfort for tourists who want to ensure cleanliness before eating. Seating arrangements at a safe distance are important to avoid crowding and ensure customer comfort (Choi, 2016). Restaurants can implement a reservation system or more organized queue management to reduce excessive interaction in dining places (Mejia, 2024). For takeaway or delivery services, restaurants must implement hygienic delivery protocols to maintain customer trust (Poon & Tung, 2024). Training staff in food safety and regular health checks are crucial preventive measures. This ensures that staff are healthy and understand how to handle food safely. Providing clear information about food ingredients, especially potential allergens, will increase tourists' confidence in the food served (Abror et al., 2022). These precautionary measures must be communicated well to tourists, either through notice boards, social media, or other digital platforms, so they feel confident and safe when eating at these places (Lucas & Sines, 2019). Proper implementation of these measures will increase tourist confidence and help ensure the long-term sustainability of the restaurant business (Matiza, 2022).

### *2.4. Digital Marketing*

Digital marketing, in the context of home-based restaurant businesses in tourist areas, is a marketing strategy that utilizes digital technology to reach tourists more widely and effectively (Aljabari et al., 2024). With the development of the internet and the use of digital devices such as smartphones, laptops, and tablets, home restaurants can promote their services to be more interactive and personalized (Siagian et al., 2022; Nuseir & El Rafae, 2024). Digital marketing provides opportunities for home restaurants to reach larger tourist consumers and interact directly with them through various online platforms such as social media, email, and websites (Poon & Tung, 2024). Social media such as Instagram, Facebook, Twitter, and TikTok are very effective tools for business to build relationships with customers (Tarigan et al., 2022; Nuseir & El Rafae, 2024; Tarigan, 2024). Social media allows restaurant owners to communicate directly with consumers, answer questions, and provide the latest updates regarding menus, promotions, or hygiene measures (Pacheco & Pacheco, 2024). Interactive content such as pictures of typical food, videos of the cooking process, or the atmosphere of a restaurant can attract tourists' attention, increasing their interest in coming (Ha et al., 2021; Lepkowska-White et al., 2019). In addition, social media helps home restaurants create closer communities with customers, thereby building the loyalty of tourists who return to the place (Lucas & Sines, 2019). Communication marketing is also an important part of the digital marketing strategy for home restaurants (Lo et al., 2024). Via email, restaurant owners can communicate personally with tourists, sending information about promotions, the latest menus, or special events. An effective email campaign can retain existing customers and attract new customers by providing added value that matches their interests for loyalty (Tarigan, 2024). Email marketing focused on and relevant to tourists' needs makes them feel more connected to the restaurant business, increasing the likelihood of return visits (Singh et al., 2024). Digital marketing gives home restaurants greater flexibility and control in marketing campaigns (Debas et al., 2021). Restaurants can monitor campaign performance in real time, seeing how many travelers respond to ads or content shared on social media (Pan et al., 2022). In addition, digital marketing allows restaurants to measure changes in the number of visits or increases in takeaway/delivery orders and understand tourist preferences. With this information, home restaurants can continue to adjust their marketing strategies to achieve better results, ensure consumer satisfaction, and increase their digital presence amidst business competition in tourist areas (Singh et al., 2024).

### *2.4. Intention to Dine-Out*

Intention to dine out refers to a consumer's desire or decision to eat at a restaurant rather than cook at home or use a food delivery service (Hwang & Choe, 2019). In the context of small-scale home restaurants in tourist areas, whose target consumers are tourists (Yeung & Yee, 2020). The intention to dine out is influenced by various factors, including tourists' personal preferences, comfort, and the quality of the food and atmosphere (Choi, 2016; Wei et al., 2021; Okumus et al., 2021). Tourists usually consider how well the dining establishment meets their expectations for authentic food quality (Chen et al., 2021). The customer meets with a comfortable atmosphere and unique experiences (Yoon & Chung, 2017). External factors such as promotions also play an important role in the intention to dine out (Ryu et al., 2023). Attractive promotions, such as special discounts or package menus, can encourage tourists to visit restaurants for dining out (Teng et al., 2022). For many

tourists, dining in is more than just a meal. It is part of a social activity where they can enjoy the local atmosphere and interact with other people, whether they are home restaurant staff or fellow customers (Mejia, 2024).

Tourists' perception of the experience restaurants offer is a crucial factor influencing their intention to dine out (Wang, 2015). Home restaurants that offer friendly service, a pleasant atmosphere, and positive social interactions tend to be more attractive to tourists (Abror et al., 2022). Social experiences, such as meeting friends or family, are often an important reason for tourists to dine in, as they provide added value that delivery services cannot replace. Apart from that, promotion through digital campaigns, especially through social media, can help restaurants attract more tourists (Ha et al., 2021). Promotions that are communicated well can direct potential customers to feel interested and visit the place. During the pandemic, strict health prevention measures are also an important factor influencing the intention to dine out because tourists will only feel comfortable if restaurants implement adequate health protocols (Matiza, 2022). Restaurants that can adapt their services to tourists' needs and expectations will have a greater opportunity to increase consumers' intentions to eat at their establishments. The intention to dine out reflects the results of consumer considerations regarding the experience and comfort obtained from the restaurant (Okumus et al., 2021; Choi, 2016). Restaurant managers who successfully understand and adapt to consumer needs have a greater chance of increasing consumer intentions to come and enjoy the service (Ahmed et al., 2023).

