GREEN SUPPLY CHAIN MANAGEMENT: A STUDY OF THE TOURISM INDUSTRY

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OPEN ACCESS

How to cite this paper: Abdin, Z., Albahsh, R., & Al-Anaswah, M. (2022). Green supply chain management: A study of the tourism industry. *Corporate Ownership & Control, 20*(1), 68–77. https://doi.org/10.22495/cocv20i1art6

ISSN Online: 1810-3057
ISSN Print: 1727-9232

Received: 23.09.2022
Accepted: 15.11.2022

JEL Classification: G34, M11, M14, L21
DOI: 10.22495/cocv20i1art6

Abstract

The important role of corporate governance is to align the interests of all stakeholders of a company. This role requires effort from the management towards applying sustainable business practises like green supply chain management (GSCM). This study explores the applications of the GSCM in the 5-star hotel restaurants and quick-service restaurants (QSRs) in Jordan. Questionnaires and interviews assessed several practises that reflect the GSCM and discover the drivers and barriers of the application. Results revealed that QSRs have a less environmental impact than hotel restaurants. However, QSRs lacked the application of the GSCM concept. Hotels have higher GSCM standards, but higher negative environmental impact. The research recommends a better administration of GSCM standards in order to realize good corporate governance.

Keywords: Green Supply Chain Management, Supply Chain Integration, Sustainability, Corporate Governance, Corporate Social Responsibility, Quick Service Restaurant

Authors' individual contribution: Conceptualization — Z.A. and R.A.; Methodology —R.A.; Writing — Original Draft — Z.A., R.A., and M.F.A.-A.; Writing — Review & Editing — M.F.A.-A.; Supervision — R.A.

Declaration of conflicting interests: The Authors declare that there is no conflict of interest.

1. INTRODUCTION

Organizations and policymakers are increasingly facing pressure from stakeholders to include environmental considerations within their supply chain (SC) (Grimm et al., 2018) and in the tourism industry (Meo et al., 2020; Alola et al., 2020). Focal companies realized the contribution of suppliers and sub-suppliers to the overall environmental supply chain performance through the application of the green supply chain management (GSCM) approach (Grimm et al., 2016). Although governance mechanisms to manage suppliers and sub-suppliers have been established, focal companies still lack effective tools to capture the actual environmental sustainability performance of their multi-tier supply chains, which could support them to decrease the environmental impact associated with their products like the climate crisis caused by pollution, fossil fuels, agriculture, etc. (EKOenergy, 2021), which affects lives, communities, businesses, and economies worldwide, making it the top global risk to the world (World Economic Forum [WEF], 2020).

The SC of any business has an enormous effect on the environment, either through toxic waste, deforestation, long-term eco-damage, energy use, hazardous air emissions, toxic waste, and greenhouse gas emissions (Huang, 2015). GSCM has been adopted in companies in an effort to decrease the world's carbon footprint. This means considering sustainability through using the resources rationally and developing goods, services, and products that meet the needs without compromising future generations' needs (BluGlacier, 2022), which involves everything from material sourcing to manufacturing, production, design, operations, and end-of-life management (Circular Economy Wiki, 2022). GSCM aims to mitigate the environmental impact of supply chain management, including creating value to decrease environmental impact.

Food systems, including production, transportation, and food waste, are among the biggest contributors to the climate crisis, as food accounts for over a quarter of greenhouse gas emissions worldwide (Ritchie & Roser, 2020). Production of livestock and meat emits many

greenhouse gases, like methane, therefore, global warming puts the food and beverage industry under extreme pressure. It is important for them to integrate climate risks into the manufacturing and strategic decision-making processes, according to Wulff (2020). Water, energy, and fuel are used to produce, store, cook, and move food. This emits greenhouse gases and causes climate change.

The hospitality industry plays a huge role in managing the impact on our planet (World Tourism Organization [UNWTO], 2008). Hotels must decrease their carbon emissions by 66% by 2030 to ensure not damaging the environment any further (Sustainable Hospitality Alliance, 2021). Restaurants inevitably produce a huge amount of food waste across the globe every day. Food waste ends up in landfills, meaning it produces the greenhouse gas; methane (Move For Hunger, 2022). Customer, supplier, and restaurant behaviours must change to create a greener waste system. Therefore, it is important to improve supply chain management concepts to keep up with today's volatile environmental effects (Principato et al., 2021).

This study attempts to explore corporate governance of sustainability in quick-service restaurants (QSRs) and 5-star hotel restaurants in Jordan by assessing if they apply GSCM standards. Environmental issues aren't as spoken about in Jordan; therefore, this study fills the gap about if the tourism industry has taken any initiative to become greener. The study involves areas of food procurement, menu planning and cooking, packaging for takeaway and delivery, kitchen equipment and environment, dining environment, cleaning and post-treatment, management policies, and customer education (Wang et al., 2013).

The major research question is:

RQ1: Do the 5-star hotels and QSRs implement GSCM into their practices?

Also, we compared the two types of restaurants to answer the questions:

RQ2: Which type of restaurant has more managerial policies relating to GSCM?

RQ3: Which type of restaurant has better employee training regarding GSCM?

RQ4: Which type of restaurant has greener equipment and environments?

RQ5: Which type of restaurant is performing better towards the environment?

The remaining study is structured as follows. Section 2 reviews the literature. Section 3 explains the research methodology. Section 4 shows the results. Section 5 discusses the results and Section 6 concludes and cites the recommendations and limitations.

2. LITERATURE REVIEW

In the last decades, the social and political consciousness woke up to the negative environmental and social impacts of industry (Hutchins & Sutherland, 2008), mainly, climate change and resource depletion (Carvalho et al., 2014), which led to the concept 'sustainable development' as defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (World Commission on Environment and Development [WCED], 1987, p. 37). At one time this concept was more environmentally oriented, yet the current literature considers sustainability to be supported by three main pillars: economic, environmental and also social sustainability (Elkington, 2004).

