

GREEN TRAINING IN RESTAURANTS: BALANCING ENVIRONMENTAL WITH ECONOMIC PERFORMANCE

Abstract



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Purpose – The article explores green training in restaurants to support them in improving their environmental performance and employees' capacity in adopting pro-environmental behaviours. It aims to enhance understanding of green training contents and methods as a basis for developing effective training programmes.

Methodology/Design/Approach – The data of this qualitative study consists of semi-structured interviews, which were analysed with inductive content analysis.

Findings – Findings imply that green training is an essential tool not only to increase employees' green behavior but to ensure business profitability and cost-efficiency in restaurants. The main training contents relate to strategic management of waste and resource use, innovative products and methods in energy-efficiency and waste management, sustainable sourcing, reducing and preventing food waste, and sustainability communication. As the contents are practical, hands-on training at work supported by various visual instructive materials is required. Based on the findings, restaurants can develop their own internal training programmes to assure their employees' pro-environmental behaviours.

Originality of the research – Previous quantitative studies in the hospitality context have concerned the relationship between green training and employee pro-environmental behavior in hotels. Little attention has been paid to increasing the understanding of green training contents and methods in restaurants.

Keywords restaurants; sustainability; environmental performance; green HRM; green training; pro-environmental behavior

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INTRODUCTION

Restaurants are increasingly understanding their impact on the environment and their contribution in addressing sustainable development goals (SDGs) (Higgins-Desbiolles & Wijesinghe, 2021; Madanaguli et al., 2022). Therefore, the necessity to reduce the negative impact on the environment to achieve sustainable development is acknowledged (Jang et al., 2017; Knezevic-Cvelbar et al., 2022). Restaurants are increasingly committed to and investing in sustainable practices to minimise their environmental impact and ensure competitiveness and customer satisfaction. These practices are crucial as the restaurant industry faces a variety of vulnerabilities including economic uncertainty and it needs to build resilience against future risks for long-term success (Della Corte et al., 2025). In other words, these so-called green restaurants take actions to reduce their negative impact on the environment by implementing sustainable practices in their daily operations (Joshua et al., 2023; Yong et al., 2024).

The restaurant industry does harm to the environment with the large quantity of produced waste and high consumption of water and energy. This means that sustainability in restaurants is dependent on their resource-efficiency, waste management and emissions (Baloglu et al., 2022; Bux & Amicarelli, 2023; Madanaguli et al., 2022). Therefore, restaurants have embraced sustainable practices related to sustainable sourcing, reducing waste as well as energy and water consumption to minimise their ecological impact (Della Corte et al., 2025). Restaurants are adopting practices to reduce their food and plastic waste by designing sustainable menus, optimising sourcing, reusing and selling surplus food, and reprocessing the remaining waste (Camilleri, 2021; Maia et al., 2024; Renfors & Wendt, 2024). As suggested by Della Corte et al. (2025), restaurants need both product and process innovation to increase their sustainability. In practice, they must innovate the restaurant product as well as the operational methods to strive for sustainable development.

For example, European restaurants are increasingly adopting eco-labels and green certifications to respond to the European Union's regulatory requirements and to meet changing consumer expectations. This is also encouraged by the Committee of the Hotel and Restaurant Industry in the European Community (HOTREC, 2023) to demonstrate restaurants' commitment to sustainable practices. To accomplish this, employees promoting sustainable practices are seen essential to mitigate climate change in the restaurant industry (Joshua et al., 2023). They are the key influencers contributing to restaurant's environmental performance when executing their day-to-day work behaviours (Madanaguli et al., 2022; Nisar et al., 2023). This means that they must be equipped with environmental awareness, knowledge and skills and adopt pro-environmental behaviour to support the restaurant in meeting its sustainability goals.

Due to these reasons Green Human Resource Management (GHRM) and green training as one of its main elements are emerging research themes in the restaurant context. Green training is defined as a type of training offered to employees related to relevant environmental topics (Renwick et al., 2012; Teixeira et al., 2016). It is seen as a tool to provide employees' attitudes, knowledge, and skills to accomplish the company's objectives and improve its environmental performance (Jabbour & Santos, 2008; Jabbour, 2013). Since green training increases the employees' capacity to adopt pro-environmental behaviours, companies consider green training as a solution to respond to the environmental challenges they face (Irani & Kilic, 2022; Tanova & Bayighomog, 2022). By providing green training to employees, they can perform their work in a way that prevents waste generation, minimises resource consumption and encourages them to engage in sustainability initiatives (Barakat et al., 2023).

