Understanding the role of food sustainability as a strategic value driver in hotel industry: an Italian perspective

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Introduction

The concept of business sustainability has received considerable attention from both practitioners and academicians in recent times and the concerns related to environmental protection have brought changes in consumer demands and behaviors (Mendleson and Polonsky, 1995; Ottman, 1992). In that context the supply-side of the tourism industry is making effort to adopt sustainable practices (Griffin and Delacey, 2003; Zimmer et al., 1994;) and, gradually, going green is believed to be an effective competitive frame in the hospitality industry (Han et al., 2009; Manaktola and Jauhari, 2007; Wolfe and Shanklin, 2001).

As a result, a critical challenge for hotels is to gain a better understanding of current and potential customers desire and intention for green consumption (Han et al., 2009). Within that scenario, attempts have been made in investigating tourists perceptions of environmentally responsible practices implemented by tourism businesses (Andereck, 2009), in examining how responsible purchasing might influence tourism product purchasing (Chafe, 2007) and in exploring relationships between consumers sustainable purchasing practices and their related attitudes towards purchasing a tourist product (Pereira et al., 2012).

Despite some research efforts have been focused in examining different sustainable practices such as recycling programs, architectural design and construction sensitive to both the local culture and environment, alternative energy usage (Griffin and Delacey, 2003; Mehta et al., 2002), the topic of food sustainability remains largely unexplored in hospitality, although the phenomenon seems to be highly relevant considering the experiential nature of the services and the products offered in the industry.

This study aims to address this omission. In fact, food can play a vital role in delivering green services to customers (Jang et al., 2011). Generally the term *green* is alternatively known as eco-friendly, environmentally friendly or sustainable (Han et al, 2009; Pizam, 2009; Laroche et al, 2001) and, especially in the restaurant industry, the term *green food* has come to mean organic, local and sustainable food (LaVecchia, 2008), even though an accepted and organizational definition is currently missing (Jang et al., 2011). However, following LaVecchia (2008), it is safe to assume that the concept of *green food* embedded three main elements: organic farming, locally grown and environmental sustainability.

Organic farming, as described in the EU regulation on organic production, entails *significant restrictions in the use of fertilizers and pesticides which may have detrimental effects on the environment of result in the presence of residues in agricultural produce* (Roddy et al., 1994). In addition, according to the definition given by Hu et al. (2010), organic agriculture prohibits the use of toxic synthetic pesticides and fertilizers, irradiation, sewage sludge and genetic engineering.

Despite no generally agreed or widely adopted definition, the locally grown food is seen to be produced and consumed within a particular geographical area, reducing the amount of pollution associated with transportation primarily by fossil fuels (Hu et al., 2010).

Moreover, environmental sustainable food supports the long-term maintenance of ecosystems and agriculture for future generations (Hu et al., 2010) and it does not cause significant environmental damage (Jones et al., 2004).

Starting from the previously mentioned all-embracing definition, this study aims to explore the impact of green food on consumers purchase attitudes toward a hotel stay and on consumers behavioural intentions (i.e.: intention to visit, intention to offer positive recommendations to others and willingness to pay a premium), focusing on an Italian perspective where the food is a relevant and worldwide famous culture s element.

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In the following section, the theoretical background of this research is reviewed and research hypothesis presented. This paper then develops an empirical survey that test the hypothesis. The conclusion and managerial implications of the results are also discussed.

Literature review and hypotheses

2.1. The food sustainability in the hospitality literature

To the authors' knowledge, in the existing tourism sustainable literature there have been few initiatives in exploring the topic of green food. Attempts have been made in investigating the impact of organic food, together with other sustainable practices, on hotel guests' behavioural intention (Han et al., 2011) and in examining how hotel sustainable effort related to food – together with other sustainable practices- might affect consumers selection decision, consumptive experience and post-consumptive experience (Chen, 2015). In particular Han et al. (2011) found out that organic food together with environmental practices focused on water, energy and waste minimizing had a positive impact on word-of-mouth and visit intentions. Also the results found by Chen (2015) showed that the most significant attributes in the selection of eco-friendly lodging were the level of implementation of recycle programs followed by locally grown food options. Moreover Lee et al. (2010) emphasized that cognitive image components related on food (i.e.: restaurant in a green hotel offer fresh and healthful food), together with other sustainable practices, could exert a positive influence on a green hotel's affective and overall image, that in turn, could contribute to more favourable behavioural intentions.

Other attempts have been made to investigate the relationships between consumers' sustainable purchasing practices and their related attitudes towards purchasing a tourist product (Pereira et al., 2012). This study, based on a cross-cultural perspective, pointed out that although sustainability held a stronger position in relation to vacation products, the importance of organically-grown products and the place of origin was ranked at a low level by the sample interviewed compared to other elements such as the use of environmental friendly practices, price and brand name.

Moreover Hsieh (2012) analyzed the environmental management policies and practices of the top 50 hotel companies listed in *Hotels* (2009) as disclosed on their corporate web site, employing content analysis to review the web sites. Results showed that comparing to the major environmental focus areas in which the sample hotels engaged, the green food was ranked in the last position among the components of environmental endeavor and frequency.

Due to these contrasting findings and to the scarce literature that exclusively explores green food in hospitality, the topic requires an in-depth and detailed analysis. In fact, the importance of the research is underscored by the rapid growth of organic and sustainable food and beverage industry (Kim et al., 2013). As Lee et al. (2010) stated the sales revenue of organic food has been rapidly growing, since consumers perceive that this product group directly benefits them by offering nutritional and health advantages.

2.2. Consumers' beliefs and purchasing attitudes toward green food

Beliefs about a concept have a significant and direct impact upon an individual's attitude toward that concept (Fishbein, 1963; Fishbein and Raven, 1962). While beliefs are held to be a cognitively derived structure, attitudes are considered to be affective and evaluative in nature (Fishbein, 1963). In fact, attitudes are classically defined as a function of an individual's "beliefs about the object and the evaluative aspect of those beliefs" (Fishbein, 1963). In more recent time, also Ajzen (2011) noted that attitudes toward an object flow naturally and automatically from an individual's beliefs regarding the associated object. In that scenario, beliefs are key components in the formation of attitudes.

Within hospitality literature, when consumers believe that green consumption decisions will benefit themselves, others and/or the environment, they are much more likely to act in an environmentally responsible manner (Huang et al., 2014; Han et al., 2010; Laroche et al, 2001). In that context, a number of studies mainly focused on food industry indicate that favorable perceptions toward organic products positively influence consumer attitudes and behavioral intentions (Tsai and Tsai, 2008; Shepherd et al., 2005; Laroche et al., 2001).