## 2.5. Relationship between Research Concepts

### 2.5.1. Perceived risk with intention to dine-out

The perceived risk can influence tourists' intention to dine out (Ryu et al., 2023). When tourists feel a physical and psychological risk related to cleanliness, safety, and health at the restaurant, they tend to refrain or choose other options, such as takeaway or delivery services (Zhong et al., 2021). Customer density is also a factor for the tourists to avoid dining out (Wei et al., 2021). Uncertainty about the handling of food ingredients can increase the perceived risk for consumers (Hwang & Choe, 2019). Certain conditions cause consumers to change their preferences for dining out to takeaway or delivery services by online (Siagian et al., 2022; Poon & Tung, 2024). Perceived Physical Risk refers to tourists' concerns about the physical risks they may face when eating (Choi et al., 2013; Wang, 2015). Suppose tourists feel that the establishment does not maintain proper hygiene, such as poor sanitation or a lack of preventive measures against spreading disease (Zeng, 2022). In that case, they will be more likely to avoid eating at the establishment (Yeung & Yee, 2020). For example, customer density or uncertainty about how food is processed can exacerbate perceived physical risk (Usman et al., 2024). On the other hand, when restaurants implement preventive measures such as routine disinfection for prevention behavior (Teng et al., 2022). Staff use of personal protective equipment, and safe distancing, perceived physical risks can be reduced, increasing tourists' intention to dine out. Perceived Psychological Risk includes tourists' emotional concerns, such as anxiety or discomfort when deciding to eat out (Yost & Cheng, 2021). During post-pandemic times or certain health situations, travelers may feel anxious about exposure to disease when eating at restaurants (Bonfanti et al., 2023). These feelings can be reinforced by social pressure or uncertainty about the safety of the restaurant. When tourists feel a high psychological risk, such as fear of exposure to disease or uncertainty about the safety of restaurants, they tend to choose not to eat on-site and prefer to order food to take home. The perception of psychological risk that is felt has a negative impact on consumers in shaping consumer decision making in purchasing a product (Bhukya & Singh, 2015; Gupta et al., 2018; Lanciano et al., 2020). Conversely, when restaurants successfully demonstrate strict prevention measures and soothe tourists' concerns, psychological risks may be reduced, increasing their intention to dine in (Matiza, 2022). Therefore, the hypothesis:

**H<sub>1</sub>:** *Perceived physical risk influences consumer behavior regarding the intention to dine out.*

**H<sub>2</sub>:** *Perceived psychological risk influences consumer behavior regarding the intention to dine out.*

### 2.5.2. Precautionary measures with intention to dine-out

Precautionary measures are crucial in shaping tourists' intention to dine out (Ryu et al., 2023). The preventive measures taken by restaurants not only aim to maintain the health and safety of customers but also serve to build trust and comfort (Choi, 2016). Since restaurants are public places often filled with people from various backgrounds, implementing adequate precautions is increasingly important, where health concerns are still a priority (Zhong et al., 2021). Restaurant precautionary measures are activities set by restaurants to carry out prevention and apply them to restaurants to have an essential role in forming the intention to dine out (Wei et al., 2021). Restaurants, with certain steps, set precautionary measures to cover various actions taken to ensure consumers' safety and comfort, especially concerning cleanliness (Abror et al., 2022). Restaurants strive to develop an activity to anticipate health risks by establishing health protocols (Yost & Cheng, 2021). Precautions are important for consumers because they do not need to worry about health risks. Restaurants must adapt to new standards to maintain customer trust. Restaurants, being public places where many people gather, can increase the possibility of human contact and infection, and cause negative perceptions of eating behavior (Chen et al., 2021). Close physical contact and sharing food in restaurants can result in the transmission of infection. Preventive practices can be done by washing hands regularly and providing hand sanitizer. The dining area environment can be more comfortable and reduce the risk of infection (Rizou et al., 2020). Restaurants can take certain precautions such as hand sanitizers, contactless payments, and separate dining areas to reduce physical/psychological risks, leading to good intentions to dine at a restaurant (Zhong et al., 2021).

