Abstract: Green supply chain management (GSCM) has proven itself to be pivotal, including in the hospitality and hotel industries. Additionally, organizations cannot become eco-friendly without applying GSCM. Applying GSCM is very complicated due to the complex nature of the management relations with stakeholders involved and needs appropriate support and collaboration from all related parties in order to accomplish the wanted management results. This paper aimed to analyze and study the complicated roles and relations of GSCM and the hotel industry, identifying the main barriers that might be faced in its application and trying to present the full picture in a simple and comprehensive way in order to provide decision-makers with a wider vision. This can then be used to take the best actions. The analysis technique this study adopted to use to analyze the related scientific production was a systematic review technique. After the screening and cleaning processes, a total of 57 GSCM articles remained from the articles, which were extracted from scientific databases (WoS and Scopus) and analyzed using the three main levels of analysis groups. This study revealed that: (i) GSCM interferences and relations can be summarized into six main categories (external stakeholders, internal stakeholders, related management, the 4Rs, innovation and technology, and performance); (ii) the importance of GSCM goes beyond environmental objectives; and (iii) before applying GSCM practices, there are a number of primary barriers that should be considered regarding the hotel industry.

Keywords: GSCM; hospitality; management; sustainable tourism; stakeholders; suppliers; environmental practices; resources

1. Introduction

Environmental protection is currently considered one of the priority tasks in science and there is now a governmental agenda that countries are collectively seeking to implement which will achieve a state of balance between economic development and environmental protection [1]. Environmental awareness is increasing day by day and this is being reflected in increasing social and legal pressures to protect ecosystems of all kinds [2,3]. In particular, governments’ fears and concerns about the environment are being reflected through the announcement of more regulations and laws aimed at reducing negative impacts on the environment [4,5]. Consequently, organizations, businesses, and establishments of all kinds find themselves compelled in one way or another to work towards adopting environmental practices more seriously and effectively, in addition to increasing experience and awareness in dealing with the various environmental issues that they may face [6].
The tourism and the hospitality sectors are of great importance in many economies around the world [7]. They are also considered the backbone of the economy of many countries [8], contribute significantly to the GDP of countries [9], and work is underway to develop comprehensive medium- and long-term policies to develop tourism activities [10]. However, with the rapid increase in the tourists flow and the significant increase in their numbers, especially in the past two decades, tourism activities and the hospitality sector have had negative effects on the environment, with tourism activities around the world contributing nearly 8% of carbon emissions [11].

The hotel industry is considered one of the main sectors of the tourism industry and is one of the main elements in supporting the growth of tourism [9]. This industry has witnessed wide growth as a result of the increasing levels of globalization and urbanization in the world [12], which has been reflected in the influx of tourists and the increase in their number. The hotel industry is accused of contributing effectively to the negative impacts and causing real threats to the environment as a result of the traditional practices that it carries out [13,14], it being energy-intensive. In addition to large carbon emissions, representing 1% of the total global emissions, it also consumes water in an intensive way, with levels reaching up to 5% of global water consumption [15]. This is not to mention the amount of different waste that it produces, in addition to the large and different amounts of food it consumes [8,16,17]. This increases with the intensification of competition and the race to provide the best level and highest quality of services and products in order to ensure customer satisfaction and maintain it [18].

Quality, price, and location are among the main determinants and competitive advantages in tourists’ preference for a particular destination or accommodation facility, such as a hotel, over another [19]. However, recently in the past few years, green practices in the hospitality sector, including the hotel industry, have become one of these basic requirements for tourists [12], as hotels that adopt green practices are able to achieve greater benefits than traditional hotels [20]. Green hotels achieve better value, image and reputation for customers [21], in addition to obtaining greater customer satisfaction and loyalty [22], as tourists in the past few years have preferred hotels that have adopted the application of environmental management and environmentally friendly practices as places to stay during their tourism activity [23]. This has been a factor which contributes to raising the competitiveness of the hotel and attracting more customers [14,24].

On the other hand, stakeholders are defined as any group or individuals that affect or are affected by the achievement of the goals of an organization [25], and therefore achieving environmental sustainability in the tourism sector and its various activities requires the participation and commitment of all stakeholders [10,26]. This does not depend on tourism facilities or establishments, but extends to suppliers, merchants and service companies [27,28], in addition to the tourists themselves, as their choices and preferences play a pivotal role in promoting environmental trends [29]. Additionally, government support, directives and legislation, whether directly or indirectly, is considered key player to supporting and achieving an environmental orientation [14,20].

The traditional hotel supply chain consists of customers, suppliers, clients, and related departments within the hotel [30], and its aim is to provide customers with services based on materials and resources obtained from suppliers. These materials first undergo modifications and the application of some processes to them that increase their value and transform them into the appropriate form [31]. However, talking about green supply chains is completely different.

There is no clear and specific definition of green supply chain management in the hotel industry [32,33]. Although it has been describes as reverse supply chain management [34], green procurement management [35], or the environmental management of supply chains [36], there is no comprehensive definition of all the activities involved in this management [37]. In general, green supply chain management is one of the best strategic practices that hotels may adopt to transform into a green, environmentally friendly form [38]. This is because these practices work to integrate the environmental dimension
with supply chain management practices by including green practices in supply chains [39]. It is also considered a proactive approach in dealing with environmental impacts as it works to avoid carrying out any activities that may harm the environment [40]. On the other hand, it is considered special as its application is full of challenges and requires several criteria and conditions, starting with the flow of environmentally friendly materials and inputs from environmentally friendly sources [41], and ending with the provision of environmentally friendly products and services after implementing several processes in an environmentally friendly manner [42]. In addition, the management of green supply chains involves the careful selection of materials in order to reduce waste resulting from the conversion process [42,43], in addition to the integration of the concepts of (4R) [44–46], which falls under the framework of reverse logistics [38,41,47].

The application of green supply chains is associated with a greater number of parties compared to traditional supply chains management [44], as green supply chains management works to organize interrelationships with all stakeholders [41]. This includes the internal departments of hotels [48], managers, employees, owners, and direct external parties such as suppliers, customers, clients, recycling and waste disposal companies, in addition to indirect external parties, such as government legislation and pressures and parties, that appeal to environmental protection and charities [45,49–51]. Therefore, the success of green supply chain management in achieving an organization’s goals and the desired environmental goals within the framework of the hotel industry requires reaching a formula that guarantees the achievement of a high level of cooperation and positive interaction between the various parties of the relationship. In addition, a hotel must be able to manage events internally in an appropriate manner to ultimately guarantee an increase in the level of operational performance and environmental protection [52] and to obtain a competitive ability that enables the hotel to survive and compete in the market [53].

