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ANALYSIS OF THE ACTIVITY OF AMREST AND MCDONALD'S GASTRONOMIC NETWORKS AS THE BASIS FOR VERIFICATION OF THE SUSTAINABLE GASTRONOMY MODEL

Ewa MALINOWSKA[1*], Renata PŁOSKA[2], Mariusz CHMIELEWSKI[3]

[1] Uniwersytet Gdański, Katedra Strategicznego Rozwoju, Zakład Zrównoważonego Rozwoju i Nauk o Jakości; ewa.malinowska@ug.edu.pl, ORCID: 0000-0002-9409-7856
[2] Uniwersytet Gdański, Katedra Strategicznego Rozwoju, Zakład Zrównoważonego Rozwoju i Nauk o Jakości; renata.ploska@ug.edu.pl, ORCID: 0000-0002-1716-4496
[3] Uniwersytet Gdański, Katedra Strategicznego Rozwoju, Zakład Zrównoważonego Rozwoju i Nauk o Jakości; mariusz.chmielewski@ug.edu.pl, ORCID: 0000-0002-0775-621X
* Correspondence author

Purpose: The aim of this paper is to verify and improve the sustainable gastronomy model developed by the authors and presented in Malinowska et al. (2024). The verification and refinement of the model is based on the results of the analysis of the sustainable activities carried out by two large global food service chains, AmRest and McDonald's
Design/methodology/approach: The article uses the method of critical literature analysis, analysis of secondary data, case studies, and the method of synthesis and logical inference.
Findings: The analysis of the two food service chains' operations confirmed that the developed sustainable gastronomy model consists of properly defined main components. Furthermore, based on the findings of an analysis it was possible to refine some elements of the model and add new ones. The result is the improved version of the sustainable gastronomy model.
Research limitations/implications: The study is based on an analysis of two global food service chains, operating largely or exclusively in the area of system gastronomy - fast food. The analysis, which formed the basis for the verification and refinement of the sustainable gastronomy model, was based only on information made public by both chains in their sustainability reports and on their websites.
Practical implications: The conclusions of the research, in the form of the revised and refined sustainable gastronomy model, can serve as inspiration and a set of basic guidelines for food service companies to design and carry out sustainable changes to their operations and offers.
Social implications: The proposed model of sustainable gastronomy can be used to build and raise public awareness in identifying the characteristics of sustainable gastronomy and quantifying their importance, thereby developing responsible consumer attitudes. It can also serve as a tool to assess the sustainability of companies operating in the food service market.
Originality/value: The revised model is the author's proposal to describe the specifics of sustainable gastronomy.
Keywords: sustainable gastronomy, sustainable development, system gastronomy, fast food.
Category of the paper: original article.

1. Introduction

The concept of sustainable development, which has been present in the public debate for more than five decades (Burchard-Dziubińska et al., 2014; Dvořáková, Zborková, 2014; Hull, 1993) undoubtedly influences many areas of social and economic life. This also applies to various industries and sectors, where many initiatives and activities can be observed, aimed at making the idea of sustainable development a reality. These changes are increasingly deeply interfering with the day-to-day functioning of businesses: the decisions made and processes implemented within them (Farooq et al., 2019; Hardy et al., 2002; Henninger et al., 2016; Jones et al., 2017; Vadakkepatt et al., 2021).

The idea of sustainable development is based on the belief that the current socio-economic model should be transformed into one that creates opportunities for existence, development and satisfaction of the needs of both present and future generations (WCED, 1987). It is most often pointed out that the key to the success of this transformation is the harmonization of the three dimensions: economic, ecological (environmental) and social (Giddings et al., 2002; Rogall, 2010; Schaefer, Crane, 2005; Strezov et al., 2017; Wiśniewska, Grybek, 2022). Due to the complexity of the entire process of change, it is necessary to involve all participants in socio-economic life, including both sides of the market relations: buyers and suppliers of goods and services.

Companies are confronted with increasing pressure to take actions that will result in changing the way they operate and their product or service offerings to a more sustainable one. This pressure is related to both legislative changes, particularly noticeable in EU countries (Chiti, 2022; Cifuentes Faura, 2022; Hummel, Jobst, 2024), and social changes - related, e.g. to the growing environmental awareness of societies (CBOS, 2020; European Commission, 2024). From the point of view of companies, changes in the area of consumer behavior are of particular importance, and related to the inclusion of sustainability issues in purchasing processes (Mazur-Wierzbicka, 2016; Zalega, 2013; Zalejski, Faszczewska, 2012). This is no different in the case of the food service industry, as also with regard to food products, consumers increasingly declare that they are interested in buying those that are environmentally friendly or sustainable (Civero et al., 2021; DiPietro et al., 2013; Jaros, 2016).

In response to buyers' expectations, taking into account sustainability issues, companies are seeking and implementing further changes, both within the goods and services they offer and any processes they implement to meet those expectations. A number of such activities are being undertaken by companies in the agri-food sector, including the food service industry (Nascimento, 2023; Sloan et al., 2015; Stangierska, 2016; Yoon et al., 2020).