In the hospitality industry, research in green training usually concerns measuring relationships and showing the linkage between green training and employee pro-environmental behaviour in hotels (e.g., Aboramadan & Karatepe, 2021; Cop et al., 2020; Hasan & Hossain, 2026; Nisar et al., 2021; Pham et al., 2019; Zhou et al., 2026). Previous studies have neglected the restaurant industry, which is also the novelty value of this study. As the environmental impacts of restaurants and hotels differ in scale, type, and operational focus, it is deemed essential to focus on green training also in the restaurant industry. For example, one of the key waste types in the restaurants is food waste, which is produced 15 kilos per inhabitant in European restaurants and food services (Eurostat, 2022).

This article explores green training in the restaurant industry. It aims at increasing understanding of green training focusing on the training contents and methods from restaurateurs and restaurant managers perspective. The research questions are the following: 1) What are the main green training contents to increase employees' pro-environmental behaviour in the restaurant industry? and 2) What are the most effective methods to implement these contents? By answering these questions, restaurants can develop their environmental performance as the green training needs are industry dependent. Based on the increased understanding, restaurants can develop their own internal training programmes to assure their employees' pro-environmental behaviours.

The article is structured as follows. First, the literature review examines the previous research on GHRM and green training as one of its main elements in the hospitality context. Next, the methodological choices to conduct the study are reviewed. This is followed by the findings explaining the main green training contents and methods perceived by the restaurants. The last section is about discussion and conclusions.

1. GREEN TRAINING AS HUMAN RESOURCE MANAGEMENT PRACTICE IN RESTAURANTS

1.1 Definitions of green human resource management and green training

According to Ren et al. (2018), the concept of GHRM refers to how a company integrates sustainability into its activities and decision-making processes. It is about affecting employee pro-environmental behaviour positively and supporting the environmental performance of the company (Elshaer et al., 2021). The main GHRM practices can be divided into three categories: 1) developing green abilities, 2) motivating green employees, and 3) providing green opportunities (Renwick et al., 2012). They are related to the practices of recruitment, selection, training, performance management, and rewards (Tang et al., 2018). These practices have emerged as a valuable tool for promoting environmental sustainability and greening the company (Pham et al., 2019; Renwick et al., 2012; Xie & Zhu, 2020). As Ren et al. (2018) state, green HRM practices are essential elements in motivating employees in a company striving for sustainable development.

The development of green abilities such as green training is one of the main elements of GHRM. As such, managers consider training as the most important human resources practice in the hospitality context (Meira et al, 2023). Green training, as continuing education, is designed to improve company's environmental performance, to clarify to employees its environmental management objectives and impact, and to encourage them to take environmental action (Jabbour, 2013; Judeh & Khader, 2023; Pinzone et al., 2019; Xie & Zhu, 2020). The main purpose of green training is to increase employees' green attitudes and knowledge as well as to educate them in the key environmental skills which in turn contribute to the environmental performance of the company (Pinzone et al., 2019; Renwick et al, 2012; Xie & Zhu, 2020). Indeed, many authors (Jabbour, 2013; Pham et al., 2019; Tang et al., 2018; Yadav, 2023) propose that green training boosts employees' understanding of environmental concerns, resource-efficiency and pro-environmental practices and enables them to adopt and engage in environmentally responsible behaviors at work.

Even though green training is about training relevant knowledge and skills (Renwick et al., 2012; Teixeira et al., 2016), only a little attention has been paid to increasing the understanding of 1) the green training contents i.e., what knowledge and skills should be achieved to improve environmental performance and 2) the green training methods i.e., how the knowledge and skills can be taught effectively. To accomplish this, identification of the training needs, careful planning of the content and relevant methods to implement and evaluate the training are required. In fact, Jabbour (2013) proposed that the green training process consists of investigating the training needs, identifying what skills should be developed, and making decisions about how to implement the training.

