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Sustainable Purchasing of Fresh Food by Restaurants and Cafes in France

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Abstract: This paper explores the purchasing practices adopted by restaurants and cafés operating in France to observe how the owner/operator(s) attitudes towards sustainable business practice impact on the choice of fresh food suppliers. A two-stage cluster analysis revealed the presence of two clusters: conventional buyers and green buyers that showed significant differences in the adoption of sustainable purchasing practices, the perceived benefits derived from the adoption of sustainable business practices, and barriers to the adoption of green purchasing. In making the decision to operate as a green restaurant, the personal beliefs of the owner/operator(s) were paramount, guided in part by the belief that in order to prepare and present the best-tasting food to patrons, executive chefs needed to procure the very best ingredients. In procuring the best quality fresh food ingredients, executive chefs preferred to deal with many small suppliers with whom they had developed a long-term relationship based on their reputation for delivering premium quality products in season.

Keywords: green procurement; ethics; benefits; barriers

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1. Introduction

For the first time in history, the majority of mankind now reside in an urban environment, with that figure expected to reach two-thirds by 2050 [1,2]. Increasing rates of urbanization are putting more pressure on resources; influencing what foods we eat, where and when we eat them; the way our food is grown, processed and delivered to consumers; and impacting on our health and nutrition [3]. Notwithstanding the large and growing inequality in wealth, the global population is becoming and will continue to become more wealthy [4]. With the increase in consumer purchasing power and the increasing opportunity cost of time to prepare food, consumers today are eating more food away from home and/or purchasing more ready-to-eat and ready-to-heat food products for consumption at home [5]. With a greater propensity to eat out more often, both factors together and in parallel impact on the demand for food from the food service sector, which includes restaurants, roadside vendors, cafes and fast food chains, and increasingly, online food delivery services.

With a greater awareness of how their food purchase decisions impact the environment, more consumers today are making informed food choices on social, economic and environmental values [6–8]. A "green customer" is described as a person interested in purchasing eco-friendly products and who cares about the planet [7]. Consumers are attracted by such credence attributes as the country-of-origin and the way in which the food has been produced. Indeed, the nutritional benefits, food safety, production context and ethics define the quality of food [9].

With a growing "green awareness", more consumers are looking for eco-friendly products from restaurants [10]. According to Sarmiento and Hanandeh [7], a "green restaurant" is described as any restaurant having a deep awareness of environmental issues. From the Green Restaurant Association website [11], consumers can expect to see the

following in a green restaurant: (i) waste reduction and recycling; (ii) water efficiency; (iii) energy conservation; (iv) reusable and environmentally friendly disposable packing; (v) a reduction in chemical pollution; (vi) the use of environmentally sustainable building materials and furnishings; and (vii) the purchasing and procurement of local and sustainable food ingredients.

Sustainable food can be described as food that helps local economies, protects the diversity of flora and fauna, promotes animal welfare, avoids the waste of natural resources and provides good nutrition [12]. However, not all restaurants can and do offer sustainable food, for as Strohbehn and Gregoire [13] report, the costs of locating, sourcing and obtaining food that has been produced sustainably are often higher. Furthermore, product availability, supply difficulties and premium prices have all been identified as barriers to sustainable food purchasing by the food service sector [12,14].

On the other hand, the benefits derived from sustainable sourcing include an improved image [15,16] and reputation [17], the ability to attract new consumers [15], a greater propensity to satisfy existing customers expectations [15,18] and with customers being more willing to pay a price premium [12,18,19], improved profitability and a competitive advantage.

This paper contributes to the current debate between the adoption of green purchasing practices by the hospitality industry and competitive performance. In particular, it explores the importance of green purchasing practices by restaurants and cafés operating in France and the perceived benefits and barriers associated with the adoption of sustainable food purchasing.

2. Review of Literature

In the food service sector, adopting green and sustainable practices in restaurants and cafes is considered a key environmental marketing strategy [20]. Going green means being environmentally responsible and utilizing practices that minimize damage to the environment [21], minimize the organization's carbon footprint and minimize the use of resources [22].