In this context, this study attempts to provide a comprehensive definition of GSCM in the hotel industry by presenting an integrated picture of GSCM in the hotel industry, starting with the division of relationships into major categories that facilitate an understanding of the complexity of hotel GSCM relationships inside and outside the organization. Additionally, this study attempts to demonstrate the ways in which GSCM can play the role of influencer and it is affected in other locations. In addition to highlighting the growing importance of GSCM and the ways in which it can make a significant change in the surrounding community with regard to environmental impacts, this study was performed in order to finally assemble a complete picture of the practices and relationships that enable the decision maker to choose the combination that suits their business in order to obtain the best results within the hotel facility and allow any party of stakeholders to understand the role they can play.

The aim of this study can be achieved by answering the following research questions:

- Q1—What is the current state of scientific publications related to green supply chain management in the hotel industry?
- Q2—What is the relation and interference between green supply chain management and the hotel industry?
- Q3—To what extent can green supply chain management be described as an indispensable necessity in the hotel industry?
- Q4—What are the main obstacles that hinder the implementation of green supply chain management in the hotel industry?

In this study, a systematic review method will be adopted. This will begin with the introduction, which will provide a comprehensive view of green supply chain management, in terms of definition, importance, and objectives. This will be followed by the Materials and Methods section, where the data collection method will be explained, as will the different levels of analysis that were adopted and used in this study. In the results section, clear results and an explanation of the different levels and analytical units will be presented, as will the rationale and importance of conducting these analyses. In the discussion section, as a final section, an in-depth discussion of the findings and relationships between green
supply chain management and the hotel industry will be presented. This will be followed by the conclusions, implications, and limitations section of this study.

2. Materials and Methods

In this systematic review, the PRISMA model has been used to collect the data. This was chosen because this model is considered to be a good model due to its efficiency collecting scientific data and to be an element step in conducting a coherent review of scientific literature [54,55]. Additionally, a multiple-level analysis has been conducted, including bibliometric analysis, in order to present a comprehensive systematic literature review and fortify the findings by presenting visualizations, which included bibliographic figures and shapes [56]. Bibliometric analysis has been chosen for use as it is considered as one of the most recognizable methods of quantitative analysis for scientific papers. Moreover, bibliometric analysis uses a variety of techniques to show the analysis’ results graphically. This analysis is easier to understand and delivers results, e.g.,: keywords analysis, collaboration analysis, authors analysis, maps, etc. [57].

2.1. Data Collection

The process of data collection is the first step of the systematic review. The various articles and records that will be studied and investigated should be identified in this step. Determining the time frame of the search process was the first step in the stage of data collection.

Accordingly, the concept of GSCM was presented in scientific papers for the first time between 1996 and 1998 as one of the effective methods of environmental management, and the interest in GSCM began growing after identifying the ISO 14000 [58,59] and grew more after the sustainability development goals were set [33]. Accordingly, the time frame of the search process in this study was set from 1996 as a beginning point, trying to avoid or ignoring any related paper to GSCM in the hotel industry, and the ending search point was set for the first of December in 2022. Surprisingly, regardless of the discussion of GSCM in tourism, GSCM was discussed in relation to the hotel industry for the first time in 2010 [60].

The study selected two scientific databases to search for GSCM literature, which are Scopus and Web of Science (WoS). Both WoS and Scopus are well known as being among the largest reliable and trustworthy literature libraries and include all related details of records with a simple and distinctive search platform [2]. Additionally, these two databases provide a clear searching mechanism, which makes effective and professional searching an easy task on the basis of those databases’ algorithms [61]. Moreover, these databases are considered as being the most used databases for meta-analysis and systematic literature review articles in various scientific fields, which include tourism.

To obtain a good result from the searching process, a clear searching query is required in order to identify the relevant records related to GSCM in the hotel industry. As such, we used the following queries to collect articles from the above-mentioned databases (Scopus, WoS): ("green logistic" OR "sscm" OR “GSCM” OR “green supply chain” OR “green supply chain management”) OR ("green" OR “sustainable*” OR “environment*” OR “ecofriend*” OR “ecofriend**” OR “eco friend*”) AND (“scm” OR “supply chain” OR “chain management” OR “chain management*” OR “chain management**” OR “chain management***” OR “supply chain management” OR “supply chain management*” OR “supply chain management**” OR “supply chain management***”) AND (“hotel*” OR “accommodation”).

The two databases were queried by searching in the fields related to the title and keywords in addition to the abstract. Searching was implemented for articles, which were only acceptable in the English language, as well as for articles, conferences papers, review articles and proceedings papers in order to obtain all scientific papers directly related to GSCM. The number of research scientific papers resulting from the initial search reached 666 articles (Scopus = 397 and WoS = 269). The records resulting from the search process, which numbered 666, were subjected to refinement and organization. The refinement was done in two stages, while the organization was in one stage.
First, the refinement process was initiated in its first stage, in which duplicates were removed. In the second stage, articles were identified based on their relevance to the goals and purpose of this study. This was followed by the organizing stage, during which articles were classified into six main categories, based on the categories of stakeholders and departments of GSCM. These categories were: internal stakeholders, external stakeholders, the 4Rs, performance and competition, GSCM departments, resources, and technology. Table 1 shows the stages of refinement and organization.

Table 1. Summary of the criteria used in refining and organizing the systematic literature review records.

<table>
<thead>
<tr>
<th>Stages</th>
<th>Steps</th>
<th>Description</th>
<th>Records No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collecting</td>
<td>Data collection</td>
<td>WoS (269) + Scopus (397)</td>
<td>666</td>
</tr>
<tr>
<td>Refinement</td>
<td>Data screening—1</td>
<td>Extract resulted articles and remove duplications</td>
<td>528</td>
</tr>
<tr>
<td></td>
<td>Data screening—2</td>
<td>Determine the articles based on their relevance to the study purpose and objectives</td>
<td>57</td>
</tr>
<tr>
<td>Organization</td>
<td>Extract, organize, and categorize</td>
<td>Classified articles into six main categories</td>
<td>57</td>
</tr>
</tbody>
</table>

It is important to make several points clear regarding the large decreasing in the number of articles number from 666 to 57. This decrease is due to the following reasons:

Firstly, the fact of using the word “sustainable” in the searching query gave back a sizeable number of non-related articles. This occurred due to sustainability in the hotel industry being identified from the point of booking and tourists flows, in addition to tourist agencies and touristic trips being considered organizers as a supplier of clients to hotels. However, we could not eliminate this word because environmental sustainability is directly related to this green term. Then, there was the second keyword, which was “logistic”. This word gave back some non-related results, especially about farming and agricultural topics. However, green logistic is a part of GSCM. Thirdly, using the search term “Accommodation” also gave back some non-related results. Some articles discussed accommodation in cities, or houses and apartment. However, we could not avoid using this word because hotels, after all, are part of accommodation sector. Moreover, the main focus of the article is on the hotel industry itself.

