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Exploring the Drivers and Barriers to Green Supply Chain Management Implementation: A study of Independent UK Restaurants

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Abstract

This is an exploratory study into the drivers and barriers faced by independent restaurants when implementing green supply chain management (GSCM) practices. There is a limited evidence in the literature that attempts to explore GSCM implementation practices in the restaurant industry. The study follows a qualitative interviewing and grounded theory approach. Analysis of the results revealed that restaurants experience many of the same drivers and barriers identified in the existing literature with notable exceptions such as the drivers of company ethos and a media focus. Whereas the key barriers emerged from the study are logistics, skepticism, corporate lying and the owner's financial responsibility. These findings could be indicators of the wider experience of the UK independent restaurant industry. The study contributes to the literature by offering an insight into how the previously unstudied experiences of UK independent restaurants are similar and different to that of the larger restaurant chains and SMEs in other industries.

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1. Introduction

The hospitality industry is the third largest food waste producer in Europe and within this industry, restaurants are second in terms of food waste and energy usage [1], [2]. Therefore, green policies in restaurants are important in the global move towards reducing emissions. In addition, 90% of UK firms are SMEs, meaning a large proportion of UK restaurants are SMEs [3]. Despite the cumulative environmental impact of these restaurants, this area has been largely ignored by literature which tends to consider environmental policies of larger chains. This is especially the case with green supply chain management (GSCM) where most studies consider manufacturing industries. Therefore, there is a need to study GSCM practices in SMEs like restaurants due to

their cumulatively large emissions contribution, yet there is little research into what drives them to adopt these policies and the barriers they face, especially in the European context.

This study therefore aims to explore the drivers and barriers to Green Supply Chain Management (GSCM) in the British independent restaurants. The key objectives of this research are, (1) To understand the independent restaurants' level of supply chain awareness; (2) To identify drivers that cause restaurants to implement GSCM practices; and (3) To identify barriers affecting the implementation of GSCM practices by restaurants.

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1.1. Overview of GSCM Literature

There is no one definition of GSCM [4] [5] [6]. For example, some see it as the integration of environmental concerns into the supply chain [5] [7]. Contrastingly, [8] argue that it should be a completely environmentally friendly supply chain. The difference here is the level of environmental commitment needed to achieve the definition of GSCM. Again, [9] found that GSCM can range from reactive monitoring of environmental impact to proactive impact reduction. Bullock and Walsh [10] explain this discrepancy by asserting that going green is a process, not an event, meaning that different levels of implementation can be experienced over time and in different parts of the supply chain. In addition to this debate, there is also discussion as to which parts of the supply chain should be included in the definition. This study defines GSCM as the active integration of environmental considerations into the supply chain. It covers everything from procurement of natural resources to disposal at end of life, including by-products and waste produced at each stage.

The boundary of where a supply chain begins and ends has always been contentious in the field of supply chain management researchers [5], [11], and [10] see supply chain responsibility as running from procurement of raw materials to end of life disposal. However, Linton et al. [12] believe responsibility for one's supply chain runs from raw materials to delivery to customers, not what happens thereafter. The question here is whether companies are responsible for their down-stream supply chains [5]. In addition, some question whether environmental costs associated with by-products and waste should also be considered [10] [12]. This study defines GSCM as the active integration of environmental considerations into the supply chain. It understands the definition of a supply chain to cover everything from procurement of natural resources to disposal at end of life, including by-products and waste produced at each stage.

There is an academic consensus that the field of GSCM developed due to exponential growth in awareness of environmental issues [6] [7] [13]. Social awareness of environmental problems began rising in the late 1980's and has led to what [14] describe as the "greenness" paradigm [15]. Here, "green" refers to the integration of environment concerns into everyday actions [6] [9]. As part of this growing social awareness, organizations and their supply chains were identified as generating excessive emissions and waste and consuming large amounts of resources, and therefore have been pressured to change [6] [13] [16]. As a result, academics and practitioners developed GSCM to find a solution to poor corporate environmental performance [6] [7]. Organizations have been forced to take the field seriously due to regulation, pressure from stakeholders and resulting worries about reputation and market share [7] [13] [17].