In order for these activities to be effective and efficient, it is essential to understand them, which requires both the ability to see their individual components and a holistic approach. Various types of standards or guidelines that provide practical knowledge on solutions for

implementing sustainability in companies can help in this process (e.g. GRI, 2024; ISO, 2010; ISO, 2024; OECD, 2018). A similar role can be fulfilled by various types of publications, including scientific ones, which present such solutions in a comprehensive yet clear manner. Undoubtedly, such a function can be performed by models of various concepts or phenomena. However, in order for such models to serve as a reliable source of inspiration or guidance for businesses, care must be taken to ensure that they reflect reality and the assumptions of the presented concept as closely as possible, and this requires not only diligence at the stage of their creation, but also verification and improvement.

The purpose of this article is to verify and refine the model of sustainable gastronomy developed by the authors and presented in their previous publication (Malinowska et al., 2024). The verification and refinement of the model is based on the results of the analysis of the sustainable activities carried out by two large global food service chains, AmRest and McDonald's. It was assumed that, due to the nature and scope of their operations, these entities are under particular pressure to implement the principles of sustainable development and have experience in this regard. For the purpose of achieving the goal, the method of critical analysis of literature, analysis of secondary data, case studies, and the method of synthesis and inference was used. The conclusions of the research were used to verify and refine the author's model of sustainable gastronomy, an updated version of which is presented in the conclusions.

2. Sustainable gastronomy

Gastronomy is defined as the art of eating well, in which the relationship between food, culture and tradition plays a large role (Parasecoli, Rodriguez-Garcia, 2023). Already in this definition, the interaction of gastronomy with other areas is evident, which has resulted in, among other things, the concept of sustainable gastronomy. Looking through the prism of various interactions between gastronomy and the phenomena occurring in the ecological, economic and social areas, it can be concluded that there is an intensive development of the phenomenon of sustainable gastronomy. According to the UN, sustainable gastronomy is a concept that essentially means a cuisine that sources and processes ingredients in a sustainable manner - taking into account the origin of the ingredients, how the food is grown and how it gets to markets and ultimately to consumers' plates (What is Sustainable Gastronomy?, 2024).

The literature highlights the change in attitudes of both consumers and food service workers toward the phenomenon of sustainability in this area. Filimonau et al. (2022) presented evidence that consumers are more likely to use food service establishments that care about the environment. Hu et al. (2010) found, based on their research, that there is a close relationship between consumers' knowledge of sustainable restaurant practices, environmental concern and green behavior, and their willingness to visit “green” restaurants. Such a relationship was also

confirmed by Wang et al. (2018) and Nicolau et al. (2020), who in their research proved that consumers are more willing to pay for the services of "green" restaurants. The literature highlights that, e.g. Spanish consumers of eating establishments are showing a growing interest in sustainability aspects in the context of food consumption away from home (Moral-Cuadra et al., 2020), and a positive attitude toward shorter and therefore more environmentally friendly food supply chains (Elghannam et al., 2019).

However, in order for consumer expectations to be met, an understanding of a sustainable approach to the operation of a food service establishment must also exist on the part of the organisation's employees. Many authors in their publications address the issues of food waste during catering production (Kasavan et al., 2019; Dhir et al., 2020; Lévesque et al., 2022), which, in addition to the unfavorable image in terms of sustainability, also affects lower profitability and causes significant financial losses (Gonçalves et al., 2023). The cause of this phenomenon is not necessarily just poor staff organisation, but also consumers themselves, who leave an unconsumed portion of their meals on their plates because, e.g. the appearance or taste of the dishes do not meet their expectations, or the meal portion is too large (Dhir et al., 2020). To prevent or mitigate the effects of this phenomenon, appropriate, educational measures should be implemented (Martin-Rios et al., 2018) and a preventive approach should be taken to reduce the amount of wasted food – e.g. by adopting a limited menu (Lévesque et al., 2024). An equally important aspect is the approach to the observed problem taken by restaurant managers (Blennow, Persson, 2009; Richardson, Fernqvist, 2024). They are the ones who are primarily responsible for the training programs of the crew, but also for the effective organisation of work. They should inspire appropriate actions such as: implementing effective waste monitoring systems, educating staff on inventory management and portion control, and encouraging sustainable food practices based on, e.g. a donation program (Gonçalves et al., 2023). According to Richardson and Ferniqvist (2024), a sustainability-conscious chef can influence others to have more sustainable food values, behaviors and practices, thus leading to a more sustainable food system. They emphasise the role of actively educating chefs, then sharing that knowledge with customers to stimulate curiosity and build knowledge (Pereira et al., 2019). Looking at the changes that are taking place in society and the economy, one can conclude that sustainable gastronomy is no longer just about how to make gastronomy itself more sustainable. Gastronomy can be viewed as a social approach that can contribute to sustainability beyond issues directly related to food consumption (Östergren et al., 2023). Presented in the author's model (Malinowska et al., 2024), the elements mentioned above support the thesis that a multidimensional approach that takes into account long-term thinking, the needs of future generations and stakeholder cooperation is important in sustainable gastronomy.

