Transparency, authenticity and purchase intentions: Chinese independent restaurants

Abstract

**Purpose** – Drawing on signalling theory and focusing on independent restaurants, this research investigates how business signals (transparency information and exposure) affect business transparency, food authenticity, and ultimately purchase intentions.

**Design/methodology/approach** – Using a 2x2 between-subject experimental design, Study 1 examines the recipe and an internet-famous restaurant, and Study 2 assesses the food supply chain and a celebrity-owned restaurant. Analysis of covariance and PROCESS is used to analyse the data.

**Findings** – The results suggest that while revealing information on recipes and food supply chains positively affects business transparency, exposure has no significant impact. Additionally, secret recipes and revealed food supply chains contribute to higher food authenticity whilst being a celebrity owner or internet-famous restaurant negatively affects food authenticity.

**Research implications** – Restaurant managers must be strategic and selective about the kinds of business signals they wish to reveal to customers. Secret recipes lead to higher food authenticity; whereas the revealed recipes and revealed food supply chains elicit higher business transparency. Independent restaurants should not rely on celebrity owners or seek internet fame, as neither type of exposure contributes to transparency or authenticity.

**Originality** – This study advances the theoretical understanding of signalling theory relating to the determinants of transparency and food authenticity in a hospitality context. Contrary to previous studies, it reveals that exposure, as a transparency signal, has no impact on either business transparency or food authenticity. It extends knowledge and understanding of different types of independent restaurants, especially internet-famous restaurants.

**Keywords** Transparency information, Exposure, Transparency, Authenticity, Purchase intentions, Chinese independent restaurants

**Paper type** Research paper
1. Introduction
As the second-largest restaurant market in the world (Zhang et al., 2021), China offers a broad range of eating options to its domestic travellers, from street food to fine dining. Small, independently-owned restaurants dominate the restaurant market in China (Kim et al., 2020). Despite their economic significance, independent restaurants remain under-studied (Chen and Elston, 2013). The extant literature focuses mainly on chain restaurants (Lee et al., 2020) or iconic local restaurants (Leung et al., 2022), whereas limited research has addressed different types of independent restaurants, such as small, family-owned, internet-famous, and celebrity-owned restaurants.

The outbreak of COVID-19 wreaked havoc on the restaurant industry, not only from the effects of lockdown but also for fear of biological infections in food supply chains (Singh et al., 2021). Given these challenges, some food brands have revealed their recipes (Rohr, 2020) or food supply chains to survive and build resilience. In this study, such measures are regarded as transparency information. Customers are increasingly concerned about restaurant transparency and food authenticity (Busser and Shulga, 2019). Existing research focusing on food transparency (Kendall et al., 2019) and perceived authenticity (Kim and Song, 2020) in China has paid limited attention to different types of independent Chinese restaurants, limiting our understanding of how transparency information has influenced customers’ perceptions and behavioural intentions during the pandemic.

Business transparency cues may be effective in shaping customers’ perceptions and decision-making (Springer and Whittaker, 2018). In our study, transparency information and exposure are investigated as transparency cues. Information transparency refers to the extent to which corporate/product information is accessible and available to consumers (Zhu, 2004). Exposure
includes advertising exposure and exposure to features of companies that influence product evaluation and choice (Baumann et al., 2015).

The concept of transparency has been used extensively in business research (Parris et al., 2016) to examine green branding (Lin et al., 2017), marketing communications (Cambier and Poncin, 2020) and corporate social responsibility (Lee and Nam, 2021). It has also been applied to the hospitality industry, relating to brand loyalty and trust (Busser and Shulga, 2019) and leaders’ relational transparency (Gatling et al., 2017). Few studies, however, have addressed transparency cues (i.e., transparency information and exposure), business transparency and purchase intentions, and even fewer have examined different types of independent restaurants in China.

Authenticity, referring to something is genuine, is an essential driver of customers’ buying motivations (Kolar and Zabkar, 2010). As a vital characteristic of the overall dining experience, food authenticity may promote a distinctive identity and a differential competitive advantage (Weber et al., 2008): when food is more authentic, purchase intentions are perceived to be higher (Tsai and Lu, 2012). Authenticity has been widely studied in the hospitality industry, focusing mainly on local culture (Akhoondnejad et al., 2022), electronic word-of-mouth (Kim and Hwang, 2022) and the credibility of authenticity claims (Kim and Song, 2020). In contrast, the link between transparency and authenticity has rarely been researched (Busser and Shulga, 2019), and few studies have explored interrelationships between transparency cues, business transparency, food authenticity and purchase intentions in the context of emerging types of independent Chinese restaurants.

Signalling theory (Spence, 1973) explains information asymmetries between signaller and receiver (Bergh et al., 2014). Applying signalling theory in this study, the signallers are independent restaurants sending signals (transparency information and exposure) to signal
receivers (customers) to elicit feedback, for example on business transparency and food authenticity, and shape their behaviours (purchase intentions). Though it is related to comprehension of customer interactions and different types of independent restaurants, the literature on signalling theory lacks applications to Chinese hospitality contexts. Our two experiments investigate how customers use the signals of transparency information and exposure to judge independent restaurants and decide whether to purchase from them, in order to determine the distinct effects of signals on business transparency, food authenticity and purchase intentions.