Since 2010, there has been an exponential increase in researchers focusing on GSCM, however, the field is not saturated [6]. Contrastingly, [8] argued that the concept is still new and has not yet reached widespread mass consumerism. Patel and Desai [18] corroborate with this by asserting that although many organizations understand the market need to address environmental impacts, industries across the world still

struggle to adopt these policies. Environmental issues are one of the main challenges for contemporary society meaning the ability for organizations to implement green policies must be a key goal of contemporary business [6] [14]. The fact that despite the current literature, many industries are failing to implement GSCM demonstrates the need for continued research in the field.

1.2. Drivers and Barriers to GSCM

Drivers are factors that push organizations to implement GSCM, whereas barriers hinder implementation [6]. The drivers most referred to in the literature are: environmental regulation [2] [12] [19] [20]; stakeholder pressure [2] [8] [12] [19] [20]; environmental pressure [5] [21] [6]; cost reductions [2] [9] [12] [13] [20]; managerial mindset [19] [20]. However, the last two drivers can also be barriers [5] [8]. Other barriers referred to are: employee ambivalence [5] [8] [18] [20]; non-cooperation from supply chain actors [5] [6] [7] [10].

Globally, governments are promoting green practices and going forward this regulation will make environmentally irresponsible organizations and industries increasingly difficult to sustain [5] [21] [22]. Zhu and Sarkis [30] stated that greater environmental regulatory pressures on an organization, cause quicker adoption of GSCM practices. Stakeholder pressure is another strong driver as stakeholder trust is central to long-term business success [21]. A good image attracts highly qualified workers and improves long-term earnings [5] [21]. Conversely, a bad reputation causes loss of customer trust, damaging long-term earnings. It is for these reasons that academics have argued that stakeholder pressure is a pertinent driver of GSCM adoption [5] [13].

Environmental pressure is a driver because concerns such as weather volatility and melting ice caps that once seemed future problems are happening today [5] [6] [16]. In addition, the science on organizations' environmental impact has improved making it harder to ignore and increasing pressure to respond [21]. Aside from risk of reputation loss, this environmental emergency could soon cause scarcity of resources in unsustainable supply chains [5]. This would cause price increases, leading to loss of custom [5]. Therefore, environmental pressure risks damaging the long-term prosperity of the organization that does not adopt green practices.

Now to consider factors that can be both drivers and barriers. To begin with cost as a driver, it has been argued that motives for GSCM adoption are often financial [13] [15]. Linton et al. [12] explain that this is because implementing GSCM can cause cost reductions whilst having a neutral or positive effect on value via customer perceptions. This cost reduction is achieved through improved efficiency, for example, elimination of waste and by-products or finding alternative uses for them [5] [23] [24]. In addition, external environmental harm is often internalised into organizations' costs through taxes and fines [5] [12]. [12] call this the "triple bottom line", a consideration of social and environmental costs in addition to traditional economic costs. Here, a reduction in external harm would reduce economic cost. For example, when BP's chief executive sought to reduce carbon emissions in their supply

chain. Initially this cost the company \$20 million, but within the first few years of implementation they had saved \$650 million [21].

The BP example illustrates the driver of operational cost reductions, but it also demonstrates the barrier of initial costs, caused by a need to invest in new technology or employee training [5]. This implementation cost has been referred to as the most commonly mentioned GSCM barrier [5] [7]. However, despite the majority opinion of initial cost as a barrier, this belief is not universal. Chiu and Hsieh [25] found in the context of Taiwanese restaurants that implementation costs are often low and offset by immediate economic advantages. However, this result may be context specific. There is also debate as to whether long-term operational cost reductions are guaranteed. Authors such as [9] and [20] consider links between sustainability and profitability to be tenuous. [12] believe there are often trade-offs between sustainable and economic goals, further demonstrating this split in the literature. Practitioners have also demonstrated doubts over whether cost is a driver or a barrier. Kasim and Ismail [8] found that many managers believe that GSCM would be detrimental to profits and maintaining market share. [5] support this by explaining that uncertainty about GSCM outcomes can be a barrier. Therefore, although some academics argue that cost reductions are a driver of GSCM, it seems that in industry, uncertainty about these benefits, combined with implementation costs can make cost a barrier.