1.2 Related research in the hospitality context

Research in green training is emerging in the hospitality context, in other words in hotels and restaurants. The role of green training in enhancing employees' environmental skills, resulting in improved environmental performance, has been acknowledged as an important research theme. For example, Cop et al. (2020) revealed that it is essential to engage employees in green training as it positively affects their environmental commitment and organisational behavior. Judeh and Khader (2023) showed that the relationships between green training, green employee behavior, and employee retention are positively significant, and Yusoff et al. (2020) demonstrated that green training has a meaningful relationship with environmental performance. Furthermore, Pham et al. (2019) suggested that the managerial level should carefully consider the benefits received from investing in green training because it encourages employees' pro-environmental behavior in companies as well as has a positive impact on their reputation and financial performance. However, it has been also noted that employees who have sustainable values are motivated to perform their tasks in a pro-environmental manner without getting rewards or compensation (Ansong et al., 2024).

The restaurant context has been largely neglected in GHRM research with only a few studies concerning GHRM and green training. However, as the restaurant industry relies heavily on human labor, gaining a competitive edge through effective human resource management is crucial (Park et al., 2017). As research on training as an HRM practice has been conducted in the restaurant industry to some extent (e.g., Arroyo-López et al., 2017; Ballesteros-Rodríguez et al, 2022), it should also be addressed more extensively from sustainability perspective. Recently, some studies have been conducted addressing employees' green voice behavior in restaurants (Tabrizi et al., 2023) and restaurants supporting their employees to better cope with anxiety related to the reality and impact of climate change (Joshua et al., 2023). In addition, Montesdeoca-Calderón et al. (2024) categorised restaurants by employee training in sustainable practices and concluded that restaurants with more green training generate less waste.

Furthermore, green skills have been explored in the hospitality context but not solely focusing on the restaurant industry. In general, green skills are defined as the knowledge, abilities, values, and attitudes required to live in, develop, and support a sustainable and resource-efficient society (Cedefop, 2012, p. 20). For example, Carlisle et al. (2021, 2022) categorised green skills in the hospitality industry as skills in (1) energy-efficiency and water consumption, (2) waste management, recycling and composting, (3) conservation of biodiversity, (4) promotion of sustainable transport, (5) promotion of environmentally friendly products and services, and (6) knowledge of climate change. In addition, Renfors (2024) identified the following green skills that improve the industry's environmental performance: (1) environmental management, (2) resource-efficiency, (3) carbon management, (4) green product and service development, and (5) sustainability communication. It can be concluded that the main green skills in the hospitality context relate to resource management and the efficient use of resources (water, energy, waste), managing carbon emissions, sustainable product and service development as well as increasing understanding and awareness of sustainability issues.

2. METHODOLOGY

2.1 Data collection

In this qualitative research, the data were collected with individual, semi-structured interviews (n=10) held online from restaurateurs and restaurant managers. These restaurants were selected with purposive sampling. All restaurants were privately-owned, not being part of a larger chain. The restaurants have begun their environmental work, and some of them have already made significant progress. The duration of the interviews was from 45 minutes to one hour. The topic guide was prepared, and it consisted of a set of themes and open-ended questions adapted for each situation. This allowed further discussion and extra questions of emerging topics, if needed. For example, the following questions were asked: (1) How would you describe the current state of sustainability in your restaurant?, (2) What kind of sustainable practices have you adopted in your restaurant?, (3) What kind of challenges you currently face in terms of sustainability?, (4) What sustainability practices should receive more attention? and (5) What kind of support would you like to receive in terms of training? The sample size was completed when the interviews produced no added information, and the saturation point was reached.

The sample consisted of ten restaurants from Finland (Table 1) with different business models to achieve a holistic understanding of the topic. Three of the selected restaurants were casual dining restaurants and one fast casual restaurant, three restaurants operated as personnel restaurants serving lunch for the personnel working in the neighborhood, and one restaurant operated within a hotel. In addition, one café and one catering business were included in the sample. Of the ten restaurants, two served à la carte meals, eight buffet style meals, and three operated a cafe. In total, four restaurants organised catering also for private events. From the sample, five restaurants can be considered small size with 1–4 permanent employees and five restaurants larger in size with 13–15 permanent employees.