Sustainability has become a key challenge to management as the economic, environmental and social aspects are becoming of equal importance towards sustainable and stakeholder-oriented management (Carroll, 1999). Targeting sustainability within this context obliged organizations to implement regulations on corporate governance, corporate social responsibility (CSR), as well as increasing the relevance of sustainable aspects in the decision-making (European Commission [EC], 2020; Hirunyawipada & Xiong, 2018; Malik, 2015), which will lead the organization to better performance. To realize this goal, corporate governance of sustainability pillars became a crucial issue for the management and boards.

Green management is the sustainable development of a product, the organisational system, and the production process. This entails three things, the environment, the people, and the materials, in a way that would be least harmful to the environment. Green management and CSR are concerned with people, encompassing green customer education and management policies. Companies are realising environmentalism as being an important element of leadership, they recognise that sustainability is important to running a successful organisation (Taylor, 1992).

Supply chain management (SCM) definitions vary in different works of literature. In general, there are three important categories: management philosophy, implementation of management philosophy, and a set of management processes (Mentzer et al., 2001). According to Trent and Monczka (2006), SCM is a concept with a primary objective; the use of a total system perspective throughout all functions and suppliers to integrate and manage the procurement, flow, and control of materials.

Supply chain integration (SCI) investigates the synergetic relationship between the manufacturer, its customers, and suppliers (Flynn et al., 2009). Its dimensions include customers, suppliers, and internal integration. This means that everyone involved in the final product's deliverance is synchronised, and all have the same goals (Stank et al., 2001).

GSCM is a significant organisational viewpoint aiming to reach market and profit objectives by reducing environmental impacts and risks. This is done along with the improvement of the environmental efficiency of these companies and their partners (Wang et al., 2013). The term "green" in GSCM embodies CSR, environmental protection, and reduction of pollution and waste. Implementing green practices integrates sustainability into organisational structures. GSCM combines SCM and environmental management. This is where "greening the supply chain" is implemented. GSCM aims to increase market benefits and profits by improving efficiency and reducing environmental risks. This includes material selection, delivery, manufacturing, product design, and end-of-life management.

2.1. GSCM practices & standards in the food industry

Literature has focused on concepts of green design, green operations, and green manufacturing. The green design considers design issues concerned with the health and safety of the product, including its life cycle and development. This examines the importance of preventing pollution, conserving resources, waste management, and safety. Looking at green operations, these all relate to the manufacturing process, product usage, finalising the design, and logistics. Green manufacturing relates to the objectives of reducing environmental burdens by using the correct technologies and materials.

Green foods entail materials that have to do with green menu planning, cooking, packaging, and procurement. When looking at the green environment, it studies green post-treatment cleaning, green dining, and kitchen environments. Studies like Wang et al. (2013) have explored sustainability in the food industry by observing it in all stages. From buying materials to producing products and processing them to packaging, transportation, usage and marketing, and waste management, the "usage and disposal cycle" (Wang et al., 2013). Some characteristics of GSCM include supply and demand, CSR, sustainable supply chain management, green purchasing, logistics, and procurement. Chou et al. (2012) discussed that within the concept of GSCM, the process in the food industry including food purchasing, menu design, production, storage, cleaning, sales, post-treatment and services, must involve heavy sanitation, green concepts, economics and food safety, and health. The literature states the importance of composting and recycling waste (Schubert et al., 2010). Restaurants can apply sustainable practices by focusing on three major things. The first is green action, where restaurants focus on recycling, water and energy efficiency, etc. The next point is green foods, which are bought locally and are organic. The last is green giving. This includes the aftercare of where the excess food goes (e.g., donations to food banks).

Gilg et al. (2005) claimed that green restaurants focus on two E's (*Efficiency — Energy*) and three R's (*Recycle — Reuse — Reduce*). Literature also reveals how manufacturers, farms, and suppliers also cause this environmental impact. This concerns food safety issues, residues of pesticides, animal water, and manufacturing problems. The last impact comes from the linking between customers and operators, which includes unnecessary usage of plastic bags when packaging, offering disposable cutlery, etc. Considering all these factors, the food industry has high water, energy, and food consumption. Therefore, it has a huge responsibility to maintain and protect the environment, so it must take the initiative to reduce its carbon footprint. This is done through implementing greener restaurant management systems, educating customers on being sustainable, and improving cooking styles.

2.2. Barriers and drivers of GSCM

GSCM has gained considerable significance owing to the rapid growth of environmental consciousness and awareness (Drohomeretski et al., 2014). Therefore, it is important to look at drivers and barriers of GSCM, where drivers are factors pushing organisations to implement it, and barriers are hindering it. The triple bottom line is significant in the case of GSCM, where social, economic, and environmental costs are considered (Chen et al., 2021). The cost of implementing GSCM is one of the biggest barriers (Sarkis & Dou, 2017). A huge barrier mentioned in the literature is the lack of knowledge and lack of resources. Restaurant owners and employees with barely any knowledge of unmotivated, inexperienced, and uneducated employees could also hinder the implementation of GSCM. For GSCM to be successful, everyone involved must think and act green (Bullock & Walsh, 2013). Therefore, the literature implies that the training and education of employees are crucial for the success of GSCM.