The other factor that can be either a driver or barrier is managerial mindset. An environmentally conscious management team can drive GSCM, whereas apathy to environmental initiatives act as a [5] [8] [19]. This is because top management hold decision-making power and the work culture of that organization develops from these top-level decisions [8]. Managers' uncertainty about GSCM, explored above, therefore results in a low adoption rate of GSCM [18].

However, it is not only top management that can be a barrier, inexperienced and unmotivated employees can also hinder implementation. For example, [10] argue that for GSCM to work, everyone involved needs to think and act green. Similarly, [5] cite lack of employee involvement as causing numerous GSCM failures. Therefore, the literature urges managers to offer environmental training and reward employees who demonstrate environmental commitment [8] [18] [20]. However, offering training and rewards incurs costs, bringing us back to the barrier of initial cost. This demonstrates that cutting back on initial costs of GSCM can create other barriers, such as inexperienced and unmotivated staff.

The final barrier is non-cooperation from supply chain actors. If a supplier is not onboard with environmental initiatives, GSCM cannot be implemented as a successful green supply chain necessitates deep involvement of all supply chain partners [6] [7] [10] [23]. The consumer is another supply chain actor of importance if end of life and disposal is considered part of the supply chain. This inclusion means that effective GSCM relies on the cooperation of both up and down-stream actors and lack of cooperation from either end is a barrier [7].

In summary, discussions from the current literature identifies several drivers and barriers to GSCM as shown in Table 1 below. However, different industries face different

barriers and drivers [26]. [6] have argued that the reason that barriers and drivers occupy a significant number of papers in new literature on GSCM is that they are still underexplored in new contexts. One of these under-researched contexts, according to [8] and [9], is restaurants and food production.

Table 1. Key Drivers and Barriers of GSCM Derived from Literature

Drivers	Barriers
Environmental Regulations	Costs
Stakeholder Pressure	Managerial Mindset
Cost Reduction	Employee Engagement
Managerial Mindset	Non-Cooperation of supply chain actors
Environmental Pressure	Lack of Strategic Thinking
	Invisibility of Green Initiatives
	Lack of Awareness

1.3. GSCM in the Restaurant Industry

The hospitality industry has been identified as a key emitter of greenhouse gases and the third largest food waste generator in Europe [2] [25]. Within this industry, restaurants are ranked second in terms of resource use and waste, and as dining out increases, this impact will grow [1][2]. Resultingly, there is increasing recognition of the potential impact of green practices in restaurants [27]. Researching the supply chains of these restaurants is important as supply chains have lengthened and globalised in recent years [11]. This results in, not only a disconnect between consumers and their food's origins, but also between restaurants and origins of ingredients [11]. Therefore, green supply chains are particularly important in the restaurant industry.

Despite the importance of studying green practices in restaurants demonstrated above, literature is limited [8] [9]. Most studies on GSCM in hospitality focus on hotels and of those that do focus on restaurants, many look to large chains rather than independent owners [1] [8] [27]. Despite this dearth of literature on green practices in restaurants, the field has recently been growing [8] [9]. Within this limited pool, several papers consider consumer views on green restaurant practices, but few consider the restaurant perspective of barriers and drivers to green practices [15] [27] [28] [29].

As with mainstream GSCM literature, researchers on GSCM in the restaurant industry see the growing green movement and resulting consumer interest in green practices as allowing restaurants that demonstrate green practices to customers to gain competitive advantage [9] [25] [27]. Filimonau et al. [2] advocated government regulation as vital to reductions in food waste in the food industry. Finally, much of the literature mentions cost benefits gained through reducing waste, by-products, energy usage and through recycling which reduces waste removal costs [5] [8] [15].