Therefore, environmental concern are positively related to consumers intention to purchase green products (Han et al., 2009; Manaktola et al., 2007; Mostafa 2007; Laroche et al., 2001). Such environmental awareness generates a positive attitude toward eco-friendly activities and encourages people to more frequently engage in ecological behaviors in their everyday lives (Kalafatis et al., 1999; Laroche et al., 2001).

Despite a number of studies emphasized also a gap between consumer beliefs and green purchasing attitudes (i.e. Litvin, 1996), this research supports the notion of the positive correlation between beliefs and purchase attitudes, following the most prominent stream of literature (Han et al., 2009; Manaktola et al., 2007; Mostafa 2007; Laroche et al., 2001). Therefore the following hypothesis is proposed:

HP1: Consumer beliefs of green food attributes have a positive impact on general purchase attitudes toward green food.

In order to conceptualize beliefs toward green food, this study adopts the framework proposed by Lockie et al. (2002) through exploring health, sensory and environmental benefits as important attributes in the selection of green food.

In fact consumers often perceive organic products as representing an environmentally friendly mode of production as well as having certain intrinsic quality and safety characteristics (Vindigni et al., 2002). Generally, the motivation to purchase organic food is driven by health concern, environmental concern, sensory properties, food safety and ethical concerns (Magnusson et al., 2003; Baker et al., 2004; Lockie et al., 2004).

Although health concern is found to be the primary motive to select organic food (Magnusson et al., 2003; Chen, 2009), there are studies that underline cross-cultural differences: consumers in Danemark and Germany attach more value to environmental protection than consumers in Italy (Wier et al., 2008; Zanoli et al., 2002), while taste is the main motive to buy organic food in Italy and Sweden (Zanoli et al., 2004). Also Biemans et al. (2011) found that sensory factors were the most important motives for food choice in Poland.

2.3 Consumers purchase attitudes toward green food in hotel industry

This research aims to investigate whether or not consumers attitudes embody the same considerations of sustainability for daily purchases as they do for the hotel stays they buy.

In that context, although it is reasonable to expect individuals who behave environmentally consciously at home will also do so in a hotel setting, few studies investigate this empirically (Dolnicar and Leisch, 2008). Moreover, while pro-environmental behavior in household settings has been studied extensively, research in hospitality settings is limited (Miao et al., 2013).

The most commonly studied pro-environmental behavior in hotel settings is the reuse of towels or linens (e.g.: Goldstein et al., 2008; Shang et al., 2010).

Prior researches seem to suggest that pro-environmental behavior is more pervasive in household activities while such behavior in a hotel setting is contingent on factors such as personal comfort, convenience and cost (Miao et al., 2013).

Adopting a different lens, Pereira et al. (2012) emphasized that those who recognized the importance of sustainability regarding daily purchases, also tended to recognize the importance of purchasing sustainable vacation products. Moreover the authors stated also that sustainability held a stronger position in relation to vacation products.

To the authors knowledge, no research efforts have focused on examining the topic of green food in an in-depth way, so the following hypothesis is proposed:

HP2: General purchase attitudes toward green food positively impact purchase attitudes toward a hotel that offers green food.

2.4 Consumers behavioural intentions toward green food in hotel industry

The link between attitude and behavioral intention has been robustly demonstrated and it continues to be explored in the consumer behavior literature. The Theory of Planned Behaviour (Ajzen and Fishbein, 1980; Han and Kim, 2010) postulates that individual s behavioral intentions are a function of, among other things, his attitude toward the behavior. Likewise, according to the Theory of Planned Behaviour, attitudes are antecedents to behavioral intentions (Ajzen and Fishbein, 1980; Han and Kim, 2010), while beliefs represent immediate precursor of attitudes (Ajzen, 1991; Fishbein and Ajzen, 1975), as mentioned in the previous paragraph.

Basing on Ajzen s (1991) Theory of Planned Behavior, a number of studies have employed attitudes to predict consumers behavioral intentions toward green hotels and restaurants (e.g., Chen and Tung, 2014; Kim et al., 2013; Teng et al., 2013; Han et al., 2010; Han and Kim, 2010). Moreover, within the hospitality literature, consumers attitude toward green hotels/restaurants is among the key determinant of hotel customers eco-friendly choices and behaviors (Baker et al.,2014; Han et al., 2009; Manaktola and Jauhari, 2007). In addition, recently this framework has been extensively used in the hospitality literature to explain and predict consumers intentions to engage in green behavior, such as selecting green hotels (Line et al., 2015).

Researchers generally agreed that behavioural intentions are identified in the likelihood to conduct a specific behaviour (e.g. Ajzen, 1991). According to Zeithaml et al. (1996), such likelihood to perform a purchasing behavior correspond to the following favorable/unfavorable behavioural intentions: the intention to offer positive/negative recommendations, the willingness/unwillingness to pay a premium price and the intention to repurchase/switch. Coherently, according to Han et al, (2011; 2009), in the hospitality literature the behavioural intentions are represented by three elements: intentions to visit the hotel, intentions to offer positive recommendations to others and willingness to pay a premium price. This research employed the aforementioned three elements of behavioural intentions.

In particular, Lee et al. (2010) showed that green hotel guests were willing to spread positive recommendations and revisit the green hotel, whereas they indicated a relatively lower willingness to pay more for a green hotel. In fact researches on consumers willingness to pay for environmental sustainability produced mixed results in hospitality industry. While some consumers appear unwilling to pay more for green services in hotel (Manaktola & Jauhari, 2007; Choi and Parsa, 2007; Carrigan and Attalla, 2001), others are willing to do so (Tang et al., 2017; Kang et al., 2012; Dodds et al., 2010; Kim and Han, 2010). Despite the conflicting findings, this research supports the notion of the positive correlation between purchase attitudes and behavioural intentions, proposing the following hypothesis:

HP3a: Attitudes toward and Willingness To Pay (WTP) for a hotel that offers green food are positively related.

Concerning the other behavioural intentions, customers who are environmentally friendly have greater intentions to visit a green hotel and to spread word-of-mouth about a green hotel and they actually do so (Han et al., 2011; 2010; 2009). Therefore, this study postulates the following:

HP3b: Attitudes toward and Intention to Visit (IV) a hotel that offers green food are positively related

HP3c: Attitudes toward and Word of Mouth (WOM) about a hotel that offers green food are positively related

2.5 Consumers perceptions about green practices implemented by hotels

In addition to the personal beliefs toward green food, the current study adopts a more comprehensive approach by incorporating consumers perceptions of the sustainable practices implemented by hotels. In other words, this research aims to explore the effects of consumers perceptions of the level of sustainability inherent in the hotel practices on their behavioural intentions.