Green practice implementation is becoming more vital, as contemporary issues are becoming more of a challenge. Therefore, it must be a key objective for businesses to adopt green standards. In the literature, drivers include environmental and stakeholder pressures, managerial mindsets, and cost reductions (Meager et al., 2020). Another driver of GSCM is a better image, where customer loyalty and attracting investors happen. Consumers look for restaurants that meet their "green needs". With increased awareness comes increased environmental pressures. When restaurants apply GSCM, customer interest is attracted. The barrier of implementation costs isn't always agreed upon in the literature. There is uncertainty in the literature as to whether GSCM reduces or increases costs (if it's a barrier or a driver). Government regulations are also extremely important in reducing food waste and applying green regulations. (Filimonau et al., 2019) point out that managerial intent is the key determinant of commitment to GSCM in restaurants, so organisational commitment could be both a driver and a barrier. It is argued that when a restaurant is greener, firm performance becomes enhanced, portraying a positive relationship between firm performance and green practices (Abbas & Hussien, 2021).

QSRs are characterised by their low-cost and time-efficient products; therefore, they have become a preference of many people worldwide. Literature focuses on the hospitality industry regarding hotels, but not so much on regular restaurants (Aytaç & Korçak, 2021). There is a growing concern about reducing environmental impact. Studies have found that applying GSCM has helped restaurants develop greener standards regarding the environment (Wang et al., 2013). The hospitality industry is one of the biggest polluters and one of the largest food waste generators, thus, it is crucial for them to reduce their carbon impact (Filimonau et al., 2019). GSCM literature mainly focuses on the manufacturing industry, so it is important to note its significance in the hospitality industry (Abdullah et al., 2018). In accordance with Chen et al. (2021), the "green" in GSCM with respect to hotels refers to the profitable delivery of long-term services, products, and sustainability. The hotel industry focuses on water and energy saving, recycling, and using products accredited with green or environmentally friendly labels (Lee & Cheng, 2018). GSCM became unavoidable in the hotel industry as the impact of

the growth of the tourism sector worldwide on the environment has become very frequently discussed (Berezan et al., 2013).

According to the literature, it is hypothesised that hotel restaurants would have more set and clear managerial policies regarding GSCM than QSRs. Yet it is predicted that QSRs have more control over their procurement operations than 5-star hotel restaurants, making them greener. Due to the high level of quality at 5-star hotels, hotels are expected to have better equipment and environment both in dining areas and kitchens.

3. RESEARCH METHODOLOGY

3.1. Research design

A census sampling approach and a judgment sampling approach were used. A census sample is used when information is gathered from every member of a population. All 5-star hotels in Amman were included in the research. A descriptive survey research design was used (BluGlacier, 2022), where questionnaires were distributed, and interviews took place in November–December 2021.

3.2. Data collection tool

Primary data was collected using a questionnaire and interviews. The sample for this research is QSRs and 5-star hotels in Amman. QSRs also known as "fast food restaurants", are defined as restaurants that focus on preparing food for customers as quickly and efficiently as possible, they usually have no to little table service (Swimberghe & Wooldridge, 2014). As for 5-star hotels, there are 21 of them in Amman, 19 were interviewed as shown in Table 1. One of these 21 hotels had a non-disclosure policy and, therefore, could not be part of the sample. Another hotel was undergoing renovations and was closed, therefore could not participate in the interview. Interviews took place with hotel restaurant personnel.

Table 1. Interview details with the 5-star hotels in Amman

No	*Hotel name*	*Job title*	*Duration of the interview (in minutes)*
1.	Fairmont Amman Hotel	Food Safety and Hygiene Manager	55
2.	Jordan Intercontinental Hotel	Director of Risk	45
3.	Sheraton Amman Al Nabil Hotel	Quality Manager	45
4.	The St. Regis Amman and Residences	Acting Director of Engineering	50
5.	Amman International Hotel	Food and Beverage Manager Assistant	45
6.	Kempinski Hotels Amman	Food and Beverage Manager	60
7.	The House Boutique Suites	Executive Chef	55
8.	Le Royal Hotel and Resorts Amman	Executive Chef	60
9.	Grand Millennium Amman	Executive Chef	45
10.	Landmark Amman Hotel and Conference Center	Food and beverage manager	55
11.	Amman Marriot Hotel	Executive chef	60
12.	Grand Hyatt Amman Hotel	Head Chef	45
13.	Crowne Plaza Amman Hotel	Executive Chef	50
14.	Amman Rotana Hotel	Executive Chef	45
15.	The Boulevard Arjaan by Rotana	Food manager and Executive Chef	60
16.	Movenpick Amman Hotel	Food and Beverage Manager and Chef	55
17.	Thousand Nights Hotel	Food and Beverage Manager	60
18.	W Amman Hotel	Executive Chef	60
19.	Bristol Amman Hotel	Food and Beverage Manager	55

Note: Face-to-face interviews are an effective and accurate method as they produce more honest, precise, and synchronised data. Interviewed hotels offered the authors a tour in their dining areas, kitchens, and operating areas.

3.3. Questionnaire design

The questionnaire was self-administered and created with Google Forms. It was distributed to 200 restaurants, 90 of them responded to the questionnaire. The 200 restaurants were sorted through the food delivery application "Talabat". The questionnaires were answered by QSRs managers and owners. They were reached through their social media platforms and phone calls.

5-star hotels were visited individually and interviewed by either the executive chef or the food and beverage manager. The questionnaire followed Wang's GSCM standards for restaurants (Wang et al., 2013). It extensively researched GSCM standards for restaurants through the consultation of different experts in all aspects of the field. These experts set realistic and effective GSCM standards for restaurants. They depended on the input of hygiene managers, technical specialists, professors, governmental specialists, restaurant managers, nutritionists, and more in formulating these standards. Therefore, they are of high value and reliability. The questions for the questionnaire and interview included multiple choice questions, with 5-point Likert scale where 5 is for strongly agree, and open-ended questions. It was written in both English and Arabic to suit all readers. The questionnaire included 8 facets and 30 questions.

4. RESEARCH RESULTS

4.1. Food procurement

The percentages of both locally procured food and organic food were higher in QSRs (average 70%) than in hotel restaurants (average 30%). Also, according to the results, hotels had more processed food materials than QSRs.