With regards to barriers, similar to the SME context, the main barriers cited are lack of resources and lack of knowledge. These two barriers are symbiotic as restaurateurs who lack knowledge of green practices often fear high associated costs and as independent restaurants often have little spare resources, lack of knowledge and resources act as a dual barrier [8] [15].

Restaurateur lack of knowledge is not the only knowledge barrier, Shubert et al. [15] pointed out that restaurant green practices are often invisible or unproven to customers. This erodes the competitive advantage that engaging in such practices brings. Finally, as with mainstream GSCM literature, [2] highlighted that managerial intent is the main determinant of commitment to green practices in the hospitality industry. Therefore, it can be considered a driver or a barrier depending on level of managerial commitment in each restaurant.

It has been demonstrated that while many studies of GSCM exist, most focus on manufacturing industries [19] [30] [31]. This focus is replicated in the SME context [24] [32] [33]. This means there is comparatively less literature on other industries such as hospitality. In addition, studies on hospitality tend to focus on hotels, and those that do focus on restaurants often study easier to reach, large restaurant chains [1] [8] [27]. Therefore, this study is an intersection between literature on SMEs and the restaurant industry, as existing literature on restaurants does not consider SME restaurants.

There are similar studies into the drivers and barriers of GSCM in independent restaurants, however, these tend to be based in East Asian contexts, and few reported in the European context [1] [8] [9], and in the UK context it largely remains unexplored. Filimonau et al.'s [2] research on food waste mitigation in UK coffee shops is the closest recent UK study. However, it does not consider the supply chain and focuses on coffee shops rather than restaurants, therefore is noticeably different to this study. This study will contribute to existing literature by addressing the literature on GSCM in independent UK restaurants.

2. Research Methodology

Social sciences have two contrasting epistemological research philosophies: positivism and constructivism. There are also two main research methods: quantitative and qualitative. As the positivist approach believes in the existence “true” answers, it fits with the quantitative, deductive method of creating a hypothesis and testing its “truth” [34]. Conversely, qualitative methods adopt an inductive approach where emphasis is on generating theories and the belief that the social world is a constantly shifting phenomenon created by individuals, rather than there being “one truth” [35].

This study takes a constructivist and qualitative approach. This approach has been chosen for two reasons: the area of interest is understudied; the study does not test a hypothesis. Bryman and Bell [36] explain that a quantitative approach is suited to highly structured research with a set hypothesis to test. As GSCM in UK independent restaurants has never been explored, it would be unwise to begin research with a hypothesis. Instead, the research will be exploratory in nature, gaining data from subjective perspectives of independent restaurant managers to build a picture of the experience of UK's independent restaurants. The interviews with restaurants were conducted in city of Bristol in the UK. This emphasis on the experiences of participants demonstrates a qualitative approach [35] [36] [37].

The chosen research method is qualitative semi-structured interviewing. This method was chosen because it allows

collection of in-depth information from participants. Qualitative interviewing fits as this study aims to explore the participant experiences to identify drivers and barriers to GSCM in the independent restaurant context. Around 9 interviews were conducted between July and August 2019. Participants were managers or owners of independent restaurants in Bristol, UK. This number was chosen due to time limitation but is deemed enough as they provide enough data to offer an exploratory analysis of GSCM implementation in Bristol's independent restaurants. The study paid attention to ethical issues and approval was taken prior to data collection through interviews. Appendix A shows the interview questions used in this study.

3. Findings and Discussions

The findings of this study are based on the semi-structured interviews. Interviews took place between July and August 2019 across the Clifton, Redland, Cotham and Bishopston areas of Bristol in the UK. These are comparatively affluent areas of the city of Bristol. In total nine interviews were conducted, with managers or owners of these nine independent restaurants. All interview data have been anonymized to protect the confidentiality and anonymity of the participants and each restaurant has been allocated a number and will be referred as R1, R2, R3...R9.

The research aim was to identify drivers and barriers independent restaurants face when implementing GSCM policies. After collection and analysis of the data, three themes identified were; environmental and GSCM awareness, drivers of GSCM and barriers to GSCM. The paragraphs below present the findings from these three thematic areas.