2.2. Analysis Levels

Three main analysis levels were applied to the extracted data [2,56]. This included 10 sub-analyses categories (see Table 2), namely basic information analysis, basic content analysis, and deep content analysis. This started with the basic information analysis, which focused on identifying the state of publication in order to answer the first previously mentioned research main question (Q1) concerning GSCM and the hotel industry. At this level, four main analysis units were included: scientific production, source, record type, and field-of-study analyses. The second analysis level was the basic content analysis, which aimed to answer the first and second mentioned questions (Q1, Q2), in addition to solving (Q3) indirectly. This analysis level presents five main analysis units, namely: study sample level/type, country case study, keywords, used theories, and author and collaboration analyses. The third and final analysis level involved deep content analysis, which could be considered the core and the most important analysis in this study. This analysis level focused on answering the second, third and fourth main research questions (Q2, Q3, Q4). This analysis has been performed by investigating the GSCM complex and interference relations, practices, and effects within the hotel industry, and then structuring those points into eight main categorized and identified groups. Additionally, the obstacles and barriers to GSCM in the hotel industry were discussed and identified in the discussion section. Based on that, this analysis level consists of only one analysis unit, i.e., GSCM and the hotel industry interferences and theme analysis. Each of the various levels of analysis used in this study and mentioned above are illustrated in Table 2.
Table 2. Systematic review levels of analysis and units of analysis.

<table>
<thead>
<tr>
<th>Levels of Analysis</th>
<th>Units of Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Information Analysis</td>
<td>scientific production analyses</td>
</tr>
<tr>
<td></td>
<td>source analysis</td>
</tr>
<tr>
<td></td>
<td>record-type analysis</td>
</tr>
<tr>
<td></td>
<td>field-of-study analysis</td>
</tr>
<tr>
<td>Basic Content Analysis</td>
<td>study sample level/type analysis</td>
</tr>
<tr>
<td></td>
<td>country case study analysis</td>
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<tr>
<td></td>
<td>keywords analyses</td>
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<tr>
<td></td>
<td>used theories analysis</td>
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<tr>
<td></td>
<td>author and collaboration analysis</td>
</tr>
<tr>
<td>Deep Content Analysis</td>
<td>GSCM and the hotel industry interferences and theme analysis</td>
</tr>
</tbody>
</table>

3. Results

Figure 1 is a PRISMA flow diagram which shows the process of data collecting [62] (check PRISMA check list in the Supplementary Materials). This began with the initial search to extract the related data from the selected databases (Scopus and WoS), and ended with the final collection of articles, after applying multiple screening and refinement steps, as a used data set that can be considered compatible with the research goals [2]. In the end, a total of 57 documents were eligible for analysis in this study.

3.1. The Basic Information Analysis Level

This analysis level introduces general information about the selected records, such as annual scientific production analyses, country scientific production analysis, source
analysis and the number of publications, article-type, and document-type analysis, and field-of-study analysis.

3.1.1. Scientific Production Analyses

The emergence of publications on GSCM, in general, started separately from the hotel industry in 1990 [33]. However, for the case of the hotel industry, Figure 2 shows that the emergence of publications on GSCM in hotels started in 2010, but did not receive much attention until 2017. This could be due to two main reasons, the first of which is the setting of SDGs (sustainable development goals) by UNWTO in 2016, and the second of which is the announcement of tourism SDGs by UNWTO in 2017, which was the international year of sustainable tourism for development. Additionally, the use of GSCM in the hotel industry began to attract noticeable attention by the beginning of 2020, which is because of critical impact COVID-19 had on most aspects of life, and especially on supply chains around the world and the tourism industry, which includes hotels. Figure 2 shows the ascending trend starting from 2019 (N = 6) to 2022 (N = 12), with a 100% growth rate. Moreover, the number of publications (N) reached its peak in 2022, with a total of twelve publications, even though this figure does not include the final month’s articles from this year (2022).

Additionally, the scientific production regarding GSCM in the hotel industry was produced by 22 countries, divided across five continents. European countries ranked first with 10 publications. Additionally, there were 8 for Asia, 2 for North America, and 1 for each of Africa and South America. This reflects the diversity in the participation, and also refers to the importance of the subject and the different points of view it was subjected to.
Figure 3 shows the participating country in GSCM in the hotel industry literature and the participation percentage of each country.

3.1.2. Source Analysis

The field of GSCM is very wide and is associated with many scientific specializations and fields (see Table 3). This is obvious, as the total selected articles were published in 46 different sources/journals.

Table 3. The top 6 scientific journals publishing on GSCM in the hotel industry, and the top 5 fields of study, including different journals.

<table>
<thead>
<tr>
<th>Journal/Source</th>
<th>NP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Journal of Cleaner Production</td>
<td>4</td>
</tr>
<tr>
<td>Sustainability</td>
<td>4</td>
</tr>
<tr>
<td>International Journal of Hospitality Management</td>
<td>3</td>
</tr>
<tr>
<td>Current Issues in Tourism</td>
<td>2</td>
</tr>
<tr>
<td>Journal of Hospitality and Tourism Management</td>
<td>2</td>
</tr>
<tr>
<td>Polish Journal of Management Studies</td>
<td>2</td>
</tr>
<tr>
<td>Other journals in the similar field of study</td>
<td></td>
</tr>
<tr>
<td>Hospitality and Tourism</td>
<td>7</td>
</tr>
<tr>
<td>Business and Economics</td>
<td>4</td>
</tr>
<tr>
<td>Environmental Management</td>
<td>4</td>
</tr>
<tr>
<td>SCM</td>
<td>3</td>
</tr>
<tr>
<td>Tourism Management</td>
<td>3</td>
</tr>
</tbody>
</table>

By analyzing the number of articles published by the sources, we found that only six journals published two articles or more: the Journal of Cleaner Production and Sustainability
had the highest number of publications with four publications each; the *International Journal of Hospitality Management* had three publications; there two publications for each of the *Current Issues in Tourism, Journal of Hospitality and Tourism Management* and *Polish Journal of Management Studies* journals. On the other hand, is it worth mentioning the number of publications for the other journals with the similar field of study and interest: seven articles were published by journals interested in hospitality and tourism; four articles were issued by journals interested in business and economics, with the same number for journals about environmental management; there were three articles for SCM journals, and the same number for tourism management journals. In addition, there were many other journals with different fields of study and interests.

3.1.3. Record-Type Analysis

The importance of record-type analysis comes from it showing how many original articles have been produced. In addition to introducing unique and genuine ideas or solving a problem using new concepts, original articles usually focus on case studies in different areas. Figure 4 shows that 88% (N = 50) of the articles this study analyzed were original articles about GSCM in the hotel industry, which reflect the importance of this field and the attention it has been receiving. Additionally, only seven articles focused on the theoretical aspects of GSCM in the hotel industry, which reflect the importance of our study as a review article aiming to analyze differences in order to address the shortage of theoretical literature in this academic field.