4.2. Menu planning and cooking

QSRs turn off ovens, stoves, and kitchen appliances when they are not used more than hotels do. In the case of "faulty dish", where the cooked food was too raw, burnt, or includes wrong ingredients,

multiple actions would take place. While QSRs had the option of throwing it out, feeding it to stray animals, or giving it away to other consumers, hotel restaurants had only to throw it out. Moreover, the amount of thrown food in QSRs is less than in the hotels.

4.3. Packaging for takeaway and delivery

QSRs give customers the option to take away leftover food responded. On the other hand, hotels usually don't have takeaways as part of their high-quality standards.

For takeaway and delivery orders, packaging use either plastic (55%, 36%) or paper bags (25%, 42%) or both (20%, 22%) in 5-star hotels and QSRs respectively. The use of both paper and plastic is applied in both types of restaurants despite the different green standards. When asked about the different types of containers, both restaurants and hotels used all types like plastic, cardboard boxes, aluminium, and styrofoam.

QSRs had a "no cutlery" option at checkout unless customers ask for it. If cutlery is added to packages, QSRs usually use plastic cutlery rather than paper ones. Cutlery in takeaways in hotel restaurants was plastic cutlery than wood. It was unknown if the plastic used in QSRs was recyclable or non-recyclable; they either used non-recyclable plastic or didn't know what type of plastic it was. On the other hand, hotel restaurants use recyclable plastic.

4.4. Kitchen environment and equipment

All 5-star hotels have renewed their kitchen equipment in the past five years. Whereas, 45% of QSRs had their kitchen appliances renewed in the last 5–10 years, 35% in less than 5 years and 20% in 11–20 years. Both types of restaurants have also been asked about the type of sinks that they use (specifically if they use water-saving faucets); most of QSRs were unsure, others did not have water-saving sinks. Hotels, on the other hand, use water-saving sinks.

4.5. Dining environment

The dining environments of QSRs and 5-star hotels were noticeably different. This is because QSRs usually have a separate smoking area indoors. However, most hotels do not allow smoking indoors. The type of light bulbs used at QSRs varies depending on the green consciousness of the management. Most of QSRs use transparent light bulbs (which are less energy-saving than opaque ones). On the other hand, hotels mostly use opaque light bulbs in their dining areas. As for dining bathroom faucets, QSRs mostly use normal faucets, then sensor activated, then press limited time successively. 80% of the 5-star hotels use sensor-activated faucets.

4.6. Cleaning and post-treatment

There is a substantial difference between QSRs and 5-star hotels in terms of separating their trash for recycling purposes. Almost all QSRs (89%) don't do this. However, 74% of 5-star restaurants separate their trash or have companies do it for them while 10% are not sure and 16% don't separate it.

4.7. Management policy

Looking at employee awareness around recycling and water-saving procedures, the majority of QSRs either have uninformed employees or don't have green management policies. However, every single 5-star hotel employee is aware of the green management policies that are set in place. The case is similar when we look at employee training in how these restaurants raise awareness amongst their employees (like adding water and energy-saving posters in kitchens and bathrooms). QSRs don't usually implement this, while all (except one) hotels do.

Measuring food waste could be different in every restaurant, so it is important to assess whether these restaurants have procedures to measure food and water waste. QSRs don't really have any measurement systems like hotels do. Regarding hotel buffet waste, participants have claimed that the leftover food is almost always repurposed or reused in other dishes, sent out to food banks, or eaten in employee cafeterias. An example that they gave was turning leftover buffet bread into "Um Ali" (a sweet dish).

It is also significant to look at the different marketing methods that these restaurants undertake. It has been found that both QSRs and 5-star restaurants focus on e-marketing the most, followed by other traditional marketing strategies.

As for the provision of disposable water bottles to customers, both 5-star hotels and QSRs provide them. Paper napkins are used at QSRs almost always, while 5-star hotels mainly rely on cloth napkins followed by paper ones.

As for the ordering system, 62% of QSRs take orders in the traditional way using paper ordering pads, 22% use electronic tablets while 16% use both. However, for 5-star hotels 75% take their orders electronically, 10% use paper pads, and 15% both. As for menus, these are either provided tangibly or electronically using a QR-code. QSRs usually use both, especially during COVID-19 pandemic, they had to switch to electronic menus. On the other hand, hotels almost always have QR-code.

When looking for a supplier, requirements are set by these restaurants before making long-term partnerships. Both QSRs and 5-star hotels had similar requirements, which include quality, delivery, transparency, ISO standards, competitive pricing, satisfactory services, logistics, accreditation, and health and safety.

4.8. Customer education

For QSRs, 67% ask their customers if they would like to take their food for takeaway, especially when a lot of food is left on their plates, while 90% of hotels don't.

5. DISCUSSION OF THE RESULTS

The findings show that hotels outpaced QSRs in investments in equipment and policies. Meanwhile, the difference in quality and size between 5-star hotel restaurants and QSRs allowed QSRs to have a less negative impact on the environment.

Food procurement. Results show that QSRs have better green food procurement for two reasons. First, from the restaurants side, QSRs are usually smaller than hotel restaurants. Their customer base is smaller, and the type of their customers are usually ordinary people with no strict demands. In the hotels' restaurants, the size of the restaurants is usually big serving big number of customers who expect a wide variety and high-quality meats and fruits that are shipped from abroad. Moreover, hotel restaurants have to meet strict prestigious standards that meet the expectations of their customers. These differences make it easier for QSRs to procure almost all their food locally which is a standard for GSCM.