From a theoretical perspective, it is clearly emphasized that the perceptions of a firm s use of sustainable practices leads to positive increases in buying behaviors for sustainable goods and services (Peattie, 1995). This is grounded in cognitive consistency theory, whereby an individual who is concerned about ecological issues is also likely to be motivated to take actions to minimize those issues (Leonidou et al., 2010).

Generally, prior researches noted that buying intentions for organic products are not totally dependent on consumer perceptions of quality (e.g.: health, taste) but also on consumer perceptions of environmental compliance and the sustainable practices implemented by a firm (Padel and Foster, 2005). Moreover, according to Bonn et al. (2015) consumers perceptions of the sustainable practices of the service providers (organic wine producers) have a positive impact on behavioural intentions toward the organic wine product.

As a result of the increased demand for sustainable products, consumers are changing their shopping behaviors according to the perceptions related to the producer s sustainability (Barber, 2010; Sarkis, 2001). Examples of sustainable programs developed by hotels are mainly related to energy efficiency, water conservation, waste management, green building design and construction, ecological food, environmental education (employees and customers), green purchase and supply chain (Chan, 2009; Mensah, 2006; Bohdanowicz et al., 2005).

Building on the theoretical viewpoint, the following hypotheses are proposed:

HP4a: Consumer perceptions about green practices used by hotels positively affect Willingness to Pay (WTP) for a hotel that offers green food.

HP4b: Consumer perceptions about green practices used by hotels positively affect Intention to Visit (IV) a hotel that offers green food.
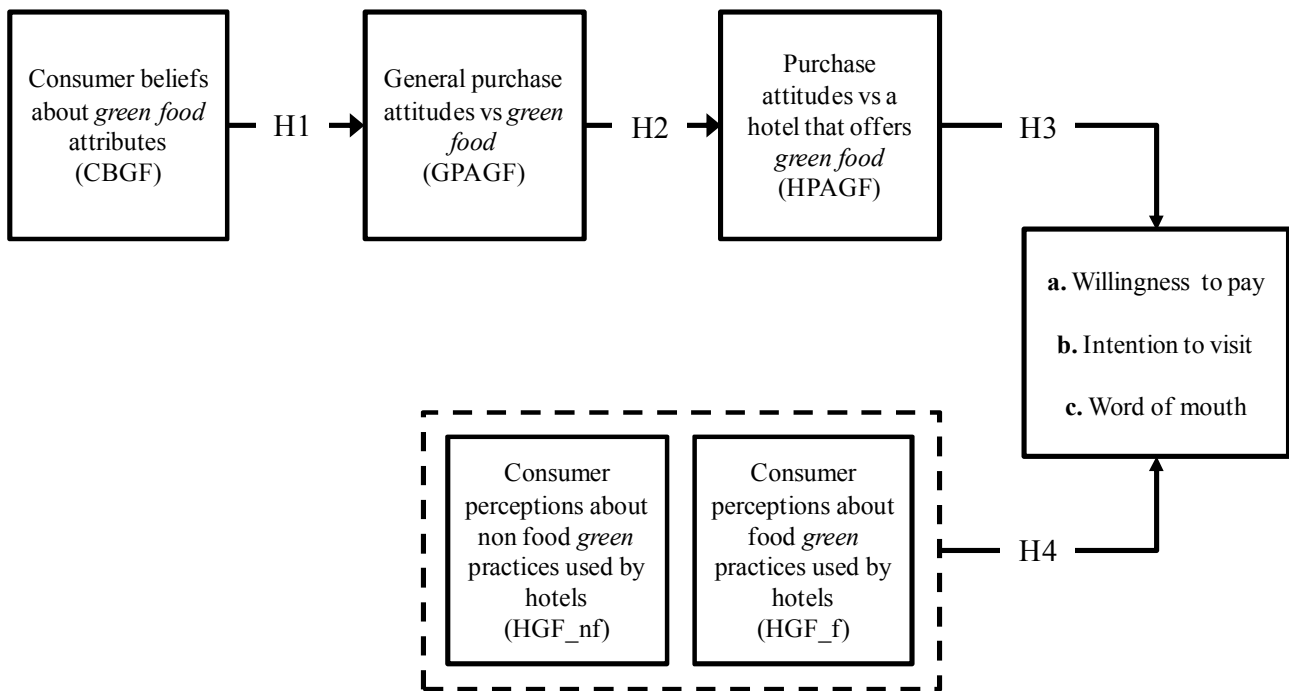
HP4c: Consumer perceptions about green practices used by hotels positively affect Word of Mouth (WOM) about a hotel that offers green food.

In conclusion, this study adopts the aforementioned theoretical foundation, positing the following conceptual model (Fig. 1):

Fig. 1: The conceptual model


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┌─────────────────┐      ┌─────────────────┐      ┌─────────────────┐
│ Consumer beliefs│      │ General purchase│      │   Purchase      │
│ about green food│  H1  │ attitudes vs    │  H2  │ attitudes vs a  │  H3
│   attributes    │ ───▶ │  green food     │ ───▶ │ hotel that offers│ ──────┐
│     (CBGF)      │      │    (GPAGF)      │      │   green food    │       │
│                 │      │                 │      │    (HPAGF)      │       ▼
└─────────────────┘      └─────────────────┘      └─────────────────┘   ┌─────────────────┐
                                                                         │ a. Willingness to pay│
                                                                         │                 │
                                                                         │ b. Intention to visit│
                                                                         │                 │
         ┌ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ┐               │ c. Word of mouth │
         │ ┌─────────────┐   ┌─────────────┐ │                          └─────────────────┘
         │ │ Consumer    │   │ Consumer    │ │                                   ▲
         │ │ perceptions │   │ perceptions │ │                                   │
           │ about       │   │ about       │        H4                          │
         │ │ non food    │   │ food green  │ │ ──────────────────────────────────┘
         │ │ green       │   │ practices   │ │
           │ practices   │   │ used by     │
         │ │ used by     │   │ hotels      │ │
         │ │ hotels      │   │ (HGF_f)     │ │
           │ (HGF_nf)    │   └─────────────┘
         │ └─────────────┘                 │
         └ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ┘
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Methodology

3.1 The questionnaire

The questionnaire consisted of six sections. The measures were derived from an extensive review of the literature.