Green practices in restaurants and cafes can be placed into one of two groups: food and the environment [16]. In their daily operations, restaurants consume a vast amount of materials, water, energy and food [6,23]. According to Wang et al. [24], restaurants are the largest consumers of energy in the retail world, consuming, on average, five times more energy per square foot than any other commercial building. However, the food service sector has many other impacts on the environment, including waste disposal, the use of various cleaning and sanitizing agents, food packaging, food miles [25] and the construction of buildings and furnishings that invariably have a negative impact on the natural environment [26]. In food value chains, additional environmental impacts are associated upstream with suppliers' production practices including the application of fertilizers and pesticides, the utilization of water and the generation of waste products [24]. Downstream, additional environmental impacts are associated with the disposal of food packaging, utensils and food waste.

Engaging in green practices can have significant implications for restaurants in terms of cost management, market differentiation and environmental protection [24]. Iraldo et al. [18] and Kim et al. [20] report that significant cost reductions can be realized from saving water, improved energy efficiency and a reduction in waste. Tan et al. [8] describe how the operation of a restaurant consumes a large amount of energy for lighting, refrigeration, air-conditioning and the operation of gas appliances. Not unexpectedly, installing water-saving and energy-saving devices [26] and the installation of renewable energy sources [22] can have a significant positive impact on reducing costs. However, Jeong et al. [16] caution that the initial costs can be expensive and that the cost savings realized are not always sufficient to recover the investment. Furthermore, green attributes in restaurants rarely provide any tangible benefits to customers.

More recently, restaurants have begun to focus on reducing the environmentally negative impact of food production by utilizing more locally produced food ingredients [20,26,27].

Although the purchase of locally produced food can be more resource-demanding as it may require the chef to transact with multiple small vendors in order to procure the desired range, quality and quantity [28], purchasing locally is perceived to reduce the amount of energy consumed in the transport and distribution of food products [8,17,22], and to support the local economy [11,24]. Other arguments for buying local have been to justify higher prices on the menu or to differentiate from competitors [29]. While Murphy and Smith [28] highlight the improved product quality and freshness, local products can be more expensive, but most chefs indicate that they are able to pass on the additional cost to patrons. Furthermore, as local ingredients vary by season, chefs need to adjust their menus to reflect what is available, thereby overcoming some of the problems associated with menus becoming boring, but also enabling chefs to exercise their creativity.

Food waste is one of the major waste streams generated by the food service sector, with as much as 10 percent of the cooked food discarded at the end of each day [8]. In addition, restaurants generate a substantial amount of solid waste from packaging materials, corrugated boxes, and paper, aluminum, glass and plastics. Much of the waste can be avoided by reviewing purchasing practices, controlling portion sizes, and reviewing food storage methods and food preparation practices.

Institutional Purchasing

Purchasing by organizations involves a complex set of activities often undertaken by many members of the organization, the development of choice criteria, supplier choice and ultimately purchase [30]. Various models of industrial purchasing behavior have been proposed by Robinson, Faris and Wind [31], Webster and Wind [32], Sheth [33] and Hakansson [34]. In the widely used BUYGRID model, Robinson, Faris and Wind [31] conceptualized three buying classes: new task, modified rebuy and straight rebuy. Webster and Wind [32] proposed that organizational purchasing was influenced by four sets of variables: environmental factors; organizational characteristics; individual variables; and interpersonal variables. Sheth [33] suggested that the industrial purchasing process was influenced by six situational variables: three product-specific variables, including time pressure, perceived risk and the type of purchase; and three company-specific variables. In contrast, the interaction model developed by the IMP Group concentrates on the relationships that exist between buyers and suppliers [34]. Unlike the earlier models of industrial purchasing behavior, the interaction model assumes that: (i) both buyers and suppliers are active participants in the market; (ii) the relationship between buyers and suppliers is frequently close and long-lasting; and (iii) links between buyers and suppliers often become institutionalized, requiring significant adaptations from either or both parties.