As [10] suggested, a company cannot move towards GSCM until they are aware of their environmental impact. Therefore, it was essential to explore Bristol's independent restaurants extent of awareness towards GSCM before assessing their capability to manage their supply chains. Every owner/manager interviewed in this study demonstrated awareness of their restaurant's environmental impact. For example, R2 described their ethos as “*trying to be more environmentally aware*” and R6 believes drastic change needs to happen in the hospitality and customer services industries as they are some of the worst in terms of ethical choices. Again, when asked what practices they had implemented to reduce this impact, every restaurant had something to share. These ranged from donating food waste to community farms and allotments (R1, R2, R6 and R8) and giving leftover food to charity or to companies such as ‘Too Good To Go’ (R2, R5 and R7), to cutting out single use plastics by charging extra for takeaway cups (R3) and using biodegradable or glass packaging (R1, R4, R5, R6, R7 and R8).

At present, there are no other studies on environmental awareness focusing on the UK independent restaurants. As such, this study is unable to compare its results with any other existing data. However, similar studies, discussed in the literature review, did not find such a high awareness of the environmental impact and necessary actions taken by restaurants/SMEs. For example, Chan's [38] study of SMEs in Hong Kong and Kasim and Ismail's [8] study of independent

restaurants in Malaysia both found that although managers understood the concept of green practices, many did not intend to implement them. The only contrast to this is study of Spanish restaurants which found that managers had been introducing green operational practices [1]. Findings thus show that all restaurants interviewed are aware of their environmental impact and have implemented policies to reduce it. This level of awareness and action is higher than that found by the existing literature. This could be potentially because Bristol is a particularly environmentally aware city. More evidence is hence required from other UK cities before drawing any strong conclusions.

The second theme is drivers of GSCM. Key drivers identified by GSCM literature were environmental regulation, stakeholder pressure, environmental pressure, cost reductions and managerial mindset. Most of these drivers were also mentioned by the interviewees particularly managerial mindset, customer pressure and environmental pressure. Interestingly two new drivers emerged from these interviews are company ethos and a media focus. The most frequently driver mentioned by participants was managerial mindset, meaning a managerial desire to reduce the restaurant's environmental impact. This desire was demonstrated by participants both in explicit statements and in demonstrations of their mindset. For example, R2 explicitly said *"I think it's all down to us, as owners"*, whereas R8 demonstrated its mindset in stating, *"I get so angry when a packet of plastic straws gets delivered"*. Managerial mindset is recognized by GSCM literature as a leading driver hence this finding is in line with previous research [5] [8] [19].

Pressure from customers was demonstrated by six participants. Notably, R4 explained *"I can't imagine running a company in a different way because I feel like you'd just get so much hate from everyone."* R4 also considered the restaurant as a customer to their suppliers, demonstrating the impact customer pressure can have throughout the supply chain. Pressure from customers is a subsection of pressure from stakeholders, a key driver identified in the literature. Sarkis and Dou [5] found customer pressure to be one of the strongest drivers of GSCM, and other studies also mentioned it as a driver [20] [21]. Customers are only a sub-section of all stakeholders though which makes one question why this study did not identify other stakeholder pressure. Independent restaurants are invariably privately owned and so do not have shareholders, eliminating them from consideration. Kasim and Ismail [8] refer to the local community as stakeholders, a factor not mentioned by participants. This could be due to restaurants' customers and the local community being the same people. Interestingly, no one experienced pressure from suppliers, another stakeholder. Therefore, the findings agree with the literature that customer pressure is a main driver.

Environmental pressure was explicitly mentioned as a driver by five interviewees. However, every interviewee shared the sentiment that action should be taken to help the environment. Evidence of the passion of this worry is seen in R7's declaration, *"it's 2019 and we're killing our planet and it's disgusting"*, and in R9's justification, *"the reason we're using biodynamics is because it's the future. If we don't do this, we're all gonna die"*. These violent reactions to the question of what

drives GSCM is an embodiment of the academic consensus that once distant environmental issues now feel imminent [5] [6] [21]. Of the two factors that were not mentioned by participants, environmental regulation may be absent due to little environmental regulation for independent UK restaurants as most just cited hygiene and tax regulations. With cost reductions, the reasoning is less obvious. Although R7 mentions that a new environmental policy saved time, it did not save money. Perhaps every restaurant believed it raised costs.