Second, organic and local food is usually produced by small farmers, meaning that their quantity of production will not be big enough to meet the big restaurants in the hotels, rather, they will be suitable for the QSRs quantities. As a result, QSRs become more capable to use organic and non-processed food from the local market making them improve their carbon footprint and meet the GSCM standards. This is not the case with 5-star hotels, because they usually have a high demand because of their big sizes and type of customers. Small farmers cannot meet their needs so they procure inorganic food.

Menu planning and cooking. Energy conservation was measured by investigating whether hotels and QSRs turn off their stoves and ovens when they are not in use. Hotels have stated that since their kitchens operate on a 24/7 basis, it usually takes a lot of time to cook when they turn their appliances on and off. To keep customers satisfied, they keep most of their appliances turned on, even when not in use. such as ovens and deep fryers. Some hotels keep their appliances on at a certain temperature which allows for reduction of time and less energy consumption. When it comes to electric appliances at hotels, they do not keep them on as such appliances don't take a long time to heat. QSRs have claimed that they turned off most of their appliances when they were not in use because their food is usually cooked in large amounts at once. They prepare meals in batches according to their forecasts and turn their appliances off until it is time to cook again. This is true for all restaurants except for pizza ovens. These results indicate that hotel restaurants waste more energy than QSRs. Their kitchens stay open 24/7, and they never know when orders from room service can be received. QSRs operate for around 10 hours a day, and they usually have an estimate of how many orders they will receive. Even though hotels invest more in electrical appliances than QSRs, which save more energy, they waste more energy due to the nature of the service they offer.

Most hotels threw away the "faulty dishes" as they want to meet their high-quality standards and policies that would prohibit them from serving them or giving them to someone else. This is contrary to the previous literature where hotel restaurants give it to food banks. As for QSRs, they said they would give it to employees if they wanted, and some said they would feed it to stray cats and dogs. This is because restaurants have much less bureaucracy than hotels. If the "faulty dish" is harmful and unsafe to consume, they would then dispose of it. Therefore, hotels are more wasteful regarding menu planning and cooking than QSRs.

Packaging for takeaway and delivery. Hotels do not prefer to give customers the option to take away their leftover food for their reputation and quality. Hotels explained that they fear that if they give a customer their food to go and have a long trip home, the food might get spoiled due to poor handling. They explain that there is a chance that a customer would consume the food and get into a health predicament due to it. This might account for a scandal, even though it was not their fault. However, they offer a waiver to be signed, which absolves the hotel of all responsibilities. All QSRs allow for food to be taken away. This means that QSRs waste less when allowing customers to take their leftover food away with them which is aligned with the GSCM standards.

It is very important for plastic to be reduced when it comes to GSCM. Hotels and QSRs use plastic for packaging due to the low cost of plastic bags/boxes/etc. The plastic used in both types of restaurants was non-recyclable. However, hotels use all kinds of packaging like aluminium for hot food and plastic for cold food. Some hotels even provide paper straws instead of plastic ones.

Overpackaging is the use of multiple layers and unnecessary bags and containers. Hotels and QSRs practise overpackaging to avoid spillage. While this goes against GSCM practices, it seems unavoidable.

Kitchen environment and equipment. Hotels have a higher frequency of investment in equipment and appliances in the kitchen within less than five years. "It's a quality assurance procedure", exclaimed one of the interviewees. QSRs have not invested that much in equipment. The reason could be that 5-star hotels usually give a yearly budget for replacing outdated equipment. New equipment means there are more energy-saving appliances and more electrical options which is a strong GSCM practice.

As for water-saving faucets in kitchens, almost all hotels have them. The purpose of these faucets is to reduce the consumption of water. It has multiple pressure options, which allows the user to choose a suitable option. Faucets like this can be expensive. Hence, they are found more in hotel restaurants than in QSRs.

Dining environment. Dining environments in the hotel and QSRs differ significantly. Hotels do not allow smoking indoors, while most QSRs are flexible to allow it since a high percentage of the community in Amman are smokers and prefer smoking areas indoors.

All hotels use energy-saving light bulbs, and not all QSRs use them. It seems that hotels are more conscious when it comes to equipment. This is because they are more financially secure. Interviewees in hotels have explained that the reason for their high investment in equipment are green standards with the advantage of cutting costs in the future. The same goes for sinks in dining area bathrooms. Hotels mostly have sensor-activated sinks, while QSRs act, most of the time, on a small budget and cannot afford more expensive sinks.

Cleaning and post-treatment. The idea was about trash separation. 16 hotels separate all their trash between plastic, paper, and different colour glass. The "Greater Amman Municipality" collects

this trash to recycle it. QSRs do not separate their trash and no entity collects the separated trash. Therefore, it is useless to separate it. Regarding recycling, some hotel interviewees said that they sell their used oil to a company that reuses it. Other hotels also reuse their damaged linens and use them as cleaning cloths. Some literature found that QSRs and hotels always separate their trash, this is because of the difference in rules and regulations in countries.

Management policy. Hotels have more complex operations than QSRs because they have higher quality and expectations than QSRs. 5-star hotels can turn into 4-stars due to mistakes. Therefore, hotels cannot afford to make any error and take great precautions. Moreover, 5-star hotels usually have more employees and customers meaning they need more policies. QSRs are easier to manage and could be flexible. Hotels have more GSCM-related training for their employees and more efforts to raise awareness about cleanliness and waste. Most hotels hang posters in employee areas like offices, bathrooms, etc.

Results have shown that 5-star hotels measure their food waste to the best of their abilities. Methods of measurement differ. Some hotels measure by weighing food. One hotel interviewee claimed that they reduced their bread waste by 1 ton. Other hotels measure food waste money-wise. They measure how much food is bought in a month and compare it to the food that was served (in terms of currency unit), the result would be the amount of wasted food. Measuring waste is very important to GSCM. It allows for the restaurant to stay in a green zone. If waste exceeds the "green zone", responsible employees face the consequences. QSRs do not measure their food waste as they have good control over their waste, and it usually does not exceed the "green zone". This does not mean that restaurants have full control over their waste. Unexpected events sometimes occur, leading to unexpected amounts of waste. Hence, the measurement of waste is always important.