The authors, on the basis of their previous research (Malinowska et al., 2024), defined the concept of sustainable gastronomy as "a business activity focused on meeting the nutritional needs of consumers based on the processing of food raw materials into ready-to-eat food and beverages, and offering them to purchasers, also by making them available for consumption at

the point of sale (with additional services to meet other needs, e.g. entertainment, leisure), which:

- takes into account the need to act in the spirit of sustainable development, by applying solutions that favour the economic objectives of the operators and the region, enable the achievement of social objectives and improve the well-being of individuals and communities, and contribute to limiting negative effects on the environment;
- takes a long-term view, also taking into account the well-being of future generations;
- is based on interaction between different stakeholders".

This definition emphasises the need to operate according to the principles of sustainability, taking into account solutions that favor the economic goals of stakeholders, the possibility of achieving social goals, as well as contributing to the reduction of negative effects on the environment (Malinowska et al., 2024). The authors emphasise the link between sustainable gastronomy and three basic areas: ecological, economic and social (Figure 1).

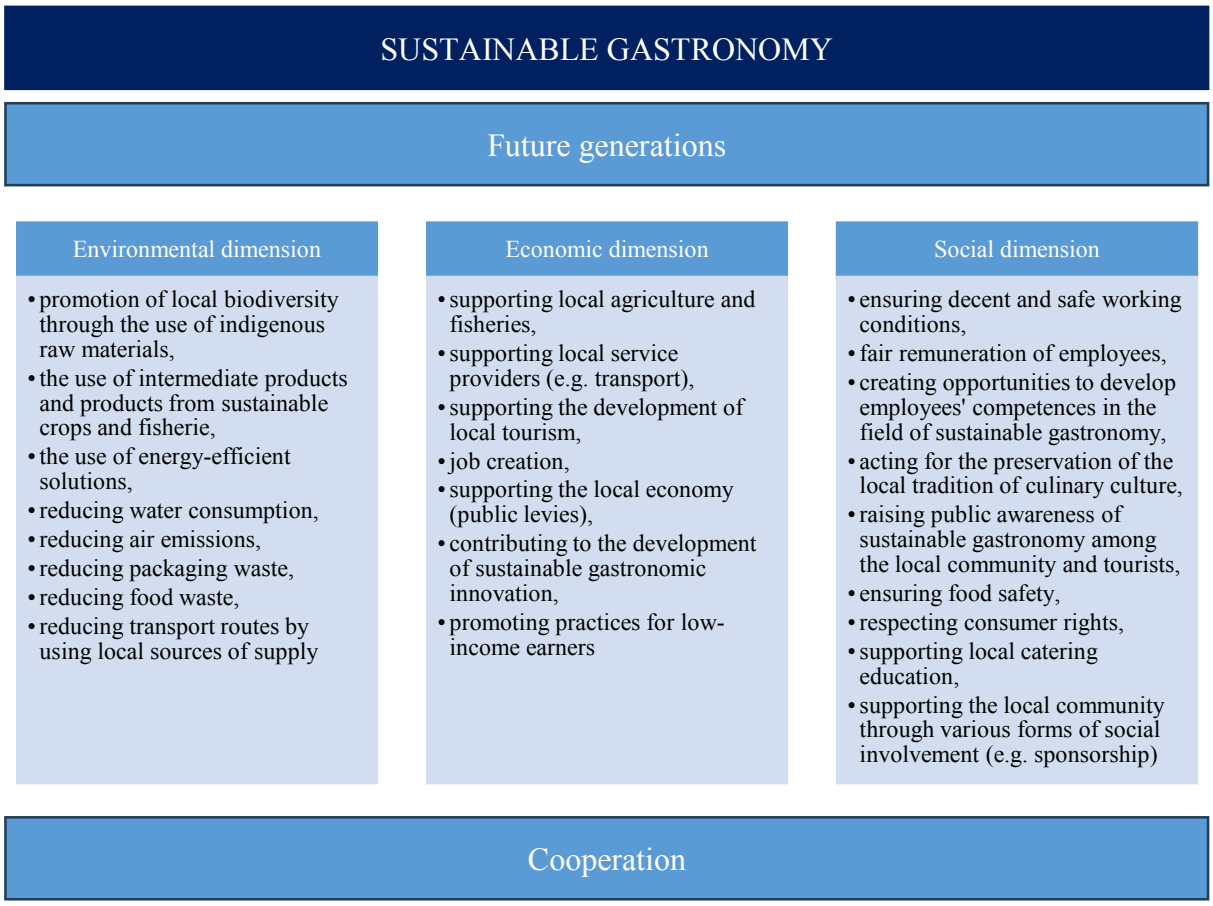

Figure 1. Sustainable gastronomy model.

Source: (Malinowska et al., 2024).

Complementing the author's original concept of sustainable gastronomy was the inclusion of the perspective of future generations as an important point of reference for planning and implementing activities within the three dimensions mentioned above, and cooperation as a necessary element for the implementation of these intentions.

3. Methodological basis for model verification

The process of model development is a common one, both in science and among practitioners. In the economic context, researchers and entrepreneurs attempt to develop models with the primary aim of bringing about various types of improvements in the organisation's operations (e.g. Sidhu et al., 2015; Hozer, Kokot, 2002). Often, the concepts developed are only an outline of a model, as the modelling process is very complex and time-consuming.