When choosing between alternative offers, organizational buyers are influenced by both rational and emotional factors [35]. Rational motives are usually economic and include such variables as price, quality and service, whereas the emotional criteria are generally concerned with organizational status, security, risk avoidance, social, political or environmental concerns.

Quality, price and the ability to deliver reliably and consistently are generally regarded as the most important economic criteria by which organizational buyers evaluate potential suppliers [36–39]. Strohbehn and Gregoire [13] concur, suggesting that in purchasing food ingredients, a chef's primary concerns are for product availability, quality and price. As purchasing needs to be efficient, effective and integrated with other responsibilities in the business, executive chefs are looking for consistent quality, reduced lead times, greater productivity, smaller inventories, reliable delivery and lower overall cost [28]. Product quality, product knowledge, the ability to meet deadlines, meeting immediate needs and a commitment to service were the most important criteria by which potential suppliers were evaluated. Ideally, preferred suppliers were not only able to demonstrate a commitment to continuous improvement, but also their ability to respond to changing requirements, to extend the product range and a willingness to share information.

In considering product quality, Bergström et al. [40] highlighted the importance of food safety and the absence of food additives and foreign substances. In addition to various aspects such as taste, flavor, appearance and consistency, quality aspects such as the appearance of the food after boiling, frying or baking were also taken into consideration. So as to assure downstream customers that the food ingredients had been produced in a manner that was both ethical and environmentally responsible, chefs need to know when, how and where the various food ingredients have been produced [28]. A competitive price, although important, was very much a secondary consideration. However, in order to ensure a regular and reliable supply, executive chefs, at their discretion, often investigated the financial stability of potential suppliers [41].

As restaurants face considerable challenges in responding to highly variable customer demand and potential losses caused by food spoilage, waste, theft and over-portioning [42], established relationships with suppliers can enable restaurants to reduce costs, improve product quality and customer service [43]. Long-term relationships are advantageous for both restaurants and their suppliers, as they create value and help businesses maintain a competitive advantage [27]. Executive chefs value the personal relationships they have with their suppliers because it allows them to develop trust in the quality and reliability of supply. Furthermore, regular contact with suppliers is essential to maintain a good relationship, to effectively work together to improve quality, launch and develop new products, and collaboratively solve problems [28]. Chefs want information on the likely impact of adverse weather conditions on product quality and availability, changes in products across the year and delivery schedules. Not unexpectedly, strong personal relationships between restaurants and their food ingredient suppliers had some impact on the continuation of long-term business relationships [27].

The implementation of green practices in the hospitality industry varies based on internal organizational factors (such as financial strength) and external business variables (such as consumer demand and environmental regulations). However, managers who are committed to the implementation of green practices are not only more proactive but also more likely to recognize the benefits derived from implementing more sustainable practices [20]. Indeed, the implementation of green restaurant practices may not occur unless managers perceive benefits such as cost savings and the positive effects on brand image. Similarly, Chou et al. [44] noted that the intention to adopt green restaurant practices was related to the manager's attitudes to the environment, the degree of social approval from internal and external stakeholders, and resource constraints, both internal and external. DiPietro [45] concluded that managers who believed that green practices would have positive benefits for the restaurant were more likely to adopt green practices.

3. Materials and Methods

Based on an extensive review of the literature, a structured questionnaire was developed in the summer of 2019. The questionnaire, which comprised 21 questions, was divided into six parts: (i) about the restaurant; (ii) the adoption of sustainable practices; (iii) sustainable sourcing; (iv) benefits derived from the adoption of sustainable sourcing; (v) constraints to the adoption of sustainable sourcing; and (vi) a number of questions about the respondent.

To test the survey instrument, three in-depth face-to-face interviews were undertaken with executive chefs and restaurant owners. These interviews lasted between 25 and 40 min, depending on the respondents' enthusiasm and interest in the topic.

After minor revision, a total of 119 personal face-to-face interviews were conducted with executive chefs and restaurant owners in Paris and Lyon, Auvergne and in the peri-urban region of Ile de France. As the costs for data collection were drawn entirely from personal funds, a convenience sample was selected to minimize costs.