There were three key reasons for conducting this study. First, transparency and authenticity have received some attention in hospitality settings (Busser and Shulga, 2019), but empirical evidence on the potential link between transparency information and business transparency is scarce (Holland et al., 2018). The hospitality literature reveals little relating to transparency information (revealed/secret recipes and revealed/secret food supply chains) and exposure (internet-famous/non-internet-famous restaurants and celebrity-owned/non-celebrity-owned restaurants), and their effect on business transparency, food authenticity and purchase intentions concerning independent Chinese restaurants. This study advances our knowledge by exploring impacts of the food supply chain during the COVID-19 pandemic, thus shedding new light on customers’ demand for transparency and authenticity in this specific dining context.

Second, this study contributes to the hospitality literature by comparing four types of independent restaurants (internet-famous, non-internet-famous, celebrity-owned and non-celebrity-owned), enriching the understanding of different types of independent restaurants in China. Lastly, our study provides theoretical insights into signalling theory by examining whether signals relating to transparency information and exposure sent out by independent restaurants effectively influence consumers’ perceptions (i.e., business transparency and food authenticity)
and behavioural intentions. This study fills a research gap by conceptualising a theory-based framework to investigate consumers’ intentions to purchase from different types of independent restaurants. It assesses the effects of transparency information and exposure on business transparency and food authenticity and determines how these factors influence consumers’ purchase intentions.

2. Literature review

2.1. Theoretical foundations

The signalling theory has four main components: signaller, signal, receiver, and feedback (Bergh et al., 2014). It can be used as a framework to explain how the signaller (seller) provides specific information to receivers (consumers), who give feedback in return for their perceptions, which affect their behavioural intentions (Song and Kim, 2022). The factors influencing behavioural intentions need to be examined (Kim et al., 2021; Soltani et al., 2021). Food authenticity can be evaluated from signalling cues offered by food producers (Martinez and Epelbaum, 2011), and business transparency can be assessed from signals about the food supply chains (Meijboom et al., 2006). Transparency refers to the extent to which a firm shares information with its stakeholders (Schnackenberg and Tomlinson, 2016), and perceptions of transparency are shaped largely by transparency cues (De Fine Licht, 2014). Thus, transparency cues can be regarded as signals disclosing information that may influence business transparency and food authenticity. In this study, the signals or transparency cues are transparency information (revealed/secret recipes and revealed/secret food supply chains) and exposure (internet-famous/non-internet-famous restaurants and celebrity-owned/non-celebrity-owned restaurants), which may influence restaurant transparency and food authenticity from customers’ perceptions, and thus shape their purchase intentions.
Signalling is considered to offer information that significantly influences receivers’ perceptions and behavioural intentions (Busser and Shulga, 2019). Therefore, signalling theory provides a framework for understanding how signalling balances information asymmetry between customers and independent restaurants. It has been widely applied to various settings, such as corporate governance (Bae et al., 2018), electronic word-of-mouth (Fan et al., 2021) and social sustainability (Thomas et al., 2021). Hospitality scholars have also applied this theory to examine visiting intentions (Aureliano-Silva et al., 2021), career retention (Chang and Busser, 2020) and corporate social responsibility (Koseoglu et al., 2021).

Busser and Shulga (2019) have used signalling theory to test relationships between various signal-related constructs, such as signal clarity (i.e., transparency), signal consistency (i.e., authenticity) and signal effectiveness (e.g., involvement, trust and loyalty), mainly to investigate the consequences of transparency and authenticity. The determinants of transparency and authenticity in hospitality contexts, however, have rarely been researched using signalling theory (Song and Kim, 2022). Furthermore, whether transparency cues may be effective signals of transparency and authenticity remains unaddressed, and little research has examined differences between types of signallers, such as different independent restaurants. This study uses the signals of transparency information and exposure to understand consumers’ perceptions of and behavioural intentions toward different types of Chinese independent restaurants.

2.2. Small family-owned, internet-famous, and celebrity-owned restaurants
Independent restaurants are generally individually owned and operated by families on a small scale (Lee et al., 2016). In the age of social media, it is easier than ever to become an internet-famous business in China (Denizci Guillet et al., 2016), which generates sales by monetising the atmosphere, experiential senses and consumers’ desire to document everything (Wong et al.,
2022). Internet-famous restaurants, also referred to as internet-celebrity or microcelebrity restaurants, achieve fame through mass exposure on the internet (Huang et al., 2021). Studies of internet-famous restaurants have focused mainly on overseas Chinese family businesses (Katila and Wahlbeck, 2012). Few studies have investigated small, family-owned and internet-famous restaurants in China.

Celebrity-owned restaurants are owned by entertainers (e.g., actors/actresses, musicians and models), and non-entertainers (e.g., athletes, politicians, and food personalities with a special love for food) (Zopiatis and Melanthiou, 2019). For celebrities, the appeal of owning a restaurant may relate to their wish to be connected with their fans and have profitable businesses (Singh and Pandey, 2017). Previous research has been limited to celebrities as endorsers, few studies have explored customers’ perceptions of and behavioural intentions toward celebrity-owned restaurants (Trivedi and Sama, 2021). The scope of this study is limited to independent celebrity-owned restaurants.