Modelling is a method of research and cognition based on the formulation of basic properties of the model object (model). It also allows new regularities occurring in issues already described to be presented (Wolska, 2023). A review of the literature reveals a lack of a uniform definition of the term 'model'. Glinkowska (2010), after analysing selected definitions, stated that 'a model is a certain image of reality, a possible shape of it, an extraction of the essential elements of this reality. It can be constructed using many variables, also in a way that gives an approximate picture of some future.' Refining this definition, Wolska emphasises that 'models are a mental representation of a simplified (schematic) image of the object under study, which is created using specific elements'(Wolska, 2023).

Among the various classifications of models, one can note cognitive models, the essence of which is the study of reality. They are divided into descriptive models (they provide a description of the studied reality) and predictive models, which explain cause-and-effect relationships occurring in the studied present and future reality. In addition to cognitive models, one can find decision models - created in order to shape the studied reality, to make changes in it and project models, which are models of implementation activities related to shaping the studied reality (Glinkowska, 2010).

In the face of ongoing development, it should be borne in mind that the theories, models presented may need to be evaluated after some time. It may be noted that a certain element of the model has devalued, while others have emerged that the authors of the model did not notice (Macdonald, 2023). Such a situation may occur, e.g. after the model has been applied in practice (Vancouver et al., 2020). Therefore, it is important to continuously revise models and update them to the needs of practice (Nasevich, 2021). In light of these considerations, the authors decided to revise the cognitive (descriptive) model of sustainable gastronomy developed earlier.

Two fast food chains operating worldwide, AmRest Holdings SE and McDonald's, were selected to verify and then refine the developed sustainable gastronomy model. AmRest manages the following brands: KFC, Pizza Hut, Burger King, Starbucks, La Tagliatella, Blue Frog, and KABB. The company focuses primarily on European and Asian markets, but also has limited operations in North America and Africa. AmRest is one of the largest franchisees of Yum! Brands worldwide. McDonald's operates globally exclusively under its brand.

Both chains have a global reach - with AmRest operating in 26 countries around the world (AmRest, n.d.) and McDonald's in over 100 countries (McDonald's, n.d.). The scale of operations conducted by both chains makes them organisations that are recognised practically all over the world. Undoubtedly, the food service chains analysed have a major impact on their

surroundings from the point of view of every aspect of sustainability: ecology, economics and social impact.

Verification of the proposed sustainable gastronomy model is key to assessing its practicality. For its purposes, data was collected on the operations of the entities selected for analysis, AmRest and McDonald's, published in sustainability reports and made public on their websites. For the purposes of this study, the most up-to-date available sustainability reports from 2023 were used. These sources provided data that was used for benchmarking and assessing to what extent the developed theoretical model is consistent with the standards implemented by the analysed entities. As a result, the model can be evaluated in the context of the actual data and operations of large food service chains, which significantly increases its reliability and practicality.

4. Verification of the author's model of sustainable gastronomy

The key, from the point of view of the essence of sustainable development, is to think in the long term - much longer than the traditionally accepted time horizon of a few or even a dozen years in strategic plans. The concept of sustainable development is characterised by taking into account the needs of future generations. This perspective is therefore also an integral part of the concept of sustainable gastronomy. Similar conclusions were reached by Richardson and Fenqwist (2024), who concluded from their research that a long-term sustainability perspective is one of the key elements of any sustainable gastronomy strategy. For the purpose of verifying the analysed model, the approach to this issue was reviewed in both surveyed food service chains - the results are presented in Table 1.

Table 1.
The perspective of actions

Criterion	AmRest	McDonald's
Model		
Future generations	-	- emphasising forward thinking, in the context of the company's impact
Other		
Communities in various countries/ regions	- highlighting the importance of relations with local communities and the contribution to the development of the countries and regions in which the restaurants operate	- identifying feeding and supporting communities as a key objective, - emphasising global thinking and local action, - highlighting the unique connections and impact on communities around the world

Source: Own elaboration based on (AmRest, 2024; AmRest, n.d.; McDonald's, 2024; McDonald's, n.d.).

The analysis shows that the proposed perspective - of future generations - is worth broadening to include an intra-generational perspective that includes not only local communities but also the wider international community. This will be particularly advisable in the case of enterprises, such as the food service chains under study, operating on the international market. But it can also apply to businesses with a smaller geographical scope, which, due to increasingly strong globalisation processes, also affect different communities to some extent (e.g. through the use of raw materials, sourced from different parts of the world).

The model analysed refers to the, already mentioned, three pillars (dimensions) of sustainable development. As the first, the environmental dimension is indicated. The activities of the AmRest and McDonald's chains identified in this dimension are presented in Table 2.