Table 1: Overview of the selected restaurants

Interviewee	Job title	Restaurant type	Number of employees
1	Restaurateur	Casual dining restaurant with á la carte meals; bar	14 permanent, 10 seasonal
2	Restaurateur	Casual dining restaurant with buffet style lunch; catering for private events	4 permanent, 1-2 seasonal
3	Restaurant manager	Casual dining restaurant with buffet style lunch; café; catering for private events	1 permanent, 1-3 seasonal
4	Restaurateur	Fast casual restaurant with buffet style lunch and á la carte meals; café	15 permanent, 5 seasonal
5	Restaurant manager	Personnel restaurant with buffet style lunch	13 permanent, 2-3 seasonal
6	Restaurant manager	Personnel restaurant with buffet style lunch	13 permanent, 2-3 seasonal
7	Restaurateur	Personnel restaurant with buffet style lunch	4 permanent, 3-4 seasonal
8	Restaurant manager	Hotel restaurant (casual dining) with buffet style breakfast, lunch, dinner; bar	15 permanent, 10 seasonal
9	Restaurateur	Café with bakery; catering for private events	4 permanent, 1-3 seasonal
10	Restaurateur	Catering business with buffet style meals for private events	1 permanent, 1-3 seasonal

2.2 Data analysis

The interview data were analysed by qualitative inductive content analysis. Inductive content analysis is characterised by open data collection approach and is suitable when the phenomenon under study has not been explored in previous studies or when prior knowledge is fragmented (Kyngäs, 2019, 14). The approach to content analysis was inductive to identify distinct aspects of the data to describe and understand green training contents and methods without a predefined coding framework. In other words, the researcher organised, integrated, and formed categories, concepts, and themes by carefully comparing the similarities and differences between coded data to answer to the research questions (Kyngäs, 2019, p. 14). The data were closely examined to identify recurring patterns and the most relevant keywords, which are essential terms and phrases of the data for further analysis. The coding process was iterative (cf. Vears & Gillam, 2022) as the codes were defined by reading and comparing the transcripts multiple times. First, “the big picture” content categories were developed to have an overall understanding of the meanings attached to the data. Next, codes similar in meaning were categorised and grouped under headings to form sub-categories. Patterns and relationships among these codes were carefully interpreted and the codes were constantly compared to each other to understand the differences and similarities. Finally, the content categories were interpreted and synthesised. At this point, the existing theory also supported the framing of the interpretation.

3. FINDINGS

3.1 Green training contents

The findings suggest that the main green training contents in the restaurant industry are the following: (1) waste management, (2) energy-efficiency, (3) sustainable sourcing, (4) forecasting demand, (5) menu planning, (6) optimising food preparation and serving, (7) selling surplus food, (8) legislation, and (9) sustainability communication.

3.1.1 Waste management

The first category of green training content pertains to waste management and its associated practices. Overall, the interviewees indicated that waste sorting and recycling are well-established in restaurants, with common practices including the separation and recycling of plastic, metal, glass, cardboard, and organic waste. Several interviewees emphasised the significant volume of plastic waste generated, particularly from packaging and ingredient deliveries, prompting targeted efforts to reduce its use. Additionally, restaurants aim to minimise waste by avoiding single-use utensils and individually packaged items, such as sugar cubes.

Despite a clear commitment to waste reduction and prevention, most restaurants lacked precise data on the quantity of waste they produce (e.g., in kilograms) or the financial costs associated with waste management. This highlights a need for enhanced knowledge and competencies in strategic waste management, as well as in setting and measuring sustainability goals. Such capabilities are essential for restaurants to comprehensively assess and mitigate their environmental impact. For example, the interviewees (I1 and I4) explained that:

*"I've never thought about what waste management costs are... but I would say around €2,000 every two months."
"We don't measure the amount of waste in any way, but there is a lot of it."*

In addition, the findings show that green training in restaurants should focus on innovative means of waste management. The findings emphasise that restaurants are interested in learning about sustainable packaging alternatives, for example biodegradable and compostable plastic and fiber materials to use in packaging and food service to reduce and prevent waste. In addition, different deposit systems, where delivery boxes are returned leaving no waste behind, are increasingly interesting to restaurants. Restaurants are also keen to explore composting, but they do not yet have enough knowledge about its technical solutions. Restaurants (I10, I5, I1) commented on the matter as follows:

*"I have been wondering how different small portions could be served on the terrace without creating waste. I would like some ideas on what kind of compostable materials could be used for serving."
"Those plastic boxes with deposit for transportation, no use of cardboard boxes... The supplier takes the boxes back after delivery and they are reused."
"If I had my own composter; then... How big would it need to be, one hundred liters? How does it work, will it smell here in the restaurant?"*