Precautionary measures can include various actions, such as providing hand washing facilities or hand sanitizers at the entrance, ensuring staff use of masks and gloves, and carrying out routine disinfection in dining and kitchen areas (Zhong et al., 2021). In addition, restaurants can provide contactless payment options and arrange dining rooms to be more separate so that tourists feel safer and more comfortable enjoying on-site food (Mejia, 2024). These precautions reduce tourists' concerns about health risks and infections, ultimately increasing their intention to dine out (Choi, 2016). Based on this, the first hypothesis is:

**Hypothesis H3:** *Precautionary Measures influence consumer behavior in eating out (Intention to Dine-Out).*

#### *2.5.4. Digital marketing with intention to dine-out*

Digital marketing is important in influencing tourists' intention to dine out. Through digital marketing, restaurants can utilize various digital platforms such as social media, email, websites, and online advertising to reach consumers more widely and effectively (Poon & Tung, 2024; Yasa et al., 2024). This platform allows restaurants to provide travelers with relevant, interesting, and timely information about their products or services (Osman et al., 2024). With an attractive promotional strategy, digital marketing can help build a more personal and interactive relationship between restaurants and customers (Pacheco & Pacheco, 2024). Restaurants can build more personal and interactive relationships with customers to provide information about customer needs for dine out (Lo et al., 2024). An effective digital marketing strategy can increase consumer intentions to visit the restaurant by giving precise and exciting information (Debas et al., 2021). Digital marketing used by restaurants can convey information quickly and on time (Pan et al., 2022). Restaurants can use social media and email marketing to provide information about promotions for dine-out (Okumus et al., 2021). Attractive promotions through digital platforms influence consumer decisions (Aljabari et al., 2024). Restaurants can promote a product visually and make recommendations from digital channels. Social media provides advantages over traditional promotional methods because it allows direct, two-way interaction with customers (Ha et al., 2021). Through platforms restaurants can share visual content, special promotions, or even customer testimonials that influence travelers' dining-out decisions. Marketing can also send special offers or the latest information to customers, encouraging them (Tarigan, 2024). One of the main advantages of digital marketing is its ability to communicate the steps restaurants take regarding health and safety protocols (Singh et al., 2024). Through digital platforms, restaurants can convey information about implementing health protocols, such as the use of personal protective equipment by staff, kitchen cleanliness, and safe seating arrangements (Liu & Tse, 2018). This can help reduce travelers' concerns and increase their confidence in dining in. Therefore, digital marketing functions not only as a promotional tool but also to build trust and a sense of security among tourists. Based on the relationship between digital marketing and tourists' intention to dine out, the hypothesis that can be formulated is:

Hypothesis H4: Digital Marketing influences the intention to dine out.

#### *2.5.3. Perceived risk to intention to dine out with moderator precautionary measures*

Perceived risk is essential in influencing tourists' intention to dine in (Ryu et al., 2023). Restaurants that implement and communicate preventive measures effectively can reduce consumer concerns, increase their intention to dine out, and maintain customer loyalty (Wang, 2015). The success of restaurants in providing services in accordance with tourists' expectations that there is no risk, both physically and psychologically, can increase the intention to dine out (Wei et al., 2021). Restaurant precautionary measures act as moderator that can influence the relationship between perceived risk and the intention to dine out, along with the steps to make customers feel comfortable (Teng et al., 2022). In the context of dine-out, especially after the emergence of the pandemic global health crisis, the risk perceived is a significant factor in consumer intentions to eat at restaurants (Choi, 2016). Perceived physical risk is important for consumers regarding the potential dangers or losses they may face when taking an action (Bhukya & Singh, 2015; Loh & Hassan, 2022), such as dining out or eating out. Preventive measures implemented by restaurants by maintaining cleanliness and implementing health protocols can help reduce the level of physical risk perceived by consumers (Liu & Tse, 2018). Consumers see that the restaurant has implemented reasonable measures to reduce customer concerns and reduce the potential for psychological risk (Matiza, 2022). These preventive measures ensure the restaurant environment is safe, ultimately building consumer confidence by reducing perceived psychological risk (Usman et al., 2024). Restaurant precautionary measures weaken perceived risk's negative impact on the intention to dine out. Restaurants that openly promote routine sanitation measures, staff temperature checks, and socially distanced seating arrangements can reassure consumers that the risks of dining out have been minimized (Zhong et al., 2021). The success of these precautionary measures also depends on how restaurants communicate these efforts to consumers to reduce perceived psychological risk (Abror et al., 2022). Effective use of digital marketing to demonstrate precautionary measures through social media or the restaurant's website can help reduce perceived risk even further. Consumers who receive clear and transparent information about precautionary measures will feel more comfortable and safer to dine out.