Table 2.
Environmental dimension

Criterion	AmRest	McDonald's
Model		
Promotion of local biodiversity through the use of indigenous raw materials	-	- supporting sustainable agricultural practices and working with local farmers, - promoting regenerative agriculture that supports biodiversity and soil health
The use of intermediate products and products from sustainable crops and fisheries	- sourcing certified raw materials e.g. palm oil, - declaring continuous improvement of animal welfare standards, - responsible sourcing of raw materials	- presenting commitments to source raw materials (e.g., coffee palm oil, soy, fiber) from certified sources, - sourcing the fish used in Filet-O-Fish products from certified sustainable sources, - supporting local farmers through sustainable farming practices programs (Flagship Farmers Program), - engaging in endangered species conservation
The use of energy-efficient solutions	- use of systems for monitoring and optimizing energy consumption, - using HVAC ventilation and air conditioning systems, - using energy-efficient lighting options and intelligent lighting controls, - maintenance of ventilation systems, - using low-carbon cooking equipment, - investment in energy-efficient equipment, e.g.: heat pumps, solar panels, - reducing electricity consumption by recovering energy used in heating,	- investing in renewable energy sources, such as wind and solar farms, - introduction of energy management systems, LED lighting and energy-efficient kitchen appliances

Cont. table 2.

Reducing water consumption	- using water-saving devices and fixtures, such as low-flow showers, taps and toilets,	- using water-saving devices and fixtures, - implementation of systems for collecting and using rainwater,
Reducing air emissions	- GHG emissions monitoring, - measures to reduce carbon footprint, - replacing vehicles with newer, cleaner (electric) models, - promotion of shortening delivery routes	- a commitment to reduce greenhouse gas emissions in restaurants and offices and across the supply chain by 2030, compared to 2015, - a reduction in the number of miles traveled, - use of alternative fuels
Reducing packaging waste	- using packaging made from renewable and biodegradable materials, - promoting packaging reuse and recycling systems, - promoting the use of own glass at Sturbucks	- declaration of use of 100% renewable, recycled or certified packaging, - reducing the use of plastic, - introducing alternatives to plastic lids and straws, - introduction of a recycling system for coffee cups, - promoting and using a closed loop system, - working with franchisees and nonprofit organisations to support local initiatives against littering, such as awareness campaigns and community cleanup days
Reducing food waste	- implementation of the Harvest program, under which surplus food from restaurants is donated to institutions and organisations that support people in need, - cooperation with the Too Good To Go app, which allows unsold food to be sold at a reduced price, - monitoring and managing food consumption, - promoting portion reduction on menus, - cleaning up used cooking oil	- donating surplus food and ingredients to charity, - recycling used cooking oil and coffee grounds
Reducing transport routes by using local sources of supply	-	- production and sourcing of local ingredients (beef and chicken suppliers, dairy and cheese, potatoes)
Other		
Control of compliance with national environmental regulations	- setting up a team responsible for complying with environmental laws, standards and guidelines in the countries in which it operates	-
Exploiting the potential of plant-based food	- Burger King's plans to introduce more plant-based products to the brand's menu	-

Source: Own elaboration based on (AmRest, 2024; AmRest, n.d.; McDonald's, 2024; McDonald's, n.d.).

Based on the data in Table 2, it can be seen that both networks are actively engaged in environmental activities. They initiate similar ventures to reduce energy intensity, water consumption, waste production and counter food waste. The least evidence was noted in the aspect of locality of action, which is due to the global nature of both chains' operations. Nevertheless, McDonald's is taking steps to engage with local suppliers and communities. An analysis of the operations of these chains suggests that the scope of some criteria should be expanded to include not only the operations of the company itself, but also those of its suppliers. This is particularly important in the context of energy intensity and air emissions. In these cases, both networks emphasise the importance of monitoring and preventing adverse impacts not only at their facilities, but also throughout the supply chain. In addition, it was noted that the AnRest chain emphasises ongoing monitoring of environmental regulations in each country and seeks to increase the share of plant-based food in its offerings.

The next dimension of the proposed model, is the economic dimension. The proposals, for action in this area, are shown in Table 3.

Table 3.
Economic dimension

Criterion	AmRest	McDonald's
Model		
Supporting local agriculture and fisheries	- supporting local supply through commitments to responsible sourcing	- supporting local agriculture through programs such as Flagship Farmers Program and the implementation of regenerative farming practices on a larger scale, - working with suppliers to promote animal health and responsible use of antibiotics during animal husbandry, - implementing sustainable sourcing practices for beef, fish, palm oil, soy and coffee
Supporting local service providers (e.g. transport)	- working with local suppliers of transportation and logistics services, - signing by suppliers a Code of Conduct that includes social and environmental responsibility	- working with local transportation and logistics providers to reduce emissions and use more sustainable fuels
Supporting the development of local tourism	-	-
Job creation	- creating jobs in 21 countries, - providing stable employment and professional development, - employing young people in particular	- creating jobs: employing more than 2 million people worldwide, - reducing barriers to youth employment
Supporting the local economy (public levies)	- paying taxes and other fees to local economies in countries where it operates	- paying taxes and other fees to local economies in the countries where it operates

Cont. table 3.