Company ethos is the idea that green practices are driven by everyone in the company. For example, R9 explained: *"There is a want to be sustainable: the dining public, and from the people who work in restaurants like this. Everyone wants to be sustainable."* This displays a belief that the drive cannot only come from management. R7 demonstrates this by explaining they employ friendly staff to converse with regulars about ethical food choices. This exemplifies how even if the drive is top-down, staff must be onboard for a policy to be effective. Lack of staff engagement is considered a barrier to GSCM in the literature, not a driver. For example, [5] [8], explain that environmental programmes often fail because of low employee engagement.

Finally, a media focus has been reported to be a driver with the recent rise in awareness about the impact of plastic, emissions and climate change. For example, straws were mentioned in two interviews with R7 explaining *"straws for example, people thought nothing of it until like two years ago or something"*. They further state *"It's on social media, you don't need to be like an environmentalist, you just like to see it. So, because like all that information is so easily accessible and more and more is being revealed quickly at the moment, you pick up on the little things that you need to change"*. However, none of the participants found environmental regulation or cost reductions important enough instead, multiple managers discussed the importance of company ethos and the effect of media on environmental awareness. Due to the lack of academic backing for these two new drivers, research into how widespread they are felt and how important restaurateurs in other contexts deem them are potential areas to be explored in future research. Table 2 show the number of mentions and number of interviewees that discussed about the different GSCM drivers.

Table 2. Drivers of GSCM Discussed in Interviews

Drivers	No. of Mentions	No. of Interviews
Environmental Regulations	0	0
Stakeholder Pressure	14	6
Cost Reduction	0	0
Managerial Mindset	27	8
Environmental Pressure	8	5
Company Ethos	19	7
Media Focus	5	5

A number of barriers to GSCM were identified from the literature review as shown earlier in Table 1 such as cost, managerial mindset, employee ambivalence, lack of strategic thinking and non-cooperation between supply chain actors. The interview findings are in line with exiting literature with cost,

managerial mindset, lack of strategic thinking, employee ambivalence, non-cooperating supply chain actors (in terms of customers) and time constraints. The only barrier not mentioned was a lack of strategic thinking with some participants conversely believing it to be advantageous. Finally, new barriers included: logistics, skepticism, corporate lying, and the owner's financial responsibility.

Nearly every point made by participants about green practices was qualified by commenting that it had to be weighed up against cost. For example, R1 explained, *"it's a choice though whether you use lots of independent, small suppliers... obviously you have to weigh up against cost"*. In addition, R2 argued, *"I just feel like it all comes down to money, because... they might not have the money to have the time to do the research."* The barrier of cost is mentioned another 38 times across the nine interviews. R6 corroborates this by explaining that they can only afford to buy ethically because they are high-end and so can charge more. These findings are in line with GSCM literature which considered financial resource limitations to be a commonly cited barrier to GSCM and explained that managers often believe environmental policies would hurt profits [5].

Lack of managerial concern and restaurateur expertise were again found in both this study and the literature. These factors are linked as it is often difficult to discern whether environmentally detrimental decisions are due to lack of care or knowledge. For example, when R3 was asked what they thought of a government incentive to incentivize green restaurants, they replied, *"we're already quite good at it. I don't think it'd change much for us, but it would definitely change other places."* This same restaurant does not recycle food waste and offers customers single use coffee cups, albeit with an extra charge. Therefore, they still have an environmental impact although their attitude suggests they think further improvement unnecessary. One cannot know if this is a lack of knowledge or care, but it demonstrates how both can stop a restaurant from greening their supply chain. The literature corroborates this with multiple authors citing lack of managerial initiative as a barrier [5] [18].