2.3. Transparency cues
2.3.1 Transparency information in Study 1: Secret versus revealed recipes
Restaurants’ recipes are proprietary trade secrets. They are information items with commercial value that restaurants want to conceal from their competitors to prevent duplication (Friedman et al., 1991). The best-loved restaurant recipes are generally kept secret; however, with so many people being forced to self-quarantine to combat the spread of COVID-19, some restaurants have started to release their secret recipes to the public (Henreckson, 2020), which may have implications for business transparency and food authenticity.
2.3.2 Exposure in Study 1: Internet-famous versus non-internet-famous restaurants
Small family-owned restaurants may enhance their reputation and become internet-famous by engaging in social media. To become more authentic and transparent, businesses might develop social media content (Sperbeck, 2021), but small family-owned restaurants may also depend on interpersonal word-of-mouth recommendations from long-term customers (Tian et al., 2018) and reflect traditional restaurant values (Zhang et al., 2021).

2.3.3 Transparency information in Study 2: Secret versus revealed food supply chains
Transparency information may lessen information asymmetry and customers’ perceptions of risk by offering additional evidence, for example on supply chains (McEachern, 2008). Food supply chains require particular care because food is vulnerable to variable quality and risk of contamination (Ling and Wahab, 2020), and they may create competitive value for businesses during the COVID-19 pandemic. For example, firms may use traceability information to develop and control their business processes and enhance consumer confidence (Bevilacqua et al., 2009).

2.3.4 Exposure in Study 2: Celebrity-owned versus non-celebrity-owned restaurants
Exposure to celebrities may impact individual fans’ levels of engagement (Becker, 2012). Celebrities who own restaurants use their fame to attract additional attention to restaurants (McGinnis and Glibkowski, 2019). Consequently, consumers’ perceptions of the celebrity are transferred to their restaurants through repeated exposure (Yang, 2018). Customers’ tastes may be shaped by advertising campaigns and their attitudes to the concept of celebrity branding (Jain and Roy, 2016). Keel and Natarajan (2012) find that non-celebrity branding may be more powerful than celebrity branding. Thus, it is important to examine the differences between celebrity- and
non-celebrity-owned restaurants’ influences on customers’ perceptions and behavioural intentions. The research framework for this study is shown in Figure 1.

(Insert Figure 1 here)

2.4. Hypothesis development
Demand for transparency information stems from increased awareness and mistrust (Wognum et al., 2011). Diners want to know what is in their food and where it came from, and restaurant operators have responded by making efforts to increase business transparency (Littman, 2020). The types of information that companies provide to their customers are a principal factor in perceived transparency (Rawlins, 2008). A series of food accidents in China have increased customers’ concern for detailed information on the food, including recipes, ingredients and the origins of raw materials. Thus, more transparent information is needed (Xu et al., 2014).

Customers now demand transparency in the food supply chain, which is important to vouchsafe food quality (Trienekens et al., 2012). Throughout the food supply chain, information revealed about food producers may ensure transparency (Astill et al., 2019; Trienekens et al., 2012). Thus, providing clear information about recipes and food supply chains may help determine business transparency. Therefore, the first two research hypotheses are:

H1a: Transparency information positively affects consumers’ perceptions of business transparency. Specifically, higher information transparency (e.g., revealed recipes) leads to higher business transparency (Study 1).

H1b: Transparency information positively affects consumers’ perceptions of business transparency. Specifically, higher information transparency (e.g., revealed food supply chains) leads to higher business transparency (Study 2).
Customers’ perceptions of the authenticity of a restaurant’s dish are enhanced if they can confirm that the recipes being used by the restaurant are accurate, traditional and based on old recipes (Lu and Fine, 1995). In addition, secret recipes, menus or ingredients help to enhance food authenticity (Foster, 2020), as these secrets are linked with originality, which is a key characteristic of authenticity (Liu and Mattila, 2015).

There has been an increase in transparency information about food supply chains, supported by methods to improve the traceability of aspects such as geographical origins and production methods that confirm food authenticity (Freitas et al., 2020). COVID-19 has raised concerns about the processing, distribution and retailing stages of non-local food supply chains (Christiansen, 2021), which may impact negatively on food authenticity (e.g., contaminated non-local food products). Hence, the following hypotheses are proposed:

H2a: Transparency information negatively influences consumers’ perceptions of food authenticity. Specifically, lower information transparency (e.g., secret recipes) leads to higher food authenticity (Study 1).

H2b: Transparency information negatively influences consumers’ perceptions of food authenticity. Specifically, lower information transparency (e.g., secret food supply chains) leads to higher food authenticity (Study 2).

According to signalling theory, information asymmetry can be reduced by signallers conveying information about themselves to receivers (Li et al., 2019). The internet has reduced information asymmetry (Klein et al., 2016), and information exposure is key to establishing transparency (Rawlins, 2008). The internet has also sparked a new era of openness and transparency between restaurants and their customers (Tapscott and Ticoll, 2003). Social media have become internet-famous restaurants’ most-used marketing vehicle, helping them to build a
positive corporate image by improving business transparency (Jones et al., 2009). Thus, high social media exposure may enhance some organisations’ business transparency (Fleetwood, 2019).

Celebrity-owned restaurants may achieve success through greater transparency (Ellett, 2011). As customers demand transparency and authenticity in food products offered by celebrity brands (DeLoatch, 2018), being transparent has become a promotional strategy (Adamson, 2020). McGinnis and Glibkowski (2019) indicate that celebrity-owned restaurants are perceived to be more transparent, leading to the following research hypotheses:

H3a: Exposure positively affects consumers’ perceptions of business transparency. Specifically, high exposure (e.g., internet-famous restaurants) leads to higher business transparency (Study 1).