Contributing to the development of sustainable gastronomic innovation	- introducing innovative equipment, e.g. low-carbon cooking equipment	- introducing energy-efficient kitchen appliances, - measures to provide healthier and more sustainable options (e.g. the preparation of new product formulations to remove artificial ingredients, the introduction of new menu items that meet specific nutritional criteria), - developing new menu items that focus on sustainability and healthier options, such as advancing Happy Meal nutrition goals
Promoting practices for low-income earners	-	- operating community programs that support low-income individuals, such as Ronald McDonald House Charities, which provide overnight accommodations and support to families of hospitalized children, - offering programs and meal options that are affordable and nutritious
Other		
Financial programs to support the adaptation of local producers to the requirements of the enterprise	- working with local suppliers, providing support and developing their capabilities through programs such as Responsible Sourcing	- working with local suppliers, providing support and capacity building through programs such as Responsible Sourcing.

Source: Own elaboration based on (AmRest, 2024; AmRest, n.d.; McDonald's, 2024; McDonald's, n.d.).

Analysis of the sustainability reports of the two fast food chains showed that, with the exception of one, basically all the factors (activities) proposed in the author's model in economic terms are within the area of activities undertaken by the analysed chains. An activity that was not identified for both entities in the analysed reports was one related to the development of local tourism. Both analysed entities support local agriculture and transportation providers, working with them to reduce emissions and use more sustainable fuels. AmRest and McDonald's are creating jobs and offering professional development through training programs and international career opportunities. Both of the compared entities are innovating in food service and investing in sustainable infrastructure. McDonald's additionally runs social programs to support low-income people, such as the Ronald McDonald House Charities. However, it is possible to identify an additional (to the proposed model) activity that occurs in both entities: the creation of financial programs for small local suppliers.

Another dimension of sustainability is the social dimension. The results of the analysis of the activities of the two restaurant chains under study and how they relate to the model under review are shown in Table 4.

Table 4.
Social dimension

Criterion	AmRest	McDonald's
Model		
Ensuring decent and safe working conditions	- declaring respect for human rights, including throughout the supply chain, - compliance with local labour laws, - integration of occupational safety into the risk management system, - the requirement for mandatory occupational safety and certification required in the country, - campaigns to promote safety at work, - equality measures, including the establishment of a position, responsible for coordinating and monitoring them, - conducting research (by an external entity) on equal treatment in restaurants in various countries, - creation of conditions that allow employees freedom of association and collective bargaining	- inclusion of many labor issues in human rights protection policies, - emphasising the importance of employees, - a general declaration of a number of measures to create friendly and safe working conditions, as well as inclusiveness and equal treatment (also supporting such measures with franchisees and suppliers)
Fair remuneration of employees	- compliance with local labor laws (including salaries), - compensation strategy for employees, - monitoring the issue of equal pay, regardless of the gender of the employee	- some activities, mainly in the U.S., dedicated to raising the attractiveness of wages
Creating opportunities to develop employees' competences in the field of sustainable gastronomy	- competence development opportunities created by the network (internal and external training; opportunities to work in other countries), - no explicit reference to developing skills in sustainable gastronomy	- creation of conditions for improving competence and development for employees, including those employed by franchisees (e.g. Hamburger University or Archways is Opportunity), - lack of information on training related to sustainable gastronomy
Acting for the preservation of the local tradition of culinary culture	-	-
Raising public awareness of sustainable gastronomy among the local community and tourists	- work being carried out under the Group's Nutrition Policy on the gradual introduction of more balanced, healthier dishes in restaurants, improving consumers' well-being, nutritional needs and providing enjoyment	- indirectly, by making some pro-environmental or pro-health changes to menus or customer service processes

Cont. table 4.

Ensuring food safety	- the Group's Food Safety Policy, in place since 2022, to source raw materials only from suppliers approved by the Quality Assurance and Food Safety Department, - a declaration on the implementation of the HACCP standard and efforts to raise awareness of food safety among employees (including through training), - regular food safety audits conducted by independent auditors, at all stages of the supply chain, - the practice of unannounced inspections of restaurants	- adoption of a Global Food Safety Strategy, based on safety culture building and risk analysis, - conducting an assessment of the current level of safety culture within 24 markets, - introduction of standards for all stages of food production and distribution, - food safety audits of both suppliers and restaurants, - offering food safety training for suppliers, - organisation of Food Safety Week, - participation in events and initiatives, including international ones, dedicated to food safety and quality, - efforts to provide healthier food, especially for children's products
Respecting consumer rights	- the consumer comment system used to improve processes	- a declaration of the main emphasis placed on product quality and safety, - activities, related to responsible marketing practices towards children, - informing consumers about products, their composition, nutritional values
Supporting local catering education	-	-
Supporting the local community through various forms of social involvement (e.g. sponsorship)	- Food Sharing Day - an action in 9 countries, related to the supply of food to 150 facilities that care for children, - donating surplus products to food banks, - supporting the educational facility	- identifying good-neighborly relations with society as a key value, - declaration on supporting society in areas and times when it needs it, - numerous activities supporting various social groups and various areas of social life (also together with suppliers)
Other		
-	-	-

Source: Own elaboration based on (AmRest, 2024; AmRest, n.d.; McDonald's, 2024; McDonald's, n.d.).