The first section referred to personal beliefs about green food attributes. Respondents were asked to indicate for a variety of green food attributes their level of agreement or disagreement according to the following criteria: one being equivalent of strongly disagree and seven being equivalent to strongly agree. Measures for consumers beliefs toward green food attributes were adopted from prior researches that assessed green products (Bonn et al., 2015; Biemans, 2011; Fotopolous et al., 2002). Following the previously mentioned studies, with respect to the green food attributes, three key areas emerged from the literature mainly associated to environment, health and sensory. In other words consumers conceptualize organic food referring to aspects such as healthiness, sensory and environmental protection.

The second section aimed at evaluating the general purchase attitudes toward green food. The statements of the questionnaire s section were derived from food choice questionnaire as described by Steptoe et al. (1995) and food related lifestyle questionnaire developed by Grunert et al. (1993) for the statements associated to product information. Respondents were asked to indicate their agreement on each element on a seven-point Likert scale.

The third section contained questions to evaluate purchase attitudes toward an hotel that offers green food. In particular, respondents were asked to evaluate their purchase attitudes toward green food when they consider to buy a vacation in hotel. Statements were adapted from Lockie s et al. (2004) food consumption questionnaire with the addition of Kristallys et al. (2005) extended range of items related to the trust in a brand. According to the aforementioned measurement parameters, four main macro areas of investigation were adopted: natural content, environmental protection, locally grown, brand. In that context a seven-point agreement Likert scale was proposed to the respondents.

The fourth section investigated the consumers perceptions towards which green practices a hotel should implement (Baker et al, 2014; DiPietro Robin et al., 2013). Respondents were asked to indicate the

level of agreement with regard to a variety of statements about the use of green practices in hotel industry using a seven-points Likert scale. The 13 green practices implemented by hotels were adopted from prior studies (Hsieh, 2012; Chan, 2009; Mensah, 2006).

The fifth section investigated the behavioural intentions: the key dimensions of behavioral intentions include revisit intention, word-of-mouth intention, willingness to pay (Zeithaml et al., 1996). The measurement items were generated by closely following previous studies (Line et al, 2015; Han et al. 2011; Lee et al. 2010; Han et al., 2009; Maxham et al., 2002). Specifically, the items were modified for the context of a hotel that offers green food. All constructs were measured with multiple items using a 7-point Likert scale ranging from 1 = strongly disagree to 7 = strongly agree.

The last section includes questions about demographic information such as gender, age, level of education, household income and frequency of a hotel stay in the past 12 months (Han et al., 2011). The constructs are derived from the literature review about the topic and are presented below (Table 1).

Table 1. Constructs, items, and sources

Construct	Items #	Scale items (item loading)	Source
Consumer beliefs about *green food* attributes (CBGF)	FBE 1	It is related to environmental protection (.65)	Bonn et al., (2015); Biemans, (2011); Fotopolous et al., (2002)
	FBE 2	It not breaks the balance of the nature (.73)	
	FBE 3	It has the country of origin clearly marked (.71)	
	FBE 4	It is produced with acceptance of ethical standard (.68)	
	FBE 5	It contributes to the development of Italian rural areas (.62)	
	FBH 1	It supports an healthy diet (.61)	
	FBH 3	It has no harmful ingredients (.71)	
	FBH 4	It has high safety standards (.72)	
	FBS 1	It has a pleasant taste (.50)	
	FBS 2	It has a good flavour (.40)	
General purchase attitudes vs *green food* (GPAGF)	GPAO 1	I always buy organic food when I have the opportunity (.50)	Steptoe et al. (1995); Grunert et al. (1993)
	GPAO 2	I do not mind paying higher prices for organic food (.46)	
	GPAO 3	It is important for me to buy natural products (.67)	
	GPAO 4	It is important for me to buy products produced in an environmentally friendly way (.76)	
	GPAI 1	To me product information is of high importance. I need to know what the product contains (.80)	
	GPAI 2	I compare labels to select the food that I consider more beneficial to health (.64)	
Purchase attitudes vs a hotel that offers *green food* (HPAGF)		When I consider to buy a vacation in hotel, I consider important that:	Lockie et al. (2004); Kristallys et al. (2005)
	HPAB1	The food has a brand as a trustful element for its quality (.80)	
	HPAB2	The food has a brand as a trustful element for certifying food production methods (.89)	
	HPAB3	The food has a brand as a trustful element for certifying environmental friendly food (.86)	
	HPAH1	The food contains no additives (.79)	
	HPAH2	The food contains natural ingredients (.88)	
	HPAH3	The food contains no artificial ingredients (.74)	
	HPAH4	The food is certified free of chemicals and hormone residues (.89)	
	HPAE1	The food is certified in its production method (.84)	
	HPAE2	The food is produced in a way that preserves its natural goodness (.84)	
	HPAE3	The food is produced in an environmentally friendly way (.80)	
	HPAE4	The food is produced in a way that has not shaken the balance of nature (.75)	
	HPAL	The food is grown locally (.48)	
Consumer perceptions: about non-food *green* practices used by hotels		I believe that hotels should have this practice:	Hsieh, (2012); Chan, (2009);
	HGP_wat	Water conservation (.81)	
	HGP_was	Minimizing waste management (.80)	
	HGP_rec	Recycling activity (.70)	
	HGP_enr	Energy efficiency (.73)	
	HGP_arc	Green building design and construction (.48)	

(HGP_nf)	HGP_form	Environmental education programs for employees and customers (.40)	Mensah, (2006)
about food	HGP_org_f	Use of organic food (.63)	
green practices	HGP_env_f	Use of environmentally friendly food (.75)	
used by hotels	HGP_loc_f	Use of local food (.49)	
(HGP_f)	HGP_f_sup	Purchase environmentally friendly food (.53)	
Willingness to pay (WTP)	BIWTP1	I am willing to spend extra to stay in a hotel that offers *green* food (.98)	Line et al, (2015); Han et al. (2011); Lee et al. (2010); Han et al., (2009); Maxham et al., (2002)
	BIWTP2	It is acceptable to pay more for a hotel that offers *green* food (.93)	
	BIWTP3	I am willing to pay more for a hotel that offers *green* food (.94)	
Intention to visit (ITV)	BIITV1	I am willing to stay at a hotel that offers green food when I□m travelling (.41)	
	BIITV2	I plan to stay at a hotel that offers green food when I□m travelling (.63)	
	BIITV3	I will make an effort to stay at a hotel that offers green food when I□m travelling (.63)	
Word of mouth (WOM)	BIWOM1	If someone is looking for a hotel, I will suggest to him/her to stay in a hotel that offers *green* food (.56)	
	BIWOM3	I encourage my friends and relative to stay in a hotel that offers *green* food (.53)	

3.2 Data collection and sample characteristics

To test the research model, this study employed a survey based on constructs already present in the Tourism Management literature. The survey was developed and refined in collaboration with two experts of the topic from academia and two from Tourism business field, then the survey was pre-tested with a sub-sample of 40 respondents.