Each day, a different area within the region was targeted. Regardless of the restaurant type, respondents were simply approached at their place of work and asked if they would be willing to complete the survey instrument. Before proceeding, all respondents were

asked if they were responsible for making the decision to purchase from fresh food suppliers. Where the respondent was not engaged in food purchasing and procurement, the respondent was thanked and the interview terminated.

The interviews were conducted in French as the respondents were all French native speakers. On average, eight restaurants were interviewed per day, with, on average, three refusals to participate per day.

Based on industrial purchasing theory, executive chefs and restaurant owners were asked to rank the importance of 28 items that dealt with food purchasing and procurement on a five-point Likert scale, where 1 was "not at all important" and 5 was "very important". Similarly, based on the review of literature, respondents were asked to rank 21 benefits and 25 barriers to green purchasing on a five-point Likert scale where 1 was "I strongly disagree" and 5 was "I strongly agree".

The respondents' answers to the questionnaire were recorded electronically using Qualtrics. After data cleaning, checking and editing (where necessary), the data were subsequently exported to SPSS v 27 for analysis.

4. Results

4.1. Importance of Purchasing Criteria

As most restaurants and cafes were purchasing fresh food ingredients on a daily basis, as expected, the capacity of the supplier to deliver the desired quantity of products, quickly and on time was required by all executive chefs (Table 1).

Table 1. Importance of supplier purchasing criteria.

My Supplier:	Mean	Standard Deviation
Delivers on time	4.63	0.735
I trust my preferred supplier	4.47	0.689
Has products with good taste	4.44	0.825
Delivers products in the quantity I need	4.40	0.898
Delivers quickly	4.31	1.054
Has fresh products	4.31	0.967
Has a good reputation	3.96	1.043
Has local products	3.96	1.209
Engages in the ethical treatment of animals	3.85	1.081
Is financially strong	3.68	1.143
Provides seasonal products	3.67	1.300
Is from my desired region [provenance]	3.66	1.415
Is close to my restaurant	3.65	1.235
Has a short supply chain	3.60	1.266
Offers competitive prices	3.57	1.255
Is quality certified	3.56	1.157
Has chemical-free and/or organic products	3.55	1.275
Has many different varieties of product	3.49	1.378
Has products available all year round	3.44	1.354
Has products with the desired physical appearance	3.22	1.344
Promotes sustainability	3.14	1.324
Supports local organizations and charities	3.14	1.287
Often communicates with me	3.13	1.448
Is actively involved in waste management	2.99	1.330
Is actively involved in conserving energy	2.96	1.364
Reduces/reuses packing cases	2.95	1.343
Has a strong customer base	2.66	1.214
Can provide credit	2.63	1.349
N	119	

Where 1 is "not all important" and 5 is "very important".

Similarly, with regard to product quality, all of the executive chefs expected their suppliers to deliver fresh food products that ultimately resulted in the delivery of good tasting food to patrons. The importance of the relational elements in the transaction between fresh food suppliers and the executive chefs were highlighted by the importance given to the trust dimension. In markets where relatively high levels of perceived risk are associated with product purchase, customer trust can play a pivotal role in supplier selection and patronage [46]. Trust is a cumulative construct that develops over time as a consequence of numerous positive experiences with the product offer [47].

To facilitate the trust-building process, suppliers needed to work with their downstream customers, seeking wherever possible, to improve product quality, the reliability of supply during the season and to extend the product range. However, the most important trust-building activity was communication: executive chefs need to know in advance if any situational factors may negatively impact product quality, or for whatever reason, disrupt the continuity of supply.

Given the high standard deviation that was observed for many of the responses, a two-stage cluster analysis was undertaken using the methodology proposed by Hair et al. [48]. Hierarchical cluster analysis was first performed to identify the optimum number of clusters, using an agglomerative method based on the minimum distance between unclustered observations. As there are no statistical significance tests to determine the optimal number of clusters, one of the most simple approaches is to examine the measure of similarity or distance between clusters at each successive step, with the cluster solution defined when the similarity measure exceeds a specified value or when the successive values between steps make a sudden jump. Based on these criteria, there were two possible solutions: a two-cluster solution or a five-cluster solution.