3.1.4. Field of Study Analysis

The field of GSCM in the hotel industry is very wide. It is related to many fields of study due to the diversity of relations that GSCM creates with stakeholders and the variety of practices and departments related to GSCM. Figure 5 presents the main field of studies which were included in the analyzed articles, showing how the GSCM in the hotel industry has not been discussed, having received attention mainly from the perspective of management and administration. In fact, it has been discussed and related to various fields, such as economics, environmental sciences, social sciences, computer sciences, engineering, environmental engineering, food sciences, and many more. This also highlights the different academic perspectives on how GSCM contributes to the hotel industry, providing hints for the future direction of scientific research in this field.

![Figure 4. Published articles based on article type.](image-url)
The results and findings of this analysis present and explain further detailed information about the selected articles, such as the study sample level/type of analysis, country case study analysis, and keyword analysis.

3.2.1. Study Sample-Level/-Type Analysis

This analysis aimed to establish the main groups which the GSCM literature focused on in relation to the hotel industry. This is very important to better understanding the different relations of GSCM in hotels and how they work, in addition to knowing which main stakeholders the literature has focused on up to today and what segment of stakeholders should receive greater attention in future studies. In general, the analysis revealed that the literature discussed various segments of samples. A proportion of 15% of articles discuss GSCM, particularly in the hotel industry. Furthermore, 46% of the case studies discussed the segment of internal stakeholders which receive the largest proportion of attention in the academic field: GSCM and managers came first, followed by GSCM and employees, and the GSCM and owners, discussed in 33%, 11%, and 2% of published articles, respectively. Figure 6 illustrates the various groups of samples and segments in the hotel industry concerning GSCM, and the percentages of each one as it was in the scientific literature.

3.2.2. Country Case Study Analysis

Country case study analysis is considered to be a very important analytical technique. It focuses on investigating the location of the case studies that were contained in the published literature on GSCM in the hotel industry in order to identify which countries received more attention from the authors. Moreover, knowing which countries should be taken into consideration in future research will help to create a complete image of the aspect of GSCM in hotels, fill all gaps and observe all different types of cases. In this study, the output of the analysis was interesting in that the list of top case studies did not include many famous touristic countries such as France, the UK, Germany, and many other European countries. Additionally, African countries did not take the same degree of interest, which was an issue replicated in South America. The Asian counties produced the highest number of case studies, such as Indonesia and UAE (17%), Thailand (13%), Hongkong, and Taiwan (10%), as did many other tourist destinations worldwide. Figure 7 shows the distribution of the case studies in each country as it is mentioned in the
published articles on GSCM in the hotel industry and shows what the percentage was for every tourist destination.

![Published articles based on study sample level/type.](image1)

**Figure 6.** Published articles based on study sample level/type.

![Distribution of the case studies in terms of published articles by country.](image2)

**Figure 7.** Distribution of the case studies in terms of published articles by country.
3.2.3. Keywords Analyses

Keywords analysis is one of the backbone analyses of any literature review, specifically for systematic reviews and meta-analyses [56,63]. This analysis could be performed in many ways and using various visualization techniques, such as keyword thematic maps (centrality and density), keyword frequency, word clouds, and keyword co-occurrence analysis methods. This study will present three visualization techniques, i.e., a keyword thematic map, word cloud, and keywords co-occurrence analysis.

The word cloud map presents the most frequent keywords in the collected literature which discusses GSCM in the hotel industry. The size of the keyword reflects its frequency of use. For this study, the most frequently occurring keywords were the hotel industry, green practices, eco-innovation, food waste management, sustainability, material management, hotel management, and inner programming. These themes are isolated and highly developed and important for the structure of literature on GSCM in the hotel industry, whereas location reflects the occurrence of keywords based on two dimensions: relevance degree (centrality) and development degree (density) [64].

Regarding the keywords cloud analysis results, it is worth mentioning that some keywords which were used in the searching query did not appear in the cloud, or their appearance was not significant. This reflects the complexity of GSCM. On the other hand, focusing on green hotels only reflected the number of articles and made the frequency of some topics very low. Moreover, the decrease in analyzed articles excluded some keywords, such as “accommodation” and “logistic”.

In addition to the word cloud, keywords in the literature on GSCM in the hotel industry were analyzed using a thematic map. This way of visualization analysis summarizes results which can be read based on two main factors: the size of a keyword spot, and the location of those spots on the map. The size refers to the frequency level of each keyword, whereas location reflects the occurrence of keywords based on two dimensions: relevance degree (centrality) and development degree (density) [64].

The thematic map groups keywords into four main categories, namely motor themes, niche themes, basic themes, and emerging/declining themes (see Figure 9).
The first themes are emerging/declining, which are located in the lower-left quarter on the thematic map. This themes category has both low centrality and low density. Keywords included in this quarter are described as either emerging or disappearing, such as material management, hotel management, and inner programming.

Secondly, there are transversal themes or basic themes, i.e., keywords located in the lower-right quarter, which have high centrality and low-density degrees. The keywords present in this quarter are important for the research field but are very general and might not be important or useful for development, such as GSCM, green supply chain (GSC), social network process, and environmental issues.

The next themes are niche themes which occupy the upper-left position on the map, with low centrality and high-density degrees. These themes are isolated and highly developed themes. Keywords in this quarter have improved from unimportant external ties and important internal ties, such as sustainable practices, corporate social responsibility, waste management, food waste management, Arabic words, etc.

Finally, motor themes, i.e., keyword themes in the upper-right quarter, have both high centrality and high-density degrees. Keywords included in this quarter are well developed and highly important for the structure of literature on GSCM in the hotel industry, such as green practices, eco-innovation, food waste management, waste management, sustainability, the hotel industry, etc.

Moreover, keyword co-occurrence analysis shows the keywords and the correlations between them [65], where each colour indicates a common relationship between the words. In other words, the words with the same colour were studied in common articles. The importance of this study lies in giving a comprehensive overview of the research which has been completed and of areas for future research that lack research at present and which should be focused on in the future. Additionally, this review outlines how to search for more relationships between different topics. Figure 10 shows the keywords co-occurrence analysis result as a star network graphic.
3.2.4. Used Theories Analysis

Generally, each study should be based on a scientific theory to discuss its idea in a more convincing way and with a solid base. The literature reviewed in this study, which analyzed GSCM in the hotel industry, used 26 different scientific theories. The diversity of the theories used conveys the widespread connection between the subject of GSCM in the hotel industry and a variety of scientific theories and definitions. The most commonly used theories (see Figure 11) in the literature were the stakeholders theory, which reflects the fact that GSCM is related to multiple parties, in addition to planned behavior theory, reasoned action theory, inventor’s problem-solving theory (TRIZ), social exchange theory, value creation theory, etc.