Just as managerial ambivalence is the flipside of the driver of managerial mindset, employee ambivalence is the flipside of the driver of company ethos. As discussed by [10], as well as [20], who argue that employees' mindset is vital for successful green initiatives and three interviewees (R7, R8 and R9) provided evidence of how employee action is a driver, meaning that ambivalence is a barrier. As demonstrated by R7 who stressed the need to hire environmentally conscious staff so that they still separate recycling and food waste after a 12-hour shift. This demonstrates how easily initiatives can fail without staff motivation. It just takes one person to stop splitting recycling from food waste and the policy is compromised.

Most GSCM literature sees customer pressure as a driver rather than a barrier [5] [13] [21]. However, Shubert et al.'s [15] work on restaurant GSCM does mention the barrier of lack of customer knowledge making restaurants' environmental efforts "invisible" to them. This finding is wholly corroborated by this study, as exemplified by R2: *"If we were to charge the prices that we should be charging for like, hyper-ethical, insanely organic, environmental food, then... people wouldn't*

come in here because they can walk 10 meters that way and pay half the price." This sentiment is echoed in four other interviews. Unless customers understand why prices are higher and are willing to pay it, restaurants cannot implement GSCM as they will lose business. Some participants mitigated this by making sustainability their unique selling point (USP). In interviews 1, 7 and 9 they educated customers on why ethical food is expensive and the importance of their actions.

Chan [38] and Baranova and Paterson [39] mentioned how smaller businesses lack time, among other resources, which holds back 'eco-innovation'. As demonstrated in the table, this problem was mentioned by five participants. R9 summarized, *"I'm working 100 hours a week; I don't have time to sift through my bins"*. When restaurateurs work long hours, a sentiment expressed in two interviews, there is little time to research green initiatives, an activity that five participants described as time-consuming. Therefore, this study has found that the barrier of time, expressed in the GSCM literature is also a barrier for Bristol's independent restaurants. The barrier identified by existing literature that was not backed up by this study is the lack of strategic planning in SMEs. The literature argues that structure when instigating green policies allows larger firms to strategically reduce their impact [26] [39]. The participants in this study did suggest that larger corporations had advantages in implementation due to financial resources and influence over suppliers, however, a more rigid structure was not mentioned. Conversely, four restaurateurs argued that a small team is advantageous as implementing change is less complex and there are fewer people to monitor to ensure compliance. For example, R3 explained: *"If you've got a... you know, a massive chain of restaurants, you sort of can't keep an eye on how that – how environmentally friendly every single restaurant is being because it's a massive workforce. We are quite a small, little team and we can sort of dedicate more time to doing things properly"*.

Despite no mention in the existing literature, logistics and corporate lying barriers were found to be the second and third most widely mentioned barriers by interviewees. In terms of the type of service they need, four participants explained that they knew that dealing with smaller, local suppliers would give them more influence over their supply chain, but smaller suppliers cannot offer the service they need. For example, R9 explained *"a small-scale farmer will maybe do one delivery a week. We have zero refrigeration space, so we need a delivery every day"*.

Corporate lying and skepticism about whether supply chain actors are being truthful is another common grievance amongst participants. For example, R2 explained that ethical food is *"a massive industry, there's a lot of people prepared to lie to sell you their product."* However, more common was the accusation that when managing the downstream supply chain through recycling, multiple participants did not trust that where possible waste generated was recycled (R3, R4, R6, R7 and R8). There is also skepticism about the actions of consumers in the downstream supply chain with R8 questioning, *"takeaway lids, you know, we've got recyclable ones, but do people recycle them?"*

Finally, the barrier of financial responsibility of the owner was mentioned in multiple interviews. This barrier refers to the

fact that in an independent restaurant, if the restaurant does not break even or experiences cash flow issues, the money comes directly from the owner. R2 explains that you can be ethical in your choices but *“it is more expensive, and... there’s less profitability for you as a business owner to take home at the end of the month.”* R6 counters that the barrier is not always financial worries but greed. However, whether it’s greed or lack of cash, the fact that how much money the owner gets comes from *“one bank”*, as R8 put it, acts against making more expensive green decisions. This barrier is not explicitly covered in the GSCM literature because it is a problem limited to smaller businesses under private ownership. As with drivers, many of the same barriers that had been identified in the literature were brought up by participants in this study. However, the new barriers such as logistics, necessary compromises, corporate lying and financial responsibility of the owner also emerged. Further research is needed to explore whether these barriers are specific to UK restaurants, or have wider relevance. Table 3 summarizes the key barriers identified by the interviewees.