3.1.2 Energy-efficiency

The second category of green training contents in restaurants is energy-efficiency. Restaurants have several practices to optimise the use of energy, and the costs associated with it, which are often related to the use of appliances. When using ovens, restaurants consider what time of day electricity is cheapest and what quantities of food are profitable to cook in the oven at one time. In addition, when purchasing ingredients, they consider the amount of energy required to prepare them. They also strive to save energy in the lighting and heating of the building and to use renewable energy sources such as geothermal and solar heat. However, the interviewees stated that as energy prices are high, they are keen to learn more innovative methods to reduce their energy consumption. For example, the interviewees (I5 and I4) explained about the following practices:

*"We try to fill the ovens to capacity and cook assorted products at the same time if the temperature is the same. We have streamlined our operations; we don't cook small batches in our ovens."
"Renewable energy is our biggest investment in environmental issues. And that is the most visible one. We have geothermal heating and solar panels on the roof."*

3.1.3 Sustainable sourcing

The third category of green training content in restaurants concerns sustainable sourcing. A key aspect involves identifying and selecting local food producers to procure locally sourced, healthy, and seasonal ingredients, thereby contributing to the reduction of the carbon footprint. Interviewees emphasised the importance of prioritising domestic meat and vegetables. However, in practice, many restaurants rely on wholesalers due to logistical challenges faced by small-scale local suppliers.

While there is a clear interest in increasing the use of local food, high costs were frequently cited as a significant barrier. The markedly higher prices of local products raise concerns about consumers' willingness to pay a premium, which in turn affects purchasing decisions. Furthermore, rising food costs have prompted restaurants to closely monitor market prices and competitors' pricing strategies. This has led to increased attention to supply chain partner selection and more strategic contract negotiations, as businesses strive to manage shrinking profit margins. Although restaurants recognise the value of sustainable sourcing, they face multiple challenges in its implementation. These struggles are explained by the restaurants as follows (I9 and I1):

*"Of course, we want to serve local food, but are customers willing to pay for it? For example, I do not see that locals are willing to pay for bread baked from the organic local flours."
"We are constantly struggling with prices, but then, of course, we have managed to change suppliers in the supply chain... We had agreed on the prices for tenderloin, and then they suddenly announced that there were new prices. The price rose from 30 euros to 42 euros, an increase of over 30 percent. We weren't talking about small things."*

3.1.4 Forecasting demand

The fourth category of green training content focuses on demand forecasting, particularly in relation to inventory management and ingredient procurement. Accurate forecasting is essential to ensure that ingredient orders align with actual sales volumes, thereby minimising food waste and optimising resource use. To this end, restaurants routinely monitor customer numbers and daily sales data. Staff are also trained in effective stock management practices to prevent over-ordering and to ensure that ingredients are utilised before reaching their expiration dates as explained by the restaurants (I6 and I4):

“Ingredients are ordered as needed. When you take them every day, you end up ordering less ingredients. When you order them, order as much as you need so that there are no leftovers.”

“We keep a pretty close eye on how many people we have for lunch... especially the number of lunches. We get the info in reports, and then we have our own stamp cards. We use those to keep track of the number of customers, too.”

3.1.5 Menu planning

The fifth category of green training content pertains to menu planning, which plays a critical role in both minimising and preventing food waste and enhancing business profitability. Interviewees highlighted that, particularly in buffet-style restaurants, careful menu design is essential to reduce food surplus. Effective menu planning requires comprehensive knowledge of ingredient utilisation and strategies for repurposing leftovers—such as incorporating surplus or food scraps into new menu items. This process demands both foresight and creativity.

Moreover, aligning menus with seasonal ingredient availability was emphasised as a key factor in improving cost-efficiency and sustainability. Menu planning also involves balancing customer preferences with fluctuating ingredient prices to maintain profitability while minimising waste. Overall, the findings underscore the importance of equipping restaurant staff with the skills necessary for strategic and sustainable menu development. Menu planning is perceived as follows by restaurants (I6 and I4):

“You must spend time making sure that the lunch menu is what it should be. You must think about what you can use, what it costs, where to use it, and what goes well together.”

“We always have salmon on the lunch table on Sundays... So, we try to plan the menu so that there are days early in the following week when we have salmon soup or salmon pasta or some kind of salmon salad, so that we can use up any leftovers the following week. The same ingredients are used over and over again.”

3.1.6 Optimising food preparation and serving

The sixth category of green training content addresses the optimisation of food preparation and service processes. A key objective is to prepare food quantities that align closely with actual demand, thereby minimising waste and enhancing cost-efficiency. Chefs are trained to estimate appropriate portion sizes and production volumes based on anticipated customer flow, as food waste has a direct impact on profitability.