Using k-means clustering, the five-cluster solution was tested to: (i) identify the number of respondents in each cluster; and (ii) using ANOVA and the post-hoc tests, to determine any significant difference in the means between the clusters. With cluster sizes of 6, 35, 39, 9 and 30 respectively, and with 40 percent of the analyses producing only 2 subsets, it was apparent that the two-cluster solution might be the better option. Hence, using k-means clustering, a two-cluster solution was tested, using the independent sample *t*-test to identify any significant differences between the means (Table 2).

For Cluster 1 (the conventional buyers), reliable delivery of the desired quantity of fresh food was among the most important attributes sought from suppliers. While freshness and good taste were highly valued, the members of Cluster 1 placed much greater importance on the delivery of fresh food products all year round. This implied that their menus were fixed, supported, in part, by the low level of importance placed on the suppliers' ability to deliver a wide range of fresh food products. While the fresh food products that they purchased were expected to meet some predetermined visual quality standards, much less importance was given to the intrinsic quality dimensions such as provenance, chemical-free or organic, and the ethical aspects such as animal welfare. For the members of Cluster 1, it was of no importance to them that their suppliers engaged in sustainable practices such as waste management, recycling, energy conservation, or whether they supported local communities and/or charities.

However, for the members of Cluster 2 (green buyers), it was evident that they preferred to transact with upstream suppliers who had a good reputation and in whom, after many repeat transactions, they had developed an element of trust. Preferred suppliers were capable of delivering fresh, local products from the buyer's desired provenance that tasted good and had been produced with minimal impact on the environment, sustainably and ethically.

Table 2. Importance of supplier purchasing criteria by cluster.

My Supplier:	Means		Sig. Two-Tailed
	Cluster 1	Cluster 2	
Delivers on time	4.64	4.61	0.823
Delivers products in the quantity I need	4.58	4.36	0.175
Delivers quickly	4.38	4.25	0.507
I trust my preferred supplier	4.22	4.71	0.000
Has products available all year round	4.18	2.87	0.000
Has products with good taste	4.16	4.68	0.001
Has fresh products	4.04	4.61	0.002
Has a good reputation	3.78	4.19	0.025
Offers competitive prices	3.66	3.48	0.430
Has products with the desired physical appearance	3.58	3.10	0.039
Is financially strong	3.54	3.86	0.130
Has local products	3.34	4.55	0.000
Engages in the ethical treatment of animals	3.32	4.33	0.000
Is close to my restaurant	3.14	4.09	0.000
Is from my desired region [provenance]	3.10	4.17	0.000
Is quality certified	3.06	3.99	0.000
Has many different varieties of product	2.76	4.14	0.000
Has chemical-free and/or organic products	2.76	4.20	0.000
Has a short supply chain	2.74	4.29	0.000
Provides seasonal products	2.70	4.48	0.000
Can provide credit	2.58	2.71	0.604
Has a strong customer base	2.44	2.83	0.087
Promotes sustainability	2.32	3.80	0.000
Is actively involved in conserving energy	2.24	3.51	0.000
Supports local organizations and charities	2.18	3.93	0.000
Often communicates with me	2.16	3.86	0.000
Reduces/reuses packing cases	2.08	3.64	0.000
Is actively involved in waste management	2.02	3.75	0.000
N	50	69	

Where 1 is "not all important" and 5 is "very important".

A competitive price was of lesser importance for both clusters. However, so as to assure buyers of supply, the financial strength of the supplier was of moderate importance for the members of both clusters. On the other hand, the ability of the supplier to extend credit was of relatively little importance. This implied that either all suppliers offered credit, or that, because of the nature of the business and the frequency of deliveries, as inventory was used relatively quickly, most restaurants had sufficient cash flow.