Apart from physical risks, perceived psychological risks include tourists' emotional concerns, such as anxiety or discomfort when deciding to eat out. Travelers may feel anxious about potential exposure to disease or doubts about the safety of restaurants, especially in a post-pandemic environment (Yeung & Yee, 2020). When perceived psychological risk is high, tourists tend to prefer takeaway or delivery options. However, restaurant precautionary measures, such as strict health protocols, sanitation of dining areas, checking staff temperatures, and transparent communication regarding these preventive

measures via social media or websites, can help reduce tourists' anxiety (Lepkowska-White et al., 2019). When tourists see that restaurants have taken action to minimize risks, their anxiety will decrease, increasing their intention to dine out. Precautionary measures, in this case, act as moderators that reduce the negative impact of perceived psychological risk on the intention to dine out (Zhong et al., 2021).

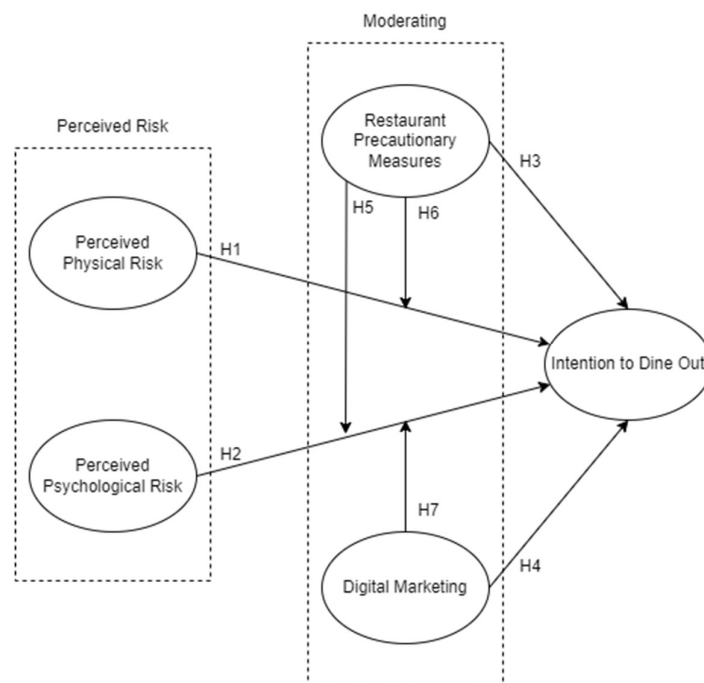
**Hypothesis H<sub>5</sub>:** *Perceived psychological risk influences intention to dine-out with precautionary measures as a moderator variable.*

**Hypothesis H<sub>6</sub>:** *Perceived physical risk influences intention to dine-out with precautionary measures as a moderator variable.*

### 2.5.5. Perceived psychological risk to intention to dine out with moderator digital marketing

Perceived psychological risk refers to the emotional or mental concerns that tourists feel related to the decision to dine out (Wei et al., 2021). Travelers may feel anxious about potential health risks, such as exposure to disease or discomfort in crowded situations (Ryu et al., 2023). When this psychological risk is perceived as high, tourists tend to postpone or even cancel their intention to dine out because they want to avoid situations that cause anxiety and discomfort. In upscale restaurants since the onset and spread of the pandemic, customer decisions regarding selection, satisfaction and behavioral intentions to dine out have changed by considering customer concerns regarding food consumption and arranging a series of new delivery methods to enable consistency of service and customer distance through online platforms (Seo et al., 2018; Bonfanti et al., 2023; Lo et al., 2024). However, in this case, digital marketing can play an important role as a moderator variable that can reduce the negative impact of perceived psychological risk on the intention to dine out (Singh et al., 2024). Home restaurants can effectively convey information regarding their safety measures through digital platforms such as social media, websites, emails, and online advertising (Poon & Tung, 2024). This information includes the cleaning protocols implemented, checking staff temperatures, sanitizing dining areas, and maintaining physical distance between customers (Liu & Tse, 2018). With clear and transparent communication through digital marketing strategies, tourists can feel safer and calmer because they see that the restaurant has invested in efforts to maintain the health and safety of customers (Choi, 2016). Digital marketing allows restaurants to interact personally and responsively with consumers, for example, through social media (Tarigan et al., 2022), where tourists can ask directly about the safety measures implemented (Lo et al., 2024). With quick and clear responses, restaurants can ease tourists' concerns about psychological risks (Yost & Cheng, 2021; Osman et al., 2024). Additionally, visual content such as pictures or videos showing the implementation of health protocols can further convince consumers that the home restaurant is a safe place to dine out (Abror et al., 2022). In other words, effective digital marketing helps convey promotional information, build consumer trust, and reduces their anxiety (Aljabari et al., 2024). When travelers feel heard and reassured through digital marketing content, their psychological concerns will decrease, and their intention to dine out will increase (Zhong et al., 2021). Therefore, the hypothesis that can be formulated is:

**Hypothesis H<sub>7</sub>:** *Perceived psychological risk influences intention to dine-out with digital marketing as a moderator variable.*