To support consistency and reduce errors, new employees are provided with standardised recipes that include precise ingredient quantities. Throughout the day, customer demand is continuously monitored, and food is prepared in batches accordingly to avoid overproduction. In the serving phase, portion control strategies—such as using smaller plates and serving platters—are employed to influence consumption behavior and reduce leftovers. Larger restaurants also leverage technological solutions, such as kitchen management software with integrated recipe calculations, to streamline food preparation and inventory control. These tools support data-driven decision-making and contribute to more sustainable and efficient kitchen practices. Optimising food preparation and serving is commented as follows (I6 and I8):

“New employees are first trained to make the right amounts of food. It is especially important that, for example, the salad bar has the right amounts so that you can make it according to sales... you must keep an eye on that. It's better to do it little by little in the morning than all at once.”

“During serving, dishes must be placed in a smaller platter, as it is not always possible to refill them. The right size of the tableware and the presentation are important.”

3.1.7 Selling surplus food

In cases where excess food is prepared, restaurants commonly address the issue by selling surplus portions at reduced prices. To do so effectively, they require knowledge of the most suitable channels and strategies for promoting these offerings. Many restaurants utilise dedicated mobile applications that allow customers to view and purchase surplus food items in real time. Additionally, social media platforms such as Facebook are frequently employed to communicate surplus availability and attract potential buyers. A restaurant (I7) commented on the sale of surplus food as follows:

“The use of the online app to sell surplus food has even increased after the pandemic.”

Interviewees emphasised that selling surplus food not only helps reduce waste but also enables restaurants to recover part of the costs associated with raw materials. Beyond commercial solutions, some restaurants also donate excess food to food banks and local charitable organizations, thereby contributing to social sustainability alongside environmental and economic goals. A restaurant (I9) explained that:

“If there are unsold products left in the café, we first put them on sale at a discount. If they don't sell, they are taken to the parish for distribution. The Red Cross also comes to pick them up one morning.”

3.1.8 Legislation

The next category of green training content concerns legislation. Interviewees consistently described the regulatory landscape as complex and challenging to navigate, which often hinders full compliance. Frequent changes in legislation further complicate efforts to stay informed, and many restaurants reported insufficient knowledge of new or updated legal requirements. Furthermore, participants expressed concerns about the perceived tension between legal compliance and business profitability. Some believed that adhering strictly to all regulatory requirements could compromise their financial viability. They also noted that certain legislative measures—particularly those related to food safety and control—are not always perceived as practical or feasible in daily operations. In some cases, the rationale behind specific regulations was unclear, contributing to skepticism and resistance. As two interviewees (I8 and I9) explained:

“Last year, legislation was introduced requiring waste to be weighed, but we haven’t weighed anything... If we were to comply fully with the legislation on waste... we wouldn’t be able to do business.”
“The inspector said that butter containers are not meant for freezing, so they can’t be used. This is completely ridiculous. We must buy freezer containers, which are much worse and break much more easily.”

3.1.9 Sustainability communication

The final category of green training content pertains to sustainability communication, encompassing both internal and external communication strategies. Interviewees emphasised the need for enhanced skills in effectively conveying their sustainability efforts to customers. Transparent communication of sustainable practices and related data is seen as essential for building trust and promoting environmentally responsible behavior among consumers, such as reducing food waste as commented by an interviewee (I8):

How can we inform customers... Some restaurants have scales at the end of the counter where customers can weigh their waste, and a board showing yesterday’s waste amount and the corresponding euro amount to raise customer awareness. However, we don’t want to be that radical.”

Restaurants expressed a need for practical tools to facilitate sustainability communication, both online and within their premises. Many currently utilise digital platforms, including dedicated applications and social media channels like Facebook, to share information about their sustainability initiatives—particularly regarding surplus food offerings.

In addition to external communication, participants highlighted the importance of embedding sustainability into the organisational culture. They identified a need for training that would enable staff to consistently implement and communicate sustainable practices in alignment with the restaurant’s values and operational guidelines. This internal coherence is viewed as critical for ensuring that sustainability principles are reflected in daily practices. The following example from an interviewee (I5) illustrates these perspectives:

“Our common philosophy, we are trying to develop it... We should reinforce our employees’ understanding that they are doing the right thing and why it is right for them to do so. It is essential to spread this common view so that we all understand things in the same way and everyone acts in the same way.”