H3b: Exposure positively affects consumers’ perceptions of business transparency. Specifically, high exposure (e.g., celebrity-owned restaurants) leads to higher business transparency (Study 2).

Internet-famous restaurants may have sought rapidly increased internet exposure to attract customer interest (Horng et al., 2013) and make quick money (Global Times, 2021), which infers a sense of low business authenticity (Moulard et al., 2021). Food authenticity is a dimension of restaurant/business authenticity (Chen et al., 2020). Thus, the high exposure of a restaurant may lead to its low food authenticity.

Celebrity brands must be profitable (Lindridge and Eagar, 2015), which may be perceived as less authentic (Kennedy et al., 2021), as customers expect the brand to entertain their needs rather than increase profits (Kadirov et al., 2014). In addition, over-exposure might weaken celebrity brands while making customers aware that they are less related to product authenticity and more
to the celebrity’s monetary benefits (Yang, 2018). Following this logic, the following hypotheses are proposed:

H4a: Exposure negatively influences consumers’ perceptions of food authenticity. Specifically, low exposure (e.g., non-internet-famous restaurants) leads to higher food authenticity (Study 1).

H4b: Exposure negatively influences consumers’ perceptions of food authenticity. Specifically, low exposure (e.g., non-celebrity-owned restaurants) leads to higher food authenticity (Study 2).

Customers prefer purchasing from firms with transparent business practices over buying from those without (Lafferty and Goldsmith, 1999). Business transparency positively influences purchase intentions (Lee and Nam, 2021). High food authenticity leads to higher purchase intentions, and this effect has been established in Chinese restaurants (Kim et al., 2020). Hence, the following hypotheses are proposed:

H5: Business transparency positively contributes to consumers’ purchase intentions. Particularly, when business transparency is higher, consumers’ purchase intentions are higher (Studies 1 & 2).

H6: Food authenticity positively contributes to consumers’ purchase intentions. Particularly, when food authenticity is higher, consumers’ purchase intentions are higher (Studies 1 & 2).

3. Methodology
3.1. Overview of Studies 1 and 2
We conducted a 2x2 experimental design in which participants were asked to imagine making a dining decision. In Study 1 we used recipes (secret versus revealed) to assess transparency information, and being an internet-famous restaurant (yes or no) to assess exposure. In Study 2 we
used the food supply chain (secret versus revealed) to assess transparency information, and being a celebrity-owned restaurant (yes or no) to assess exposure. We checked the robustness of the results using two independent restaurant contexts: a small, independent, family-owned snack bar in Study 1 and an independent restaurant of Chinese hotpot in Study 2. In Study 1, we used snowball sampling owing to a limited financial budget, while in Study 2 we adopted random sampling through an online marketing research company in China.

3.2. Study 1
We employed a 2 (transparency information: secret versus revealed recipe) x 2 (exposure: internet-famous versus non-internet-famous restaurant) between-subjects experimental design. Four experimental scenarios were developed for a dining condition with a small family-owned snack bar incorporating two independent variables (see Appendix 1). In addition to a scenario for each survey, we also measured the subjects’ evaluations of the restaurant presented in the scenarios, including three items on business transparency (Kang and Hustvedt, 2014), four items on food authenticity (Kim et al., 2020) and three items on purchase intentions (Song and Kim, 2022). Participants’ attitudes to small businesses (Chaabane et al., 2010) and demographic information were also obtained. We checked our manipulation control for the scenario using two items: 1) ‘the recipe was published in the media’ and 2) ‘the restaurant is internet-famous’. All items were measured on a seven-point Likert-type scale (1=’strongly agree’ to 7=’strongly disagree’). Reliability analysis in SPSS was implemented to generate the Cronbach’s alpha for each construct, and factor analysis in SPSS was conducted to produce factor loading for each item. The results are shown in Table 1.

(Insert Table 1 here)
Data were collected in November and December 2020 from Chinese adult residents via Qualtrics, using a snowball-sampling approach. Three authors on the research team sent the web link to their social networking sites in China, inviting potential participants to complete the questionnaire and share the link with others. When respondents clicked on the link, they were allocated at random to one condition among the four experimental scenarios. 207 valid responses were gathered, with a cell size of 45–58. Of the respondents, 67.1% were female, 30.9% were aged 36–40, and 59.9% had a bachelor’s degree. Nearly a third (31.9%) were professionals, and 30% had a personal monthly income of more than RMB 10,000 (approximately USD 1,547).

3.3. Study 2
In Study 2, we used a different context and designed other scenarios to verify the results of study 1. We employed a 2 (transparency information: secret versus revealed food supply chain) x 2 (exposure: celebrity- versus non-celebrity-owned restaurant) between-subjects experimental design. Experimental scenarios were developed of a dining condition with an independent restaurant of Chinese hotpot (see Appendix 1). Study 2 used the same constructs as Study 1. In addition, we included manipulation control checks for the scenario, using the items 1) ‘the owner of the hotpot restaurant revealed its food supply chain’ and 2) ‘the owner of this hotpot restaurant is a celebrity.’ The Cronbach’s alpha for each construct and factor loading for each item are shown in Table 1.