These clusters were subsequently used to identify any significant difference between respondents in terms of; (i) the benefits derived from the adoption of sustainable purchasing practices employed; (ii) barriers to the adoption of sustainable purchasing practices; and (iii) the personal beliefs of the respondents. Given the presence of only two clusters, the independent sample *t*-test was utilized ($p = 0.05$), with cross-tabs employed to profile the restaurants found in each of the clusters.

4.2. Profile of the Respondents

To gain a greater understanding of the composition of the clusters, cross-tabulations were conducted using a range of parameters. It was immediately evident that a greater proportion of the restaurants and cafes in Cluster 1 (conventional buyers) were either offering fast food (20%) or operated a more informal, lower-cost meal service (buffet) (18%). A higher proportion of the restaurants and cafes in Cluster 1 were operating as either a partnership (22%) or a franchise operation (14%) (Table 3).

Table 3. Profile of restaurants participating in the study.

		Frequency	
		Cluster 1	**Cluster 2**
Type of cuisine			
French		22	38
European		7	6
Asian		5	6
Fast food		10	4
Others		6	13
Service category			
Buffet		9	5
Casual dining		26	43
Fine dining		5	17
Fast food		10	4
Operational mode			
Independent		29	52
Partnership		11	2
Franchise		7	4
Restaurant chain		3	11
Location			
Village	Non-metropolitan	4	8
Small town		31	16
Town	Metropolitan	4	15
City (>50,000)		11	30
Seating capacity			
Less than 10		4	4
10–30		17	27
31–50		17	22
51–100		4	12
101+		8	4
N		50	69

Conversely, a greater proportion of the restaurants in Cluster 2 were operating as either casual dining (62%) or fine dining establishments (24%), with the vast majority of restaurants and cafes (75%) independently owned. However, it was also of interest to note that some 16 percent of the restaurants and cafes in Cluster 2 were operating as part of a restaurant chain, where presumably green practices were embedded as an integral part of corporate social responsibility.

While there was little to differentiate between the clusters in terms of seating capacity, it was evident that the majority of the restaurants and cafes in Cluster 1 were operating in a non-metropolitan area (70%), whereas a greater proportion of the restaurants and cafes in Cluster 2 were operating in larger towns and cities (65%).

With the majority of the industrial purchasing models highlighting the importance of personal variables in the decision to purchase, it was no surprise to find that the members of Cluster 2 expressed a greater desire to support local farmers/suppliers, to provide ethical food, to deliver a positive environmental message through their cuisine and to have strong personal beliefs about sustainability. Of particular note, whereas the members of Cluster 2 believed that their actions could make a tangible difference, the members of Cluster 1 were much less convinced (Table 4).

Table 4. Personal beliefs of the respondents.

	Mean		Sig. Two-Tailed
	Cluster 1	**Cluster 2**	
I want to meet customers' expectations	4.56	4.30	0.067
I want to support local farmers/suppliers	3.62	4.23	0.001
I want to provide ethical food	3.12	4.07	0.000
I want to deliver a positive message through my cuisine	3.14	4.03	0.000
I have strong personal beliefs about sustainability	3.10	3.75	0.005
I believe I can make a difference	1.90	3.48	0.000
I have social pressure to be sustainable	3.28	3.12	0.520
I am not interested in environmental issues	2.52	2.30	0.408
N	50	69	

Where 1 is "I strongly disagree" and 5 is "I strongly agree".

4.3. Benefits and Barriers Derived from Sustainable Purchasing

For the members of Cluster 2, sustainable purchasing was perceived to lead to improved customer satisfaction and loyalty, in part, through improved product quality and taste, but also through an improved social image (Table 5).

Table 5. Benefits derived from sustainable purchasing.