Keywords co-occurrence analysis shows that there are many isolated topics, e.g., food waste recycling with waste management, agriculture and tourism linkages with sustainable development, etc. On the other hand, some topics are more common, e.g., environmental issue, corporate social responsibility, and GSCM.

It is obvious that, in general, the relations between topics are poor, meaning there are a lot of possible titles which should be discussed in the future research. The poor links also reflect the emerging fact that GSCM in the hotel industry as a subject is still new and has to be discussed more.

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3.2.5. Author and Collaboration Analyses

The purpose of the author analysis is to identify and understand the scientific community structure \([56,64]\) in relation to GSCM and the hotel industry, and how collaboration is happening to generate related literature. This study presents two main analyses based on the bibliometric data of the extracted literature on GSCM in the hotel industry.

The first analysis technique was based on the citation bibliometric analysis of published articles, which was used to identify which authors have received more citations, and which have the highest levels of productivity. The aim in performing this analysis was to determine the identities of the experts in GSAM in the hotel industry field \([66]\).

According to analysis of the scientific production on GSCM in the hotel industry, there were 150 authors’ in total number. The top six authors who wrote the highest cited document were “BEREZAN O” \((TCD = 157)\) \([67]\), “Sigala M” \((TCD = 74)\) \([68]\), “Aboelmaged M” \((TCD = 73)\) \([69]\), “Al-Aomar R” \((TCD = 62)\) \([13]\), “ALONSO-ALMEIDA MM” \((TCD = 45)\) \([70]\), and “HUSSAIN M” \((TCD = 44)\) \([13]\). On the other hand, the top six productive authors were “AL-AOMAR R” \((NP = 5, TC = 145)\) \([13,40,41,71,72]\), “Hussain M” \((NP = 4, TC = 136)\) \([13,40,71,72]\), “Su C” \((NP = 3, TC = 23)\) \([20,73,74]\), “Tarigan Z” \((NP = 3, TC = 10)\) \([9,44]\), “Hsu S” \((NP = 2, TC = 48)\) \([45,75]\), and “Joppe M” \((NP = 2, TC = 34)\) \([7,76]\).

See Table 4 for details.

Table 4. Top 6 authors by top cited document (TC.D). Top 6 authors by the number of publications (NP). TC: total citations.

<table>
<thead>
<tr>
<th>Author</th>
<th>TC.D *</th>
<th>Author</th>
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<th>TC *</th>
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<td>Hussain M [13]</td>
<td>44</td>
<td>Joppe M [7,76]</td>
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The comparison establishes that the authors who have the highest number of citations may not have the highest number of publications. A single publication could be cited more than many articles together, which would reflect the significant importance of this publication in addition to the high level of specialization of the author in GSCM in the hotel industry field (see Table 4).
The second analysis technique used was the co-author analysis. This analysis shows how authors collaborate together to produce literature and articles in the field of GSCM in the hotel industry. Figure 12 shows how the more productive authors collaborate with other authors. On the other hand, the highest cited document author “Berezan O” did not undertake any collaboration, which is the same for “Aboelmaged M”. However, other authors did collaborate (see Figure 12).

Additionally, it is very important to establish how the collaboration has been undertaken in more detailed ways in order to understand more clearly the production of the scientific community regarding GSCM in the hotel industry. For this, this study presents two more analyses. The first one is an academic institutions collaboration analysis, which shows the interesting collaboration relations between universities and institutes which participated to generate literature on GSCM in the hotel industry. Figure 13 introduces the top 50 collaboration relations between academic institutions in the field of GSCM in the hotel industry. The figure shows a good level of collaboration relations between two
institutions. However, for a triple relation or more, the number is so limited and low. This means there is good collaboration in academic circles on the level of institutions, but that this can be improved.

This collaboration could be presented in a second way in order to see the collaboration from a different point of view. For that, we present additionally the countries’ collaboration network, which tries to explain the collaboration between the productive country of the related literature of GSCM in the hotel industry. Figure 14 shows that the collaboration between countries in our study is very limited.

This collaboration could be presented in a second way in order to see the collaboration from a different point of view. For that, we present additionally the countries’ collaboration network, which tries to explain the collaboration between the productive countries of the related literature of GSCM in the hotel industry. Figure 14 shows that the collaboration between countries in our study is so limited, as only 9 of 22 countries had a collaboration relation in the literature production process, and that could be enhanced and expand the collaboration networks to better diversity level of studies.

Figure 13. Academic institutions collaboration circle network.
3.3. The Deep Content Analysis Level

The deep content analysis level focused on categorizing GSCM interferences and their relations with the related practices, departments, stakeholders, and other elements of the hotel industry. This analysis was organized into eight main categories (external stakeholders, department and sub-management, internal stakeholders, performance, the 4Rs (reuse, reduce, recycle, return), competition, resources, I.T (innovation, technology).

GSCM and the Hotel Industry Interferences and Theme Analysis

The core finding of this study is considered to be the deep content analysis with its levels and units, as it identifies the complex and interference relations, practices, and effects of GSCM within the hotel industry from the collected literature as published scientific articles. Based on this analysis of the literature, including text mining. The interferences and relations between GSCM and the hotel industry can be classified into six main themes as follows:

- The relation between GSCM and external stakeholders (suppliers, farmers, customers, government).
- The relations of GSCM department/sub-management or related department/sub-management (food management, water management, energy management, material management, procurement management, purchasing management, products and services management).
- The relation between GSCM and internal stakeholders (managers, employees, owners).
- The relation between GSCM and the 4Rs (reuse, reduce, recycle, return).
- The relation between GSCM and innovation, information integration, and technology adoption (I.T).

Table 5 shows the analysis of 57 collected articles concerning the six mentioned interferences and relations in the hotel industry, i.e., external stakeholders (A), department/sub-management (B), internal stakeholders (C), performance and competition (D), 4Rs (E), and I.T (F).
Table 5. The interferences and relations of GSCM in the hotel industry in the collected literature.

<table>
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* A: external stakeholders; B: department/sub-management; C: internal stakeholders; D: performance and competition; E: 4Rs; F: I.T.
4. Discussion

The use of GSCM in the hotel industry is one of the most important organizational strategies in environmental transformation [41]. It improves efficiency by applying SCM in its green form by integrating it with environmental orientations [72] and by going beyond purchasing and logistics management [22]. In addition, GSCM assists in creating an atmosphere of cooperation, understanding, and high-level coordination between all departments and stakeholders in order to achieve the general goals and environmental goals alike [1].