**Fig. 1.** Research conceptual model

### 3. Research Model

This research is quantitative, namely, the magnitude of the relationship between one variable and other variables (Fig. 1). Quantitative research focuses on objectivity and is appropriate when collecting measurable measures of variables and conclusions from a population sample is possible. Quantitative research adopts structured procedures and formal instruments for data collection. Data collection was carried out objectively and systematically. The primary data collected in the research was obtained directly from respondents. The research was conducted using a questionnaire given to respondents. Questionnaires are sent online with the help of Google Form software. Survey data collection via Google Forms to obtain data from tourist respondents from various countries and regions in Indonesia. The targeted population is in the age range of 17-45 years, where they use gadgets to fill in questionnaire data. The age range is classified into Generation Z tourists, represented by the age range 17-24 years, and Generation Y tourists, represented by the age range 25-45 years. Questionnaire data collection was carried out using convenience sampling. The researcher selected respondents based on whether they were easy to find and were willing to fill in online. Measurement items are assigned to each variable by first explaining the operational definition.

Perceived Physical Risk (PPSC) is a physical risk associated with providing products provided by home restaurants and can pose a danger to the health or safety of consumers. Measurement items by adopting Usman et al. (2024); Zhong et al. (2021) for Perceived Physical Risk (PPSC) is that eating at home restaurants is not safe for health (PPSC1), eating food at home restaurants can cause me poisoning (PPSC2), food at home restaurants is not nutritious to consume (PPSC3), eating at a home restaurant will increase the risk of exposure to disease when using eating utensils at the restaurant (PPSC4), and eating at a home restaurant presents a higher chance of being infected with the virus (PPSC5). The second variable, Perceived Psychological Risk (PPSY), is a feeling of discomfort or regret when purchasing a product or service, which consumers consider when making purchasing decisions. The measurement items used for Perceived Psychological Risk (PPSY) by adopting Matiza (2020); Zhong et al. (2021); Mejia (2024) are feelings of worry when eating at a home restaurant (PPSY1), feelings of discomfort when eating at a home restaurant (PPSY2), feelings of anxiety when eating at a restaurant at home (PPSY3), feeling nervous when eating at a home restaurant (PPSY4) and feeling depressed when eating at a home restaurant (PPSY5).

Restaurant Precautionary Measures (RPM) are actions or preventive steps taken to reduce or avoid risks that may occur in a situation in a home restaurant. Measurement items for Restaurant Precautionary Measures (RPM) were adopted from research by Zhong et al. (2021); Mejia (2024) namely home restaurants provide sanitary equipment on dining tables (RPM1), home restaurants provide spaced seating (RPM2), home restaurants provide proof that employees have been vaccinated against COVID-19 (RPM3), home restaurants use digital menus (RPM4) and home restaurants provide contactless payment (RPM5). Digital Marketing Strategies (DMS) is a marketing system that utilizes digital technology to reach consumers more effectively and widely. The measurement item used for Digital Marketing Strategies (DMS) is adopting research by Singh et al. (2024), namely, that content on food & beverage accounts on social media attracts attention (DMS1), interest when seeing Food & Beverage promotions on social media (DMS2), knowing the existence of a home restaurant from social media (DMS3), and getting the latest information from a home restaurant via social media (DMS4). Intention to dine out (IDN) is a consumer's desire or decision to eat at a home restaurant rather than cooking at home or using a food delivery service. The measurement items used for intention to dine out (IDN) adopt Wei et al. (2021); Choi (2016) research, namely planning to eat with friends and family at a home restaurant in the future (IDN1), recommended this restaurant to others (IDN2) and eating at a home-based restaurant in the future continuously (IDN3).

Data analysis in this research uses quantitative analysis using the Structural Equation Modeling (SEM) model. Data obtained from respondents was processed using smart PLS (Partial Least Square) software version 4.0. Using the SEM approach, it is necessary to evaluate the model's suitability with latent variables using assessment criteria for the measurement model (outer model) and structural model (inner model). The outer model is a measurement model to assess the validity and reliability of the model. The inner structural model is used to predict causal relationships between variables.