Therefore, an online survey was conducted and a questionnaire was purposefully designed through Google Form. The utilization of an online survey is becoming more popular and acceptable in the academic research because it is easier to obtain more candid response (Han and Kim, 2010; Han et al., 2011).

The opening instruction of the survey included detailed information about what green food is, pointing out all the main three components such as locally grown, organically produced and environmentally sustainable (LaVecchia, 2008). Survey participants were asked to carefully read this definition.

The survey was sent out by email to a database of contacts provided by an Italian company that operates in tourism. Data collection took place from 10 July 2017 to 6 August 2017, with one reminder email sent on 30 July 2017. The collection of questionnaires complied with Italian privacy laws, anonymity and aggregate use of the data was assured to the respondents. Data collection was completed in 4 weeks and the initial dataset counted 3.586 of target respondents. A total of 302 surveys were completed and usable for a 8,42% of response rate.

In Table 2 are reported the descriptive statistics of the sample:

Table 2. Sample characteristics

Demographic	Count	(%)
Gender		
Female	148	49.0
Male	154	51.0
Age		
Born between 1946 and 1964 (Baby Boomers)	82	27.2
Born between 1965 and 1980 (Gen X)	165	54.6

Born between 1981 and 2000 (Gen Y)	55	18.2
Study level		
Primary School	17	5.6
High School	145	48.0
University Degree	114	37.7
Post-graduate professional abilitation	21	7.0
Ph. D.	5	1.7
Income		
<15.000	42	13.9
between 15.001 and 28.000	131	43.4
between 28.001 and 55.000	106	35.1
between 55.001 and 75000	21	7.0
> 75.001	2	0.7
Number of times stayed in hotels in the past 12 months		
none	6	2.0
once	75	24.8
between 2 and 4	167	55.3
more than 4	54	17.9

Results

4.1 Preliminary data analysis

Before doing the serial multiple regressions analysis, some preliminary data analyses are performed to address the following issues: non-response bias, multicollinearity, common method variance (CMV).
In order to control for non-response bias, this study employed late respondents firms as proxy for non-respondents, the t-test displayed no significant differences, suggesting that non-response bias was not an issue in this study.

Multicollinearity is tested with the calculation of the VIF scores, all the variance inflation factors range from 1.5 to 3.2, below the suggested threshold of 5 (Hair, Sarstedt, Ringle, & Mena, 2012).
During the creation of the survey and the data collection, the best practices to control the CMV are followed: such as assuring anonymity to the respondents and avoiding items social desirability, demand characteristics, and ambiguity (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). On the collected data the Harman s single-factor test is employed to verify the presence of common method bias (Podsakoff et al., 2003); the variance explained by the first single factor in the un-rotated factor matrix was 38.3%, safely below the 50% threshold. The Harman s test suggests that the common method bias was an issue for this study.

The model was also tested in terms of reliability, convergent validity, and discriminant validity. Reliability was assessed reporting the Cronbach s alpha (CA) and the Composite Reliability (CR) scores (Table 3); they were all above the threshold of 0.7 (Hair, Black, Babin, & Anderson, 2010),
Almost all the average variances extracted (AVE) exceed the suggested threshold of 0.5, a part from the CPGF construct which is slightly bleove (0.43),suggesting convergent validity (Fornell & Larcker, 1981).
In order to verify the discriminant validity the squared root of AVE is compared with any other the inter-constructs correlation in order to verify if it is higher (Fornell & Larcker, 1981).

Table 3. Assessment of constructs convergent and discriminant validity.

Constructs	M	SD	CR	CA	AVE	1	2	3	4	5	6	7	8
1. CBGF	5.42	.94	.88	.88	.43	**.66**							
2. GPAGF	5.64	1.01	.86	.85	.52	.46	**.72**						
3. HPAGF	6.02	1.01	.96	.95	.67	.41	.57	**.82**					
4. HGP_nf	6.24	.79	.88	.85	.53	.35	.47	.49	**.73**				
5. HGP_f	6.21	.88	.87	.87	.65	.49	.58	.71	.69	**.81**			
6. WTP	4.64	1.57	.93	.93	.82	.33	.44	.40	.36	.41	**.91**		
7. ITV	4.66	1.44	.87	.86	.70	.43	.58	.49	.43	.51	.73	**.84**	
8. WOM	5.16	1.46	.87	.87	.77	.44	.56	.50	.45	.56	.70	.81	**.88**

1. M=mean; SD=standard deviation; CR= Composite reliability; CA=Cronbach s alpha; AVE=average variance extracted.
2. Numbers on the diagonal are the square root of AVEs. The other numbers are correlations among constructs

4.2 Serial multiple mediation analysis

To test all the research model hypotheses, this study employs two regression, one linear OLS to test the relationships between hotel green practices and the outcomes (Table 4), and a serial multiple mediation models (Hayes, 2013) to test all the other hypotheses, because the combination of these hypotheses drive to a fully mediated model that needs the testing of total, direct and indirect effects (Hayes, 2013). To test the resulting serial multiple mediation model, the current research employs the SPSS PROCESS script (Hayes, 2013) and the results are presented for each behavioral outcome (Table 5, 6, and 7).