In general, the social impact activities proposed in the model seem sufficient - no new areas were found in the materials published by the two food service chains. Noteworthy is the fact that in both cases, initiatives to preserve local gastronomic traditions did not appear, which may be due to the global nature of both companies and their offerings. The same is true of the lack of information on supporting local gastronomic education. On the basis of the analysis carried out, however, it is possible to suggest clarifying the provisions, concerning the social sphere, in the area of labor relations. The idea is to indicate that, in the case of activities related to working conditions or wages, consideration should be given not only to their provision within

the enterprise itself, but also within the entire supply chain. A similar extension would have to be included in the case of food safety measures.

The last element, included in the verified model, is cooperation. It follows from the very essence of sustainable development that the implementation and realisation of the principles of this concept require the interaction of various actors. In the case of the transformation of enterprises, including those in the food service industry, the cooperation of actors co-creating supply chains is particularly important, although not only. The results of the analysis of this element for the AmRest and McDonald's chains, confronted with the verified model of sustainable gastronomy, are presented in Table 5.

Table 5.
Cooperation

Criterion	AmRest	McDonald's
Model		
Cooperation	- collaboration relating to specific stakeholders	- the company as a global community of workers, farmers and suppliers, - collaboration relating to specific stakeholders
Other		
Cooperation with clients	- indicating the importance of comments from clients for improving the operation of the network	- taking into account parents' comments and expectations in the context of children's offerings, - sharing good food and food safety practices with consumer groups
Cooperation with business partners	- emphasising the importance and value of long-term cooperation with suppliers, - signing long-term contracts with most of them	- pointing to cooperation with business partners as an important element, from the point of view of food safety or implementation of ecological solutions
Cooperation with NGOs and sectoral organisations	- cooperation with food banks in reducing food waste	- listing NGOs and industry organisations as cooperation partners
Cooperation with scientific and educational establishments	- one brand's collaboration with a university - to develop a heart-healthier menu	- scientific basis of the standards being introduced, - sharing good practices with the academic world
Cooperation with political institutions and public administration	-	- cooperation with political institutions
Cooperation with investment community	-	- identifying the investment community as a group of stakeholders with whom the company interacts

Source: Own elaboration based on (AmRest, 2024; AmRest, n.d.; McDonald's, 2024; McDonald's, n.d.).

On the basis of the analysis carried out, it is possible to consider some refinement of the element defined in the general model by the keyword "cooperation," if only by indicating the entities with which such a relationship can be built. Such a procedure could provide more precise guidance to food service industry players who are interested in transforming themselves into a sustainable enterprise. But it may also result in a certain limitation of perspective, only to specifically identified groups of actors. Therefore, it is worth making some modification (detailing) in this area, while leaving some openness to potential new directions of cooperation.

5. Conclusions

The analysis of the activities of the two food service chains, on the one hand, showed that in some areas the original model of sustainable gastronomy goes beyond the activities carried out by the surveyed entities; on the other hand, it provided information and inspiration to supplement it with scopes of activities not identified in the original concept.

The results of the analysis confirm that sustainable gastronomy requires a multidimensional approach integrating ecological, economic, and social aspects. The model presented by the authors reflects these dimensions, as evidenced by the practices of AmRest and McDonald's.

Both the original model and the conclusions of the analysis of the operations of the two food service chains point to the importance of environmental action. But sustainable gastronomy does not only include environmental measures, but also socio-economic ones, but sustainable gastronomy is not only about environmental measures, but also about socio-economic ones. These include, among others, the ethical treatment of workers in supply chains and support for the local economy, as mentioned by Paunić et al. (2024).

At the same time, the need to supplement the model with collaboration involving diverse stakeholders, including the educational sector and non-governmental organizations, has been highlighted (Östergren et al., 2023; Suna et al., 2023; Arslan et al. 2023). Sustainable development in gastronomy requires close cooperation with customers, suppliers, and social organizations. Examples from AmRest and McDonald's demonstrate that such collaboration leads to more effective implementation of pro-environmental initiatives and the building of a positive brand image for the analyzed companies (Richardson, Fernqvist, 2024; Gonçalves et al., 2023).

Education plays a critical role in the development of sustainable gastronomy, targeting both employees and consumers in responsible food management. As highlighted in the literature, such efforts can significantly reduce waste and improve operational efficiency across the enterprise (Martin-Rios et al., 2018). Technologies such as energy monitoring systems and food waste reduction applications (e.g., Too Good To Go) are crucial elements in implementing sustainable practices in gastronomy. These technologies can also serve as educational tools, increasing consumers' environmental awareness (Lévesque et al., 2024).

Sustainable gastronomy requires long-term planning that accounts for the needs of future generations and adopts an inclusive approach for various social groups. Initiatives like Ronald McDonald House Charities demonstrate that food service chains can also play a significant social role, not only in the culinary aspect but also in shaping customer awareness (McDonald's reports, 2024).

Based on the conclusions from the analysis, a modified version of the model was proposed (Figure 2).