Hotels were asked what action was taken with leftover food in the case of buffets and "all you can eat" offers. Most hotels said they have employee cafeterias, where the food would simply be served. Other hotels claim to cook the famous Arabic sweet dish "Um Ali" with leftover stale bread. This is because it doesn't matter if the bread is stale for this dish. In the case of buffet food, most hotels find ways to reuse this food, and they also try to give it to employees before throwing it away. This is because buffet food stays clean and healthy, with no hygienic dangers. Therefore, it can be served to others. When it is not served to employees, some hotels send it out to food banks for charity. If the leftovers are in great amounts, they do both, giving half to employees and half to food banks.

Marketing nowadays is heavily reliant on social media and e-marketing methods rather than traditional methods. This was asked about in the case of Amman's hotel and QSRs. It was shown that there is little to no difference in the marketing methods between 5-star hotel restaurants and QSRs. For the most part, they rely more on e-marketing methods than traditional methods. E-marketing helps reach a lot of people without causing a waste of paper or resources.

Disposable water bottles are heavily polluting the environment. Restaurants always provide customers with these bottles, and in huge amounts. Due to COVID-19, hotels have transitioned to using disposable bottles. Before the pandemic, most hotels used glasses and no plastic. As for QSRs, they have always used disposable water bottles due to their low cost.

Hotel restaurants provide both cloth napkins and paper napkins. It leads to less use of paper napkins, and the cloth ones can be dry-cleaned and used again. This is because of the high-quality standards of hotels. Cloth napkins are seen as a luxury. Therefore, QSRs only provide paper napkins. They cannot afford the cost of dry-cleaning and maintaining cloth napkins.

Systems like the "point of sale system (POS)" allow for orders to be taken without the use of paper. Tablets are now used in most places to make the system easier and avoid wasting paper. This was tested on hotels and QSRs. Paper pads for each employee are a much cheaper alternative for having multiple tablets. For hotels, this is a very beneficial investment. It can store data, provide higher efficiency, have a prestigious look, and reduce paper waste. For some QSRs, this investment is simply unaffordable.

Another paper waste-avoiding system is QR-codes for menus. Barcodes instead of tangible menus have become very popular, especially due to the pandemic. This is seen as an environmental advantage. A comparison between hotels and QSRs relies heavily on QR-codes. QSRs are still transitioning into this era. Setting up a website and an online menu needs expertise and is time-consuming. While QSRs try to adopt this feature, they put their energy and money into other priorities.

Previous literature has proved the same as this study has found. Policies at 5-star hotels always include more sustainable rules and regulations than QSRs. While QSRs have many policies, they are not as sustainably oriented as 5-star hotels.

Customer education. As part of the SC, customers education is a very important step in GSCM. Hotels and QSRs were asked whether they politely asked their customers if they would like to take the leftover food on their plate for takeaway. All hotels refused this practice whereas QSRs applied it. This shows that QSRs apply customer education more than hotels.

6. CONCLUSION

This study assessed corporate governance in touristic restaurants in Jordan that leads to sustainable business practices in the context of GSCM. It revealed the extent to which GSCM is applied to QSRs and 5-star hotel restaurants in terms of food procurement, menu planning and cooking, packaging for takeaway and delivery, kitchen equipment and environment, dining environment, cleaning and post-treatment, management policy, and customer education.

This study has attempted to discover if 5-star hotel restaurants apply GSCM practices more than QSRs. Findings have shown that this statement is true and that GSCM is much more common in 5-star hotels. The results showed that 5-star hotel

restaurants implemented more GSCM than QSRs, hence had proper corporate governance. They had more GSCM managerial policies, better GSCM employee training, greener equipment and environments. They did not have takeaway services unless a waiver is signed by the customer. They sold their used oil to other companies to be used in other non-food industries. They also had a different system regarding the food leftover at buffets. This study concluded that while 5-star hotels are greener, they had a bigger negative environmental effect than QSRs due to their need for quality maintenance and reputation.

This research has filled a gap in knowledge as the first to explore the differences in applying GSCM in QSRs and 5-star hotels. This gives a wider understanding of how GSCM standards are implemented in different types of restaurants and their effects on the environment and sustainability. This study is specifically significant as it explores the Middle East and North African (MENA) country and its contributions to reducing its carbon footprint. Literature has mostly focused on either GSCM standards, their effect on firm performance, or their effect on local restaurants in countries other than Jordan.

We recommend first, hotel management should note that the current applications of GSCM standards are good but not enough as the overall negative consequences on the environment are still high. They need to consider implementing new standards to further reduce their carbon footprint. Second, QSRs need to increase the integration of green practices into their managerial policies. Third, further research should be done in regard to increasing green awareness in the MENA countries like Jordan to find ways to introduce GSCM in the tourism industry to enhance sustainability and hence governance.

Limitations include first, we couldn't obtain quantitative figures from quick service restaurants, since they do not measure waste. Even hotels measure waste in different ways (by kg, currency unit, etc.). Having some figures that measure waste accurately would have been beneficial. Second, the research was conducted in Amman, the capital. Further research can expand to Jordan as a whole. Third, we restricted the research to restaurants. Further research can explore casual dining, or cafes since they exist in high number in Amman. Finally, the research was conducted on only one part of the supply chain, other parts were not included like suppliers or customers who may have green practices as members of the supply chain, a thing that would have enriched the research.