Table 4. OLS Regressions with Hotel Green Practices

	Model 1 Willingness to pay		Model 2 Intention to visit		Model 3 Word of mouth	
	B	s.e.	B	s.e.	B	s.e.
Controls						
Constant	-1.04	.80	-.91	.71	- 1.83[*]	.70
Gender	-.40[*]	.16	-.34[*]	.15	-.27	.14
Income	.33[**]	.10	.04	.09	.14	.09
Hotel Experience	-.002	.12	.05	.10	.17	.10
Gen X	-.64[**]	.19	-.32	.17	-.18	.16
Gen Y	-.22	.25	-.44	.22	-.21	.22
Independent variables						
HGP_nf	.32[*]	.14	.26[*]	.12	.25[*]	.12
HGP_f	.57[***]	.13	.66[***]	.11	.78[***]	.11
Adjusted R^2	.25		.29		.34	
df regression	7		7		7	
df residuals	294		294		294	

[*] $p< .05$
[**] $p< .01$
[***] $p< .001$

Table 5. Model 5 -Serial Multiple Mediated Regression □Willingness to pay

Outcome:GPAGF
ModelSummary

	R	R-sq	dfregr.	dfresid.		
	.54	.29	6	295		

Model

	coeff	se	t	p-value	LLCI	ULCI
Constant	3.26	.41	7.86	.000	2.44	4.08
CBGF	.48	.06	7.63	.000	.36	.61
Gen Y	-.70	.19	-3.68	.000	-1.07	-.33
Gen X	-.01	.12	-.04	.965	-.24	.23
Income	-.08	.07	-1.17	.243	-.21	.05
Hotel Exp.	.04	.07	.61	.541	-.10	.19
Gender	-.10	.11	-.88	.377	-.31	.12

Outcome:HPAGF
ModelSummary

	R	R-sq	dfregr.	dfresid.		
	.63	.39	7	294		

Model

	coeff	se	t	p-value	LLCI	ULCI
Constant	2.97	.50	5.91	.000	1.98	3.96
GPAGF	.41	.07	6.05	.000	.28	.55
CBGF	.21	.05	3.99	.000	.10	.31
Gen Y	-.57	.17	-3.33	.001	-.91	-.24
Gen X	-.07	.10	-.70	.486	-.26	.12
Income	.04	.07	.68	.498	-.09	.18
Hotel Exp.	-.13	.07	-1.92	.056	-.27	.00
Gender	.03	.09	.33	.744	-.15	.21

Outcome:BIWTP
ModelSummary

	R	R-sq	dfregr.	dfresid.		
	.56	.32	8	293		

Model

	coeff	se	t	p-value	LLCI	ULCI
Constant	-1.16	.75	-1.55	.123	-2.64	.32
GPAGF	.45	.11	4.14	.000	.24	.66
HPAGF	.32	.11	3.04	.003	.11	.53
CBGF	.20	.11	1.79	.074	-.02	.42
Gen Y	.09	.26	.36	.717	-.42	.61
Gen X	-.59	.17	-3.44	.001	-.93	-.25
Income	.34	.10	3.44	.001	.15	.53
Hotel Exp.	-.04	.12	-.32	.751	-.26	.19
Gender	-.33	.17	-1.99	.047	-.66	.00

DIRECT AND INDIRECT EFFECTS
Direct effect

	Effect	SE	t	p-value	LLCI	ULCI
	.20	.11	1.79	.074	-.02	.42

Indirect effects

	Effect	BootSE	BootLLCI	BootULCI
Total:	.35	.06	.24	.48
Ind1:	.22	.06	.11	.34
Ind2:	.06	.03	.02	.13
Ind3:	.07	.03	.02	.14

Indirect effect key

Ind1: CBGF -> GPAGF -> BIWTP
Ind2: CBGF -> GPAGF -> HPAGF -> BIWTP
Ind3: CBGF -> HPAGF -> BIWTP

Table 6. Model 6 -Serial Multiple Mediated Regression □Intention to visit

Outcome:GPAGF
ModelSummary

	R	R-sq	dfregr.	dfresid.		
	.54	.29	6	295		
Model						
	coeff	se	t	p-value	LLCI	ULCI
constant	3.26	.41	7.86	.000	2.44	4.08
CBGF	.48	.06	7.63	.000	.36	.61
Gen Y	-.70	.19	-3.68	.000	-1.07	-.33
Gen X	-.01	.12	-.04	.965	-.24	.23
Income	-.08	.07	-1.17	.243	-.21	.05
Hotel Exp.	.04	.07	.61	.541	-.10	.19
Gender	-.10	.11	-.88	.377	-.31	.12

Outcome:HPAGF
ModelSummary

	R	R-sq	dfregr.	dfresid.		
	.63	.39	7	294		
Model						
	coeff	se	t	p-value	LLCI	ULCI
constant	2.97	.50	5.91	.000	1.98	3.96
GPAGF	.41	.07	6.05	.000	.28	.55
CBGF	.21	.05	3.99	.000	.10	.31
Gen Y	-.57	.17	-3.33	.001	-.91	-.24
Gen X	-.07	.10	-.70	.486	-.26	.12
Income	.04	.07	.68	.498	-.09	.18
Hotel Exp.	-.13	.07	-1.92	.056	-.27	.00
Gender	.03	.09	.33	.744	-.15	.21

Outcome:BIITV
ModelSummary

	R	R-sq	dfregr.	dfresid.		
	.64	.41	8	293		
Model						
	coeff	se	t	p-value	LLCI	ULCI
constant	-1.44	.66	-2.17	.031	-2.75	-.14
GPAGF	.54	.09	6.22	.000	.37	.71
HPAGF	.28	.09	3.15	.002	.10	.45
CBGF	.28	.10	2.89	.004	.09	.48
Gen Y	-.11	.19	-.55	.584	-.49	.27
Gen X	-.27	.15	-1.80	.073	-.57	.02
Income	.06	.08	.76	.449	-.10	.23
Hotel Exp.	.01	.09	.07	.944	-.18	.19
Gender	-.28	.14	-2.03	.044	-.54	-.01

DIRECT AND INDIRECT EFFECTS
Direct effect

	Effect	SE	t	p-value	LLCI	ULCI
	.28	.10	2.89	.004	.09	.48

Indirect effects

	Effect	Boot SE	BootLLCI	BootULCI
Total:	.37	.06	.27	.51
Ind1:	.26	.05	.17	.37
Ind2:	.06	.02	.02	.11
Ind3:	.06	.02	.02	.12

Indirect effect key

Ind1: CBGF -> GPAGF -> BIITV
Ind2: CBGF -> GPAGF ->HPAGF-> BIITV
Ind3: CBGF ->HPAGF-> BIITV

Table 7. Model 7-Serial Multiple Mediated Regression □Word of mouth

Outcome:GPAGF
ModelSummary

R	R-sq	dfregr.	dfresid.
.54	.29	6	295

Model

	coeff	se	t	p-value	LLCI	ULCI
constant	3.26	.41	7.86	.000	2.44	4.08
CBGF	.48	.06	7.63	.000	.36	.61
Gen Y	-.70	.19	-3.68	.000	-1.07	-.33
Gen X	-.01	.12	-.04	.965	-.24	.23
Income	-.08	.07	-1.17	.243	-.21	.05
Hotel Exp.	.04	.07	.61	.541	-.10	.19
Gender	-.10	.11	-.88	.377	-.31	.12