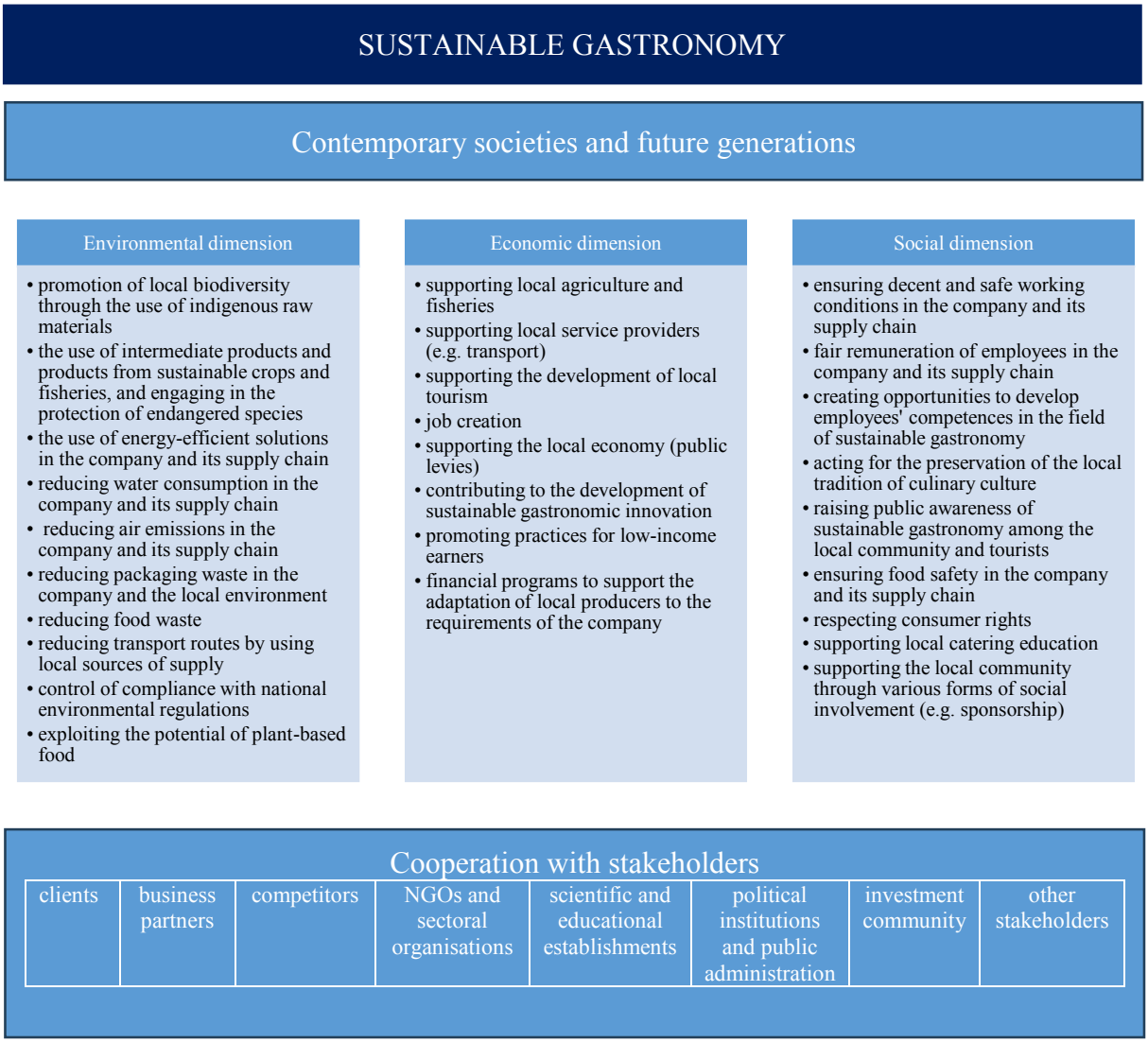

Figure 2. Modified model of sustainable gastronomy.

Source: Own elaboration.

The verification of the sustainable gastronomy model has made it possible both to improve it in each of the three dimensions (environmental, economic and social) and to broaden the perspective of action planning and clarify the categories of cooperation as elements creating the conditions for the implementation of the actions and changes postulated in the model. Thus, not only was a better result achieved, in the form of a more accurately depicted concept of sustainable gastronomy, but also the validity of the verification and analysis of the model was confirmed. The conclusions of the study underline the need for a broad and long-term thinking perspective, as well as the importance of a holistic approach to the implementation of sustainability principles in catering. Similar conclusions were reached by Pasco-Dalla-Porta et al (2018), who found that a holistic understanding of sustainable gastronomy is vital. Attention is also drawn to the strong links between the areas identified in the model.

The results of the survey can serve as an inspiration and a set of basic guidelines for companies in the food service industry that aim to implement sustainability in their operations.

The verification and refinement of the developed sustainable gastronomy model was based on the analysis of secondary data published by two selected large global food service chains. The authors are aware that this research is the beginning of a process which, in subsequent steps, should include a verification of the model based on a study of the activities of other types of food service operators (e.g. small restaurants, cafés and outlets in hotel chains). This is justified insofar as the specificity of the operation of global chains certainly differs in some aspects from the specificity of the operations of small entities with strong links to the local environment. The next phases of the verification should include, in addition to the analysis of secondary data, as was the case in this article, also surveys of the opinions of various stakeholders in the food service industry - not only businesses, but also consumers.

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