	Mean		Sig. Two-Tailed
	Cluster 1	**Cluster 2**	
Improved customer satisfaction	3.26	4.33	0.000
Improved quality	3.82	4.29	0.005
Helping local economy	3.40	4.23	0.000
Increase customer loyalty	3.34	4.23	0.000
Reduced environmental impact	4.04	4.19	0.414
Reduction in solid/liquid waste	3.14	4.13	0.000
Improved social image	3.38	4.09	0.000
Better relations with customers	3.42	3.96	0.007
Improved recycling	3.52	3.94	0.049
Improved taste	3.42	3.93	0.015
Gain new customers	3.16	3.93	0.000
Reduction in greenhouse gas emissions	3.60	3.74	0.460
Greater social commitment	3.50	3.57	0.766
Improved competitiveness	2.30	3.54	0.000
New market opportunities	3.02	3.46	0.036
Better relations with suppliers	2.32	3.46	0.000
Improved sales	3.10	3.41	0.078
Increased staff motivation	2.20	3.35	0.000
Improved market share	2.26	3.14	0.000
Improved profit margin	1.96	2.78	0.000
Lower cost	1.76	2.62	0.000

Where 1 is "I strongly disagree" and 5 is "I strongly agree".

In addition to the positive impact on the environment through a reduction in waste, improved recycling and a reduction in greenhouse gas emissions, sustainable purchasing was also perceived by the members of Cluster 2 to result in better relationships with customers, better relationships with suppliers, to attract new customers, and collectively, to improve market share and improve competitiveness.

For Cluster 1, the most highly rated benefit derived from sustainable purchasing was the positive impact on the environment. However, albeit that the members of Cluster 2 were more positive in their outlook, both clusters believed that pursuing a sustainable purchasing strategy did not result in lower costs, nor did it result in an improved profit margin.

On the other side of the ledger, the members of Cluster 1 were seen to rank the perceived barriers to the adoption of sustainable purchasing more highly than the members of Cluster 2 (Table 6).

Table 6. Barriers to the adoption of sustainable purchasing.

	Means		Sig. Two-Tailed
	Cluster 1	Cluster 2	
Other priorities/investments were more important	4.18	3.54	0.001
Customers do not want to pay the higher price	4.14	3.71	0.017
High cost	3.98	3.38	0.004
High investment	3.88	3.16	0.001
Difficult to implement an environmentally friendly kitchen	3.76	3.01	0.000
No government support	3.76	3.35	0.058
Lack of financial resources	3.70	3.48	0.236
Insufficient time	3.66	3.01	0.004
Current products meet customers' requirements	3.62	2.94	0.004
Lack of technology	3.50	3.45	0.811
Insufficient technical expertise	3.44	3.43	0.981
Suppliers not committed	3.40	3.49	0.648
Lack of training	3.32	3.28	0.827
Low return on the investment	3.28	3.07	0.252
Lack of knowledge about environmental standards	3.18	3.12	0.746
Difficulty in finding suitable suppliers	3.08	3.36	0.164
Lack of motivation	3.04	2.55	0.049
Lack of space	3.00	2.77	0.263
No economies of scale	2.72	2.78	0.728
Difficulties in recycling	2.62	2.68	0.804
No real benefit	2.52	2.35	0.454
Restaurant is too big	2.40	2.40	0.989
Disbelief about the environmental benefits	2.20	2.01	0.399
Poor customer awareness	2.20	2.57	0.088
Poor quality of sustainable products	2.12	2.23	0.609

Where 1 is "I strongly disagree" and 5 is "I strongly agree".

For both clusters, the key constraints to the adoption of sustainable purchasing were the high investment costs, the higher operational costs, the lack of financial resources, competition from within the business for capital, and the unwillingness of customers to pay a higher price.

While the lack of government support, technical expertise and technology were also noted, for the members of Cluster 2, barriers such as the lack of time, the lack of motivation and the belief that existing products currently met customer's expectations were all ranked significantly lower, implying that where the respondents had a strong desire to support sustainable practices in their restaurant or cafe, these barriers could be readily overcome.

5. Discussion and Conclusions

For fresh food suppliers, irrespective of whether restauranteurs are operating a green or conventional business, as most restaurants and cafés have limited storage capacity, the reliable and timely delivery of the required range and quantity of product is paramount.