Data for Study 2 were collected in February 2021 via a reliable online marketing company in China (Song and Kim, 2022). A total of 180 subjects participated in Study 2, with cell sizes of 40–51. The participants were relatively young, with 53.9% of the sample in the age range 18–30. Females accounted for 53.9% of the sample, 83.9% had a bachelor’s degree, 43.3% were white-collar workers, and 33.9% had a personal monthly income of RMB 7,000–9,999 (approximately
USD 1,083–1,546). Young participants in this study earned relatively high monthly salaries because 43.3% of participants were white-collar workers. In China, particularly in major cities, young people aged around 30 are a key component of white-collar workers (Li, 2021). Most white-collar workers in China’s major cities earn RMB 8,000–11,000 a month (Daxue Consulting, 2020), which is a comparatively high salary.

4. Study 1 results

4.1. Manipulation check

Two independent variables were successfully manipulated. The mean value of ‘the recipe was published in the media’ was significantly higher under the revealed than under the secret recipe condition (M_{revealed recipe} = 4.64 > M_{secret recipe} = 2.20, t[205] = -10.532, p < 0.001), and the mean value of ‘the restaurant is internet-famous’ was statistically higher in the internet-famous than in the non-internet-famous restaurant situation (M_{yes} = 5.68 > M_{no} = 4.41, t[205] = 5.918, p < 0.000).

4.2. Effects of transparency information and exposure on business transparency and food authenticity

Since gender, age, occupation, education, income and attitude toward small businesses influence consumers’ perceptions of small businesses (Ronda et al., 2020; Kovács et al., 2014), all of these items were considered as control variables in this study. As shown in Table 2, consumers’ attitude toward small businesses affects their perceptions of food authenticity (F[1, 191] = 4.476, p < 0.001) and business transparency (F[1, 191] = 13.583, p < 0.001). Age also affects consumers’ perceptions of business transparency (F[1, 191] = 8.026, p < 0.01).

(Insert Table 2 here)
Transparency information has a main effect on business transparency ($F[1, 191]= 7.579, p<0.01$) and food authenticity ($F[1, 191]= 8.473, p<0.01$). Participants in the revealed recipe group ($M_{revealed \, \text{recipe}} = 4.634$) rated business transparency higher than those in the secret recipe group ($M_{secret \, \text{recipe}} = 4.244$), supporting H1a. In addition, participants in the secret recipe group ($M_{secret \, \text{recipe}} = 4.872$) scored food authenticity higher than those in the revealed recipe condition ($M_{revealed \, \text{recipe}} = 4.457$), supporting H2a.

Exposure has a main effect on consumers’ perceptions of business transparency ($F[1, 191] = 4.730, p<0.05$) and food authenticity ($F[1, 191] = 15.377, p<0.001$). In particular, participants in the non-internet-famous restaurant condition ($M_{no} = 4.589$) rated business transparency much higher than those in the internet-famous restaurant condition ($M_{yes} = 4.288$), disconfirming H3a. Similarly, participants in the non-internet-famous restaurant condition ($M_{no} = 4.938$) rated food authenticity much higher than those in the internet-famous restaurant condition ($M_{yes} = 4.391$), supporting H4a. These results show that being an internet-famous restaurant reduces perceptions of food authenticity and business transparency.

### 4.3. Relationship between business transparency, food authenticity and purchase intentions
We used Hayes’ (2013) PROCESS Model 4 to explore relationships between business transparency, food authenticity and purchase intentions. The control variables age, gender, education, job, income and attitude towards small businesses were included in the data analysis. The results in Table 3 demonstrate that business transparency is positively related to customers’ purchase intentions ($\beta = 0.2386, p<0.001$), confirming H5. Food authenticity is also positively correlated with purchase intentions ($\beta = 0.4610, p<0.001$), supporting H6. None of the control variables affects purchase intentions.
5. Study 2 results

5.1. Manipulation check
The manipulation control was successful. Participants in the revealed food supply group rated the question ‘the owner of the hotpot restaurant revealed its food supply’ significantly higher than those in the secret food supply group ($M_{\text{revealed food supply}} = 6.67 > M_{\text{secret food supply}} = 1.64$, $t[178] = 32.715, p < 0.001$). Participants in the celebrity owner condition scored the question ‘the owner of this hotpot restaurant is a celebrity’ statistically higher than those in the locally known owner condition ($M_{\text{celebrity}} = 6.67 > M_{\text{locally known person}} = 1.65$, $t[178] = 37.649, p < 0.001$).

5.2. Effects of transparency information and exposure on business transparency and food authenticity
Similar to Study 1, we included gender, age, occupation, education, income and attitude toward small businesses as control variables. As shown in Table 4, attitude towards small businesses affects consumers’ perceptions of food authenticity ($F[1, 170] = 14.029, p < 0.001$) and business transparency ($F[1, 170] = 10.179, p < 0.01$). Income also affects consumers’ perceptions of food authenticity ($F[1, 170] = 9.750, p < 0.01$).

Transparency information has a main effect on consumers’ perceptions of business transparency ($F[1, 170] = 77.504, p < 0.001$). Participants in the revealed food supply chain condition scored business transparency significantly higher than those in the secret food supply chain condition ($M_{\text{revealed food supply}} = 5.541 > M_{\text{secret food supply}} = 4.269$), supporting H1b. Transparency information also has a main effect on food authenticity ($F[1, 170] = 8.262, p < 0.01$). Specifically, participants rated food authenticity significantly higher in the revealed food supply chain condition.
than in the secret food supply chain condition ($M_{\text{revealed food supply}} = 5.035 > M_{\text{secret food supply}} = 4.648$); thus, H2b was rejected.