### 4. Data Analysis and Discussion

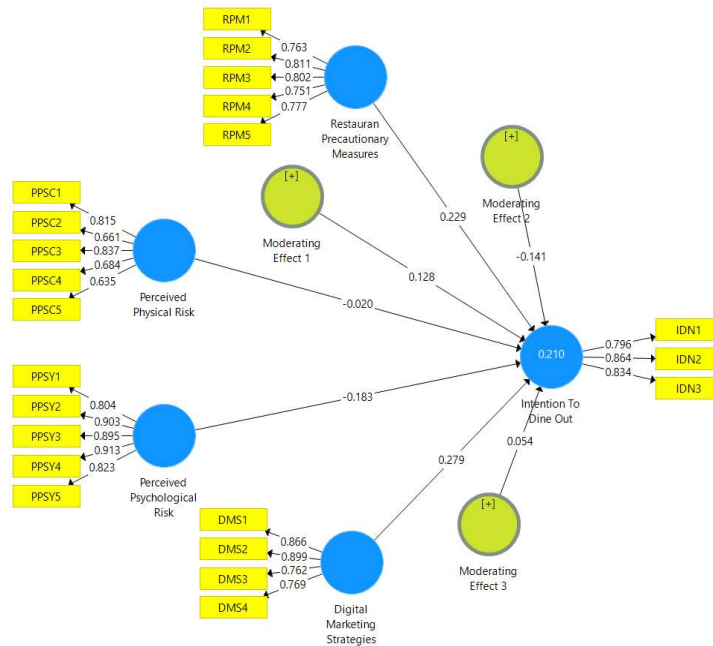
Distribution of questionnaires using the Google Form platform via email and social media such as Line, Instagram, and WhatsApp. Data was taken using questionnaires from respondents who had eaten at a home-based restaurant and wanted to return to eating. There were 143 respondents, 86 of whom were male (60.1%), and 57 (39.9%) were female. Respondents who had 4 or more other members at their residence were 53 people (37.1%), second were respondents who had 3 other members at their residence as many as 48 people (33.6%). Meanwhile, the lowest frequency number is 0 (living alone), and there is 1 number of other members living at the residence of 7 people each (4.9%). Research validity and reliability testing was carried out based on the results of the questionnaire distribution. The outer model is evaluated by testing its validity and reliability. Validity is tested by conducting a convergent validity test, expressed using the average value of the extracted variance (AVE) through the outer loading value. Reliability was tested using the composite reliability test and Cronbach's alpha with a minimum size of 0.7. The outer model test results are shown in Table 1.



**Table 1**  
Outer model test results and research description

Item of Research	Outer loading	Cronbach Alpha	Composite Reliability	Mean
<b>Perceived Physical Risk (PPSC), AVE = 0.534</b>		<b>0.800</b>	<b>0.850</b>	<b>2.922</b>
Eating at home-based restaurants is not safe for health (PPSC1)	0.762			2.489
Eating food at home-cooked restaurants can make me poisoned (PPSC2)	0.684			2.418
Food in-home restaurants is not nutritious to consume (PPSC3)	0.806			2.539
Eating at home restaurants will increase the risk of exposure to disease when using cutlery at home restaurants (PPSC4)	0.667			3.305
Eating at home-based restaurants poses a higher chance of being infected with the virus (PPSC5)	0.825			3.858
<b>Perceived Psychological Risk (PPSY), AVE = 0.755</b>		<b>0.920</b>	<b>0.939</b>	<b>2.439</b>
Feelings of worry when eating at home-based restaurants (PPSY1)	0.804			2.589
Feelings of discomfort when eating at a home-based restaurant (PPSY2)	0.903			2.504
Feelings of anxiety when eating at home-based restaurants (PPSY3)	0.895			2.461
Feeling nervous when eating at a home restaurant (PPSY4)	0.913			2.369
Feelings of pressure when eating at home restaurants (PPSY5)	0.823			2.270
<b>Restaurant Precautionary Measures (RPM), AVE = 0.610</b>		<b>0.840</b>	<b>0.886</b>	<b>4.447</b>
Home restaurants provide sanitary equipment on dining tables (RPM1)	0.763			4.610
Home restaurants provide spaced seating (RPM2)	0.811			4.525
Home restaurants provide proof that employees have been vaccinated (RPM3)	0.802			4.270
Home restaurants use digital menus (RPM4)	0.751			4.241
Home restaurants provide contactless payment (RPM5)	0.777			4.589
<b>Digital Marketing Strategies (DMS), AVE = 0.682</b>		<b>0.852</b>	<b>0.895</b>	<b>4.339</b>
Content on food & beverage accounts on social media attracts attention (DMS1)	0.866			4.362
Interested when seeing food & beverage promotions on social media (DMS2)	0.899			4.319
Knowing the existence of home restaurants from social media (DMS3)	0.762			4.312
Get the latest information from a home restaurant via social media (DMS4)	0.769			4.362
<b>Intention to Dine-Out (IDN), AVE = 0.692</b>		<b>0.777</b>	<b>0.871</b>	<b>4.078</b>
Plan to eat with friends and family at a home-based restaurant in the future (IDN1)	0.796			4.142
Recommended this home-based restaurant to others (IDN2)	0.864			3.972
Eating at a home-based restaurant in the future continuously (IDN3)	0.834			4.121