REFERENCES

1. Abbas, T. M., & Hussien, F. M. (2021). The effects of green supply chain management practices on firm performance: Empirical evidence from restaurants in Egypt. *Tourism and Hospitality Research, 21*(3), 358–373. https://doi.org/10.1177/14673584211011717
2. Abdullah, M. I., Sarfraz, M., Qun, W., & Javaid, N. (2018). Drivers of green supply chain management. *Logforum, 14*(4), 437–447. https://doi.org/10.17270/J.LOG.2018.297
3. Alola, A. A., Asongu, S. A., & Alola, U. V. (2020). House prices and tourism development in Cyprus: A contemporary perspective. *Journal of Public Affairs, 20*(2), e2035. https://doi.org/10.1002/pa.2035
4. Aytaç, K., & Korçak, Ö. (2021). IOT based intelligence for proactive waste management in quick service restaurants. *Journal of Cleaner Production, 284*, 125401. https://doi.org/10.1016/j.jclepro.2020.125401
5. Berezan, O., Raab, C., Yoo, M., & Love, C. (2013). Sustainable hotel practices and nationality: The impact on guest satisfaction and guest intention to return. *International Journal of Hospitality Management, 34*, 227–233. https://doi.org/10.1016/j.ijhm.2013.03.010
6. BluGlacier. (2022). *Why is sustainability important?* https://bluglacier.com/why-is-sustainability-important/
7. Bullock, A., & Walsh, M. (2013). The green supply chain. *Logos, 24*(2), 16–23. https://doi.org/10.1163/1878-4712-11112015
8. Carroll, A. B. (1999). Corporate social responsibility. *Business and Society, 38*(3), 268–295. https://doi.org/10.1177/000765039903800303
9. Carvalho, A., Mimoso, A. F., Mendes, A. N., & Matos, H. A. (2014). From a literature review to a framework for environmental process impact assessment index. *Journal of Cleaner Production*, *64*, 36–62. https://doi.org/10.1016/j.jclepro.2013.08.010
10. Chen, M.-H., Wei, H., Wei, M., Huang, H., & Su, C.-H. (2021). Modeling a green supply chain in the hotel industry: An evolutionary game theory approach. *International Journal of Hospitality Management, 92*, 102716. https://doi.org/10.1016/j.ijhm.2020.102716
11. Chiu, J.-Z., & Hsieh, C.-C. (2016). The impact of restaurants' green supply chain practices on firm performance. *Sustainability, 8*(1), 42. https://doi.org/10.3390/su8010042
12. Chou, C.-J., Chen, K.-S., & Wang, Y.-Y. (2012). Green practices in the restaurant industry from an innovation adoption perspective: Evidence from Taiwan. *International Journal of Hospitality Management, 31*(3), 703–711. https://doi.org/10.1016/j.ijhm.2011.09.006
13. Circular Economy Wiki. (2022, October 4). *Green supply chain management*. https://www.designingbuildings.co.uk/wiki/Green_supply_chain_management
14. Drohomeretski, E., Gouvea da Costa, S., & Pinheiro de Lima, E. (2014). Green supply chain management: Drivers, barriers and practices within the Brazilian automotive industry. *Journal of Manufacturing Technology Management, 25*(8), 1105–1134. https://doi.org/10.1108/JMTM-06-2014-0084
15. EKOenergy. (2021). *Climate change: Causes and consequences*. https://www.ekoenergy.org/extras/climate-change/
16. Elkington, J. (2004). Enter the triple bottom line. In A. Henriques, & J. Richardson (Eds.), *The triple bottom line, does it all add up? Assessing the sustainability of business and CSR* (pp. 1–16). Earthscan. https://www.johnelkington.com/archive/TBL-elkington-chapter.pdf
17. European Commission (EC). (2020*). A European green deal: Striving to be the first climate-neutral continent*. https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en