3.2 Green training methods

Interviewees emphasised that practical, face-to-face training is the most effective approach for enhancing employees’ environmental performance and fostering pro-environmental behaviors. They recommended that managers conduct regular, active, and participatory training sessions to provide clear guidance, hands-on instruction, and motivational support. These sessions should include demonstrations of sustainable practices and processes, enabling employees to learn through direct experience.

To complement in-person training, online learning materials can be developed for self-directed study or integrated into structured group training sessions. Additionally, digital tools such as online tests and self-assessment modules can be employed to evaluate employees’ understanding of key sustainability topics and identify areas for further development. The importance of diverse training formats was articulated by interviewee I7 as follows:

“We want to have face-to-face training, maybe later also online. No reading materials, rather we want training where things are showed.”

In addition to formal training sessions, digital and visual materials—such as instructional videos, posters, and infographics—play a crucial role in supporting the learning of sustainable practices in both kitchen and customer-facing areas. Training videos are particularly effective for demonstrating correct procedures, especially those related to food waste prevention and reduction. Visual aids, including step-by-step instructions and checklists, serve as practical tools to guide daily tasks and reinforce proper practices among staff.

Interviewees also highlighted the value of compiling sustainable practices into accessible guidelines that include actionable tips for performing tasks in an environmentally responsible manner. These materials can be displayed in staff rooms and kitchen areas to ensure visibility and ease of use. Additionally, written manuals were identified as important resources for promoting consistency in task execution. Given the linguistic diversity of restaurant staff, with some employees lacking fluency in the local language or English, visual training methods were considered particularly effective in facilitating understanding and engagement. The importance of such approaches was highlighted by interviewees I2 and I3, who noted:

“Some kind of checklist is needed to managing duties. Also, it could be a mobile app which alarms and reminds of the tasks.”
“I think that we need clear instructions, especially written instructions. These could be visual and easily available on walls.”

DISCUSSION AND CONCLUSIONS

Indeed, a well-developed knowledge base is crucial to making training successful (Renwick et al., 2012). The findings agree with Baloglu et al. (2022), Bux and Amicarelli (2023) and Madanaguli et al. (2022) that the most important training contents in the restaurant industry are related to resource-efficiency and waste management from multiple perspectives. First, restaurants and their managers need training in systematic and strategic waste and resource management as their sustainability goal setting, key environmental performance indicators and measurable sustainability targets are often non-existent. Knowledge and skills related to goal setting and measurement to understand their environmental impact in detail are highly required to get a baseline to be able to improve their sustainability and develop relevant practices. Furthermore, restaurants need training to integrate sustainability into their corporate culture to ensure that employees understand and can act to reach these goals and according to joint guidelines.

When restaurants have gained this understanding, they can enhance their environmental performance with innovative products and methods. The findings are in line with those of Della Corte et al. (2025) that training is required about innovative sustainable products and methods in energy-efficiency and waste management, for example in renewable energy sources, kitchen equipment, packaging, and composting. Sustainable sourcing of local and seasonal ingredients also emerged as one of the important training needs. However, it involves many obstacles and external factors, for example logistics and high prices, which require knowledge and skills in building partnerships and negotiating contracts with suppliers.

Many training needs are related to reducing and preventing food waste as one of the most important factors in restaurants' environmental performance. In the pre-kitchen stage, this includes knowledge and skills in forecasting demand and managing stock effectively to avoid over-ordering as well as planning menus carefully to repurpose leftovers for new menu items. In the kitchen stage, chefs must be trained to optimise food preparation and serving to avoid over-preparation. However, if food is prepared excessively, it is essential to understand what kind of tools can be used to sell the surplus. As customers are an integral part of the restaurant product and actors in reducing and preventing food waste, restaurants need to learn how to engage them with sustainability communication.

The findings show that it is of the utmost importance for the employees to get practical training at work supported by various visual materials to learn pro-environmental behavior and act according to sustainable practices. To increase knowledge and skills related to training contents, the findings emphasise delivering active, participatory training sessions to learn through direct experience. In addition, digital training material, e.g., videos can be used to teach a variety of sustainable practices and processes. Visual material in the restaurant premises with instructions, checklists and guidelines as well as written manuals are deemed essential to support employees in performing their daily tasks.