According to the outputs of the systematic literature review of GSCM in the hotel industry, GSCM interferences and relations were discussed and divided into the following six main themes:

4.1. Theme 1–GSCM and External Stakeholders (A)

GSCM in the hotel industry interacts with several external stakeholders directly which cannot be ignored. According to the articles analyzed in this study, these articles studied three main categories of external stakeholders, namely suppliers, customers, and governments [14,20,68,85].

Supplier selection is one of the most important decisions in the field of GSCM in the hotel industry [53]. In addition to the direct traditional effects of reducing purchasing costs, improving profits, and enhancing competitiveness [97], environmental standards are applied when selecting suppliers based on the products that are supplied and how they were produced until they reached the hotel [11,14,98]. Thus, GSCM in the hotel industry affects suppliers directly, so the center of gravity and influence is to direct and transform the way suppliers and producers move towards an environmentally friendly form [7,30,79]. Some international hotel chains have even established so-called supplier clubs [70] in order to work to develop better, more environmentally friendly products, because collective work strengthens cooperation between the parties, improves relations between them, and leads to the development of ideal and sustainable products [70,99]. In addition, collaboration allows businesses to benefit from economies of scale and quality assurance along the value chain [100]. Farmers are also one of the most important types of suppliers for hotels [73,74] as GSCM in hotels contributes directly to determining the way farmers work, especially local farmers in modest economies [7]. They are also important influencers in the success of the task of GSCM through the level of quality of the materials they supply [76].

Customer preferences in the hotel industry play a pivotal role in directing and influencing hotel practices. The environmental awareness of customers is constantly increasing [11,89,101], and consumer satisfaction is affected by the environmentally friendliness of the procedures of a hotel [67]. In addition to their awareness of the environmental impacts of the hotel industry [95], customers have also become aware of a high level of environmental culture, as they understand that environmental practices are an integrated chain that starts from suppliers and how they produce the materials used by hotels [22]. GSCM dictates a focus on studying suppliers well and making sure that they meet environmental standards in order to ensure the highest satisfaction among customers and remove their environmental concerns [14], in addition to paying attention to the way hotels purchase, supply, manage waste, and consume natural resources [10]. Thus, the task of GSCM in responding to the pressures of environmental customers and satisfying them is no longer an easy matter [88,90], especially since its role has gone beyond purchasing a service or product and benefiting from it [68].

Governments play an influential role in the hotel industry through several tools [3,83,102]. Environmental taxes, resource, and energy consumption taxes, and the amount of waste permitted are among the most important tools that constitute pressure on the GSCM in the hotel industry [20,103], forcing it to adopt environmental management methods for supply chains to reduce the proportion of such taxes [14,88] in situations where the adoption of environmental trends is less expensive than the tax imposed [93]. Regulations and laws imposed by governments that aim to guide and support the adoption of green practices
have a positive impact on the motivation of hotels to adopt green trends that include the GSCM [14], being one of the most important components of the environmental management system, and embrace its role in mitigating waste and consumption of resources and thus in environmental protection [88,93,104].

4.2. Theme 2–GSCM Department/Sub-Management (B)

GSCM includes and is related to many departments and sub-management area regarding the hotel industry and the contents of the analyzed articles. Studies and literature focused on eight main departments and sub-management areas related to or working under the umbrella of GHSM in the hotel industry have been reviewed in this study.

The quality of environmental services and products provided by hotels and their fulfilment of customer aspirations is a prerequisite [105], as greening products and services has strategic importance to hotels and is not a simple matter [80]. The design of these services and products requires cooperation between all parties, especially between the management of services and products and GSCM in hotels [68,85]. The department of services and products should work mainly to draw up and develop an initial scheme for the environmental service and product to help the competent departments to identify and provide the necessary materials and resources in an eco-friendly way [41,86].

The role of material management as part of GSCM in the hotel industry is to analyze and identify the most environmentally efficient materials that will be used in the manufacture of environmental products and services [80]. In addition to ensuring the quality of the materials involved in the process [76], it must be ensured that the materials chosen are eco-friendly first [38,41], that they do not consume a lot of resources and energy to be transformed into the final form to ensure that the production process is as eco-friendly as possible [26,80]. In addition to being derived from eco-friendly sources [71], the materials used should be recyclable, reusable, generate the least amount of waste, and have a low carbon footprint [77].

The main role of green procurement management or low-carbon procurement management [77] in the hotel industry and even in other industries is to search for appropriate environmental suppliers and agree with them about the hotel’s needs in terms of materials, resources, equipment, and various elements [53]. This is very important, as it is this, in addition to the environmental dimension, that plays the most important role for GSCM in hotels, i.e., to choose suppliers [53,68]. This, if done properly, will ensure lower procurement costs for products of appropriate quality, obtained at the right price at the right time and in the required quantity, thus enhancing competitiveness [97,106]. Additionally, this will encourage recycling and reduce waste [9]. This will not be properly achieved without the cooperation of suppliers and their adoption of green approaches [80].

This is followed by the green purchasing process, whose activities aim to implement the actual purchasing process and ensure the delivery of required materials according to the conditions that have been previously determined, including the environmental conditions [19,38,87]. The green purchasing department is also working on developing a long-term action plan within the so-called purchasing strategy [107], in which this strategy ensures as large a reduction of waste and environmental impacts as possible through the organization of purchasing processes [91,108] in coordination with GSCM departments through an information integration system to ensure the purchase of quantities without damage or expiration [19,40]. In addition, proprietors should ensure that the delivery of these materials and shipping methods from the supplier to the hotel is executed in eco-friendly ways [38] as this is one of the sub-tasks, along the green supply chain, in the hotel industry [96].

Green food management, as one of the departments associated with GSCM in the hotel industry, is of exceptional importance. Food represents one of the most important elements in hotel services [94]. Food products, in addition to the materials included in their composition, are considered to be highly perishable and expire in record time, as the waste in the food industry in the hotel industry exceeds 20% [109], although the world suffers from
Choosing basic materials for the food industry, their quantity, time of the request, and source to be eco-friendly is one of the sensitive points that green management works to take into account, in addition to the associated waste of other resources such as energy, water, and waste disposal costs [74, 75]. It also examines customers' preferences and tries to predict their demands using complex methods, whether scientific [92] or psychological [110], in order to reach the best level of performance, including environmental performance.