18. Filimonau, V., Krivcova, M., & Pettit, F. (2019). An exploratory study of managerial approaches to food waste mitigation in coffee shops. *International Journal of Hospitality Management, 76*(Part A), 48–57. https://doi.org/10.1016/j.ijhm.2018.04.010
19. Flynn, B. B., Huo, B., & Zhao, X. (2009). The impact of supply chain integration on performance: A contingency and configuration approach. *Journal of Operations Management, 28*(1), 58-71. https://doi.org/10.1016/j.jom.2009.06.001
20. Gilg, A., Barr, S., & Ford, N. (2005). Green consumption or sustainable lifestyles? Identifying the sustainable consumer. *Futures, 37*(6), 481–504. https://doi.org/10.1016/j.futures.2004.10.016
21. Grimm, J. H., Hofstetter, J. S., & Sarkis, J. (2016). Exploring sub-suppliers' compliance with corporate sustainability standards. *Journal of Cleaner Production, 112*(3), 1971–1984. https://doi.org/10.1016/j.jclepro.2014.11.036
22. Grimm, J. H., Hofstetter, J. S., & Sarkis, J. (2018). Interrelationships amongst factors for sub-supplier corporate sustainability standards compliance: An exploratory field study. *Journal of Cleaner Production, 203*, 240–259. https://doi.org/10.1016/j.jclepro.2018.08.074
23. Han, H., & Kim, Y. (2010). An investigation of green hotel customers' decision formation: Developing an extended model of the theory of planned behavior. *International Journal of Hospitality Management, 29*(4), 659–668. https://doi.org/10.1016/j.ijhm.2010.01.001
24. Hirunyawipada, T., & Xiong, G. (2018). Corporate environmental commitment and financial performance: Moderating effects of marketing and operations capabilities. *Journal of Business Research, 86*, 22–31. https://doi.org/10.1016/j.jbusres.2018.01.002
25. Hu, H., Parsa, H., & Self, J. (2010). The dynamics of green restaurant patronage. *Cornell Hospitality Quarterly, 51*(3), 344–362. https://doi.org/10.1177/1938965510370564
26. Huang, M. (2015, November 9). Supply chain and its environmental impact. *More Than Shipping.* https://www.morethanshipping.com/supply-chain-and-its-environmental-impact/
27. Hutchins, M. J., & Sutherland, J. W. (2008). An exploration of measures of social sustainability and their application to supply chain decisions. *Journal of Cleaner Production, 16*(15), 1688–1698. https://doi.org/10.1016/j.jclepro.2008.06.001
28. Lee, S. M., Tae Kim, S., & Choi, D. (2012). Green supply chain management and organizational performance. *Industrial Management & Data Systems, 112*(8), 1148–1180. https://doi.org/10.1108/02635571211264609
29. Lee, W., & Cheng, C. (2018). Less is more: A new insight for measuring service quality of green hotels. *International Journal of Hospitality Management, 68*, 32–40. https://doi.org/10.1016/j.ijhm.2017.09.005
30. Malik, M. (2015). Value-enhancing capabilities of CSR: A brief review of contemporary literature. *Journal of Business Ethics, 127*, 419–438. https://doi.org/10.1007/s10551-014-2051-9
31. Meager, S., Kumar, V., Ekren, B., & Paddeu, D. (2020). Exploring the drivers and barriers to green supply chain management implementation: A study of independent UK restaurants. *Procedia Manufacturing, 51*, 1642–1649. https://doi.org/10.1016/j.promfg.2020.10.229
32. Mentzer, J. T., DeWitt, W., Keeble, J. S., Min, S., Nix, N. W., Smith, C. D., & Zacharia, Z. G. (2001). Defining supply chain management. *Journal of Business Logistics, 22*(2), 1–25. https://doi.org/10.1002/j.2158-1592.2001.tb00001.x
33. Meo, M., Nathaniel, S., Shaikh, G., & Kumar, A. (2020). Energy consumption, institutional quality and tourist arrival in Pakistan: Is the nexus (a)symmetric amidst structural breaks? *Journal of Public Affairs, 21*(2), e2213. https://doi.org/10.1002/pa.2213
34. Move For Hunger. (2022). *The startling reality of food waste in restaurants.* https://moveforhunger.org/startling-reality-food-waste-restaurants
35. Principato, L., Di Leo, A., Mattia, G., & Pratesi, C. (2021). The next step in sustainable dining: The restaurant food waste map for the management of food waste. *Italian Journal of Marketing,* 189–207. https://doi.org/10.1007/s43039-021-00032-x
36. Ritchie, H., & Roser, M. (2020, January 15). Environmental impacts of food production. *Our World in Data.* https://ourworldindata.org/environmental-impacts-of-food
37. Sarkis, J., & Dou, Y. (2017). *Green supply chain management* (1st ed.). Routledge. https://doi.org/10.4324/9781315233000
38. Saunila, M., Rantala, T., Ukko, J., & Havukainen, J. (2018). Why invest in green technologies? Sustainability engagement among small businesses. *Technology Analysis & Strategic Management, 31*(6), 653–666. https://doi.org/10.1080/09537325.2018.1542671
39. Schubert, F., Kandampully, J., Solnet, D., & Kralj, A. (2010). Exploring consumer perceptions of green restaurants in the US. *Tourism and Hospitality Research, 10*(4), 286–300. https://doi.org/10.1057/thr.2010.17
40. Stank, T. P., Keller, S. B., & Daugherty, P. J. (2011). Supply chain collaboration and logistical service performance. *Journal of Business Logistics, 22*(1), 29–48. https://doi.org/10.1002/j.2158-1592.2001.tb00158.x
41. Sustainable Hospitality Alliance. (2021). *Climate action — Reducing emissions across the hospitality industry.* https://sustainablehospitalityalliance.org/our-work/climate-action/
42. Swimberghe, K. R., & Wooldridge, B. R. (2014). Drivers of customer relationships in quick-service restaurants: The role of corporate social responsibility. *Cornell Hospitality Quarterly, 55*(4), 354–364. https://doi.org/10.1177/1938965513519008
43. Taylor, S. R. (1992). Green management: The next competitive weapon. *Futures, 24*(7), 669–680. https://doi.org/10.1016/0016-3287(92)90075-Q
44. Trent, R. J., & Monczka, R. M. (2006). Purchasing and supply management: Trends and changes throughout the 1990s. *International Journal of Purchasing and Materials Management, 34*(3), 2–11. https://doi.org/10.1111/j.1745-493X.1998.tb00296.x
45. Tseng, M., Islam, M. S., Karia, N., Fauzi, F. A., & Afrin, S. (2019). A literature review on green supply chain management: Trends and future challenges. *Resources, Conservation and Recycling, 141*, 145–162. https://doi.org/10.1016/j.resconrec.2018.10.009

46. Wang, Y.-F., Chen, S.-P., Lee, Y.-C., & Tsai, C.-T. (2013). Developing green management standards for restaurants: An application of green supply chain management. *International Journal of Hospitality Management, 34*, 263–273. https://doi.org/10.1016/j.ijhm.2013.04.001
47. World Commission on Environment and Development (WCED). (1987). *Our common future* (Brundtland Report). Oxford University Press. https://www.are.admin.ch/are/en/home/media/publications/sustainable-development/brundtland-report.html
48. World Economic Forum (WEF). (2020, January 15). *The global risks report 2020*. https://www.weforum.org/reports/the-global-risks-report-2020
49. World Tourism Organization (UNWTO). (2008, June 5). *Climate change and tourism — Responding to global challenges* (Report). https://www.unwto.org/archive/global/news/2011-08-16/climate-change-and-tourism-responding-global-challenges
50. Wulff, C. (2020). *Climate change and the food industry* (PwC Report). PricewaterhouseCoopers. https://www.pwc.de/en/retail-and-consumer/climate-change-and-the-food-industry.html