Outcome:HPAGF
ModelSummary

R	R-sq	dfregr.	dfresid.
.6282	.3947	7	294

Model

	coeff	se	t	p-value	LLCI	ULCI
constant	2.97	.50	5.91	.000	1.98	3.96
GPAGF	.41	.07	6.05	.000	.28	.55
CBGF	.21	.05	3.99	.000	.10	.31
Gen Y	-.57	.17	-3.33	.001	-.91	-.24
Gen X	-.07	.10	-.70	.486	-.26	.12
Income	.04	.07	.68	.498	-.09	.18
Hotel Exp.	-.13	.07	-1.92	.056	-.27	.00
Gender	.03	.09	.33	.744	-.15	.21

Outcome: BIWOM

ModelSummary

R	R-sq	dfregr.	dfresid.
.6351	.4034	8	293

Model

	coeff	se	t	p-value	LLCI	ULCI
constant	-1.88	.69	-2.72	.007	-3.24	-.52
GPAGF	.49	.09	5.36	.000	.31	.67
HPAGF	.34	.10	3.45	.001	.15	.54
CBGF	.30	.11	2.80	.006	.09	.51
Gen Y	.08	.20	.40	.693	-.31	.47
Gen X	-.13	.16	-.83	.406	-.44	.18
Income	.16	.09	1.72	.087	-.02	.34

Hotel Exp.	.13	.09	1.41	.161	-.05	.30
Gender	-.19	.14	-1.32	.189	-.46	.09

DIRECT AND INDIRECT EFFECTS

Direct Effect

	Effect	SE	t	p-value	LLCI	ULCI
	.30	.11	2.80	.006	.09	.51

Indirect Effects

	Effect	BootSE	BootLLCI	BootULCI
Total:	.38	.06	.27	.52
Ind1:	.24	.05	.15	.35
Ind2:	.07	.03	.03	.13
Ind3:	.07	.03	.03	.15

Indirect effect key

Ind1: CBGF -> GPAGF -> BIITV
Ind2: CBGF -> GPAGF ->HPAGF-> BIITV
Ind3: CBGF ->HPAGF-> BIITV

Following the order of the research hypotheses, the Models 5, 6, and 7 gives support to HP1, HP2, HP3a, HP3b, and HP3c. First the relationship between ⬜consumers beliefs about green food attributes⬜ (CBGF) and ⬜general purchase attitudes vs green food⬜(GPAGF), which represents the HP1, is significant in all the models with a positive coefficient (0.48) and p-value <0.001.

Second HP2, represented by the relations between GPAGF and the ⬜purchase attitudes vs a hotel that offers green food⬜(HPAGF), is supported by the presence of positive and significant (coeff. =0.41 and p-value <0.001) in all the models.

Then with regards to the three hypotheses that link the HPAGF construct to the behavioral intentions, the results seem to empirically support them:
- HP3a that hypothesizes the relation between HPAGF and BIWTP finds support in Model 5 with a positive coefficient (0.32) and p-value <0.01;
- HP3b that hypothesizes the relation between HPAGF and BIITV finds support in Model 6 with a positive coefficient (0.28) and p-value <0.01;
- HP3c that hypothesizes the relation between HPAGF and BIWOM finds support in Model 7 with a positive coefficient (0.34) and p-value <0.01.

The hypotheses HP4a, HP4b and HP4c find support in the Models 1, 2, and 3 in fact the relationships between the ⬜consumer perceptions about green practices used by hotels⬜related to food (HGF_f) and non-food (HGF_nf) activities always display positive and significant coefficients (Table 4). Interestingly the green practices related to green food display a higher level of significance.

The research model as it merges from the literature review provide for the HP1, HP2 and HP3 (a,b, and c) a fully mediated model, to investigate this aspect this study has employed the SPSS PROCESS analysis of the bootstrapped confidence interval based on 5000 iterations to evaluate if the indirect effects (Hayes, 2013) are significant and the analysis of the series of multiple regressions to verify the emergence of empirical relationships not provided by the theoretical model.

In particular, some empirical significant relationships emerged form the empirical analysis:
- the relations between CBGF and HPAGF emerges as positive and significant;
- the relations between GPAGF and all the three different behavioral outcomes are positive and significant;
- finally also the coefficients representing the impact of CBGF on BIITV and on BIWOM are positive and significant (instead the relation between CBGF and BIWTP is not significant).

Analyzing the indirect effects, the fact that the bootstrapped confidence intervals of the indirect effect number 2 (Ind2), in all the three models never contains the zero (supporting its significance), is an insights that support the presence of the fully-mediated indirect effect as emerged from the literature review. But the significance of also the other two indirect effects (Ind1 and Ind3) in Models 5, 6, and 7, confirm the presence of emergent empirical relationships not provided by the theoretical model.

These emerged empirical relations are logically plausible, but given they are not present in the literature they need further investigations that could be the object of future researches about the topic.

Conclusions and practical implications

This study aims to explore the impact of green food on consumers purchase attitudes toward a hotel stay and on consumers behavioural intentions (i.e.: intention to visit, intention to offer positive recommendations to others and willingness to pay a premium), focusing on an Italian perspective.

The results show that personal beliefs toward green food, as immediate precursors to the attitudes (Ajzen, 1991; Fishbein and Ajzen, 1975), are positively associated with respondents purchase attitudes toward green food. Moreover, stronger and more positive purchase attitudes toward green food lead to greater purchase attitudes toward hotels that offer green food. Hence, both HP1 and HP2 are supported.

In turn, the latter purchase attitudes are positively associated with individual behavioural intentions toward hotels that offer green food. Hence HP3a, HP3b, HP3c are also supported. These results are in line with previous research findings (Han and Kim, 2010; Manaktola and Jauhari, 2007; Laroche et al., 2001) in terms of attitudes as antecedents to behavioural intentions.

Hence, the beliefs are found to positively affect purchase attitudes toward green food, that exert positive influence on purchase attitudes toward a hotel that offers green food which, in turn, contribute to more favourable behavioural intentions. This fully mediated model represents a significant contribution of this study.