With regard to the main effect of exposure on food authenticity and business transparency, the results show that participants in the celebrity- and non-celebrity-owned restaurant conditions rated business transparency similarly ($M_{\text{celebrity-owned}} = 4.858$, $M_{\text{non-celebrity-owned}} = 4.952$, $F[1, 170] = 0.396$, $p = 0.530$). Thus, H3b was rejected. In addition, subjects in the non-celebrity-owned restaurant condition assessed food authenticity significantly higher than those in the celebrity-owned restaurant condition ($M_{\text{non-celebrity-owned}} = 5.081 > M_{\text{celebrity-owned}} = 4.603$, $F[1, 170] = 11.919$, $p < 0.01$), supporting H4b.

5.3. Relationship between business transparency, food authenticity and purchase intentions
Hayes’ (2013) PROCESS Model 4 was utilised to explore relationships between business transparency, food authenticity and purchase intentions, using age, gender, education, job, income and attitude towards small businesses as control variables. The results in Table 5 show that business transparency ($\beta = 0.2705$, $p < 0.001$) and food authenticity ($\beta = 0.1794$, $p < 0.001$) are positively associated with purchase intentions, confirming H5 and H6. The control variable attitude towards small businesses also influences purchase intentions ($\beta = 0.2147$, $p < 0.001$).

(Insert Table 5 here)

6. Conclusion and discussion
This study aims to investigate the impacts of transparency information and exposure on business transparency, food authenticity, and purchase intentions towards different types of independent Chinese restaurants. In the two experiments, we found that transparency information relating to recipes and food supply chains positively affects business transparency, with the revealed recipe
and revealed food supply chain eliciting higher business transparency (H1a and H1b). In other words, when customers perceive that restaurants are providing more information on recipes and food supply chains, they are more likely to perceive the restaurants as transparent. These findings corroborate the result of a previous study (Holland et al., 2018).

With regard to the relationship between transparency information and food authenticity, the results indicate that secret recipes lead to higher food authenticity (H2a). Consistent with a previous study (Groves, 2001), incorporating ‘secret ingredients’ into a recipe may be viewed as demonstrating a dish’s uniqueness, which is highly associated with food authenticity. Secrecy about the food supply chain, however, does not lead to higher food authenticity (H2b). One plausible explanation is that customers demand traceability in the food supply chain as evidence of food safety and authenticity to avoid food fraud (Freitas et al., 2020). Secrecy in the food supply chain appears to have a negative influence on food authenticity. Therefore, H1a, H1b and H2a are accepted, while H2b is rejected.

The analysis reveals several interesting points not raised in previous studies. In both experiments (i.e., in the contexts of both internet-famous and celebrity-owned restaurants), the study shows that high exposure does not lead to higher consumer perceptions of business transparency (H3a and H3b). These results contradict previous findings of positive associations between internet-famous restaurants and business transparency, and between celebrity-owned restaurants and business transparency (Fleetwood, 2019; McGinnis and Glibkowski, 2019). For example, some firms’ social media exposure may influence business transparency (Fleetwood, 2019), and celebrity brands may achieve success through transparency (McGinnis and Glibkowski, 2019). Internet-famous restaurants, however, are a relatively recent development, which raises many problems (Huang et al., 2021).
Unsurprisingly, problems such as serving diners spoiled ingredients, re-using leftovers from customers and ghost kitchens have occurred with the rapid proliferation of internet-famous restaurants, as quality control capabilities are lagging in China (Global Time, 2021). For example, concerns have been raised about insufficient regulations and food safety with ghost kitchens, which do not have a physical storefront and provide online delivery and takeout for designated areas (Li et al., 2020). Customers complain that these kinds of restaurants often lack transparency (Littman, 2020).

The results shed light on the impact of social media exposure by highlighting the importance of transparency in providing consumers with real content for internet-famous restaurants. With regard to celebrity-owned restaurants, many are transient, relying on marketing appeal (Barnes, 2010); thus, their greatest concern tends to be how to maintain constant exposure (McGinnis and Glibkowski, 2019). However, celebrities have been criticised for using their ventures for promotion purposes, rather than for making great food (Zopiatis and Melanthiou, 2019). This may explain why celebrity-owned restaurants were considered less transparent by the respondents in this study. Hence, H3a and H3b are rejected.

As hypothesised, the findings show that exposure negatively influences consumers’ perceptions of food authenticity (H4a and H4b). More specifically, lower exposure, as with non-internet-famous restaurants and non-celebrity-owned restaurants, leads to higher food authenticity. Taken together, customers judge restaurants by their food rather than their social media exposure or celebrity fame. Customers may pay to see a celebrity and snap a selfie with a famous face, but the celebrity is likely to be elsewhere, meaning that customers miss out on half the experience (Hoeffner, 2017), which may influence their perceptions of celebrity-owned restaurants. This finding is supported by Moulard et al. (2021), who argue that commercialisation hinders
authenticity and that non-celebrity-owned restaurants are positively associated with food authenticity (Kennedy et al., 2021). Hence, H4a and H4b are accepted.

The findings also confirm that business transparency and food authenticity contribute positively to consumers’ purchase intentions. For example, consistent with Lee and Nam (2021), our study shows that higher business transparency significantly enhances consumers’ willingness to purchase. In addition, our two experiments support previous studies (Kim and Song, 2020, Kim et al., 2020) in showing that authentic food in restaurants enhances consumers’ visiting intentions. These results contribute to the notion of business transparency and food authenticity in different types of independent restaurants. Thus, H5 and H6 are accepted.