Waste management is of exceptional importance for GSCM in the hotel industry [29, 46, 72], as it can be considered the last action that can be followed before the environmental impacts of the waste produced by the production processes inside hotels are reflected onto the environment and require an intervention of external parties [13, 38, 82]. It must be noted that its success requires a great level of cooperation from all departments and customers within the hotel for the success of its mission [82, 86, 89]. This department is responsible for dealing with the generated waste of all kinds, sorting and recycling it in a suitable manner [15], or using the waste generated from a production process as inputs in another production process, where the hotel is the producer or supplier within a supply chain starting from the hotel [46, 73, 74]. This is evident in food waste, which can be re-sorted and used in many ways [73–75] as animal feed or fertilizer and even in energy production [12, 29]. The largest amounts of waste produced in the hotel industry are food and paper waste [72]. Waste management also contributes to saving costs resulting from waste transportation and treatment, in addition to reducing taxes imposed based on the volume and types of waste produced [15, 46].

The hotel industry is defined by its heavy use of energy resources [78], which is considered one of the life veins for providing services at the required level [38, 111, 112]. GSCM seeks energy management in the hotel industry to provide this resource from eco-friendly energy sources [26, 29] in order to reduce the effects of energy generation by traditional methods on the environment, especially emissions and toxic gases [12, 38]. This may include distinctive and unconventional methods at times [12, 29, 46]. It also ensures that all departments in the hotel in general and those affiliated with it follow a policy that conserves energy and reduces its depletion, including the selection of the quality of materials, inputs, and equipment so that operations with them have the lowest level of energy consumption while ensuring the same level of quality [81].

Water management is also one of the main management types associated with GSCM in the hotel industry [12, 38, 96]. Hotels consume large amounts of water [113, 114], as the consumption of a person in a hotel exceeds three times that of an average person [115]. Water management in hotels works to rationalize water use and reduce waste [29], reduce the use and excretion of industrial pollutants through water, and replace them with less toxic materials. It also intervenes in structuring services and selecting products to ensure that water consumption will be at the lowest possible level while ensuring that the same quality is maintained [67, 78].

4.3. Theme 3–GSCM and Internal Stakeholders (C)

GSCM in the hotel industry is affected by internal stakeholders. This is evident through the analysis of this relationship between employees, managers, and owners. The impact of stakeholders is in addition to that of green human resources management and the working environment.

The attitude of managers and their understanding of environmental problems is one of the most important internal factors for the success of GSCM in the hotel industry [72, 88]. The success of this management along the chain needs monitoring, supervision, careful control, and an understanding of environmental procedures due to the multiplicity of internal and external parties and the complexity of the picture [13, 26]. The support of the owners and their financing of the activities and requirements of environmental transformation [29, 53], along with the support of senior management and their commitment to the environment, is considered pivotal to success. This commitment is reflected in the
employees and the hotel [9]. It also works to motivate, enhance, and lead environmental activities and policies to include GSCM [75,87] and provide new technology and necessary resources to improve the performance of this department or its associated departments and management [92,116], in addition to setting environmental goals and coordinating initiatives, including GSCM in the hotel industry [26].

Employees are of great importance in the hotel industry and service establishments [48]. They are the actual implementers of activities that produce services, and thus employees directly affect the success of the performance and implementation of GSCM objectives in the organization [26,92,117]. The presence of well-qualified and environmentally aware employees is a critical factor for creating an organization’s competitive advantage and achieving high performance levels, including environmental performance [48,118–120]. Additionally, employees are in direct contact with external stakeholders, whether suppliers or customers, and the role they play in creating the green image of the hotel cannot be denied through their external dealings with suppliers and even through their personal actions [14,26,68].

Green human resources management pivotally affects the success of GSCM in the hotel industry [2,48], as GSCM needs employees with specific specializations, qualifications, experiences, and skills [121]. In addition to ensuring that they are properly environmentally trained for the tasks they will perform, moreover, having environmental awareness and appropriate environmental incentives [2] will ultimately ensure the implementation of the tasks assigned to them and the achievement of the environmental and strategic objectives of GSCM in the hotel environment [122]. This can be achieved through green human resources management practices, starting with green recruitment, green training, then performance management and green evaluation, so that the result is an employee who is motivated to work and environmentally educated in an appropriate manner [123].

The success of GSCM in the hotel industry is also linked to the level of cooperation, coordination, internal integration, and information flow between all departments and management, which must be maximized in order to achieve the best possible performance [30,42,44], e.g., knowing the number of potential customers on a particular day will direct the food management to know what the amount of food is required, the nationalities of customers, and the quality of their orders can be predicted [109,124]. This success is also tied to the need to involve GSCM in decision-making, product development, and coordination with external partners [19,60]. External integration with suppliers is also an important factor in GSCM, as this facilitates the method of supply and improves the level of agreement and understanding [30]. Above all, the activities of GSCM in the hotel industry affect and are affected by the hotel’s social responsibility [60]. The nature of the relationships that GSCM has with all stakeholders [125] translates to the hotel’s social responsibility performance [85]. The hotel’s social responsibility also contributes to setting limits and controls for GSCM practices in the hotel industry and directing it [60].

4.4. Theme 4–GSCM and Hotel Performance and Competition (D)

GSCM affects hotel financial performance positively [91], as cost savings are achieved along the supply chain, starting from reducing resource waste and energy consumption [3,44], in addition to influencing sales as a result of relying on a high-quality resource base [77]. Moreover, attracting more customers, which raises demand and increases revenues, in turn, creates a competitive advantage [44,126,127].

Furthermore, GSCM works to enhance cooperation along the supply chain, whether external or internal [128]. Information is exchanged between suppliers and hotel departments, which leads to the acquisition of more knowledge and increased capabilities [1,129]. This leads to a level of understanding being reached among all parties about the different needs [77]. This saves time, eliminates waste, and raises the quality and nature of products to match what the hotel needs to produce its products and services. This, in turn, ultimately creates an advantage that is difficult to compete with and raises the level of the financial, environmental, and overall performance of the hotel [52,91,130].
Above all, ensuring the quality of materials supplied by suppliers and providing high-quality, eco-friendly products and services leads to an alleviation of tax burdens and environmental waste treatment costs \([1,46,84]\), a reduction in accidents and the minimization of potential risks \([131,132]\). This leads to the improvement of the public image of the hotel and the environmental image \([3,69]\) in particular, thus attracting more customers \([22]\).

4.5. Theme 5–GSCM and 4Rs, i.e., Reduce, Reuse, Recycle, Return (E)

Environmental protection methods could be summarized in four basic processes for dealing with resources and materials, which are reduce, reuse, recycling, and return, in order, which deal with the inputs and outputs of any production process, whether for a product or a service. GSCM in the hotel industry takes these processes into account in all departments and work steps.