Based on Table 1, it was found that all measurement items in the Perceived Physical Risk (PPSC) variable obtained an average value of 2,922, Perceived Psychological Risk (PPSY) with a mean of 2,439, Restaurant Precautionary Measures (RPM) with a mean of 4,447, Digital Marketing Strategies (DMS ) 4.339, and intention to dine-out (IDN) with a mean of 4.078 was acceptable with the outer loading value of all research items and AVE greater than 0.500 so that the data validity test had been fulfilled. Reliability tests based on Cronbach Alpha and Composite Reliability values have met the requirements of being above 0.700 with Perceived Physical Risk (PPSC) values with Cronbach Alpha 0.800 and Composite Reliability 0.850, Perceived Psychological Risk (PPSY) with Cronbach Alpha 0.920 and Composite Reliability 0.939, Restaurant Precautionary Measures (RPM) with Cronbach Alpha 0.840 and Composite Reliability 0.886, Digital Marketing Strategies (DMS) Cronbach Alpha 0.852 and Composite Reliability 0.895, and Intention to dine-out (IDN) Cronbach Alpha 0.777 and Composite Reliability 0.871.



**Fig. 1.** Analysis of the full research model

**Table 2****Hypothesis test results in direct effect**

Uji Hypothesis	Path coefficient	T- Statistics	P-Values	Information
Perceived Physical Risk → Intention to Dine Out (H1)	-0.025	0.195	0.845	Rejected
Perceived Psychological Risk → Intention to Dine Out (H2)	-0.183	2.016	0.044	Accepted
Restaurant Precautionary Measures → Intention to Dine Out (H3)	0.229	2.611	0.009	Accepted
Digital Marketing Strategies → Intention to Dine Out (H4)	0.279	3.585	0.000	Accepted
Moderating Effect 1 → Intention to Dine Out (H5)	0.128	0.983	0.326	Rejected
Moderating Effect 2 → Intention to Dine Out (H6)	-0.141	0.948	0.344	Rejected
Moderating Effect 3 → Intention to Dine Out (H7)	0.054	0.684	0.494	Rejected

Based on Fig. 1 and Table 2, it is found that the first hypothesis test (H1) that has been determined is perceived physical risk on intention to dine out with a p-value of 0.845 and a t-statistic of 0.195, a path coefficient value of -0.025. The results of the first hypothesis show that perceived physical risk on intention to dine out does not significantly influence. Perceived physical risk, described by eating at a home-based restaurant as facing a higher possibility of being infected with the virus and eating at a home-based restaurant as unsafe for health, does not correlate with the intention to dine out for tourists. Home restaurants remain a reference for consumers, and recommended this home-based restaurant to others has the highest loading factor value in intention to dine out at 0.864. These results show that perceived physical risk does not impact consumers' intention to dine out. The research results support the results, which state that Perceived physical risk does not affect consumers' intention to dine out (Ryu et al., 2023; Zhong et al., 2021; Wei et al., 2021; Poon & Tung, 2024; Choi et al., 2013; Wang, 2015; Yeung & Yee, 2020).

The second hypothesis (H2) was tested with the influence of perceived psychological risk on the intention to dine out with a p-value of 0.044 and a t-statistic of 2.016, with a path coefficient value of -0.183. The results of the second hypothesis show that perceived psychological risk hurts the intention to dine out. Perceived psychological risk, described as feelings of discomfort and nervousness when eating at a home-based restaurant, impacts the intention to dine out. Eating at home restaurants managed by locals makes tourists feel psychologically worried when they intend to dine out. However, tourists still plan to eat with friends and family at home restaurants. The research results support the results, which state that perceived psychological risk negatively impacts the intention to dine out (Zhong et al., 2021; Yost & Cheng, 2021; Bonfanti et al., 2023; Lanciano et al., 2020; Matiza, 2022).

The third hypothesis (H3), namely restaurant precautionary measures on intention to dine out, has a p-value of 0.009 and a t-statistic of 2.611, with a path coefficient value of 0.229. The results of the third hypothesis (H3) show that restaurant precautionary measures have established certain steps to cover various actions to ensure consumer safety and comfort when intending to dine out. Restaurant precautionary measures, which home restaurants describe as providing spaced seating and proof that employees have been vaccinated, impact consumers' intention to dine out. This condition continuously makes consumers plan to eat with friends and family at home restaurants. The research results support the results, which state that restaurant precautionary measures affect increasing intention to dine out (Ryu et al., 2023; Zhong et al., 2021; Wei et al., 2021; Yost & Cheng, 2021; Abror et al., 2022; Choi, 2016; Mejia, 2024).

The fourth hypothesis (H4) is the influence of digital marketing strategies on intention to dine out with a P-value of 0.000. It has a t-statistic of 3.585 with a path coefficient value of 0.279. This shows that digital marketing strategies significantly influence the intention to dine out. Home restaurants can build a more personal and interactive relationship with customers according to customer needs for dine-out by providing clear and interesting information. Digital marketing strategies, which are described by consumers' interest in seeing food & beverage promotions on social media and content on food & beverage accounts at home restaurants that attract attention, can impact increasing intention to dine out. This can be seen by the plan to eat with friends and family at a home restaurant in the future every few weeks continuously. The research results support the results, which state that digital marketing strategies affect increasing intention to dine out (Poon & Tung, 2024; Yasa et al., 2024; Osman et al., 2024; Pacheco & Pacheco, 2024; Lo et al., 2024; Debas et al., 2021; Pan et al., 2022; Okumus et al., 2021; Ha et al., 2021; Singh et al., 2024; Liu & Tse, 2018).