The current research shows that attitudes toward hotels that offer green food are generally more positive than general purchase attitudes toward green food. This was evidenced by average scores that were respectively 6 and 5,6 on a seven-points scale. This finding reveals that, as mentioned in previous studies (Millar and Baloglu, 2011; Han et al, 2010; Bohdanowicz, 2006), green initiatives are generally well supported by increasing customer demand and, particularly, green food could become a strategic value driver within hotel industry due to the consumers high sensibility to green food initiatives.

Moreover, the significant and positive effect between general purchase attitudes toward green food and purchase attitudes toward a hotel that offers green food puts a step further in the investigation about whether or not consumers attitudes embody the same considerations of sustainability for daily purchases as they do for the hotel stays they buy. Since few studies investigate this empirically (Dolnicar and Leisch, 2008), the research findings are particularly relevant due to the fact that they strengthen the aforementioned underexplored relation and they shed light upon the topic of green food that, to the authors knowledge, has never been investigate in that way within tourism literature.

Concerning the regression results on behavioural intentions, interesting findings about the role of age appear. In particular, researches in various fields have investigated age differences in consumer behavior and concluded that age-related differences in purchasing behavior exist (Evanschitzky and Wunderlich, 2006; Im et al, 2003). This study have found out a negative and significant effect on the behavioural intentions of the group Generation X compared to the younger group. This trend seems to corroborate the previous literature, confirming that environmentally conscious customers are generally more likely to be younger (Han et al, 2011; Tang et al., 2017).

Additionally, the findings are in line with the theoretical concept of *selfish altruism* proposed by Miller (2003). Miller (2003) illustrated this concept by describing how green consumers are most likely to purchase products that are of benefit to them as well as to the rest of the world, rather than just to the rest of world. In

fact, organic food is a good example to illustrate selfish altruism as a major motive for green consumerism, since consumers perceive that this product group directly benefits them by offering nutritional and health advantages (Lee et al., 2010). The fact that the behavioural intentions variables present high mean scores (WTP= 4,6; VI= 4,7; WOM= 5,2 on a seven points scale) validate the concept of *selfish altruism.*

Generally, prior researches noted that buying intentions for organic products are not totally dependent on consumer perceptions of quality (e.g.: health, taste) but also on consumer perceptions of environmental compliance and the sustainable practices implemented by a firm (Bonn et al., 2015; Padel and Foster, 2005). The study findings confirm the positive and significant impact of consumers perceptions of sustainable practices that a hotel should implement on consumers behavioural intentions, supporting HP4a, HP4b and HP4c. These results are important especially for managerial implication, pointing out an increasing interest related to the service providers sustainability policies and issues (Barber, 2010; Sarkis, 2001). That context provides a stimulus for hotelier to implement, better manage and communicate their efforts to use sustainable practices. In that light, the current study reveals that the level of involvement of hotels in green practices plays a relevant role in driving consumers intention to pay more, to visit and to spread word of mouth.

Moreover, examples of sustainable activities used by hotels that have been studied by the literature are mainly related to energy efficiency, water conservation and waste management (Dimara et al., 2017; Chan, 2009; Mensah, 2006). In that scenario, an in-depth analysis of food sustainability practices represent an original contribution from both a theoretical and practical perspective.

Since customer demands for green hotels have been increasing over the years, executives in the hospitality industry are more willing to embrace the use of environmentally friendly practices (Bohdanowicz, 2006; Butler, 2008; Han et al., 2010; Millar and Baloglu, 2011). This study shows that, among all the green practices, the one related on food could be a promising strategy.

Moreover, due to the fact that there is a great awareness of potential of green food in term of health benefit and environmental benefits as demonstrated in this study (Table 1), hoteliers could easily identify great customer segments/groups that believe effectively in green food.

While previous studies have examined hotel guests attitudes and behavioural intentions toward green practices in general, few attempts have been made in investigating the topic of green food. Due to the actual situation of growth, this area of study seems to be a powerfully emergent field: in Italy, for example, a report published by the Ministry of Agriculture (Report Mipaaf, 2017) showed that the food sustainability represents the key success factor of competitiveness for the Italian food industry, pointing out that in 2016, more than +20% companies shifted to the organic agriculture.

Adopting a worldwide perspective, the trend appears the same: in 2015 the organic field registered a growth of +14,7% in terms of cultivated lands and +7,2% concerning the operators (Report Mipaaf, 2017).

Given the fact that Italian agriculture has become the most *green* in Europe with the largest number of organic farming companies and the leadership in food certification at Community level (Report Mipaaf, 2017) and due to the worldwide food organic growth, the topic of food sustainability could definitely drive the future strategy of the hotel industry.

In this scenario, the current study could be considered as a precursor of an emerging field in tourism called agritourism and it sheds light upon the readiness of the market toward this new trend. In particular, agritourism offers farmers the possibility of diversifying and becoming hoteliers through on-farm touristic activities. This helps to maintain the viability of active farms and rural communities and to promote agricultural resources, traditions and culture.

Hence, the concept of food sustainability could represent a key success factor in addressing the latest tourism trends such as the successful positioning in a sustainable niche-market (agritourism) and in offering of a truly satisfactory hotel consumptive experience.

Limitations and future researches

While the current research has shed some lights on several significant issues, there are some limitations that reveal the opportunity for future studies.

First, future studies should include other cultures for further comparison. Hence, one should be cautious with any generalization to other cultures.

Second, this study used an online-based survey method to collect data. Thus, sample is limited to those with access to a computer and online network. Future studies should examine food sustainability in a real hotel purchase setting to overcome this issue and increase validity.

Third, because of the low response rate (8,42%), the findings may be exposed to the threat of non-response error. Dillman (2000) pointed out that non-response error occurs when people who participate in a survey are different from those who do not, thereby posing a threat to the external validity of a study. To reduce non response error, future researches should follow Dillman s (2000) four-time-contact email survey: a pre-notice, the questionnaire, a thank you/reminder and a replacement questionnaire.

Fourth, it is important to note that the current research tested for behavioral intention (i.e. willingness to pay, visit intention, word of mouth), which does not necessary lead to actual behavior (i.e. actually purchase a hotel that offers green food). Future studies should attempt to measure consumers actual consumption patterns in order to gain more in-depth knowledge about consumers actual behaviours toward a hotel that offers green food.

Other insights for future studies emerge also from the data analysis, in fact the presence of emergent significant relationships not provided by the theoretical model, suggest the existence of other possible direct relation that have to be investigated and explained in future researches. The theoretical model derived from the literature review suggests the construction of a fully mediated model, but the empirical evidences support the presence of direct relations between the variables, which act as antecedents of the hypothesized mediators, and the behavioral intentions.

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