However, in relation to product quality, and in particular, to the intrinsic quality dimensions of the food, a clear distinction can be made between those restaurants and cafes that are pursuing sustainability and those that are not. In the first instance, the personal beliefs of the owner/operator(s) will have a profound effect on whether the business pursues a sustainable strategy. Where the restaurant or cafe seeks to become sustainable, much greater emphasis will be placed on local products from the buyer's desired provenance that not only tastes good, but has been produced with minimal impact on the environment, sustainably and ethically. While such products may not always the

most visually appealing, the superior taste and freedom from chemical residues were perceived to be more important.

In procuring the best quality food ingredients, for those executive chefs operating a green restaurant or café, they preferred to deal with many small suppliers, with whom they had developed a long-term relationship based on their suppliers' reputation for delivering premium quality products in season. A competitive price was less important in these relationships because of the improved taste and the ability, in part, to pass some of the increased food costs onto patrons.

Although many preferred suppliers possessed third party quality assurance certificates, their relationships with executive chefs were largely built on: (i) the trust that preferred suppliers would continue to do the right thing for the environment, their workers and where appropriate, the animals within their care; and (ii) suppliers communicated regularly with the executive chefs to advise them of product quality and availability. For those restaurants pursuing a sustainable purchasing strategy, continuity of supply was important during the season, but because their menus were seasonally adjusted, executive chefs did not require supply all year round.

While the pursuit of a green purchasing strategy was perceived by green restauranteurs to lead to improved competitiveness, considerable doubts were expressed as to whether green purchasing actually led to improved profitability. The key constraints in the adoption of sustainable purchasing practices were the high investment cost, the higher operational cost, the lack of financial resources, the lack of knowledge and appropriate technologies, and the difficulties associated with finding suppliers who were committed to sustainable practices. The unwillingness of diners to pay a higher price no doubt contributed to the difficulties associated with generating a greater profit.

However, the personal beliefs of the owner/operators were also observed to have a profound effect on the perceived benefits and barriers associated with sustainable purchasing. While financial constraints were important for all restaurants and cafes, where the owner/operator(s) had a strong desire to support sustainable practices in their business, the barriers to sustainable purchasing could be more readily overcome. Similarly, for those businesses pursuing sustainable purchasing, their actions were perceived to have a more positive impact on the environment and to improve relationships with customers and suppliers.

Limitations and Opportunities for Further Research

While this study has been able to identify the presence of two distinctly different clusters with respect to sustainable purchasing and the perceived benefits derived from the implementation of sustainable practices among the restaurants and cafes in France, the small sample size (119) precluded any opportunity to undertake a more quantitative examination of the determinants of sustainable supplier selection. Given the large number of variables known to impact supplier choice, Hair et al. [48] indicate that a sample size of around 300 would be required to identify any underlying or latent constructs that might subsequently be used to demonstrate any causal relationships.

Unlike the study reported by Roy et al. [27], no attempt was made to determine who the suppliers of food ingredients to the restaurants and cafes were. Executive chefs could have been transacting directly with food producers in the rural or peri-urban areas or with highly specialized wholesalers who sourced the product from multiple food producers. Hence, in undertaking any further study of sustainable purchasing by restaurants and cafes, not only should the various types of suppliers be identified, but also the number of suppliers with whom the restaurant or cafe transacts.

Furthermore, as the product quality parameters utilized by executive chefs are expected to be very different for fresh fruit and vegetables, meat, dairy, fish and indeed for beverages such as wine and beer, not only should the type and number of suppliers be identified for each product type, but the importance of the offer quality determinants may also vary by product type. While there is an abundance of studies on consumer

behavior towards different fresh food categories, literature on the purchasing of different food categories by restaurants, cafes and other institutional food users is more limited.

While those executive chefs engaged in green purchasing believe that locally produced food is more sustainable, opportunities exist to test this proposition. Where many small, specialized suppliers are delivering to restaurants and cafes on a regular basis, it is highly likely that the transport and distribution costs associated with purchasing locally could have a significantly larger carbon footprint.

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