6.1. Theoretical implications
This research makes five key theoretical contributions. First, signalling theory is broadly cited in the business discipline, but has only recently emerged in the tourism and hospitality literature, and mainly focused on the consequences of transparency and authenticity (Busser and Shulga, 2019) and determinants of authenticity such as brand heritage and credibility as signals (Kim and Song, 2020; Song and Kim, 2022). However, no previous studies have identified the effect of transparency cues or signals on business transparency and food authenticity in general. Whether transparency cues, such as transparency information and exposure, may be signals from which to infer transparency and authenticity remains unaddressed in the existing literature. Our research fills this gap by drawing on signalling theory to examine whether different types of independent restaurants can effectively send signals that affect consumers’ perceptions and behavioural intentions.

Second, this study advances the understanding of transparency in both hospitality and non-hospitality contexts. It responds to a call for research by a non-hospitality study (Holland et al.,
2018) on how transparency information contributes to the formation of business transparency. Unlike Busser and Shulga (2019), who focus on transparency as an antecedent of brand loyalty, our study offers a theoretical understanding of the contribution of transparency information and exposure to business transparency. We confirm a previous study in finding that transparency information gives rise to business transparency (Holland et al., 2018).

In addition, exposure levels do not affect the formation of business transparency. Most previous studies find that social media exposure and celebrity brands have positive effects on business transparency (Fleetwood, 2019; McGinnis and Glibkowski, 2019). However, both internet-famous and celebrity-owned restaurants in China have recently suffered food safety issues (Global Time, 2021). As a relatively recent development in China, internet-famous restaurants are insufficiently regulated, and most celebrities treat themselves as money machines, without protecting their reputations (Global Time, 2021). Consumers may therefore perceive them as lacking transparency (Littman, 2020). As a result, we find that high exposure does not lead to higher business transparency. Previous studies on different types of independent restaurants in China have not examined their business transparency during the COVID-19 pandemic. Thus, our findings on different types of independent Chinese restaurants contribute new knowledge to the literature.

Third, this study expands knowledge relating to food authenticity. Previous studies of food authenticity have focused predominantly on comparing private social dining to restaurants (Lin et al., 2022), comparison between Fijian restaurants and Italian restaurants (Sharma et al., 2022), the mid-scale types of restaurants (Rodriguez-López et al., 2020), and ethnic restaurants (Song et al., 2019), rather than on more general outlets, such as small independent restaurants. Our study makes
a theoretical contribution by providing a clear understanding of food authenticity in different types of small independent restaurants.

Fourth, our study reveals a link between transparency cues and food authenticity. Although previous studies have identified multiple antecedents of food authenticity (Kim and Song, 2020; Song et al., 2019), transparency cues, as potential antecedents, are ignored in the existing literature. Our study demonstrates that certain transparency information, such as secret recipes, may affect consumers’ perceptions of food authenticity. Thus, the non-exposure of non-internet-famous and non-celebrity-owned restaurants may contribute significantly to food authenticity.

Lastly, this study examines two types of exposure (internet-famous and celebrity-owned restaurants) and two pieces of transparency information (recipes and food supply chains) to better explain the effect of transparency cues on consumers’ perceptions and their resulting behavioural intentions. Responding to Huang et al.’s (2021) call for a cross-sectional comparison of ordinary and micro-celebrity restaurants, our study contributes new knowledge on celebrity-owned restaurants.

6.2. Practical implications
This study offers unique insights into Chinese independent restaurants that will inform both restaurant managers and investors. First, restaurant managers must be strategic and selective in deciding on the kinds of business signals they wish to send to customers. For example, higher levels of revealed recipes and transparency in the food supply chains lead to higher business transparency and revealing the food supply chain leads to higher food authenticity whereas revealing recipes does not. Consumers rely on secret recipes in forming their perceptions of higher food authenticity, and independent restaurants may seek to keep their secret recipes owing to concern for a possible loss of competitiveness (Westerkamp et al., 2019). Our finding suggests
that prospective independent restaurants should maintain their ‘secret recipes’ appeal to create high food authenticity, and should focus their transparency and authenticity efforts on the revealed food supply chains.

During the COVID-19 pandemic, health and safety have become a priority for consumers, meaning that firms need to expose information more explicitly. About food safety, quality and visibility, restaurants should inform customers about who produces their products, what is in them, and when and where they are produced (Aung and Chang, 2014), with transparent and authentic processes. A combination of secret recipes and transparent supply chains will help small independent restaurants to achieve authenticity and transparency.

Our study also suggests that being a celebrity-owned or internet-famous restaurant does not guarantee success, and does not enhance perceptions of transparency or food authenticity. However, being non-celebrity-owned or non-internet-famous does contribute to food authenticity. This finding suggests that diners at small independent restaurants are rational decision-makers, and that stardom or social media exposure is insufficient to convince them to visit a restaurant. Celebrity owners have been derogatorily called ‘ready-made bobblehead personalities’ for marketing rather than producing real food (Zopiatis and Melanthiou, 2019). Therefore, to survive and prosper, both celebrity-owned and internet-famous restaurants must devote more effort to product quality, such as offering better food, an appealing dining atmosphere, and superior customer service, rather than focusing on social media exposure or celebrity fame.