Table 2 includes recommendations for restaurateurs and restaurant managers how to develop and implement green training. Certainly, the key activities and KPIs may change according to the type and size of the restaurant. In addition, the timeline may differ due to the seasonality of the business. Therefore, it is advised to start the process after the high-season to ensure sufficient resources for implementation.

Table 2: **Suggestion for a green training process in a restaurant**

Phase	Aim	Key activities	KPIs	Timeline
Planning of sustainability management at the restaurant level	Ensuring systematic and strategic environmental management in the restaurant	Understanding the restaurant's environmental impacts and baseline, select key areas for improvement, set goals, targets and measurable KPIs	Environmental management plan	Months 1-2
Identifying key green skills gaps related to areas for improvement, goals and targets	Understanding what knowledge and skills should be increased to improve environmental performance	Conduct an employee survey, observe employees at their daily work	Number of training needs identified; % of employees involved; skills report	Month 3
Planning of the contents	Developing the training contents aligned with the skills needs	Based on the identified skills needs, produce relevant materials for training sessions and language-accessible visual materials	Number of materials produced: videos, instructions, checklists, guidelines; employees' satisfaction with the materials	Months 4-5
Conducting training	Increasing the employees' capacity to adopt pro-environmental behaviours aligned with the restaurant's environmental goals and targets	Conduct active, participative training sessions and self-learning with produced materials	Number of conducted training sessions; number of downloads of digital training content	Months 6-7
Evaluating the effectiveness of the training	Understanding the effectiveness of the training and needed adjustments	Conduct feedback sessions with the employees; Monitor the impact of the training in relation to the restaurant's environmental management plan, its goals, targets and KPIs; adjust training according to the key observations	Employees' feedback; the progress of the key environmental KPIs	Month 8
Continuous learning	Embedding sustainability in corporate culture to ensure environmental performance in the long-term	Integrate sustainability as an integral part of corporate strategy and internal communication	Number of sustainability initiatives; Number of communication activities	Month 9 onwards

Moreover, the findings agree with Park et al. (2017) that due to the restricted financial capacity and tight margins, many restaurants struggle to allocate resources toward robust HRM practices. Indeed, the findings revealed that cost-efficiency and profitability are the basis of sustainable practices in the restaurant industry, and economic performance is strongly linked with environmental performance and employee pro-environmental behaviour. Profit margins are weak, and cost management is challenging as food and operational costs have risen substantially. For this reason, restaurants are struggling to maintain their profitability by controlling their costs. This means that improving pro-environmental behavior by green training is not considered as a priority as such but as an essential tool to ensure business profitability. In practice, restaurants embracing sustainability understand that acting sustainably brings them cost savings. This has implications for training as it is crucial to show restaurants the connection between environmental and economic sustainability to encourage them to adopt sustainable practices.

In addition to economic factors, the findings suggest that legal and technological external factors influence restaurants' environmental performance. Restaurants try to navigate changing legislation and regulations, which puts them under extra pressure. They are also interested in technological innovations, but they do not have sufficient knowledge and skills to identify their relevancy and assess their suitability for their needs. These issues imply that restaurants need more training on legal and technological factors and opportunities influencing their operations.

The findings also imply that at the managerial level sustainability mindset should be integrated into training contents to change managers' attitudes. Currently, restaurant managers understand that environmental and economic sustainability are interconnected but economic sustainability dominates environmental sustainability. Their understanding of how nature and economy are connected should be increased to increase their environmental awareness and consciousness.

The limitations of the study are related to the characteristics of the selected restaurants and the geographical context. The restaurants represent a typical sample of Finnish restaurants with diverse types of restaurant products. However, buffet-style meals prevail in this sample, which is why its features are highlighted in the findings. It can be concluded that the current economic situation also influences the findings as restaurants are struggling with their profitability. For example, the increased food and energy costs are emphasised but saving water did not play a major role due to its moderate costs in Finland.

Further ideas for future research can be suggested based on these findings. For example, the findings could be used to study how to design and deliver an effective training programme to the restaurant industry. It would be important to better align the specific training contents with relevant methods to increase the effectiveness of the training. The further study could also explore in detail the training needs at the managerial level as the findings show the lack of environmental management skills. In addition, various types of restaurants, for example public and private, potentially have differences in their training needs, which could be further examined. External factors, especially economic, legal and technological, influencing the environmental performance should also be considered to understand more deeply their connection to pro-environmental behaviour.

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