The fifth hypothesis (H6) with the first moderator is perceived physical risk on intention to dine out with restaurant precautionary measures as a moderator variable with a P-value of 0.326 and a t-statistic of 0.983 with a path coefficient of 0.128. Restaurant precautionary measures are moderators that can influence the relationship between perceived physical risk and intention to dine out, but this is not proven. This shows that the steps taken by home restaurants make customers feel comfortable when doing dine-out activities. The perceived physical risk described by eating at a home-based restaurant poses a higher possibility of consumers being infected with the virus because the steps taken by home-based restaurants to provide spaced seating cannot increase the intention to dine out. In this condition, home restaurants should be able to show that preventive measures have been implemented properly so that consumers can be more confident that they will not be exposed to disease when they intend to dine out.

The fifth hypothesis (H5) with the second moderator, namely perceived psychological risk, influences the intention to dine out with restaurant precautionary measures as a moderator variable with a P-value of 0.344 and a t-statistic of 0.948 with a

path coefficient of -0.141. Restaurant precautionary measures act as moderator that can influence the relationship between perceived psychological risk and intention to dine out, but this has not been proven. This shows that the steps taken by home restaurants have resulted in consumers getting clear and transparent information regarding preventive measures and will feel more comfortable and safer when dining out is not yet optimal. In this condition, home restaurants should be able to communicate intensively with consumers to explain the steps that have been implemented so that consumers can understand that there is no feeling of worry when they intend to dine out.

The seventh hypothesis (H7) with the third moderator is perceived psychological risk on intention to dine out with a digital marketing moderator with a P-value of 0.494 and a t-statistic of 0.684 with a path coefficient of 0.054. This shows that home restaurants that can utilize digital marketing to communicate preventive measures and provide a convincing experience for tourists can eliminate perceived psychological risk. Perceived psychological risk, described as feelings of discomfort, nervousness, and anxiety when eating at home-based restaurants among tourists by providing contactless payment and distanced seating, is not able to impact increasing intention to dine out. The same happens in digital marketing strategies by getting the latest information from a home restaurant via social media and content on food & beverage accounts to attract consumers' attention. Still, it has not been able to increase the intention to dine out.

The research results show that perceived risk described by tourists as perceived physical and psychological risks cannot influence the intention to dine out with digital marketing strategies and restaurant precautionary measures as moderators. The results of the research have implications for home restaurants to provide places that must implement stricter health protocols, including providing sanitation equipment at dining tables, providing hot water for cutlery to make them more sterile, providing explanations that all employees of the home restaurant have been vaccinated, carrying out disinfecting tables or chairs when customers sit there, providing contactless payment facilities.

Home restaurant owners need to create content on social media that is more interesting, interactive, and informative. Social media with interesting content will attract the attention of tourists. The home restaurant needs to provide photos and videos related to the products and the environment of the home restaurant, which are packaged well (Alghizzawi et al., 2024). Content on social media also needs information, such as providing the location of the home-based restaurant. Home restaurants can display the products served at the home restaurant aesthetically (Pan et al., 2022). Comments given by tourists can be interpreted as a review of the home restaurant. Tourists can interact with other tourists on this social media platform. Indirectly, tourists will know what menus their favorites are in general, so the management or owner can continuously improve.

## 5. Conclusion

Home restaurants in tourist areas need to continue trying to design strategies to maintain business amidst conditions that are difficult to predict. Tourists' physical and psychological perceived risk plays an important role in influencing their intention to dine in. Perceived physical risk does not significantly impact tourists' intention to dine out because they are not too worried about being exposed to disease if adequate preventive measures have been implemented, so they feel safe. However, perceived psychological risk shows a stronger negative impact; the lower the psychological worry, the higher the tourist's intention to eat at a restaurant. Precautionary measures implemented by home restaurants and digital marketing strategies have a significant positive influence on tourists' intention to dine out. The more clearly restaurants communicate health and safety precautions via digital media, the more likely travelers will feel comfortable dining in. However, research also finds that perceived physical and psychological risks do not significantly impact when influenced by precautionary measures and digital marketing. In other words, although home restaurants implement digital prevention and promotion measures, these factors cannot completely reduce the negative impact of perceived physical and psychological risks. These results provide insight for home restaurant owners in tourist areas to pay attention to consumer risk perceptions and strengthen digital marketing strategies. Effective communication about products and services, especially safety measures, can help increase travelers' intention to dine-in. These findings also enrich consumer behavior theory and service science in the tourism context.

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