6.3. Limitations and future research

A scenario-based experimental design was used in this study, and the results may differ from those obtained in real-life situations. Although currently hindered by the COVID-19 pandemic and travel restrictions, field studies in the future to collect data in China, potentially in collaboration with a
local university, could be used to verify the results of our study. Further studies should carry out alternative analyses, for example in different regions or sites, which might increase the generalisability of the findings and reveal further insights into independent restaurant owners’ decision-making. Another limitation is that our two experiments were conducted in the period from November to December 2020 and in February 2021 as well when there were small numbers of new COVID cases in China. However, the COVID-19 situation in China turned quite severe in April 2022. As the severity of COVID-19 conditions affects consumers’ risk perception of dining outside (Song et al., 2022), future scholars should consider the COVID-19 severity as a control variable while doing research.
References


Appendix 1:

Scenarios in Study 1:
Please imagine that you are in the following situation. You are touring a domestic city and would like to taste some local food. You find a small family-owned restaurant (e.g., noodle bar, breakfast shop, snack bar, dumpling shop, wonton shop, etc.). The owners in a media interview revealed the recipes for the signature dishes. Everyone who wants to learn to make the signature dishes can obtain the recipes. (The owners in a media interview mentioned that they use “secret” recipes passed down from the previous generation. Only the owners know the recipes for the signature dishes). This is an “internet-famous restaurant”. Many customers from other cities visit the restaurant, take pictures, and share them on the internet and via social media. (This is not an “internet-famous restaurant”. Customers are mainly locals who are influenced by other locals.)

Scenarios in Study 2:
Please imagine that you are in the following situation. You are touring a domestic city and would like to have a meal. You find an independent restaurant of Chinese hotpot. In a media interview, the owner of the independent restaurant of Chinese hotpot revealed the name and address of the food supplier. All materials—such as beef, lamb, seafood, vegetables, fruits, spices, and sauces—can be obtained by the general public. (In a media interview, the owner of the independent restaurant of Chinese hotpot kept the name and address of the food supplier confidential. Only the purchasing department of this independent restaurant knows how to obtain materials such as beef, lamb, seafood, vegetables, fruits, spices, and sauces.) The owner of this independent restaurant of Chinese hotpot is a celebrity, attracting numerous fans to eat here. (The owner of this independent restaurant of Chinese hotpot is known only to residents in the domestic city. Customers are mainly locals.)
Figure 1. Conceptual framework
### Table 1: Measurements and Reliability.

<table>
<thead>
<tr>
<th>Constructs and Measurement Items</th>
<th>Study 1 Factor loading</th>
<th>Cronbach's alpha</th>
<th>Study 2 Factor loading</th>
<th>Cronbach's alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Business transparency</strong> <em>(Kang and Hustvedt, 2014)</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I believe this restaurant doesn’t have anything to hide.</td>
<td>.805</td>
<td>.797</td>
<td></td>
<td></td>
</tr>
<tr>
<td>This restaurant is honest and reliable in terms of cooking food.</td>
<td>.794</td>
<td>.687</td>
<td></td>
<td></td>
</tr>
<tr>
<td>This restaurant is honest and sincere to its customers.</td>
<td>.772</td>
<td>.634</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Food authenticity</strong> <em>(Kim et al., 2020)</em></td>
<td></td>
<td>.805</td>
<td>.764</td>
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</tr>
<tr>
<td>I perceived the food in this restaurant is authentic Chinese food</td>
<td>.636</td>
<td>.663</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The food in this restaurant is authentic local food</td>
<td>.733</td>
<td>.820</td>
<td></td>
<td></td>
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<tr>
<td>The food ingredients, produced in the local region, in this restaurant are authentic</td>
<td>.714</td>
<td>.791</td>
<td></td>
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</tr>
<tr>
<td>The authentic food in this restaurant makes me feel connected to the old days of China</td>
<td>.809</td>
<td>.649</td>
<td></td>
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<tr>
<td><strong>Purchase intentions</strong> <em>(Song and Kim, 2022)</em></td>
<td>.862</td>
<td>.745</td>
<td></td>
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<tr>
<td>I would like to dine in this restaurant</td>
<td>.850</td>
<td>.854</td>
<td></td>
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<tr>
<td>I will choose to go to this restaurant rather than others</td>
<td>.853</td>
<td>.656</td>
<td></td>
<td></td>
</tr>
<tr>
<td>This restaurant would be my first choice compared with other independent restaurants</td>
<td>.739</td>
<td>.747</td>
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Table 2: Summary of the ANCOVA Results in Study 1

<table>
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<th>Independent variables</th>
<th>Business transparency</th>
<th>Food authenticity</th>
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<tr>
<td></td>
<td>$F$</td>
<td>$p$</td>
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<tr>
<td>Transparency information</td>
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<td>Exposure</td>
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<tr>
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<tr>
<td>Gender</td>
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<td>.814</td>
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<tr>
<td>Education</td>
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<td>.200</td>
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<td>Job</td>
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<td>.510</td>
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<tr>
<td>Income</td>
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<tr>
<td>Attitude toward small businesses</td>
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Table 3: Relationship between business transparency, food authenticity, and purchase intentions in Study 1

<table>
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<th>Purchase intentions</th>
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Table 4: Summary of the ANCOVA Results in Study 2

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<td>.276 .600 .002</td>
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<tr>
<td>Control variables</td>
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<tr>
<td>Age</td>
<td>.016 .900 .000</td>
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<td>Gender</td>
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<td>Education</td>
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Table 5: Relationship between business transparency, food authenticity, and purchase intentions in Study 2

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<tr>
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