Table 3. Barriers of GSCM Discussed in Interviews

Drivers	No. of Mentions	No. of Interviews
Costs	40	9
Managerial Mindset	7	4
Employee Ambivalence	4	3
Non-Cooperation of supply chain actors	14	5
Lack of Strategic Thinking	0	0
Financial Responsibility of Owner	5	4
Lack of Awareness	13	5
Logistics	19	8
Skepticism and corporate lying	22	7
Time Constraints	14	5

4. Conclusions

The aim of the study was to explore the drivers and barriers faced by independent restaurants when implementing GSCM practices. This research was carried out with the three objectives of: understanding the level of awareness independent restaurants had about their supply chain; identifying the drivers that cause some restaurants to implement GSCM policies; and identifying barriers to GSCM in the independent restaurant sector. Qualitative interviewing and grounded theory were used to address these objectives.

The study found that awareness of the environmental impact of their businesses, and implementation of policies to reduce it, were much higher than suggested by previous literature on other industries and contexts. Research into drivers and barriers revealed that although the majority of the factors in the literature were also identified by participants, not all were found to be relevant, and new factors were also found. New drivers such as the ethos of the company and media focus emerged as well as new barriers were identified as logistics, skepticism, corporate lying and the owner’s financial responsibility.

This study was limited in three, unavoidable ways: time limitation; convenience bias; geographical specificity of results. This study is based in one British city means that the results are unlikely to be generalisable. However, [36] argue that this is the case with all substantive studies as they are reflections of specific people’s perceptions meaning the presence of this limitation in this study is unavoidable, though acknowledgement of it is important. The results offer a starting point as to the experiences of managers in the restaurant industry, but further research will be needed to test whether the results found here have a wider application.

Two types of contribution can be taken from this study, theoretical and practical contribution. To begin with contribution to theory, this is the first study into GSCM in restaurants in the UK and so offers evidence to show how the experience of managers in this industry and the context is similar and different to those already studied. The study first confirms existing drivers and barriers from the literature but also identifies additional drivers and barriers thus extending our existing understanding. From the managerial perspective, the findings of this study can help restaurant owners and managers to understand the key drivers and barriers to GSCM implementation, and most importantly understating of the innovative ways to get around the barriers.

As the subject of this study is an understudied area, this study offers an initial exploration of the drivers and barriers of GSCM implementation in the UK independent restaurants. Since the study is geographically limited to city of Bristol therefore, future research is needed to explore this broadly across the UK and other geographical regions. Further research into the causes of individual drivers and barriers is also needed and how that affect the supply chain or business performance. Particularly the newly identified barriers and drivers need to be further tested. Finally, the future research would benefit from gathering larger sample size through a combination of interviews and survey questionnaire, i.e., use of mixed methods approach.

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Appendix A: Interview Questions

How long have you managed this restaurant?

What action do you take to reduce the environmental impact of your restaurant?

How do you think restaurants affect the environment?

What do you think restaurants could do to make the biggest difference to its environmental impact? Do you do it? If so, how? If not, why not?

Do you think independent restaurants face different barriers to large chains? Why?

Do you think restaurants are responsible of the environmental impact of their suppliers?

How much do you know about where your ingredients come from?

Do you consider your supply chain to be green?

How do you address environmental issues in your supply chain? E.g. local procurement, organic ingredients, energy efficiency etc

Does your restaurant recycle? What do you recycle? How do you recycle it?

What do you do with food waste?

What causes this restaurant to think about its environmental impact?

What barriers do you face when trying to reduce your environmental impact?

Is there anything you can think of that relating to restaurants, supply chains and the environment that has not yet been discussed?