The task of GSCM begins with reducing the negative environmental impacts of the hotel sector by reducing resource consumption and dispensing with non-essential resources \([38]\). Starting from the design of the service and the selection of its constituent materials are taken into consideration \([71]\), high-efficiency equipment is chosen in terms of energy consumption, in addition to materials that do not need much treatment with water or energy consumption, or which do not harm the environment, e.g., cleaning materials \([38]\). In addition, hotels should choose more sustainable alternatives, such as replacing traditional paper and wood with eco-friendly recycled alternatives \([29,38]\). Reusable products such as refillable water bottles should also be chosen \([96]\). This is paired with the role of the procurement and procurement department in reducing waste resulting from the shipping and delivery of materials \([133]\) and purchasing quantities and managing the consumption of resources to ensure that they are stored in an ideal situation \([41,71]\). Furthermore, services that reduce the consumption of resources, e.g., a towels-on-the-floor policy \([67]\), should be implemented.

GSCM in the hotel industry through waste management deals with the inability or failure to implement waste prevention or mitigation \([96]\) by reusing it or transferring it to other entities that can use it to generate value in an eco-friendly way \([45]\). For example, food can be used for human consumption as a donation, converting it to feed animals, or as organic fertilizer \([12]\) where a policy of reuse or recycling is used, and upon failure to do so, it can be sent to the places designated for processing waste \([134]\). In the case of solid waste, it can also be reused or recycled, and even an agreement can be reach with its supplier to return the resulting waste remains. Dealing with it by an external waste management agency is the last solution \([135]\).

4.6. Theme 6–I.T, i.e., Innovation, Information Integration, and Technology Adoption (F)

Information integration is a key element in the success of the proper implementation of GSCM in the hotel industry \([19]\). Service design departments should adopt new products based on feedback from customers’ evaluations \([83]\) or market research received from other management in the hotel. Then, the GSCM work chain should begin based on the information transferred from one department to the next until finally producing a service that meets needs and fills gaps in old products \([13]\). The success of this depends on the validity and level of quality of the information transferred from one department to another. Materials cannot be purchased without knowing their type and conditions from materials management, etc. \([136]\).

Additionally, reliance on information systems and the Internet greatly facilitates the work of GSCM in hotels \([19,83]\), as it enables hotels to conduct analyses and compare suppliers and manage the relationship between them in a more meaningful way \([137]\). In addition, this allows hotels to analyze and monitor all stages of work carried out within GSCM departments \([138]\) to improve results, including environmental results \([13,139]\). Environmental innovation in GSCM has become commonplace in the hotel industry \([92]\). New environmental products and services have been developed in order to create value for both customers and businesses by reducing environmental impacts \([69]\). This environ-
mental innovation is being affected by many factors, as these innovations must be reliable and provide added value [140,141]. Moreover, the cost of their application should be acceptable to receive upper management’s support and be approved [142,143]. In addition, its compatibility with the information systems adopted by the hotel [89] and the presence of qualified human elements to implement and deal with these systems are necessary [120].

4.7. Barriers to Apply GSCM Practices in the Hotel Industry

Due to the complexity of GSCM relationships in the hotel industry and the multiplicity of tasks which they perform, GSCM faces several obstacles in carrying out its tasks as required [26,75,87]. There are no clear standards applicable when working on the design of the product or service, which is reflected in the selection of the necessary materials [144]. The fact is, it is not easy to persuade suppliers and partners to adopt eco-friendly methods in their activities, especially if there is a large market which prevents hotels from representing a lobbying party [145]. Conversely, the success of GSCM in performing its tasks requires that relationships be managed in a planned and professional way [87] to ensure understanding, cooperation, and coordination among all participating parties [146].

The adoption of GSCM in hotel management requires significant financial costs [26,147] and takes a long period to confer savings [87,144], which may stand as an obstacle to adopting this change. In addition, there is a possibility of a decrease in demand as a result of customer sensitivity to prices or changes in their preferences [68,148,149]. Therefore, GSCM may not be supported by senior management or investors due to this cost [150].

In addition, GSCM in the hotel industry needs a trained and qualified human worker [123] to be able to perform related jobs and tasks, especially regarding information management systems and management related to this task [48,92,115].

5. Conclusions

This systematic review paper defined and highlighted the complexity and importance of GSCM relations and interferences in the hotel industry. GSCM relations and interferences reflections exceed scope of GSCM departments and sub-management to affect and be affected by the internal hotel environment and also external hotel environments, such as the government, customers, farmers, etc. Additionally, GSCM plays a significant role in establishing a hotel’s image, including an eco-friendly image, organizing the relations with external stakeholders from suppliers to customers, governments, and many more actors. GSCM creates a value chain and a wide information integration system among all stakeholders to achieve an organization’s multiple goals including, environmental targets. GSCM will provide an organization with a competitive advantage that is hard to imitate. Furthermore, GSCM can improve environmental, operational, and financial performance and raise the level and quality of provided products and services. The implementation of GSCM may face several obstacles, and decision makers should take this into consideration and plan accordingly to err on side of caution.

6. Limitations and Future Research Agenda

In terms of the limitations of eligibility of searching keywords criteria, this article could be modified to focus on a different area within GSCM in the hotel industry from a different view. Additionally, the eligibility of choosing databases could be changed to use different or more databases.

Regarding the process of applying for the literature review, the decision to present six categories to explain the interferences and relations of GSCM to the hotel industry could be considered as a limitation. In the future, researchers could divide these six interferences and relations of GSCM into different categories in order to obtain different findings and explain them. For example, future research could gather stakeholders in one group, or divide the 4Rs into 4 groups, namely reuse, reduce, recycle, and return. In conclusion, the future research agenda should focus on the complexity of GSCM interferences and relations within the hotel industry to provide a better understanding of GSCM. In addition,
the findings of this study show a special contribution concerning some theories that have directed previous research on GSCM acting in the hotel industry, such as stakeholder theory, planned behavior theory, and reasoned action theory. However, some other theories could be used more in future research to provide a different point of view. Above all, the share of some stakeholders in case studies was poor or did not exist, e.g., the owners, and the role of government. Additionally, case studies still miss many countries, including famous and important tourist destinations. Additionally, regarding scientific production analysis, the interest in GSCM from the hotel industry has witnessed remarkable growth over last two years. This reflects the emergence of COVID-19 effects. Therefore, future research may have to concentrate on the power supply issue as an emerging result of the current power crises and the reversion to the use old methods to generate power, in addition to food supplying issues.

7. Implications

In this systematic review study, we aimed to help different decision makers by presenting a general overview of GSCM interferences and relations and the hotel industry, in order to enable them to understand and see the full image, which will lead to making better decisions and the use of planning based on scientific and accurate understanding and analysis of the current situation. The reflection of this study’s findings is not limited to the hotel industry only, but also offers insight into the hospitality industry in general. Moreover, the discussion reveals that GSCM will not only help decision makers improve hotels to improve environmental performance, but it will also exceed this scope to affect general performance, financial performance, CSR, and improve collaboration and cooperation between all related parties. Finally, the hotel industry is a main pillar of the hospitality industry, which means boosting this part of the industry will boost the whole sector.

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